



Edge Energy, LLC

Well Name:

GASPERICH 33-34-10H

Project Name:

Sec. 32-T8N-R65W Weld County CO

Pad Name:

Gasperich 32

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSection	Departure	Annotation
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	Start Build 2.00
2055.66	31.11	181.85	1980.32	-411.89	-13.32	133.95	412.11	Hold 31.11 Inc, 181.85 Az
7603.48	31.11	181.85	6730.08	-3277.12	-106.01	1065.76	3278.84	KOP 8/100
8730.39	90.23	91.94	7342.00	-3672.29	599.68	1865.83	4156.59	EP 90.23 Inc, 91.94 Az
18678.27	90.23	91.94	7302.00	-4008.86	10541.78	11278.30	14104.39	TD at 18678.27

Geodetic Datum:

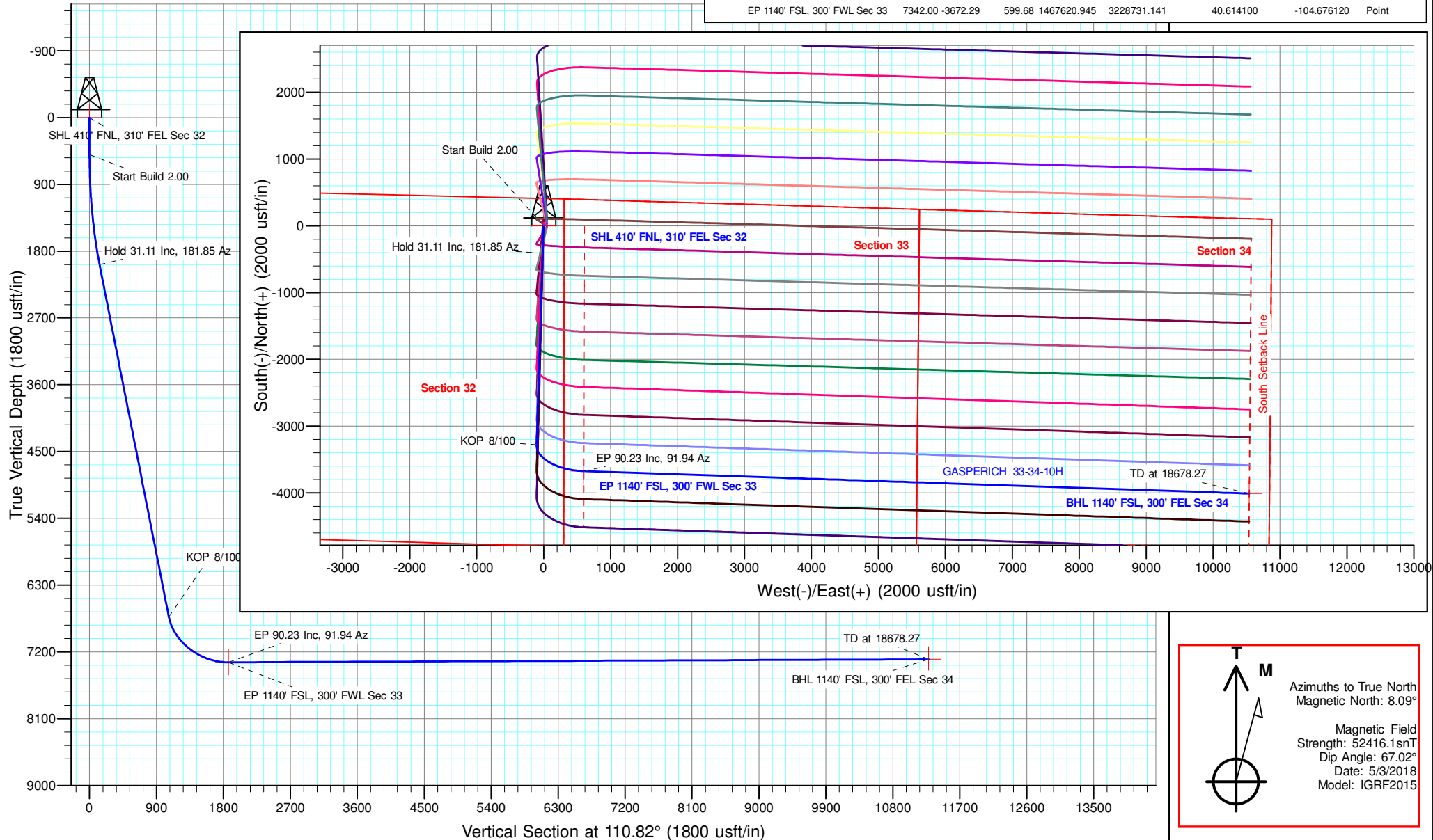
North American Datum 1983
US State Plane 1983 Colorado Northern Zone

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 410' FNL, 310' FEL Sec 32	0.00	0.00	0.00	1471287.523	3228097.455	40.624180	-104.678280	Point
BHL 1140' FSL, 300' FEL Sec 34	7302.00	-4008.86	10541.78	1467376.524	3238675.935	40.613170	-104.640310	Point
EP 1140' FSL, 300' FWL Sec 33	7342.00	-3672.29	599.68	1467620.945	3228731.141	40.614100	-104.676120	Point





Edge Energy, LLC

Sec. 32-T8N-R65W Weld County CO

Gasperich 32

GASPERICH 33-34-10H

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 33-34-10H
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 33-34-10H	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 33-34-10H					
Well Position	+N/-S	0.00 usft	Northing:	1,471,287.523 usft	Latitude:	40.624180
	+E/-W	0.00 usft	Easting:	3,228,097.454 usft	Longitude:	-104.678280
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	52,416.07464482

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	110.82

Plan Survey Tool Program	Date	6/30/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,678.27 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	
2,055.66	31.11	181.85	1,980.32	-411.89	-13.32	2.00	2.00	0.00	181.85	
7,603.48	31.11	181.85	6,730.08	-3,277.12	-106.01	0.00	0.00	0.00	0.00	
8,730.39	90.23	91.94	7,342.00	-3,672.29	599.68	8.00	5.25	-7.98	-89.81	EP 1140' FSL, 300' F
18,678.27	90.23	91.94	7,302.00	-4,008.86	10,541.78	0.00	0.00	0.00	0.00	BHL 1140' FSL, 300' F



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-10H
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 33-34-10H	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	1,471,287.523	3,228,097.454	40.624180	-104.678280
200.00	0.00	0.00	200.00	0.00	0.00	1,471,287.523	3,228,097.454	40.624180	-104.678280
400.00	0.00	0.00	400.00	0.00	0.00	1,471,287.523	3,228,097.454	40.624180	-104.678280
500.00	0.00	0.00	500.00	0.00	0.00	1,471,287.523	3,228,097.454	40.624180	-104.678280
Start Build 2.00									
600.00	2.00	181.85	599.98	-1.74	-0.06	1,471,285.778	3,228,097.414	40.624175	-104.678280
800.00	6.00	181.85	799.45	-15.69	-0.51	1,471,271.833	3,228,097.092	40.624137	-104.678282
1,000.00	10.00	181.85	997.47	-43.50	-1.41	1,471,244.012	3,228,096.450	40.624061	-104.678285
1,200.00	14.00	181.85	1,193.06	-85.05	-2.75	1,471,202.449	3,228,095.491	40.623947	-104.678290
1,400.00	18.00	181.85	1,385.27	-140.14	-4.53	1,471,147.347	3,228,094.220	40.623795	-104.678297
1,600.00	22.00	181.85	1,573.17	-208.49	-6.74	1,471,078.975	3,228,092.642	40.623608	-104.678305
1,800.00	26.00	181.85	1,755.84	-289.78	-9.37	1,470,997.666	3,228,090.766	40.623385	-104.678314
2,000.00	30.00	181.85	1,932.39	-383.61	-12.41	1,470,903.816	3,228,088.600	40.623127	-104.678325
2,055.66	31.11	181.85	1,980.32	-411.89	-13.32	1,470,875.527	3,228,087.947	40.623049	-104.678328
Hold 31.11 Inc, 181.85 Az									
2,200.00	31.11	181.85	2,103.90	-486.44	-15.74	1,470,800.962	3,228,086.227	40.622845	-104.678337
2,400.00	31.11	181.85	2,275.13	-589.73	-19.08	1,470,697.643	3,228,083.843	40.622561	-104.678349
2,600.00	31.11	181.85	2,446.36	-693.02	-22.42	1,470,594.325	3,228,081.459	40.622278	-104.678361
2,800.00	31.11	181.85	2,617.59	-796.31	-25.76	1,470,491.006	3,228,079.074	40.621994	-104.678373
3,000.00	31.11	181.85	2,788.82	-899.60	-29.10	1,470,387.687	3,228,076.690	40.621711	-104.678385
3,200.00	31.11	181.85	2,960.05	-1,002.90	-32.44	1,470,284.369	3,228,074.306	40.621427	-104.678397
3,400.00	31.11	181.85	3,131.28	-1,106.19	-35.78	1,470,181.050	3,228,071.922	40.621144	-104.678409
3,600.00	31.11	181.85	3,302.51	-1,209.48	-39.13	1,470,077.731	3,228,069.538	40.620860	-104.678421
3,800.00	31.11	181.85	3,473.74	-1,312.77	-42.47	1,469,974.413	3,228,067.154	40.620577	-104.678433
4,000.00	31.11	181.85	3,644.97	-1,416.07	-45.81	1,469,871.094	3,228,064.770	40.620293	-104.678445
4,200.00	31.11	181.85	3,816.20	-1,519.36	-49.15	1,469,767.775	3,228,062.386	40.620010	-104.678457
4,400.00	31.11	181.85	3,987.43	-1,622.65	-52.49	1,469,664.457	3,228,060.001	40.619726	-104.678469
4,600.00	31.11	181.85	4,158.66	-1,725.94	-55.83	1,469,561.138	3,228,057.617	40.619443	-104.678481
4,800.00	31.11	181.85	4,329.89	-1,829.23	-59.17	1,469,457.819	3,228,055.233	40.619159	-104.678493
5,000.00	31.11	181.85	4,501.11	-1,932.53	-62.52	1,469,354.501	3,228,052.849	40.618876	-104.678505
5,200.00	31.11	181.85	4,672.34	-2,035.82	-65.86	1,469,251.182	3,228,050.465	40.618592	-104.678517
5,400.00	31.11	181.85	4,843.57	-2,139.11	-69.20	1,469,147.863	3,228,048.081	40.618308	-104.678530
5,600.00	31.11	181.85	5,014.80	-2,242.40	-72.54	1,469,044.545	3,228,045.697	40.618025	-104.678542
5,800.00	31.11	181.85	5,186.03	-2,345.69	-75.88	1,468,941.226	3,228,043.313	40.617741	-104.678554
6,000.00	31.11	181.85	5,357.26	-2,448.99	-79.22	1,468,837.907	3,228,040.928	40.617458	-104.678566
6,200.00	31.11	181.85	5,528.49	-2,552.28	-82.56	1,468,734.589	3,228,038.544	40.617174	-104.678578
6,400.00	31.11	181.85	5,699.72	-2,655.57	-85.91	1,468,631.270	3,228,036.160	40.616891	-104.678590
6,600.00	31.11	181.85	5,870.95	-2,758.86	-89.25	1,468,527.951	3,228,033.776	40.616607	-104.678602
6,800.00	31.11	181.85	6,042.18	-2,862.16	-92.59	1,468,424.633	3,228,031.392	40.616324	-104.678614
7,000.00	31.11	181.85	6,213.41	-2,965.45	-95.93	1,468,321.314	3,228,029.008	40.616040	-104.678626
7,200.00	31.11	181.85	6,384.64	-3,068.74	-99.27	1,468,217.995	3,228,026.624	40.615757	-104.678638
7,400.00	31.11	181.85	6,555.87	-3,172.03	-102.61	1,468,114.677	3,228,024.240	40.615473	-104.678650
7,600.00	31.11	181.85	6,727.10	-3,275.32	-105.95	1,468,011.358	3,228,021.855	40.615190	-104.678662
7,603.48	31.11	181.85	6,730.08	-3,277.12	-106.01	1,468,009.560	3,228,021.814	40.615185	-104.678662
KOP 8/100									
7,800.00	34.55	153.31	6,896.18	-3,378.29	-82.48	1,467,908.613	3,228,046.284	40.614907	-104.678577
8,000.00	43.34	131.84	7,052.29	-3,475.37	-5.38	1,467,812.250	3,228,124.279	40.614641	-104.678300
8,200.00	54.92	117.15	7,183.35	-3,559.05	119.38	1,467,729.734	3,228,249.804	40.614411	-104.677850
8,400.00	67.82	106.32	7,279.19	-3,622.84	282.12	1,467,667.458	3,228,413.136	40.614236	-104.677264
8,600.00	81.31	97.37	7,332.39	-3,661.79	470.25	1,467,630.247	3,228,601.619	40.614129	-104.676586
8,730.39	90.23	91.94	7,342.00	-3,672.29	599.68	1,467,620.945	3,228,731.140	40.614100	-104.676120
EP 90.23 Inc, 91.94 Az									
8,800.00	90.23	91.94	7,341.72	-3,674.65	669.25	1,467,619.235	3,228,800.728	40.614094	-104.675870
9,000.00	90.23	91.94	7,340.92	-3,681.41	869.14	1,467,614.321	3,229,000.666	40.614075	-104.675150



Microsoft
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-10H
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 33-34-10H	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	7,340.11	-3,688.18	1,069.02	1,467,609.407	3,229,200.604	40.614056	-104.674430	
9,400.00	90.23	91.94	7,339.31	-3,694.95	1,268.90	1,467,604.493	3,229,400.542	40.614038	-104.673710	
9,600.00	90.23	91.94	7,338.50	-3,701.71	1,468.79	1,467,599.579	3,229,600.480	40.614019	-104.672990	
9,800.00	90.23	91.94	7,337.70	-3,708.48	1,668.67	1,467,594.665	3,229,800.418	40.614001	-104.672270	
10,000.00	90.23	91.94	7,336.90	-3,715.25	1,868.55	1,467,589.751	3,230,000.356	40.613982	-104.671550	
10,200.00	90.23	91.94	7,336.09	-3,722.01	2,068.44	1,467,584.837	3,230,200.294	40.613963	-104.670830	
10,400.00	90.23	91.94	7,335.29	-3,728.78	2,268.32	1,467,579.923	3,230,400.232	40.613945	-104.670110	
10,600.00	90.23	91.94	7,334.48	-3,735.55	2,468.21	1,467,575.008	3,230,600.170	40.613926	-104.669390	
10,800.00	90.23	91.94	7,333.68	-3,742.31	2,668.09	1,467,570.094	3,230,800.108	40.613908	-104.668670	
11,000.00	90.23	91.94	7,332.87	-3,749.08	2,867.97	1,467,565.180	3,231,000.046	40.613889	-104.667950	
11,200.00	90.23	91.94	7,332.07	-3,755.85	3,067.86	1,467,560.266	3,231,199.984	40.613870	-104.667230	
11,400.00	90.23	91.94	7,331.27	-3,762.61	3,267.74	1,467,555.352	3,231,399.922	40.613852	-104.666510	
11,600.00	90.23	91.94	7,330.46	-3,769.38	3,467.63	1,467,550.438	3,231,599.860	40.613833	-104.665790	
11,800.00	90.23	91.94	7,329.66	-3,776.15	3,667.51	1,467,545.524	3,231,799.799	40.613814	-104.665070	
12,000.00	90.23	91.94	7,328.85	-3,782.91	3,867.39	1,467,540.610	3,231,999.737	40.613796	-104.664350	
12,200.00	90.23	91.94	7,328.05	-3,789.68	4,067.28	1,467,535.696	3,232,199.675	40.613777	-104.663630	
12,400.00	90.23	91.94	7,327.24	-3,796.45	4,267.16	1,467,530.782	3,232,399.613	40.613758	-104.662910	
12,600.00	90.23	91.94	7,326.44	-3,803.21	4,467.05	1,467,525.868	3,232,599.551	40.613740	-104.662190	
12,800.00	90.23	91.94	7,325.64	-3,809.98	4,666.93	1,467,520.954	3,232,799.489	40.613721	-104.661471	
13,000.00	90.23	91.94	7,324.83	-3,816.75	4,866.81	1,467,516.040	3,232,999.427	40.613702	-104.660751	
13,200.00	90.23	91.94	7,324.03	-3,823.51	5,066.70	1,467,511.126	3,233,199.365	40.613684	-104.660031	
13,400.00	90.23	91.94	7,323.22	-3,830.28	5,266.58	1,467,506.212	3,233,399.303	40.613665	-104.659311	
13,600.00	90.23	91.94	7,322.42	-3,837.04	5,466.46	1,467,501.298	3,233,599.241	40.613646	-104.658591	
13,800.00	90.23	91.94	7,321.62	-3,843.81	5,666.35	1,467,496.384	3,233,799.179	40.613628	-104.657871	
14,000.00	90.23	91.94	7,320.81	-3,850.58	5,866.23	1,467,491.470	3,233,999.117	40.613609	-104.657151	
14,200.00	90.23	91.94	7,320.01	-3,857.34	6,066.12	1,467,486.556	3,234,199.055	40.613590	-104.656431	
14,400.00	90.23	91.94	7,319.20	-3,864.11	6,266.00	1,467,481.642	3,234,398.993	40.613571	-104.655711	
14,600.00	90.23	91.94	7,318.40	-3,870.88	6,465.88	1,467,476.728	3,234,598.931	40.613553	-104.654991	
14,800.00	90.23	91.94	7,317.59	-3,877.64	6,665.77	1,467,471.814	3,234,798.869	40.613534	-104.654271	
15,000.00	90.23	91.94	7,316.79	-3,884.41	6,865.65	1,467,466.900	3,234,998.807	40.613515	-104.653551	
15,200.00	90.23	91.94	7,315.99	-3,891.18	7,065.54	1,467,461.986	3,235,198.745	40.613497	-104.652831	
15,400.00	90.23	91.94	7,315.18	-3,897.94	7,265.42	1,467,457.072	3,235,398.683	40.613478	-104.652111	
15,600.00	90.23	91.94	7,314.38	-3,904.71	7,465.30	1,467,452.157	3,235,598.621	40.613459	-104.651391	
15,800.00	90.23	91.94	7,313.57	-3,911.48	7,665.19	1,467,447.243	3,235,798.559	40.613440	-104.650671	
16,000.00	90.23	91.94	7,312.77	-3,918.24	7,865.07	1,467,442.329	3,235,998.497	40.613422	-104.649951	
16,200.00	90.23	91.94	7,311.97	-3,925.01	8,064.96	1,467,437.415	3,236,198.435	40.613403	-104.649231	
16,400.00	90.23	91.94	7,311.16	-3,931.78	8,264.84	1,467,432.501	3,236,398.373	40.613384	-104.648511	
16,600.00	90.23	91.94	7,310.36	-3,938.54	8,464.72	1,467,427.587	3,236,598.311	40.613365	-104.647791	
16,800.00	90.23	91.94	7,309.55	-3,945.31	8,664.61	1,467,422.673	3,236,798.249	40.613347	-104.647072	
17,000.00	90.23	91.94	7,308.75	-3,952.08	8,864.49	1,467,417.759	3,236,998.187	40.613328	-104.646352	
17,200.00	90.23	91.94	7,307.94	-3,958.84	9,064.37	1,467,412.845	3,237,198.125	40.613309	-104.645632	
17,400.00	90.23	91.94	7,307.14	-3,965.61	9,264.26	1,467,407.931	3,237,398.063	40.613290	-104.644912	
17,600.00	90.23	91.94	7,306.34	-3,972.38	9,464.14	1,467,403.017	3,237,598.001	40.613271	-104.644192	
17,800.00	90.23	91.94	7,305.53	-3,979.14	9,664.03	1,467,398.103	3,237,797.939	40.613253	-104.643472	
18,000.00	90.23	91.94	7,304.73	-3,985.91	9,863.91	1,467,393.189	3,237,997.877	40.613234	-104.642752	
18,200.00	90.23	91.94	7,303.92	-3,992.68	10,063.79	1,467,388.275	3,238,197.815	40.613215	-104.642032	
18,400.00	90.23	91.94	7,303.12	-3,999.44	10,263.68	1,467,383.361	3,238,397.753	40.613196	-104.641312	
18,600.00	90.23	91.94	7,302.31	-4,006.21	10,463.56	1,467,378.447	3,238,597.691	40.613177	-104.640592	
18,678.27	90.23	91.94	7,302.00	-4,008.86	10,541.78	1,467,376.524	3,238,675.935	40.613170	-104.640310	
TD at 18678.27										



Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-10H
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 33-34-10H	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 410' FNL, 310' FEL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,471,287.523	3,228,097.454	40.624180	-104.678280
BHL 1140' FSL, 300' FEI - plan hits target center - Point	0.00	0.00	7,302.00	-4,008.86	10,541.78	1,467,376.524	3,238,675.935	40.613170	-104.640310
EP 1140' FSL, 300' FWL - plan hits target center - Point	0.00	0.00	7,342.00	-3,672.29	599.68	1,467,620.945	3,228,731.140	40.614100	-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
2,055.66	1,980.32	-411.89	-13.32	Hold 31.11 Inc, 181.85 Az
7,603.48	6,730.08	-3,277.12	-106.01	KOP 8/100
8,730.39	7,342.00	-3,672.29	599.68	EP 90.23 Inc, 91.94 Az
18,678.27	7,302.00	-4,008.86	10,541.78	TD at 18678.27