



# Edge Energy, LLC

Well Name:

**GASPERICH 33-34-8H**

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
1726.20	24.52	182.33	1689.10	-258.23	-10.51	64.82	258.44	Hold 24.52 Inc, 182.33 Az
7222.49	24.52	182.33	6689.56	-2537.71	-103.27	637.03	2539.81	KOP 8/100
8349.53	90.00	91.94	7343.00	-2859.87	602.44	1405.83	3371.22	EP 90 Inc, 91.94 Az
18302.54	90.00	91.94	7343.00	-3196.44	10549.75	11023.36	13324.23	TD at 18302.54

## Geodetic Datum:

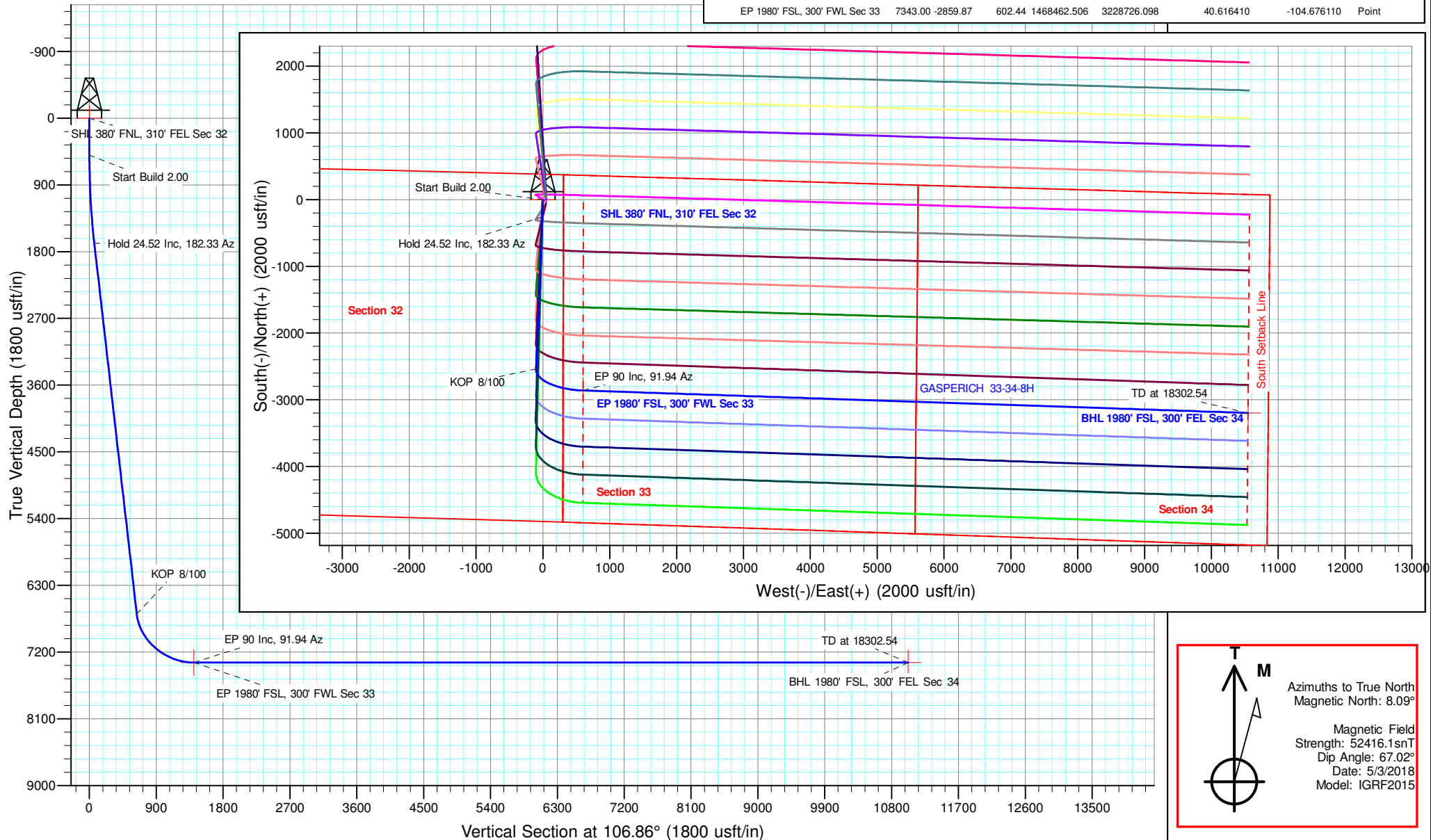
North American Datum 1983  
US State Plane 1983 Colorado Northern Zone

## 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 380' FNL, 310' FEL Sec 32	0.00	0.00	0.00	1471316.679	3228097.185	40.624260	-104.678280	Point
BHL 1980' FSL, 300' FEL Sec 34	7343.00	-3196.44	10549.75	1468218.136	3238676.105	40.615480	-104.640280	Point
EP 1980' FSL, 300' FWL Sec 33	7343.00	-2859.87	602.44	1468462.506	3228726.098	40.616410	-104.676110	Point





## **Edge Energy, LLC**

**Sec. 32-T8N-R65W Weld County CO**

**Gasperich 32**

**GASPERICH 33-34-8H**

**Wellbore #1**

**Plan: Design #1 2May18 mnH**

## **Standard Planning Report - Geographic**

**30 June, 2018**



<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GASPERICH 33-34-8H
<b>Company:</b>	Edge Energy, LLC	<b>TVD Reference:</b>	WELL @ 4963.00usft (Original Well Elev)
<b>Project:</b>	Sec. 32-T8N-R65W Weld County CO	<b>MD Reference:</b>	WELL @ 4963.00usft (Original Well Elev)
<b>Site:</b>	Gasperich 32	<b>North Reference:</b>	True
<b>Well:</b>	GASPERICH 33-34-8H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 2May18 mnH		

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

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

Well	GASPERICH 33-34-8H					
Well Position	+N/-S	0.00 usft	Northing:	1,471,316.675 usft	Latitude:	40.624260
	+E/-W	0.00 usft	Easting:	3,228,097.184 usft	Longitude:	-104.678280
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,948.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	5/3/2018	8.09	67.02	52,416.10775314

<b>Design</b>	Design #1 2May18 mnH			
<b>Audit Notes:</b>				
<b>Version:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b> 0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	106.86

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/30/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	18,302.54 Design #1 2May18 mnH (Wellbor	MWD	
			OWSG MWD - Standard	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
1,726.20	24.52	182.33	1,689.10	-258.23	-10.51	2.00	2.00	0.00	182.33	
7,222.49	24.52	182.33	6,689.56	-2,537.71	-103.27	0.00	0.00	0.00	0.00	
8,349.53	90.00	91.94	7,343.00	-2,859.87	602.44	8.00	5.81	-8.02	-90.36	EP 1980' FSL, 300' F'
18,302.54	90.00	91.94	7,343.00	-3,196.44	10,549.75	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 33-34-8H
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 33-34-8H	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	1,471,316.675	3,228,097.184	40.624260	-104.678280
200.00	0.00	0.00	200.00	0.00	0.00	1,471,316.675	3,228,097.184	40.624260	-104.678280
400.00	0.00	0.00	400.00	0.00	0.00	1,471,316.675	3,228,097.184	40.624260	-104.678280
500.00	0.00	0.00	500.00	0.00	0.00	1,471,316.675	3,228,097.184	40.624260	-104.678280
Start Build 2.00									
600.00	2.00	182.33	599.98	-1.74	-0.07	1,471,314.931	3,228,097.129	40.624255	-104.678281
800.00	6.00	182.33	799.45	-15.68	-0.64	1,471,300.989	3,228,096.691	40.624217	-104.678283
1,000.00	10.00	182.33	997.47	-43.49	-1.77	1,471,273.174	3,228,095.818	40.624141	-104.678287
1,200.00	14.00	182.33	1,193.06	-85.03	-3.46	1,471,231.620	3,228,094.512	40.624027	-104.678293
1,400.00	18.00	182.33	1,385.27	-140.10	-5.70	1,471,176.531	3,228,092.782	40.623876	-104.678301
1,600.00	22.00	182.33	1,573.17	-208.43	-8.48	1,471,108.175	3,228,090.634	40.623688	-104.678311
1,726.20	24.52	182.33	1,689.10	-258.23	-10.51	1,471,058.362	3,228,089.070	40.623551	-104.678318
Hold 24.52 Inc, 182.33 Az									
1,800.00	24.52	182.33	1,756.24	-288.83	-11.75	1,471,027.745	3,228,088.108	40.623467	-104.678323
2,000.00	24.52	182.33	1,938.20	-371.78	-15.13	1,470,944.771	3,228,085.501	40.623240	-104.678335
2,200.00	24.52	182.33	2,120.16	-454.73	-18.50	1,470,861.797	3,228,082.895	40.623012	-104.678347
2,400.00	24.52	182.33	2,302.12	-537.67	-21.88	1,470,778.823	3,228,080.288	40.622784	-104.678359
2,600.00	24.52	182.33	2,484.07	-620.62	-25.25	1,470,695.849	3,228,077.682	40.622557	-104.678371
2,800.00	24.52	182.33	2,666.03	-703.56	-28.63	1,470,612.875	3,228,075.075	40.622329	-104.678383
3,000.00	24.52	182.33	2,847.99	-786.51	-32.01	1,470,529.901	3,228,072.469	40.622101	-104.678396
3,200.00	24.52	182.33	3,029.95	-869.46	-35.38	1,470,446.927	3,228,069.862	40.621874	-104.678408
3,400.00	24.52	182.33	3,211.90	-952.40	-38.76	1,470,363.953	3,228,067.256	40.621646	-104.678420
3,600.00	24.52	182.33	3,393.86	-1,035.35	-42.13	1,470,280.979	3,228,064.649	40.621418	-104.678432
3,800.00	24.52	182.33	3,575.82	-1,118.30	-45.51	1,470,198.005	3,228,062.043	40.621191	-104.678444
4,000.00	24.52	182.33	3,757.77	-1,201.24	-48.88	1,470,115.031	3,228,059.436	40.620963	-104.678456
4,200.00	24.52	182.33	3,939.73	-1,284.19	-52.26	1,470,032.057	3,228,056.830	40.620735	-104.678469
4,400.00	24.52	182.33	4,121.69	-1,367.14	-55.63	1,469,949.083	3,228,054.223	40.620507	-104.678481
4,600.00	24.52	182.33	4,303.65	-1,450.08	-59.01	1,469,866.109	3,228,051.617	40.620280	-104.678493
4,800.00	24.52	182.33	4,485.60	-1,533.03	-62.38	1,469,783.135	3,228,049.010	40.620052	-104.678505
5,000.00	24.52	182.33	4,667.56	-1,615.97	-65.76	1,469,700.161	3,228,046.404	40.619824	-104.678517
5,200.00	24.52	182.33	4,849.52	-1,698.92	-69.13	1,469,617.187	3,228,043.797	40.619597	-104.678529
5,400.00	24.52	182.33	5,031.48	-1,781.87	-72.51	1,469,534.213	3,228,041.191	40.619369	-104.678541
5,600.00	24.52	182.33	5,213.43	-1,864.81	-75.88	1,469,451.239	3,228,038.584	40.619141	-104.678554
5,800.00	24.52	182.33	5,395.39	-1,947.76	-79.26	1,469,368.265	3,228,035.978	40.618914	-104.678566
6,000.00	24.52	182.33	5,577.35	-2,030.71	-82.63	1,469,285.291	3,228,033.371	40.618686	-104.678578
6,200.00	24.52	182.33	5,759.31	-2,113.65	-86.01	1,469,202.317	3,228,030.765	40.618458	-104.678590
6,400.00	24.52	182.33	5,941.26	-2,196.60	-89.38	1,469,119.343	3,228,028.158	40.618231	-104.678602
6,600.00	24.52	182.33	6,123.22	-2,279.54	-92.76	1,469,036.369	3,228,025.552	40.618003	-104.678614
6,800.00	24.52	182.33	6,305.18	-2,362.49	-96.14	1,468,953.395	3,228,022.945	40.617775	-104.678627
7,000.00	24.52	182.33	6,487.14	-2,445.44	-99.51	1,468,870.421	3,228,020.338	40.617548	-104.678639
7,200.00	24.52	182.33	6,669.09	-2,528.38	-102.89	1,468,787.447	3,228,017.732	40.617320	-104.678651
7,222.49	24.52	182.33	6,689.56	-2,537.71	-103.27	1,468,778.115	3,228,017.439	40.617294	-104.678652
KOP 8/100									
7,400.00	28.04	150.87	6,849.46	-2,611.34	-84.36	1,468,704.661	3,228,037.027	40.617092	-104.678584
7,600.00	38.04	127.61	7,017.58	-2,690.53	-12.20	1,468,626.149	3,228,109.921	40.616875	-104.678324
7,800.00	50.83	113.75	7,160.42	-2,759.81	108.37	1,468,557.984	3,228,231.119	40.616685	-104.677890
8,000.00	64.75	104.36	7,266.93	-2,813.83	267.99	1,468,505.445	3,228,391.233	40.616536	-104.677315
8,200.00	79.13	96.96	7,328.85	-2,848.40	454.30	1,468,472.604	3,228,577.856	40.616442	-104.676644
8,349.53	90.00	91.94	7,343.00	-2,859.87	602.44	1,468,462.506	3,228,726.098	40.616410	-104.676110
EP 90 Inc, 91.94 Az									
8,400.00	90.00	91.94	7,343.00	-2,861.58	652.88	1,468,461.267	3,228,776.554	40.616405	-104.675929
8,600.00	90.00	91.94	7,343.00	-2,868.34	852.77	1,468,456.356	3,228,976.493	40.616387	-104.675209
8,800.00	90.00	91.94	7,343.00	-2,875.11	1,052.65	1,468,451.446	3,229,176.433	40.616368	-104.674489
9,000.00	90.00	91.94	7,343.00	-2,881.87	1,252.54	1,468,446.535	3,229,376.373	40.616350	-104.673769



Microsoft  
Planning Report - Geographic

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well GASPERICH 33-34-8H
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 33-34-8H	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	91.94	7,343.00	-2,888.63	1,452.42	1,468,441.625	3,229,576.313	40.616331	-104.673049
9,400.00	90.00	91.94	7,343.00	-2,895.40	1,652.31	1,468,436.714	3,229,776.252	40.616312	-104.672329
9,600.00	90.00	91.94	7,343.00	-2,902.16	1,852.19	1,468,431.804	3,229,976.192	40.616294	-104.671609
9,800.00	90.00	91.94	7,343.00	-2,908.92	2,052.08	1,468,426.894	3,230,176.132	40.616275	-104.670889
10,000.00	90.00	91.94	7,343.00	-2,915.69	2,251.97	1,468,421.983	3,230,376.071	40.616257	-104.670169
10,200.00	90.00	91.94	7,343.00	-2,922.45	2,451.85	1,468,417.073	3,230,576.011	40.616238	-104.669449
10,400.00	90.00	91.94	7,343.00	-2,929.21	2,651.74	1,468,412.162	3,230,775.951	40.616219	-104.668729
10,600.00	90.00	91.94	7,343.00	-2,935.97	2,851.62	1,468,407.252	3,230,975.890	40.616201	-104.668009
10,800.00	90.00	91.94	7,343.00	-2,942.74	3,051.51	1,468,402.341	3,231,175.830	40.616182	-104.667289
11,000.00	90.00	91.94	7,343.00	-2,949.50	3,251.39	1,468,397.431	3,231,375.770	40.616164	-104.666569
11,200.00	90.00	91.94	7,343.00	-2,956.26	3,451.28	1,468,392.520	3,231,575.710	40.616145	-104.665849
11,400.00	90.00	91.94	7,343.00	-2,963.03	3,651.17	1,468,387.610	3,231,775.650	40.616126	-104.665129
11,600.00	90.00	91.94	7,343.00	-2,969.79	3,851.05	1,468,382.699	3,231,975.590	40.616108	-104.664409
11,800.00	90.00	91.94	7,343.00	-2,976.55	4,050.94	1,468,377.789	3,232,175.530	40.616089	-104.663689
12,000.00	90.00	91.94	7,343.00	-2,983.32	4,250.82	1,468,372.878	3,232,375.469	40.616070	-104.662969
12,200.00	90.00	91.94	7,343.00	-2,990.08	4,450.71	1,468,367.968	3,232,575.409	40.616052	-104.662249
12,400.00	90.00	91.94	7,343.00	-2,996.84	4,650.59	1,468,363.057	3,232,775.349	40.616033	-104.661529
12,600.00	90.00	91.94	7,343.00	-3,003.60	4,850.48	1,468,358.147	3,232,975.288	40.616014	-104.660809
12,800.00	90.00	91.94	7,343.00	-3,010.37	5,050.36	1,468,353.236	3,233,175.228	40.615996	-104.660089
13,000.00	90.00	91.94	7,343.00	-3,017.13	5,250.25	1,468,348.326	3,233,375.168	40.615977	-104.659369
13,200.00	90.00	91.94	7,343.00	-3,023.89	5,450.14	1,468,343.415	3,233,575.108	40.615958	-104.658649
13,400.00	90.00	91.94	7,343.00	-3,030.66	5,650.02	1,468,338.505	3,233,775.047	40.615940	-104.657929
13,600.00	90.00	91.94	7,343.00	-3,037.42	5,849.91	1,468,333.595	3,233,974.987	40.615921	-104.657209
13,800.00	90.00	91.94	7,343.00	-3,044.18	6,049.79	1,468,328.684	3,234,174.927	40.615902	-104.656489
14,000.00	90.00	91.94	7,343.00	-3,050.95	6,249.68	1,468,323.774	3,234,374.866	40.615883	-104.655769
14,200.00	90.00	91.94	7,343.00	-3,057.71	6,449.56	1,468,318.863	3,234,574.806	40.615865	-104.655049
14,400.00	90.00	91.94	7,343.00	-3,064.47	6,649.45	1,468,313.953	3,234,774.746	40.615846	-104.654329
14,600.00	90.00	91.94	7,343.00	-3,071.23	6,849.34	1,468,309.042	3,234,974.685	40.615827	-104.653609
14,800.00	90.00	91.94	7,343.00	-3,078.00	7,049.22	1,468,304.132	3,235,174.625	40.615809	-104.652889
15,000.00	90.00	91.94	7,343.00	-3,084.76	7,249.11	1,468,299.221	3,235,374.565	40.615790	-104.652169
15,200.00	90.00	91.94	7,343.00	-3,091.52	7,448.99	1,468,294.311	3,235,574.505	40.615771	-104.651449
15,400.00	90.00	91.94	7,343.00	-3,098.29	7,648.88	1,468,289.400	3,235,774.444	40.615752	-104.650729
15,600.00	90.00	91.94	7,343.00	-3,105.05	7,848.76	1,468,284.490	3,235,974.384	40.615734	-104.650009
15,800.00	90.00	91.94	7,343.00	-3,111.81	8,048.65	1,468,279.579	3,236,174.324	40.615715	-104.649289
16,000.00	90.00	91.94	7,343.00	-3,118.58	8,248.53	1,468,274.669	3,236,374.263	40.615696	-104.648569
16,200.00	90.00	91.94	7,343.00	-3,125.34	8,448.42	1,468,269.758	3,236,574.203	40.615677	-104.647849
16,400.00	90.00	91.94	7,343.00	-3,132.10	8,648.31	1,468,264.848	3,236,774.143	40.615659	-104.647129
16,600.00	90.00	91.94	7,343.00	-3,138.86	8,848.19	1,468,259.937	3,236,974.082	40.615640	-104.646409
16,800.00	90.00	91.94	7,343.00	-3,145.63	9,048.08	1,468,255.027	3,237,174.022	40.615621	-104.645689
17,000.00	90.00	91.94	7,343.00	-3,152.39	9,247.96	1,468,250.116	3,237,373.962	40.615602	-104.644969
17,200.00	90.00	91.94	7,343.00	-3,159.15	9,447.85	1,468,245.206	3,237,573.902	40.615584	-104.644249
17,400.00	90.00	91.94	7,343.00	-3,165.92	9,647.73	1,468,240.296	3,237,773.841	40.615565	-104.643529
17,600.00	90.00	91.94	7,343.00	-3,172.68	9,847.62	1,468,235.385	3,237,973.781	40.615546	-104.642809
17,800.00	90.00	91.94	7,343.00	-3,179.44	10,047.51	1,468,230.475	3,238,173.721	40.615527	-104.642089
18,000.00	90.00	91.94	7,343.00	-3,186.21	10,247.39	1,468,225.564	3,238,373.660	40.615509	-104.641369
18,200.00	90.00	91.94	7,343.00	-3,192.97	10,447.28	1,468,220.654	3,238,573.600	40.615490	-104.640649
18,302.54	90.00	91.94	7,343.00	-3,196.44	10,549.75	1,468,218.136	3,238,676.105	40.615480	-104.640280
TD at 18302.54									



<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GASPERICH 33-34-8H
<b>Company:</b>	Edge Energy, LLC	<b>TVD Reference:</b>	WELL @ 4963.00usft (Original Well Elev)
<b>Project:</b>	Sec. 32-T8N-R65W Weld County CO	<b>MD Reference:</b>	WELL @ 4963.00usft (Original Well Elev)
<b>Site:</b>	Gasperich 32	<b>North Reference:</b>	True
<b>Well:</b>	GASPERICH 33-34-8H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 2May18 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 380' FNL, 310' FEL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	1,471,316.679	3,228,097.184	40.624260	-104.678280
EP 1980' FSL, 300' FWL - plan hits target center - Point	0.00	0.00	7,343.00	-2,859.87	602.44	1,468,462.506	3,228,726.098	40.616410	-104.676110
BHL 1980' FSL, 300' FE - plan hits target center - Point	0.00	0.00	7,343.00	-3,196.44	10,549.75	1,468,218.136	3,238,676.105	40.615480	-104.640280

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
1,726.20	1,689.10	-258.23	-10.51	Hold 24.52 Inc, 182.33 Az
7,222.49	6,689.56	-2,537.71	-103.27	KOP 8/100
8,349.53	7,343.00	-2,859.87	602.44	EP 90 Inc, 91.94 Az
18,302.54	7,343.00	-3,196.44	10,549.75	TD at 18302.54