

Edge Energy LLC

Weld County, Co (NAD 83)

Sec. 10 TwN 4N Rng 63W

70 Ranch-10-11-11 - Slot A11

Hz

UWI:

WL:

Plan: #1

Standard Planning Report

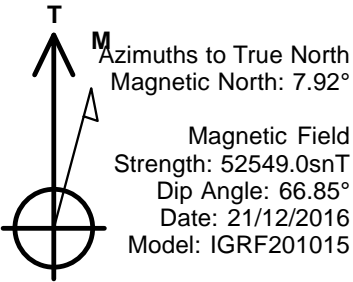
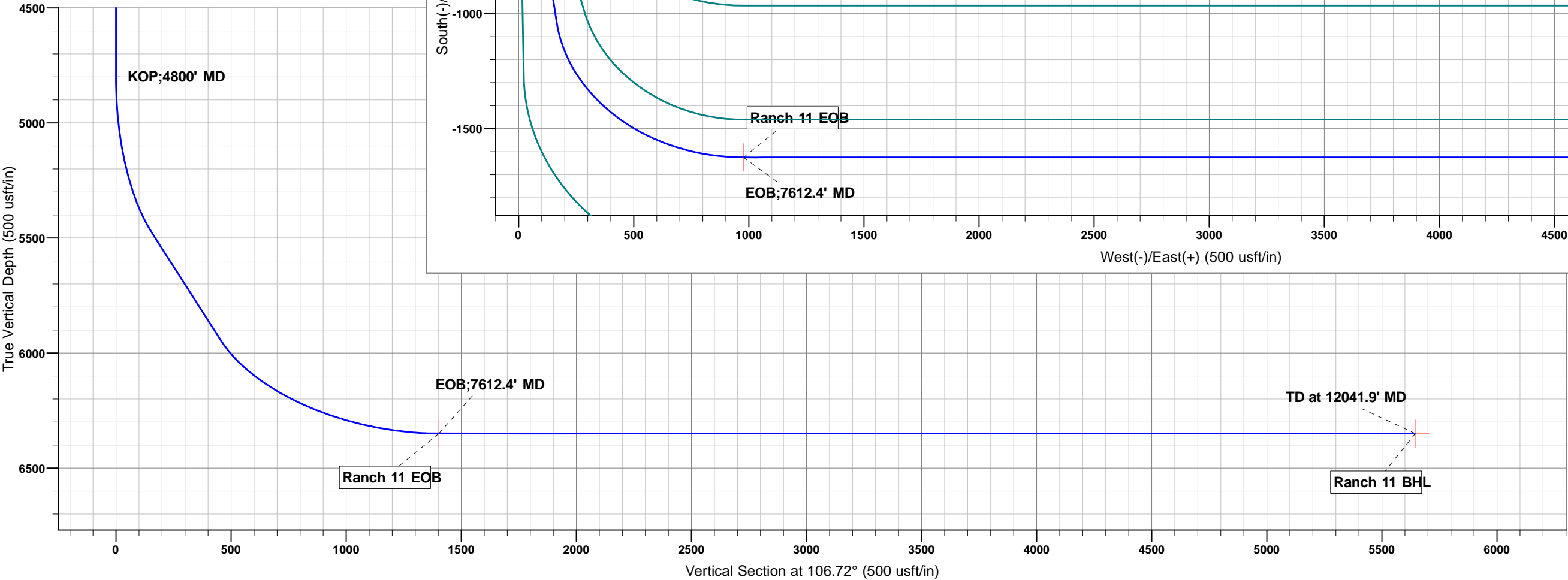
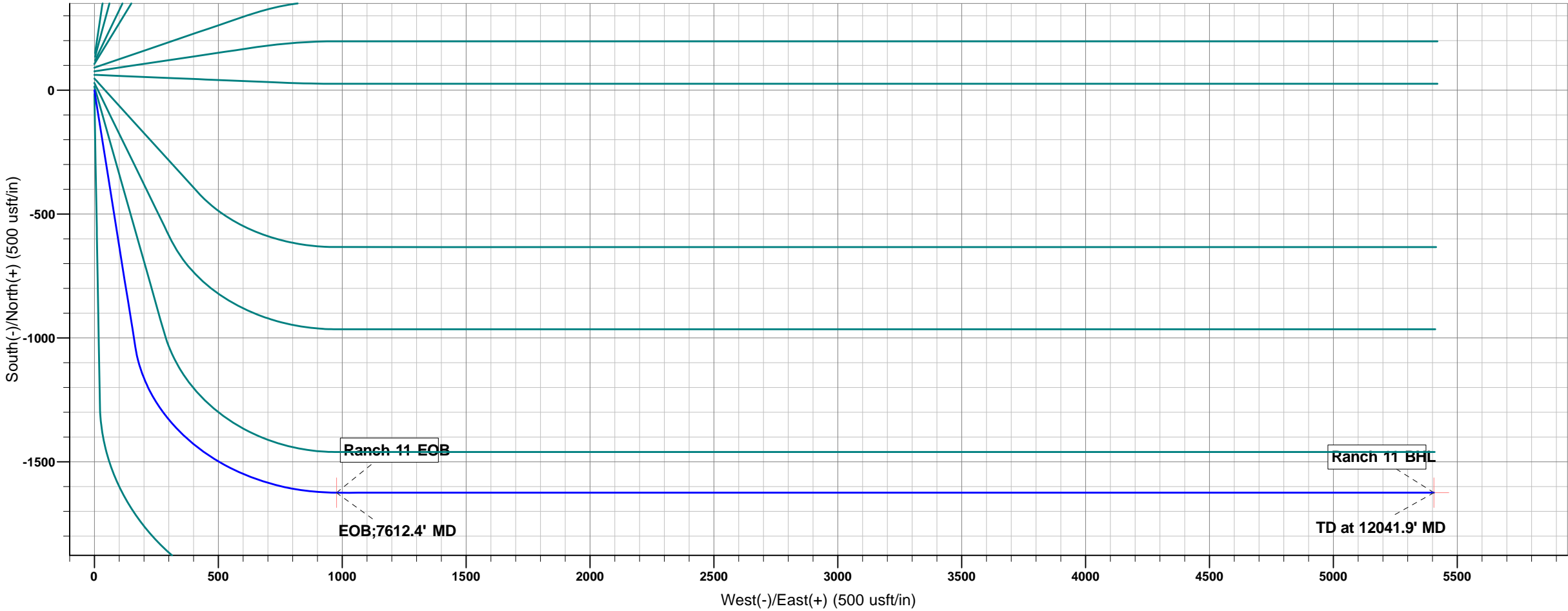
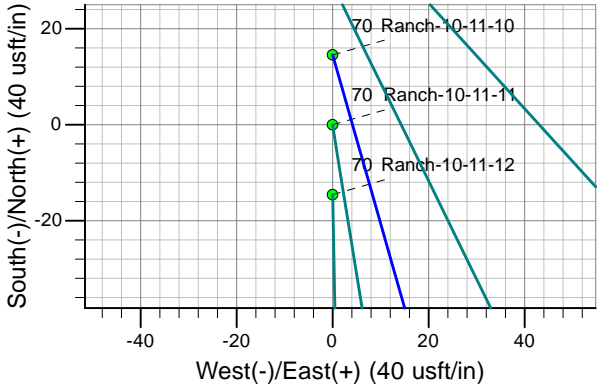
28 December, 2016

Project: Weld County, Co (NAD 83)
Site: Sec. 10 TwN 4N Rng 63W
Well: 70 Ranch-10-11-11
Wellbore: Hz
Plan: #1

Reference Details - WELL CENTRE
Geodetic System: US State Plane 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
Northing: 1363872.95
Easting: 3301962.76
Latitude: 40° 19' 37.81188 N
Longitude: 104° 25' 0.94800 W
Grid Convergence: 0.70° West
Ground Elevation: 4605.0
KB Elevation: RKB @ 4625.0usft (kb;20')

PLAN DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4800.0	0.00	0.00	4800.0	0.0	0.0	0.00	0.00	0.0	
3	5597.6	55.83	170.94	5477.2	-354.4	56.5	7.00	170.94	156.1	
4	6433.7	55.83	170.94	5946.8	-1037.5	165.5	0.00	0.00	457.0	
5	7612.4	90.00	90.00	6350.0	-1624.1	977.0	7.00	-84.88	1403.0	Ranch 11 EOB
6	12041.9	90.00	90.00	6350.0	-1624.1	5406.5	0.00	0.00	5645.2	Ranch 11 BHL



Planning Report

Database:	WellPlan Services	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Company:	Edge Energy LLC	TVD Reference:	RKB @ 4625.0usft (kb;20')
Project:	Weld County, Co (NAD 83)	MD Reference:	RKB @ 4625.0usft (kb;20')
Site:	Sec. 10 TwN 4N Rng 63W	North Reference:	True
Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	#1		

Project	Weld County, Co (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec. 10 TwN 4N Rng 63W			
Site Position:		Northing:	1,364,022.34 usft	Latitude:	40° 19' 39.28800 N
From:	Lat/Long	Easting:	3,301,963.73 usft	Longitude:	104° 25' 0.91200 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.70 °

Well	70 Ranch-10-11-11 - Slot A11					
Well Position	+N/-S	-149.4 usft	Northing:	1,363,872.95 usft	Latitude:	40° 19' 37.81188 N
	+E/-W	-2.8 usft	Easting:	3,301,962.76 usft	Longitude:	104° 25' 0.94800 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	4,605.0 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF201015	21/12/2016	7.92	66.85	52,549

Design	#1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	106.72

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,597.6	55.83	170.94	5,477.2	-354.4	56.5	7.00	7.00	0.00	170.94	
6,433.7	55.83	170.94	5,946.8	-1,037.5	165.5	0.00	0.00	0.00	0.00	
7,612.4	90.00	90.00	6,350.0	-1,624.1	977.0	7.00	2.90	-6.87	-84.88	Ranch 11 EOB
12,041.9	90.00	90.00	6,350.0	-1,624.1	5,406.5	0.00	0.00	0.00	0.00	Ranch 11 BHL

Planning Report

Database:	WellPlan Services	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Company:	Edge Energy LLC	TVD Reference:	RKB @ 4625.0usft (kb;20')
Project:	Weld County, Co (NAD 83)	MD Reference:	RKB @ 4625.0usft (kb;20')
Site:	Sec. 10 Twn 4N Rng 63W	North Reference:	True
Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	H2		
Design:	#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	-4,625.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP;4800' MD										
4,800.0	0.00	0.00	4,800.0	175.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	7.00	170.94	4,899.8	274.8	-6.0	1.0	2.7	7.00	7.00	0.00
5,000.0	14.00	170.94	4,998.0	373.0	-24.0	3.8	10.6	7.00	7.00	0.00
5,100.0	21.00	170.94	5,093.3	468.3	-53.7	8.6	23.6	7.00	7.00	0.00
5,200.0	28.00	170.94	5,184.3	559.3	-94.6	15.1	41.7	7.00	7.00	0.00
5,300.0	35.00	170.94	5,269.5	644.5	-146.2	23.3	64.4	7.00	7.00	0.00
5,400.0	42.00	170.94	5,347.7	722.7	-207.6	33.1	91.4	7.00	7.00	0.00
5,500.0	49.00	170.94	5,417.7	792.7	-278.0	44.3	122.4	7.00	7.00	0.00
5,597.6	55.83	170.94	5,477.2	852.2	-354.4	56.5	156.1	7.00	7.00	0.00
5,600.0	55.83	170.94	5,478.6	853.6	-356.3	56.8	156.9	0.00	0.00	0.00
5,700.0	55.83	170.94	5,534.7	909.7	-438.0	69.9	192.9	0.00	0.00	0.00
5,800.0	55.83	170.94	5,590.9	965.9	-519.7	82.9	228.9	0.00	0.00	0.00
5,900.0	55.83	170.94	5,647.1	1,022.1	-601.4	95.9	264.9	0.00	0.00	0.00
6,000.0	55.83	170.94	5,703.2	1,078.2	-683.1	109.0	300.9	0.00	0.00	0.00
6,100.0	55.83	170.94	5,759.4	1,134.4	-764.8	122.0	336.9	0.00	0.00	0.00
6,200.0	55.83	170.94	5,815.5	1,190.5	-846.5	135.0	372.9	0.00	0.00	0.00
6,300.0	55.83	170.94	5,871.7	1,246.7	-928.3	148.0	408.9	0.00	0.00	0.00
6,400.0	55.83	170.94	5,927.9	1,302.9	-1,010.0	161.1	444.8	0.00	0.00	0.00
6,433.7	55.83	170.94	5,946.8	1,321.8	-1,037.5	165.5	457.0	0.00	0.00	0.00
6,500.0	56.37	165.38	5,983.8	1,358.8	-1,091.3	176.8	483.3	7.00	0.81	-8.38
6,600.0	57.65	157.18	6,038.3	1,413.3	-1,170.6	203.7	531.9	7.00	1.27	-8.21
6,700.0	59.43	149.24	6,090.5	1,465.5	-1,246.7	242.1	590.6	7.00	1.79	-7.94
6,800.0	61.68	141.62	6,139.8	1,514.8	-1,318.3	291.5	658.5	7.00	2.25	-7.61
6,900.0	64.34	134.35	6,185.2	1,560.2	-1,384.3	351.2	734.6	7.00	2.65	-7.27
7,000.0	67.33	127.42	6,226.2	1,601.2	-1,444.0	420.1	817.8	7.00	3.00	-6.94
7,100.0	70.62	120.79	6,262.1	1,637.1	-1,496.2	497.4	906.8	7.00	3.28	-6.63
7,200.0	74.13	114.44	6,292.4	1,667.4	-1,540.3	581.8	1,000.3	7.00	3.51	-6.36
7,300.0	77.82	108.30	6,316.6	1,691.6	-1,575.6	672.1	1,097.0	7.00	3.69	-6.13
7,400.0	81.64	102.34	6,334.5	1,709.5	-1,601.5	766.9	1,195.3	7.00	3.82	-5.96
7,500.0	85.55	96.50	6,345.6	1,720.6	-1,617.8	864.9	1,293.8	7.00	3.91	-5.84
7,600.0	89.51	90.72	6,349.9	1,724.9	-1,624.1	964.6	1,391.0	7.00	3.96	-5.78
EOB;7612.4' MD										
7,612.4	90.00	90.00	6,350.0	1,725.0	-1,624.1	977.0	1,402.9	7.00	3.97	-5.77
7,700.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,064.6	1,486.8	0.00	0.00	0.00
7,800.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,164.6	1,582.6	0.00	0.00	0.00
7,900.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,264.6	1,678.4	0.00	0.00	0.00
8,000.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,364.6	1,774.1	0.00	0.00	0.00
8,100.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,464.6	1,869.9	0.00	0.00	0.00
8,200.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,564.6	1,965.7	0.00	0.00	0.00
8,300.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,664.6	2,061.4	0.00	0.00	0.00
8,400.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,764.6	2,157.2	0.00	0.00	0.00
8,500.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,864.6	2,253.0	0.00	0.00	0.00
8,600.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	1,964.6	2,348.8	0.00	0.00	0.00
8,700.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,064.6	2,444.5	0.00	0.00	0.00

Planning Report

Database:	WellPlan Services	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Company:	Edge Energy LLC	TVD Reference:	RKB @ 4625.0usft (kb;20')
Project:	Weld County, Co (NAD 83)	MD Reference:	RKB @ 4625.0usft (kb;20')
Site:	Sec. 10 Twn 4N Rng 63W	North Reference:	True
Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	#1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	Subsea (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,800.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,164.6	2,540.3	0.00	0.00	0.00
8,900.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,264.6	2,636.1	0.00	0.00	0.00
9,000.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,364.6	2,731.9	0.00	0.00	0.00
9,100.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,464.6	2,827.6	0.00	0.00	0.00
9,200.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,564.6	2,923.4	0.00	0.00	0.00
9,300.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,664.6	3,019.2	0.00	0.00	0.00
9,400.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,764.6	3,114.9	0.00	0.00	0.00
9,500.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,864.6	3,210.7	0.00	0.00	0.00
9,600.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	2,964.6	3,306.5	0.00	0.00	0.00
9,700.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,064.6	3,402.3	0.00	0.00	0.00
9,800.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,164.6	3,498.0	0.00	0.00	0.00
9,900.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,264.6	3,593.8	0.00	0.00	0.00
10,000.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,364.6	3,689.6	0.00	0.00	0.00
10,100.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,464.6	3,785.3	0.00	0.00	0.00
10,200.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,564.6	3,881.1	0.00	0.00	0.00
10,300.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,664.6	3,976.9	0.00	0.00	0.00
10,400.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,764.6	4,072.7	0.00	0.00	0.00
10,500.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,864.6	4,168.4	0.00	0.00	0.00
10,600.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	3,964.6	4,264.2	0.00	0.00	0.00
10,700.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,064.6	4,360.0	0.00	0.00	0.00
10,800.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,164.6	4,455.7	0.00	0.00	0.00
10,900.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,264.6	4,551.5	0.00	0.00	0.00
11,000.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,364.6	4,647.3	0.00	0.00	0.00
11,100.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,464.6	4,743.1	0.00	0.00	0.00
11,200.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,564.6	4,838.8	0.00	0.00	0.00
11,300.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,664.6	4,934.6	0.00	0.00	0.00
11,400.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,764.6	5,030.4	0.00	0.00	0.00
11,500.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,864.6	5,126.1	0.00	0.00	0.00
11,600.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	4,964.6	5,221.9	0.00	0.00	0.00
11,700.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	5,064.6	5,317.7	0.00	0.00	0.00
11,800.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	5,164.6	5,413.5	0.00	0.00	0.00
11,900.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	5,264.6	5,509.2	0.00	0.00	0.00
12,000.0	90.00	90.00	6,350.0	1,725.0	-1,624.1	5,364.6	5,605.0	0.00	0.00	0.00
TD at 12041.9' MD										
12,041.9	90.00	90.00	6,350.0	1,725.0	-1,624.1	5,406.5	5,645.1	0.00	0.00	0.00

Planning Report

Database:	WellPlan Services	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Company:	Edge Energy LLC	TVD Reference:	RKB @ 4625.0usft (kb;20')
Project:	Weld County, Co (NAD 83)	MD Reference:	RKB @ 4625.0usft (kb;20')
Site:	Sec. 10 Twn 4N Rng 63W	North Reference:	True
Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	#1		

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									
Ranch 11 EOB	0.00	0.00	6,350.0	-1,624.1	977.0	1,362,260.86	3,302,959.53	40° 19' 21.76161 N	104° 24' 48.33377 W
- plan hits target center									
- Point									
Ranch 11 BHL	0.00	0.00	6,350.0	-1,624.1	5,406.5	1,362,314.96	3,307,388.67	40° 19' 21.75596 N	104° 23' 51.14400 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
4,800.0	4,800.0	0.0	0.0	KOP;4800' MD
7,612.4	6,350.0	-1,624.1	977.0	EOB;7612.4' MD
12,041.9	6,350.0	-1,624.1	5,406.5	TD at 12041.9' MD

Anticollision Report

Company:	Edge Energy LLC	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Project:	Weld County, Co (NAD 83)	TVD Reference:	RKB @ 4625.0usft (kb;20')
Reference Site:	Sec. 10 Twn 4N Rng 63W	MD Reference:	RKB @ 4625.0usft (kb;20')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	WellPlan Services
Reference Design:	#1	Offset TVD Reference:	Offset Datum

Reference	#1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.0usft	Error Model:	ISCWSA
Depth Range:	5,000.0 to 99,999.0usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 50.0 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	28/12/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	12,041.9	#1 (Hz)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec. 10 Twn 4N Rng 63W						
70 Ranch-10-11-1 - Hz - #1						Out of range
70 Ranch-10-11-10 - Hz - #1	5,000.0	4,998.0	38.8	17.2	1.798	CC, ES, SF
70 Ranch-10-11-12 - Hz - #1	5,091.2	5,087.4	10.2	-11.7	0.467	Level 1, CC
70 Ranch-10-11-12 - Hz - #1	5,100.0	5,096.0	10.3	-11.8	0.466	Level 1, ES, SF
70 Ranch-10-11-2 - Hz - #1						Out of range
70 Ranch-10-11-3 - Hz - #1						Out of range
70 Ranch-10-11-4 - Hz - #1						Out of range
70 Ranch-10-11-5 - Hz - #1						Out of range
70 Ranch-10-11-6 - Hz - #1						Out of range
70 Ranch-10-11-7 - Hz - #1						Out of range
70 Ranch-10-11-8 - Hz - #1						Out of range
70 Ranch-10-11-9 - Hz - #1						Out of range

Offset Design	Sec. 10 Twn 4N Rng 63W - 70 Ranch-10-11-10 - Hz - #1											Offset Site Error:	0.0 usft
Survey Program:	0-MWD											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,998.0	4,998.0	4,998.0	11.0	11.1	-176.50	14.6	0.0	38.8	17.2	21.56	1.798	CC, ES, SF
5,026.6	5,023.7	5,023.7	5,023.7	11.1	11.2	-177.00	14.6	0.0	45.6	24.1	21.51	2.120	

Anticollision Report

Company:	Edge Energy LLC	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Project:	Weld County, Co (NAD 83)	TVD Reference:	RKB @ 4625.0usft (kb;20')
Reference Site:	Sec. 10 Twn 4N Rng 63W	MD Reference:	RKB @ 4625.0usft (kb;20')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	WellPlan Services
Reference Design:	#1	Offset TVD Reference:	Offset Datum

Offset Design Sec. 10 Twn 4N Rng 63W - 70 Ranch-10-11-12 - Hz - #1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,998.0	4,997.2	4,995.8	11.0	11.0	26.28	-34.8	0.4	11.6	-10.0	21.56	0.538	Level 1
5,050.0	5,046.1	5,046.6	5,043.8	11.1	11.1	39.45	-46.2	0.6	10.6	-11.1	21.66	0.489	Level 1
5,091.2	5,085.1	5,087.4	5,083.0	11.2	11.2	54.22	-57.5	0.8	10.2	-11.7	21.93	0.467	Level 1, CC
5,100.0	5,093.3	5,096.0	5,091.3	11.2	11.2	57.71	-60.1	0.8	10.3	-11.8	22.01	0.466	Level 1, ES, SF
5,150.0	5,139.4	5,145.6	5,138.1	11.3	11.3	78.07	-76.4	1.1	11.2	-11.3	22.49	0.498	Level 1
5,200.0	5,184.3	5,195.3	5,184.1	11.4	11.4	95.46	-95.2	1.4	13.7	-9.1	22.77	0.601	Level 1
5,250.0	5,227.7	5,245.1	5,229.2	11.6	11.5	107.90	-116.4	1.8	17.5	-5.3	22.80	0.766	Level 1
5,300.0	5,269.5	5,295.1	5,273.2	11.7	11.6	116.30	-140.0	2.2	22.3	-0.4	22.71	0.982	Level 1
5,350.0	5,309.5	5,345.2	5,316.1	11.9	11.8	122.01	-166.0	2.7	27.9	5.3	22.58	1.236	Level 2
5,400.0	5,347.7	5,395.5	5,357.7	12.2	12.0	125.99	-194.3	3.2	34.3	11.8	22.47	1.524	
5,450.0	5,383.8	5,446.0	5,397.9	12.5	12.2	128.85	-224.9	3.7	41.2	18.8	22.39	1.840	
5,500.0	5,417.7	5,496.8	5,436.6	12.8	12.5	130.95	-257.7	4.3	48.7	26.3	22.36	2.178	

Anticollision Report

Company:	Edge Energy LLC	Local Co-ordinate Reference:	Well 70 Ranch-10-11-11 - Slot A11
Project:	Weld County, Co (NAD 83)	TVD Reference:	RKB @ 4625.0usft (kb;20')
Reference Site:	Sec. 10 Twn 4N Rng 63W	MD Reference:	RKB @ 4625.0usft (kb;20')
Site Error:	0.0 usft	North Reference:	True
Reference Well:	70 Ranch-10-11-11	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	WellPlan Services
Reference Design:	#1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 4625.0usft (kb;20')

Offset Depths are relative to Offset Datum

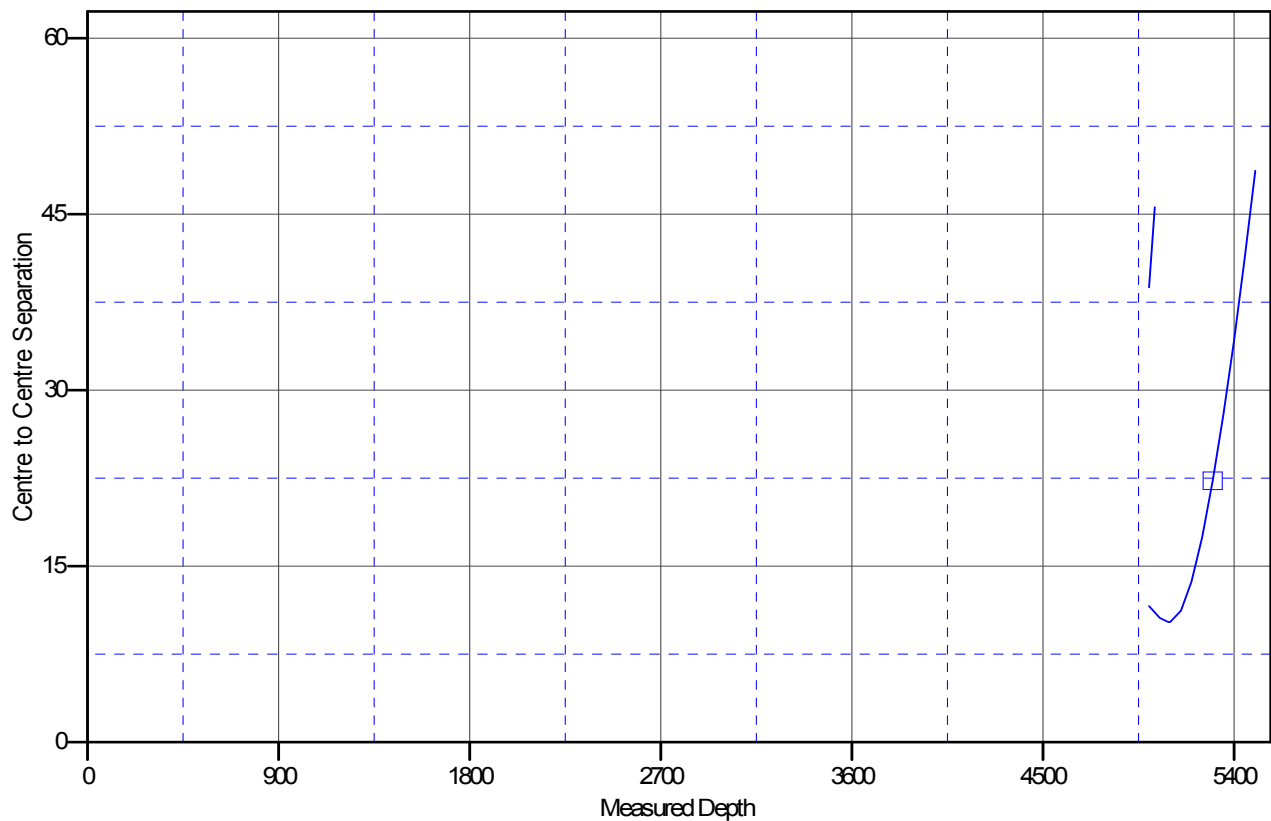
Central Meridian is 105° 30' 0.00000 W

Coordinates are relative to: 70 Ranch-10-11-11 - Slot A11

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.70°

Ladder Plot



LEGEND

—○— 70 Ranch-10-11-10, Hz, #1 V0
 —□— 70 Ranch-10-11-12, Hz, #1 V0