

BONANZA CREEK ENERGY

WELD COUNTY

SEC 16-T5N-R61W

PH FENRIR F16 08N-20-03

OWB

Plan: PROPOSAL 1

Standard Planning Report

29 July, 2024

Project: WELD COUNTY
Site: SEC 16-T5N-R61W
Well: PH FENRIR F16 08N-20-03
Wellbore: OWB
Design: PROPOSAL 1

PROJECT DETAILS: WELD COUNTY
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level



Azimuths to True North
Magnetic North: 7.27°
Magnetic Field
Strength: 51717.5nT
Dip Angle: 66.62°
Date: 4/9/2024
Model: IGRF2020

WELL DETAILS: PH FENRIR F16 08N-20-03

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1393828.56	3356929.36	40.407380°N	104.218250°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	
3	1794.47	17.89	270.74	1780.01	1.80	-138.50	2.00	270.74	20.97	
4	5686.60	17.89	270.74	5483.95	17.32	-1333.99	0.00	0.00	202.03	
5	6584.27	90.00	359.99	6027.00	590.24	-1509.39	10.00	89.28	793.72	LP-PH FENRIR 08N-20-03
6	16795.97	90.00	359.99	6027.00	10801.94	-1511.54	0.00	0.00	10907.18	PBHL-PH FENRIR 08N-20-03

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	Start Build 2.00
1794.47	17.89	270.74	1780.01	1.80	-138.50	20.97	138.51	Start 3892.12 hold at 1794.47 MD
5686.60	17.89	270.74	5483.95	17.32	-1333.99	202.03	1334.10	Start DLS 10.00 TFO 89.28
6584.27	90.00	359.99	6027.00	590.24	-1509.39	793.72	1963.99	Start 10211.70 hold at 6584.27 MD
16795.97	90.00	359.99	6027.00	10801.94	-1511.54	10907.18	12175.68	TD at 16795.97

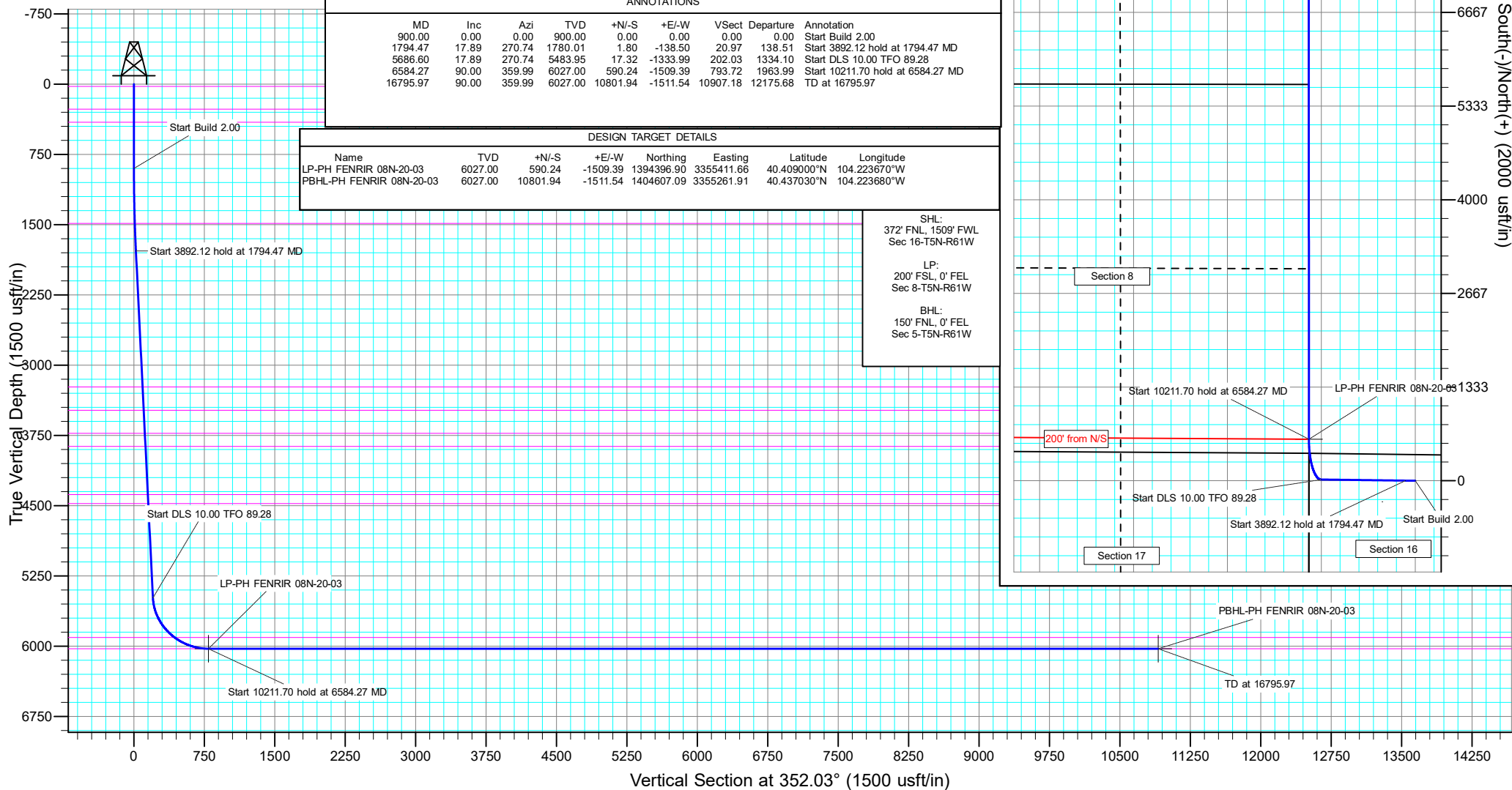
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP-PH FENRIR 08N-20-03	6027.00	590.24	-1509.39	1394396.90	3355411.66	40.409000°N	104.223670°W
PBHL-PH FENRIR 08N-20-03	6027.00	10801.94	-1511.54	1404607.09	3355261.91	40.437030°N	104.223680°W

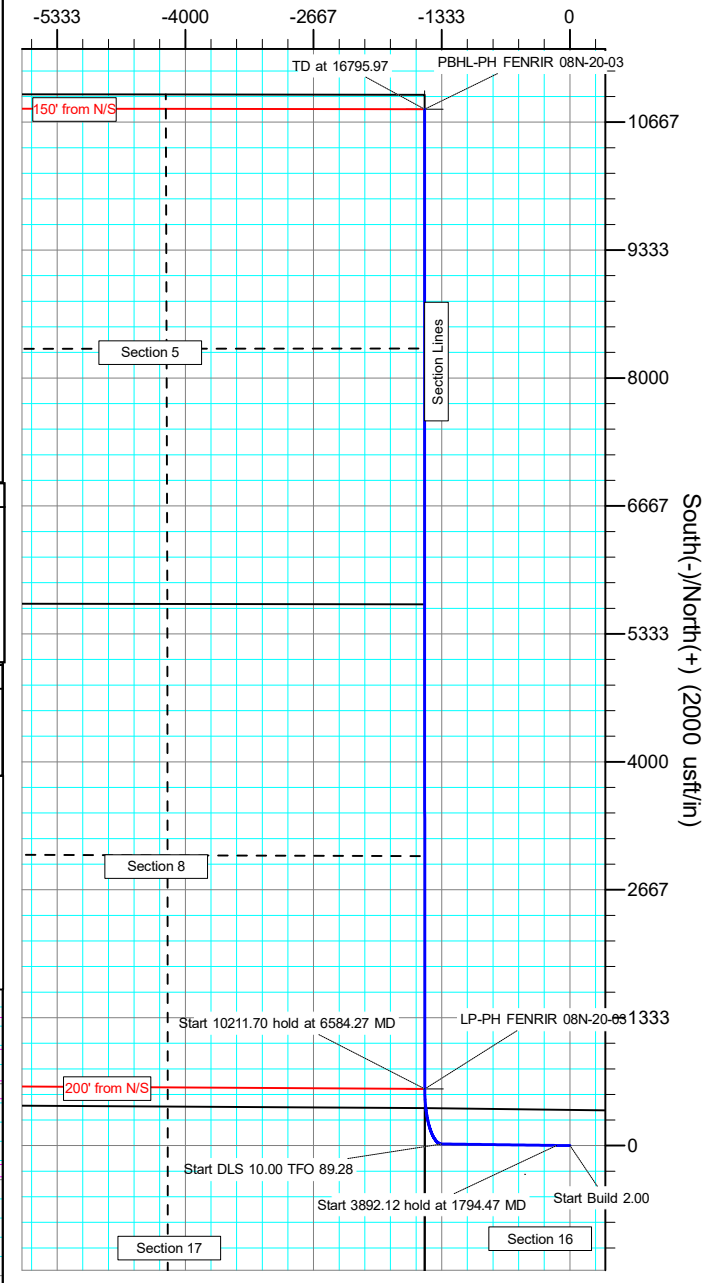
SHL:
372' FNL, 1509' FWL
Sec 16-T5N-R61W

LP:
200' FSL, 0' FEL
Sec 8-T5N-R61W

BHL:
150' FNL, 0' FEL
Sec 5-T5N-R61W



West(-)/East(+) (2000 usft/in)



Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well PH FENRIR F16 08N-20-03
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4668.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4668.00usft
Site:	SEC 16-T5N-R61W	North Reference:	True
Well:	PH FENRIR F16 08N-20-03	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Project	WELD COUNTY		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	SEC 16-T5N-R61W		
Site Position:		Northing:	1,388,859.11 usft
From:	Map	Easting:	3,360,849.86 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	40.393584°N
		Longitude:	104.204434°W
		Grid Convergence:	0.84 °

Well	PH FENRIR F16 08N-20-03		
Well Position	+N/-S	5,026.40 usft	Northing:
	+E/-W	-3,847.63 usft	Easting:
Position Uncertainty	0.00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OWB		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2020	4/9/2024	7.27
			Dip Angle
			(°)
			66.62
			Field Strength
			(nT)
			51,717.54158657

Design	PROPOSAL 1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			352.03

Plan Survey Tool Program	Date	7/29/2024		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.00	16,795.97	PROPOSAL 1 (OWB)	MWD OWSG
				OWSG MWD - Standard

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,794.47	17.89	270.74	1,780.01	1.80	-138.50	2.00	2.00	0.00	270.74	
5,686.60	17.89	270.74	5,483.95	17.32	-1,333.99	0.00	0.00	0.00	0.00	
6,584.27	90.00	359.99	6,027.00	590.24	-1,509.39	10.00	8.03	9.94	89.28	LP-PH FENRIR 08N-4
16,795.97	90.00	359.99	6,027.00	10,801.94	-1,511.54	0.00	0.00	0.00	0.00	PBHL-PH FENRIR 08

Civitas Resources

Planning Report

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Project:	WELD COUNTY	MD Reference:	KB 25' @ 4668.00usft
Site:	SEC 16-T5N-R61W	North Reference:	True
Well:	PH FENRIR F16 08N-20-03	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.00	0.00	0.00	24.00	0.00	0.00	0.00	0.00	0.00	0.00
Laramie-Fox Hills Formation									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
267.00	0.00	0.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Formation									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
407.00	0.00	0.00	407.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre aquifer									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	2.00	270.74	999.98	0.02	-1.75	0.26	2.00	2.00	0.00
1,100.00	4.00	270.74	1,099.84	0.09	-6.98	1.06	2.00	2.00	0.00
1,200.00	6.00	270.74	1,199.45	0.20	-15.69	2.38	2.00	2.00	0.00
1,300.00	8.00	270.74	1,298.70	0.36	-27.88	4.22	2.00	2.00	0.00
1,400.00	10.00	270.74	1,397.47	0.57	-43.52	6.59	2.00	2.00	0.00
1,491.19	11.82	270.74	1,487.00	0.79	-60.78	9.20	2.00	2.00	0.00
Pierre Formation									
1,500.00	12.00	270.74	1,495.62	0.81	-62.60	9.48	2.00	2.00	0.00
1,600.00	14.00	270.74	1,593.06	1.11	-85.09	12.89	2.00	2.00	0.00
1,700.00	16.00	270.74	1,689.64	1.44	-110.97	16.81	2.00	2.00	0.00
1,794.47	17.89	270.74	1,780.01	1.80	-138.50	20.97	2.00	2.00	0.00
Start 3892.12 hold at 1794.47 MD									
1,800.00	17.89	270.74	1,785.27	1.82	-140.20	21.23	0.00	0.00	0.00
1,900.00	17.89	270.74	1,880.44	2.22	-170.91	25.88	0.00	0.00	0.00
2,000.00	17.89	270.74	1,975.60	2.62	-201.63	30.54	0.00	0.00	0.00
2,100.00	17.89	270.74	2,070.77	3.02	-232.34	35.19	0.00	0.00	0.00
2,200.00	17.89	270.74	2,165.93	3.42	-263.06	39.84	0.00	0.00	0.00
2,300.00	17.89	270.74	2,261.10	3.82	-293.77	44.49	0.00	0.00	0.00
2,400.00	17.89	270.74	2,356.26	4.21	-324.49	49.14	0.00	0.00	0.00
2,500.00	17.89	270.74	2,451.43	4.61	-355.21	53.79	0.00	0.00	0.00
2,600.00	17.89	270.74	2,546.59	5.01	-385.92	58.45	0.00	0.00	0.00
2,700.00	17.89	270.74	2,641.76	5.41	-416.64	63.10	0.00	0.00	0.00
2,800.00	17.89	270.74	2,736.92	5.81	-447.35	67.75	0.00	0.00	0.00
2,900.00	17.89	270.74	2,832.09	6.21	-478.07	72.40	0.00	0.00	0.00
3,000.00	17.89	270.74	2,927.25	6.61	-508.78	77.05	0.00	0.00	0.00
3,100.00	17.89	270.74	3,022.42	7.01	-539.50	81.70	0.00	0.00	0.00
3,200.00	17.89	270.74	3,117.58	7.41	-570.22	86.36	0.00	0.00	0.00
3,300.00	17.89	270.74	3,212.75	7.80	-600.93	91.01	0.00	0.00	0.00
3,320.23	17.89	270.74	3,232.00	7.89	-607.15	91.95	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
3,400.00	17.89	270.74	3,307.91	8.20	-631.65	95.66	0.00	0.00	0.00
3,500.00	17.89	270.74	3,403.08	8.60	-662.36	100.31	0.00	0.00	0.00
3,582.93	17.89	270.74	3,482.00	8.93	-687.84	104.17	0.00	0.00	0.00
Pierre Formation									
3,600.00	17.89	270.74	3,498.24	9.00	-693.08	104.96	0.00	0.00	0.00
3,700.00	17.89	270.74	3,593.41	9.40	-723.79	109.61	0.00	0.00	0.00

Civitas Resources

Planning Report

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Project:	WELD COUNTY	MD Reference:	KB 25' @ 4668.00usft
Site:	SEC 16-T5N-R61W	North Reference:	True
Well:	PH FENRIR F16 08N-20-03	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,800.00	17.89	270.74	3,688.57	9.80	-754.51	114.27	0.00	0.00	0.00
3,840.38	17.89	270.74	3,727.00	9.96	-766.91	116.14	0.00	0.00	0.00
Terry ("Sussex") sandstone									
3,900.00	17.89	270.74	3,783.74	10.20	-785.22	118.92	0.00	0.00	0.00
3,987.49	17.89	270.74	3,867.00	10.55	-812.10	122.99	0.00	0.00	0.00
Pierre Formation									
4,000.00	17.89	270.74	3,878.90	10.60	-815.94	123.57	0.00	0.00	0.00
4,100.00	17.89	270.74	3,974.07	11.00	-846.66	128.22	0.00	0.00	0.00
4,200.00	17.89	270.74	4,069.23	11.39	-877.37	132.87	0.00	0.00	0.00
4,300.00	17.89	270.74	4,164.40	11.79	-908.09	137.52	0.00	0.00	0.00
4,400.00	17.89	270.74	4,259.56	12.19	-938.80	142.18	0.00	0.00	0.00
4,500.00	17.89	270.74	4,354.73	12.59	-969.52	146.83	0.00	0.00	0.00
4,528.66	17.89	270.74	4,382.00	12.71	-978.32	148.16	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
4,600.00	17.89	270.74	4,449.89	12.99	-1,000.23	151.48	0.00	0.00	0.00
4,628.49	17.89	270.74	4,477.00	13.10	-1,008.98	152.81	0.00	0.00	0.00
Pierre Formation									
4,700.00	17.89	270.74	4,545.06	13.39	-1,030.95	156.13	0.00	0.00	0.00
4,800.00	17.89	270.74	4,640.22	13.79	-1,061.67	160.78	0.00	0.00	0.00
4,900.00	17.89	270.74	4,735.39	14.19	-1,092.38	165.44	0.00	0.00	0.00
5,000.00	17.89	270.74	4,830.55	14.59	-1,123.10	170.09	0.00	0.00	0.00
5,100.00	17.89	270.74	4,925.72	14.98	-1,153.81	174.74	0.00	0.00	0.00
5,200.00	17.89	270.74	5,020.88	15.38	-1,184.53	179.39	0.00	0.00	0.00
5,300.00	17.89	270.74	5,116.05	15.78	-1,215.24	184.04	0.00	0.00	0.00
5,400.00	17.89	270.74	5,211.21	16.18	-1,245.96	188.69	0.00	0.00	0.00
5,500.00	17.89	270.74	5,306.38	16.58	-1,276.68	193.35	0.00	0.00	0.00
5,600.00	17.89	270.74	5,401.54	16.98	-1,307.39	198.00	0.00	0.00	0.00
5,686.60	17.89	270.74	5,483.95	17.32	-1,333.99	202.03	0.00	0.00	0.00
Start DLS 10.00 TFO 89.28									
5,700.00	17.95	275.10	5,496.71	17.54	-1,338.11	202.80	10.00	0.49	32.47
5,750.00	19.02	290.55	5,544.15	21.08	-1,353.42	208.44	10.00	2.13	30.91
5,800.00	21.20	303.68	5,591.13	28.96	-1,368.58	218.34	10.00	4.36	26.26
5,850.00	24.20	314.08	5,637.27	41.11	-1,383.48	232.44	10.00	5.99	20.81
5,900.00	27.75	322.15	5,682.22	57.44	-1,397.99	250.62	10.00	7.10	16.13
5,950.00	31.66	328.43	5,725.65	77.83	-1,412.01	272.76	10.00	7.83	12.58
6,000.00	35.83	333.43	5,767.23	102.11	-1,425.44	298.67	10.00	8.32	10.00
6,050.00	40.16	337.50	5,806.63	130.11	-1,438.16	328.16	10.00	8.66	8.13
6,100.00	44.61	340.89	5,843.56	161.62	-1,450.09	361.01	10.00	8.90	6.78
6,150.00	49.14	343.78	5,877.73	196.38	-1,461.12	396.97	10.00	9.07	5.78
6,196.81	53.44	346.14	5,907.00	231.65	-1,470.58	433.21	10.00	9.19	5.05
Sharon Springs Member									
6,200.00	53.74	346.29	5,908.90	234.14	-1,471.19	435.77	10.00	9.24	4.74
6,250.00	58.38	348.53	5,936.81	274.62	-1,480.21	477.10	10.00	9.29	4.47
6,300.00	63.06	350.55	5,961.25	317.49	-1,488.11	520.66	10.00	9.36	4.04
6,350.00	67.77	352.41	5,982.05	362.44	-1,494.83	566.11	10.00	9.41	3.72
6,400.00	72.49	354.14	5,999.04	409.13	-1,500.32	613.10	10.00	9.45	3.48
6,450.00	77.23	355.79	6,012.10	457.20	-1,504.55	661.29	10.00	9.48	3.30
6,500.00	81.98	357.38	6,021.11	506.27	-1,507.47	710.30	10.00	9.50	3.18
6,550.00	86.74	358.93	6,026.03	555.99	-1,509.06	759.75	10.00	9.51	3.10
6,584.27	90.00	359.99	6,027.00	590.24	-1,509.39	793.72	10.00	9.52	3.07
Start 10211.70 hold at 6584.27 MD - Niobrara Formation									
6,600.00	90.00	359.99	6,027.00	605.97	-1,509.39	809.30	0.00	0.00	0.00
6,700.00	90.00	359.99	6,027.00	705.97	-1,509.41	908.33	0.00	0.00	0.00

Civitas Resources

Planning Report

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Project:	WELD COUNTY	MD Reference:	KB 25' @ 4668.00usft
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Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,800.00	90.00	359.99	6,027.00	805.97	-1,509.43	1,007.37	0.00	0.00	0.00
6,900.00	90.00	359.99	6,027.00	905.97	-1,509.45	1,106.41	0.00	0.00	0.00
7,000.00	90.00	359.99	6,027.00	1,005.97	-1,509.47	1,205.45	0.00	0.00	0.00
7,100.00	90.00	359.99	6,027.00	1,105.97	-1,509.49	1,304.49	0.00	0.00	0.00
7,200.00	90.00	359.99	6,027.00	1,205.97	-1,509.52	1,403.52	0.00	0.00	0.00
7,300.00	90.00	359.99	6,027.00	1,305.97	-1,509.54	1,502.56	0.00	0.00	0.00
7,400.00	90.00	359.99	6,027.00	1,405.97	-1,509.56	1,601.60	0.00	0.00	0.00
7,500.00	90.00	359.99	6,027.00	1,505.97	-1,509.58	1,700.64	0.00	0.00	0.00
7,600.00	90.00	359.99	6,027.00	1,605.97	-1,509.60	1,799.68	0.00	0.00	0.00
7,700.00	90.00	359.99	6,027.00	1,705.97	-1,509.62	1,898.71	0.00	0.00	0.00
7,800.00	90.00	359.99	6,027.00	1,805.97	-1,509.64	1,997.75	0.00	0.00	0.00
7,900.00	90.00	359.99	6,027.00	1,905.97	-1,509.66	2,096.79	0.00	0.00	0.00
8,000.00	90.00	359.99	6,027.00	2,005.97	-1,509.68	2,195.83	0.00	0.00	0.00
8,100.00	90.00	359.99	6,027.00	2,105.97	-1,509.71	2,294.87	0.00	0.00	0.00
8,200.00	90.00	359.99	6,027.00	2,205.97	-1,509.73	2,393.90	0.00	0.00	0.00
8,300.00	90.00	359.99	6,027.00	2,305.97	-1,509.75	2,492.94	0.00	0.00	0.00
8,400.00	90.00	359.99	6,027.00	2,405.97	-1,509.77	2,591.98	0.00	0.00	0.00
8,500.00	90.00	359.99	6,027.00	2,505.97	-1,509.79	2,691.02	0.00	0.00	0.00
8,600.00	90.00	359.99	6,027.00	2,605.97	-1,509.81	2,790.06	0.00	0.00	0.00
8,700.00	90.00	359.99	6,027.00	2,705.97	-1,509.83	2,889.09	0.00	0.00	0.00
8,800.00	90.00	359.99	6,027.00	2,805.97	-1,509.85	2,988.13	0.00	0.00	0.00
8,900.00	90.00	359.99	6,027.00	2,905.97	-1,509.87	3,087.17	0.00	0.00	0.00
9,000.00	90.00	359.99	6,027.00	3,005.97	-1,509.90	3,186.21	0.00	0.00	0.00
9,100.00	90.00	359.99	6,027.00	3,105.97	-1,509.92	3,285.25	0.00	0.00	0.00
9,200.00	90.00	359.99	6,027.00	3,205.97	-1,509.94	3,384.28	0.00	0.00	0.00
9,300.00	90.00	359.99	6,027.00	3,305.97	-1,509.96	3,483.32	0.00	0.00	0.00
9,400.00	90.00	359.99	6,027.00	3,405.97	-1,509.98	3,582.36	0.00	0.00	0.00
9,500.00	90.00	359.99	6,027.00	3,505.97	-1,510.00	3,681.40	0.00	0.00	0.00
9,600.00	90.00	359.99	6,027.00	3,605.97	-1,510.02	3,780.44	0.00	0.00	0.00
9,700.00	90.00	359.99	6,027.00	3,705.97	-1,510.04	3,879.47	0.00	0.00	0.00
9,800.00	90.00	359.99	6,027.00	3,805.97	-1,510.07	3,978.51	0.00	0.00	0.00
9,900.00	90.00	359.99	6,027.00	3,905.97	-1,510.09	4,077.55	0.00	0.00	0.00
10,000.00	90.00	359.99	6,027.00	4,005.97	-1,510.11	4,176.59	0.00	0.00	0.00
10,100.00	90.00	359.99	6,027.00	4,105.97	-1,510.13	4,275.63	0.00	0.00	0.00
10,200.00	90.00	359.99	6,027.00	4,205.97	-1,510.15	4,374.67	0.00	0.00	0.00
10,300.00	90.00	359.99	6,027.00	4,305.97	-1,510.17	4,473.70	0.00	0.00	0.00
10,400.00	90.00	359.99	6,027.00	4,405.97	-1,510.19	4,572.74	0.00	0.00	0.00
10,500.00	90.00	359.99	6,027.00	4,505.97	-1,510.21	4,671.78	0.00	0.00	0.00
10,600.00	90.00	359.99	6,027.00	4,605.97	-1,510.23	4,770.82	0.00	0.00	0.00
10,700.00	90.00	359.99	6,027.00	4,705.97	-1,510.26	4,869.86	0.00	0.00	0.00
10,800.00	90.00	359.99	6,027.00	4,805.97	-1,510.28	4,968.89	0.00	0.00	0.00
10,900.00	90.00	359.99	6,027.00	4,905.97	-1,510.30	5,067.93	0.00	0.00	0.00
11,000.00	90.00	359.99	6,027.00	5,005.97	-1,510.32	5,166.97	0.00	0.00	0.00
11,100.00	90.00	359.99	6,027.00	5,105.97	-1,510.34	5,266.01	0.00	0.00	0.00
11,200.00	90.00	359.99	6,027.00	5,205.97	-1,510.36	5,365.05	0.00	0.00	0.00
11,300.00	90.00	359.99	6,027.00	5,305.97	-1,510.38	5,464.08	0.00	0.00	0.00
11,400.00	90.00	359.99	6,027.00	5,405.97	-1,510.40	5,563.12	0.00	0.00	0.00
11,500.00	90.00	359.99	6,027.00	5,505.97	-1,510.42	5,662.16	0.00	0.00	0.00
11,600.00	90.00	359.99	6,027.00	5,605.97	-1,510.45	5,761.20	0.00	0.00	0.00
11,700.00	90.00	359.99	6,027.00	5,705.97	-1,510.47	5,860.24	0.00	0.00	0.00
11,800.00	90.00	359.99	6,027.00	5,805.97	-1,510.49	5,959.27	0.00	0.00	0.00
11,900.00	90.00	359.99	6,027.00	5,905.97	-1,510.51	6,058.31	0.00	0.00	0.00
12,000.00	90.00	359.99	6,027.00	6,005.97	-1,510.53	6,157.35	0.00	0.00	0.00
12,100.00	90.00	359.99	6,027.00	6,105.97	-1,510.55	6,256.39	0.00	0.00	0.00

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well PH FENRIR F16 08N-20-03
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4668.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4668.00usft
Site:	SEC 16-T5N-R61W	North Reference:	True
Well:	PH FENRIR F16 08N-20-03	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,200.00	90.00	359.99	6,027.00	6,205.97	-1,510.57	6,355.43	0.00	0.00	0.00
12,300.00	90.00	359.99	6,027.00	6,305.97	-1,510.59	6,454.46	0.00	0.00	0.00
12,400.00	90.00	359.99	6,027.00	6,405.97	-1,510.62	6,553.50	0.00	0.00	0.00
12,500.00	90.00	359.99	6,027.00	6,505.97	-1,510.64	6,652.54	0.00	0.00	0.00
12,600.00	90.00	359.99	6,027.00	6,605.97	-1,510.66	6,751.58	0.00	0.00	0.00
12,700.00	90.00	359.99	6,027.00	6,705.97	-1,510.68	6,850.62	0.00	0.00	0.00
12,800.00	90.00	359.99	6,027.00	6,805.97	-1,510.70	6,949.65	0.00	0.00	0.00
12,900.00	90.00	359.99	6,027.00	6,905.97	-1,510.72	7,048.69	0.00	0.00	0.00
13,000.00	90.00	359.99	6,027.00	7,005.97	-1,510.74	7,147.73	0.00	0.00	0.00
13,100.00	90.00	359.99	6,027.00	7,105.97	-1,510.76	7,246.77	0.00	0.00	0.00
13,200.00	90.00	359.99	6,027.00	7,205.97	-1,510.78	7,345.81	0.00	0.00	0.00
13,300.00	90.00	359.99	6,027.00	7,305.97	-1,510.81	7,444.84	0.00	0.00	0.00
13,400.00	90.00	359.99	6,027.00	7,405.97	-1,510.83	7,543.88	0.00	0.00	0.00
13,500.00	90.00	359.99	6,027.00	7,505.97	-1,510.85	7,642.92	0.00	0.00	0.00
13,600.00	90.00	359.99	6,027.00	7,605.97	-1,510.87	7,741.96	0.00	0.00	0.00
13,700.00	90.00	359.99	6,027.00	7,705.97	-1,510.89	7,841.00	0.00	0.00	0.00
13,800.00	90.00	359.99	6,027.00	7,805.97	-1,510.91	7,940.03	0.00	0.00	0.00
13,900.00	90.00	359.99	6,027.00	7,905.97	-1,510.93	8,039.07	0.00	0.00	0.00
14,000.00	90.00	359.99	6,027.00	8,005.97	-1,510.95	8,138.11	0.00	0.00	0.00
14,100.00	90.00	359.99	6,027.00	8,105.97	-1,510.97	8,237.15	0.00	0.00	0.00
14,200.00	90.00	359.99	6,027.00	8,205.97	-1,511.00	8,336.19	0.00	0.00	0.00
14,300.00	90.00	359.99	6,027.00	8,305.97	-1,511.02	8,435.22	0.00	0.00	0.00
14,400.00	90.00	359.99	6,027.00	8,405.97	-1,511.04	8,534.26	0.00	0.00	0.00
14,500.00	90.00	359.99	6,027.00	8,505.97	-1,511.06	8,633.30	0.00	0.00	0.00
14,600.00	90.00	359.99	6,027.00	8,605.97	-1,511.08	8,732.34	0.00	0.00	0.00
14,700.00	90.00	359.99	6,027.00	8,705.97	-1,511.10	8,831.38	0.00	0.00	0.00
14,800.00	90.00	359.99	6,027.00	8,805.97	-1,511.12	8,930.41	0.00	0.00	0.00
14,900.00	90.00	359.99	6,027.00	8,905.97	-1,511.14	9,029.45	0.00	0.00	0.00
15,000.00	90.00	359.99	6,027.00	9,005.97	-1,511.16	9,128.49	0.00	0.00	0.00
15,100.00	90.00	359.99	6,027.00	9,105.97	-1,511.19	9,227.53	0.00	0.00	0.00
15,200.00	90.00	359.99	6,027.00	9,205.97	-1,511.21	9,326.57	0.00	0.00	0.00
15,300.00	90.00	359.99	6,027.00	9,305.97	-1,511.23	9,425.60	0.00	0.00	0.00
15,400.00	90.00	359.99	6,027.00	9,405.97	-1,511.25	9,524.64	0.00	0.00	0.00
15,500.00	90.00	359.99	6,027.00	9,505.97	-1,511.27	9,623.68	0.00	0.00	0.00
15,600.00	90.00	359.99	6,027.00	9,605.97	-1,511.29	9,722.72	0.00	0.00	0.00
15,700.00	90.00	359.99	6,027.00	9,705.97	-1,511.31	9,821.76	0.00	0.00	0.00
15,800.00	90.00	359.99	6,027.00	9,805.97	-1,511.33	9,920.79	0.00	0.00	0.00
15,900.00	90.00	359.99	6,027.00	9,905.97	-1,511.36	10,019.83	0.00	0.00	0.00
16,000.00	90.00	359.99	6,027.00	10,005.97	-1,511.38	10,118.87	0.00	0.00	0.00
16,100.00	90.00	359.99	6,027.00	10,105.97	-1,511.40	10,217.91	0.00	0.00	0.00
16,200.00	90.00	359.99	6,027.00	10,205.97	-1,511.42	10,316.95	0.00	0.00	0.00
16,300.00	90.00	359.99	6,027.00	10,305.97	-1,511.44	10,415.98	0.00	0.00	0.00
16,400.00	90.00	359.99	6,027.00	10,405.97	-1,511.46	10,515.02	0.00	0.00	0.00
16,500.00	90.00	359.99	6,027.00	10,505.97	-1,511.48	10,614.06	0.00	0.00	0.00
16,600.00	90.00	359.99	6,027.00	10,605.97	-1,511.50	10,713.10	0.00	0.00	0.00
16,700.00	90.00	359.99	6,027.00	10,705.97	-1,511.52	10,812.14	0.00	0.00	0.00
16,795.97	90.00	359.99	6,027.00	10,801.94	-1,511.54	10,907.18	0.00	0.00	0.00
TD at 16795.97									

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well PH FENRIR F16 08N-20-03
Company:	BONANZA CREEK ENERGY	TVD Reference:	KB 25' @ 4668.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4668.00usft
Site:	SEC 16-T5N-R61W	North Reference:	True
Well:	PH FENRIR F16 08N-20-03	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

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)		
PBHL-PH FENRIR 08N- - plan hits target center - Point	0.00	0.00	6,027.00	10,801.94	-1,511.54	1,404,607.09	3,355,261.91	40.437030°N	104.223680°W
LP-PH FENRIR 08N-20- - plan hits target center - Point	0.00	0.00	6,027.00	590.24	-1,509.39	1,394,396.90	3,355,411.66	40.409000°N	104.223670°W

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
24.00	24.00	Laramie-Fox Hills Formation			
267.00	267.00	Pierre Formation			
407.00	407.00	Upper Pierre aquifer			
1,491.19	1,487.00	Pierre Formation			
3,320.23	3,232.00	Larimer ("Parkman") sandstone			
3,582.93	3,482.00	Pierre Formation			
3,840.38	3,727.00	Terry ("Sussex") sandstone			
3,987.49	3,867.00	Pierre Formation			
4,528.66	4,382.00	Hygiene ("Shannon") sandstone			
4,628.49	4,477.00	Pierre Formation			
6,196.81	5,907.00	Sharon Springs Member			
6,584.27	6,027.00	Niobrara Formation			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
900.00	900.00	0.00	0.00	Start Build 2.00
1,794.47	1,780.01	1.80	-138.50	Start 3892.12 hold at 1794.47 MD
5,686.60	5,483.95	17.32	-1,333.99	Start DLS 10.00 TFO 89.28
6,584.27	6,027.00	590.24	-1,509.39	Start 10211.70 hold at 6584.27 MD
16,795.97	6,027.00	10,801.94	-1,511.54	TD at 16795.97