

Fifth Creek Energy Company, LLC

Well Name: **Critter Creek 540-1807H**

Surface Location: Critter Creek 18 SW Pad Sec.18-T11N-R63W

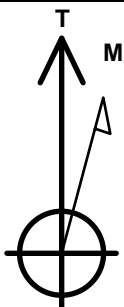
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

Ground Elevation: 5336.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1578012.90	3281341.06	40.915581	-104.482072	
Original Well Elev WELL @ 5359.0ft (Original Well Elev)						

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 205'FSL & 903'FWL, Sec.18	1.0	0.0	0.0	Point
BHL 300'FNL & 2220'FWL, Sec.7	7702.0	10087.3	1312.3	Point
LP 300'FSL & 2220'FWL, Sec.18	7702.0	100.2	1316.7	Point



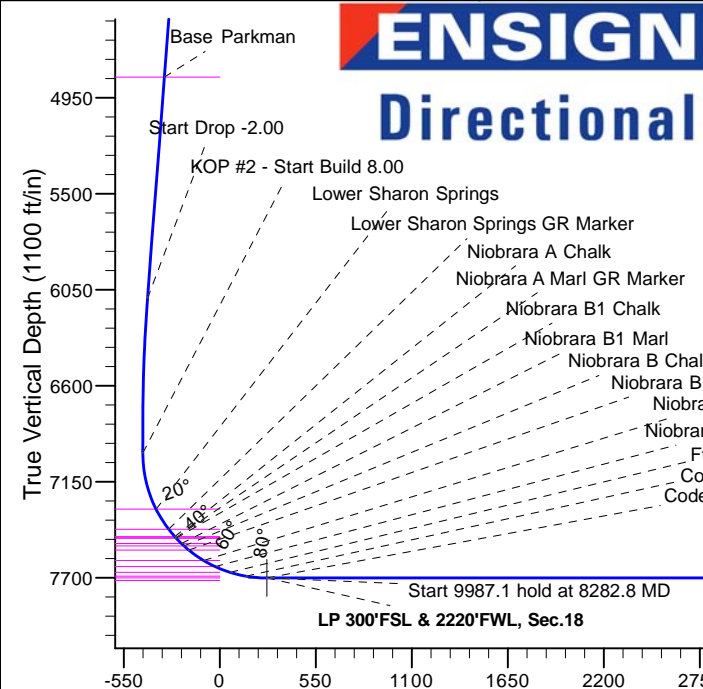
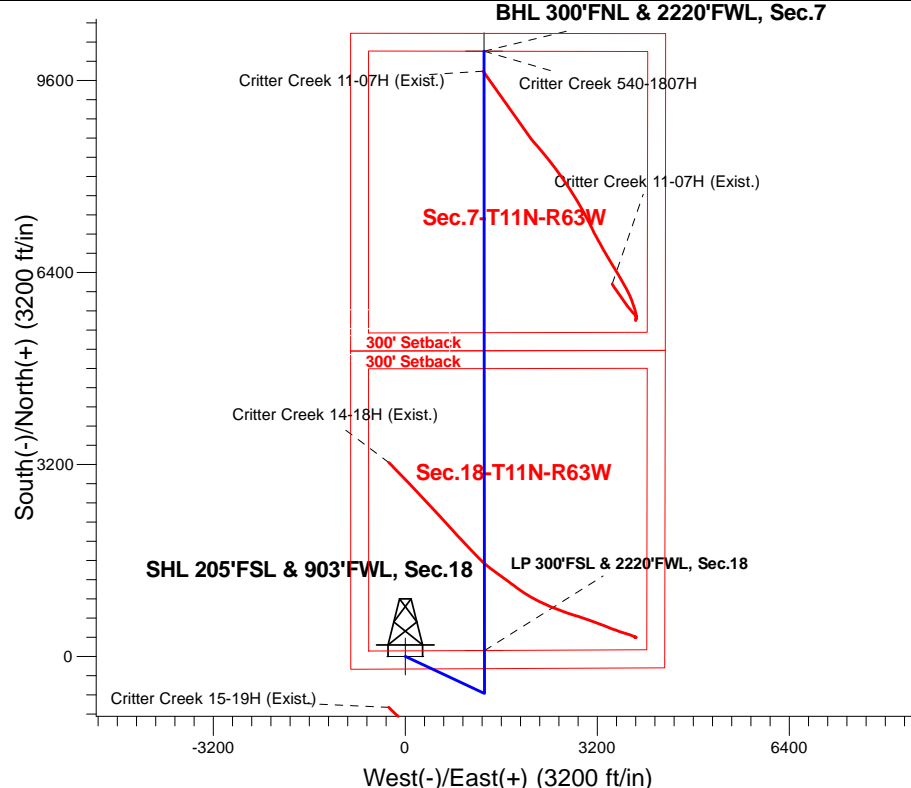
Azimuths to True North
Magnetic North: 7.98°

Magnetic Field
Strength: 52821.2snT
Dip Angle: 67.31°
Date: 2/28/2017
Model: IGRF2010

Critter Creek 18 SW Pad Sec.18-T11N-R63W
Critter Creek 540-1807H
Plan #1 (2-27-17)
17:16, March 01 2017

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 1.50
6100.1	6264.9	Start Drop -2.00
6985.8	7157.7	Start Build 8.00
7702.0	8282.8	KOP #2 - Start Build 8.00
7702.0	18269.8	Start 9987.1 hold at 8282.8 MD
		TD at 18269.8



SECTION 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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1142.7	14.14	115.07	1133.2	-49.0	104.8	1.50	115.07	-35.1	
4	6264.9	14.14	115.07	6100.1	-579.2	1238.4	0.00	0.00	-414.6	
5	6971.9	0.00	0.00	6800.0	-616.0	1317.0	2.00	180.00	-440.9	
6	7157.7	0.00	0.00	6985.8	-616.0	1317.0	0.00	0.00	-440.9	
7	8282.7	90.00	359.98	7702.0	100.2	1316.7	8.00	359.98	269.2	
8	8282.8	90.00	359.98	7702.0	100.2	1316.7	0.00	0.00	269.3	LP 300'FSL & 2220'FWL, Sec.18
9	18269.8	90.00	359.98	7702.0	10087.3	1312.5	0.00	0.00	10172.3	BHL 300'FNL & 2220'FWL, Sec.7

BHL 300'FNL & 2220'FWL, Sec.7

Vertical Section at 7.41° (1100 ft/in)



Fifth Creek Energy Company, LLC

Sec.18-T11N-R63W

Critter Creek 18 SW Pad Sec.18-T11N-R63W

Critter Creek 540-1807H

Wellbore #1

Plan: Plan #1 (2-27-17)

Standard Planning Report

01 March, 2017

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Company:	Fifth Creek Energy Company, LLC	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Project:	Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	North Reference:	True
Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Project	Sec.18-T11N-R63W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Critter Creek 18 SW Pad Sec.18-T11N-R63W					
Site Position:				Northing:		1,578,012.90 usft		Latitude:		40.915581	
From:		Lat/Long		Easting:		3,281,341.06 usft		Longitude:		-104.482072	
Position Uncertainty:		0.0 ft		Slot Radius:		13-3/16 "		Grid Convergence:		0.66	

Well	Crittter Creek 540-1807H					
Well Position	+N/-S	0.0 ft	Northing:	1,578,012.89 usft	Latitude:	40.915581
	+E/-W	0.0 ft	Easting:	3,281,341.06 usft	Longitude:	-104.482072
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	5,336.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/28/2017	7.98	67.31	52,821

Design	Plan #1 (2-27-17)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	7.41

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,142.7	14.14	115.07	1,133.2	-49.0	104.8	1.50	1.50	0.00	115.07	
6,264.9	14.14	115.07	6,100.1	-579.2	1,238.4	0.00	0.00	0.00	0.00	
6,971.9	0.00	0.00	6,800.0	-616.0	1,317.0	2.00	-2.00	0.00	180.00	
7,157.7	0.00	0.00	6,985.8	-616.0	1,317.0	0.00	0.00	0.00	0.00	
8,282.7	90.00	359.98	7,702.0	100.2	1,316.7	8.00	8.00	0.00	359.98	
8,282.8	90.00	359.98	7,702.0	100.2	1,316.7	0.00	0.00	0.00	0.00	LP 300'FSL & 2220'FNL
18,269.8	90.00	359.98	7,702.0	10,087.3	1,312.5	0.00	0.00	0.00	0.00	BHL 300'FNL & 2220'FSL

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Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	North Reference:	True
Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 205°FSL & 903°FWL, Sec.18									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
300.0	1.50	115.07	300.0	-0.6	1.2	-0.4	1.50	1.50	0.00
400.0	3.00	115.07	399.9	-2.2	4.7	-1.6	1.50	1.50	0.00
500.0	4.50	115.07	499.7	-5.0	10.7	-3.6	1.50	1.50	0.00
600.0	6.00	115.07	599.3	-8.9	19.0	-6.3	1.50	1.50	0.00
700.0	7.50	115.07	698.6	-13.8	29.6	-9.9	1.50	1.50	0.00
800.0	9.00	115.07	797.5	-19.9	42.6	-14.3	1.50	1.50	0.00
900.0	10.50	115.07	896.1	-27.1	57.9	-19.4	1.50	1.50	0.00
1,000.0	12.00	115.07	994.2	-35.4	75.6	-25.3	1.50	1.50	0.00
1,100.0	13.50	115.07	1,091.7	-44.7	95.6	-32.0	1.50	1.50	0.00
1,142.7	14.14	115.07	1,133.2	-49.0	104.8	-35.1	1.50	1.50	0.00
1,200.0	14.14	115.07	1,188.7	-55.0	117.5	-39.3	0.00	0.00	0.00
1,300.0	14.14	115.07	1,285.7	-65.3	139.6	-46.8	0.00	0.00	0.00
1,400.0	14.14	115.07	1,382.7	-75.7	161.8	-54.2	0.00	0.00	0.00
1,417.9	14.14	115.07	1,400.0	-77.5	165.7	-55.5	0.00	0.00	0.00
9 5/8"									
1,500.0	14.14	115.07	1,479.6	-86.0	183.9	-61.6	0.00	0.00	0.00
1,600.0	14.14	115.07	1,576.6	-96.4	206.0	-69.0	0.00	0.00	0.00
1,632.4	14.14	115.07	1,608.0	-99.7	213.2	-71.4	0.00	0.00	0.00
Pierre C&D Sand									
1,700.0	14.14	115.07	1,673.6	-106.7	228.2	-76.4	0.00	0.00	0.00
1,800.0	14.14	115.07	1,770.5	-117.1	250.3	-83.8	0.00	0.00	0.00
1,900.0	14.14	115.07	1,867.5	-127.4	272.4	-91.2	0.00	0.00	0.00
2,000.0	14.14	115.07	1,964.5	-137.8	294.6	-98.6	0.00	0.00	0.00
2,100.0	14.14	115.07	2,061.5	-148.1	316.7	-106.0	0.00	0.00	0.00
2,200.0	14.14	115.07	2,158.4	-158.5	338.8	-113.4	0.00	0.00	0.00
2,300.0	14.14	115.07	2,255.4	-168.8	360.9	-120.8	0.00	0.00	0.00
2,400.0	14.14	115.07	2,352.4	-179.2	383.1	-128.3	0.00	0.00	0.00
2,433.7	14.14	115.07	2,385.0	-182.7	390.5	-130.7	0.00	0.00	0.00
Base Pierre C&D Sand									
2,500.0	14.14	115.07	2,449.3	-189.5	405.2	-135.7	0.00	0.00	0.00
2,600.0	14.14	115.07	2,546.3	-199.9	427.3	-143.1	0.00	0.00	0.00
2,700.0	14.14	115.07	2,643.3	-210.2	449.5	-150.5	0.00	0.00	0.00
2,800.0	14.14	115.07	2,740.2	-220.6	471.6	-157.9	0.00	0.00	0.00
2,867.8	14.14	115.07	2,806.0	-227.6	486.6	-162.9	0.00	0.00	0.00
Pierre B Sand									
2,900.0	14.14	115.07	2,837.2	-230.9	493.7	-165.3	0.00	0.00	0.00
2,940.0	14.14	115.07	2,876.0	-235.1	502.6	-168.3	0.00	0.00	0.00
Base Pierre B Sand									
3,000.0	14.14	115.07	2,934.2	-241.3	515.9	-172.7	0.00	0.00	0.00
3,100.0	14.14	115.07	3,031.1	-251.6	538.0	-180.1	0.00	0.00	0.00
3,200.0	14.14	115.07	3,128.1	-262.0	560.1	-187.5	0.00	0.00	0.00
3,300.0	14.14	115.07	3,225.1	-272.3	582.2	-194.9	0.00	0.00	0.00
3,400.0	14.14	115.07	3,322.1	-282.7	604.4	-202.3	0.00	0.00	0.00
3,500.0	14.14	115.07	3,419.0	-293.0	626.5	-209.8	0.00	0.00	0.00
3,600.0	14.14	115.07	3,516.0	-303.4	648.6	-217.2	0.00	0.00	0.00
3,700.0	14.14	115.07	3,613.0	-313.7	670.8	-224.6	0.00	0.00	0.00
3,701.1	14.14	115.07	3,614.0	-313.8	671.0	-224.6	0.00	0.00	0.00

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Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	North Reference:	True
Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Pierre A Sand									
3,800.0	14.14	115.07	3,709.9	-324.1	692.9	-232.0	0.00	0.00	0.00
3,900.0	14.14	115.07	3,806.9	-334.4	715.0	-239.4	0.00	0.00	0.00
4,000.0	14.14	115.07	3,903.9	-344.8	737.2	-246.8	0.00	0.00	0.00
4,100.0	14.14	115.07	4,000.8	-355.1	759.3	-254.2	0.00	0.00	0.00
4,162.0	14.14	115.07	4,061.0	-361.6	773.0	-258.8	0.00	0.00	0.00
Base Pierre A Sand									
4,200.0	14.14	115.07	4,097.8	-365.5	781.4	-261.6	0.00	0.00	0.00
4,300.0	14.14	115.07	4,194.8	-375.8	803.5	-269.0	0.00	0.00	0.00
4,400.0	14.14	115.07	4,291.8	-386.2	825.7	-276.4	0.00	0.00	0.00
4,476.6	14.14	115.07	4,366.0	-394.1	842.6	-282.1	0.00	0.00	0.00
Parkman									
4,500.0	14.14	115.07	4,388.7	-396.5	847.8	-283.8	0.00	0.00	0.00
4,600.0	14.14	115.07	4,485.7	-406.9	869.9	-291.3	0.00	0.00	0.00
4,700.0	14.14	115.07	4,582.7	-417.2	892.1	-298.7	0.00	0.00	0.00
4,800.0	14.14	115.07	4,679.6	-427.6	914.2	-306.1	0.00	0.00	0.00
4,900.0	14.14	115.07	4,776.6	-437.9	936.3	-313.5	0.00	0.00	0.00
4,958.2	14.14	115.07	4,833.0	-444.0	949.2	-317.8	0.00	0.00	0.00
Base Parkman									
5,000.0	14.14	115.07	4,873.6	-448.3	958.5	-320.9	0.00	0.00	0.00
5,100.0	14.14	115.07	4,970.5	-458.6	980.6	-328.3	0.00	0.00	0.00
5,200.0	14.14	115.07	5,067.5	-469.0	1,002.7	-335.7	0.00	0.00	0.00
5,300.0	14.14	115.07	5,164.5	-479.3	1,024.8	-343.1	0.00	0.00	0.00
5,400.0	14.14	115.07	5,261.5	-489.7	1,047.0	-350.5	0.00	0.00	0.00
5,500.0	14.14	115.07	5,358.4	-500.1	1,069.1	-357.9	0.00	0.00	0.00
5,600.0	14.14	115.07	5,455.4	-510.4	1,091.2	-365.3	0.00	0.00	0.00
5,700.0	14.14	115.07	5,552.4	-520.8	1,113.4	-372.7	0.00	0.00	0.00
5,800.0	14.14	115.07	5,649.3	-531.1	1,135.5	-380.2	0.00	0.00	0.00
5,900.0	14.14	115.07	5,746.3	-541.5	1,157.6	-387.6	0.00	0.00	0.00
6,000.0	14.14	115.07	5,843.3	-551.8	1,179.8	-395.0	0.00	0.00	0.00
6,100.0	14.14	115.07	5,940.2	-562.2	1,201.9	-402.4	0.00	0.00	0.00
6,200.0	14.14	115.07	6,037.2	-572.5	1,224.0	-409.8	0.00	0.00	0.00
6,264.9	14.14	115.07	6,100.1	-579.2	1,238.4	-414.6	0.00	0.00	0.00
Start Drop -2.00									
6,300.0	13.44	115.07	6,134.2	-582.8	1,246.0	-417.1	2.00	-2.00	0.00
6,400.0	11.44	115.07	6,231.9	-591.9	1,265.5	-423.7	2.00	-2.00	0.00
6,500.0	9.44	115.07	6,330.2	-599.6	1,281.9	-429.2	2.00	-2.00	0.00
6,600.0	7.44	115.07	6,429.1	-605.8	1,295.2	-433.6	2.00	-2.00	0.00
6,700.0	5.44	115.07	6,528.5	-610.5	1,305.3	-437.0	2.00	-2.00	0.00
6,800.0	3.44	115.07	6,628.2	-613.8	1,312.3	-439.4	2.00	-2.00	0.00
6,900.0	1.44	115.07	6,728.1	-615.6	1,316.2	-440.7	2.00	-2.00	0.00
6,971.9	0.00	0.00	6,800.0	-616.0	1,317.0	-440.9	2.00	-2.00	0.00
7,000.0	0.00	0.00	6,828.1	-616.0	1,317.0	-440.9	0.00	0.00	0.00
7,100.0	0.00	0.00	6,928.1	-616.0	1,317.0	-440.9	0.00	0.00	0.00
7,157.7	0.00	0.00	6,985.8	-616.0	1,317.0	-440.9	0.00	0.00	0.00
KOP #2 - Start Build 8.00									
7,200.0	3.38	359.98	7,028.1	-614.8	1,317.0	-439.7	8.00	8.00	0.00
7,300.0	11.38	359.98	7,127.2	-601.9	1,317.0	-427.0	8.00	8.00	0.00
7,400.0	19.38	359.98	7,223.5	-575.4	1,317.0	-400.7	8.00	8.00	0.00
7,491.9	26.74	359.98	7,308.0	-539.4	1,317.0	-365.0	8.00	8.00	0.00
Lower Sharon Springs									
7,500.0	27.38	359.98	7,315.2	-535.8	1,317.0	-361.4	8.00	8.00	0.00
7,600.0	35.38	359.98	7,400.5	-483.7	1,316.9	-309.8	8.00	8.00	0.00

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Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,628.0	37.62	359.98	7,423.0	-467.1	1,316.9	-293.3	8.00	8.00	0.00	
Lower Sharon Springs GR Marker										
7,682.7	42.00	359.98	7,465.0	-432.1	1,316.9	-258.5	8.00	8.00	0.00	
Niobrara A Chalk										
7,692.1	42.75	359.98	7,472.0	-425.7	1,316.9	-252.2	8.00	8.00	0.00	
Niobrara A Marl GR Marker										
7,694.9	42.97	359.98	7,474.0	-423.8	1,316.9	-250.4	8.00	8.00	0.00	
Niobrara B1 Chalk										
7,700.0	43.38	359.98	7,477.7	-420.3	1,316.9	-246.9	8.00	8.00	0.00	
7,738.5	46.46	359.98	7,505.0	-393.1	1,316.9	-219.9	8.00	8.00	0.00	
Niobrara B1 Marl										
7,757.7	48.00	359.98	7,518.0	-379.1	1,316.9	-206.0	8.00	8.00	0.00	
Niobrara B Chalk										
7,794.6	50.95	359.98	7,542.0	-351.0	1,316.9	-178.2	8.00	8.00	0.00	
Niobrara B Marl										
7,800.0	51.38	359.98	7,545.4	-346.8	1,316.9	-174.0	8.00	8.00	0.00	
7,899.7	59.36	359.98	7,602.0	-264.8	1,316.9	-92.7	8.00	8.00	0.00	
Niobrara M Zone										
7,900.0	59.38	359.98	7,602.2	-264.6	1,316.9	-92.4	8.00	8.00	0.00	
7,975.2	65.40	359.98	7,637.0	-197.9	1,316.8	-26.4	8.00	8.00	0.00	
Niobrara M Zone Base										
8,000.0	67.38	359.98	7,646.9	-175.2	1,316.8	-3.9	8.00	8.00	0.00	
8,067.8	72.81	359.98	7,670.0	-111.5	1,316.8	59.3	8.00	8.00	0.00	
Ft Hays										
8,100.0	75.38	359.98	7,678.8	-80.5	1,316.8	90.0	8.00	8.00	0.00	
8,162.9	80.41	359.98	7,692.0	-19.1	1,316.7	151.0	8.00	8.00	0.00	
Codell										
8,200.0	83.38	359.98	7,697.2	17.7	1,316.7	187.4	8.00	8.00	0.00	
8,282.8	90.00	359.98	7,702.0	100.2	1,316.7	269.3	8.00	8.00	0.00	
Codell target - LP 300'FSL & 2220'FWL, Sec.18										
8,282.8	90.00	359.98	7,702.0	100.3	1,316.7	269.3	0.00	0.00	0.00	
Start 9987.1 hold at 8282.8 MD										
8,300.0	90.00	359.98	7,702.0	117.5	1,316.7	286.4	0.00	0.00	0.00	
8,400.0	90.00	359.98	7,702.0	217.5	1,316.6	385.5	0.00	0.00	0.00	
8,500.0	90.00	359.98	7,702.0	317.5	1,316.6	484.7	0.00	0.00	0.00	
8,600.0	90.00	359.98	7,702.0	417.5	1,316.6	583.9	0.00	0.00	0.00	
8,700.0	90.00	359.98	7,702.0	517.5	1,316.5	683.0	0.00	0.00	0.00	
8,800.0	90.00	359.98	7,702.0	617.5	1,316.5	782.2	0.00	0.00	0.00	
8,900.0	90.00	359.98	7,702.0	717.5	1,316.4	881.3	0.00	0.00	0.00	
9,000.0	90.00	359.98	7,702.0	817.5	1,316.4	980.5	0.00	0.00	0.00	
9,100.0	90.00	359.98	7,702.0	917.5	1,316.4	1,079.7	0.00	0.00	0.00	
9,200.0	90.00	359.98	7,702.0	1,017.5	1,316.3	1,178.8	0.00	0.00	0.00	
9,300.0	90.00	359.98	7,702.0	1,117.5	1,316.3	1,278.0	0.00	0.00	0.00	
9,400.0	90.00	359.98	7,702.0	1,217.5	1,316.2	1,377.1	0.00	0.00	0.00	
9,500.0	90.00	359.98	7,702.0	1,317.5	1,316.2	1,476.3	0.00	0.00	0.00	
9,600.0	90.00	359.98	7,702.0	1,417.5	1,316.1	1,575.4	0.00	0.00	0.00	
9,700.0	90.00	359.98	7,702.0	1,517.5	1,316.1	1,674.6	0.00	0.00	0.00	
9,800.0	90.00	359.98	7,702.0	1,617.5	1,316.1	1,773.8	0.00	0.00	0.00	
9,900.0	90.00	359.98	7,702.0	1,717.5	1,316.0	1,872.9	0.00	0.00	0.00	
10,000.0	90.00	359.98	7,702.0	1,817.5	1,316.0	1,972.1	0.00	0.00	0.00	
10,100.0	90.00	359.98	7,702.0	1,917.5	1,315.9	2,071.2	0.00	0.00	0.00	
10,200.0	90.00	359.98	7,702.0	2,017.5	1,315.9	2,170.4	0.00	0.00	0.00	

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Company:	Fifth Creek Energy Company, LLC	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Project:	Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	North Reference:	True
Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,300.0	90.00	359.98	7,702.0	2,117.5	1,315.8	2,269.6	0.00	0.00	0.00
10,400.0	90.00	359.98	7,702.0	2,217.5	1,315.8	2,368.7	0.00	0.00	0.00
10,500.0	90.00	359.98	7,702.0	2,317.5	1,315.8	2,467.9	0.00	0.00	0.00
10,600.0	90.00	359.98	7,702.0	2,417.5	1,315.7	2,567.0	0.00	0.00	0.00
10,700.0	90.00	359.98	7,702.0	2,517.5	1,315.7	2,666.2	0.00	0.00	0.00
10,800.0	90.00	359.98	7,702.0	2,617.5	1,315.6	2,765.4	0.00	0.00	0.00
10,900.0	90.00	359.98	7,702.0	2,717.5	1,315.6	2,864.5	0.00	0.00	0.00
11,000.0	90.00	359.98	7,702.0	2,817.5	1,315.5	2,963.7	0.00	0.00	0.00
11,100.0	90.00	359.98	7,702.0	2,917.5	1,315.5	3,062.8	0.00	0.00	0.00
11,200.0	90.00	359.98	7,702.0	3,017.5	1,315.5	3,162.0	0.00	0.00	0.00
11,300.0	90.00	359.98	7,702.0	3,117.5	1,315.4	3,261.1	0.00	0.00	0.00
11,400.0	90.00	359.98	7,702.0	3,217.5	1,315.4	3,360.3	0.00	0.00	0.00
11,500.0	90.00	359.98	7,702.0	3,317.5	1,315.3	3,459.5	0.00	0.00	0.00
11,600.0	90.00	359.98	7,702.0	3,417.5	1,315.3	3,558.6	0.00	0.00	0.00
11,700.0	90.00	359.98	7,702.0	3,517.5	1,315.3	3,657.8	0.00	0.00	0.00
11,800.0	90.00	359.98	7,702.0	3,617.5	1,315.2	3,756.9	0.00	0.00	0.00
11,900.0	90.00	359.98	7,702.0	3,717.5	1,315.2	3,856.1	0.00	0.00	0.00
12,000.0	90.00	359.98	7,702.0	3,817.5	1,315.1	3,955.3	0.00	0.00	0.00
12,100.0	90.00	359.98	7,702.0	3,917.5	1,315.1	4,054.4	0.00	0.00	0.00
12,200.0	90.00	359.98	7,702.0	4,017.5	1,315.0	4,153.6	0.00	0.00	0.00
12,300.0	90.00	359.98	7,702.0	4,117.5	1,315.0	4,252.7	0.00	0.00	0.00
12,400.0	90.00	359.98	7,702.0	4,217.5	1,315.0	4,351.9	0.00	0.00	0.00
12,500.0	90.00	359.98	7,702.0	4,317.5	1,314.9	4,451.1	0.00	0.00	0.00
12,600.0	90.00	359.98	7,702.0	4,417.5	1,314.9	4,550.2	0.00	0.00	0.00
12,700.0	90.00	359.98	7,702.0	4,517.5	1,314.8	4,649.4	0.00	0.00	0.00
12,800.0	90.00	359.98	7,702.0	4,617.5	1,314.8	4,748.5	0.00	0.00	0.00
12,900.0	90.00	359.98	7,702.0	4,717.5	1,314.7	4,847.7	0.00	0.00	0.00
13,000.0	90.00	359.98	7,702.0	4,817.5	1,314.7	4,946.8	0.00	0.00	0.00
13,100.0	90.00	359.98	7,702.0	4,917.5	1,314.7	5,046.0	0.00	0.00	0.00
13,200.0	90.00	359.98	7,702.0	5,017.5	1,314.6	5,145.2	0.00	0.00	0.00
13,300.0	90.00	359.98	7,702.0	5,117.5	1,314.6	5,244.3	0.00	0.00	0.00
13,400.0	90.00	359.98	7,702.0	5,217.5	1,314.5	5,343.5	0.00	0.00	0.00
13,500.0	90.00	359.98	7,702.0	5,317.5	1,314.5	5,442.6	0.00	0.00	0.00
13,600.0	90.00	359.98	7,702.0	5,417.5	1,314.5	5,541.8	0.00	0.00	0.00
13,700.0	90.00	359.98	7,702.0	5,517.5	1,314.4	5,641.0	0.00	0.00	0.00
13,800.0	90.00	359.98	7,702.0	5,617.5	1,314.4	5,740.1	0.00	0.00	0.00
13,900.0	90.00	359.98	7,702.0	5,717.5	1,314.3	5,839.3	0.00	0.00	0.00
14,000.0	90.00	359.98	7,702.0	5,817.5	1,314.3	5,938.4	0.00	0.00	0.00
14,100.0	90.00	359.98	7,702.0	5,917.5	1,314.2	6,037.6	0.00	0.00	0.00
14,200.0	90.00	359.98	7,702.0	6,017.5	1,314.2	6,136.7	0.00	0.00	0.00
14,300.0	90.00	359.98	7,702.0	6,117.5	1,314.2	6,235.9	0.00	0.00	0.00
14,400.0	90.00	359.98	7,702.0	6,217.5	1,314.1	6,335.1	0.00	0.00	0.00
14,500.0	90.00	359.98	7,702.0	6,317.5	1,314.1	6,434.2	0.00	0.00	0.00
14,600.0	90.00	359.98	7,702.0	6,417.5	1,314.0	6,533.4	0.00	0.00	0.00
14,700.0	90.00	359.98	7,702.0	6,517.5	1,314.0	6,632.5	0.00	0.00	0.00
14,800.0	90.00	359.98	7,702.0	6,617.5	1,313.9	6,731.7	0.00	0.00	0.00
14,900.0	90.00	359.98	7,702.0	6,717.5	1,313.9	6,830.9	0.00	0.00	0.00
15,000.0	90.00	359.98	7,702.0	6,817.5	1,313.9	6,930.0	0.00	0.00	0.00
15,100.0	90.00	359.98	7,702.0	6,917.5	1,313.8	7,029.2	0.00	0.00	0.00
15,200.0	90.00	359.98	7,702.0	7,017.5	1,313.8	7,128.3	0.00	0.00	0.00
15,300.0	90.00	359.98	7,702.0	7,117.5	1,313.7	7,227.5	0.00	0.00	0.00
15,400.0	90.00	359.98	7,702.0	7,217.5	1,313.7	7,326.7	0.00	0.00	0.00
15,500.0	90.00	359.98	7,702.0	7,317.5	1,313.6	7,425.8	0.00	0.00	0.00
15,600.0	90.00	359.98	7,702.0	7,417.5	1,313.6	7,525.0	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Company:	Fifth Creek Energy Company, LLC	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Project:	Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	North Reference:	True
Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,700.0	90.00	359.98	7,702.0	7,517.5	1,313.6	7,624.1	0.00	0.00	0.00	
15,800.0	90.00	359.98	7,702.0	7,617.5	1,313.5	7,723.3	0.00	0.00	0.00	
15,900.0	90.00	359.98	7,702.0	7,717.5	1,313.5	7,822.4	0.00	0.00	0.00	
16,000.0	90.00	359.98	7,702.0	7,817.5	1,313.4	7,921.6	0.00	0.00	0.00	
16,100.0	90.00	359.98	7,702.0	7,917.5	1,313.4	8,020.8	0.00	0.00	0.00	
16,200.0	90.00	359.98	7,702.0	8,017.5	1,313.4	8,119.9	0.00	0.00	0.00	
16,300.0	90.00	359.98	7,702.0	8,117.5	1,313.3	8,219.1	0.00	0.00	0.00	
16,400.0	90.00	359.98	7,702.0	8,217.5	1,313.3	8,318.2	0.00	0.00	0.00	
16,500.0	90.00	359.98	7,702.0	8,317.5	1,313.2	8,417.4	0.00	0.00	0.00	
16,600.0	90.00	359.98	7,702.0	8,417.5	1,313.2	8,516.6	0.00	0.00	0.00	
16,700.0	90.00	359.98	7,702.0	8,517.5	1,313.1	8,615.7	0.00	0.00	0.00	
16,800.0	90.00	359.98	7,702.0	8,617.5	1,313.1	8,714.9	0.00	0.00	0.00	
16,900.0	90.00	359.98	7,702.0	8,717.5	1,313.1	8,814.0	0.00	0.00	0.00	
17,000.0	90.00	359.98	7,702.0	8,817.5	1,313.0	8,913.2	0.00	0.00	0.00	
17,100.0	90.00	359.98	7,702.0	8,917.5	1,313.0	9,012.3	0.00	0.00	0.00	
17,200.0	90.00	359.98	7,702.0	9,017.5	1,312.9	9,111.5	0.00	0.00	0.00	
17,300.0	90.00	359.98	7,702.0	9,117.5	1,312.9	9,210.7	0.00	0.00	0.00	
17,400.0	90.00	359.98	7,702.0	9,217.5	1,312.8	9,309.8	0.00	0.00	0.00	
17,500.0	90.00	359.98	7,702.0	9,317.5	1,312.8	9,409.0	0.00	0.00	0.00	
17,600.0	90.00	359.98	7,702.0	9,417.5	1,312.8	9,508.1	0.00	0.00	0.00	
17,700.0	90.00	359.98	7,702.0	9,517.5	1,312.7	9,607.3	0.00	0.00	0.00	
17,800.0	90.00	359.98	7,702.0	9,617.5	1,312.7	9,706.5	0.00	0.00	0.00	
17,900.0	90.00	359.98	7,702.0	9,717.5	1,312.6	9,805.6	0.00	0.00	0.00	
18,000.0	90.00	359.98	7,702.0	9,817.5	1,312.6	9,904.8	0.00	0.00	0.00	
18,100.0	90.00	359.98	7,702.0	9,917.5	1,312.5	10,003.9	0.00	0.00	0.00	
18,200.0	90.00	359.98	7,702.0	10,017.5	1,312.5	10,103.1	0.00	0.00	0.00	
18,269.8	90.00	359.98	7,702.0	10,087.3	1,312.5	10,172.3	0.00	0.00	0.00	
TD at 18269.8 - BHL 300'FNL & 2220'FWL, Sec.7										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude		Longitude
SHL 205'FSL & 903'FWL - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,578,012.90	3,281,341.06	40.915581		-104.482072
BHL 300'FNL & 2220'FM - plan misses target center by 0.2ft at 18269.8ft MD (7702.0 TVD, 10087.3 N, 1312.5 E) - Point	0.00	0.00	7,702.0	10,087.3	1,312.3	1,588,114.86	3,282,537.50	40.943267		-104.477322
LP 300'FSL & 2220'FWL - plan hits target center - Point	0.00	0.00	7,702.0	100.2	1,316.7	1,578,128.24	3,282,656.55	40.915856		-104.477308

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
1,417.9	1,400.0	9 5/8"		9-5/8	12-1/4

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Company:	Fifth Creek Energy Company, LLC	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Project:	Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	North Reference:	True
Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-27-17)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,632.4	1,608.0	Pierre C&D Sand		0.00		
2,433.7	2,385.0	Base Pierre C&D Sand				
2,867.8	2,806.0	Pierre B Sand				
2,940.0	2,876.0	Base Pierre B Sand				
3,701.1	3,614.0	Pierre A Sand				
4,162.0	4,061.0	Base Pierre A Sand				
4,476.6	4,366.0	Parkman				
4,958.2	4,833.0	Base Parkman				
7,491.9	7,308.0	Lower Sharon Springs				
7,628.0	7,423.0	Lower Sharon Springs GR Marker				
7,682.7	7,465.0	Niobrara A Chalk				
7,692.1	7,472.0	Niobrara A Marl GR Marker				
7,694.9	7,474.0	Niobrara B1 Chalk				
7,738.5	7,505.0	Niobrara B1 Marl				
7,757.7	7,518.0	Niobrara B Chalk				
7,794.6	7,542.0	Niobrara B Marl				
7,899.7	7,602.0	Niobrara M Zone				
7,975.2	7,637.0	Niobrara M Zone Base				
8,067.8	7,670.0	Ft Hays				
8,162.9	7,692.0	Codell				
8,282.7	7,702.0	Codell target				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP - Start Build 1.50	
6,264.9	6,100.1	-579.2	1,238.4	Start Drop -2.00	
7,157.7	6,985.8	-616.0	1,317.0	KOP #2 - Start Build 8.00	
8,282.8	7,702.0	100.3	1,316.7	Start 9987.1 hold at 8282.8 MD	
18,269.8	7,702.0	10,087.3	1,312.5	TD at 18269.8	



Fifth Creek Energy Company, LLC

Sec.18-T11N-R63W

Critter Creek 18 SW Pad Sec.18-T11N-R63W

Critter Creek 540-1807H

Wellbore #1

Plan #1 (2-27-17)

Anticollision Report

01 March, 2017

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (2-27-17)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,200.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	3/1/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	18,269.8	Plan #1 (2-27-17) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Critter Creek 18 SW Pad Sec.18-T11N-R63W						
Critter Creek 201-1807H - Wellbore #1 - Plan #1 (3-1-17)	200.0	200.0	124.4	123.7	184.457	CC, ES
Critter Creek 201-1807H - Wellbore #1 - Plan #1 (3-1-17)	1,100.0	1,091.7	224.2	219.4	45.874	SF
Critter Creek 202-1807H - Wellbore #1 - Plan #1 (2-28-17)	200.0	200.0	74.6	74.0	110.682	CC, ES
Critter Creek 202-1807H - Wellbore #1 - Plan #1 (2-28-17)	6,500.0	6,414.6	1,190.6	1,152.0	30.855	SF
Critter Creek 203-1807H - Wellbore #1 - Plan #1 (2-28-17)	200.0	200.0	24.6	23.9	36.516	CC, ES
Critter Creek 203-1807H - Wellbore #1 - Plan #1 (2-28-17)	18,269.8	18,109.8	587.3	202.0	1.524	SF
Critter Creek 537-1807H - Wellbore #1 - Plan #1 (3-1-17)	200.0	200.0	99.8	99.1	147.978	CC, ES
Critter Creek 537-1807H - Wellbore #1 - Plan #1 (3-1-17)	5,200.0	5,070.5	1,186.2	1,155.3	38.357	SF
Critter Creek 539-1807H - Wellbore #1 - Plan #1 (2-28-17)	200.0	200.0	50.0	49.4	74.207	CC, ES
Critter Creek 539-1807H - Wellbore #1 - Plan #1 (2-28-17)	18,269.8	18,183.4	759.9	367.4	1.936	SF
Existing Wells Sec.18-T11N-R63W						
Critter Creek 11-07H (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Critter Creek 11-07H (Exist.) - Wellbore #2 - Wellbore #2	17,700.0	11,915.9	208.5	36.7	1.213	Level 2, ES, SF
Critter Creek 11-07H (Exist.) - Wellbore #2 - Wellbore #2	17,912.5	12,086.6	168.1	56.4	1.505	CC
Critter Creek 14-18H (Exist.) - Wellbore #1 - Wellbore #1	9,600.0	10,031.1	200.4	155.6	4.471	SF
Critter Creek 14-18H (Exist.) - Wellbore #1 - Wellbore #1	9,731.6	10,114.3	173.1	135.2	4.564	CC, ES
Critter Creek 15-19H (Exist.) - Wellbore #1 - Wellbore #1						Out of range

Offset Design	Critter Creek 18 SW Pad Sec.18-T11N-R63W - Critter Creek 201-1807H - Wellbore #1 - Plan #1 (3-1-17)												Offset Site Error:	0.0 ft
Survey Program:	0-MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis	Distance											
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-90.52	-1.1	-124.4	124.4					
100.0	100.0	100.0	100.0	0.1	0.1	-90.52	-1.1	-124.4	124.4	124.2	0.22	553.370		
200.0	200.0	200.0	200.0	0.3	0.3	-90.52	-1.1	-124.4	124.4	123.7	0.67	184.457	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	154.67	-1.1	-124.4	125.6	124.4	1.12	112.456		
400.0	399.9	399.9	399.9	0.8	0.8	155.39	-1.1	-124.4	129.1	127.6	1.56	82.533		
500.0	499.7	499.7	499.7	1.0	1.0	156.51	-1.1	-124.4	135.1	133.1	2.03	66.707		
600.0	599.3	599.3	599.3	1.3	1.2	157.92	-1.1	-124.4	143.5	141.0	2.49	57.560		
700.0	698.6	698.6	698.6	1.5	1.5	159.50	-1.1	-124.4	154.5	151.5	2.97	52.062		
800.0	797.5	797.5	797.5	1.9	1.7	161.14	-1.1	-124.4	168.0	164.6	3.45	48.771		
900.0	896.1	896.1	896.1	2.2	1.9	162.77	-1.1	-124.4	184.2	180.2	3.93	46.916		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
1,000.0	994.2	994.2	994.2	2.6	2.1	164.32	-1.1	-124.4	202.9	198.5	4.41	46.044		
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	165.76	-1.1	-124.4	224.2	219.4	4.89	45.874 SF		
1,200.0	1,188.7	1,188.7	1,188.7	3.6	2.6	167.10	-1.1	-124.4	247.8	242.4	5.36	46.204		
1,300.0	1,285.7	1,285.7	1,285.7	4.1	2.8	168.25	-1.1	-124.4	271.7	265.9	5.84	46.560		
1,400.0	1,382.7	1,382.7	1,382.7	4.6	3.0	169.22	-1.1	-124.4	295.7	289.4	6.31	46.856		
1,500.0	1,479.6	1,479.6	1,479.6	5.1	3.2	170.03	-1.1	-124.4	319.8	313.0	6.79	47.106		
1,600.0	1,576.6	1,574.5	1,574.5	5.6	3.4	170.60	-1.7	-124.8	344.1	336.9	7.25	47.485		
1,700.0	1,673.6	1,668.5	1,668.5	6.2	3.6	170.75	-4.2	-126.5	369.2	361.5	7.69	47.995		
1,800.0	1,770.5	1,762.2	1,762.0	6.7	3.8	170.55	-8.5	-129.4	395.0	386.9	8.14	48.504		
1,900.0	1,867.5	1,855.3	1,854.8	7.2	3.9	170.07	-14.8	-133.7	421.7	413.0	8.61	48.960		
2,000.0	1,964.5	1,947.9	1,946.8	7.7	4.1	169.37	-22.8	-139.2	449.1	440.0	9.10	49.355		
2,100.0	2,061.5	2,039.7	2,037.9	8.3	4.3	168.48	-32.5	-145.9	477.3	467.7	9.61	49.685		
2,200.0	2,158.4	2,130.7	2,127.8	8.8	4.5	167.46	-44.0	-153.7	506.6	496.4	10.14	49.947		
2,300.0	2,255.4	2,220.8	2,216.6	9.3	4.8	166.34	-57.1	-162.6	536.8	526.1	10.70	50.148		
2,400.0	2,352.4	2,314.0	2,308.0	9.9	5.1	165.14	-71.9	-172.8	567.8	556.5	11.31	50.223		
2,500.0	2,449.3	2,408.4	2,400.6	10.4	5.4	164.05	-87.0	-183.1	599.1	587.2	11.93	50.233		
2,600.0	2,546.3	2,502.7	2,493.2	10.9	5.7	163.06	-102.1	-193.4	630.6	618.1	12.56	50.197		
2,700.0	2,643.3	2,597.1	2,585.8	11.5	6.0	162.16	-117.1	-203.7	662.3	649.0	13.21	50.129		
2,800.0	2,740.2	2,691.5	2,678.4	12.0	6.3	161.35	-132.2	-214.0	694.0	680.1	13.87	50.042		
2,900.0	2,837.2	2,785.9	2,771.0	12.5	6.7	160.61	-147.2	-224.3	725.9	711.4	14.53	49.942		
3,000.0	2,934.2	2,880.3	2,863.5	13.1	7.0	159.93	-162.3	-234.6	757.9	742.7	15.21	49.835		
3,100.0	3,031.1	2,974.6	2,956.1	13.6	7.4	159.30	-177.4	-244.9	789.9	774.1	15.89	49.725		
3,200.0	3,128.1	3,069.0	3,048.7	14.1	7.8	158.72	-192.4	-255.2	822.1	805.5	16.57	49.614		
3,300.0	3,225.1	3,163.4	3,141.3	14.7	8.1	158.19	-207.5	-265.5	854.3	837.1	17.26	49.504		
3,400.0	3,322.1	3,257.8	3,233.9	15.2	8.5	157.69	-222.6	-275.8	886.6	868.7	17.95	49.396		
3,500.0	3,419.0	3,352.1	3,326.5	15.7	8.9	157.23	-237.6	-286.1	918.9	900.3	18.64	49.290		
3,600.0	3,516.0	3,446.5	3,419.1	16.3	9.3	156.80	-252.7	-296.4	951.3	932.0	19.34	49.188		
3,700.0	3,613.0	3,540.9	3,511.7	16.8	9.7	156.40	-267.8	-306.7	983.8	963.7	20.04	49.090		
3,800.0	3,709.9	3,635.3	3,604.3	17.3	10.0	156.03	-282.8	-317.0	1,016.2	995.5	20.74	48.995		
3,900.0	3,806.9	3,729.6	3,696.9	17.9	10.4	155.67	-297.9	-327.3	1,048.7	1,027.3	21.44	48.904		
4,000.0	3,903.9	3,824.0	3,789.5	18.4	10.8	155.34	-313.0	-337.6	1,081.3	1,059.1	22.15	48.817		
4,100.0	4,000.8	3,918.4	3,882.1	18.9	11.2	155.03	-328.0	-347.9	1,113.9	1,091.0	22.86	48.734		
4,200.0	4,097.8	4,012.8	3,974.7	19.5	11.6	154.74	-343.1	-358.2	1,146.5	1,122.9	23.56	48.654		
4,300.0	4,194.8	4,107.1	4,067.3	20.0	12.0	154.46	-358.2	-368.5	1,179.1	1,154.8	24.27	48.578		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	-90.85	-1.1	-74.6	74.6					
100.0	100.0	100.0	100.0	0.1	0.1	-90.85	-1.1	-74.6	74.6	74.4	0.22	332.045		
200.0	200.0	200.0	200.0	0.3	0.3	-90.85	-1.1	-74.6	74.6	74.0	0.67	110.682	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	154.51	-1.1	-74.6	75.8	74.7	1.12	67.901		
400.0	399.9	399.9	399.9	0.8	0.8	155.70	-1.1	-74.6	79.4	77.8	1.56	50.732		
500.0	499.7	499.7	499.7	1.0	1.0	157.48	-1.1	-74.6	85.4	83.4	2.03	42.152		
600.0	599.3	599.3	599.3	1.3	1.2	159.57	-1.1	-74.6	93.9	91.4	2.49	37.655		
700.0	698.6	698.6	698.6	1.5	1.5	161.75	-1.1	-74.6	105.0	102.0	2.97	35.399		
800.0	797.5	797.5	797.5	1.9	1.7	163.86	-1.1	-74.6	118.7	115.3	3.44	34.502		
900.0	896.1	896.1	896.1	2.2	1.9	165.80	-1.1	-74.6	135.1	131.2	3.92	34.487		
1,000.0	994.2	994.2	994.2	2.6	2.1	167.51	-1.1	-74.6	154.1	149.7	4.39	35.073		
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	169.00	-1.1	-74.6	175.7	170.8	4.87	36.082		
1,200.0	1,188.7	1,188.7	1,188.7	3.6	2.6	170.30	-1.1	-74.6	199.5	194.2	5.34	37.371		
1,300.0	1,285.7	1,285.7	1,285.7	4.1	2.8	171.36	-1.1	-74.6	223.7	217.9	5.81	38.515		
1,400.0	1,382.7	1,382.7	1,382.7	4.6	3.0	172.20	-1.1	-74.6	247.9	241.6	6.28	39.474		
1,500.0	1,479.6	1,479.6	1,479.6	5.1	3.2	172.90	-1.1	-74.6	272.1	265.4	6.75	40.288		
1,600.0	1,576.6	1,576.6	1,576.6	5.6	3.4	173.49	-1.1	-74.6	296.4	289.2	7.23	40.985		
1,700.0	1,673.6	1,673.6	1,673.6	6.2	3.6	173.98	-1.1	-74.6	320.7	313.0	7.71	41.587		
1,800.0	1,770.5	1,770.5	1,770.5	6.7	3.9	174.41	-1.1	-74.6	345.0	336.8	8.19	42.112		
1,900.0	1,867.5	1,867.5	1,867.5	7.2	4.1	174.78	-1.1	-74.6	369.3	360.6	8.67	42.574		
2,000.0	1,964.5	1,964.5	1,964.5	7.7	4.3	175.10	-1.1	-74.6	393.7	384.5	9.16	42.982		
2,100.0	2,061.5	2,061.5	2,061.5	8.3	4.5	175.39	-1.1	-74.6	418.0	408.4	9.64	43.345		
2,200.0	2,158.4	2,162.7	2,162.7	8.8	4.7	175.59	-1.6	-74.5	442.1	432.0	10.12	43.678		
2,300.0	2,255.4	2,267.5	2,267.4	9.3	4.9	175.52	-4.6	-73.6	464.7	454.1	10.58	43.918		
2,400.0	2,352.4	2,372.9	2,372.7	9.9	5.1	175.17	-10.5	-72.0	485.8	474.7	11.04	43.986		
2,500.0	2,449.3	2,478.9	2,478.3	10.4	5.3	174.58	-19.2	-69.6	505.3	493.8	11.52	43.850		
2,600.0	2,546.3	2,585.2	2,583.9	10.9	5.5	173.76	-30.8	-66.4	523.3	511.2	12.02	43.521		
2,700.0	2,643.3	2,691.8	2,689.4	11.5	5.7	172.74	-45.2	-62.4	539.8	527.3	12.55	43.009		
2,800.0	2,740.2	2,790.6	2,787.0	12.0	6.0	171.71	-60.0	-58.3	555.7	542.6	13.09	42.454		
2,900.0	2,837.2	2,888.8	2,884.0	12.5	6.2	170.75	-74.8	-54.2	571.7	558.0	13.64	41.901		
3,000.0	2,934.2	2,987.1	2,981.1	13.1	6.5	169.83	-89.6	-50.1	587.8	573.6	14.22	41.351		
3,100.0	3,031.1	3,085.3	3,078.2	13.6	6.7	168.97	-104.3	-46.0	604.1	589.3	14.80	40.811		
3,200.0	3,128.1	3,183.6	3,175.2	14.1	7.0	168.15	-119.1	-41.9	620.6	605.2	15.41	40.284		
3,300.0	3,225.1	3,281.9	3,272.3	14.7	7.3	167.38	-133.9	-37.9	637.1	621.1	16.02	39.771		
3,400.0	3,322.1	3,380.1	3,369.3	15.2	7.6	166.64	-148.6	-33.8	653.8	637.1	16.65	39.274		
3,500.0	3,419.0	3,478.4	3,466.4	15.7	7.9	165.94	-163.4	-29.7	670.5	653.3	17.28	38.795		
3,600.0	3,516.0	3,576.6	3,563.5	16.3	8.2	165.27	-178.2	-25.6	687.4	669.5	17.93	38.333		
3,700.0	3,613.0	3,674.9	3,660.5	16.8	8.5	164.64	-192.9	-21.5	704.3	685.8	18.59	37.889		
3,800.0	3,709.9	3,773.2	3,757.6	17.3	8.8	164.04	-207.7	-17.4	721.4	702.1	19.25	37.464		
3,900.0	3,806.9	3,871.4	3,854.6	17.9	9.1	163.46	-222.4	-13.3	738.5	718.5	19.93	37.057		
4,000.0	3,903.9	3,969.7	3,951.7	18.4	9.4	162.91	-237.2	-9.2	755.6	735.0	20.61	36.667		
4,100.0	4,000.8	4,067.9	4,048.7	18.9	9.8	162.38	-252.0	-5.2	772.9	751.6	21.29	36.294		
4,200.0	4,097.8	4,166.2	4,145.8	19.5	10.1	161.88	-266.7	-1.1	790.1	768.2	21.99	35.938		
4,300.0	4,194.8	4,264.5	4,242.9	20.0	10.4	161.39	-281.5	3.0	807.5	784.8	22.68	35.597		
4,400.0	4,291.8	4,362.7	4,339.9	20.5	10.8	160.93	-296.3	7.1	824.9	801.5	23.39	35.271		
4,500.0	4,388.7	4,461.0	4,437.0	21.1	11.1	160.49	-311.0	11.2	842.3	818.2	24.09	34.960		
4,600.0	4,485.7	4,559.2	4,534.0	21.6	11.4	160.06	-325.8	15.3	859.8	835.0	24.81	34.663		
4,700.0	4,582.7	4,657.5	4,631.1	22.1	11.8	159.66	-340.6	19.4	877.4	851.9	25.52	34.378		
4,800.0	4,679.6	4,755.8	4,728.2	22.7	12.1	159.26	-355.3	23.5	895.0	868.7	26.24	34.106		
4,900.0	4,776.6	4,854.0	4,825.2	23.2	12.5	158.89	-370.1	27.6	912.6	885.6	26.96	33.846		
5,000.0	4,873.6	4,952.3	4,922.3	23.7	12.8	158.52	-384.9	31.6	930.2	902.6	27.69	33.597		
5,100.0	4,970.5	5,050.5	5,019.3	24.3	13.2	158.18	-399.6	35.7	947.9	919.5	28.42	33.359		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Crittter Creek 18 SW Pad Sec.18-T11N-R63W - Crittter Creek 202-1807H - Wellbore #1 - Plan #1 (2-28-1)													Offset Site Error:	0.0 ft
Survey Program: 0-MWDD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,200.0	5,067.5	5,148.8	5,116.4	24.8	13.5	157.84	-414.4	39.8	965.7	936.5	29.15	33.130		
5,300.0	5,164.5	5,247.1	5,213.4	25.3	13.9	157.51	-429.2	43.9	983.4	953.5	29.88	32.912		
5,400.0	5,261.5	5,345.3	5,310.5	25.9	14.2	157.20	-443.9	48.0	1,001.2	970.6	30.62	32.702		
5,500.0	5,358.4	5,443.6	5,407.6	26.4	14.6	156.90	-458.7	52.1	1,019.0	987.7	31.35	32.500		
5,600.0	5,455.4	5,541.8	5,504.6	27.0	14.9	156.61	-473.4	56.2	1,036.9	1,004.8	32.09	32.307		
5,700.0	5,552.4	5,640.1	5,601.7	27.5	15.3	156.33	-488.2	60.3	1,054.7	1,021.9	32.84	32.122		
5,800.0	5,649.3	5,738.4	5,698.7	28.0	15.6	156.05	-503.0	64.4	1,072.6	1,039.1	33.58	31.943		
5,900.0	5,746.3	5,836.6	5,795.8	28.6	16.0	155.79	-517.7	68.4	1,090.6	1,056.2	34.32	31.772		
6,000.0	5,843.3	5,934.9	5,892.8	29.1	16.3	155.53	-532.5	72.5	1,108.5	1,073.4	35.07	31.607		
6,100.0	5,940.2	6,033.1	5,989.9	29.6	16.7	155.29	-547.3	76.6	1,126.5	1,090.6	35.82	31.448		
6,200.0	6,037.2	6,131.4	6,087.0	30.2	17.1	155.05	-562.0	80.7	1,144.4	1,107.9	36.57	31.296		
6,300.0	6,134.2	6,229.7	6,184.1	30.7	17.4	154.87	-576.8	84.8	1,162.2	1,124.9	37.33	31.136		
6,400.0	6,231.9	6,325.5	6,278.7	31.0	17.8	154.73	-591.1	88.8	1,177.6	1,139.6	38.02	30.974		
6,500.0	6,330.2	6,414.6	6,367.1	31.3	18.0	154.62	-602.4	91.9	1,190.6	1,152.0	38.59	30.855 SF		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-92.54	-1.1	-24.6	24.6					
100.0	100.0	100.0	100.0	0.1	0.1	-92.54	-1.1	-24.6	24.6	24.4	0.22	109.548		
200.0	200.0	200.0	200.0	0.3	0.3	-92.54	-1.1	-24.6	24.6	23.9	0.67	36.516 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	153.73	-1.1	-24.6	25.8	24.7	1.12	23.101		
400.0	399.9	399.9	399.9	0.8	0.8	157.10	-1.1	-24.6	29.4	27.8	1.56	18.762		
500.0	499.7	499.7	499.7	1.0	1.0	161.18	-1.1	-24.6	35.5	33.5	2.03	17.508		
600.0	599.3	599.3	599.3	1.3	1.2	164.97	-1.1	-24.6	44.2	41.7	2.49	17.743		
700.0	698.6	698.6	698.6	1.5	1.5	168.07	-1.1	-24.6	55.7	52.7	2.96	18.794		
800.0	797.5	797.5	797.5	1.9	1.7	170.47	-1.1	-24.6	69.8	66.4	3.43	20.329		
900.0	896.1	896.1	896.1	2.2	1.9	172.29	-1.1	-24.6	86.5	82.6	3.90	22.170		
1,000.0	994.2	994.2	994.2	2.6	2.1	173.68	-1.1	-24.6	105.9	101.5	4.37	24.209		
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	174.74	-1.1	-24.6	127.9	123.0	4.85	26.383		
1,200.0	1,188.7	1,188.7	1,188.7	3.6	2.6	175.56	-1.1	-24.6	152.0	146.7	5.31	28.609		
1,300.0	1,285.7	1,285.7	1,285.7	4.1	2.8	176.17	-1.1	-24.6	176.4	170.6	5.78	30.522		
1,400.0	1,382.7	1,382.7	1,382.7	4.6	3.0	176.64	-1.1	-24.6	200.7	194.5	6.25	32.128		
1,500.0	1,479.6	1,479.6	1,479.6	5.1	3.2	177.00	-1.1	-24.6	225.1	218.4	6.72	33.492		
1,600.0	1,576.6	1,576.6	1,576.6	5.6	3.4	177.30	-1.1	-24.6	249.5	242.3	7.20	34.663		
1,700.0	1,673.6	1,673.6	1,673.6	6.2	3.6	177.54	-1.1	-24.6	273.9	266.3	7.68	35.678		
1,800.0	1,770.5	1,776.3	1,776.3	6.7	3.9	177.71	-1.6	-24.0	297.7	289.5	8.15	36.513		
1,900.0	1,867.5	1,882.2	1,882.1	7.2	4.1	177.72	-3.8	-21.2	318.9	310.3	8.61	37.037		
2,000.0	1,964.5	1,989.3	1,989.0	7.7	4.3	177.59	-8.0	-16.1	337.5	328.5	9.08	37.195		
2,100.0	2,061.5	2,097.4	2,096.7	8.3	4.5	177.33	-14.0	-8.5	353.5	344.0	9.55	37.011		
2,200.0	2,158.4	2,206.4	2,204.9	8.8	4.7	176.95	-22.1	1.5	366.8	356.7	10.04	36.527		
2,300.0	2,255.4	2,316.0	2,313.3	9.3	5.0	176.47	-32.1	14.0	377.3	366.8	10.55	35.782		
2,400.0	2,352.4	2,426.1	2,421.7	9.9	5.3	175.87	-44.2	29.0	385.2	374.1	11.07	34.803		
2,500.0	2,449.3	2,536.5	2,529.9	10.4	5.6	175.14	-58.2	46.5	390.3	378.7	11.61	33.635		
2,600.0	2,546.3	2,640.5	2,631.1	10.9	6.0	174.37	-72.9	64.8	393.3	381.2	12.15	32.374		
2,700.0	2,643.3	2,740.3	2,728.3	11.5	6.4	173.62	-87.2	82.6	396.2	383.5	12.70	31.195		
2,800.0	2,740.2	2,840.1	2,825.5	12.0	6.7	172.89	-101.4	100.3	399.1	385.9	13.26	30.090		
2,900.0	2,837.2	2,940.0	2,922.7	12.5	7.1	172.17	-115.7	118.1	402.1	388.3	13.84	29.051		
3,000.0	2,934.2	3,039.8	3,019.9	13.1	7.5	171.46	-129.9	135.8	405.2	390.7	14.43	28.073		
3,100.0	3,031.1	3,139.6	3,117.1	13.6	8.0	170.76	-144.2	153.6	408.3	393.2	15.04	27.153		
3,200.0	3,128.1	3,239.4	3,214.3	14.1	8.4	170.07	-158.4	171.3	411.5	395.8	15.65	26.287		
3,300.0	3,225.1	3,339.3	3,311.5	14.7	8.8	169.39	-172.7	189.1	414.7	398.4	16.28	25.469		
3,400.0	3,322.1	3,439.1	3,408.7	15.2	9.3	168.72	-187.0	206.8	418.0	401.1	16.92	24.699		
3,500.0	3,419.0	3,538.9	3,505.9	15.7	9.7	168.06	-201.2	224.6	421.3	403.8	17.58	23.971		
3,600.0	3,516.0	3,638.7	3,603.1	16.3	10.2	167.41	-215.5	242.3	424.7	406.5	18.24	23.283		
3,700.0	3,613.0	3,738.6	3,700.3	16.8	10.7	166.78	-229.7	260.1	428.2	409.3	18.92	22.633		
3,800.0	3,709.9	3,838.4	3,797.5	17.3	11.1	166.15	-244.0	277.8	431.7	412.1	19.61	22.017		
3,900.0	3,806.9	3,938.2	3,894.7	17.9	11.6	165.53	-258.2	295.6	435.3	415.0	20.31	21.434		
4,000.0	3,903.9	4,038.1	3,991.9	18.4	12.1	164.92	-272.5	313.3	438.9	417.9	21.02	20.882		
4,100.0	4,000.8	4,137.9	4,089.1	18.9	12.5	164.33	-286.7	331.1	442.5	420.8	21.74	20.358		
4,200.0	4,097.8	4,237.7	4,186.3	19.5	13.0	163.74	-301.0	348.8	446.2	423.8	22.47	19.861		
4,300.0	4,194.8	4,337.5	4,283.5	20.0	13.5	163.16	-315.2	366.6	450.0	426.8	23.21	19.389		
4,400.0	4,291.8	4,437.4	4,380.7	20.5	14.0	162.59	-329.5	384.3	453.8	429.8	23.96	18.941		
4,500.0	4,388.7	4,537.2	4,477.9	21.1	14.5	162.04	-343.8	402.1	457.6	432.9	24.72	18.514		
4,600.0	4,485.7	4,637.0	4,575.1	21.6	14.9	161.49	-358.0	419.8	461.5	436.0	25.49	18.108		
4,700.0	4,582.7	4,736.8	4,672.3	22.1	15.4	160.95	-372.3	437.6	465.4	439.2	26.26	17.722		
4,800.0	4,679.6	4,836.7	4,769.5	22.7	15.9	160.42	-386.5	455.3	469.4	442.3	27.05	17.354		
4,900.0	4,776.6	4,936.5	4,866.6	23.2	16.4	159.89	-400.8	473.1	473.4	445.6	27.84	17.002		
5,000.0	4,873.6	5,036.3	4,963.8	23.7	16.9	159.38	-415.0	490.8	477.4	448.8	28.64	16.668		
5,100.0	4,970.5	5,136.2	5,061.0	24.3	17.4	158.88	-429.3	508.6	481.5	452.1	29.45	16.348		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,067.5	5,236.0	5,158.2	24.8	17.9	158.38	-443.5	526.3	485.6	455.4	30.27	16.042		
5,300.0	5,164.5	5,335.8	5,255.4	25.3	18.4	157.89	-457.8	544.1	489.8	458.7	31.10	15.751		
5,400.0	5,261.5	5,435.6	5,352.6	25.9	18.8	157.41	-472.0	561.8	494.0	462.0	31.93	15.472		
5,500.0	5,358.4	5,535.5	5,449.8	26.4	19.3	156.94	-486.3	579.6	498.2	465.4	32.77	15.205		
5,600.0	5,455.4	5,635.3	5,547.0	27.0	19.8	156.48	-500.5	597.3	502.5	468.8	33.61	14.949		
5,700.0	5,552.4	5,735.1	5,644.2	27.5	20.3	156.02	-514.8	615.1	506.7	472.3	34.46	14.704		
5,800.0	5,649.3	5,834.9	5,741.4	28.0	20.8	155.58	-529.1	632.8	511.1	475.7	35.32	14.470		
5,900.0	5,746.3	5,934.8	5,838.6	28.6	21.3	155.13	-543.3	650.6	515.4	479.2	36.18	14.245		
6,000.0	5,843.3	6,034.6	5,935.8	29.1	21.8	154.70	-557.6	668.3	519.8	482.7	37.05	14.029		
6,100.0	5,940.2	6,134.4	6,033.0	29.6	22.3	154.28	-571.8	686.0	524.2	486.3	37.93	13.822		
6,200.0	6,037.2	6,223.6	6,120.0	30.2	22.7	153.97	-583.9	701.1	529.5	490.8	38.67	13.692		
6,300.0	6,134.2	6,310.7	6,205.7	30.7	22.9	153.87	-594.2	713.9	537.0	497.7	39.29	13.665		
6,400.0	6,231.9	6,400.0	6,293.8	31.0	23.2	153.88	-603.0	724.8	544.3	504.5	39.79	13.678		
6,500.0	6,330.2	6,484.8	6,377.9	31.3	23.4	153.93	-609.7	733.2	550.8	510.6	40.20	13.702		
6,600.0	6,429.1	6,571.7	6,464.4	31.6	23.6	154.00	-615.0	739.8	556.5	516.0	40.53	13.731		
6,700.0	6,528.5	6,658.5	6,551.0	31.8	23.8	154.10	-618.7	744.4	561.5	520.7	40.78	13.767		
6,800.0	6,628.2	6,745.3	6,637.7	32.0	23.9	154.22	-620.7	746.9	565.6	524.6	40.96	13.808		
6,900.0	6,728.1	6,835.7	6,728.1	32.1	24.0	154.37	-621.1	747.4	568.8	527.7	41.07	13.849		
7,000.0	6,828.1	6,935.7	6,828.1	32.2	24.1	-90.51	-621.1	747.4	569.6	528.4	41.23	13.815		
7,100.0	6,928.1	7,035.9	6,928.3	32.3	24.3	-90.39	-619.8	747.4	569.6	528.2	41.44	13.744		
7,141.0	6,969.1	7,076.9	6,969.1	32.4	24.3	-90.05	-616.2	747.4	569.6	528.2	41.41	13.754		
7,200.0	7,028.1	7,135.0	7,026.5	32.4	24.3	-89.20	-607.1	747.4	569.7	528.5	41.18	13.834		
7,300.0	7,127.2	7,232.0	7,120.1	32.4	24.2	-87.84	-581.7	747.4	570.0	529.4	40.64	14.025		
7,400.0	7,223.5	7,327.4	7,207.9	32.4	24.1	-86.54	-544.6	747.4	570.7	530.7	39.98	14.273		
7,500.0	7,315.2	7,421.3	7,288.7	32.3	23.9	-85.30	-497.0	747.3	571.6	532.3	39.27	14.553		
7,600.0	7,400.5	7,513.8	7,361.6	32.1	23.7	-84.17	-440.2	747.3	572.6	534.0	38.59	14.838		
7,700.0	7,477.7	7,605.1	7,425.8	31.9	23.5	-83.14	-375.4	747.3	573.8	535.8	38.00	15.099		
7,800.0	7,545.4	7,695.4	7,480.7	31.7	23.2	-82.24	-303.7	747.3	574.9	537.4	37.56	15.307		
7,900.0	7,602.2	7,784.9	7,525.8	31.4	22.9	-81.49	-226.4	747.2	576.0	538.7	37.32	15.434		
8,000.0	7,646.9	7,873.7	7,560.6	31.2	22.7	-80.88	-144.8	747.2	576.9	539.6	37.32	15.458		
8,100.0	7,678.8	7,962.1	7,585.0	31.0	22.4	-80.43	-60.0	747.1	577.7	540.1	37.59	15.370		
8,200.0	7,697.2	8,050.0	7,598.7	30.8	22.2	-80.15	26.8	747.1	578.2	540.0	38.12	15.167		
8,300.0	7,702.0	8,140.1	7,601.9	30.7	22.0	-80.04	116.8	747.1	578.4	539.4	38.92	14.859		
8,400.0	7,702.0	8,240.1	7,601.5	30.6	21.9	-80.00	216.8	747.0	578.4	538.5	39.96	14.474		
8,500.0	7,702.0	8,340.1	7,601.1	30.6	22.0	-79.96	316.8	747.0	578.5	537.3	41.24	14.026		
8,600.0	7,702.0	8,440.1	7,600.7	30.8	22.6	-79.92	416.8	746.9	578.6	535.7	42.85	13.502		
8,700.0	7,702.0	8,540.1	7,600.3	31.1	23.6	-79.88	516.8	746.9	578.7	533.9	44.78	12.922		
8,800.0	7,702.0	8,640.1	7,599.9	31.5	24.8	-79.84	616.8	746.8	578.7	531.8	46.94	12.330		
8,900.0	7,702.0	8,740.1	7,599.5	32.2	26.0	-79.80	716.8	746.8	578.8	529.5	49.29	11.742		
9,000.0	7,702.0	8,840.1	7,599.1	32.9	27.3	-79.76	816.8	746.7	578.9	527.1	51.82	11.172		
9,100.0	7,702.0	8,940.1	7,598.7	33.9	28.7	-79.72	916.8	746.7	579.0	524.5	54.49	10.625		
9,200.0	7,702.0	9,040.1	7,598.3	35.0	30.2	-79.68	1,016.8	746.6	579.0	521.7	57.29	10.107		
9,300.0	7,702.0	9,140.1	7,597.9	36.2	31.7	-79.65	1,116.8	746.6	579.1	518.9	60.20	9.620		
9,400.0	7,702.0	9,240.1	7,597.5	37.5	33.2	-79.61	1,216.8	746.5	579.2	516.0	63.20	9.165		
9,500.0	7,702.0	9,340.1	7,597.1	38.8	34.8	-79.57	1,316.8	746.5	579.3	513.0	66.28	8.740		
9,600.0	7,702.0	9,440.1	7,596.7	40.2	36.4	-79.53	1,416.8	746.5	579.3	509.9	69.43	8.344		
9,700.0	7,702.0	9,540.1	7,596.3	41.7	38.0	-79.49	1,516.8	746.4	579.4	506.8	72.64	7.977		
9,800.0	7,702.0	9,640.1	7,595.9	43.2	39.7	-79.45	1,616.8	746.4	579.5	503.6	75.90	7.635		
9,900.0	7,702.0	9,740.1	7,595.5	44.7	41.3	-79.41	1,716.8	746.3	579.6	500.4	79.21	7.316		
10,000.0	7,702.0	9,840.1	7,595.1	46.3	43.0	-79.37	1,816.8	746.3	579.7	497.1	82.57	7.021		
10,100.0	7,702.0	9,940.1	7,594.7	47.9	44.8	-79.33	1,916.8	746.2	579.7	493.8	85.95	6.745		
10,200.0	7,702.0	10,040.1	7,594.3	49.5	46.5	-79.30	2,016.8	746.2	579.8	490.4	89.37	6.488		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,300.0	7,702.0	10,140.1	7,593.9	51.2	48.2	-79.26	2,116.8	746.1	579.9	487.1	92.81	6.248		
10,400.0	7,702.0	10,240.1	7,593.5	52.9	50.0	-79.22	2,216.8	746.1	580.0	483.7	96.29	6.023		
10,500.0	7,702.0	10,340.1	7,593.1	54.5	51.8	-79.18	2,316.8	746.0	580.1	480.3	99.78	5.813		
10,600.0	7,702.0	10,440.1	7,592.7	56.3	53.5	-79.14	2,416.8	746.0	580.1	476.8	103.29	5.617		
10,700.0	7,702.0	10,540.1	7,592.3	58.0	55.3	-79.10	2,516.8	745.9	580.2	473.4	106.82	5.432		
10,800.0	7,702.0	10,640.1	7,591.9	59.7	57.1	-79.06	2,616.8	745.9	580.3	469.9	110.37	5.258		
10,900.0	7,702.0	10,740.1	7,591.5	61.4	58.9	-79.02	2,716.8	745.8	580.4	466.5	113.93	5.094		
11,000.0	7,702.0	10,840.1	7,591.1	63.2	60.7	-78.99	2,816.8	745.8	580.5	463.0	117.50	4.940		
11,100.0	7,702.0	10,940.1	7,590.7	64.9	62.5	-78.95	2,916.8	745.7	580.5	459.5	121.08	4.795		
11,200.0	7,702.0	11,040.1	7,590.3	66.7	64.4	-78.91	3,016.8	745.7	580.6	455.9	124.68	4.657		
11,300.0	7,702.0	11,140.1	7,589.9	68.5	66.2	-78.87	3,116.8	745.6	580.7	452.4	128.28	4.527		
11,400.0	7,702.0	11,240.1	7,589.5	70.3	68.0	-78.83	3,216.8	745.6	580.8	448.9	131.90	4.403		
11,500.0	7,702.0	11,340.1	7,589.1	72.1	69.9	-78.79	3,316.8	745.5	580.9	445.4	135.52	4.286		
11,600.0	7,702.0	11,440.1	7,588.7	73.9	71.7	-78.75	3,416.8	745.5	581.0	441.8	139.15	4.175		
11,700.0	7,702.0	11,540.1	7,588.3	75.7	73.6	-78.71	3,516.7	745.4	581.0	438.3	142.78	4.069		
11,800.0	7,702.0	11,640.1	7,587.9	77.5	75.4	-78.68	3,616.7	745.4	581.1	434.7	146.42	3.969		
11,900.0	7,702.0	11,740.1	7,587.5	79.3	77.3	-78.64	3,716.7	745.3	581.2	431.1	150.07	3.873		
12,000.0	7,702.0	11,840.1	7,587.1	81.1	79.1	-78.60	3,816.7	745.3	581.3	427.6	153.72	3.781		
12,100.0	7,702.0	11,940.1	7,586.7	82.9	81.0	-78.56	3,916.7	745.2	581.4	424.0	157.38	3.694		
12,200.0	7,702.0	12,040.1	7,586.3	84.8	82.9	-78.52	4,016.7	745.2	581.5	420.4	161.04	3.611		
12,300.0	7,702.0	12,140.1	7,585.9	86.6	84.7	-78.48	4,116.7	745.1	581.6	416.9	164.71	3.531		
12,400.0	7,702.0	12,240.1	7,585.5	88.4	86.6	-78.44	4,216.7	745.1	581.6	413.3	168.38	3.454		
12,500.0	7,702.0	12,340.1	7,585.1	90.3	88.5	-78.41	4,316.7	745.0	581.7	409.7	172.05	3.381		
12,600.0	7,702.0	12,440.1	7,584.7	92.1	90.3	-78.37	4,416.7	745.0	581.8	406.1	175.72	3.311		
12,700.0	7,702.0	12,540.1	7,584.3	94.0	92.2	-78.33	4,516.7	744.9	581.9	402.5	179.40	3.244		
12,800.0	7,702.0	12,640.0	7,583.9	95.8	94.1	-78.29	4,616.7	744.9	582.0	398.9	183.08	3.179		
12,900.0	7,702.0	12,740.0	7,583.5	97.7	96.0	-78.25	4,716.7	744.9	582.1	395.3	186.77	3.117		
13,000.0	7,702.0	12,840.0	7,583.1	99.5	97.9	-78.21	4,816.7	744.8	582.2	391.7	190.45	3.057		
13,100.0	7,702.0	12,940.0	7,582.7	101.4	99.8	-78.18	4,916.7	744.8	582.3	388.1	194.14	2.999		
13,200.0	7,702.0	13,040.0	7,582.3	103.3	101.6	-78.14	5,016.7	744.7	582.4	384.5	197.83	2.944		
13,300.0	7,702.0	13,140.0	7,581.9	105.1	103.5	-78.10	5,116.7	744.7	582.4	380.9	201.52	2.890		
13,400.0	7,702.0	13,240.0	7,581.5	107.0	105.4	-78.06	5,216.7	744.6	582.5	377.3	205.21	2.839		
13,500.0	7,702.0	13,340.0	7,581.1	108.9	107.3	-78.02	5,316.7	744.6	582.6	373.7	208.90	2.789		
13,600.0	7,702.0	13,440.0	7,580.7	110.7	109.2	-77.98	5,416.7	744.5	582.7	370.1	212.60	2.741		
13,700.0	7,702.0	13,540.0	7,580.3	112.6	111.1	-77.94	5,516.7	744.4	582.8	366.5	216.29	2.695		
13,800.0	7,702.0	13,640.0	7,579.9	114.5	113.0	-77.91	5,616.7	744.4	582.9	362.9	219.99	2.650		
13,900.0	7,702.0	13,740.0	7,579.5	116.4	114.9	-77.87	5,716.7	744.3	583.0	359.3	223.69	2.606		
14,000.0	7,702.0	13,840.0	7,579.1	118.2	116.8	-77.83	5,816.7	744.3	583.1	355.7	227.39	2.564		
14,100.0	7,702.0	13,940.0	7,578.7	120.1	118.7	-77.79	5,916.7	744.2	583.2	352.1	231.09	2.524		
14,200.0	7,702.0	14,040.0	7,578.3	122.0	120.6	-77.75	6,016.7	744.2	583.3	348.5	234.79	2.484		
14,300.0	7,702.0	14,140.0	7,577.9	123.9	122.5	-77.72	6,116.7	744.1	583.4	344.9	238.49	2.446		
14,400.0	7,702.0	14,240.0	7,577.5	125.8	124.4	-77.68	6,216.7	744.1	583.5	341.3	242.19	2.409		
14,500.0	7,702.0	14,340.0	7,577.1	127.6	126.3	-77.64	6,316.7	744.0	583.6	337.7	245.89	2.373		
14,600.0	7,702.0	14,440.0	7,576.7	129.5	128.2	-77.60	6,416.7	744.0	583.6	334.1	249.59	2.338		
14,700.0	7,702.0	14,540.0	7,576.3	131.4	130.1	-77.56	6,516.7	743.9	583.7	330.5	253.29	2.305		
14,800.0	7,702.0	14,640.0	7,575.9	133.3	132.0	-77.52	6,616.7	743.9	583.8	326.8	256.99	2.272		
14,900.0	7,702.0	14,740.0	7,575.5	135.2	133.9	-77.49	6,716.7	743.8	583.9	323.2	260.70	2.240		
15,000.0	7,702.0	14,840.0	7,575.1	137.1	135.8	-77.45	6,816.7	743.8	584.0	319.6	264.40	2.209		
15,100.0	7,702.0	14,940.0	7,574.7	139.0	137.7	-77.41	6,916.7	743.7	584.1	316.0	268.10	2.179		
15,200.0	7,702.0	15,040.0	7,574.3	140.9	139.6	-77.37	7,016.7	743.7	584.2	312.4	271.80	2.149		
15,300.0	7,702.0	15,140.0	7,573.9	142.7	141.5	-77.33	7,116.7	743.6	584.3	308.8	275.51	2.121		
15,400.0	7,702.0	15,240.0	7,573.5	144.6	143.4	-77.30	7,216.7	743.6	584.4	305.2	279.21	2.093		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
15,500.0	7,702.0	15,340.0	7,573.1	146.5	145.3	-77.26	7,316.7	743.5	584.5	301.6	282.91	2.066			
15,600.0	7,702.0	15,440.0	7,572.7	148.4	147.2	-77.22	7,416.7	743.5	584.6	298.0	286.61	2.040			
15,700.0	7,702.0	15,540.0	7,572.3	150.3	149.1	-77.18	7,516.7	743.4	584.7	294.4	290.31	2.014			
15,800.0	7,702.0	15,640.0	7,571.9	152.2	151.0	-77.14	7,616.7	743.4	584.8	290.8	294.02	1.989			
15,900.0	7,702.0	15,740.0	7,571.5	154.1	152.9	-77.11	7,716.7	743.3	584.9	287.2	297.72	1.965			
16,000.0	7,702.0	15,840.0	7,571.1	156.0	154.9	-77.07	7,816.7	743.3	585.0	283.6	301.42	1.941			
16,100.0	7,702.0	15,940.0	7,570.7	157.9	156.8	-77.03	7,916.7	743.2	585.1	280.0	305.12	1.918			
16,200.0	7,702.0	16,040.0	7,570.3	159.8	158.7	-76.99	8,016.7	743.2	585.2	276.4	308.82	1.895			
16,300.0	7,702.0	16,140.0	7,569.9	161.7	160.6	-76.95	8,116.7	743.1	585.3	272.8	312.52	1.873			
16,400.0	7,702.0	16,240.0	7,569.5	163.6	162.5	-76.92	8,216.7	743.1	585.4	269.2	316.22	1.851			
16,500.0	7,702.0	16,340.0	7,569.1	165.5	164.4	-76.88	8,316.7	743.0	585.5	265.6	319.92	1.830			
16,600.0	7,702.0	16,440.0	7,568.7	167.4	166.3	-76.84	8,416.6	743.0	585.6	262.0	323.62	1.810			
16,700.0	7,702.0	16,540.0	7,568.3	169.3	168.2	-76.80	8,516.6	742.9	585.7	258.4	327.32	1.789			
16,800.0	7,702.0	16,640.0	7,567.9	171.2	170.1	-76.76	8,616.6	742.9	585.8	254.8	331.01	1.770			
16,900.0	7,702.0	16,740.0	7,567.5	173.1	172.1	-76.73	8,716.6	742.8	585.9	251.2	334.71	1.750			
17,000.0	7,702.0	16,840.0	7,567.1	175.0	174.0	-76.69	8,816.6	742.7	586.0	247.6	338.41	1.732			
17,100.0	7,702.0	16,940.0	7,566.7	176.9	175.9	-76.65	8,916.6	742.7	586.1	244.0	342.10	1.713			
17,200.0	7,702.0	17,040.0	7,566.3	178.9	177.8	-76.61	9,016.6	742.6	586.2	240.4	345.80	1.695			
17,300.0	7,702.0	17,140.0	7,565.9	180.8	179.7	-76.58	9,116.6	742.6	586.3	236.8	349.49	1.678			
17,400.0	7,702.0	17,240.0	7,565.5	182.7	181.6	-76.54	9,216.6	742.5	586.4	233.2	353.19	1.660			
17,500.0	7,702.0	17,340.0	7,565.1	184.6	183.5	-76.50	9,316.6	742.5	586.5	229.6	356.88	1.643			
17,600.0	7,702.0	17,440.0	7,564.7	186.5	185.5	-76.46	9,416.6	742.4	586.6	226.1	360.57	1.627			
17,700.0	7,702.0	17,540.0	7,564.3	188.4	187.4	-76.42	9,516.6	742.4	586.7	222.5	364.27	1.611			
17,800.0	7,702.0	17,640.0	7,563.9	190.3	189.3	-76.39	9,616.6	742.3	586.8	218.9	367.96	1.595			
17,900.0	7,702.0	17,740.0	7,563.5	192.2	191.2	-76.35	9,716.6	742.3	586.9	215.3	371.65	1.579			
18,000.0	7,702.0	17,840.0	7,563.1	194.1	193.1	-76.31	9,816.6	742.2	587.1	211.7	375.34	1.564			
18,100.0	7,702.0	17,940.0	7,562.7	196.0	195.0	-76.27	9,916.6	742.2	587.2	208.1	379.03	1.549			
18,200.0	7,702.0	18,040.0	7,562.3	197.9	197.0	-76.24	10,016.6	742.1	587.3	204.5	382.71	1.534			
18,269.8	7,702.0	18,109.8	7,562.0	199.3	198.3	-76.21	10,086.5	742.1	587.3	202.0	385.29	1.524 SF			

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.64	-1.1	-99.8	99.8					
100.0	100.0	100.0	100.0	0.1	0.1	-90.64	-1.1	-99.8	99.8	99.6	0.22	443.935		
200.0	200.0	200.0	200.0	0.3	0.3	-90.64	-1.1	-99.8	99.8	99.1	0.67	147.978 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	154.61	-1.1	-99.8	101.0	99.8	1.12	90.426		
400.0	399.9	399.9	399.9	0.8	0.8	155.51	-1.1	-99.8	104.5	103.0	1.56	66.809		
500.0	499.7	499.7	499.7	1.0	1.0	156.88	-1.1	-99.8	110.5	108.5	2.03	54.564		
600.0	599.3	599.3	599.3	1.3	1.2	158.56	-1.1	-99.8	119.0	116.5	2.49	47.713		
700.0	698.6	698.6	698.6	1.5	1.5	160.40	-1.1	-99.8	130.0	127.0	2.97	43.815		
800.0	797.5	797.5	797.5	1.9	1.7	162.25	-1.1	-99.8	143.6	140.2	3.44	41.706		
900.0	896.1	896.1	896.1	2.2	1.9	164.03	-1.1	-99.8	159.8	155.9	3.92	40.759		
1,000.0	994.2	994.2	994.2	2.6	2.1	165.68	-1.1	-99.8	178.7	174.3	4.40	40.607		
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	167.17	-1.1	-99.8	200.2	195.3	4.88	41.021		
1,200.0	1,188.7	1,188.7	1,188.7	3.6	2.6	168.51	-1.1	-99.8	223.9	218.5	5.35	41.826		
1,300.0	1,285.7	1,285.7	1,285.7	4.1	2.8	169.64	-1.1	-99.8	247.9	242.1	5.82	42.573		
1,400.0	1,382.7	1,382.7	1,382.7	4.6	3.0	170.56	-1.1	-99.8	272.0	265.7	6.30	43.199		
1,500.0	1,479.6	1,479.6	1,479.6	5.1	3.2	171.34	-1.1	-99.8	296.1	289.3	6.77	43.729		
1,600.0	1,576.6	1,576.6	1,576.6	5.6	3.4	171.99	-1.1	-99.8	320.3	313.1	7.25	44.182		
1,700.0	1,673.6	1,673.6	1,673.6	6.2	3.6	172.56	-1.1	-99.8	344.5	336.8	7.73	44.572		
1,800.0	1,770.5	1,771.6	1,771.6	6.7	3.8	172.95	-1.8	-99.9	368.7	360.5	8.19	44.990		
1,900.0	1,867.5	1,870.3	1,870.2	7.2	4.0	172.93	-4.9	-100.4	392.5	383.8	8.64	45.406		
2,000.0	1,964.5	1,969.0	1,968.8	7.7	4.2	172.56	-10.5	-101.3	415.9	406.8	9.10	45.707		
2,100.0	2,061.5	2,067.8	2,067.2	8.3	4.4	171.88	-18.6	-102.7	438.9	429.4	9.57	45.854		
2,200.0	2,158.4	2,166.4	2,165.2	8.8	4.6	170.96	-29.2	-104.4	461.8	451.7	10.07	45.850		
2,300.0	2,255.4	2,264.7	2,262.6	9.3	4.8	169.82	-42.2	-106.6	484.4	473.8	10.60	45.701		
2,400.0	2,352.4	2,362.4	2,359.1	9.9	5.0	168.51	-57.6	-109.1	507.0	495.9	11.16	45.425		
2,500.0	2,449.3	2,459.1	2,454.4	10.4	5.3	167.25	-73.4	-111.7	529.8	518.1	11.75	45.078		
2,600.0	2,546.3	2,555.8	2,549.8	10.9	5.5	166.09	-89.3	-114.3	552.9	540.5	12.36	44.717		
2,700.0	2,643.3	2,652.5	2,645.2	11.5	5.8	165.02	-105.1	-117.0	576.1	563.1	12.99	44.341		
2,800.0	2,740.2	2,749.2	2,740.6	12.0	6.1	164.04	-121.0	-119.6	599.5	585.9	13.64	43.963		
2,900.0	2,837.2	2,846.0	2,835.9	12.5	6.4	163.13	-136.9	-122.2	623.1	608.8	14.29	43.589		
3,000.0	2,934.2	2,942.7	2,931.3	13.1	6.7	162.28	-152.7	-124.8	646.8	631.8	14.96	43.224		
3,100.0	3,031.1	3,039.4	3,026.7	13.6	7.0	161.49	-168.6	-127.4	670.6	654.9	15.64	42.871		
3,200.0	3,128.1	3,136.1	3,122.1	14.1	7.3	160.76	-184.4	-130.0	694.5	678.2	16.33	42.532		
3,300.0	3,225.1	3,232.8	3,217.4	14.7	7.7	160.08	-200.3	-132.7	718.6	701.5	17.03	42.207		
3,400.0	3,322.1	3,329.6	3,312.8	15.2	8.0	159.44	-216.1	-135.3	742.7	725.0	17.73	41.897		
3,500.0	3,419.0	3,426.3	3,408.2	15.7	8.3	158.84	-232.0	-137.9	766.9	748.5	18.43	41.602		
3,600.0	3,516.0	3,523.0	3,503.6	16.3	8.7	158.28	-247.9	-140.5	791.2	772.1	19.15	41.321		
3,700.0	3,613.0	3,619.7	3,598.9	16.8	9.0	157.75	-263.7	-143.1	815.6	795.7	19.86	41.056		
3,800.0	3,709.9	3,716.4	3,694.3	17.3	9.4	157.25	-279.6	-145.8	840.0	819.4	20.59	40.803		
3,900.0	3,806.9	3,813.2	3,789.7	17.9	9.7	156.78	-295.4	-148.4	864.5	843.1	21.31	40.564		
4,000.0	3,903.9	3,909.9	3,885.1	18.4	10.1	156.33	-311.3	-151.0	889.0	866.9	22.04	40.338		
4,100.0	4,000.8	4,006.6	3,980.4	18.9	10.4	155.91	-327.2	-153.6	913.6	890.8	22.77	40.123		
4,200.0	4,097.8	4,103.3	4,075.8	19.5	10.8	155.51	-343.0	-156.2	938.2	914.7	23.50	39.919		
4,300.0	4,194.8	4,200.0	4,171.2	20.0	11.1	155.13	-358.9	-158.8	962.8	938.6	24.24	39.725		
4,400.0	4,291.8	4,296.8	4,266.6	20.5	11.5	154.77	-374.7	-161.5	987.5	962.6	24.97	39.542		
4,500.0	4,388.7	4,393.5	4,361.9	21.1	11.8	154.43	-390.6	-164.1	1,012.3	986.5	25.71	39.367		
4,600.0	4,485.7	4,490.2	4,457.3	21.6	12.2	154.10	-406.5	-166.7	1,037.0	1,010.6	26.45	39.201		
4,700.0	4,582.7	4,586.9	4,552.7	22.1	12.5	153.79	-422.3	-169.3	1,061.8	1,034.6	27.20	39.043		
4,800.0	4,679.6	4,683.6	4,648.1	22.7	12.9	153.49	-438.2	-171.9	1,086.6	1,058.7	27.94	38.893		
4,900.0	4,776.6	4,780.4	4,743.4	23.2	13.3	153.21	-454.0	-174.6	1,111.5	1,082.8	28.68	38.749		
5,000.0	4,873.6	4,877.1	4,838.8	23.7	13.6	152.94	-469.9	-177.2	1,136.4	1,106.9	29.43	38.613		
5,100.0	4,970.5	4,973.8	4,934.2	24.3	14.0	152.68	-485.8	-179.8	1,161.3	1,131.1	30.18	38.482		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Critter Creek 18 SW Pad Sec.18-T11N-R63W - Critter Creek 537-1807H - Wellbore #1 - Plan #1 (3-1-17)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,067.5	5,070.5	5,029.6	24.8	14.4	152.43	-501.6	-182.4	1,186.2	1,155.3	30.92	38.357 SF	

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-91.26	-1.1	-50.0	50.0					
100.0	100.0	100.0	100.0	0.1	0.1	-91.26	-1.1	-50.0	50.0	49.8	0.22	222.622		
200.0	200.0	200.0	200.0	0.3	0.3	-91.26	-1.1	-50.0	50.0	49.4	0.67	74.207 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	154.31	-1.1	-50.0	51.2	50.1	1.12	45.871		
400.0	399.9	399.9	399.9	0.8	0.8	156.07	-1.1	-50.0	54.8	53.2	1.56	35.010		
500.0	499.7	499.7	499.7	1.0	1.0	158.54	-1.1	-50.0	60.8	58.8	2.03	30.021		
600.0	599.3	599.3	599.3	1.3	1.2	161.26	-1.1	-50.0	69.4	66.9	2.49	27.837		
700.0	698.6	698.6	698.6	1.5	1.5	163.90	-1.1	-50.0	80.6	77.7	2.96	27.198		
800.0	797.5	797.5	797.5	1.9	1.7	166.26	-1.1	-50.0	94.5	91.1	3.44	27.494		
900.0	896.1	896.1	896.1	2.2	1.9	168.28	-1.1	-50.0	111.0	107.1	3.91	28.393		
1,000.0	994.2	994.2	994.2	2.6	2.1	169.97	-1.1	-50.0	130.2	125.8	4.38	29.699		
1,100.0	1,091.7	1,091.7	1,091.7	3.1	2.3	171.37	-1.1	-50.0	152.0	147.2	4.86	31.287		
1,200.0	1,188.7	1,188.7	1,188.7	3.6	2.6	172.53	-1.1	-50.0	176.0	170.7	5.33	33.042		
1,300.0	1,285.7	1,285.7	1,285.7	4.1	2.8	173.44	-1.1	-50.0	200.2	194.5	5.79	34.569		
1,400.0	1,382.7	1,382.7	1,382.7	4.6	3.0	174.15	-1.1	-50.0	224.5	218.3	6.26	35.850		
1,500.0	1,479.6	1,479.6	1,479.6	5.1	3.2	174.73	-1.1	-50.0	248.9	242.1	6.74	36.937		
1,600.0	1,576.6	1,576.6	1,576.6	5.6	3.4	175.20	-1.1	-50.0	273.2	266.0	7.21	37.869		
1,700.0	1,673.6	1,673.6	1,673.6	6.2	3.6	175.59	-1.1	-50.0	297.6	289.9	7.69	38.677		
1,800.0	1,770.5	1,770.5	1,770.5	6.7	3.9	175.92	-1.1	-50.0	321.9	313.8	8.17	39.381		
1,900.0	1,867.5	1,867.5	1,867.5	7.2	4.1	176.21	-1.1	-50.0	346.3	337.7	8.66	40.001		
2,000.0	1,964.5	1,970.8	1,970.8	7.7	4.3	176.43	-1.6	-49.6	370.2	361.0	9.14	40.511		
2,100.0	2,061.5	2,078.2	2,078.2	8.3	4.5	176.47	-4.1	-47.1	391.6	382.0	9.60	40.794		
2,200.0	2,158.4	2,186.8	2,186.6	8.8	4.7	176.32	-8.8	-42.5	410.6	400.5	10.07	40.781		
2,300.0	2,255.4	2,296.4	2,295.7	9.3	4.9	176.01	-15.8	-35.6	427.0	416.4	10.55	40.476		
2,400.0	2,352.4	2,406.8	2,405.4	9.9	5.2	175.55	-25.0	-26.5	440.8	429.8	11.05	39.907		
2,500.0	2,449.3	2,517.9	2,515.2	10.4	5.4	174.95	-36.7	-15.1	452.0	440.5	11.56	39.102		
2,600.0	2,546.3	2,629.4	2,625.0	10.9	5.7	174.20	-50.6	-1.3	460.7	448.6	12.10	38.085		
2,700.0	2,643.3	2,733.7	2,727.2	11.5	6.0	173.40	-65.4	13.2	467.3	454.7	12.64	36.981		
2,800.0	2,740.2	2,833.3	2,824.7	12.0	6.3	172.64	-79.6	27.2	473.8	460.6	13.18	35.940		
2,900.0	2,837.2	2,932.9	2,922.3	12.5	6.7	171.90	-93.9	41.2	480.4	466.6	13.74	34.952		
3,000.0	2,934.2	3,032.4	3,019.9	13.1	7.0	171.18	-108.1	55.3	487.0	472.7	14.32	34.015		
3,100.0	3,031.1	3,132.0	3,117.4	13.6	7.3	170.48	-122.4	69.3	493.8	478.9	14.91	33.126		
3,200.0	3,128.1	3,231.6	3,215.0	14.1	7.7	169.80	-136.6	83.3	500.6	485.1	15.51	32.283		
3,300.0	3,225.1	3,331.2	3,312.5	14.7	8.1	169.13	-150.9	97.3	507.5	491.3	16.12	31.483		
3,400.0	3,322.1	3,430.8	3,410.1	15.2	8.5	168.49	-165.2	111.4	514.4	497.7	16.74	30.724		
3,500.0	3,419.0	3,530.4	3,507.7	15.7	8.9	167.86	-179.4	125.4	521.4	504.0	17.38	30.004		
3,600.0	3,516.0	3,630.0	3,605.2	16.3	9.3	167.25	-193.7	139.4	528.5	510.5	18.02	29.321		
3,700.0	3,613.0	3,729.6	3,702.8	16.8	9.7	166.65	-207.9	153.5	535.6	516.9	18.68	28.672		
3,800.0	3,709.9	3,829.2	3,800.4	17.3	10.1	166.07	-222.2	167.5	542.8	523.4	19.35	28.057		
3,900.0	3,806.9	3,928.8	3,897.9	17.9	10.5	165.51	-236.5	181.5	550.0	530.0	20.02	27.472		
4,000.0	3,903.9	4,028.4	3,995.5	18.4	10.9	164.96	-250.7	195.5	557.3	536.6	20.71	26.916		
4,100.0	4,000.8	4,128.0	4,093.1	18.9	11.3	164.42	-265.0	209.6	564.6	543.2	21.40	26.387		
4,200.0	4,097.8	4,227.6	4,190.6	19.5	11.7	163.90	-279.2	223.6	572.0	549.9	22.10	25.884		
4,300.0	4,194.8	4,327.2	4,288.2	20.0	12.1	163.39	-293.5	237.6	579.5	556.7	22.81	25.406		
4,400.0	4,291.8	4,426.7	4,385.7	20.5	12.6	162.90	-307.7	251.6	586.9	563.4	23.52	24.950		
4,500.0	4,388.7	4,526.3	4,483.3	21.1	13.0	162.41	-322.0	265.7	594.5	570.2	24.25	24.516		
4,600.0	4,485.7	4,625.9	4,580.9	21.6	13.4	161.94	-336.3	279.7	602.0	577.0	24.98	24.102		
4,700.0	4,582.7	4,725.5	4,678.4	22.1	13.8	161.48	-350.5	293.7	609.6	583.9	25.71	23.708		
4,800.0	4,679.6	4,825.1	4,776.0	22.7	14.3	161.03	-364.8	307.8	617.2	590.8	26.46	23.331		
4,900.0	4,776.6	4,924.7	4,873.6	23.2	14.7	160.60	-379.0	321.8	624.9	597.7	27.21	22.971		
5,000.0	4,873.6	5,024.3	4,971.1	23.7	15.1	160.17	-393.3	335.8	632.6	604.7	27.96	22.627		
5,100.0	4,970.5	5,123.9	5,068.7	24.3	15.6	159.75	-407.6	349.8	640.4	611.7	28.72	22.298		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,067.5	5,223.5	5,166.3	24.8	16.0	159.35	-421.8	363.9	648.2	618.7	29.48	21.984		
5,300.0	5,164.5	5,323.1	5,263.8	25.3	16.4	158.95	-436.1	377.9	656.0	625.7	30.25	21.683		
5,400.0	5,261.5	5,422.7	5,361.4	25.9	16.9	158.56	-450.3	391.9	663.8	632.8	31.03	21.394		
5,500.0	5,358.4	5,522.3	5,458.9	26.4	17.3	158.18	-464.6	405.9	671.7	639.9	31.81	21.118		
5,600.0	5,455.4	5,621.9	5,556.5	27.0	17.8	157.81	-478.8	420.0	679.6	647.0	32.59	20.853		
5,700.0	5,552.4	5,721.5	5,654.1	27.5	18.2	157.45	-493.1	434.0	687.5	654.1	33.38	20.598		
5,800.0	5,649.3	5,821.0	5,751.6	28.0	18.6	157.10	-507.4	448.0	695.4	661.3	34.17	20.354		
5,900.0	5,746.3	5,920.6	5,849.2	28.6	19.1	156.75	-521.6	462.1	703.4	668.5	34.96	20.120		
6,000.0	5,843.3	6,020.2	5,946.8	29.1	19.5	156.42	-535.9	476.1	711.4	675.7	35.76	19.894		
6,100.0	5,940.2	6,119.8	6,044.3	29.6	20.0	156.09	-550.1	490.1	719.4	682.9	36.56	19.678		
6,200.0	6,037.2	6,219.4	6,141.9	30.2	20.4	155.77	-564.4	504.1	727.5	690.1	37.37	19.469		
6,300.0	6,134.2	6,316.7	6,237.2	30.7	20.8	155.47	-578.3	517.8	735.4	697.2	38.16	19.271		
6,400.0	6,231.9	6,400.0	6,319.1	31.0	21.1	155.28	-589.1	528.5	742.1	703.4	38.78	19.138		
6,500.0	6,330.2	6,485.2	6,403.3	31.3	21.4	155.11	-598.4	537.6	747.8	708.5	39.29	19.033		
6,600.0	6,429.1	6,569.5	6,487.0	31.6	21.6	154.98	-605.9	544.9	752.4	712.7	39.72	18.943		
6,700.0	6,528.5	6,653.8	6,570.9	31.8	21.8	154.89	-611.6	550.5	756.0	715.9	40.07	18.864		
6,800.0	6,628.2	6,738.2	6,655.1	32.0	21.9	154.82	-615.5	554.4	758.4	718.1	40.35	18.796		
6,900.0	6,728.1	6,822.5	6,739.3	32.1	22.1	154.78	-617.6	556.5	759.7	719.2	40.55	18.738		
7,000.0	6,828.1	6,911.3	6,828.1	32.2	22.2	-90.16	-618.1	557.0	760.0	719.3	40.73	18.661		
7,100.0	6,928.1	7,011.3	6,928.1	32.3	22.3	-90.16	-618.1	557.0	760.0	719.0	41.00	18.535		
7,200.0	7,028.1	7,111.4	7,028.2	32.4	22.4	-90.14	-616.9	557.0	760.0	718.8	41.27	18.415		
7,300.0	7,127.2	7,211.6	7,127.5	32.4	22.5	-90.15	-604.1	557.0	760.0	718.7	41.35	18.383		
7,400.0	7,223.5	7,311.9	7,224.1	32.4	22.4	-90.15	-577.6	557.0	760.0	718.8	41.21	18.444		
7,500.0	7,315.2	7,412.2	7,316.1	32.3	22.3	-90.15	-537.8	556.9	760.0	719.1	40.90	18.584		
7,600.0	7,400.5	7,512.5	7,401.6	32.1	22.1	-90.14	-485.6	556.9	760.0	719.6	40.48	18.778		
7,700.0	7,477.7	7,612.7	7,478.9	31.9	21.8	-90.13	-421.9	556.9	760.0	720.0	40.02	18.993		
7,800.0	7,545.4	7,712.9	7,546.6	31.7	21.6	-90.12	-348.1	556.8	760.0	720.4	39.60	19.191		
7,900.0	7,602.2	7,813.1	7,603.3	31.4	21.3	-90.10	-265.6	556.8	760.0	720.7	39.32	19.328		
8,000.0	7,646.9	7,913.3	7,647.9	31.2	21.0	-90.08	-176.0	556.8	760.0	720.8	39.25	19.362		
8,100.0	7,678.8	8,013.4	7,679.5	31.0	20.7	-90.05	-81.1	556.7	760.1	720.6	39.46	19.261		
8,200.0	7,697.2	8,113.5	7,697.5	30.8	20.4	-90.02	17.3	556.7	760.1	720.1	39.98	19.012		
8,300.0	7,702.0	8,213.5	7,702.0	30.7	20.2	-90.00	117.1	556.6	760.1	719.3	40.78	18.636		
8,400.0	7,702.0	8,313.5	7,702.0	30.6	19.9	-90.00	217.1	556.6	760.1	718.4	41.70	18.225		
8,500.0	7,702.0	8,413.5	7,702.0	30.6	20.6	-90.00	317.1	556.5	760.1	717.3	42.78	17.768		
8,600.0	7,702.0	8,513.5	7,702.0	30.8	21.4	-90.00	417.1	556.5	760.1	715.9	44.16	17.211		
8,700.0	7,702.0	8,613.5	7,702.0	31.1	22.3	-90.00	517.1	556.4	760.1	714.2	45.83	16.585		
8,800.0	7,702.0	8,713.5	7,702.0	31.5	23.3	-90.00	617.1	556.4	760.1	712.3	47.75	15.917		
8,900.0	7,702.0	8,813.5	7,702.0	32.2	24.4	-90.00	717.1	556.4	760.1	710.2	49.90	15.232		
9,000.0	7,702.0	8,913.5	7,702.0	32.9	25.5	-90.00	817.1	556.3	760.1	707.8	52.25	14.548		
9,100.0	7,702.0	9,013.5	7,702.0	33.9	26.8	-90.00	917.1	556.3	760.1	705.3	54.76	13.879		
9,200.0	7,702.0	9,113.5	7,702.0	35.0	28.1	-90.00	1,017.1	556.2	760.1	702.7	57.43	13.234		
9,300.0	7,702.0	9,213.5	7,702.0	36.2	29.4	-90.00	1,117.1	556.2	760.1	699.9	60.23	12.620		
9,400.0	7,702.0	9,313.5	7,702.0	37.5	30.8	-90.00	1,217.1	556.1	760.1	697.0	63.14	12.038		
9,500.0	7,702.0	9,413.5	7,702.0	38.8	32.3	-90.00	1,317.1	556.1	760.1	694.0	66.15	11.491		
9,600.0	7,702.0	9,513.5	7,702.0	40.2	33.8	-90.00	1,417.1	556.0	760.1	690.9	69.24	10.977		
9,700.0	7,702.0	9,613.5	7,702.0	41.7	35.3	-90.00	1,517.1	556.0	760.1	687.7	72.41	10.497		
9,800.0	7,702.0	9,713.5	7,702.0	43.2	36.9	-90.00	1,617.1	555.9	760.1	684.5	75.64	10.049		
9,900.0	7,702.0	9,813.5	7,702.0	44.7	38.5	-90.00	1,717.1	555.9	760.1	681.2	78.93	9.631		
10,000.0	7,702.0	9,913.5	7,702.0	46.3	40.2	-90.00	1,817.1	555.9	760.1	677.9	82.26	9.240		
10,100.0	7,702.0	10,013.5	7,702.0	47.9	41.8	-90.00	1,917.1	555.8	760.1	674.5	85.65	8.875		
10,200.0	7,702.0	10,113.5	7,702.0	49.5	43.5	-90.00	2,017.1	555.8	760.1	671.1	89.07	8.534		
10,300.0	7,702.0	10,213.5	7,702.0	51.2	45.2	-90.00	2,117.1	555.7	760.1	667.6	92.52	8.216		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design		Critter Creek 18 SW Pad Sec.18-T11N-R63W - Critter Creek 539-1807H - Wellbore #1 - Plan #1 (2-28-1)											Offset Site Error:		0.0 ft
Survey Program:		0-MWD											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation			
Depth	Depth	Depth	Depth	Reference	Offset	Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
10,400.0	7,702.0	10,313.5	7,702.0	52.9	46.9	-90.00	2,217.1	555.7	760.1	664.1	96.00	7.918			
10,500.0	7,702.0	10,413.5	7,702.0	54.5	48.6	-90.00	2,317.1	555.6	760.1	660.6	99.52	7.638			
10,600.0	7,702.0	10,513.5	7,702.0	56.3	50.3	-90.00	2,417.1	555.6	760.1	657.1	103.05	7.376			
10,700.0	7,702.0	10,613.5	7,702.0	58.0	52.1	-90.00	2,517.1	555.5	760.1	653.5	106.61	7.130			
10,800.0	7,702.0	10,713.5	7,702.0	59.7	53.9	-90.00	2,617.1	555.5	760.1	649.9	110.19	6.898			
10,900.0	7,702.0	10,813.5	7,702.0	61.4	55.6	-90.00	2,717.2	555.5	760.1	646.3	113.79	6.680			
11,000.0	7,702.0	10,913.5	7,702.0	63.2	57.4	-90.00	2,817.2	555.4	760.1	642.7	117.40	6.475			
11,100.0	7,702.0	11,013.5	7,702.0	64.9	59.2	-90.00	2,917.2	555.4	760.1	639.1	121.03	6.281			
11,200.0	7,702.0	11,113.5	7,702.0	66.7	61.0	-90.00	3,017.2	555.3	760.1	635.5	124.67	6.097			
11,300.0	7,702.0	11,213.5	7,702.0	68.5	62.8	-90.00	3,117.2	555.3	760.1	631.8	128.33	5.923			
11,400.0	7,702.0	11,313.5	7,702.0	70.3	64.6	-90.00	3,217.2	555.2	760.1	628.1	131.99	5.759			
11,500.0	7,702.0	11,413.5	7,702.0	72.1	66.5	-90.00	3,317.2	555.2	760.1	624.5	135.67	5.603			
11,600.0	7,702.0	11,513.5	7,702.0	73.9	68.3	-90.00	3,417.2	555.2	760.1	620.8	139.36	5.455			
11,700.0	7,702.0	11,613.5	7,702.0	75.7	70.1	-90.00	3,517.2	555.1	760.1	617.1	143.05	5.314			
11,800.0	7,702.0	11,713.6	7,702.0	77.5	71.9	-90.00	3,617.2	555.1	760.1	613.4	146.76	5.180			
11,900.0	7,702.0	11,813.6	7,702.0	79.3	73.8	-90.00	3,717.2	555.0	760.1	609.7	150.47	5.052			
12,000.0	7,702.0	11,913.6	7,702.0	81.1	75.6	-90.00	3,817.2	555.0	760.1	606.0	154.19	4.930			
12,100.0	7,702.0	12,013.6	7,702.0	82.9	77.5	-90.00	3,917.2	554.9	760.1	602.2	157.91	4.814			
12,200.0	7,702.0	12,113.6	7,702.0	84.8	79.3	-90.00	4,017.2	554.9	760.1	598.5	161.64	4.703			
12,300.0	7,702.0	12,213.6	7,702.0	86.6	81.2	-90.00	4,117.2	554.9	760.1	594.8	165.38	4.596			
12,400.0	7,702.0	12,313.6	7,702.0	88.4	83.0	-90.00	4,217.2	554.8	760.1	591.0	169.12	4.495			
12,500.0	7,702.0	12,413.6	7,702.0	90.3	84.9	-90.00	4,317.2	554.8	760.1	587.3	172.87	4.397			
12,600.0	7,702.0	12,513.6	7,702.0	92.1	86.8	-90.00	4,417.2	554.7	760.1	583.5	176.62	4.304			
12,700.0	7,702.0	12,613.6	7,702.0	94.0	88.6	-90.00	4,517.2	554.7	760.1	579.8	180.38	4.214			
12,800.0	7,702.0	12,713.6	7,702.0	95.8	90.5	-90.00	4,617.2	554.6	760.1	576.0	184.14	4.128			
12,900.0	7,702.0	12,813.6	7,702.0	97.7	92.4	-90.00	4,717.2	554.6	760.1	572.2	187.90	4.045			
13,000.0	7,702.0	12,913.6	7,702.0	99.5	94.3	-90.00	4,817.2	554.6	760.1	568.5	191.67	3.966			
13,100.0	7,702.0	13,013.6	7,702.0	101.4	96.1	-90.00	4,917.2	554.5	760.1	564.7	195.44	3.889			
13,200.0	7,702.0	13,113.6	7,702.0	103.3	98.0	-90.00	5,017.2	554.5	760.1	560.9	199.21	3.816			
13,300.0	7,702.0	13,213.6	7,702.0	105.1	99.9	-90.00	5,117.2	554.4	760.1	557.1	202.99	3.745			
13,400.0	7,702.0	13,313.6	7,702.0	107.0	101.8	-90.00	5,217.2	554.4	760.1	553.4	206.77	3.676			
13,500.0	7,702.0	13,413.6	7,702.0	108.9	103.7	-90.00	5,317.2	554.4	760.1	549.6	210.56	3.610			
13,600.0	7,702.0	13,513.6	7,702.0	110.7	105.5	-90.00	5,417.2	554.3	760.1	545.8	214.34	3.546			
13,700.0	7,702.0	13,613.6	7,702.0	112.6	107.4	-90.00	5,517.2	554.3	760.1	542.0	218.13	3.485			
13,800.0	7,702.0	13,713.6	7,702.0	114.5	109.3	-90.00	5,617.2	554.2	760.1	538.2	221.92	3.425			
13,900.0	7,702.0	13,813.6	7,702.0	116.4	111.2	-90.00	5,717.2	554.2	760.1	534.4	225.71	3.368			
14,000.0	7,702.0	13,913.6	7,702.0	118.2	113.1	-90.00	5,817.2	554.2	760.1	530.6	229.51	3.312			
14,100.0	7,702.0	14,013.6	7,702.0	120.1	115.0	-90.00	5,917.2	554.1	760.1	526.8	233.30	3.258			
14,200.0	7,702.0	14,113.6	7,702.0	122.0	116.9	-90.00	6,017.2	554.1	760.1	523.0	237.10	3.206			
14,300.0	7,702.0	14,213.6	7,702.0	123.9	118.8	-90.00	6,117.2	554.0	760.1	519.2	240.90	3.155			
14,400.0	7,702.0	14,313.6	7,702.0	125.8	120.7	-90.00	6,217.2	554.0	760.1	515.4	244.71	3.106			
14,500.0	7,702.0	14,413.6	7,702.0	127.6	122.6	-90.00	6,317.2	554.0	760.1	511.6	248.51	3.059			
14,600.0	7,702.0	14,513.6	7,702.0	129.5	124.5	-90.00	6,417.2	553.9	760.1	507.8	252.32	3.013			
14,700.0	7,702.0	14,613.6	7,702.0	131.4	126.4	-90.00	6,517.2	553.9	760.1	504.0	256.12	2.968			
14,800.0	7,702.0	14,713.6	7,702.0	133.3	128.3	-90.00	6,617.2	553.8	760.1	500.2	259.93	2.924			
14,900.0	7,702.0	14,813.6	7,702.0	135.2	130.2	-90.00	6,717.2	553.8	760.1	496.4	263.74	2.882			
15,000.0	7,702.0	14,913.6	7,702.0	137.1	132.1	-90.00	6,817.2	553.8	760.1	492.5	267.55	2.841			
15,100.0	7,702.0	15,013.6	7,702.0	139.0	134.0	-90.00	6,917.2	553.7	760.1	488.7	271.37	2.801			
15,200.0	7,702.0	15,113.6	7,702.0	140.9	135.9	-90.00	7,017.2	553.7	760.1	484.9	275.18	2.762			
15,300.0	7,702.0	15,213.6	7,702.0	142.7	137.8	-90.00	7,117.2	553.6	760.1	481.1	278.99	2.724			
15,400.0	7,702.0	15,313.6	7,702.0	144.6	139.7	-90.00	7,217.2	553.6	760.1	477.3	282.81	2.688			
15,500.0	7,702.0	15,413.6	7,702.0	146.5	141.6	-90.00	7,317.2	553.6	760.1	473.5	286.63	2.652			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
15,600.0	7,702.0	15,513.6	7,702.0	148.4	143.5	-90.00	7,417.2	553.5	760.1	469.6	290.44	2.617		
15,700.0	7,702.0	15,613.6	7,702.0	150.3	145.4	-90.00	7,517.2	553.5	760.1	465.8	294.26	2.583		
15,800.0	7,702.0	15,713.6	7,702.0	152.2	147.3	-90.00	7,617.2	553.5	760.1	462.0	298.08	2.550		
15,900.0	7,702.0	15,813.6	7,702.0	154.1	149.2	-90.00	7,717.2	553.4	760.1	458.2	301.90	2.518		
16,000.0	7,702.0	15,913.6	7,702.0	156.0	151.1	-90.00	7,817.2	553.4	760.1	454.3	305.73	2.486		
16,100.0	7,702.0	16,013.6	7,702.0	157.9	153.0	-90.00	7,917.2	553.3	760.1	450.5	309.55	2.455		
16,200.0	7,702.0	16,113.6	7,702.0	159.8	154.9	-90.00	8,017.2	553.3	760.1	446.7	313.37	2.425		
16,300.0	7,702.0	16,213.6	7,702.0	161.7	156.8	-90.00	8,117.2	553.3	760.0	442.9	317.20	2.396		
16,400.0	7,702.0	16,313.6	7,702.0	163.6	158.7	-90.00	8,217.2	553.2	760.0	439.0	321.02	2.368		
16,500.0	7,702.0	16,413.6	7,702.0	165.5	160.7	-90.00	8,317.2	553.2	760.0	435.2	324.85	2.340		
16,600.0	7,702.0	16,513.6	7,702.0	167.4	162.6	-90.00	8,417.2	553.1	760.0	431.4	328.67	2.312		
16,700.0	7,702.0	16,613.6	7,702.0	169.3	164.5	-90.00	8,517.2	553.1	760.0	427.5	332.50	2.286		
16,800.0	7,702.0	16,713.6	7,702.0	171.2	166.4	-90.00	8,617.2	553.1	760.0	423.7	336.33	2.260		
16,900.0	7,702.0	16,813.6	7,702.0	173.1	168.3	-90.00	8,717.2	553.0	760.0	419.9	340.16	2.234		
17,000.0	7,702.0	16,913.6	7,702.0	175.0	170.2	-90.00	8,817.2	553.0	760.0	416.0	343.99	2.209		
17,100.0	7,702.0	17,013.6	7,702.0	176.9	172.1	-90.00	8,917.2	553.0	760.0	412.2	347.81	2.185		
17,200.0	7,702.0	17,113.6	7,702.0	178.9	174.0	-90.00	9,017.2	552.9	760.0	408.4	351.65	2.161		
17,300.0	7,702.0	17,213.6	7,702.0	180.8	175.9	-90.00	9,117.2	552.9	760.0	404.5	355.48	2.138		
17,400.0	7,702.0	17,313.6	7,702.0	182.7	177.9	-90.00	9,217.2	552.9	760.0	400.7	359.31	2.115		
17,500.0	7,702.0	17,413.6	7,702.0	184.6	179.8	-90.00	9,317.2	552.8	760.0	396.8	363.14	2.093		
17,600.0	7,702.0	17,513.6	7,702.0	186.5	181.7	-90.00	9,417.2	552.8	760.0	393.0	366.97	2.071		
17,700.0	7,702.0	17,613.6	7,702.0	188.4	183.6	-90.00	9,517.2	552.7	760.0	389.2	370.80	2.050		
17,800.0	7,702.0	17,713.6	7,702.0	190.3	185.5	-90.00	9,617.2	552.7	760.0	385.3	374.64	2.029		
17,900.0	7,702.0	17,813.6	7,702.0	192.2	187.4	-90.00	9,717.2	552.7	760.0	381.5	378.47	2.008		
18,000.0	7,702.0	17,913.6	7,702.0	194.1	189.3	-90.00	9,817.2	552.6	760.0	377.6	382.30	1.988		
18,100.0	7,702.0	18,013.6	7,702.0	196.0	191.3	-90.00	9,917.2	552.6	759.9	373.8	386.14	1.968		
18,200.0	7,702.0	18,113.6	7,702.0	197.9	193.2	-90.00	10,017.2	552.6	759.9	370.0	389.96	1.949		
18,269.8	7,702.0	18,183.4	7,702.0	199.3	194.4	-90.00	10,087.1	552.5	759.9	367.4	392.56	1.936 SF		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.18-T11N-R63W - Critter Creek 11-07H (Exist.) - Wellbore #2 - Wellbore #2													Offset Site Error:	0.0 ft
Survey Program: 1500-MWD, 6525-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
15,900.0	7,702.0	10,562.9	7,546.4	154.1	74.2	79.65	8,494.0	2,203.9	1,192.6	977.3	215.24	5.541		
16,000.0	7,702.0	10,609.0	7,546.6	156.0	75.3	79.31	8,529.2	2,173.9	1,128.4	910.7	217.77	5.182		
16,100.0	7,702.0	10,672.0	7,546.8	157.9	76.7	78.83	8,578.1	2,134.2	1,066.0	845.5	220.50	4.834		
16,200.0	7,702.0	10,723.9	7,546.7	159.8	77.9	78.38	8,619.0	2,102.3	1,005.3	782.2	223.06	4.507		
16,300.0	7,702.0	10,807.2	7,546.8	161.7	79.8	77.61	8,685.2	2,051.7	945.4	719.5	225.96	4.184		
16,400.0	7,702.0	10,867.2	7,547.4	163.6	81.2	77.05	8,733.2	2,015.8	886.4	657.8	228.53	3.879		
16,500.0	7,702.0	10,939.5	7,547.8	165.5	82.9	76.28	8,791.6	1,973.2	828.4	597.2	231.17	3.584		
16,600.0	7,702.0	10,992.9	7,547.5	167.4	84.1	75.62	8,835.6	1,942.8	772.8	539.3	233.50	3.310		
16,700.0	7,702.0	11,082.0	7,546.9	169.3	86.2	74.39	8,909.5	1,893.1	718.5	482.5	235.95	3.045		
16,800.0	7,702.0	11,171.8	7,546.9	171.2	88.2	72.98	8,983.6	1,842.5	663.8	425.7	238.11	2.788		
16,900.0	7,702.0	11,259.9	7,546.8	173.1	90.2	71.30	9,055.8	1,791.9	608.4	368.6	239.78	2.537		
17,000.0	7,702.0	11,344.4	7,546.3	175.0	92.2	69.28	9,124.6	1,742.9	552.8	312.0	240.75	2.296		
17,100.0	7,702.0	11,424.0	7,545.6	176.9	94.0	66.93	9,189.4	1,696.6	497.8	257.0	240.86	2.067		
17,200.0	7,702.0	11,499.8	7,543.9	178.9	95.8	64.09	9,251.1	1,652.8	444.3	204.5	239.71	1.853		
17,300.0	7,702.0	11,584.8	7,541.0	180.8	97.8	59.96	9,320.3	1,603.3	392.1	156.2	235.82	1.663		
17,400.0	7,702.0	11,663.1	7,538.0	182.7	99.6	55.10	9,384.0	1,557.9	342.1	113.0	229.11	1.493	Level 3	
17,500.0	7,702.0	11,754.9	7,538.4	184.6	101.7	48.38	9,458.8	1,504.7	293.1	76.4	216.66	1.353	Level 3	
17,600.0	7,702.0	11,832.9	7,539.9	186.5	103.5	40.96	9,522.2	1,459.5	247.2	47.4	199.80	1.237	Level 2	
17,700.0	7,702.0	11,915.9	7,540.5	188.4	105.4	30.42	9,590.1	1,411.6	208.5	36.7	171.82	1.213	Level 2, ES, SF	
17,800.0	7,702.0	11,997.4	7,540.7	190.3	107.3	17.14	9,656.7	1,364.6	180.5	44.2	136.30	1.324	Level 3	
17,900.0	7,702.0	12,076.3	7,540.9	192.2	109.1	2.33	9,721.4	1,319.5	168.3	55.9	112.39	1.497	Level 3	
17,912.5	7,702.0	12,086.6	7,540.9	192.4	109.3	0.36	9,729.9	1,313.7	168.1	56.4	111.70	1.505	CC	
18,000.0	7,702.0	12,114.0	7,540.8	194.1	110.0	-4.87	9,752.6	1,298.3	180.9	67.0	113.81	1.589		
18,100.0	7,702.0	12,114.0	7,540.8	196.0	110.0	-4.87	9,752.6	1,298.3	236.0	121.4	114.56	2.060		
18,200.0	7,702.0	12,114.0	7,540.8	197.9	110.0	-4.87	9,752.6	1,298.3	314.1	198.8	115.30	2.724		
18,269.8	7,702.0	12,114.0	7,540.8	199.3	110.0	-4.87	9,752.6	1,298.3	374.9	259.1	115.83	3.237		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 540-1807H
Project:	Sec.18-T11N-R63W	TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W	MD Reference:	WELL @ 5359.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Critter Creek 540-1807H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	US_EDM
Reference Design:	Plan #1 (2-27-17)	Offset TVD Reference:	Offset Datum

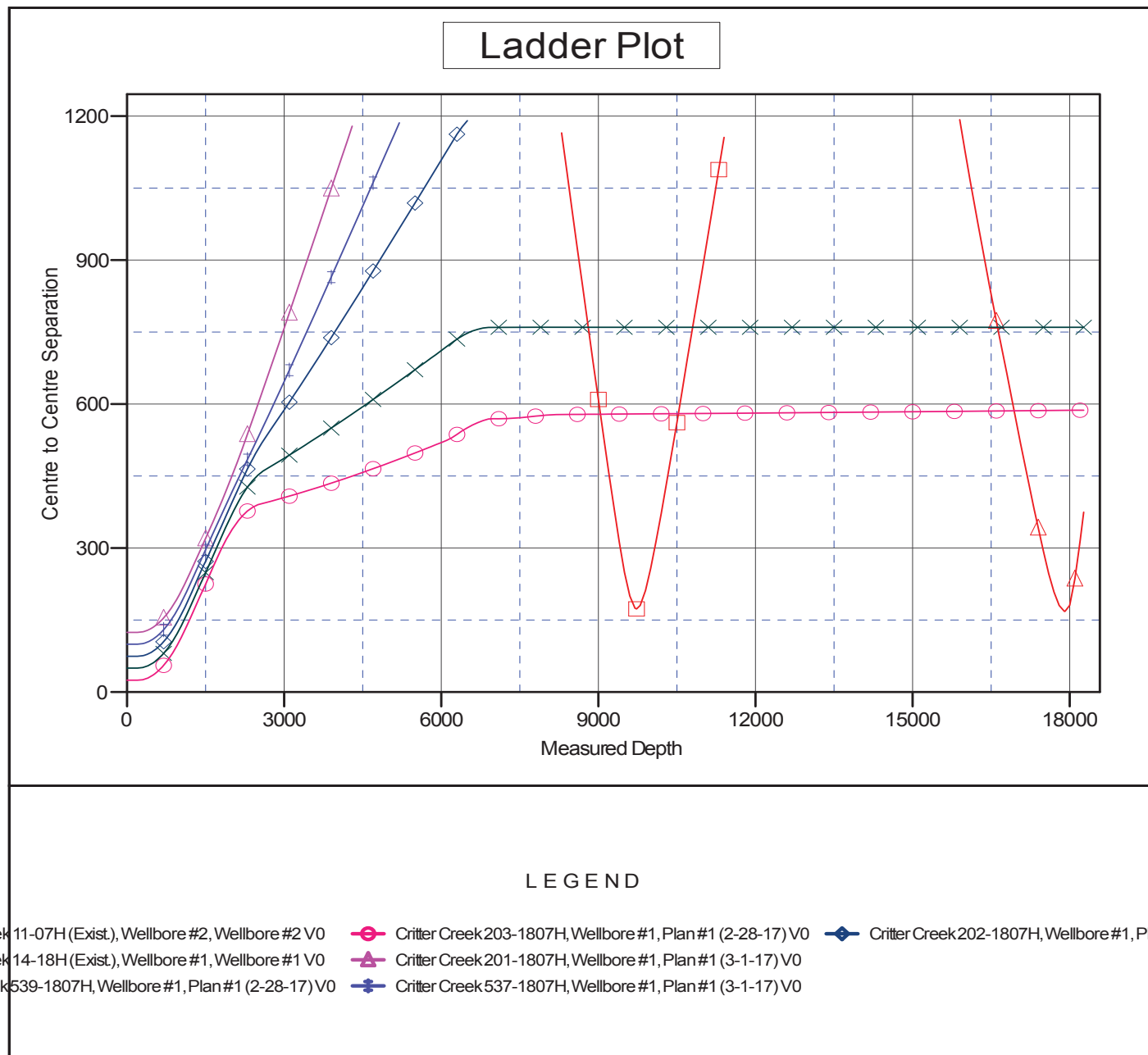
Offset Design Existing Wells Sec.18-T11N-R63W - Critter Creek 14-18H (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 1484-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,300.0	7,702.0	9,314.0	7,530.3	30.7	56.3	74.31	1,072.1	1,959.5	1,165.0	1,118.9	46.09	25.277		
8,400.0	7,702.0	9,357.7	7,530.5	30.6	57.4	73.45	1,096.9	1,923.5	1,083.6	1,036.5	47.12	23.000		
8,500.0	7,702.0	9,396.5	7,530.3	30.6	58.4	72.56	1,119.1	1,891.7	1,003.0	954.8	48.21	20.804		
8,600.0	7,702.0	9,440.0	7,530.8	30.8	59.5	71.57	1,145.0	1,856.8	923.9	874.4	49.48	18.673		
8,700.0	7,702.0	9,507.4	7,532.8	31.1	61.1	69.88	1,185.3	1,802.8	845.1	794.0	51.04	16.556		
8,800.0	7,702.0	9,566.7	7,534.3	31.5	62.6	68.08	1,220.5	1,755.2	766.4	713.8	52.53	14.589		
8,900.0	7,702.0	9,626.6	7,535.9	32.2	64.1	65.85	1,256.0	1,706.9	687.8	633.9	53.95	12.749		
9,000.0	7,702.0	9,684.6	7,536.9	32.9	65.6	63.15	1,290.3	1,660.1	609.9	554.7	55.21	11.048		
9,100.0	7,702.0	9,744.9	7,537.8	33.9	67.1	59.61	1,325.9	1,611.5	532.9	476.7	56.14	9.492		
9,200.0	7,702.0	9,800.1	7,538.2	35.0	68.5	55.43	1,358.6	1,567.0	457.2	400.7	56.59	8.080		
9,300.0	7,702.0	9,869.4	7,538.4	36.2	70.3	48.41	1,399.0	1,510.7	383.2	327.6	55.66	6.885		
9,400.0	7,702.0	9,919.9	7,538.6	37.5	71.5	41.64	1,428.1	1,469.4	312.3	258.3	53.98	5.786		
9,500.0	7,702.0	9,974.1	7,538.7	38.8	72.9	32.51	1,460.5	1,425.9	249.3	198.9	50.43	4.945		
9,600.0	7,702.0	10,031.1	7,538.2	40.2	74.3	20.58	1,495.6	1,381.0	200.4	155.6	44.82	4.471 SF		
9,700.0	7,702.0	10,094.0	7,538.0	41.7	75.9	5.44	1,535.7	1,332.6	174.8	135.9	38.89	4.494		
9,731.6	7,702.0	10,114.3	7,537.9	42.2	76.4	0.42	1,549.1	1,317.4	173.1	135.2	37.94	4.564 CC, ES		
9,800.0	7,702.0	10,161.1	7,537.5	43.2	77.5	-10.89	1,580.6	1,282.7	180.5	141.7	38.79	4.653		
9,900.0	7,702.0	10,236.6	7,537.3	44.7	79.3	-26.67	1,633.4	1,228.8	211.8	164.6	47.24	4.484		
10,000.0	7,702.0	10,309.2	7,537.6	46.3	80.9	-38.46	1,685.6	1,178.3	257.8	200.4	57.32	4.497		
10,100.0	7,702.0	10,383.1	7,537.8	47.9	82.6	-47.50	1,738.7	1,127.0	312.5	246.3	66.24	4.718		
10,200.0	7,702.0	10,451.3	7,537.2	49.5	84.2	-53.62	1,788.3	1,080.1	372.0	299.0	73.01	5.095		
10,300.0	7,702.0	10,533.9	7,536.7	51.2	86.1	-59.25	1,848.1	1,023.1	434.3	354.8	79.56	5.459		
10,400.0	7,702.0	10,605.9	7,536.5	52.9	87.8	-62.94	1,901.1	974.4	497.0	412.5	84.59	5.876		
10,500.0	7,702.0	10,674.1	7,536.2	54.5	89.4	-65.75	1,951.0	927.9	561.5	472.5	88.99	6.310		
10,600.0	7,702.0	10,744.1	7,535.9	56.3	91.0	-68.12	2,001.9	879.9	627.2	534.0	93.13	6.735		
10,700.0	7,702.0	10,817.0	7,535.9	58.0	92.7	-70.21	2,054.3	829.3	694.1	596.9	97.13	7.146		
10,800.0	7,702.0	10,917.3	7,536.2	59.7	95.0	-72.50	2,128.2	761.4	759.7	658.1	101.68	7.472		
10,900.0	7,702.0	10,989.1	7,536.4	61.4	96.7	-73.82	2,182.0	713.9	824.2	718.9	105.28	7.828		
11,000.0	7,702.0	11,057.2	7,536.6	63.2	98.3	-74.93	2,232.6	668.2	889.7	780.9	108.72	8.183		
11,100.0	7,702.0	11,132.7	7,535.4	64.9	100.0	-75.88	2,288.8	617.8	955.4	843.2	112.22	8.514		
11,200.0	7,702.0	11,196.4	7,533.9	66.7	101.5	-76.55	2,336.1	575.3	1,021.5	906.2	115.39	8.853		
11,300.0	7,702.0	11,265.4	7,531.6	68.5	103.1	-77.16	2,387.0	528.7	1,088.4	969.8	118.64	9.175		
11,400.0	7,702.0	11,331.5	7,529.7	70.3	104.6	-77.70	2,435.5	483.9	1,155.7	1,033.9	121.80	9.489		

Company:	Fifth Creek Energy Company, LLC
Project:	Sec.18-T11N-R63W
Reference Site:	Critter Creek 18 SW Pad Sec.18-T11N-R63W
Site Error:	0.0 ft
Reference Well:	Critter Creek 540-1807H
Well Error:	0.0 ft
Reference Wellbore	Wellbore #1
Reference Design:	Plan #1 (2-27-17)

Local Co-ordinate Reference:	Well Critter Creek 540-1807H
TVD Reference:	WELL @ 5359.0ft (Original Well Elev)
MD Reference:	WELL @ 5359.0ft (Original Well Elev)
North Reference:	True
Survey Calculation Method:	Minimum Curvature
Output errors are at	2.00 sigma
Database:	US_EDM
Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5359.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: Critter Creek 540-1807H
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°



Reference Depths are relative to WELL @ 5359.0ft (Original Well Elev)	Coordinates are relative to: Critter Creek 540-1807H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000	Grid Convergence at Surface is: 0.66°

