

Fifth Creek Energy Company, LLC

Well Name: **Critter Creek 539-1807H**

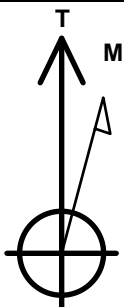
Surface Location: Critter Creek 18 SW Pad Sec.18-T11N-R63W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 5336.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1578011.22	3281291.05	40.915578	-104.482253	

Original Well Elev WELL @ 5359.0ft (Original Well Elev)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 205'FSL & 853'FWL, Sec.18	1.0	0.0	0.0	Point
BHL 300'FNL & 1460'FWL, Sec.7	7702.0	10089.1	602.5	Point
LP 300'FSL & 1460'FWL, Sec.18	7702.0	98.0	606.7	Point



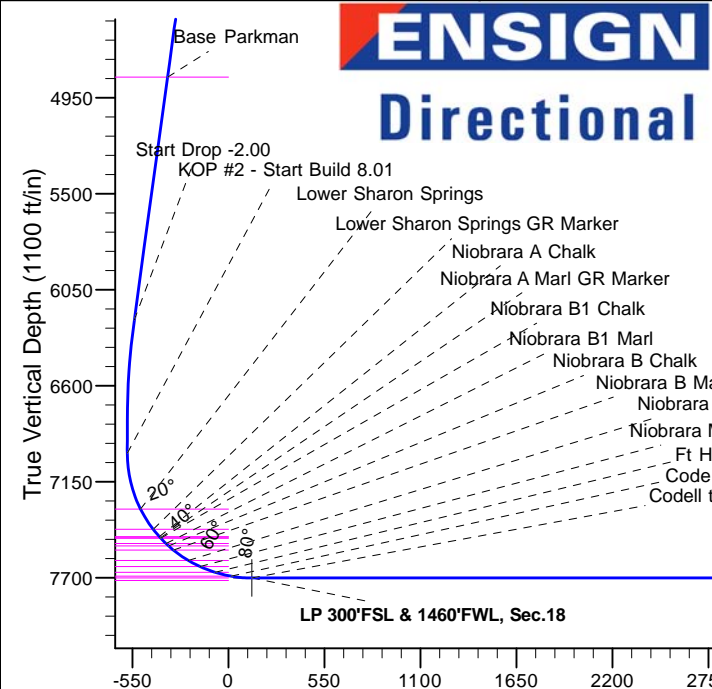
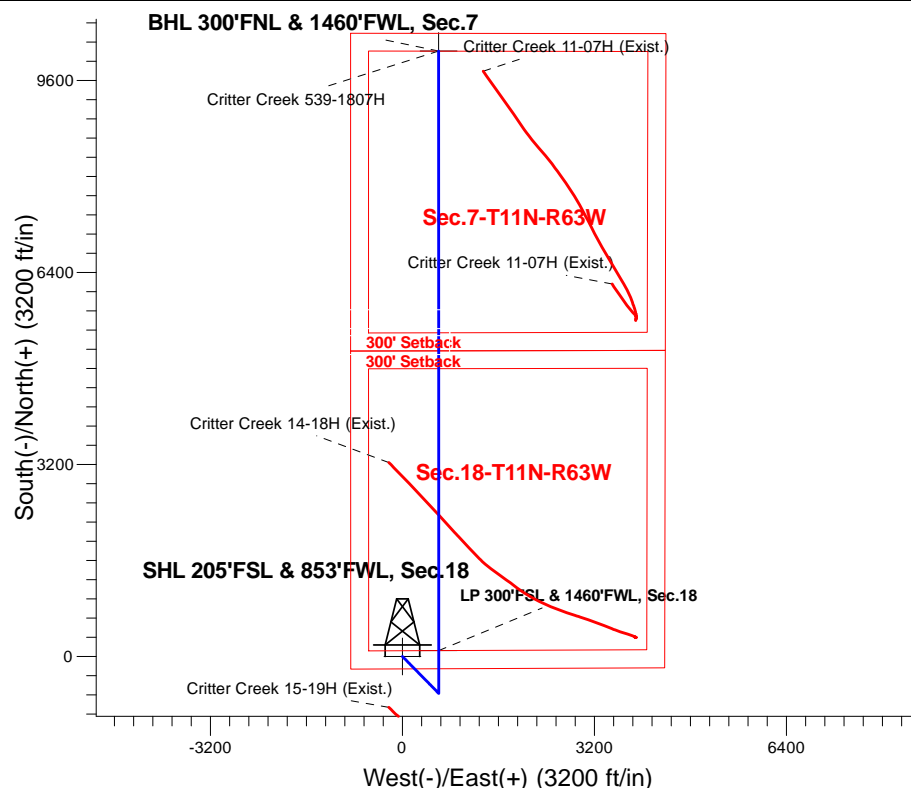
Azimuths to True North
Magnetic North: 7.98°

Magnetic Field
Strength: 52820.9snT
Dip Angle: 67.31°
Date: 3/1/2017
Model: IGRF2010

Critter Creek 18 SW Pad Sec.18-T11N-R63W
Critter Creek 539-1807H
Plan #1 (2-28-17)
17:14, March 01 2017

ANNOTATIONS

TVD	MD	Annotation
1900.0	1900.0	KOP - Start Build 1.50
6224.7	6303.9	Start Drop -2.00
6987.0	7070.2	KOP #2 - Start Build 8.01
7702.0	18184.4	TD at 18184.4



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	1900.0	0.00	0.00	1900.0	0.0	0.0	0.00	0.00	0.0	
3	2672.4	11.59	135.47	2667.1	-55.5	54.6	1.50	135.47	-52.1	
4	6303.9	11.59	135.47	6224.7	-575.4	566.1	0.00	0.00	-540.6	
5	6883.2	0.00	0.00	6800.0	-617.0	607.0	2.00	180.00	-579.7	
6	7070.2	0.00	0.00	6987.0	-617.0	607.0	0.00	0.00	-579.7	
7	8193.3	90.00	359.97	7702.0	98.0	606.7	8.01	359.97	134.0	
8	8193.3	90.00	359.97	7702.0	98.0	606.7	0.00	0.00	134.0	LP 300'FSL & 1460'FWL, Sec.18
9	18184.4	90.00	359.98	7702.0	10089.1	602.5	0.00	90.00	10107.1	BHL 300'FNL & 1460'FWL, Sec.7

BHL 300'FNL & 1460'FWL, Sec.7

TD at 18184.4

Vertical Section at 3.42° (1100 ft/in)



Fifth Creek Energy Company, LLC

Sec.18-T11N-R63W

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

Critter Creek 539-1807H

Wellbore #1

Plan: Plan #1 (2-28-17)

Standard Planning Report

01 March, 2017

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

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	Critter Creek 539-1807H					
Well Position	+N/-S	-1.1 ft	Northing:	1,578,011.22 usft	Latitude:	40.915578
	+E/-W	-50.0 ft	Easting:	3,281,291.05 usft	Longitude:	-104.482253
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	3/1/2017	7.98	67.31	52,821

Design	Plan #1 (2-28-17)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	3.42

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	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,672.4	11.59	135.47	2,667.1	-55.5	54.6	1.50	1.50	0.00	135.47	
6,303.9	11.59	135.47	6,224.7	-575.4	566.1	0.00	0.00	0.00	0.00	
6,883.2	0.00	0.00	6,800.0	-617.0	607.0	2.00	-2.00	0.00	180.00	
7,070.2	0.00	0.00	6,987.0	-617.0	607.0	0.00	0.00	0.00	0.00	
8,193.3	90.00	359.97	7,702.0	98.0	606.7	8.01	8.01	0.00	359.97	
8,193.3	90.00	359.97	7,702.0	98.0	606.7	0.00	0.00	0.00	0.00	LP 300'FSL & 1460'F
18,184.4	90.00	359.98	7,702.0	10,089.1	602.5	0.00	0.00	0.00	90.00	BHL 300'FNL & 1460'

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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 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

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 & 853'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
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,608.0	0.00	0.00	1,608.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre C&D Sand									
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.50									
2,000.0	1.50	135.47	2,000.0	-0.9	0.9	-0.9	1.50	1.50	0.00
2,100.0	3.00	135.47	2,099.9	-3.7	3.7	-3.5	1.50	1.50	0.00
2,200.0	4.50	135.47	2,199.7	-8.4	8.3	-7.9	1.50	1.50	0.00
2,300.0	6.00	135.47	2,299.3	-14.9	14.7	-14.0	1.50	1.50	0.00
2,386.3	7.29	135.47	2,385.0	-22.0	21.7	-20.7	1.50	1.50	0.00
Base Pierre C&D Sand									
2,400.0	7.50	135.47	2,398.6	-23.3	22.9	-21.9	1.50	1.50	0.00
2,500.0	9.00	135.47	2,497.5	-33.5	33.0	-31.5	1.50	1.50	0.00
2,600.0	10.50	135.47	2,596.1	-45.6	44.9	-42.8	1.50	1.50	0.00
2,672.4	11.59	135.47	2,667.1	-55.5	54.6	-52.1	1.50	1.50	0.00
2,700.0	11.59	135.47	2,694.2	-59.4	58.5	-55.8	0.00	0.00	0.00
2,800.0	11.59	135.47	2,792.1	-73.7	72.6	-69.3	0.00	0.00	0.00
2,814.1	11.59	135.47	2,806.0	-75.8	74.5	-71.2	0.00	0.00	0.00
Pierre B Sand									
2,885.6	11.59	135.47	2,876.0	-86.0	84.6	-80.8	0.00	0.00	0.00
Base Pierre B Sand									
2,900.0	11.59	135.47	2,890.1	-88.1	86.6	-82.7	0.00	0.00	0.00
3,000.0	11.59	135.47	2,988.1	-102.4	100.7	-96.2	0.00	0.00	0.00
3,100.0	11.59	135.47	3,086.0	-116.7	114.8	-109.6	0.00	0.00	0.00
3,200.0	11.59	135.47	3,184.0	-131.0	128.9	-123.1	0.00	0.00	0.00
3,300.0	11.59	135.47	3,282.0	-145.3	143.0	-136.6	0.00	0.00	0.00
3,400.0	11.59	135.47	3,379.9	-159.6	157.1	-150.0	0.00	0.00	0.00
3,500.0	11.59	135.47	3,477.9	-174.0	171.1	-163.5	0.00	0.00	0.00
3,600.0	11.59	135.47	3,575.8	-188.3	185.2	-176.9	0.00	0.00	0.00
3,638.9	11.59	135.47	3,614.0	-193.9	190.7	-182.1	0.00	0.00	0.00
Pierre A Sand									
3,700.0	11.59	135.47	3,673.8	-202.6	199.3	-190.4	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 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

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)
3,800.0	11.59	135.47	3,771.8	-216.9	213.4	-203.8	0.00	0.00	0.00
3,900.0	11.59	135.47	3,869.7	-231.2	227.5	-217.3	0.00	0.00	0.00
4,000.0	11.59	135.47	3,967.7	-245.5	241.6	-230.7	0.00	0.00	0.00
4,095.2	11.59	135.47	4,061.0	-259.2	255.0	-243.5	0.00	0.00	0.00
Base Pierre A Sand									
4,100.0	11.59	135.47	4,065.7	-259.9	255.7	-244.2	0.00	0.00	0.00
4,200.0	11.59	135.47	4,163.6	-274.2	269.7	-257.6	0.00	0.00	0.00
4,300.0	11.59	135.47	4,261.6	-288.5	283.8	-271.1	0.00	0.00	0.00
4,400.0	11.59	135.47	4,359.5	-302.8	297.9	-284.5	0.00	0.00	0.00
4,406.6	11.59	135.47	4,366.0	-303.8	298.8	-285.4	0.00	0.00	0.00
Parkman									
4,500.0	11.59	135.47	4,457.5	-317.1	312.0	-298.0	0.00	0.00	0.00
4,600.0	11.59	135.47	4,555.5	-331.4	326.1	-311.4	0.00	0.00	0.00
4,700.0	11.59	135.47	4,653.4	-345.8	340.2	-324.9	0.00	0.00	0.00
4,800.0	11.59	135.47	4,751.4	-360.1	354.2	-338.3	0.00	0.00	0.00
4,883.3	11.59	135.47	4,833.0	-372.0	366.0	-349.5	0.00	0.00	0.00
Base Parkman									
4,900.0	11.59	135.47	4,849.4	-374.4	368.3	-351.8	0.00	0.00	0.00
5,000.0	11.59	135.47	4,947.3	-388.7	382.4	-365.2	0.00	0.00	0.00
5,100.0	11.59	135.47	5,045.3	-403.0	396.5	-378.7	0.00	0.00	0.00
5,200.0	11.59	135.47	5,143.2	-417.3	410.6	-392.1	0.00	0.00	0.00
5,300.0	11.59	135.47	5,241.2	-431.7	424.7	-405.6	0.00	0.00	0.00
5,400.0	11.59	135.47	5,339.2	-446.0	438.8	-419.0	0.00	0.00	0.00
5,500.0	11.59	135.47	5,437.1	-460.3	452.8	-432.5	0.00	0.00	0.00
5,600.0	11.59	135.47	5,535.1	-474.6	466.9	-445.9	0.00	0.00	0.00
5,700.0	11.59	135.47	5,633.1	-488.9	481.0	-459.4	0.00	0.00	0.00
5,800.0	11.59	135.47	5,731.0	-503.2	495.1	-472.8	0.00	0.00	0.00
5,900.0	11.59	135.47	5,829.0	-517.6	509.2	-486.3	0.00	0.00	0.00
6,000.0	11.59	135.47	5,926.9	-531.9	523.3	-499.7	0.00	0.00	0.00
6,100.0	11.59	135.47	6,024.9	-546.2	537.3	-513.2	0.00	0.00	0.00
6,200.0	11.59	135.47	6,122.9	-560.5	551.4	-526.6	0.00	0.00	0.00
6,300.0	11.59	135.47	6,220.8	-574.8	565.5	-540.1	0.00	0.00	0.00
6,303.9	11.59	135.47	6,224.7	-575.4	566.1	-540.6	0.00	0.00	0.00
Start Drop -2.00									
6,400.0	9.66	135.47	6,319.1	-588.0	578.5	-552.5	2.00	-2.00	0.00
6,500.0	7.66	135.47	6,418.0	-598.8	589.1	-562.6	2.00	-2.00	0.00
6,600.0	5.66	135.47	6,517.3	-607.0	597.2	-570.3	2.00	-2.00	0.00
6,700.0	3.66	135.47	6,616.9	-612.8	602.9	-575.8	2.00	-2.00	0.00
6,800.0	1.66	135.47	6,716.8	-616.1	606.2	-578.9	2.00	-2.00	0.00
6,883.2	0.00	0.00	6,800.0	-617.0	607.0	-579.7	2.00	-2.00	0.00
6,900.0	0.00	0.00	6,816.8	-617.0	607.0	-579.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,916.8	-617.0	607.0	-579.7	0.00	0.00	0.00
7,070.2	0.00	0.00	6,987.0	-617.0	607.0	-579.7	0.00	0.00	0.00
KOP #2 - Start Build 8.01									
7,100.0	2.39	359.97	7,016.8	-616.4	607.0	-579.1	8.03	8.03	0.00
7,200.0	10.40	359.97	7,116.1	-605.2	607.0	-568.0	8.01	8.01	0.00
7,300.0	18.42	359.97	7,212.9	-580.4	607.0	-543.2	8.01	8.01	0.00
7,400.0	26.43	359.97	7,305.2	-542.3	607.0	-505.1	8.01	8.01	0.00
7,403.1	26.68	359.97	7,308.0	-540.9	607.0	-503.7	8.01	8.01	0.00
Lower Sharon Springs									
7,500.0	34.44	359.97	7,391.4	-491.6	606.9	-454.6	8.01	8.01	0.00
7,539.1	37.58	359.97	7,423.0	-468.7	606.9	-431.6	8.01	8.01	0.00
Lower Sharon Springs GR Marker									

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Well:	Critter Creek 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

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)
7,593.7	41.95	359.97	7,465.0	-433.7	606.9	-396.8	8.01	8.01	0.00
Niobrara A Chalk									
7,600.0	42.46	359.97	7,469.6	-429.5	606.9	-392.6	8.01	8.01	0.00
7,603.2	42.71	359.97	7,472.0	-427.3	606.9	-390.4	8.01	8.01	0.00
Niobrara A Marl GR Marker									
7,605.9	42.93	359.97	7,474.0	-425.5	606.9	-388.5	8.01	8.01	0.00
Niobrara B1 Chalk									
7,649.5	46.43	359.97	7,505.0	-394.8	606.9	-357.9	8.01	8.01	0.00
Niobrara B1 Marl									
7,668.7	47.96	359.97	7,518.0	-380.8	606.9	-343.9	8.01	8.01	0.00
Niobrara B Chalk									
7,700.0	50.47	359.97	7,538.5	-357.1	606.9	-320.3	8.01	8.01	0.00
7,705.6	50.92	359.97	7,542.0	-352.8	606.9	-315.9	8.01	8.01	0.00
Niobrara B Marl									
7,800.0	58.48	359.97	7,596.5	-275.8	606.8	-239.1	8.01	8.01	0.00
7,810.6	59.33	359.97	7,602.0	-266.7	606.8	-230.0	8.01	8.01	0.00
Niobrara M Zone									
7,886.1	65.38	359.97	7,637.0	-199.8	606.8	-163.3	8.01	8.01	0.00
Niobrara M Zone Base									
7,900.0	66.50	359.97	7,642.7	-187.1	606.8	-150.6	8.01	8.01	0.00
7,978.6	72.79	359.97	7,670.0	-113.5	606.8	-77.1	8.01	8.01	0.00
Ft Hays									
8,000.0	74.51	359.97	7,676.0	-92.9	606.8	-56.6	8.01	8.01	0.00
8,073.6	80.41	359.97	7,692.0	-21.1	606.7	15.1	8.01	8.01	0.00
Codell									
8,100.0	82.52	359.97	7,695.9	5.0	606.7	41.1	8.01	8.01	0.00
8,193.3	90.00	359.97	7,702.0	98.0	606.7	134.0	8.01	8.01	0.00
Codell target - LP 300'FSL & 1460'FWL, Sec.18									
8,200.0	90.00	359.97	7,702.0	104.7	606.7	140.7	0.00	0.00	0.00
8,300.0	90.00	359.97	7,702.0	204.7	606.6	240.5	0.00	0.00	0.00
8,400.0	90.00	359.97	7,702.0	304.7	606.6	340.3	0.00	0.00	0.00
8,500.0	90.00	359.97	7,702.0	404.7	606.5	440.1	0.00	0.00	0.00
8,600.0	90.00	359.97	7,702.0	504.7	606.5	540.0	0.00	0.00	0.00
8,700.0	90.00	359.97	7,702.0	604.7	606.4	639.8	0.00	0.00	0.00
8,800.0	90.00	359.97	7,702.0	704.7	606.4	739.6	0.00	0.00	0.00
8,900.0	90.00	359.97	7,702.0	804.7	606.3	839.4	0.00	0.00	0.00
9,000.0	90.00	359.97	7,702.0	904.7	606.3	939.2	0.00	0.00	0.00
9,100.0	90.00	359.97	7,702.0	1,004.7	606.2	1,039.1	0.00	0.00	0.00
9,200.0	90.00	359.97	7,702.0	1,104.7	606.2	1,138.9	0.00	0.00	0.00
9,300.0	90.00	359.97	7,702.0	1,204.7	606.2	1,238.7	0.00	0.00	0.00
9,400.0	90.00	359.97	7,702.0	1,304.7	606.1	1,338.5	0.00	0.00	0.00
9,500.0	90.00	359.97	7,702.0	1,404.7	606.1	1,438.3	0.00	0.00	0.00
9,600.0	90.00	359.97	7,702.0	1,504.7	606.0	1,538.2	0.00	0.00	0.00
9,700.0	90.00	359.97	7,702.0	1,604.7	606.0	1,638.0	0.00	0.00	0.00
9,800.0	90.00	359.97	7,702.0	1,704.7	605.9	1,737.8	0.00	0.00	0.00
9,900.0	90.00	359.97	7,702.0	1,804.7	605.9	1,837.6	0.00	0.00	0.00
10,000.0	90.00	359.97	7,702.0	1,904.7	605.8	1,937.4	0.00	0.00	0.00
10,100.0	90.00	359.97	7,702.0	2,004.7	605.8	2,037.3	0.00	0.00	0.00
10,200.0	90.00	359.97	7,702.0	2,104.7	605.7	2,137.1	0.00	0.00	0.00
10,300.0	90.00	359.97	7,702.0	2,204.7	605.7	2,236.9	0.00	0.00	0.00
10,400.0	90.00	359.97	7,702.0	2,304.7	605.7	2,336.7	0.00	0.00	0.00
10,500.0	90.00	359.97	7,702.0	2,404.7	605.6	2,436.5	0.00	0.00	0.00
10,600.0	90.00	359.97	7,702.0	2,504.7	605.6	2,536.4	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

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)
10,700.0	90.00	359.97	7,702.0	2,604.7	605.5	2,636.2	0.00	0.00	0.00
10,800.0	90.00	359.97	7,702.0	2,704.7	605.5	2,736.0	0.00	0.00	0.00
10,900.0	90.00	359.97	7,702.0	2,804.7	605.4	2,835.8	0.00	0.00	0.00
11,000.0	90.00	359.97	7,702.0	2,904.7	605.4	2,935.6	0.00	0.00	0.00
11,100.0	90.00	359.98	7,702.0	3,004.7	605.4	3,035.5	0.00	0.00	0.00
11,200.0	90.00	359.98	7,702.0	3,104.7	605.3	3,135.3	0.00	0.00	0.00
11,300.0	90.00	359.98	7,702.0	3,204.7	605.3	3,235.1	0.00	0.00	0.00
11,400.0	90.00	359.98	7,702.0	3,304.7	605.2	3,334.9	0.00	0.00	0.00
11,500.0	90.00	359.98	7,702.0	3,404.7	605.2	3,434.7	0.00	0.00	0.00
11,600.0	90.00	359.98	7,702.0	3,504.7	605.1	3,534.6	0.00	0.00	0.00
11,700.0	90.00	359.98	7,702.0	3,604.7	605.1	3,634.4	0.00	0.00	0.00
11,800.0	90.00	359.98	7,702.0	3,704.7	605.0	3,734.2	0.00	0.00	0.00
11,900.0	90.00	359.98	7,702.0	3,804.7	605.0	3,834.0	0.00	0.00	0.00
12,000.0	90.00	359.98	7,702.0	3,904.7	605.0	3,933.8	0.00	0.00	0.00
12,100.0	90.00	359.98	7,702.0	4,004.7	604.9	4,033.7	0.00	0.00	0.00
12,200.0	90.00	359.98	7,702.0	4,104.7	604.9	4,133.5	0.00	0.00	0.00
12,300.0	90.00	359.98	7,702.0	4,204.7	604.8	4,233.3	0.00	0.00	0.00
12,400.0	90.00	359.98	7,702.0	4,304.7	604.8	4,333.1	0.00	0.00	0.00
12,500.0	90.00	359.98	7,702.0	4,404.7	604.8	4,432.9	0.00	0.00	0.00
12,600.0	90.00	359.98	7,702.0	4,504.7	604.7	4,532.7	0.00	0.00	0.00
12,700.0	90.00	359.98	7,702.0	4,604.7	604.7	4,632.6	0.00	0.00	0.00
12,800.0	90.00	359.98	7,702.0	4,704.7	604.6	4,732.4	0.00	0.00	0.00
12,900.0	90.00	359.98	7,702.0	4,804.7	604.6	4,832.2	0.00	0.00	0.00
13,000.0	90.00	359.98	7,702.0	4,904.7	604.5	4,932.0	0.00	0.00	0.00
13,100.0	90.00	359.98	7,702.0	5,004.7	604.5	5,031.8	0.00	0.00	0.00
13,200.0	90.00	359.98	7,702.0	5,104.7	604.5	5,131.7	0.00	0.00	0.00
13,300.0	90.00	359.98	7,702.0	5,204.7	604.4	5,231.5	0.00	0.00	0.00
13,400.0	90.00	359.98	7,702.0	5,304.7	604.4	5,331.3	0.00	0.00	0.00
13,500.0	90.00	359.98	7,702.0	5,404.7	604.3	5,431.1	0.00	0.00	0.00
13,600.0	90.00	359.98	7,702.0	5,504.7	604.3	5,530.9	0.00	0.00	0.00
13,700.0	90.00	359.98	7,702.0	5,604.7	604.3	5,630.8	0.00	0.00	0.00
13,800.0	90.00	359.98	7,702.0	5,704.7	604.2	5,730.6	0.00	0.00	0.00
13,900.0	90.00	359.98	7,702.0	5,804.7	604.2	5,830.4	0.00	0.00	0.00
14,000.0	90.00	359.98	7,702.0	5,904.7	604.1	5,930.2	0.00	0.00	0.00
14,100.0	90.00	359.98	7,702.0	6,004.7	604.1	6,030.0	0.00	0.00	0.00
14,200.0	90.00	359.98	7,702.0	6,104.7	604.1	6,129.9	0.00	0.00	0.00
14,300.0	90.00	359.98	7,702.0	6,204.7	604.0	6,229.7	0.00	0.00	0.00
14,400.0	90.00	359.98	7,702.0	6,304.7	604.0	6,329.5	0.00	0.00	0.00
14,500.0	90.00	359.98	7,702.0	6,404.7	603.9	6,429.3	0.00	0.00	0.00
14,600.0	90.00	359.98	7,702.0	6,504.7	603.9	6,529.1	0.00	0.00	0.00
14,700.0	90.00	359.98	7,702.0	6,604.7	603.9	6,629.0	0.00	0.00	0.00
14,800.0	90.00	359.98	7,702.0	6,704.7	603.8	6,728.8	0.00	0.00	0.00
14,900.0	90.00	359.98	7,702.0	6,804.7	603.8	6,828.6	0.00	0.00	0.00
15,000.0	90.00	359.98	7,702.0	6,904.7	603.7	6,928.4	0.00	0.00	0.00
15,100.0	90.00	359.98	7,702.0	7,004.7	603.7	7,028.2	0.00	0.00	0.00
15,200.0	90.00	359.98	7,702.0	7,104.7	603.7	7,128.1	0.00	0.00	0.00
15,300.0	90.00	359.98	7,702.0	7,204.7	603.6	7,227.9	0.00	0.00	0.00
15,400.0	90.00	359.98	7,702.0	7,304.7	603.6	7,327.7	0.00	0.00	0.00
15,500.0	90.00	359.98	7,702.0	7,404.7	603.5	7,427.5	0.00	0.00	0.00
15,600.0	90.00	359.98	7,702.0	7,504.7	603.5	7,527.3	0.00	0.00	0.00
15,700.0	90.00	359.98	7,702.0	7,604.7	603.5	7,627.2	0.00	0.00	0.00
15,800.0	90.00	359.98	7,702.0	7,704.7	603.4	7,727.0	0.00	0.00	0.00
15,900.0	90.00	359.98	7,702.0	7,804.7	603.4	7,826.8	0.00	0.00	0.00
16,000.0	90.00	359.98	7,702.0	7,904.7	603.4	7,926.6	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

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)	
16,100.0	90.00	359.98	7,702.0	8,004.7	603.3	8,026.4	0.00	0.00	0.00	
16,200.0	90.00	359.98	7,702.0	8,104.7	603.3	8,126.3	0.00	0.00	0.00	
16,300.0	90.00	359.98	7,702.0	8,204.7	603.2	8,226.1	0.00	0.00	0.00	
16,400.0	90.00	359.98	7,702.0	8,304.7	603.2	8,325.9	0.00	0.00	0.00	
16,500.0	90.00	359.98	7,702.0	8,404.7	603.2	8,425.7	0.00	0.00	0.00	
16,600.0	90.00	359.98	7,702.0	8,504.7	603.1	8,525.5	0.00	0.00	0.00	
16,700.0	90.00	359.98	7,702.0	8,604.7	603.1	8,625.4	0.00	0.00	0.00	
16,800.0	90.00	359.98	7,702.0	8,704.7	603.1	8,725.2	0.00	0.00	0.00	
16,900.0	90.00	359.98	7,702.0	8,804.7	603.0	8,825.0	0.00	0.00	0.00	
17,000.0	90.00	359.98	7,702.0	8,904.7	603.0	8,924.8	0.00	0.00	0.00	
17,100.0	90.00	359.98	7,702.0	9,004.7	602.9	9,024.6	0.00	0.00	0.00	
17,200.0	90.00	359.98	7,702.0	9,104.7	602.9	9,124.5	0.00	0.00	0.00	
17,300.0	90.00	359.98	7,702.0	9,204.7	602.9	9,224.3	0.00	0.00	0.00	
17,400.0	90.00	359.98	7,702.0	9,304.7	602.8	9,324.1	0.00	0.00	0.00	
17,500.0	90.00	359.98	7,702.0	9,404.7	602.8	9,423.9	0.00	0.00	0.00	
17,600.0	90.00	359.98	7,702.0	9,504.7	602.8	9,523.7	0.00	0.00	0.00	
17,700.0	90.00	359.98	7,702.0	9,604.7	602.7	9,623.6	0.00	0.00	0.00	
17,800.0	90.00	359.98	7,702.0	9,704.7	602.7	9,723.4	0.00	0.00	0.00	
17,900.0	90.00	359.98	7,702.0	9,804.7	602.7	9,823.2	0.00	0.00	0.00	
18,000.0	90.00	359.98	7,702.0	9,904.7	602.6	9,923.0	0.00	0.00	0.00	
18,100.0	90.00	359.98	7,702.0	10,004.7	602.6	10,022.8	0.00	0.00	0.00	
18,184.4	90.00	359.98	7,702.0	10,089.1	602.5	10,107.1	0.00	0.00	0.00	
TD at 18184.4 - BHL 300'FNL & 1460'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	
- hit/miss target										
- Shape										
SHL 205'FSL & 853'FWL	0.00	0.00	1.0	0.0	0.0	1,578,011.23	3,281,291.05	40.915578	-104.482253	
- plan hits target center										
- Point										
BHL 300'FNL & 1460'FW	0.00	0.00	7,702.0	10,089.1	602.5	1,588,106.84	3,281,777.78	40.943269	-104.480072	
- plan hits target center										
- Point										
LP 300'FSL & 1460'FWL	0.00	0.00	7,702.0	98.0	606.7	1,578,116.21	3,281,896.57	40.915847	-104.480058	
- plan hits target center										
- Point										

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

Database:	US_EDM	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (2-28-17)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,608.0	1,608.0	Pierre C&D Sand				
2,386.3	2,385.0	Base Pierre C&D Sand				
2,814.1	2,806.0	Pierre B Sand				
2,885.6	2,876.0	Base Pierre B Sand				
3,638.9	3,614.0	Pierre A Sand				
4,095.2	4,061.0	Base Pierre A Sand				
4,406.6	4,366.0	Parkman				
4,883.3	4,833.0	Base Parkman				
7,403.1	7,308.0	Lower Sharon Springs				
7,539.1	7,423.0	Lower Sharon Springs GR Marker				
7,593.7	7,465.0	Niobrara A Chalk				
7,603.2	7,472.0	Niobrara A Marl GR Marker				
7,605.9	7,474.0	Niobrara B1 Chalk				
7,649.5	7,505.0	Niobrara B1 Marl				
7,668.7	7,518.0	Niobrara B Chalk				
7,705.6	7,542.0	Niobrara B Marl				
7,810.6	7,602.0	Niobrara M Zone				
7,886.1	7,637.0	Niobrara M Zone Base				
7,978.6	7,670.0	Ft Hays				
8,073.6	7,692.0	Codell				
8,193.3	7,702.0	Codell target				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,900.0	1,900.0	0.0	0.0	KOP - Start Build 1.50	
6,303.9	6,224.7	-55.5	54.6	Start Drop -2.00	
7,070.2	6,987.0	-575.4	566.1	KOP #2 - Start Build 8.01	
18,184.4	7,702.0	-617.0	607.0	TD at 18184.4	



Fifth Creek Energy Company, LLC

Sec.18-T11N-R63W

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

Critter Creek 539-1807H

Wellbore #1

Plan #1 (2-28-17)

Anticollision Report

01 March, 2017

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (2-28-17)		
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	18,184.4	Plan #1 (2-28-17) (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						
Crittter Creek 18 SW Pad Sec.18-T11N-R63W						
Crittter Creek 201-1807H - Wellbore #1 - Plan #1 (3-1-17)	1,500.0	1,500.0	74.3	67.8	11.406	CC, ES
Crittter Creek 201-1807H - Wellbore #1 - Plan #1 (3-1-17)	18,184.4	18,080.9	1,118.6	731.2	2.887	SF
Crittter Creek 202-1807H - Wellbore #1 - Plan #1 (2-28-17)	1,900.0	1,900.0	24.6	16.3	2.958	CC, ES
Crittter Creek 202-1807H - Wellbore #1 - Plan #1 (2-28-17)	18,184.4	18,052.7	480.6	106.3	1.284	Level 3, SF
Crittter Creek 203-1807H - Wellbore #1 - Plan #1 (2-28-17)	1,700.0	1,700.0	25.4	18.0	3.428	CC
Crittter Creek 203-1807H - Wellbore #1 - Plan #1 (2-28-17)	18,184.4	18,111.0	235.6	-96.0	0.711	Level 1, ES, SF
Crittter Creek 537-1807H - Wellbore #1 - Plan #1 (3-1-17)	1,700.0	1,700.0	49.7	42.3	6.707	CC
Crittter Creek 537-1807H - Wellbore #1 - Plan #1 (3-1-17)	1,800.0	1,799.8	50.0	42.1	6.377	ES
Crittter Creek 537-1807H - Wellbore #1 - Plan #1 (3-1-17)	18,184.4	18,155.7	759.7	370.5	1.952	SF
Crittter Creek 540-1807H - Wellbore #1 - Plan #1 (2-27-17)	200.0	200.0	50.0	49.4	74.207	CC, ES
Crittter Creek 540-1807H - Wellbore #1 - Plan #1 (2-27-17)	18,184.4	18,269.8	759.9	367.3	1.936	SF
Existing Wells Sec.18-T11N-R63W						
Crittter Creek 11-07H (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Crittter Creek 11-07H (Exist.) - Wellbore #2 - Wellbore #2	17,848.7	12,114.0	764.4	488.5	2.771	CC, ES
Crittter Creek 11-07H (Exist.) - Wellbore #2 - Wellbore #2	17,900.0	12,114.0	766.1	489.2	2.767	SF
Crittter Creek 14-18H (Exist.) - Wellbore #1 - Wellbore #1	10,445.9	11,214.6	177.8	127.3	3.519	CC, ES
Crittter Creek 14-18H (Exist.) - Wellbore #1 - Wellbore #1	10,700.0	11,409.2	246.8	171.2	3.264	SF
Crittter Creek 15-19H (Exist.) - Wellbore #1 - Wellbore #1	7,300.0	12,625.7	832.6	679.6	5.443	SF
Crittter Creek 15-19H (Exist.) - Wellbore #1 - Wellbore #1	7,376.3	12,639.0	826.1	675.8	5.496	CC, ES

Offset Design		Crittter Creek 18 SW Pad Sec.18-T11N-R63W - Crittler 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							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)	Offset Wellbore Centre +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	-90.02	0.0	-74.3	74.3						
100.0	100.0	100.0	100.0	0.1	0.1	-90.02	0.0	-74.3	74.3	74.1	0.22	330.779			
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-74.3	74.3	73.7	0.67	110.260			
300.0	300.0	300.0	300.0	0.6	0.6	-90.02	0.0	-74.3	74.3	73.2	1.12	66.156			
400.0	400.0	400.0	400.0	0.8	0.8	-90.02	0.0	-74.3	74.3	72.8	1.57	47.254			
500.0	500.0	500.0	500.0	1.0	1.0	-90.02	0.0	-74.3	74.3	72.3	2.02	36.753			
600.0	600.0	600.0	600.0	1.2	1.2	-90.02	0.0	-74.3	74.3	71.9	2.47	30.071			
700.0	700.0	700.0	700.0	1.5	1.5	-90.02	0.0	-74.3	74.3	71.4	2.92	25.445			

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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		
800.0	800.0	800.0	800.0	1.7	1.7	-90.02	0.0	-74.3	74.3	71.0	3.37	22.052		
900.0	900.0	900.0	900.0	1.9	1.9	-90.02	0.0	-74.3	74.3	70.5	3.82	19.458		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.02	0.0	-74.3	74.3	70.1	4.27	17.409		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.02	0.0	-74.3	74.3	69.6	4.72	15.751		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.02	0.0	-74.3	74.3	69.2	5.17	14.382		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.02	0.0	-74.3	74.3	68.7	5.62	13.231		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.02	0.0	-74.3	74.3	68.3	6.07	12.251		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-90.02	0.0	-74.3	74.3	67.8	6.52	11.406 CC, ES		
1,600.0	1,600.0	1,598.9	1,598.9	3.5	3.5	-90.82	-1.1	-75.1	75.1	68.1	6.94	10.821		
1,700.0	1,700.0	1,697.6	1,697.6	3.7	3.6	-93.15	-4.2	-77.2	77.4	70.0	7.34	10.545		
1,800.0	1,800.0	1,796.1	1,795.8	3.9	3.8	-96.70	-9.5	-80.8	81.5	73.7	7.75	10.520		
1,900.0	1,900.0	1,894.2	1,893.5	4.2	4.0	-101.08	-16.8	-85.8	87.7	79.5	8.16	10.741		
2,000.0	2,000.0	1,991.8	1,990.5	4.4	4.2	119.25	-26.1	-92.2	96.9	88.4	8.55	11.336		
2,100.0	2,099.9	2,088.8	2,086.5	4.5	4.4	116.16	-37.4	-99.9	109.7	100.8	8.93	12.288		
2,200.0	2,199.7	2,185.1	2,181.4	4.7	4.7	114.05	-50.6	-108.9	125.9	116.6	9.33	13.499		
2,300.0	2,299.3	2,281.5	2,276.1	4.9	5.0	112.77	-65.6	-119.2	145.0	135.3	9.74	14.889		
2,400.0	2,398.6	2,379.4	2,372.1	5.1	5.3	112.46	-81.3	-129.9	165.6	155.4	10.18	16.267		
2,500.0	2,497.5	2,477.0	2,467.9	5.4	5.6	112.89	-96.8	-140.5	187.1	176.4	10.64	17.585		
2,600.0	2,596.1	2,574.3	2,563.4	5.6	5.9	113.83	-112.4	-151.2	209.7	198.5	11.13	18.840		
2,700.0	2,694.2	2,671.3	2,658.6	5.9	6.3	115.18	-127.9	-161.8	233.3	221.7	11.65	20.025		
2,800.0	2,792.1	2,768.2	2,753.6	6.2	6.6	116.61	-143.3	-172.3	257.5	245.3	12.21	21.082		
2,900.0	2,890.1	2,865.0	2,848.6	6.5	7.0	117.80	-158.8	-182.9	281.7	268.9	12.79	22.020		
3,000.0	2,988.1	2,961.9	2,943.7	6.9	7.4	118.80	-174.2	-193.5	306.1	292.7	13.39	22.852		
3,100.0	3,086.0	3,058.8	3,038.7	7.2	7.7	119.65	-189.7	-204.0	330.5	316.5	14.01	23.592		
3,200.0	3,184.0	3,155.6	3,133.7	7.6	8.1	120.39	-205.2	-214.6	355.0	340.4	14.64	24.250		
3,300.0	3,282.0	3,252.5	3,228.8	8.0	8.5	121.03	-220.6	-225.2	379.5	364.2	15.28	24.838		
3,400.0	3,379.9	3,349.3	3,323.8	8.4	8.9	121.59	-236.1	-235.8	404.1	388.2	15.93	25.365		
3,500.0	3,477.9	3,446.2	3,418.8	8.7	9.3	122.09	-251.6	-246.3	428.7	412.1	16.59	25.839		
3,600.0	3,575.8	3,543.1	3,513.9	9.1	9.7	122.54	-267.0	-256.9	453.3	436.1	17.26	26.265		
3,700.0	3,673.8	3,639.9	3,608.9	9.5	10.1	122.94	-282.5	-267.5	478.0	460.1	17.94	26.651		
3,800.0	3,771.8	3,736.8	3,703.9	9.9	10.5	123.30	-297.9	-278.0	502.7	484.1	18.62	27.001		
3,900.0	3,869.7	3,833.7	3,799.0	10.3	10.9	123.62	-313.4	-288.6	527.4	508.1	19.30	27.319		
4,000.0	3,967.7	3,930.5	3,894.0	10.8	11.3	123.92	-328.9	-299.2	552.1	532.1	20.00	27.609		
4,100.0	4,065.7	4,027.4	3,989.0	11.2	11.7	124.19	-344.3	-309.8	576.8	556.1	20.69	27.875		
4,200.0	4,163.6	4,124.2	4,084.1	11.6	12.1	124.44	-359.8	-320.3	601.5	580.1	21.39	28.118		
4,300.0	4,261.6	4,221.1	4,179.1	12.0	12.5	124.67	-375.3	-330.9	626.3	604.2	22.10	28.342		
4,400.0	4,359.5	4,318.0	4,274.1	12.4	12.9	124.88	-390.7	-341.5	651.0	628.2	22.80	28.549		
4,500.0	4,457.5	4,414.8	4,369.2	12.9	13.3	125.08	-406.2	-352.0	675.8	652.3	23.51	28.739		
4,600.0	4,555.5	4,511.7	4,464.2	13.3	13.7	125.26	-421.6	-362.6	700.5	676.3	24.23	28.916		
4,700.0	4,653.4	4,608.5	4,559.2	13.7	14.1	125.43	-437.1	-373.2	725.3	700.4	24.94	29.080		
4,800.0	4,751.4	4,705.4	4,654.3	14.2	14.5	125.59	-452.6	-383.8	750.1	724.4	25.66	29.232		
4,900.0	4,849.4	4,802.3	4,749.3	14.6	14.9	125.74	-468.0	-394.3	774.9	748.5	26.38	29.374		
5,000.0	4,947.3	4,899.1	4,844.3	15.0	15.3	125.88	-483.5	-404.9	799.7	772.6	27.10	29.507		
5,100.0	5,045.3	4,996.0	4,939.4	15.5	15.8	126.01	-498.9	-415.5	824.4	796.6	27.82	29.631		
5,200.0	5,143.2	5,092.9	5,034.4	15.9	16.2	126.13	-514.4	-426.0	849.2	820.7	28.55	29.747		
5,300.0	5,241.2	5,189.7	5,129.4	16.3	16.6	126.25	-529.9	-436.6	874.0	844.8	29.28	29.856		
5,400.0	5,339.2	5,286.6	5,224.5	16.8	17.0	126.36	-545.3	-447.2	898.8	868.8	30.00	29.959		
5,500.0	5,437.1	5,383.4	5,319.5	17.2	17.4	126.46	-560.8	-457.8	923.6	892.9	30.73	30.055		
5,600.0	5,535.1	5,480.3	5,414.5	17.7	17.8	126.56	-576.3	-468.3	948.5	917.0	31.46	30.146		
5,700.0	5,633.1	5,595.7	5,528.0	18.1	18.3	126.73	-593.7	-480.3	972.6	940.4	32.21	30.192		
5,800.0	5,731.0	5,721.4	5,652.4	18.5	18.6	127.13	-608.6	-490.4	994.2	961.3	32.90	30.218		
5,900.0	5,829.0	5,848.1	5,778.4	19.0	18.9	127.75	-618.9	-497.5	1,013.0	979.5	33.55	30.195		

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 539-1807H
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 539-1807H	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 (2-28-17)	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		
6,000.0	5,926.9	5,975.2	5,905.3	19.4	19.1	128.59	-624.7	-501.5	1,029.2	995.0	34.16	30.130		
6,100.0	6,024.9	6,094.8	6,024.9	19.9	19.3	129.56	-626.0	-502.3	1,042.8	1,008.0	34.72	30.034		
6,200.0	6,122.9	6,192.8	6,122.9	20.3	19.4	130.39	-626.0	-502.3	1,055.8	1,020.6	35.23	29.972		
6,300.0	6,220.8	6,290.7	6,220.8	20.8	19.5	131.20	-626.0	-502.3	1,069.1	1,033.4	35.73	29.922		
6,400.0	6,319.1	6,389.0	6,319.1	21.1	19.7	132.11	-626.0	-502.3	1,081.5	1,045.2	36.26	29.827		
6,500.0	6,418.0	6,487.9	6,418.0	21.4	19.8	132.84	-626.0	-502.3	1,091.7	1,055.0	36.71	29.741		
6,600.0	6,517.3	6,587.2	6,517.3	21.7	19.9	133.40	-626.0	-502.3	1,099.7	1,062.6	37.12	29.626		
6,700.0	6,616.9	6,686.8	6,616.9	21.9	20.1	133.79	-626.0	-502.3	1,105.3	1,067.8	37.49	29.482		
6,800.0	6,716.8	6,786.7	6,716.8	22.0	20.2	134.01	-626.0	-502.3	1,108.5	1,070.7	37.83	29.307		
6,900.0	6,816.8	6,886.7	6,816.8	22.2	20.4	-90.47	-626.0	-502.3	1,109.4	1,071.3	38.13	29.094		
7,000.0	6,916.8	6,987.1	6,917.1	22.3	20.5	-90.43	-625.4	-502.4	1,109.4	1,071.0	38.42	28.874		
7,087.0	7,003.8	7,074.2	7,003.8	22.4	20.5	-90.02	-616.4	-502.4	1,109.4	1,070.8	38.59	28.750		
7,100.0	7,016.8	7,086.9	7,016.3	22.4	20.6	-89.86	-614.2	-502.4	1,109.4	1,070.8	38.60	28.740		
7,200.0	7,116.1	7,184.6	7,110.9	22.5	20.5	-89.16	-590.1	-502.4	1,109.5	1,070.9	38.57	28.766		
7,300.0	7,212.9	7,280.6	7,199.8	22.4	20.4	-88.47	-554.1	-502.4	1,109.8	1,071.4	38.34	28.948		
7,400.0	7,305.2	7,375.0	7,281.8	22.3	20.2	-87.82	-507.3	-502.4	1,110.2	1,072.2	37.95	29.251		
7,500.0	7,391.4	7,468.0	7,355.8	22.1	19.9	-87.22	-451.2	-502.4	1,110.7	1,073.2	37.48	29.634		
7,600.0	7,469.6	7,559.8	7,421.1	21.9	19.6	-86.67	-386.8	-502.5	1,111.3	1,074.3	36.99	30.043		
7,700.0	7,538.5	7,650.0	7,476.8	21.6	19.4	-86.18	-315.9	-502.5	1,111.9	1,075.3	36.56	30.411		
7,800.0	7,596.5	7,740.3	7,523.2	21.3	19.1	-85.76	-238.5	-502.6	1,112.4	1,076.2	36.28	30.665		
7,900.0	7,642.7	7,829.4	7,559.0	21.0	18.9	-85.42	-157.0	-502.6	1,113.0	1,076.8	36.21	30.738		
8,000.0	7,676.0	7,917.9	7,584.4	20.7	18.7	-85.16	-72.2	-502.7	1,113.4	1,077.0	36.41	30.581		
8,100.0	7,695.9	8,006.1	7,599.0	20.5	18.6	-84.98	14.6	-502.7	1,113.7	1,076.8	36.91	30.175		
8,200.0	7,702.0	8,096.3	7,602.0	20.2	18.7	-84.85	103.7	-502.8	1,113.9	1,076.2	37.72	29.531		
8,300.0	7,702.0	8,196.3	7,601.6	20.0	19.0	-84.83	203.7	-502.8	1,114.0	1,075.4	38.55	28.895		
8,400.0	7,702.0	8,296.3	7,601.2	20.5	19.6	-84.81	303.7	-502.9	1,114.0	1,074.6	39.37	28.293		
8,500.0	7,702.0	8,396.3	7,600.8	21.3	20.4	-84.79	403.7	-502.9	1,114.0	1,073.5	40.54	27.481		
8,600.0	7,702.0	8,496.3	7,600.4	22.2	21.3	-84.77	503.7	-503.0	1,114.1	1,072.1	42.03	26.509		
8,700.0	7,702.0	8,596.3	7,599.9	23.1	22.3	-84.74	603.7	-503.0	1,114.1	1,070.3	43.80	25.436		
8,800.0	7,702.0	8,696.3	7,599.5	24.2	23.4	-84.72	703.7	-503.1	1,114.2	1,068.3	45.83	24.311		
8,900.0	7,702.0	8,796.3	7,599.1	25.4	24.6	-84.70	803.7	-503.1	1,114.2	1,066.1	48.08	23.173		
9,000.0	7,702.0	8,896.3	7,598.7	26.6	25.9	-84.68	903.7	-503.2	1,114.3	1,063.7	50.53	22.052		
9,100.0	7,702.0	8,996.3	7,598.3	27.9	27.3	-84.66	1,003.7	-503.2	1,114.3	1,061.2	53.14	20.969		
9,200.0	7,702.0	9,096.3	7,597.9	29.2	28.7	-84.64	1,103.7	-503.3	1,114.4	1,058.5	55.90	19.936		
9,300.0	7,702.0	9,196.3	7,597.5	30.7	30.2	-84.62	1,203.7	-503.3	1,114.4	1,055.6	58.77	18.961		
9,400.0	7,702.0	9,296.3	7,597.1	32.1	31.7	-84.60	1,303.7	-503.4	1,114.4	1,052.7	61.76	18.046		
9,500.0	7,702.0	9,396.3	7,596.7	33.6	33.2	-84.58	1,403.7	-503.4	1,114.5	1,049.7	64.83	17.191		
9,600.0	7,702.0	9,496.3	7,596.3	35.1	34.8	-84.56	1,503.7	-503.5	1,114.5	1,046.6	67.98	16.394		
9,700.0	7,702.0	9,596.3	7,595.9	36.7	36.5	-84.54	1,603.7	-503.6	1,114.6	1,043.4	71.20	15.653		
9,800.0	7,702.0	9,696.3	7,595.5	38.3	38.1	-84.52	1,703.7	-503.6	1,114.6	1,040.1	74.48	14.965		
9,900.0	7,702.0	9,796.3	7,595.1	39.9	39.8	-84.50	1,803.7	-503.7	1,114.7	1,036.9	77.82	14.325		
10,000.0	7,702.0	9,896.3	7,594.7	41.6	41.5	-84.48	1,903.7	-503.7	1,114.7	1,033.5	81.19	13.729		
10,100.0	7,702.0	9,996.3	7,594.3	43.3	43.2	-84.46	2,003.7	-503.8	1,114.8	1,030.2	84.61	13.175		
10,200.0	7,702.0	10,096.3	7,593.9	44.9	45.0	-84.44	2,103.7	-503.8	1,114.8	1,026.7	88.06	12.659		
10,300.0	7,702.0	10,196.3	7,593.5	46.6	46.7	-84.42	2,203.7	-503.9	1,114.8	1,023.3	91.54	12.178		
10,400.0	7,702.0	10,296.3	7,593.1	48.4	48.5	-84.40	2,303.7	-503.9	1,114.9	1,019.8	95.06	11.729		
10,500.0	7,702.0	10,396.3	7,592.7	50.1	50.3	-84.38	2,403.7	-504.0	1,114.9	1,016.3	98.59	11.309		
10,600.0	7,702.0	10,496.3	7,592.3	51.9	52.1	-84.36	2,503.7	-504.0	1,115.0	1,012.8	102.15	10.915		
10,700.0	7,702.0	10,596.3	7,591.9	53.6	53.8	-84.33	2,603.7	-504.1	1,115.0	1,009.3	105.73	10.546		
10,800.0	7,702.0	10,696.3	7,591.5	55.4	55.7	-84.31	2,703.7	-504.1	1,115.1	1,005.8	109.32	10.200		
10,900.0	7,702.0	10,796.3	7,591.1	57.2	57.5	-84.29	2,803.7	-504.2	1,115.1	1,002.2	112.93	9.874		
11,000.0	7,702.0	10,896.3	7,590.7	59.0	59.3	-84.27	2,903.7	-504.2	1,115.2	998.6	116.56	9.567		

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 539-1807H
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 539-1807H	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 (2-28-17)	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		
11,100.0	7,702.0	10,996.3	7,590.3	60.8	61.1	-84.25	3,003.7	-504.3	1,115.2	995.0	120.20	9.278		
11,200.0	7,702.0	11,096.3	7,589.9	62.6	63.0	-84.23	3,103.7	-504.3	1,115.3	991.4	123.85	9.005		
11,300.0	7,702.0	11,196.3	7,589.5	64.4	64.8	-84.21	3,203.7	-504.4	1,115.3	987.8	127.52	8.746		
11,400.0	7,702.0	11,296.3	7,589.1	66.2	66.7	-84.19	3,303.7	-504.4	1,115.4	984.2	131.19	8.502		
11,500.0	7,702.0	11,396.3	7,588.7	68.0	68.5	-84.17	3,403.7	-504.5	1,115.4	980.5	134.87	8.270		
11,600.0	7,702.0	11,496.3	7,588.3	69.9	70.4	-84.15	3,503.7	-504.5	1,115.4	976.9	138.56	8.050		
11,700.0	7,702.0	11,596.3	7,587.9	71.7	72.2	-84.13	3,603.7	-504.5	1,115.5	973.2	142.26	7.841		
11,800.0	7,702.0	11,696.3	7,587.5	73.5	74.1	-84.11	3,703.7	-504.6	1,115.5	969.6	145.97	7.642		
11,900.0	7,702.0	11,796.3	7,587.1	75.4	76.0	-84.09	3,803.7	-504.6	1,115.6	965.9	149.68	7.453		
12,000.0	7,702.0	11,896.3	7,586.7	77.2	77.8	-84.07	3,903.7	-504.7	1,115.6	962.2	153.40	7.273		
12,100.0	7,702.0	11,996.3	7,586.3	79.1	79.7	-84.05	4,003.7	-504.7	1,115.7	958.6	157.12	7.101		
12,200.0	7,702.0	12,096.3	7,585.9	80.9	81.6	-84.03	4,103.7	-504.8	1,115.7	954.9	160.85	6.936		
12,300.0	7,702.0	12,196.3	7,585.5	82.8	83.5	-84.01	4,203.7	-504.8	1,115.8	951.2	164.58	6.779		
12,400.0	7,702.0	12,296.3	7,585.1	84.7	85.3	-83.99	4,303.7	-504.9	1,115.8	947.5	168.32	6.629		
12,500.0	7,702.0	12,396.3	7,584.7	86.5	87.2	-83.97	4,403.7	-504.9	1,115.9	943.8	172.06	6.485		
12,600.0	7,702.0	12,496.3	7,584.3	88.4	89.1	-83.95	4,503.7	-505.0	1,115.9	940.1	175.81	6.347		
12,700.0	7,702.0	12,596.3	7,583.9	90.3	91.0	-83.93	4,603.7	-505.0	1,115.9	936.4	179.56	6.215		
12,800.0	7,702.0	12,696.3	7,583.5	92.1	92.9	-83.91	4,703.7	-505.1	1,116.0	932.7	183.32	6.088		
12,900.0	7,702.0	12,796.4	7,583.1	94.0	94.8	-83.89	4,803.7	-505.1	1,116.0	929.0	187.07	5.966		
13,000.0	7,702.0	12,896.4	7,582.7	95.9	96.7	-83.86	4,903.7	-505.2	1,116.1	925.3	190.83	5.849		
13,100.0	7,702.0	12,996.4	7,582.3	97.8	98.6	-83.84	5,003.7	-505.2	1,116.1	921.5	194.60	5.736		
13,200.0	7,702.0	13,096.4	7,581.9	99.6	100.5	-83.82	5,103.7	-505.2	1,116.2	917.8	198.36	5.627		
13,300.0	7,702.0	13,196.4	7,581.5	101.5	102.4	-83.80	5,203.7	-505.3	1,116.2	914.1	202.13	5.522		
13,400.0	7,702.0	13,296.4	7,581.1	103.4	104.3	-83.78	5,303.7	-505.3	1,116.3	910.4	205.90	5.421		
13,500.0	7,702.0	13,396.4	7,580.7	105.3	106.2	-83.76	5,403.7	-505.4	1,116.3	906.7	209.67	5.324		
13,600.0	7,702.0	13,496.4	7,580.3	107.2	108.1	-83.74	5,503.7	-505.4	1,116.4	902.9	213.45	5.230		
13,700.0	7,702.0	13,596.4	7,579.9	109.1	110.0	-83.72	5,603.7	-505.5	1,116.4	899.2	217.22	5.140		
13,800.0	7,702.0	13,696.4	7,579.5	111.0	111.9	-83.70	5,703.7	-505.5	1,116.5	895.5	221.00	5.052		
13,900.0	7,702.0	13,796.4	7,579.1	112.8	113.8	-83.68	5,803.7	-505.6	1,116.5	891.7	224.78	4.967		
14,000.0	7,702.0	13,896.4	7,578.7	114.7	115.7	-83.66	5,903.7	-505.6	1,116.6	888.0	228.56	4.885		
14,100.0	7,702.0	13,996.4	7,578.3	116.6	117.6	-83.64	6,003.7	-505.6	1,116.6	884.3	232.34	4.806		
14,200.0	7,702.0	14,096.4	7,577.9	118.5	119.5	-83.62	6,103.7	-505.7	1,116.7	880.5	236.13	4.729		
14,300.0	7,702.0	14,196.4	7,577.5	120.4	121.4	-83.60	6,203.7	-505.7	1,116.7	876.8	239.91	4.655		
14,400.0	7,702.0	14,296.4	7,577.1	122.3	123.3	-83.58	6,303.7	-505.8	1,116.7	873.0	243.70	4.582		
14,500.0	7,702.0	14,396.4	7,576.7	124.2	125.2	-83.56	6,403.7	-505.8	1,116.8	869.3	247.49	4.512		
14,600.0	7,702.0	14,496.4	7,576.3	126.1	127.2	-83.54	6,503.7	-505.9	1,116.8	865.6	251.28	4.445		
14,700.0	7,702.0	14,596.4	7,575.9	128.0	129.1	-83.52	6,603.7	-505.9	1,116.9	861.8	255.07	4.379		
14,800.0	7,702.0	14,696.4	7,575.5	129.9	131.0	-83.50	6,703.7	-505.9	1,116.9	858.1	258.86	4.315		
14,900.0	7,702.0	14,796.4	7,575.1	131.8	132.9	-83.48	6,803.7	-506.0	1,117.0	854.3	262.65	4.253		
15,000.0	7,702.0	14,896.4	7,574.7	133.7	134.8	-83.46	6,903.7	-506.0	1,117.0	850.6	266.45	4.192		
15,100.0	7,702.0	14,996.4	7,574.3	135.6	136.7	-83.44	7,003.7	-506.1	1,117.1	846.8	270.24	4.134		
15,200.0	7,702.0	15,096.4	7,573.9	137.5	138.6	-83.42	7,103.7	-506.1	1,117.1	843.1	274.03	4.077		
15,300.0	7,702.0	15,196.4	7,573.5	139.4	140.6	-83.40	7,203.7	-506.1	1,117.2	839.3	277.83	4.021		
15,400.0	7,702.0	15,296.4	7,573.1	141.3	142.5	-83.38	7,303.7	-506.2	1,117.2	835.6	281.63	3.967		
15,500.0	7,702.0	15,396.4	7,572.7	143.2	144.4	-83.36	7,403.7	-506.2	1,117.3	831.8	285.42	3.914		
15,600.0	7,702.0	15,496.4	7,572.3	145.1	146.3	-83.34	7,503.7	-506.3	1,117.3	828.1	289.22	3.863		
15,700.0	7,702.0	15,596.4	7,571.9	147.0	148.2	-83.31	7,603.7	-506.3	1,117.4	824.4	293.02	3.813		
15,800.0	7,702.0	15,696.4	7,571.5	148.9	150.1	-83.29	7,703.7	-506.3	1,117.4	820.6	296.82	3.765		
15,900.0	7,702.0	15,796.4	7,571.1	150.9	152.1	-83.27	7,803.7	-506.4	1,117.5	816.8	300.62	3.717		
16,000.0	7,702.0	15,896.4	7,570.7	152.8	154.0	-83.25	7,903.7	-506.4	1,117.5	813.1	304.42	3.671		
16,100.0	7,702.0	15,996.4	7,570.3	154.7	155.9	-83.23	8,003.7	-506.5	1,117.6	809.3	308.22	3.626		
16,200.0	7,702.0	16,096.4	7,569.9	156.6	157.8	-83.21	8,103.7	-506.5	1,117.6	805.6	312.02	3.582		

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 539-1807H
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 539-1807H	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 (2-28-17)	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		
16,300.0	7,702.0	16,196.4	7,569.5	158.5	159.7	-83.19	8,203.7	-506.5	1,117.7	801.8	315.82	3.539		
16,400.0	7,702.0	16,296.4	7,569.1	160.4	161.7	-83.17	8,303.8	-506.6	1,117.7	798.1	319.62	3.497		
16,500.0	7,702.0	16,396.4	7,568.7	162.3	163.6	-83.15	8,403.8	-506.6	1,117.8	794.3	323.42	3.456		
16,600.0	7,702.0	16,496.4	7,568.3	164.2	165.5	-83.13	8,503.8	-506.7	1,117.8	790.6	327.22	3.416		
16,700.0	7,702.0	16,596.4	7,567.9	166.1	167.4	-83.11	8,603.8	-506.7	1,117.9	786.8	331.02	3.377		
16,800.0	7,702.0	16,696.4	7,567.5	168.0	169.4	-83.09	8,703.8	-506.7	1,117.9	783.1	334.83	3.339		
16,900.0	7,702.0	16,796.4	7,567.1	169.9	171.3	-83.07	8,803.8	-506.8	1,117.9	779.3	338.63	3.301		
17,000.0	7,702.0	16,896.4	7,566.7	171.9	173.2	-83.05	8,903.8	-506.8	1,118.0	775.6	342.43	3.265		
17,100.0	7,702.0	16,996.4	7,566.3	173.8	175.1	-83.03	9,003.8	-506.8	1,118.0	771.8	346.23	3.229		
17,200.0	7,702.0	17,096.4	7,565.9	175.7	177.0	-83.01	9,103.8	-506.9	1,118.1	768.1	350.04	3.194		
17,300.0	7,702.0	17,196.4	7,565.5	177.6	179.0	-82.99	9,203.8	-506.9	1,118.1	764.3	353.84	3.160		
17,400.0	7,702.0	17,296.4	7,565.1	179.5	180.9	-82.97	9,303.8	-507.0	1,118.2	760.5	357.64	3.127		
17,500.0	7,702.0	17,396.4	7,564.7	181.4	182.8	-82.95	9,403.8	-507.0	1,118.2	756.8	361.45	3.094		
17,600.0	7,702.0	17,496.4	7,564.3	183.3	184.7	-82.93	9,503.8	-507.0	1,118.3	753.0	365.25	3.062		
17,700.0	7,702.0	17,596.4	7,563.9	185.3	186.7	-82.91	9,603.8	-507.1	1,118.3	749.3	369.06	3.030		
17,800.0	7,702.0	17,696.4	7,563.5	187.2	188.6	-82.89	9,703.8	-507.1	1,118.4	745.5	372.86	2.999		
17,900.0	7,702.0	17,796.4	7,563.1	189.1	190.5	-82.87	9,803.8	-507.1	1,118.4	741.8	376.66	2.969		
18,000.0	7,702.0	17,896.4	7,562.7	191.0	192.4	-82.85	9,903.8	-507.2	1,118.5	738.0	380.47	2.940		
18,100.0	7,702.0	17,996.4	7,562.3	192.9	194.4	-82.83	10,003.8	-507.2	1,118.5	734.3	384.27	2.911		
18,184.4	7,702.0	18,080.9	7,562.0	194.4	196.0	-82.81	10,088.2	-507.2	1,118.6	731.2	387.39	2.887 SF		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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	-90.02	0.0	-24.6	24.6					
100.0	100.0	100.0	100.0	0.1	0.1	-90.02	0.0	-24.6	24.6	24.4	0.22	109.440		
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-24.6	24.6	23.9	0.67	36.480		
300.0	300.0	300.0	300.0	0.6	0.6	-90.02	0.0	-24.6	24.6	23.5	1.12	21.888		
400.0	400.0	400.0	400.0	0.8	0.8	-90.02	0.0	-24.6	24.6	23.0	1.57	15.634		
500.0	500.0	500.0	500.0	1.0	1.0	-90.02	0.0	-24.6	24.6	22.6	2.02	12.160		
600.0	600.0	600.0	600.0	1.2	1.2	-90.02	0.0	-24.6	24.6	22.1	2.47	9.949		
700.0	700.0	700.0	700.0	1.5	1.5	-90.02	0.0	-24.6	24.6	21.7	2.92	8.418		
800.0	800.0	800.0	800.0	1.7	1.7	-90.02	0.0	-24.6	24.6	21.2	3.37	7.296		
900.0	900.0	900.0	900.0	1.9	1.9	-90.02	0.0	-24.6	24.6	20.8	3.82	6.438		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.02	0.0	-24.6	24.6	20.3	4.27	5.760		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.02	0.0	-24.6	24.6	19.9	4.72	5.211		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.02	0.0	-24.6	24.6	19.4	5.17	4.758		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.02	0.0	-24.6	24.6	19.0	5.62	4.378		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.02	0.0	-24.6	24.6	18.5	6.07	4.053		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-90.02	0.0	-24.6	24.6	18.1	6.52	3.774		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-90.02	0.0	-24.6	24.6	17.6	6.97	3.530		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-90.02	0.0	-24.6	24.6	17.2	7.42	3.316		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-90.02	0.0	-24.6	24.6	16.7	7.87	3.127		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	-90.02	0.0	-24.6	24.6	16.3	8.32	2.958 CC, ES		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	136.60	0.0	-24.6	25.5	16.8	8.74	2.921		
2,100.0	2,099.9	2,099.9	2,099.9	4.5	4.6	142.00	0.0	-24.6	28.5	19.4	9.14	3.120		
2,200.0	2,199.7	2,200.1	2,200.1	4.7	4.8	146.84	-1.3	-24.2	33.3	23.8	9.51	3.500		
2,300.0	2,299.3	2,300.4	2,300.3	4.9	5.0	149.05	-5.1	-23.2	39.1	29.3	9.85	3.973		
2,400.0	2,398.6	2,400.7	2,400.4	5.1	5.2	149.47	-11.4	-21.4	46.0	35.8	10.20	4.505		
2,500.0	2,497.5	2,501.1	2,500.3	5.4	5.3	148.76	-20.3	-19.0	53.7	43.1	10.57	5.082		
2,600.0	2,596.1	2,601.4	2,600.0	5.6	5.5	147.36	-31.7	-15.8	62.4	51.4	10.95	5.696		
2,700.0	2,694.2	2,701.7	2,699.3	5.9	5.8	145.56	-45.6	-12.0	72.0	60.6	11.38	6.326		
2,800.0	2,792.1	2,801.2	2,797.5	6.2	6.0	143.76	-60.5	-7.8	81.6	69.8	11.86	6.886		
2,900.0	2,890.1	2,900.7	2,895.8	6.5	6.2	142.33	-75.5	-3.7	91.4	79.0	12.36	7.391		
3,000.0	2,988.1	3,000.2	2,994.1	6.9	6.5	141.18	-90.4	0.4	101.2	88.3	12.90	7.845		
3,100.0	3,086.0	3,099.8	3,092.4	7.2	6.8	140.23	-105.4	4.6	111.0	97.5	13.45	8.253		
3,200.0	3,184.0	3,199.3	3,190.7	7.6	7.0	139.44	-120.3	8.7	120.8	106.8	14.02	8.618		
3,300.0	3,282.0	3,298.8	3,289.0	8.0	7.3	138.77	-135.3	12.9	130.7	116.1	14.61	8.945		
3,400.0	3,379.9	3,398.3	3,387.3	8.4	7.6	138.19	-150.2	17.0	140.6	125.3	15.21	9.240		
3,500.0	3,477.9	3,497.8	3,485.5	8.7	7.9	137.69	-165.2	21.1	150.4	134.6	15.83	9.504		
3,600.0	3,575.8	3,597.3	3,583.8	9.1	8.2	137.25	-180.2	25.3	160.3	143.9	16.46	9.742		
3,700.0	3,673.8	3,696.8	3,682.1	9.5	8.6	136.86	-195.1	29.4	170.3	153.2	17.10	9.957		
3,800.0	3,771.8	3,796.3	3,780.4	9.9	8.9	136.51	-210.1	33.6	180.2	162.4	17.75	10.151		
3,900.0	3,869.7	3,895.8	3,878.7	10.3	9.2	136.20	-225.0	37.7	190.1	171.7	18.41	10.327		
4,000.0	3,967.7	3,995.3	3,977.0	10.8	9.5	135.92	-240.0	41.9	200.0	180.9	19.07	10.487		
4,100.0	4,065.7	4,094.8	4,075.2	11.2	9.9	135.67	-254.9	46.0	209.9	190.2	19.75	10.632		
4,200.0	4,163.6	4,194.3	4,173.5	11.6	10.2	135.44	-269.9	50.1	219.9	199.4	20.42	10.765		
4,300.0	4,261.6	4,293.8	4,271.8	12.0	10.5	135.23	-284.8	54.3	229.8	208.7	21.11	10.887		
4,400.0	4,359.5	4,393.3	4,370.1	12.4	10.9	135.03	-299.8	58.4	239.7	217.9	21.80	10.998		
4,500.0	4,457.5	4,492.8	4,468.4	12.9	11.2	134.86	-314.7	62.6	249.7	227.2	22.49	11.101		
4,600.0	4,555.5	4,592.3	4,566.7	13.3	11.6	134.69	-329.7	66.7	259.6	236.4	23.19	11.195		
4,700.0	4,653.4	4,691.8	4,665.0	13.7	11.9	134.54	-344.6	70.8	269.6	245.7	23.89	11.283		
4,800.0	4,751.4	4,791.3	4,763.2	14.2	12.3	134.40	-359.6	75.0	279.5	254.9	24.60	11.363		
4,900.0	4,849.4	4,890.8	4,861.5	14.6	12.6	134.27	-374.5	79.1	289.5	264.2	25.31	11.438		
5,000.0	4,947.3	4,990.3	4,959.8	15.0	13.0	134.15	-389.5	83.3	299.4	273.4	26.02	11.507		
5,100.0	5,045.3	5,089.8	5,058.1	15.5	13.3	134.03	-404.4	87.4	309.4	282.6	26.73	11.572		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	5,143.2	5,189.3	5,156.4	15.9	13.7	133.92	-419.4	91.5	319.3	291.9	27.45	11.632		
5,300.0	5,241.2	5,288.8	5,254.7	16.3	14.0	133.82	-434.3	95.7	329.3	301.1	28.17	11.688		
5,400.0	5,339.2	5,388.3	5,353.0	16.8	14.4	133.73	-449.3	99.8	339.2	310.3	28.89	11.741		
5,500.0	5,437.1	5,487.8	5,451.2	17.2	14.7	133.64	-464.2	104.0	349.2	319.6	29.62	11.790		
5,600.0	5,535.1	5,587.3	5,549.5	17.7	15.1	133.55	-479.2	108.1	359.1	328.8	30.34	11.836		
5,700.0	5,633.1	5,686.8	5,647.8	18.1	15.4	133.47	-494.1	112.2	369.1	338.0	31.07	11.880		
5,800.0	5,731.0	5,786.3	5,746.1	18.5	15.8	133.40	-509.1	116.4	379.1	347.3	31.80	11.921		
5,900.0	5,829.0	5,885.8	5,844.4	19.0	16.2	133.32	-524.0	120.5	389.0	356.5	32.53	11.959		
6,000.0	5,926.9	5,985.3	5,942.7	19.4	16.5	133.26	-539.0	124.7	399.0	365.7	33.26	11.995		
6,100.0	6,024.9	6,084.8	6,040.9	19.9	16.9	133.19	-553.9	128.8	408.9	374.9	33.99	12.030		
6,200.0	6,122.9	6,184.3	6,139.2	20.3	17.3	133.13	-568.9	132.9	418.9	384.2	34.73	12.062		
6,300.0	6,220.8	6,283.8	6,237.5	20.8	17.6	133.07	-583.8	137.1	428.9	393.4	35.46	12.093		
6,400.0	6,319.1	6,380.3	6,333.0	21.1	17.9	133.14	-597.3	140.8	438.0	401.9	36.12	12.127		
6,500.0	6,418.0	6,476.4	6,428.5	21.4	18.2	133.27	-607.6	143.7	445.6	409.0	36.62	12.169		
6,600.0	6,517.3	6,572.4	6,524.2	21.7	18.4	133.47	-614.8	145.7	451.7	414.6	37.03	12.196		
6,700.0	6,616.9	6,668.5	6,620.2	21.9	18.5	133.72	-618.9	146.8	456.1	418.8	37.37	12.205		
6,800.0	6,716.8	6,765.1	6,716.8	22.0	18.7	134.04	-620.0	147.1	459.1	421.4	37.65	12.194		
6,900.0	6,816.8	6,865.1	6,816.8	22.2	18.9	-90.37	-620.0	147.1	459.9	422.0	37.91	12.132		
7,000.0	6,916.8	6,965.2	6,916.9	22.3	19.0	-90.31	-619.4	147.1	459.9	421.7	38.19	12.043		
7,033.7	6,950.5	6,999.0	6,950.6	22.4	19.0	-90.04	-617.3	147.1	459.9	421.7	38.24	12.026		
7,100.0	7,016.8	7,064.4	7,015.4	22.4	19.1	-89.01	-608.7	147.1	460.0	421.8	38.21	12.038		
7,200.0	7,116.1	7,161.4	7,109.4	22.5	19.0	-87.34	-585.0	147.1	460.4	422.4	37.97	12.125		
7,300.0	7,212.9	7,256.8	7,197.9	22.4	18.9	-85.74	-549.5	147.1	461.2	423.6	37.55	12.282		
7,400.0	7,305.2	7,350.0	7,279.0	22.3	18.7	-84.24	-503.7	147.0	462.3	425.3	37.01	12.489		
7,500.0	7,391.4	7,443.3	7,353.5	22.1	18.5	-82.84	-447.8	147.0	463.6	427.1	36.42	12.728		
7,600.0	7,469.6	7,534.6	7,418.8	21.9	18.3	-81.58	-384.0	147.0	465.0	429.1	35.85	12.968		
7,700.0	7,538.5	7,625.0	7,474.8	21.6	18.1	-80.48	-313.2	147.0	466.4	431.0	35.38	13.181		
7,800.0	7,596.5	7,714.5	7,521.1	21.3	18.0	-79.55	-236.6	146.9	467.7	432.6	35.08	13.332		
7,900.0	7,642.7	7,803.3	7,557.2	21.0	18.0	-78.80	-155.5	146.9	468.9	433.8	35.02	13.390		
8,000.0	7,676.0	7,891.6	7,582.8	20.7	18.1	-78.24	-71.1	146.8	469.8	434.5	35.24	13.331		
8,100.0	7,695.9	7,979.5	7,597.7	20.5	18.3	-77.88	15.5	146.8	470.4	434.6	35.78	13.148		
8,200.0	7,702.0	8,068.3	7,602.0	20.2	18.7	-77.73	104.1	146.8	470.7	434.0	36.62	12.852		
8,300.0	7,702.0	8,168.3	7,601.6	20.0	19.2	-77.68	204.1	146.7	470.7	433.3	37.47	12.565		
8,400.0	7,702.0	8,268.3	7,601.2	20.5	19.7	-77.63	304.1	146.7	470.8	432.6	38.22	12.319		
8,500.0	7,702.0	8,368.3	7,600.8	21.3	20.2	-77.59	404.1	146.6	470.9	431.7	39.25	11.997		
8,600.0	7,702.0	8,468.3	7,600.4	22.2	20.9	-77.54	504.1	146.6	471.0	430.4	40.61	11.598		
8,700.0	7,702.0	8,568.3	7,600.0	23.1	21.8	-77.49	604.1	146.5	471.1	428.8	42.27	11.146		
8,800.0	7,702.0	8,668.3	7,599.6	24.2	22.8	-77.44	704.1	146.5	471.2	427.0	44.18	10.664		
8,900.0	7,702.0	8,768.3	7,599.2	25.4	23.9	-77.40	804.1	146.4	471.3	424.9	46.33	10.172		
9,000.0	7,702.0	8,868.3	7,598.8	26.6	25.1	-77.35	904.1	146.4	471.4	422.7	48.68	9.683		
9,100.0	7,702.0	8,968.3	7,598.4	27.9	26.4	-77.30	1,004.1	146.3	471.4	420.3	51.19	9.209		
9,200.0	7,702.0	9,068.3	7,598.0	29.2	27.8	-77.25	1,104.1	146.3	471.5	417.7	53.86	8.755		
9,300.0	7,702.0	9,168.3	7,597.6	30.7	29.2	-77.21	1,204.1	146.2	471.6	415.0	56.65	8.326		
9,400.0	7,702.0	9,268.3	7,597.2	32.1	30.7	-77.16	1,304.1	146.2	471.7	412.2	59.54	7.922		
9,500.0	7,702.0	9,368.3	7,596.8	33.6	32.3	-77.11	1,404.1	146.2	471.8	409.3	62.53	7.545		
9,600.0	7,702.0	9,468.3	7,596.4	35.1	33.8	-77.06	1,504.1	146.1	471.9	406.3	65.60	7.193		
9,700.0	7,702.0	9,568.3	7,595.9	36.7	35.4	-77.02	1,604.1	146.1	472.0	403.2	68.74	6.866		
9,800.0	7,702.0	9,668.3	7,595.5	38.3	37.1	-76.97	1,704.1	146.0	472.1	400.1	71.94	6.562		
9,900.0	7,702.0	9,768.3	7,595.1	39.9	38.8	-76.92	1,804.1	146.0	472.2	397.0	75.19	6.280		
10,000.0	7,702.0	9,868.3	7,594.7	41.6	40.5	-76.87	1,904.1	145.9	472.2	393.8	78.48	6.017		
10,100.0	7,702.0	9,968.3	7,594.3	43.3	42.2	-76.83	2,004.1	145.9	472.3	390.5	81.82	5.773		
10,200.0	7,702.0	10,068.3	7,593.9	44.9	43.9	-76.78	2,104.1	145.8	472.4	387.2	85.19	5.546		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	10,168.3	7,593.5	46.6	45.6	-76.73	2,204.1	145.8	472.5	383.9	88.59	5.334		
10,400.0	7,702.0	10,268.3	7,593.1	48.4	47.4	-76.68	2,304.1	145.8	472.6	380.6	92.02	5.136		
10,500.0	7,702.0	10,368.3	7,592.7	50.1	49.2	-76.64	2,404.1	145.7	472.7	377.2	95.47	4.951		
10,600.0	7,702.0	10,468.3	7,592.3	51.9	51.0	-76.59	2,504.1	145.7	472.8	373.9	98.94	4.779		
10,700.0	7,702.0	10,568.3	7,591.9	53.6	52.8	-76.54	2,604.1	145.6	472.9	370.5	102.43	4.617		
10,800.0	7,702.0	10,668.3	7,591.5	55.4	54.6	-76.49	2,704.1	145.6	473.0	367.0	105.94	4.465		
10,900.0	7,702.0	10,768.3	7,591.1	57.2	56.4	-76.45	2,804.1	145.5	473.1	363.6	109.47	4.322		
11,000.0	7,702.0	10,868.3	7,590.7	59.0	58.2	-76.40	2,904.1	145.5	473.2	360.2	113.00	4.187		
11,100.0	7,702.0	10,968.3	7,590.3	60.8	60.1	-76.35	3,004.1	145.4	473.3	356.7	116.55	4.061		
11,200.0	7,702.0	11,068.3	7,589.9	62.6	61.9	-76.31	3,104.1	145.4	473.4	353.2	120.11	3.941		
11,300.0	7,702.0	11,168.3	7,589.5	64.4	63.7	-76.26	3,204.1	145.4	473.5	349.8	123.68	3.828		
11,400.0	7,702.0	11,268.3	7,589.1	66.2	65.6	-76.21	3,304.1	145.3	473.5	346.3	127.26	3.721		
11,500.0	7,702.0	11,368.3	7,588.7	68.0	67.4	-76.16	3,404.1	145.3	473.6	342.8	130.85	3.620		
11,600.0	7,702.0	11,468.3	7,588.3	69.9	69.3	-76.12	3,504.1	145.2	473.7	339.3	134.45	3.524		
11,700.0	7,702.0	11,568.3	7,587.9	71.7	71.2	-76.07	3,604.1	145.2	473.8	335.8	138.05	3.432		
11,800.0	7,702.0	11,668.3	7,587.5	73.5	73.0	-76.02	3,704.1	145.2	473.9	332.3	141.66	3.346		
11,900.0	7,702.0	11,768.3	7,587.1	75.4	74.9	-75.98	3,804.1	145.1	474.0	328.8	145.27	3.263		
12,000.0	7,702.0	11,868.3	7,586.7	77.2	76.8	-75.93	3,904.1	145.1	474.1	325.2	148.89	3.184		
12,100.0	7,702.0	11,968.3	7,586.3	79.1	78.6	-75.88	4,004.1	145.0	474.2	321.7	152.51	3.109		
12,200.0	7,702.0	12,068.3	7,585.9	80.9	80.5	-75.84	4,104.1	145.0	474.3	318.2	156.14	3.038		
12,300.0	7,702.0	12,168.3	7,585.5	82.8	82.4	-75.79	4,204.1	144.9	474.4	314.6	159.77	2.969		
12,400.0	7,702.0	12,268.3	7,585.1	84.7	84.3	-75.74	4,304.1	144.9	474.5	311.1	163.41	2.904		
12,500.0	7,702.0	12,368.3	7,584.7	86.5	86.2	-75.69	4,404.1	144.9	474.6	307.6	167.04	2.841		
12,600.0	7,702.0	12,468.3	7,584.3	88.4	88.1	-75.65	4,504.1	144.8	474.7	304.0	170.68	2.781		
12,700.0	7,702.0	12,568.3	7,583.9	90.3	90.0	-75.60	4,604.1	144.8	474.8	300.5	174.33	2.724		
12,800.0	7,702.0	12,668.3	7,583.5	92.1	91.8	-75.55	4,704.1	144.7	474.9	296.9	177.97	2.668		
12,900.0	7,702.0	12,768.3	7,583.1	94.0	93.7	-75.51	4,804.1	144.7	475.0	293.4	181.62	2.615		
13,000.0	7,702.0	12,868.3	7,582.7	95.9	95.6	-75.46	4,904.1	144.7	475.1	289.8	185.27	2.564		
13,100.0	7,702.0	12,968.3	7,582.3	97.8	97.5	-75.41	5,004.0	144.6	475.2	286.3	188.92	2.515		
13,200.0	7,702.0	13,068.3	7,581.9	99.6	99.4	-75.37	5,104.0	144.6	475.3	282.7	192.57	2.468		
13,300.0	7,702.0	13,168.3	7,581.5	101.5	101.3	-75.32	5,204.0	144.5	475.4	279.2	196.22	2.423		
13,400.0	7,702.0	13,268.3	7,581.1	103.4	103.2	-75.27	5,304.0	144.5	475.5	275.6	199.88	2.379		
13,500.0	7,702.0	13,368.3	7,580.7	105.3	105.1	-75.23	5,404.0	144.5	475.6	272.1	203.53	2.337		
13,600.0	7,702.0	13,468.3	7,580.3	107.2	107.0	-75.18	5,504.0	144.4	475.7	268.5	207.19	2.296		
13,700.0	7,702.0	13,568.3	7,579.9	109.1	109.0	-75.13	5,604.0	144.4	475.8	264.9	210.85	2.257		
13,800.0	7,702.0	13,668.3	7,579.5	111.0	110.9	-75.09	5,704.0	144.4	475.9	261.4	214.50	2.219		
13,900.0	7,702.0	13,768.3	7,579.1	112.8	112.8	-75.04	5,804.0	144.3	476.0	257.8	218.16	2.182		
14,000.0	7,702.0	13,868.3	7,578.7	114.7	114.7	-74.99	5,904.0	144.3	476.1	254.3	221.82	2.146		
14,100.0	7,702.0	13,968.3	7,578.3	116.6	116.6	-74.95	6,004.0	144.2	476.2	250.7	225.48	2.112		
14,200.0	7,702.0	14,068.3	7,577.9	118.5	118.5	-74.90	6,104.0	144.2	476.3	247.2	229.14	2.079		
14,300.0	7,702.0	14,168.3	7,577.5	120.4	120.4	-74.85	6,204.0	144.2	476.4	243.6	232.80	2.046		
14,400.0	7,702.0	14,268.3	7,577.1	122.3	122.3	-74.81	6,304.0	144.1	476.5	240.0	236.46	2.015		
14,500.0	7,702.0	14,368.3	7,576.7	124.2	124.2	-74.76	6,404.0	144.1	476.6	236.5	240.11	1.985		
14,600.0	7,702.0	14,468.3	7,576.3	126.1	126.1	-74.71	6,504.0	144.1	476.7	232.9	243.77	1.956		
14,700.0	7,702.0	14,568.3	7,575.9	128.0	128.1	-74.67	6,604.0	144.0	476.8	229.4	247.43	1.927		
14,800.0	7,702.0	14,668.3	7,575.5	129.9	130.0	-74.62	6,704.0	144.0	476.9	225.8	251.09	1.899		
14,900.0	7,702.0	14,768.3	7,575.1	131.8	131.9	-74.58	6,804.0	143.9	477.0	222.3	254.75	1.873		
15,000.0	7,702.0	14,868.3	7,574.7	133.7	133.8	-74.53	6,904.0	143.9	477.1	218.7	258.40	1.846		
15,100.0	7,702.0	14,968.3	7,574.3	135.6	135.7	-74.48	7,004.0	143.9	477.2	215.2	262.06	1.821		
15,200.0	7,702.0	15,068.3	7,573.9	137.5	137.6	-74.44	7,104.0	143.8	477.3	211.6	265.72	1.796		
15,300.0	7,702.0	15,168.3	7,573.5	139.4	139.6	-74.39	7,204.0	143.8	477.4	208.1	269.37	1.772		
15,400.0	7,702.0	15,268.3	7,573.1	141.3	141.5	-74.34	7,304.0	143.8	477.5	204.5	273.03	1.749		

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 539-1807H
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 539-1807H	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 (2-28-17)	Offset TVD Reference:	Offset Datum

Offset Design Critter Creek 18 SW Pad Sec.18-T11N-R63W - Critter Creek 202-1807H - 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							
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	
15,500.0	7,702.0	15,368.3	7,572.7	143.2	143.4	-74.30	7,404.0	143.7	477.6	201.0	276.69	1.726		
15,600.0	7,702.0	15,468.3	7,572.3	145.1	145.3	-74.25	7,504.0	143.7	477.7	197.4	280.34	1.704		
15,700.0	7,702.0	15,568.3	7,571.9	147.0	147.2	-74.20	7,604.0	143.7	477.9	193.9	283.99	1.683		
15,800.0	7,702.0	15,668.3	7,571.5	148.9	149.2	-74.16	7,704.0	143.6	478.0	190.3	287.65	1.662		
15,900.0	7,702.0	15,768.3	7,571.1	150.9	151.1	-74.11	7,804.0	143.6	478.1	186.8	291.30	1.641		
16,000.0	7,702.0	15,868.3	7,570.7	152.8	153.0	-74.07	7,904.0	143.6	478.2	183.2	294.95	1.621		
16,100.0	7,702.0	15,968.3	7,570.3	154.7	154.9	-74.02	8,004.0	143.5	478.3	179.7	298.60	1.602		
16,200.0	7,702.0	16,068.3	7,569.9	156.6	156.8	-73.97	8,104.0	143.5	478.4	176.1	302.25	1.583		
16,300.0	7,702.0	16,168.3	7,569.5	158.5	158.8	-73.93	8,204.0	143.4	478.5	172.6	305.90	1.564		
16,400.0	7,702.0	16,268.3	7,569.1	160.4	160.7	-73.88	8,304.0	143.4	478.6	169.1	309.55	1.546		
16,500.0	7,702.0	16,368.3	7,568.7	162.3	162.6	-73.84	8,404.0	143.4	478.7	165.5	313.19	1.528		
16,600.0	7,702.0	16,468.3	7,568.3	164.2	164.5	-73.79	8,504.0	143.3	478.8	162.0	316.84	1.511		
16,700.0	7,702.0	16,568.3	7,567.9	166.1	166.5	-73.74	8,604.0	143.3	478.9	158.4	320.48	1.494	Level 3	
16,800.0	7,702.0	16,668.3	7,567.5	168.0	168.4	-73.70	8,704.0	143.3	479.0	154.9	324.13	1.478	Level 3	
16,900.0	7,702.0	16,768.3	7,567.1	169.9	170.3	-73.65	8,804.0	143.2	479.1	151.4	327.77	1.462	Level 3	
17,000.0	7,702.0	16,868.3	7,566.7	171.9	172.2	-73.61	8,904.0	143.2	479.3	147.8	331.41	1.446	Level 3	
17,100.0	7,702.0	16,968.3	7,566.3	173.8	174.2	-73.56	9,004.0	143.2	479.4	144.3	335.05	1.431	Level 3	
17,200.0	7,702.0	17,068.3	7,565.9	175.7	176.1	-73.51	9,104.0	143.1	479.5	140.8	338.69	1.416	Level 3	
17,300.0	7,702.0	17,168.3	7,565.5	177.6	178.0	-73.47	9,204.0	143.1	479.6	137.3	342.33	1.401	Level 3	
17,400.0	7,702.0	17,268.3	7,565.1	179.5	179.9	-73.42	9,304.0	143.1	479.7	133.7	345.97	1.387	Level 3	
17,500.0	7,702.0	17,368.3	7,564.7	181.4	181.9	-73.38	9,404.0	143.0	479.8	130.2	349.60	1.372	Level 3	
17,600.0	7,702.0	17,468.3	7,564.3	183.3	183.8	-73.33	9,504.0	143.0	479.9	126.7	353.24	1.359	Level 3	
17,700.0	7,702.0	17,568.3	7,563.9	185.3	185.7	-73.28	9,604.0	143.0	480.0	123.2	356.87	1.345	Level 3	
17,800.0	7,702.0	17,668.3	7,563.5	187.2	187.6	-73.24	9,704.0	143.0	480.1	119.6	360.50	1.332	Level 3	
17,900.0	7,702.0	17,768.3	7,563.1	189.1	189.6	-73.19	9,804.0	142.9	480.2	116.1	364.13	1.319	Level 3	
18,000.0	7,702.0	17,868.3	7,562.7	191.0	191.5	-73.15	9,904.0	142.9	480.4	112.6	367.76	1.306	Level 3	
18,100.0	7,702.0	17,968.3	7,562.3	192.9	193.4	-73.10	10,004.0	142.9	480.5	109.1	371.39	1.294	Level 3	
18,184.4	7,702.0	18,052.7	7,562.0	194.4	195.0	-73.06	10,088.4	142.8	480.6	106.3	374.30	1.284	Level 3, SF	

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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	89.98	0.0	25.4	25.4					
100.0	100.0	100.0	100.0	0.1	0.1	89.98	0.0	25.4	25.4	25.2	0.22	113.129		
200.0	200.0	200.0	200.0	0.3	0.3	89.98	0.0	25.4	25.4	24.8	0.67	37.710		
300.0	300.0	300.0	300.0	0.6	0.6	89.98	0.0	25.4	25.4	24.3	1.12	22.626		
400.0	400.0	400.0	400.0	0.8	0.8	89.98	0.0	25.4	25.4	23.9	1.57	16.161		
500.0	500.0	500.0	500.0	1.0	1.0	89.98	0.0	25.4	25.4	23.4	2.02	12.570		
600.0	600.0	600.0	600.0	1.2	1.2	89.98	0.0	25.4	25.4	23.0	2.47	10.284		
700.0	700.0	700.0	700.0	1.5	1.5	89.98	0.0	25.4	25.4	22.5	2.92	8.702		
800.0	800.0	800.0	800.0	1.7	1.7	89.98	0.0	25.4	25.4	22.1	3.37	7.542		
900.0	900.0	900.0	900.0	1.9	1.9	89.98	0.0	25.4	25.4	21.6	3.82	6.655		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	89.98	0.0	25.4	25.4	21.2	4.27	5.954		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	89.98	0.0	25.4	25.4	20.7	4.72	5.387		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	89.98	0.0	25.4	25.4	20.3	5.17	4.919		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	89.98	0.0	25.4	25.4	19.8	5.62	4.525		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	89.98	0.0	25.4	25.4	19.4	6.07	4.190		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	89.98	0.0	25.4	25.4	18.9	6.52	3.901		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	89.98	0.0	25.4	25.4	18.5	6.97	3.649		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	89.98	0.0	25.4	25.4	18.0	7.42	3.428 CC		
1,800.0	1,800.0	1,799.5	1,799.5	3.9	3.9	91.74	-0.8	26.4	26.5	18.6	7.84	3.373		
1,900.0	1,900.0	1,898.8	1,898.7	4.2	4.1	96.26	-3.2	29.5	29.7	21.4	8.25	3.596		
2,000.0	2,000.0	1,997.9	1,997.6	4.4	4.3	-34.74	-7.3	34.5	34.2	25.6	8.63	3.967		
2,100.0	2,099.9	2,096.9	2,096.2	4.5	4.5	-31.73	-12.9	41.5	39.1	30.1	8.99	4.347		
2,200.0	2,199.7	2,195.8	2,194.4	4.7	4.7	-29.76	-20.1	50.5	44.1	34.8	9.36	4.715		
2,300.0	2,299.3	2,294.6	2,292.2	4.9	4.9	-28.52	-28.9	61.4	49.3	39.6	9.74	5.066		
2,400.0	2,398.6	2,393.2	2,389.4	5.1	5.2	-27.82	-39.3	74.3	54.6	44.5	10.12	5.397		
2,500.0	2,497.5	2,491.7	2,486.0	5.4	5.5	-27.50	-51.2	89.2	60.0	49.5	10.52	5.707		
2,600.0	2,596.1	2,590.2	2,582.1	5.6	5.8	-27.49	-64.6	105.9	65.5	54.5	10.93	5.992		
2,700.0	2,694.2	2,690.1	2,679.4	5.9	6.2	-28.15	-78.9	123.7	69.6	58.3	11.37	6.124		
2,800.0	2,792.1	2,790.0	2,776.7	6.2	6.5	-29.01	-93.2	141.5	73.2	61.4	11.86	6.172		
2,900.0	2,890.1	2,889.9	2,874.0	6.5	6.9	-29.80	-107.4	159.2	76.8	64.5	12.38	6.207		
3,000.0	2,988.1	2,989.9	2,971.3	6.9	7.3	-30.51	-121.7	177.0	80.4	67.5	12.91	6.231		
3,100.0	3,086.0	3,089.8	3,068.6	7.2	7.8	-31.16	-136.0	194.8	84.1	70.6	13.46	6.246		
3,200.0	3,184.0	3,189.7	3,165.9	7.6	8.2	-31.76	-150.2	212.5	87.7	73.7	14.02	6.253		
3,300.0	3,282.0	3,289.7	3,263.2	8.0	8.6	-32.31	-164.5	230.3	91.3	76.7	14.60	6.255		
3,400.0	3,379.9	3,389.6	3,360.5	8.4	9.1	-32.82	-178.8	248.1	95.0	79.8	15.20	6.251		
3,500.0	3,477.9	3,489.5	3,457.8	8.7	9.5	-33.29	-193.1	265.8	98.6	82.8	15.80	6.243		
3,600.0	3,575.8	3,589.5	3,555.1	9.1	10.0	-33.72	-207.3	283.6	102.3	85.9	16.42	6.232		
3,700.0	3,673.8	3,689.4	3,652.4	9.5	10.4	-34.13	-221.6	301.4	106.0	88.9	17.04	6.218		
3,800.0	3,771.8	3,789.3	3,749.7	9.9	10.9	-34.51	-235.9	319.1	109.7	92.0	17.68	6.202		
3,900.0	3,869.7	3,889.2	3,847.0	10.3	11.4	-34.86	-250.1	336.9	113.3	95.0	18.32	6.185		
4,000.0	3,967.7	3,989.2	3,944.3	10.8	11.8	-35.19	-264.4	354.7	117.0	98.0	18.98	6.166		
4,100.0	4,065.7	4,089.1	4,041.6	11.2	12.3	-35.51	-278.7	372.4	120.7	101.1	19.63	6.147		
4,200.0	4,163.6	4,189.0	4,138.9	11.6	12.8	-35.80	-292.9	390.2	124.4	104.1	20.30	6.128		
4,300.0	4,261.6	4,289.0	4,236.2	12.0	13.3	-36.08	-307.2	408.0	128.1	107.1	20.97	6.108		
4,400.0	4,359.5	4,388.9	4,333.5	12.4	13.7	-36.34	-321.5	425.7	131.8	110.1	21.65	6.087		
4,500.0	4,457.5	4,488.8	4,430.8	12.9	14.2	-36.58	-335.7	443.5	135.5	113.1	22.33	6.067		
4,600.0	4,555.5	4,588.8	4,528.1	13.3	14.7	-36.82	-350.0	461.3	139.2	116.2	23.02	6.047		
4,700.0	4,653.4	4,688.7	4,625.4	13.7	15.2	-37.04	-364.3	479.0	142.9	119.2	23.71	6.027		
4,800.0	4,751.4	4,788.6	4,722.7	14.2	15.7	-37.25	-378.6	496.8	146.6	122.2	24.40	6.007		
4,900.0	4,849.4	4,888.5	4,820.0	14.6	16.2	-37.45	-392.8	514.6	150.3	125.2	25.10	5.988		
5,000.0	4,947.3	4,988.5	4,917.3	15.0	16.6	-37.64	-407.1	532.3	154.0	128.2	25.80	5.969		
5,100.0	5,045.3	5,088.4	5,014.6	15.5	17.1	-37.82	-421.4	550.1	157.7	131.2	26.51	5.950		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	5,143.2	5,188.3	5,111.8	15.9	17.6	-37.99	-435.6	567.9	161.4	134.2	27.21	5.931		
5,300.0	5,241.2	5,288.3	5,209.1	16.3	18.1	-38.16	-449.9	585.6	165.1	137.2	27.93	5.913		
5,400.0	5,339.2	5,388.2	5,306.4	16.8	18.6	-38.32	-464.2	603.4	168.8	140.2	28.64	5.896		
5,500.0	5,437.1	5,488.1	5,403.7	17.2	19.1	-38.47	-478.4	621.2	172.6	143.2	29.35	5.879		
5,600.0	5,535.1	5,588.1	5,501.0	17.7	19.6	-38.61	-492.7	638.9	176.3	146.2	30.07	5.862		
5,700.0	5,633.1	5,688.0	5,598.3	18.1	20.1	-38.75	-507.0	656.7	180.0	149.2	30.79	5.846		
5,800.0	5,731.0	5,787.9	5,695.6	18.5	20.6	-38.89	-521.2	674.5	183.7	152.2	31.51	5.830		
5,900.0	5,829.0	5,887.8	5,792.9	19.0	21.1	-39.01	-535.5	692.2	187.4	155.2	32.24	5.814		
6,000.0	5,926.9	5,987.8	5,890.2	19.4	21.6	-39.14	-549.8	710.0	191.2	158.2	32.96	5.799		
6,100.0	6,024.9	6,087.7	5,987.5	19.9	22.1	-39.26	-564.0	727.8	194.9	161.2	33.69	5.785		
6,200.0	6,122.9	6,190.0	6,087.2	20.3	22.5	-39.42	-578.5	745.7	198.4	163.9	34.42	5.763		
6,300.0	6,220.8	6,296.2	6,191.3	20.8	22.9	-40.08	-591.5	761.9	199.3	164.1	35.21	5.660		
6,400.0	6,319.1	6,402.2	6,296.0	21.1	23.2	-41.04	-602.1	775.1	198.5	162.5	36.01	5.511		
6,500.0	6,418.0	6,508.2	6,401.2	21.4	23.5	-41.95	-610.2	785.2	197.2	160.5	36.70	5.374		
6,600.0	6,517.3	6,614.0	6,506.6	21.7	23.7	-42.80	-615.9	792.3	195.6	158.3	37.32	5.242		
6,700.0	6,616.9	6,719.8	6,612.2	21.9	23.9	-43.59	-619.1	796.4	193.6	155.8	37.86	5.115		
6,800.0	6,716.8	6,824.4	6,716.8	22.0	24.0	-44.33	-620.0	797.4	191.3	153.0	38.33	4.991		
6,900.0	6,816.8	6,924.4	6,816.8	22.2	24.1	90.90	-620.0	797.4	190.5	151.8	38.64	4.929		
7,000.0	6,916.8	7,024.5	6,916.9	22.3	24.2	90.70	-619.3	797.4	190.4	151.5	38.97	4.886		
7,034.4	6,951.3	7,059.0	6,951.3	22.4	24.3	90.10	-617.0	797.4	190.4	151.2	39.22	4.855		
7,100.0	7,016.8	7,123.6	7,015.3	22.4	24.3	87.55	-608.2	797.4	190.6	150.6	39.98	4.768		
7,200.0	7,116.1	7,220.6	7,109.2	22.5	24.3	83.47	-584.2	797.4	191.7	150.7	40.97	4.679		
7,300.0	7,212.9	7,315.9	7,197.6	22.4	24.1	79.61	-548.6	797.4	193.7	152.1	41.56	4.660		
7,400.0	7,305.2	7,409.7	7,279.1	22.3	24.0	76.05	-502.4	797.4	196.3	154.6	41.67	4.710		
7,500.0	7,391.4	7,502.2	7,352.9	22.1	23.7	72.86	-446.8	797.3	199.4	158.1	41.32	4.826		
7,600.0	7,469.6	7,593.4	7,418.1	21.9	23.5	70.07	-383.0	797.3	202.7	162.1	40.55	4.998		
7,700.0	7,538.5	7,683.7	7,474.1	21.6	23.2	67.70	-312.3	797.3	205.9	166.4	39.50	5.213		
7,800.0	7,596.5	7,773.1	7,520.4	21.3	23.0	65.76	-235.8	797.2	208.9	170.5	38.37	5.444		
7,900.0	7,642.7	7,861.9	7,556.6	21.0	22.7	64.26	-154.8	797.2	211.5	174.1	37.38	5.657		
8,000.0	7,676.0	7,950.0	7,582.3	20.7	22.5	63.19	-70.6	797.2	213.4	176.7	36.75	5.807		
8,100.0	7,695.9	8,038.2	7,597.5	20.5	22.2	62.53	16.1	797.1	214.6	178.0	36.68	5.851		
8,200.0	7,702.0	8,126.6	7,602.0	20.2	22.0	62.29	104.4	797.1	215.1	177.8	37.28	5.769		
8,300.0	7,702.0	8,226.6	7,601.6	20.0	21.9	62.20	204.4	797.0	215.3	177.0	38.29	5.622		
8,400.0	7,702.0	8,326.6	7,601.2	20.5	22.0	62.10	304.4	797.0	215.5	176.1	39.33	5.478		
8,500.0	7,702.0	8,426.6	7,600.8	21.3	22.5	62.01	404.4	797.0	215.7	175.0	40.65	5.305		
8,600.0	7,702.0	8,526.6	7,600.4	22.2	23.5	61.91	504.4	796.9	215.9	173.6	42.27	5.107		
8,700.0	7,702.0	8,626.6	7,600.0	23.1	24.6	61.82	604.4	796.9	216.0	171.9	44.09	4.900		
8,800.0	7,702.0	8,726.6	7,599.6	24.2	25.8	61.72	704.4	796.8	216.2	170.1	46.11	4.690		
8,900.0	7,702.0	8,826.6	7,599.2	25.4	27.2	61.63	804.4	796.8	216.4	168.1	48.28	4.483		
9,000.0	7,702.0	8,926.6	7,598.8	26.6	28.5	61.54	904.4	796.7	216.6	166.0	50.59	4.282		
9,100.0	7,702.0	9,026.6	7,598.4	27.9	30.0	61.44	1,004.4	796.7	216.8	163.8	53.03	4.089		
9,200.0	7,702.0	9,126.6	7,598.0	29.2	31.5	61.35	1,104.4	796.6	217.0	161.4	55.56	3.905		
9,300.0	7,702.0	9,226.6	7,597.6	30.7	33.0	61.26	1,204.4	796.6	217.2	159.0	58.19	3.732		
9,400.0	7,702.0	9,326.6	7,597.2	32.1	34.6	61.16	1,304.4	796.5	217.4	156.5	60.89	3.570		
9,500.0	7,702.0	9,426.6	7,596.8	33.6	36.2	61.07	1,404.4	796.5	217.6	153.9	63.66	3.417		
9,600.0	7,702.0	9,526.6	7,596.4	35.1	37.8	60.98	1,504.4	796.4	217.8	151.3	66.49	3.275		
9,700.0	7,702.0	9,626.6	7,596.0	36.7	39.4	60.89	1,604.4	796.4	218.0	148.6	69.37	3.142		
9,800.0	7,702.0	9,726.6	7,595.6	38.3	41.1	60.79	1,704.4	796.3	218.1	145.9	72.29	3.018		
9,900.0	7,702.0	9,826.6	7,595.2	39.9	42.8	60.70	1,804.4	796.3	218.3	143.1	75.25	2.902		
10,000.0	7,702.0	9,926.6	7,594.8	41.6	44.5	60.61	1,904.4	796.2	218.5	140.3	78.23	2.793		
10,100.0	7,702.0	10,026.6	7,594.4	43.3	46.2	60.52	2,004.4	796.2	218.7	137.5	81.25	2.692		
10,200.0	7,702.0	10,126.6	7,594.0	44.9	48.0	60.43	2,104.4	796.1	218.9	134.6	84.29	2.597		

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 539-1807H
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 539-1807H	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 (2-28-17)	Offset TVD Reference:	Offset Datum

Offset Design Critter Creek 18 SW Pad Sec.18-T11N-R63W - Critter Creek 203-1807H - 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 (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	10,226.6	7,593.6	46.6	49.7	60.33	2,204.4	796.1	219.1	131.8	87.35	2.508		
10,400.0	7,702.0	10,326.6	7,593.2	48.4	51.5	60.24	2,304.4	796.1	219.3	128.9	90.44	2.425		
10,500.0	7,702.0	10,426.6	7,592.8	50.1	53.3	60.15	2,404.4	796.0	219.5	126.0	93.53	2.347		
10,600.0	7,702.0	10,526.6	7,592.4	51.9	55.1	60.06	2,504.4	796.0	219.7	123.1	96.64	2.273		
10,700.0	7,702.0	10,626.6	7,591.9	53.6	56.9	59.97	2,604.4	795.9	219.9	120.1	99.77	2.204		
10,800.0	7,702.0	10,726.6	7,591.5	55.4	58.7	59.88	2,704.4	795.9	220.1	117.2	102.90	2.139		
10,900.0	7,702.0	10,826.6	7,591.1	57.2	60.5	59.79	2,804.4	795.8	220.3	114.3	106.04	2.077		
11,000.0	7,702.0	10,926.6	7,590.7	59.0	62.3	59.70	2,904.4	795.8	220.5	111.3	109.19	2.019		
11,100.0	7,702.0	11,026.6	7,590.3	60.8	64.1	59.61	3,004.4	795.7	220.7	108.3	112.35	1.964		
11,200.0	7,702.0	11,126.6	7,589.9	62.6	66.0	59.52	3,104.4	795.7	220.9	105.4	115.51	1.912		
11,300.0	7,702.0	11,226.6	7,589.5	64.4	67.8	59.43	3,204.4	795.6	221.1	102.4	118.68	1.863		
11,400.0	7,702.0	11,326.6	7,589.1	66.2	69.6	59.34	3,304.4	795.6	221.3	99.4	121.85	1.816		
11,500.0	7,702.0	11,426.6	7,588.7	68.0	71.5	59.25	3,404.3	795.5	221.5	96.5	125.02	1.772		
11,600.0	7,702.0	11,526.6	7,588.3	69.9	73.3	59.16	3,504.3	795.5	221.7	93.5	128.20	1.729		
11,700.0	7,702.0	11,626.6	7,587.9	71.7	75.2	59.07	3,604.3	795.4	221.9	90.5	131.38	1.689		
11,800.0	7,702.0	11,726.6	7,587.5	73.5	77.0	58.98	3,704.3	795.4	222.1	87.5	134.56	1.651		
11,900.0	7,702.0	11,826.6	7,587.1	75.4	78.9	58.89	3,804.3	795.3	222.3	84.6	137.74	1.614		
12,000.0	7,702.0	11,926.6	7,586.7	77.2	80.7	58.80	3,904.3	795.3	222.5	81.6	140.92	1.579		
12,100.0	7,702.0	12,026.6	7,586.3	79.1	82.6	58.71	4,004.3	795.2	222.7	78.6	144.10	1.545		
12,200.0	7,702.0	12,126.6	7,585.9	80.9	84.5	58.62	4,104.3	795.2	222.9	75.6	147.28	1.513		
12,300.0	7,702.0	12,226.6	7,585.5	82.8	86.3	58.53	4,204.3	795.1	223.1	72.6	150.46	1.483 Level 3		
12,400.0	7,702.0	12,326.6	7,585.1	84.7	88.2	58.44	4,304.3	795.1	223.3	69.7	153.64	1.453 Level 3		
12,500.0	7,702.0	12,426.6	7,584.7	86.5	90.1	58.35	4,404.3	795.0	223.5	66.7	156.82	1.425 Level 3		
12,600.0	7,702.0	12,526.6	7,584.3	88.4	92.0	58.27	4,504.3	795.0	223.7	63.7	160.00	1.398 Level 3		
12,700.0	7,702.0	12,626.6	7,583.9	90.3	93.8	58.18	4,604.3	794.9	223.9	60.7	163.17	1.372 Level 3		
12,800.0	7,702.0	12,726.6	7,583.5	92.1	95.7	58.09	4,704.3	794.9	224.1	57.8	166.35	1.347 Level 3		
12,900.0	7,702.0	12,826.6	7,583.1	94.0	97.6	58.00	4,804.3	794.8	224.3	54.8	169.52	1.323 Level 3		
13,000.0	7,702.0	12,926.6	7,582.7	95.9	99.5	57.91	4,904.3	794.8	224.5	51.8	172.69	1.300 Level 3		
13,100.0	7,702.0	13,026.6	7,582.3	97.8	101.4	57.83	5,004.3	794.7	224.7	48.9	175.86	1.278 Level 3		
13,200.0	7,702.0	13,126.5	7,581.9	99.6	103.3	57.74	5,104.3	794.7	224.9	45.9	179.02	1.256 Level 3		
13,300.0	7,702.0	13,226.5	7,581.5	101.5	105.2	57.65	5,204.3	794.6	225.1	43.0	182.18	1.236 Level 2		
13,400.0	7,702.0	13,326.5	7,581.1	103.4	107.0	57.56	5,304.3	794.6	225.4	40.0	185.34	1.216 Level 2		
13,500.0	7,702.0	13,426.5	7,580.7	105.3	108.9	57.48	5,404.3	794.5	225.6	37.1	188.49	1.197 Level 2		
13,600.0	7,702.0	13,526.5	7,580.3	107.2	110.8	57.39	5,504.3	794.5	225.8	34.1	191.65	1.178 Level 2		
13,700.0	7,702.0	13,626.5	7,579.9	109.1	112.7	57.30	5,604.3	794.4	226.0	31.2	194.80	1.160 Level 2		
13,800.0	7,702.0	13,726.5	7,579.5	111.0	114.6	57.22	5,704.3	794.4	226.2	28.2	197.94	1.143 Level 2		
13,900.0	7,702.0	13,826.5	7,579.1	112.8	116.5	57.13	5,804.3	794.3	226.4	25.3	201.08	1.126 Level 2		
14,000.0	7,702.0	13,926.5	7,578.7	114.7	118.4	57.04	5,904.3	794.3	226.6	22.4	204.22	1.110 Level 2		
14,100.0	7,702.0	14,026.5	7,578.3	116.6	120.3	56.96	6,004.3	794.2	226.8	19.4	207.36	1.094 Level 2		
14,200.0	7,702.0	14,126.5	7,577.9	118.5	122.2	56.87	6,104.3	794.2	227.0	16.5	210.49	1.079 Level 2		
14,300.0	7,702.0	14,226.5	7,577.5	120.4	124.1	56.78	6,204.3	794.1	227.2	13.6	213.62	1.064 Level 2		
14,400.0	7,702.0	14,326.5	7,577.1	122.3	126.0	56.70	6,304.3	794.1	227.4	10.7	216.74	1.049 Level 2		
14,500.0	7,702.0	14,426.5	7,576.7	124.2	127.9	56.61	6,404.3	794.0	227.6	7.8	219.86	1.035 Level 2		
14,600.0	7,702.0	14,526.5	7,576.3	126.1	129.8	56.53	6,504.3	794.0	227.9	4.9	222.97	1.022 Level 2		
14,700.0	7,702.0	14,626.5	7,575.9	128.0	131.7	56.44	6,604.3	793.9	228.1	2.0	226.08	1.009 Level 2		
14,800.0	7,702.0	14,726.5	7,575.5	129.9	133.6	56.36	6,704.3	793.9	228.3	-0.9	229.19	0.996 Level 1		
14,900.0	7,702.0	14,826.5	7,575.1	131.8	135.5	56.27	6,804.3	793.8	228.5	-3.8	232.29	0.984 Level 1		
15,000.0	7,702.0	14,926.5	7,574.7	133.7	137.4	56.19	6,904.3	793.8	228.7	-6.7	235.39	0.972 Level 1		
15,100.0	7,702.0	15,026.5	7,574.3	135.6	139.3	56.10	7,004.3	793.7	228.9	-9.6	238.49	0.960 Level 1		
15,200.0	7,702.0	15,126.5	7,573.9	137.5	141.2	56.02	7,104.3	793.7	229.1	-12.5	241.58	0.948 Level 1		
15,300.0	7,702.0	15,226.5	7,573.5	139.4	143.1	55.93	7,204.3	793.6	229.3	-15.3	244.66	0.937 Level 1		
15,400.0	7,702.0	15,326.5	7,573.1	141.3	145.1	55.85	7,304.3	793.5	229.6	-18.2	247.75	0.927 Level 1		

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 539-1807H
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 539-1807H	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 (2-28-17)	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								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
15,500.0	7,702.0	15,426.5	7,572.7	143.2	147.0	55.76	7,404.3	793.5	229.8	-21.1	250.82	0.916	Level 1		
15,600.0	7,702.0	15,526.5	7,572.3	145.1	148.9	55.68	7,504.3	793.4	230.0	-23.9	253.89	0.906	Level 1		
15,700.0	7,702.0	15,626.5	7,571.9	147.0	150.8	55.59	7,604.3	793.4	230.2	-26.8	256.96	0.896	Level 1		
15,800.0	7,702.0	15,726.5	7,571.5	148.9	152.7	55.51	7,704.3	793.3	230.4	-29.6	260.03	0.886	Level 1		
15,900.0	7,702.0	15,826.5	7,571.1	150.9	154.6	55.43	7,804.3	793.3	230.6	-32.5	263.08	0.877	Level 1		
16,000.0	7,702.0	15,926.5	7,570.7	152.8	156.5	55.34	7,904.3	793.2	230.8	-35.3	266.14	0.867	Level 1		
16,100.0	7,702.0	16,026.5	7,570.3	154.7	158.4	55.26	8,004.3	793.2	231.1	-38.1	269.19	0.858	Level 1		
16,200.0	7,702.0	16,126.5	7,569.9	156.6	160.3	55.18	8,104.3	793.1	231.3	-41.0	272.23	0.850	Level 1		
16,300.0	7,702.0	16,226.5	7,569.5	158.5	162.2	55.09	8,204.3	793.1	231.5	-43.8	275.27	0.841	Level 1		
16,400.0	7,702.0	16,326.5	7,569.1	160.4	164.1	55.01	8,304.3	793.0	231.7	-46.6	278.31	0.833	Level 1		
16,500.0	7,702.0	16,426.5	7,568.7	162.3	166.1	54.93	8,404.3	793.0	231.9	-49.4	281.34	0.824	Level 1		
16,600.0	7,702.0	16,526.5	7,568.3	164.2	168.0	54.84	8,504.3	792.9	232.1	-52.2	284.37	0.816	Level 1		
16,700.0	7,702.0	16,626.5	7,567.9	166.1	169.9	54.76	8,604.3	792.9	232.4	-55.0	287.39	0.809	Level 1		
16,800.0	7,702.0	16,726.5	7,567.5	168.0	171.8	54.68	8,704.3	792.8	232.6	-57.8	290.40	0.801	Level 1		
16,900.0	7,702.0	16,826.5	7,567.1	169.9	173.7	54.60	8,804.3	792.8	232.8	-60.6	293.41	0.793	Level 1		
17,000.0	7,702.0	16,926.5	7,566.7	171.9	175.6	54.51	8,904.3	792.7	233.0	-63.4	296.42	0.786	Level 1		
17,100.0	7,702.0	17,026.5	7,566.3	173.8	177.5	54.43	9,004.3	792.7	233.2	-66.2	299.42	0.779	Level 1		
17,200.0	7,702.0	17,126.5	7,565.9	175.7	179.5	54.35	9,104.3	792.6	233.4	-69.0	302.42	0.772	Level 1		
17,300.0	7,702.0	17,226.5	7,565.5	177.6	181.4	54.27	9,204.3	792.5	233.7	-71.7	305.41	0.765	Level 1		
17,400.0	7,702.0	17,326.5	7,565.1	179.5	183.3	54.18	9,304.3	792.5	233.9	-74.5	308.40	0.758	Level 1		
17,500.0	7,702.0	17,426.5	7,564.7	181.4	185.2	54.10	9,404.3	792.4	234.1	-77.3	311.38	0.752	Level 1		
17,600.0	7,702.0	17,526.5	7,564.3	183.3	187.1	54.02	9,504.3	792.4	234.3	-80.0	314.36	0.745	Level 1		
17,700.0	7,702.0	17,626.5	7,563.9	185.3	189.0	53.94	9,604.3	792.3	234.6	-82.8	317.33	0.739	Level 1		
17,800.0	7,702.0	17,726.5	7,563.5	187.2	190.9	53.86	9,704.3	792.3	234.8	-85.5	320.30	0.733	Level 1		
17,900.0	7,702.0	17,826.5	7,563.1	189.1	192.9	53.78	9,804.3	792.2	235.0	-88.3	323.26	0.727	Level 1		
18,000.0	7,702.0	17,926.5	7,562.7	191.0	194.8	53.70	9,904.3	792.2	235.2	-91.0	326.22	0.721	Level 1		
18,100.0	7,702.0	18,026.5	7,562.3	192.9	196.7	53.62	10,004.3	792.1	235.4	-93.7	329.17	0.715	Level 1		
18,184.4	7,702.0	18,111.0	7,562.0	194.4	198.3	53.55	10,088.7	792.1	235.6	-96.0	331.59	0.711	Level 1, ES, SF		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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	-90.02	0.0	-49.7	49.7					
100.0	100.0	100.0	100.0	0.1	0.1	-90.02	0.0	-49.7	49.7	49.5	0.22	221.339		
200.0	200.0	200.0	200.0	0.3	0.3	-90.02	0.0	-49.7	49.7	49.1	0.67	73.780		
300.0	300.0	300.0	300.0	0.6	0.6	-90.02	0.0	-49.7	49.7	48.6	1.12	44.268		
400.0	400.0	400.0	400.0	0.8	0.8	-90.02	0.0	-49.7	49.7	48.2	1.57	31.620		
500.0	500.0	500.0	500.0	1.0	1.0	-90.02	0.0	-49.7	49.7	47.7	2.02	24.593		
600.0	600.0	600.0	600.0	1.2	1.2	-90.02	0.0	-49.7	49.7	47.3	2.47	20.122		
700.0	700.0	700.0	700.0	1.5	1.5	-90.02	0.0	-49.7	49.7	46.8	2.92	17.026		
800.0	800.0	800.0	800.0	1.7	1.7	-90.02	0.0	-49.7	49.7	46.4	3.37	14.756		
900.0	900.0	900.0	900.0	1.9	1.9	-90.02	0.0	-49.7	49.7	45.9	3.82	13.020		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.02	0.0	-49.7	49.7	45.5	4.27	11.649		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.02	0.0	-49.7	49.7	45.0	4.72	10.540		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.02	0.0	-49.7	49.7	44.6	5.17	9.623		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.02	0.0	-49.7	49.7	44.1	5.62	8.854		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.02	0.0	-49.7	49.7	43.7	6.07	8.198		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-90.02	0.0	-49.7	49.7	43.2	6.52	7.632		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-90.02	0.0	-49.7	49.7	42.8	6.97	7.140		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-90.02	0.0	-49.7	49.7	42.3	7.42	6.707 CC		
1,800.0	1,800.0	1,799.8	1,799.8	3.9	3.9	-91.49	-1.3	-50.0	50.0	42.1	7.84	6.377 ES		
1,900.0	1,900.0	1,899.4	1,899.3	4.2	4.1	-95.81	-5.1	-50.6	50.9	42.6	8.23	6.178		
2,000.0	2,000.0	1,998.8	1,998.5	4.4	4.3	123.08	-11.5	-51.7	53.7	45.0	8.61	6.233		
2,100.0	2,099.9	2,097.9	2,097.2	4.5	4.4	117.98	-20.4	-53.1	59.3	50.3	8.97	6.606		
2,200.0	2,199.7	2,196.7	2,195.3	4.7	4.6	113.87	-31.8	-55.0	67.6	58.3	9.35	7.229		
2,300.0	2,299.3	2,295.1	2,292.7	4.9	4.9	110.82	-45.7	-57.3	78.5	68.8	9.76	8.050		
2,400.0	2,398.6	2,393.7	2,389.9	5.1	5.1	108.89	-61.6	-59.9	91.7	81.5	10.19	8.998		
2,500.0	2,497.5	2,492.7	2,487.5	5.4	5.4	108.63	-77.8	-62.6	105.8	95.2	10.65	9.937		
2,600.0	2,596.1	2,591.5	2,585.0	5.6	5.6	109.57	-94.0	-65.3	120.8	109.7	11.14	10.842		
2,700.0	2,694.2	2,690.1	2,682.3	5.9	5.9	111.29	-110.2	-67.9	136.7	125.1	11.67	11.714		
2,800.0	2,792.1	2,788.7	2,779.5	6.2	6.2	113.03	-126.4	-70.6	153.1	140.8	12.24	12.506		
2,900.0	2,890.1	2,887.3	2,876.7	6.5	6.5	114.43	-142.5	-73.3	169.5	156.6	12.83	13.214		
3,000.0	2,988.1	2,985.8	2,973.9	6.9	6.8	115.58	-158.7	-75.9	186.0	172.5	13.43	13.844		
3,100.0	3,086.0	3,084.4	3,071.1	7.2	7.2	116.55	-174.8	-78.6	202.5	188.5	14.06	14.407		
3,200.0	3,184.0	3,183.0	3,168.3	7.6	7.5	117.37	-191.0	-81.3	219.1	204.4	14.70	14.910		
3,300.0	3,282.0	3,281.5	3,265.4	8.0	7.8	118.07	-207.2	-84.0	235.8	220.4	15.35	15.361		
3,400.0	3,379.9	3,380.1	3,362.6	8.4	8.2	118.68	-223.3	-86.6	252.5	236.4	16.01	15.766		
3,500.0	3,477.9	3,478.7	3,459.8	8.7	8.5	119.22	-239.5	-89.3	269.2	252.5	16.69	16.130		
3,600.0	3,575.8	3,577.2	3,557.0	9.1	8.9	119.69	-255.7	-92.0	285.9	268.5	17.37	16.459		
3,700.0	3,673.8	3,675.8	3,654.2	9.5	9.2	120.11	-271.8	-94.6	302.6	284.6	18.06	16.758		
3,800.0	3,771.8	3,774.4	3,751.4	9.9	9.6	120.49	-288.0	-97.3	319.4	300.6	18.75	17.029		
3,900.0	3,869.7	3,872.9	3,848.6	10.3	9.9	120.83	-304.1	-100.0	336.1	316.7	19.46	17.275		
4,000.0	3,967.7	3,971.5	3,945.8	10.8	10.3	121.13	-320.3	-102.6	352.9	332.7	20.17	17.501		
4,100.0	4,065.7	4,070.1	4,043.0	11.2	10.6	121.41	-336.5	-105.3	369.7	348.8	20.88	17.708		
4,200.0	4,163.6	4,168.6	4,140.2	11.6	11.0	121.67	-352.6	-108.0	386.5	364.9	21.59	17.897		
4,300.0	4,261.6	4,267.2	4,237.4	12.0	11.4	121.90	-368.8	-110.6	403.3	381.0	22.32	18.072		
4,400.0	4,359.5	4,365.8	4,334.6	12.4	11.7	122.11	-385.0	-113.3	420.1	397.0	23.04	18.233		
4,500.0	4,457.5	4,464.3	4,431.8	12.9	12.1	122.31	-401.1	-116.0	436.9	413.1	23.77	18.382		
4,600.0	4,555.5	4,562.9	4,529.0	13.3	12.5	122.50	-417.3	-118.6	453.7	429.2	24.50	18.521		
4,700.0	4,653.4	4,661.5	4,626.2	13.7	12.8	122.67	-433.4	-121.3	470.5	445.3	25.23	18.649		
4,800.0	4,751.4	4,760.0	4,723.4	14.2	13.2	122.83	-449.6	-124.0	487.3	461.4	25.97	18.769		
4,900.0	4,849.4	4,858.6	4,820.6	14.6	13.6	122.97	-465.8	-126.7	504.2	477.5	26.70	18.881		
5,000.0	4,947.3	4,957.2	4,917.8	15.0	13.9	123.11	-481.9	-129.3	521.0	493.6	27.44	18.985		
5,100.0	5,045.3	5,055.7	5,015.0	15.5	14.3	123.24	-498.1	-132.0	537.8	509.6	28.18	19.083		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	5,143.2	5,154.3	5,112.2	15.9	14.7	123.36	-514.2	-134.7	554.7	525.7	28.93	19.174		
5,300.0	5,241.2	5,252.9	5,209.4	16.3	15.1	123.48	-530.4	-137.3	571.5	541.8	29.67	19.260		
5,400.0	5,339.2	5,351.4	5,306.6	16.8	15.4	123.59	-546.6	-140.0	588.3	557.9	30.42	19.341		
5,500.0	5,437.1	5,450.0	5,403.8	17.2	15.8	123.69	-562.7	-142.7	605.2	574.0	31.17	19.418		
5,600.0	5,535.1	5,548.6	5,500.9	17.7	16.2	123.79	-578.9	-145.3	622.0	590.1	31.91	19.490		
5,700.0	5,633.1	5,653.1	5,604.2	18.1	16.5	123.98	-594.9	-148.0	638.5	605.9	32.61	19.580		
5,800.0	5,731.0	5,759.5	5,709.9	18.5	16.8	124.49	-607.5	-150.1	653.9	620.6	33.24	19.671		
5,900.0	5,829.0	5,865.8	5,815.8	19.0	17.0	125.30	-616.2	-151.5	668.1	634.3	33.82	19.756		
6,000.0	5,926.9	5,971.7	5,921.5	19.4	17.2	126.38	-621.0	-152.3	681.4	647.1	34.34	19.841		
6,100.0	6,024.9	6,075.1	6,024.9	19.9	17.4	127.69	-622.0	-152.5	694.0	659.1	34.82	19.930		
6,200.0	6,122.9	6,173.0	6,122.9	20.3	17.5	128.96	-622.0	-152.5	706.6	671.3	35.26	20.038		
6,300.0	6,220.8	6,271.0	6,220.8	20.8	17.6	130.19	-622.0	-152.5	719.5	683.8	35.69	20.159		
6,400.0	6,319.1	6,369.3	6,319.1	21.1	17.8	131.46	-622.0	-152.5	731.7	695.6	36.12	20.260		
6,500.0	6,418.0	6,468.1	6,418.0	21.4	17.9	132.48	-622.0	-152.5	741.9	705.4	36.48	20.339		
6,600.0	6,517.3	6,567.4	6,517.3	21.7	18.1	133.25	-622.0	-152.5	749.8	713.0	36.81	20.367		
6,700.0	6,616.9	6,667.1	6,616.9	21.9	18.2	133.78	-622.0	-152.5	755.4	718.3	37.13	20.344		
6,800.0	6,716.8	6,767.0	6,716.8	22.0	18.4	134.08	-622.0	-152.5	758.6	721.2	37.43	20.270		
6,900.0	6,816.8	6,867.0	6,816.8	22.2	18.5	-90.38	-622.0	-152.5	759.5	721.8	37.71	20.138		
7,000.0	6,916.8	6,967.0	6,916.8	22.3	18.7	-90.38	-622.0	-152.5	759.5	721.5	38.01	19.978		
7,100.0	7,016.8	7,067.2	7,017.0	22.4	18.8	-90.35	-621.3	-152.5	759.5	721.2	38.31	19.826		
7,192.6	7,108.8	7,160.3	7,109.5	22.5	18.9	-90.33	-611.3	-152.5	759.5	721.1	38.41	19.770		
7,200.0	7,116.1	7,167.8	7,116.9	22.5	18.9	-90.33	-609.9	-152.5	759.5	721.0	38.42	19.768		
7,300.0	7,212.9	7,268.4	7,214.2	22.4	18.8	-90.31	-584.7	-152.5	759.5	721.2	38.30	19.827		
7,400.0	7,305.2	7,368.9	7,306.9	22.3	18.7	-90.29	-546.0	-152.5	759.5	721.5	38.01	19.983		
7,500.0	7,391.4	7,469.4	7,393.3	22.1	18.5	-90.26	-494.8	-152.5	759.5	721.9	37.58	20.209		
7,600.0	7,469.6	7,569.9	7,471.7	21.9	18.2	-90.23	-432.1	-152.6	759.5	722.4	37.11	20.466		
7,700.0	7,538.5	7,670.3	7,540.4	21.6	18.0	-90.19	-359.1	-152.6	759.5	722.8	36.68	20.708		
7,800.0	7,596.5	7,770.6	7,598.3	21.3	17.8	-90.15	-277.2	-152.6	759.5	723.1	36.38	20.879		
7,900.0	7,642.7	7,870.8	7,644.1	21.0	17.8	-90.12	-188.1	-152.7	759.5	723.2	36.30	20.924		
8,000.0	7,676.0	7,971.0	7,677.0	20.7	17.9	-90.08	-93.6	-152.7	759.5	723.0	36.51	20.801		
8,100.0	7,695.9	8,071.1	7,696.4	20.5	18.2	-90.04	4.5	-152.8	759.5	722.4	37.06	20.494		
8,200.0	7,702.0	8,171.1	7,702.0	20.2	18.6	-90.00	104.3	-152.8	759.5	721.6	37.94	20.017		
8,300.0	7,702.0	8,271.1	7,702.0	20.0	19.1	-90.00	204.3	-152.9	759.5	720.7	38.85	19.549		
8,400.0	7,702.0	8,371.1	7,702.0	20.5	19.6	-90.00	304.3	-153.0	759.5	719.8	39.72	19.124		
8,500.0	7,702.0	8,471.1	7,702.0	21.3	20.3	-90.00	404.3	-153.0	759.5	718.7	40.88	18.581		
8,600.0	7,702.0	8,571.1	7,702.0	22.2	21.1	-90.00	504.3	-153.1	759.5	717.2	42.36	17.932		
8,700.0	7,702.0	8,671.1	7,702.0	23.1	22.0	-90.00	604.3	-153.1	759.5	715.4	44.13	17.213		
8,800.0	7,702.0	8,771.1	7,702.0	24.2	23.1	-90.00	704.3	-153.2	759.6	713.4	46.15	16.459		
8,900.0	7,702.0	8,871.2	7,702.0	25.4	24.2	-90.00	804.3	-153.2	759.6	711.2	48.39	15.695		
9,000.0	7,702.0	8,971.2	7,702.0	26.6	25.5	-90.00	904.3	-153.3	759.6	708.7	50.83	14.942		
9,100.0	7,702.0	9,071.2	7,702.0	27.9	26.8	-90.00	1,004.3	-153.3	759.6	706.1	53.44	14.213		
9,200.0	7,702.0	9,171.2	7,702.0	29.2	28.2	-90.00	1,104.3	-153.4	759.6	703.4	56.19	13.518		
9,300.0	7,702.0	9,271.2	7,702.0	30.7	29.7	-90.00	1,204.3	-153.4	759.6	700.5	59.07	12.860		
9,400.0	7,702.0	9,371.2	7,702.0	32.1	31.2	-90.00	1,304.3	-153.5	759.6	697.5	62.05	12.242		
9,500.0	7,702.0	9,471.2	7,702.0	33.6	32.8	-90.00	1,404.3	-153.5	759.6	694.5	65.12	11.664		
9,600.0	7,702.0	9,571.2	7,702.0	35.1	34.3	-90.00	1,504.3	-153.6	759.6	691.3	68.27	11.126		
9,700.0	7,702.0	9,671.2	7,702.0	36.7	36.0	-90.00	1,604.3	-153.6	759.6	688.1	71.50	10.625		
9,800.0	7,702.0	9,771.2	7,702.0	38.3	37.6	-90.00	1,704.3	-153.7	759.6	684.8	74.78	10.158		
9,900.0	7,702.0	9,871.2	7,702.0	39.9	39.3	-90.00	1,804.3	-153.7	759.6	681.5	78.11	9.725		
10,000.0	7,702.0	9,971.2	7,702.0	41.6	41.0	-90.00	1,904.3	-153.8	759.6	678.1	81.49	9.322		
10,100.0	7,702.0	10,071.2	7,702.0	43.3	42.7	-90.00	2,004.3	-153.8	759.6	674.7	84.91	8.946		
10,200.0	7,702.0	10,171.2	7,702.0	44.9	44.5	-90.00	2,104.3	-153.9	759.6	671.3	88.37	8.596		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	10,271.2	7,702.0	46.6	46.2	-90.00	2,204.3	-153.9	759.6	667.8	91.86	8.270		
10,400.0	7,702.0	10,371.2	7,702.0	48.4	48.0	-90.00	2,304.3	-154.0	759.7	664.3	95.37	7.965		
10,500.0	7,702.0	10,471.2	7,702.0	50.1	49.8	-90.00	2,404.3	-154.0	759.7	660.7	98.92	7.680		
10,600.0	7,702.0	10,571.2	7,702.0	51.9	51.6	-90.00	2,504.3	-154.1	759.7	657.2	102.48	7.413		
10,700.0	7,702.0	10,671.2	7,702.0	53.6	53.4	-90.00	2,604.3	-154.1	759.7	653.6	106.07	7.162		
10,800.0	7,702.0	10,771.2	7,702.0	55.4	55.2	-90.00	2,704.3	-154.2	759.7	650.0	109.67	6.927		
10,900.0	7,702.0	10,871.2	7,702.0	57.2	57.0	-90.00	2,804.3	-154.2	759.7	646.4	113.29	6.706		
11,000.0	7,702.0	10,971.2	7,702.0	59.0	58.8	-90.00	2,904.3	-154.3	759.7	642.8	116.93	6.497		
11,100.0	7,702.0	11,071.2	7,702.0	60.8	60.6	-90.00	3,004.3	-154.3	759.7	639.1	120.57	6.301		
11,200.0	7,702.0	11,171.2	7,702.0	62.6	62.5	-90.00	3,104.3	-154.4	759.7	635.5	124.24	6.115		
11,300.0	7,702.0	11,271.2	7,702.0	64.4	64.3	-90.00	3,204.3	-154.4	759.7	631.8	127.91	5.939		
11,400.0	7,702.0	11,371.2	7,702.0	66.2	66.2	-90.00	3,304.3	-154.5	759.7	628.1	131.59	5.773		
11,500.0	7,702.0	11,471.2	7,702.0	68.0	68.0	-90.00	3,404.4	-154.5	759.7	624.4	135.29	5.616		
11,600.0	7,702.0	11,571.2	7,702.0	69.9	69.9	-90.00	3,504.4	-154.6	759.7	620.7	138.99	5.466		
11,700.0	7,702.0	11,671.2	7,702.0	71.7	71.7	-90.00	3,604.4	-154.6	759.7	617.0	142.70	5.324		
11,800.0	7,702.0	11,771.2	7,702.0	73.5	73.6	-90.00	3,704.4	-154.7	759.7	613.3	146.41	5.189		
11,900.0	7,702.0	11,871.2	7,702.0	75.4	75.4	-90.00	3,804.4	-154.7	759.7	609.6	150.14	5.060		
12,000.0	7,702.0	11,971.2	7,702.0	77.2	77.3	-90.00	3,904.4	-154.8	759.7	605.9	153.87	4.937		
12,100.0	7,702.0	12,071.2	7,702.0	79.1	79.2	-90.00	4,004.4	-154.8	759.7	602.1	157.61	4.820		
12,200.0	7,702.0	12,171.2	7,702.0	80.9	81.1	-90.00	4,104.4	-154.9	759.7	598.4	161.35	4.709		
12,300.0	7,702.0	12,271.2	7,702.0	82.8	82.9	-90.00	4,204.4	-154.9	759.7	594.6	165.10	4.602		
12,400.0	7,702.0	12,371.2	7,702.0	84.7	84.8	-90.00	4,304.4	-154.9	759.7	590.9	168.85	4.499		
12,500.0	7,702.0	12,471.2	7,702.0	86.5	86.7	-90.00	4,404.4	-155.0	759.7	587.1	172.61	4.402		
12,600.0	7,702.0	12,571.2	7,702.0	88.4	88.6	-90.00	4,504.4	-155.0	759.7	583.4	176.37	4.308		
12,700.0	7,702.0	12,671.2	7,702.0	90.3	90.5	-90.00	4,604.4	-155.1	759.7	579.6	180.13	4.218		
12,800.0	7,702.0	12,771.2	7,702.0	92.1	92.3	-90.00	4,704.4	-155.1	759.7	575.8	183.90	4.131		
12,900.0	7,702.0	12,871.2	7,702.0	94.0	94.2	-90.00	4,804.4	-155.2	759.8	572.1	187.68	4.048		
13,000.0	7,702.0	12,971.2	7,702.0	95.9	96.1	-90.00	4,904.4	-155.2	759.8	568.3	191.45	3.968		
13,100.0	7,702.0	13,071.2	7,702.0	97.8	98.0	-90.00	5,004.4	-155.3	759.8	564.5	195.23	3.892		
13,200.0	7,702.0	13,171.2	7,702.0	99.6	99.9	-90.00	5,104.4	-155.3	759.8	560.7	199.01	3.818		
13,300.0	7,702.0	13,271.2	7,702.0	101.5	101.8	-90.00	5,204.4	-155.3	759.8	557.0	202.80	3.746		
13,400.0	7,702.0	13,371.2	7,702.0	103.4	103.7	-90.00	5,304.4	-155.4	759.8	553.2	206.59	3.678		
13,500.0	7,702.0	13,471.2	7,702.0	105.3	105.6	-90.00	5,404.4	-155.4	759.8	549.4	210.38	3.611		
13,600.0	7,702.0	13,571.2	7,702.0	107.2	107.5	-90.00	5,504.4	-155.5	759.8	545.6	214.17	3.548		
13,700.0	7,702.0	13,671.2	7,702.0	109.1	109.4	-90.00	5,604.4	-155.5	759.8	541.8	217.96	3.486		
13,800.0	7,702.0	13,771.2	7,702.0	111.0	111.3	-90.00	5,704.4	-155.6	759.8	538.0	221.76	3.426		
13,900.0	7,702.0	13,871.2	7,702.0	112.8	113.2	-90.00	5,804.4	-155.6	759.8	534.2	225.56	3.368		
14,000.0	7,702.0	13,971.2	7,702.0	114.7	115.1	-90.00	5,904.4	-155.6	759.8	530.4	229.36	3.313		
14,100.0	7,702.0	14,071.2	7,702.0	116.6	117.0	-90.00	6,004.4	-155.7	759.8	526.6	233.16	3.259		
14,200.0	7,702.0	14,171.2	7,702.0	118.5	118.9	-90.00	6,104.4	-155.7	759.8	522.8	236.97	3.206		
14,300.0	7,702.0	14,271.2	7,702.0	120.4	120.8	-90.00	6,204.4	-155.8	759.8	519.0	240.77	3.156		
14,400.0	7,702.0	14,371.2	7,702.0	122.3	122.7	-90.00	6,304.4	-155.8	759.8	515.2	244.58	3.106		
14,500.0	7,702.0	14,471.2	7,702.0	124.2	124.6	-90.00	6,404.4	-155.8	759.8	511.4	248.39	3.059		
14,600.0	7,702.0	14,571.2	7,702.0	126.1	126.5	-90.00	6,504.4	-155.9	759.8	507.6	252.20	3.013		
14,700.0	7,702.0	14,671.2	7,702.0	128.0	128.4	-90.00	6,604.4	-155.9	759.8	503.8	256.01	2.968		
14,800.0	7,702.0	14,771.2	7,702.0	129.9	130.3	-90.00	6,704.4	-156.0	759.8	500.0	259.82	2.924		
14,900.0	7,702.0	14,871.3	7,702.0	131.8	132.2	-90.00	6,804.4	-156.0	759.8	496.1	263.64	2.882		
15,000.0	7,702.0	14,971.3	7,702.0	133.7	134.1	-90.00	6,904.4	-156.0	759.8	492.3	267.45	2.841		
15,100.0	7,702.0	15,071.3	7,702.0	135.6	136.1	-90.00	7,004.4	-156.1	759.8	488.5	271.27	2.801		
15,200.0	7,702.0	15,171.3	7,702.0	137.5	138.0	-90.00	7,104.4	-156.1	759.8	484.7	275.09	2.762		
15,300.0	7,702.0	15,271.3	7,702.0	139.4	139.9	-90.00	7,204.4	-156.2	759.8	480.9	278.91	2.724		
15,400.0	7,702.0	15,371.3	7,702.0	141.3	141.8	-90.00	7,304.4	-156.2	759.8	477.1	282.72	2.687		

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 539-1807H
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 539-1807H	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 (2-28-17)	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							
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	
15,500.0	7,702.0	15,471.3	7,702.0	143.2	143.7	-90.00	7,404.4	-156.2	759.8	473.2	286.55	2.652		
15,600.0	7,702.0	15,571.3	7,702.0	145.1	145.6	-90.00	7,504.4	-156.3	759.8	469.4	290.37	2.617		
15,700.0	7,702.0	15,671.3	7,702.0	147.0	147.5	-90.00	7,604.4	-156.3	759.8	465.6	294.19	2.583		
15,800.0	7,702.0	15,771.3	7,702.0	148.9	149.4	-90.00	7,704.4	-156.4	759.8	461.8	298.01	2.550		
15,900.0	7,702.0	15,871.3	7,702.0	150.9	151.3	-90.00	7,804.4	-156.4	759.8	457.9	301.84	2.517		
16,000.0	7,702.0	15,971.3	7,702.0	152.8	153.3	-90.00	7,904.4	-156.4	759.8	454.1	305.66	2.486		
16,100.0	7,702.0	16,071.3	7,702.0	154.7	155.2	-90.00	8,004.4	-156.5	759.8	450.3	309.49	2.455		
16,200.0	7,702.0	16,171.3	7,702.0	156.6	157.1	-90.00	8,104.4	-156.5	759.8	446.5	313.31	2.425		
16,300.0	7,702.0	16,271.3	7,702.0	158.5	159.0	-90.00	8,204.4	-156.5	759.8	442.6	317.14	2.396		
16,400.0	7,702.0	16,371.3	7,702.0	160.4	160.9	-90.00	8,304.4	-156.6	759.8	438.8	320.97	2.367		
16,500.0	7,702.0	16,471.3	7,702.0	162.3	162.8	-90.00	8,404.4	-156.6	759.8	435.0	324.80	2.339		
16,600.0	7,702.0	16,571.3	7,702.0	164.2	164.7	-90.00	8,504.4	-156.7	759.8	431.2	328.63	2.312		
16,700.0	7,702.0	16,671.3	7,702.0	166.1	166.7	-90.00	8,604.4	-156.7	759.8	427.3	332.46	2.285		
16,800.0	7,702.0	16,771.3	7,702.0	168.0	168.6	-90.00	8,704.4	-156.7	759.8	423.5	336.29	2.259		
16,900.0	7,702.0	16,871.3	7,702.0	169.9	170.5	-90.00	8,804.4	-156.8	759.8	419.7	340.12	2.234		
17,000.0	7,702.0	16,971.3	7,702.0	171.9	172.4	-90.00	8,904.4	-156.8	759.8	415.8	343.95	2.209		
17,100.0	7,702.0	17,071.3	7,702.0	173.8	174.3	-90.00	9,004.4	-156.8	759.8	412.0	347.78	2.185		
17,200.0	7,702.0	17,171.3	7,702.0	175.7	176.2	-90.00	9,104.4	-156.9	759.8	408.2	351.61	2.161		
17,300.0	7,702.0	17,271.3	7,702.0	177.6	178.2	-90.00	9,204.4	-156.9	759.8	404.3	355.45	2.138		
17,400.0	7,702.0	17,371.3	7,702.0	179.5	180.1	-90.00	9,304.4	-156.9	759.8	400.5	359.28	2.115		
17,500.0	7,702.0	17,471.3	7,702.0	181.4	182.0	-90.00	9,404.4	-157.0	759.8	396.6	363.11	2.092		
17,600.0	7,702.0	17,571.3	7,702.0	183.3	183.9	-90.00	9,504.5	-157.0	759.8	392.8	366.95	2.070		
17,700.0	7,702.0	17,671.3	7,702.0	185.3	185.8	-90.00	9,604.5	-157.0	759.8	389.0	370.78	2.049		
17,800.0	7,702.0	17,771.3	7,702.0	187.2	187.7	-90.00	9,704.5	-157.1	759.8	385.1	374.62	2.028		
17,900.0	7,702.0	17,871.3	7,702.0	189.1	189.7	-90.00	9,804.5	-157.1	759.8	381.3	378.46	2.008		
18,000.0	7,702.0	17,971.3	7,702.0	191.0	191.6	-90.00	9,904.5	-157.1	759.8	377.5	382.29	1.987		
18,100.0	7,702.0	18,071.3	7,702.0	192.9	193.5	-90.00	10,004.5	-157.2	759.8	373.6	386.13	1.968		
18,184.4	7,702.0	18,155.7	7,702.0	194.4	195.1	-90.00	10,088.9	-157.2	759.7	370.5	389.28	1.952 SF		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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	88.74	1.1	50.0	50.0					
100.0	100.0	100.0	100.0	0.1	0.1	88.74	1.1	50.0	50.0	49.8	0.22	222.622		
200.0	200.0	200.0	200.0	0.3	0.3	88.74	1.1	50.0	50.0	49.4	0.67	74.207 CC, ES		
300.0	300.0	298.8	298.8	0.6	0.5	89.37	0.6	51.2	51.2	50.1	1.11	46.295		
400.0	400.0	397.5	397.4	0.8	0.8	91.11	-1.1	54.6	54.7	53.2	1.54	35.534		
500.0	500.0	495.9	495.6	1.0	1.0	93.56	-3.8	60.4	60.7	58.7	1.99	30.563		
600.0	600.0	594.0	593.3	1.2	1.2	96.26	-7.5	68.4	69.2	66.7	2.44	28.346		
700.0	700.0	691.5	690.1	1.5	1.5	98.87	-12.3	78.6	80.2	77.3	2.90	27.607		
800.0	800.0	788.3	786.0	1.7	1.8	101.23	-18.1	91.0	93.8	90.4	3.38	27.722		
900.0	900.0	884.5	880.8	1.9	2.2	103.24	-24.8	105.4	110.0	106.1	3.88	28.346		
1,000.0	1,000.0	979.7	974.3	2.1	2.6	104.93	-32.5	121.9	128.7	124.3	4.40	29.274		
1,100.0	1,100.0	1,074.0	1,066.4	2.4	3.0	106.33	-41.1	140.2	149.9	145.0	4.93	30.379		
1,200.0	1,200.0	1,168.3	1,158.0	2.6	3.4	107.49	-50.6	160.5	173.5	168.0	5.50	31.556		
1,300.0	1,300.0	1,265.3	1,252.0	2.8	3.9	108.42	-60.6	182.0	197.7	191.6	6.08	32.513		
1,400.0	1,400.0	1,362.2	1,346.0	3.0	4.4	109.15	-70.7	203.4	222.0	215.3	6.67	33.267		
1,500.0	1,500.0	1,459.2	1,440.1	3.3	4.9	109.74	-80.7	224.9	246.3	239.1	7.27	33.868		
1,600.0	1,600.0	1,556.2	1,534.1	3.5	5.4	110.22	-90.7	246.4	270.7	262.8	7.88	34.356		
1,700.0	1,700.0	1,653.1	1,628.1	3.7	5.9	110.62	-100.8	267.8	295.0	286.6	8.49	34.758		
1,800.0	1,800.0	1,750.1	1,722.2	3.9	6.4	110.96	-110.8	289.3	319.4	310.3	9.10	35.095		
1,900.0	1,900.0	1,847.1	1,816.2	4.2	6.9	111.25	-120.8	310.7	343.8	334.1	9.72	35.382		
2,000.0	2,000.0	1,944.3	1,910.5	4.4	7.4	-23.90	-130.9	332.3	367.0	357.9	9.06	40.502		
2,100.0	2,099.9	2,042.1	2,005.3	4.5	8.0	-23.79	-141.0	353.9	387.9	378.4	9.52	40.763		
2,200.0	2,199.7	2,140.4	2,100.6	4.7	8.5	-23.83	-151.2	375.6	406.4	396.5	9.98	40.735		
2,300.0	2,299.3	2,239.0	2,196.3	4.9	9.0	-24.03	-161.4	397.5	422.6	412.2	10.45	40.457		
2,400.0	2,398.6	2,338.0	2,292.3	5.1	9.5	-24.36	-171.7	419.4	436.5	425.5	10.92	39.961		
2,500.0	2,497.5	2,437.3	2,388.5	5.4	10.1	-24.82	-181.9	441.4	448.0	436.6	11.41	39.269		
2,600.0	2,596.1	2,536.7	2,484.9	5.6	10.6	-25.41	-192.2	463.4	457.2	445.3	11.91	38.401		
2,700.0	2,694.2	2,636.3	2,581.5	5.9	11.1	-26.13	-202.5	485.4	464.2	451.7	12.42	37.369		
2,800.0	2,792.1	2,735.9	2,678.1	6.2	11.6	-26.90	-212.8	507.4	470.6	457.7	12.96	36.308		
2,900.0	2,890.1	2,835.5	2,774.6	6.5	12.2	-27.65	-223.1	529.5	477.2	463.6	13.52	35.302		
3,000.0	2,988.1	2,935.1	2,871.2	6.9	12.7	-28.38	-233.5	551.5	483.8	469.7	14.09	34.347		
3,100.0	3,086.0	3,034.7	2,967.8	7.2	13.2	-29.09	-243.8	573.6	490.5	475.8	14.67	33.441		
3,200.0	3,184.0	3,134.2	3,064.4	7.6	13.8	-29.78	-254.1	595.6	497.3	482.0	15.26	32.581		
3,300.0	3,282.0	3,233.8	3,160.9	8.0	14.3	-30.45	-264.4	617.6	504.1	488.2	15.87	31.766		
3,400.0	3,379.9	3,333.4	3,257.5	8.4	14.8	-31.10	-274.7	639.7	511.0	494.5	16.49	30.993		
3,500.0	3,477.9	3,433.0	3,354.1	8.7	15.4	-31.74	-285.0	661.7	518.0	500.9	17.12	30.259		
3,600.0	3,575.8	3,532.6	3,450.7	9.1	15.9	-32.36	-295.3	683.7	525.0	507.3	17.76	29.563		
3,700.0	3,673.8	3,632.2	3,547.2	9.5	16.4	-32.96	-305.6	705.8	532.1	513.7	18.41	28.903		
3,800.0	3,771.8	3,731.8	3,643.8	9.9	17.0	-33.55	-315.9	727.8	539.3	520.2	19.07	28.276		
3,900.0	3,869.7	3,831.4	3,740.4	10.3	17.5	-34.12	-326.2	749.9	546.5	526.7	19.74	27.680		
4,000.0	3,967.7	3,931.0	3,837.0	10.8	18.0	-34.68	-336.5	771.9	553.7	533.3	20.42	27.114		
4,100.0	4,065.7	4,030.6	3,933.5	11.2	18.6	-35.22	-346.9	793.9	561.1	539.9	21.11	26.576		
4,200.0	4,163.6	4,130.2	4,030.1	11.6	19.1	-35.75	-357.2	816.0	568.4	546.6	21.81	26.065		
4,300.0	4,261.6	4,229.8	4,126.7	12.0	19.6	-36.27	-367.5	838.0	575.8	553.3	22.51	25.578		
4,400.0	4,359.5	4,329.4	4,223.3	12.4	20.2	-36.77	-377.8	860.1	583.3	560.1	23.23	25.114		
4,500.0	4,457.5	4,429.0	4,319.8	12.9	20.7	-37.26	-388.1	882.1	590.8	566.8	23.94	24.673		
4,600.0	4,555.5	4,528.5	4,416.4	13.3	21.2	-37.74	-398.4	904.1	598.3	573.6	24.67	24.252		
4,700.0	4,653.4	4,628.1	4,513.0	13.7	21.8	-38.20	-408.7	926.2	605.9	580.5	25.40	23.850		
4,800.0	4,751.4	4,727.7	4,609.6	14.2	22.3	-38.65	-419.0	948.2	613.5	587.4	26.14	23.467		
4,900.0	4,849.4	4,827.3	4,706.1	14.6	22.8	-39.10	-429.3	970.3	621.2	594.3	26.89	23.102		
5,000.0	4,947.3	4,926.9	4,802.7	15.0	23.3	-39.53	-439.6	992.3	628.9	601.2	27.64	22.752		
5,100.0	5,045.3	5,026.5	4,899.3	15.5	23.9	-39.95	-449.9	1,014.3	636.6	608.2	28.40	22.418		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	5,143.2	5,126.1	4,995.9	15.9	24.4	-40.36	-460.2	1,036.4	644.4	615.2	29.16	22.098		
5,300.0	5,241.2	5,225.7	5,092.4	16.3	24.9	-40.76	-470.6	1,058.4	652.1	622.2	29.93	21.793		
5,400.0	5,339.2	5,325.3	5,189.0	16.8	25.5	-41.15	-480.9	1,080.5	660.0	629.3	30.70	21.500		
5,500.0	5,437.1	5,424.9	5,285.6	17.2	26.0	-41.54	-491.2	1,102.5	667.8	636.4	31.47	21.219		
5,600.0	5,535.1	5,524.5	5,382.2	17.7	26.5	-41.91	-501.5	1,124.5	675.7	643.5	32.25	20.950		
5,700.0	5,633.1	5,624.1	5,478.7	18.1	27.1	-42.28	-511.8	1,146.6	683.6	650.6	33.04	20.692		
5,800.0	5,731.0	5,723.7	5,575.3	18.5	27.6	-42.63	-522.1	1,168.6	691.6	657.7	33.83	20.444		
5,900.0	5,829.0	5,823.2	5,671.9	19.0	28.1	-42.98	-532.4	1,190.7	699.5	664.9	34.62	20.206		
6,000.0	5,926.9	5,922.8	5,768.5	19.4	28.7	-43.32	-542.7	1,212.7	707.5	672.1	35.42	19.978		
6,100.0	6,024.9	6,022.4	5,865.0	19.9	29.2	-43.66	-553.0	1,234.7	715.5	679.3	36.21	19.758		
6,200.0	6,122.9	6,122.0	5,961.6	20.3	29.7	-43.98	-563.3	1,256.8	723.6	686.5	37.02	19.546		
6,300.0	6,220.8	6,221.6	6,058.2	20.8	30.3	-44.30	-573.6	1,278.8	731.6	693.8	37.82	19.343		
6,400.0	6,319.1	6,338.4	6,171.7	21.1	30.8	-44.70	-585.3	1,303.8	740.2	701.6	38.58	19.187		
6,500.0	6,418.0	6,468.9	6,299.5	21.4	31.2	-45.05	-596.2	1,327.1	747.5	708.3	39.19	19.074		
6,600.0	6,517.3	6,599.8	6,428.9	21.7	31.6	-45.31	-604.7	1,345.2	753.2	713.5	39.71	18.967		
6,700.0	6,616.9	6,731.0	6,559.4	21.9	31.9	-45.50	-610.6	1,357.9	757.2	717.0	40.13	18.870		
6,800.0	6,716.8	6,862.5	6,690.6	22.0	32.1	-45.60	-614.0	1,365.1	759.4	719.0	40.44	18.777		
6,900.0	6,816.8	6,988.7	6,816.8	22.2	32.2	89.84	-614.9	1,367.0	760.0	719.3	40.69	18.677		
7,000.0	6,916.8	7,088.7	6,916.8	22.3	32.3	89.84	-614.9	1,367.0	760.0	719.1	40.97	18.550		
7,035.6	6,952.4	7,124.3	6,952.4	22.4	32.3	89.89	-614.9	1,367.0	760.0	719.0	41.07	18.505		
7,100.0	7,016.8	7,188.7	7,016.7	22.4	32.4	89.86	-614.2	1,367.0	760.0	718.8	41.25	18.425		
7,200.0	7,116.1	7,288.4	7,115.8	22.5	32.4	89.86	-603.0	1,367.0	760.0	718.7	41.35	18.381		
7,300.0	7,212.9	7,388.1	7,212.2	22.4	32.4	89.85	-578.2	1,367.0	760.0	718.8	41.23	18.433		
7,400.0	7,305.2	7,487.8	7,304.4	22.3	32.3	89.85	-540.2	1,367.0	760.0	719.1	40.94	18.564		
7,500.0	7,391.4	7,587.6	7,390.3	22.1	32.1	89.86	-489.7	1,367.0	760.0	719.5	40.53	18.752		
7,600.0	7,469.6	7,687.3	7,468.4	21.9	31.9	89.87	-427.9	1,366.9	760.0	720.0	40.07	18.966		
7,700.0	7,538.5	7,787.1	7,537.2	21.6	31.7	89.88	-355.7	1,366.9	760.0	720.4	39.65	19.168		
7,800.0	7,596.5	7,886.9	7,595.4	21.3	31.5	89.90	-274.7	1,366.9	760.0	720.7	39.35	19.316		
7,900.0	7,642.7	7,986.7	7,641.7	21.0	31.2	89.92	-186.4	1,366.8	760.0	720.8	39.25	19.365		
8,000.0	7,676.0	8,086.6	7,675.3	20.7	31.0	89.94	-92.4	1,366.8	760.1	720.6	39.42	19.283		
8,100.0	7,695.9	8,186.5	7,695.5	20.5	30.8	89.97	5.3	1,366.8	760.1	720.2	39.89	19.054		
8,200.0	7,702.0	8,286.4	7,702.0	20.2	30.7	90.00	105.0	1,366.7	760.1	719.4	40.67	18.688		
8,300.0	7,702.0	8,386.4	7,702.0	20.0	30.6	90.00	205.0	1,366.7	760.1	718.5	41.58	18.278		
8,400.0	7,702.0	8,486.4	7,702.0	20.5	30.6	90.00	305.0	1,366.6	760.1	717.5	42.61	17.837		
8,500.0	7,702.0	8,586.4	7,702.0	21.3	30.8	90.00	405.0	1,366.6	760.1	716.1	43.95	17.292		
8,600.0	7,702.0	8,686.4	7,702.0	22.2	31.0	90.00	505.0	1,366.6	760.1	714.5	45.59	16.674		
8,700.0	7,702.0	8,786.4	7,702.0	23.1	31.5	90.00	605.0	1,366.5	760.1	712.6	47.48	16.010		
8,800.0	7,702.0	8,886.4	7,702.0	24.2	32.1	90.00	705.0	1,366.5	760.1	710.5	49.60	15.326		
8,900.0	7,702.0	8,986.4	7,702.0	25.4	32.8	90.00	805.0	1,366.4	760.1	708.2	51.92	14.641		
9,000.0	7,702.0	9,086.4	7,702.0	26.6	33.8	90.00	905.0	1,366.4	760.1	705.7	54.41	13.969		
9,100.0	7,702.0	9,186.4	7,702.0	27.9	34.8	90.00	1,005.0	1,366.3	760.1	703.0	57.06	13.320		
9,200.0	7,702.0	9,286.4	7,702.0	29.2	36.0	90.00	1,105.0	1,366.3	760.1	700.3	59.84	12.701		
9,300.0	7,702.0	9,386.4	7,702.0	30.7	37.3	90.00	1,205.0	1,366.3	760.1	697.4	62.74	12.115		
9,400.0	7,702.0	9,486.4	7,702.0	32.1	38.6	90.00	1,305.0	1,366.2	760.1	694.4	65.74	11.563		
9,500.0	7,702.0	9,586.4	7,702.0	33.6	40.0	90.00	1,405.0	1,366.2	760.1	691.3	68.82	11.045		
9,600.0	7,702.0	9,686.4	7,702.0	35.1	41.5	90.00	1,505.0	1,366.1	760.1	688.1	71.98	10.561		
9,700.0	7,702.0	9,786.4	7,702.0	36.7	43.0	90.00	1,605.0	1,366.1	760.1	684.9	75.20	10.108		
9,800.0	7,702.0	9,886.4	7,702.0	38.3	44.5	90.00	1,705.0	1,366.0	760.1	681.6	78.48	9.686		
9,900.0	7,702.0	9,986.4	7,702.0	39.9	46.1	90.00	1,805.0	1,366.0	760.1	678.3	81.81	9.291		
10,000.0	7,702.0	10,086.4	7,702.0	41.6	47.7	90.00	1,905.0	1,366.0	760.1	674.9	85.18	8.923		
10,100.0	7,702.0	10,186.4	7,702.0	43.3	49.3	90.00	2,005.0	1,365.9	760.1	671.5	88.60	8.579		
10,200.0	7,702.0	10,286.4	7,702.0	44.9	51.0	90.00	2,105.0	1,365.9	760.1	668.1	92.05	8.258		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	10,386.4	7,702.0	46.6	52.6	90.00	2,205.0	1,365.8	760.1	664.6	95.53	7.957		
10,400.0	7,702.0	10,486.4	7,702.0	48.4	54.3	90.00	2,305.0	1,365.8	760.1	661.1	99.04	7.675		
10,500.0	7,702.0	10,586.4	7,702.0	50.1	56.0	90.00	2,405.0	1,365.7	760.1	657.6	102.57	7.411		
10,600.0	7,702.0	10,686.4	7,702.0	51.9	57.7	90.00	2,505.0	1,365.7	760.1	654.0	106.13	7.162		
10,700.0	7,702.0	10,786.4	7,702.0	53.6	59.5	90.00	2,605.0	1,365.7	760.1	650.4	109.70	6.929		
10,800.0	7,702.0	10,886.4	7,702.0	55.4	61.2	90.00	2,705.0	1,365.6	760.1	646.8	113.30	6.709		
10,900.0	7,702.0	10,986.4	7,702.0	57.2	62.9	90.00	2,805.0	1,365.6	760.1	643.2	116.91	6.502		
11,000.0	7,702.0	11,086.4	7,702.0	59.0	64.7	90.00	2,905.0	1,365.5	760.1	639.6	120.54	6.306		
11,100.0	7,702.0	11,186.4	7,702.0	60.8	66.5	90.00	3,005.0	1,365.5	760.1	636.0	124.18	6.121		
11,200.0	7,702.0	11,286.4	7,702.0	62.6	68.2	90.00	3,105.0	1,365.4	760.1	632.3	127.83	5.946		
11,300.0	7,702.0	11,386.4	7,702.0	64.4	70.0	90.00	3,205.0	1,365.4	760.1	628.6	131.50	5.781		
11,400.0	7,702.0	11,486.4	7,702.0	66.2	71.8	90.00	3,305.0	1,365.4	760.1	625.0	135.17	5.624		
11,500.0	7,702.0	11,586.4	7,702.0	68.0	73.6	90.00	3,405.0	1,365.3	760.1	621.3	138.86	5.474		
11,600.0	7,702.0	11,686.4	7,702.0	69.9	75.4	90.00	3,505.0	1,365.3	760.1	617.6	142.55	5.332		
11,700.0	7,702.0	11,786.4	7,702.0	71.7	77.2	90.00	3,605.0	1,365.2	760.1	613.9	146.25	5.197		
11,800.0	7,702.0	11,886.4	7,702.0	73.5	79.1	90.00	3,705.0	1,365.2	760.1	610.2	149.96	5.069		
11,900.0	7,702.0	11,986.4	7,702.0	75.4	80.9	90.00	3,805.0	1,365.2	760.1	606.5	153.68	4.946		
12,000.0	7,702.0	12,086.4	7,702.0	77.2	82.7	90.00	3,905.0	1,365.1	760.1	602.7	157.40	4.829		
12,100.0	7,702.0	12,186.4	7,702.0	79.1	84.5	90.00	4,005.0	1,365.1	760.1	599.0	161.14	4.717		
12,200.0	7,702.0	12,286.4	7,702.0	80.9	86.4	90.00	4,105.0	1,365.0	760.1	595.3	164.87	4.611		
12,300.0	7,702.0	12,386.4	7,702.0	82.8	88.2	90.00	4,205.0	1,365.0	760.1	591.5	168.61	4.508		
12,400.0	7,702.0	12,486.4	7,702.0	84.7	90.0	90.00	4,305.0	1,364.9	760.1	587.8	172.36	4.410		
12,500.0	7,702.0	12,586.4	7,702.0	86.5	91.9	90.00	4,405.0	1,364.9	760.1	584.0	176.11	4.316		
12,600.0	7,702.0	12,686.4	7,702.0	88.4	93.7	90.00	4,505.0	1,364.9	760.1	580.3	179.87	4.226		
12,700.0	7,702.0	12,786.4	7,702.0	90.3	95.6	90.00	4,605.0	1,364.8	760.1	576.5	183.63	4.140		
12,800.0	7,702.0	12,886.4	7,702.0	92.1	97.4	90.00	4,705.0	1,364.8	760.1	572.8	187.39	4.056		
12,900.0	7,702.0	12,986.4	7,702.0	94.0	99.3	90.00	4,805.0	1,364.7	760.1	569.0	191.16	3.977		
13,000.0	7,702.0	13,086.4	7,702.0	95.9	101.1	90.00	4,905.0	1,364.7	760.1	565.2	194.93	3.900		
13,100.0	7,702.0	13,186.4	7,702.0	97.8	103.0	90.00	5,005.0	1,364.6	760.1	561.4	198.70	3.826		
13,200.0	7,702.0	13,286.4	7,702.0	99.6	104.9	90.00	5,105.0	1,364.6	760.1	557.7	202.48	3.754		
13,300.0	7,702.0	13,386.4	7,702.0	101.5	106.7	90.00	5,205.0	1,364.6	760.1	553.9	206.26	3.685		
13,400.0	7,702.0	13,486.4	7,702.0	103.4	108.6	90.00	5,305.0	1,364.5	760.1	550.1	210.04	3.619		
13,500.0	7,702.0	13,586.4	7,702.0	105.3	110.5	90.00	5,405.0	1,364.5	760.1	546.3	213.83	3.555		
13,600.0	7,702.0	13,686.4	7,702.0	107.2	112.3	90.00	5,505.0	1,364.4	760.1	542.5	217.62	3.493		
13,700.0	7,702.0	13,786.4	7,702.0	109.1	114.2	90.00	5,605.0	1,364.4	760.1	538.7	221.41	3.433		
13,800.0	7,702.0	13,886.4	7,702.0	111.0	116.1	90.00	5,705.0	1,364.3	760.1	534.9	225.20	3.375		
13,900.0	7,702.0	13,986.4	7,702.0	112.8	118.0	90.00	5,805.0	1,364.3	760.1	531.1	228.99	3.319		
14,000.0	7,702.0	14,086.4	7,702.0	114.7	119.9	90.00	5,905.0	1,364.3	760.1	527.3	232.79	3.265		
14,100.0	7,702.0	14,186.4	7,702.0	116.6	121.7	90.00	6,005.0	1,364.2	760.1	523.5	236.59	3.213		
14,200.0	7,702.0	14,286.4	7,702.0	118.5	123.6	90.00	6,105.0	1,364.2	760.1	519.7	240.39	3.162		
14,300.0	7,702.0	14,386.4	7,702.0	120.4	125.5	90.00	6,205.0	1,364.1	760.1	515.9	244.19	3.113		
14,400.0	7,702.0	14,486.4	7,702.0	122.3	127.4	90.00	6,305.0	1,364.1	760.1	512.1	247.99	3.065		
14,500.0	7,702.0	14,586.4	7,702.0	124.2	129.3	90.00	6,405.0	1,364.0	760.1	508.3	251.80	3.019		
14,600.0	7,702.0	14,686.4	7,702.0	126.1	131.2	90.00	6,505.0	1,364.0	760.1	504.5	255.61	2.974		
14,700.0	7,702.0	14,786.4	7,702.0	128.0	133.0	90.00	6,605.0	1,364.0	760.1	500.7	259.42	2.930		
14,800.0	7,702.0	14,886.4	7,702.0	129.9	134.9	90.00	6,705.0	1,363.9	760.1	496.9	263.23	2.888		
14,900.0	7,702.0	14,986.4	7,702.0	131.8	136.8	90.00	6,805.0	1,363.9	760.1	493.1	267.04	2.846		
15,000.0	7,702.0	15,086.4	7,702.0	133.7	138.7	90.00	6,905.0	1,363.8	760.1	489.2	270.85	2.806		
15,100.0	7,702.0	15,186.4	7,702.0	135.6	140.6	90.00	7,005.0	1,363.8	760.1	485.4	274.66	2.767		
15,200.0	7,702.0	15,286.4	7,702.0	137.5	142.5	90.00	7,105.0	1,363.7	760.1	481.6	278.48	2.729		
15,300.0	7,702.0	15,386.4	7,702.0	139.4	144.4	90.00	7,205.0	1,363.7	760.1	477.8	282.29	2.693		
15,400.0	7,702.0	15,486.4	7,702.0	141.3	146.3	90.00	7,305.0	1,363.7	760.1	474.0	286.11	2.657		

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 539-1807H
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 539-1807H	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 (2-28-17)	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	15,586.4	7,702.0	143.2	148.2	90.00	7,405.0	1,363.6	760.1	470.2	289.93	2.622		
15,600.0	7,702.0	15,686.4	7,702.0	145.1	150.1	90.00	7,505.0	1,363.6	760.1	466.3	293.75	2.588		
15,700.0	7,702.0	15,786.4	7,702.0	147.0	152.0	90.00	7,605.0	1,363.5	760.1	462.5	297.57	2.554		
15,800.0	7,702.0	15,886.4	7,702.0	148.9	153.9	90.00	7,705.0	1,363.5	760.1	458.7	301.39	2.522		
15,900.0	7,702.0	15,986.4	7,702.0	150.9	155.8	90.00	7,805.0	1,363.5	760.1	454.9	305.21	2.490		
16,000.0	7,702.0	16,086.4	7,702.0	152.8	157.7	90.00	7,905.0	1,363.4	760.1	451.0	309.03	2.459		
16,100.0	7,702.0	16,186.4	7,702.0	154.7	159.6	90.00	8,005.0	1,363.4	760.1	447.2	312.85	2.429		
16,200.0	7,702.0	16,286.4	7,702.0	156.6	161.5	90.00	8,105.0	1,363.3	760.0	443.4	316.68	2.400		
16,300.0	7,702.0	16,386.4	7,702.0	158.5	163.4	90.00	8,205.0	1,363.3	760.0	439.5	320.50	2.371		
16,400.0	7,702.0	16,486.4	7,702.0	160.4	165.3	90.00	8,305.0	1,363.2	760.0	435.7	324.33	2.343		
16,500.0	7,702.0	16,586.4	7,702.0	162.3	167.2	90.00	8,405.0	1,363.2	760.0	431.9	328.16	2.316		
16,600.0	7,702.0	16,686.4	7,702.0	164.2	169.1	90.00	8,505.0	1,363.2	760.0	428.0	331.98	2.289		
16,700.0	7,702.0	16,786.4	7,702.0	166.1	171.0	90.00	8,605.0	1,363.1	760.0	424.2	335.81	2.263		
16,800.0	7,702.0	16,886.4	7,702.0	168.0	172.9	90.00	8,705.0	1,363.1	760.0	420.4	339.64	2.238		
16,900.0	7,702.0	16,986.4	7,702.0	169.9	174.8	90.00	8,805.0	1,363.0	760.0	416.5	343.47	2.213		
17,000.0	7,702.0	17,086.4	7,702.0	171.9	176.7	90.00	8,905.0	1,363.0	760.0	412.7	347.30	2.188		
17,100.0	7,702.0	17,186.4	7,702.0	173.8	178.6	90.00	9,005.0	1,362.9	760.0	408.9	351.13	2.164		
17,200.0	7,702.0	17,286.4	7,702.0	175.7	180.5	90.00	9,105.0	1,362.9	760.0	405.0	354.96	2.141		
17,300.0	7,702.0	17,386.4	7,702.0	177.6	182.4	90.00	9,205.0	1,362.9	760.0	401.2	358.79	2.118		
17,400.0	7,702.0	17,486.4	7,702.0	179.5	184.3	90.00	9,305.0	1,362.8	760.0	397.4	362.62	2.096		
17,500.0	7,702.0	17,586.4	7,702.0	181.4	186.2	90.00	9,405.0	1,362.8	760.0	393.5	366.45	2.074		
17,600.0	7,702.0	17,686.4	7,702.0	183.3	188.1	90.00	9,505.0	1,362.7	760.0	389.7	370.29	2.052		
17,700.0	7,702.0	17,786.4	7,702.0	185.3	190.0	90.00	9,605.0	1,362.7	760.0	385.8	374.12	2.031		
17,800.0	7,702.0	17,886.4	7,702.0	187.2	191.9	90.00	9,705.0	1,362.6	760.0	382.0	377.95	2.011		
17,900.0	7,702.0	17,986.4	7,702.0	189.1	193.8	90.00	9,805.0	1,362.6	760.0	378.2	381.79	1.991		
18,000.0	7,702.0	18,086.4	7,702.0	191.0	195.8	90.00	9,905.0	1,362.6	759.9	374.3	385.62	1.971		
18,100.0	7,702.0	18,186.4	7,702.0	192.9	197.7	90.00	10,005.0	1,362.5	759.9	370.5	389.46	1.951		
18,158.0	7,702.0	18,244.5	7,702.0	194.0	198.8	90.00	10,063.1	1,362.5	759.9	368.3	391.62	1.940		
18,184.4	7,702.0	18,269.8	7,702.0	194.4	199.3	90.00	10,088.4	1,362.5	759.9	367.3	392.58	1.936 SF		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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			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		
16,900.0	7,702.0	11,781.0	7,539.0	169.9	102.3	79.71	9,481.1	1,539.5	1,167.7	914.0	253.65	4.604		
17,000.0	7,702.0	11,846.3	7,540.0	171.9	103.8	79.35	9,534.3	1,501.8	1,110.3	853.8	256.51	4.329		
17,100.0	7,702.0	11,935.8	7,540.6	173.8	105.8	78.76	9,607.4	1,450.1	1,053.3	793.6	259.65	4.056		
17,200.0	7,702.0	12,016.9	7,540.9	175.7	107.7	78.14	9,673.6	1,403.3	996.2	733.7	262.58	3.794		
17,300.0	7,702.0	12,078.5	7,540.9	177.6	109.1	77.62	9,724.3	1,368.2	940.2	675.1	265.19	3.546		
17,400.0	7,702.0	12,114.0	7,540.8	179.5	110.0	77.29	9,753.7	1,348.3	886.3	618.9	267.46	3.314		
17,500.0	7,702.0	12,114.0	7,540.8	181.4	110.0	77.29	9,753.7	1,348.3	840.1	570.8	269.33	3.119		
17,600.0	7,702.0	12,114.0	7,540.8	183.3	110.0	77.29	9,753.7	1,348.3	803.8	532.6	271.21	2.964		
17,700.0	7,702.0	12,114.0	7,540.8	185.3	110.0	77.29	9,753.7	1,348.3	778.7	505.6	273.09	2.851		
17,800.0	7,702.0	12,114.0	7,540.8	187.2	110.0	77.29	9,753.7	1,348.3	765.9	490.9	274.96	2.786		
17,848.7	7,702.0	12,114.0	7,540.8	188.1	110.0	77.29	9,753.7	1,348.3	764.4	488.5	275.88	2.771	CC, ES	
17,900.0	7,702.0	12,114.0	7,540.8	189.1	110.0	77.29	9,753.7	1,348.3	766.1	489.2	276.84	2.767	SF	
18,000.0	7,702.0	12,114.0	7,540.8	191.0	110.0	77.29	9,753.7	1,348.3	779.2	500.5	278.72	2.796		
18,100.0	7,702.0	12,114.0	7,540.8	192.9	110.0	77.29	9,753.7	1,348.3	804.6	524.0	280.59	2.868		
18,184.4	7,702.0	12,114.0	7,540.8	194.4	110.0	77.29	9,753.7	1,348.3	834.8	552.8	282.09	2.959		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	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
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)			
8,800.0	7,702.0	10,120.5	7,537.8	24.2	76.5	77.11	1,554.3	1,362.8	1,150.6	1,092.1	58.48	19.674		
8,900.0	7,702.0	10,156.6	7,537.6	25.4	77.4	76.63	1,578.6	1,336.0	1,077.7	1,017.6	60.04	17.949		
9,000.0	7,702.0	10,205.7	7,537.2	26.6	78.5	75.95	1,612.6	1,300.6	1,006.7	944.8	61.87	16.271		
9,100.0	7,702.0	10,253.5	7,537.4	27.9	79.6	75.28	1,646.6	1,267.0	937.4	873.7	63.76	14.702		
9,200.0	7,702.0	10,326.0	7,537.7	29.2	81.3	74.16	1,698.7	1,216.6	869.2	803.2	66.03	13.164		
9,300.0	7,702.0	10,387.0	7,537.8	30.7	82.7	73.05	1,742.7	1,174.3	801.4	733.3	68.14	11.761		
9,400.0	7,702.0	10,467.6	7,537.1	32.1	84.6	71.27	1,801.1	1,118.8	734.5	664.1	70.41	10.431		
9,500.0	7,702.0	10,524.6	7,536.7	33.6	85.9	69.80	1,842.3	1,079.5	667.8	595.5	72.35	9.230		
9,600.0	7,702.0	10,594.8	7,536.6	35.1	87.5	67.75	1,894.0	1,032.0	602.9	528.6	74.29	8.115		
9,700.0	7,702.0	10,677.3	7,536.2	36.7	89.4	64.71	1,954.4	975.7	538.1	462.2	75.93	7.087		
9,800.0	7,702.0	10,751.7	7,535.9	38.3	91.2	61.22	2,008.5	924.7	473.9	396.9	77.01	6.153		
9,900.0	7,702.0	10,822.4	7,535.9	39.9	92.8	57.02	2,059.4	875.6	410.2	332.9	77.33	5.305		
10,000.0	7,702.0	10,888.7	7,536.0	41.6	94.4	52.08	2,107.9	830.4	349.8	273.1	76.69	4.561		
10,100.0	7,702.0	10,959.5	7,536.3	43.3	96.0	45.50	2,160.9	783.5	294.2	219.8	74.39	3.954		
10,200.0	7,702.0	11,036.9	7,536.8	44.9	97.8	35.91	2,218.6	731.9	243.4	174.5	68.92	3.532		
10,300.0	7,702.0	11,107.3	7,535.9	46.6	99.4	24.33	2,270.9	684.9	203.2	142.3	60.97	3.334		
10,400.0	7,702.0	11,180.6	7,534.3	48.4	101.1	9.72	2,325.5	635.9	180.5	128.1	52.42	3.443		
10,445.9	7,702.0	11,214.6	7,533.4	49.2	101.9	2.37	2,350.6	613.0	177.8	127.3	50.51	3.519 CC, ES		
10,500.0	7,702.0	11,252.7	7,532.1	50.1	102.8	-5.86	2,378.8	587.3	181.7	130.3	51.37	3.537		
10,600.0	7,702.0	11,330.3	7,529.7	51.9	104.6	-21.36	2,435.8	534.7	206.5	145.1	61.43	3.362		
10,700.0	7,702.0	11,409.2	7,529.6	53.6	106.5	-34.53	2,493.3	480.8	246.8	171.2	75.61	3.264 SF		
10,800.0	7,702.0	11,483.6	7,532.5	55.4	108.2	-44.53	2,547.6	430.0	295.6	207.7	87.89	3.363		
10,900.0	7,702.0	11,549.5	7,533.9	57.2	109.8	-51.31	2,595.2	384.4	352.3	255.5	96.79	3.640		
11,000.0	7,702.0	11,622.1	7,534.9	59.0	111.6	-57.03	2,647.5	334.0	413.3	308.8	104.56	3.953		
11,100.0	7,702.0	11,699.1	7,535.7	60.8	113.4	-61.62	2,703.3	281.0	476.2	365.0	111.15	4.284		
11,200.0	7,702.0	11,771.7	7,536.4	62.6	115.1	-64.97	2,756.3	231.5	540.0	423.5	116.53	4.634		
11,300.0	7,702.0	11,848.9	7,536.5	64.4	117.0	-67.74	2,812.9	179.0	604.7	483.2	121.46	4.978		
11,400.0	7,702.0	11,920.3	7,536.6	66.2	118.7	-69.83	2,865.5	130.6	669.8	544.0	125.76	5.326		
11,500.0	7,702.0	11,986.8	7,536.3	68.0	120.2	-71.43	2,914.2	85.4	735.8	606.1	129.63	5.676		
11,600.0	7,702.0	12,042.1	7,536.2	69.9	121.6	-72.62	2,954.0	47.0	803.3	670.3	133.04	6.038		
11,700.0	7,702.0	12,094.0	7,536.4	71.7	122.9	-73.65	2,990.5	10.0	872.8	736.5	136.29	6.404		
11,800.0	7,702.0	12,208.3	7,537.1	73.5	125.6	-75.56	3,071.9	-70.2	941.6	800.6	141.05	6.676		
11,900.0	7,702.0	12,268.3	7,537.3	75.4	127.1	-76.38	3,115.3	-111.6	1,009.4	865.1	144.31	6.995		
12,000.0	7,702.0	12,352.3	7,539.1	77.2	129.1	-77.49	3,175.9	-169.7	1,077.4	929.2	148.12	7.273		
12,100.0	7,702.0	12,415.5	7,540.5	79.1	130.6	-78.24	3,221.5	-213.4	1,145.5	994.1	151.40	7.566		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.18-T11N-R63W - Critter Creek 15-19H (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 1514-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		
6,700.0	6,616.9	12,608.6	7,499.3	21.9	134.7	92.49	-1,148.5	97.5	1,185.8	1,029.4	156.37	7.583		
6,800.0	6,716.8	12,605.0	7,499.2	22.0	134.6	89.82	-1,151.0	100.1	1,109.1	952.5	156.66	7.080		
6,900.0	6,816.8	12,604.2	7,499.2	22.2	134.6	-136.56	-1,151.6	100.7	1,036.4	879.7	156.74	6.613		
7,000.0	6,916.8	12,604.4	7,499.2	22.3	134.6	-136.54	-1,151.4	100.5	968.7	811.8	156.88	6.175		
7,100.0	7,016.8	12,605.0	7,499.2	22.4	134.6	-137.63	-1,151.0	100.1	907.3	750.4	156.87	5.784		
7,200.0	7,116.1	12,611.6	7,499.3	22.5	134.8	-139.99	-1,146.5	95.4	860.1	704.6	155.50	5.531		
7,300.0	7,212.9	12,625.7	7,499.3	22.4	135.2	-140.48	-1,136.8	85.0	832.6	679.6	152.97	5.443 SF		
7,376.3	7,283.9	12,639.0	7,499.3	22.3	135.5	-139.92	-1,127.7	75.4	826.1	675.8	150.31	5.496 CC, ES		
7,400.0	7,305.2	12,647.1	7,499.3	22.3	135.7	-139.35	-1,122.2	69.4	826.7	677.1	149.55	5.528		
7,500.0	7,391.4	12,675.3	7,499.4	22.1	136.4	-136.65	-1,103.1	48.7	842.4	696.9	145.44	5.792		
7,600.0	7,469.6	12,703.0	7,499.5	21.9	137.1	-132.73	-1,084.5	28.2	877.4	736.8	140.60	6.241		
7,700.0	7,538.5	12,740.3	7,499.7	21.6	138.1	-126.76	-1,059.8	0.2	928.4	792.8	135.68	6.843		
7,800.0	7,596.5	12,787.1	7,500.0	21.3	139.3	-118.69	-1,029.5	-35.5	991.6	860.8	130.84	7.579		
7,900.0	7,642.7	12,913.9	7,498.9	21.0	142.5	-106.14	-944.2	-129.3	1,060.4	933.3	127.07	8.345		
8,000.0	7,676.0	13,005.0	7,498.6	20.7	144.7	-96.02	-880.0	-193.9	1,130.2	1,006.8	123.43	9.156		

Company:	Fifth Creek Energy Company, LLC	Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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 539-1807H	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 (2-28-17)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5359.0ft (Original Well Elev)

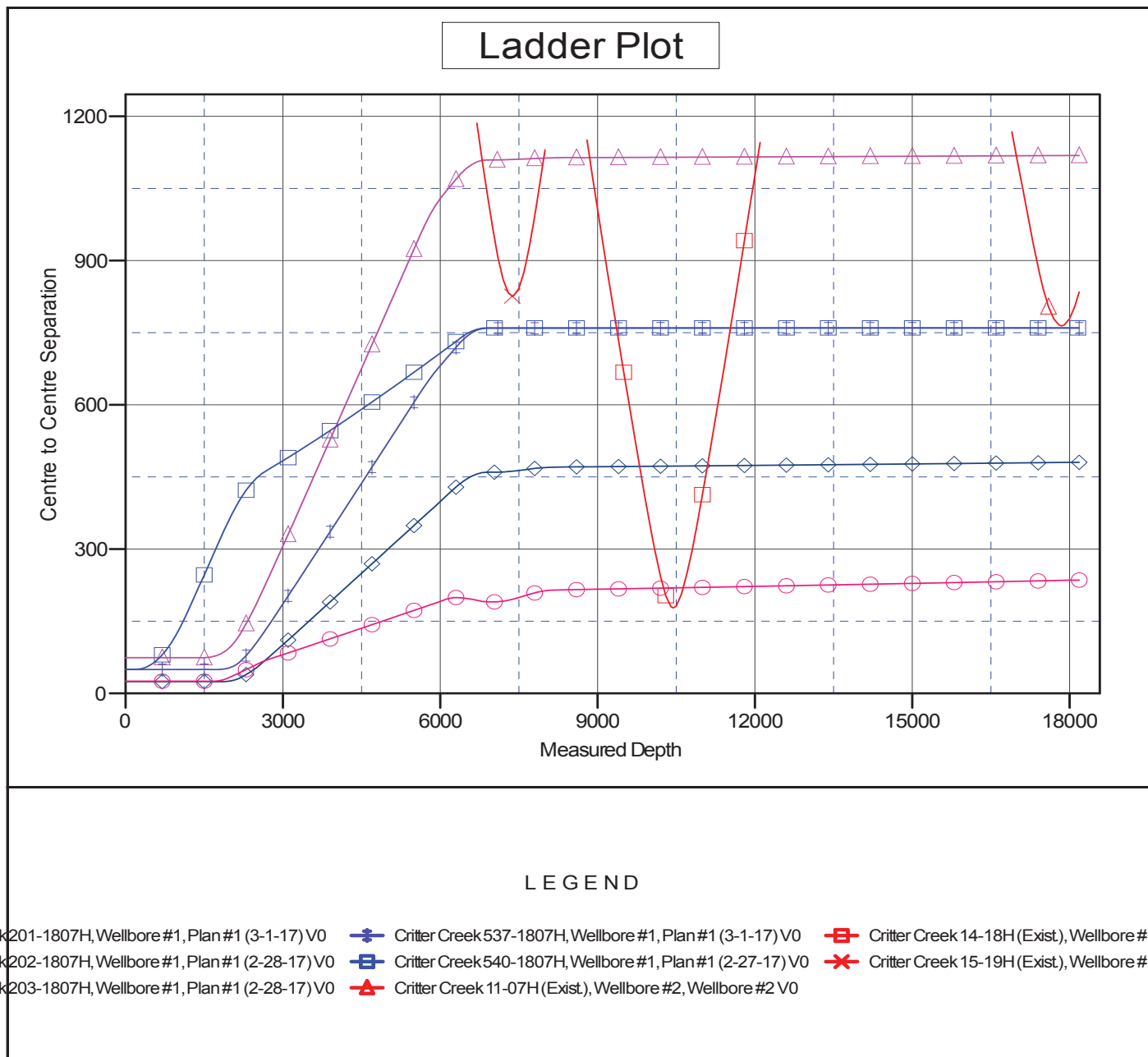
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Critter Creek 539-1807H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.66°



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 539-1807H
Well Error:	0.0 ft
Reference Wellbore	Wellbore #1
Reference Design:	Plan #1 (2-28-17)

Local Co-ordinate Reference:	Well Critter Creek 539-1807H
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)

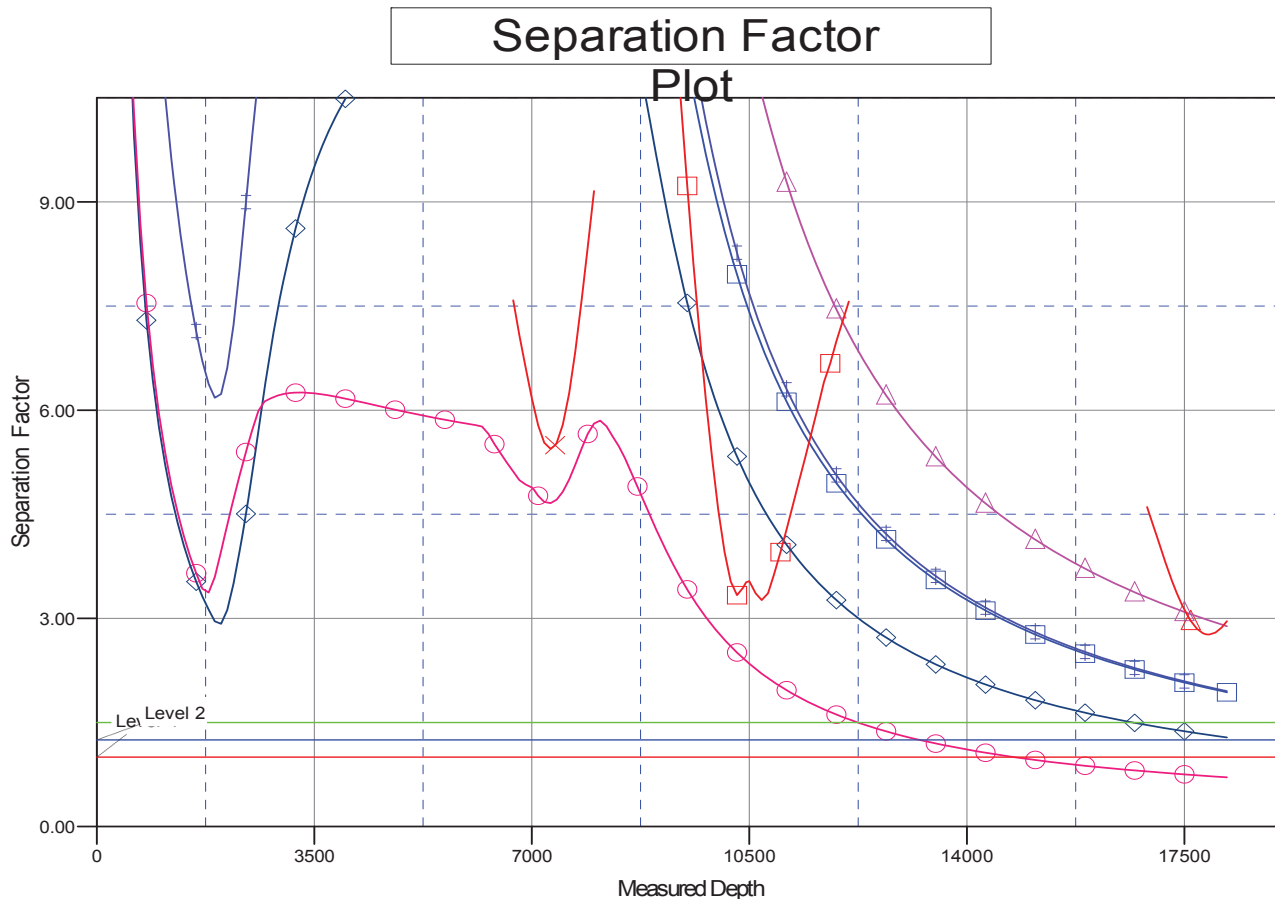
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000






Coordinates are relative to: Critter Creek 539-1807H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.66°



LEGEND

ek201-1807H, Wellbore #1, Plan #1 (3-1-17) V0		Critter Creek 537-1807H, Wellbore #1, Plan #1 (3-1-17) V0		Critter Creek 14-18H (Exist), Wellbore #1, V0
ek202-1807H, Wellbore #1, Plan #1 (2-28-17) V0		Critter Creek 540-1807H, Wellbore #1, Plan #1 (2-27-17) V0		Critter Creek 15-19H (Exist), Wellbore #1, V0
ek203-1807H, Wellbore #1, Plan #1 (2-28-17) V0		Critter Creek 11-07H (Exist), Wellbore #2, Wellbore #2 V0		