

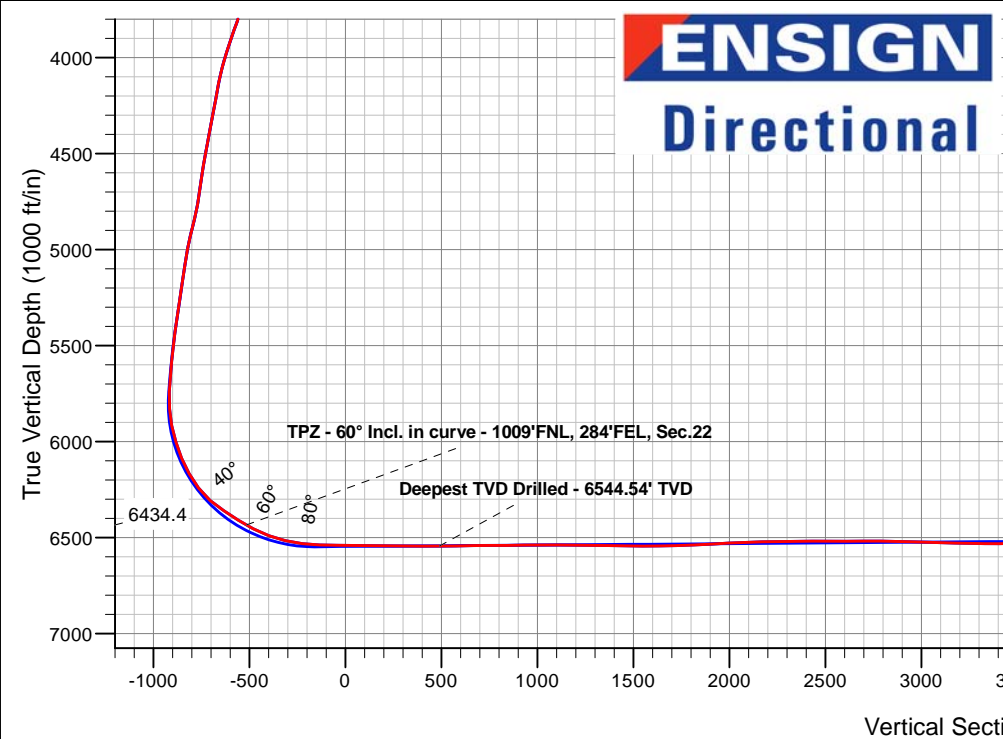
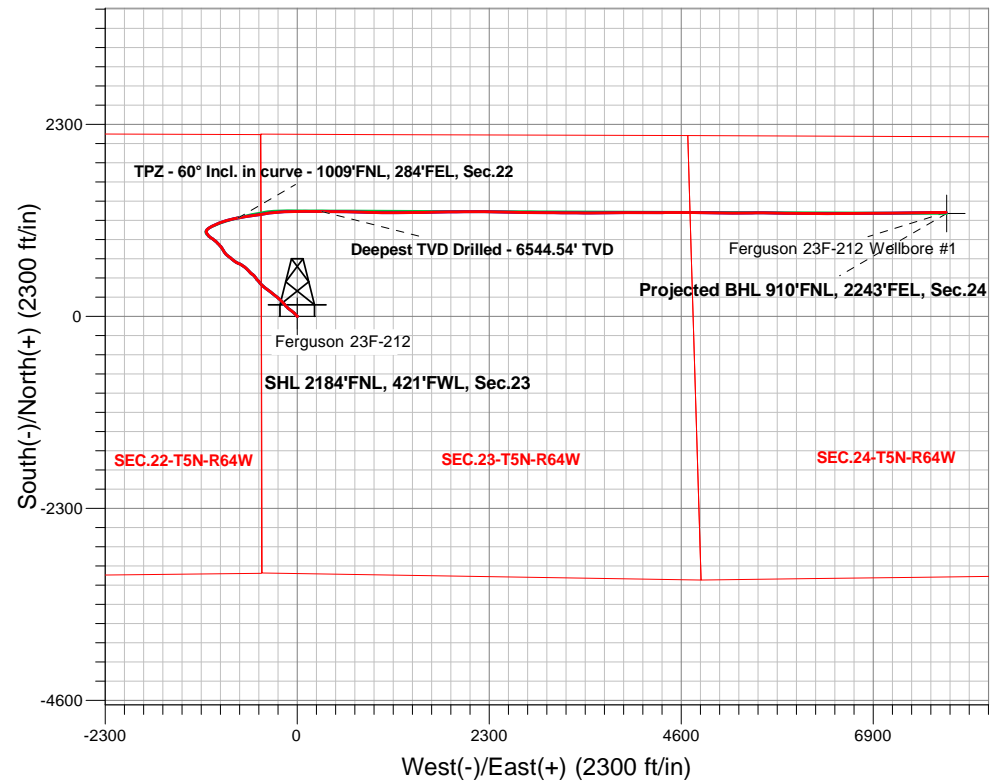
PDC Energy Inc. DJ Basin

Well Name: **Ferguson 23F-212**

Surface Location: Ferguson 5N64W23F Pad Sec.23-T5N-R64W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4575.0
 +N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1384981.02 3271629.52 40.386075 -104.524886
 Original Well Elev WELL @ 4598.0ft (Original Well Elev)

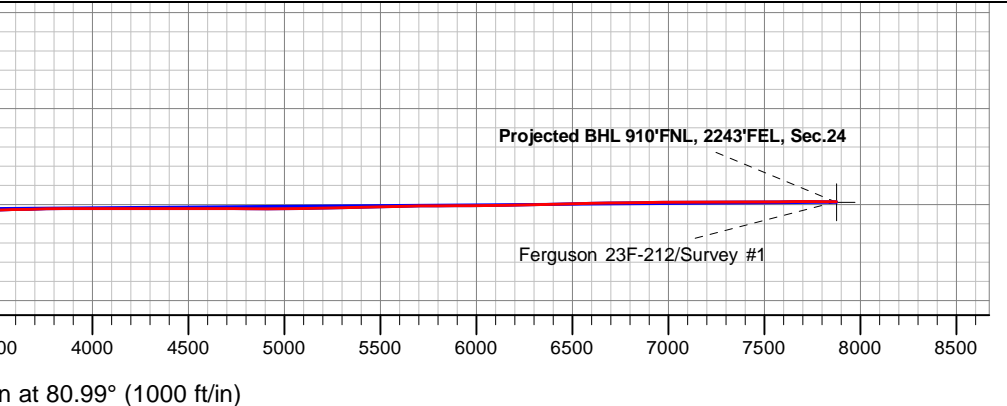
FINAL SURVEY

Projected Bottom Hole Location
15,356'MD 6486'TVD 1247'N & 7776'E of SHL
89.59 degree Incl @ 88.84 degree AZM



Ferguson 5N64W23F Pad Sec.23-T5N-R64W Ferguson 23F-212 Ferguson 23F-212 Wellbore #1 10:38, March 09 2020	ANNOTATIONS		
	TVD	MD	Annotation
	6434.4	6844.9	TPZ - 60° Incl. in curve - 1009'FNL, 284'FEL, Sec.22
	6544.5	7874.0	Deepest TVD Drilled - 6544.54' TVD

LEGEND	
	Ferguson 23F-212, Ferguson 23F-212 Wellbore #1, Plan #4 (3-05-20) V0
	Ferguson 23F-212 Wellbore #1
	Survey #1





PDC Energy Inc. DJ Basin

SEC.23-T5N-R64W

Ferguson 5N64W23F Pad Sec.23-T5N-R64W

Ferguson 23F-212

Ferguson 23F-212 Wellbore #1

Survey: Survey #1

Standard Survey Report

09 March, 2020



Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Ferguson 23F-212
Project:	SEC.23-T5N-R64W	TVD Reference:	WELL @ 4598.0ft (Original Well Elev)
Site:	Ferguson 5N64W23F Pad Sec.23-T5N-R64W	MD Reference:	WELL @ 4598.0ft (Original Well Elev)
Well:	Ferguson 23F-212	North Reference:	True
Wellbore:	Ferguson 23F-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Ferguson 23F-212 Wellbore #1	Database:	US_EDM

Project	SEC.23-T5N-R64W, Weld County, Colorado		
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	Ferguson 5N64W23F Pad Sec.23-T5N-R64W				
Site Position:		Northing:	1,385,011.05 usft	Latitude:	40.386157
From:	Lat/Long	Easting:	3,271,629.53 usft	Longitude:	-104.524886
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.63 °

Well	Ferguson 23F-212					
Well Position	+N/-S	0.0 ft	Northing:	1,384,981.02 usft	Latitude:	40.386075
	+E/-W	0.0 ft	Easting:	3,271,629.52 usft	Longitude:	-104.524887
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,575.0 ft

Wellbore	Ferguson 23F-212 Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/5/2020	7.97	66.85	52,052

Design	Ferguson 23F-212 Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	80.99	

Survey Program	Date	3/9/2020			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
155.0	15,356.0	Survey #1 (Ferguson 23F-212 Wellbore #1)	MWD	MWD - Standard	

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	
155.0	0.50	131.40	155.0	-0.4	0.5	0.4	0.32	0.32	0.00	
250.0	0.40	119.30	250.0	-0.9	1.1	1.0	0.14	-0.11	-12.74	
345.0	0.60	127.90	345.0	-1.4	1.8	1.6	0.22	0.21	9.05	
440.0	0.70	116.50	440.0	-1.9	2.7	2.4	0.17	0.11	-12.00	
536.0	0.40	94.00	536.0	-2.2	3.6	3.2	0.38	-0.31	-23.44	
631.0	0.70	353.60	631.0	-1.6	3.8	3.5	0.91	0.32	-105.68	
726.0	2.00	320.20	726.0	0.2	2.7	2.7	1.54	1.37	-35.16	
821.0	3.40	311.60	820.8	3.3	-0.5	0.1	1.53	1.47	-9.05	
916.0	5.00	318.10	915.6	8.3	-5.3	-4.0	1.75	1.68	6.84	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Ferguson 23F-212
Project:	SEC.23-T5N-R64W	TVD Reference:	WELL @ 4598.0ft (Original Well Elev)
Site:	Ferguson 5N64W23F Pad Sec.23-T5N-R64W	MD Reference:	WELL @ 4598.0ft (Original Well Elev)
Well:	Ferguson 23F-212	North Reference:	True
Wellbore:	Ferguson 23F-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Ferguson 23F-212 Wellbore #1	Database:	US_EDM

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)	
1,011.0	6.20	315.60	1,010.1	15.0	-11.7	-9.2	1.29	1.26	-2.63	
1,106.0	6.90	314.10	1,104.5	22.7	-19.4	-15.6	0.76	0.74	-1.58	
1,201.0	9.00	314.20	1,198.6	31.8	-28.8	-23.5	2.21	2.21	0.11	
1,297.0	11.50	311.60	1,293.1	43.4	-41.3	-34.0	2.65	2.60	-2.71	
1,392.0	12.60	307.70	1,386.0	56.0	-56.6	-47.2	1.44	1.16	-4.11	
1,487.0	13.30	309.50	1,478.5	69.3	-73.3	-61.5	0.85	0.74	1.89	
1,581.0	14.90	309.30	1,569.7	83.9	-91.0	-76.7	1.70	1.70	-0.21	
1,634.0	16.40	310.20	1,620.7	93.0	-101.9	-86.1	2.87	2.83	1.70	
1,709.0	15.35	310.90	1,692.9	106.3	-117.5	-99.4	1.42	-1.40	0.93	
1,798.0	13.47	317.53	1,779.1	121.7	-133.4	-112.7	2.81	-2.11	7.45	
1,888.0	13.60	322.84	1,866.6	137.9	-146.9	-123.5	1.39	0.14	5.90	
2,067.0	24.11	313.43	2,035.8	179.9	-186.3	-155.8	6.09	5.87	-5.26	
2,156.0	22.14	312.68	2,117.6	203.8	-211.8	-177.3	2.24	-2.21	-0.84	
2,245.0	19.04	311.14	2,200.9	224.7	-235.1	-197.0	3.54	-3.48	-1.73	
2,336.0	20.05	310.37	2,286.7	244.6	-258.2	-216.7	1.15	1.11	-0.85	
2,515.0	22.05	305.93	2,453.7	284.2	-308.7	-260.4	1.43	1.12	-2.48	
2,606.0	24.98	304.98	2,537.2	305.2	-338.3	-286.4	3.25	3.22	-1.04	
2,696.0	26.68	308.34	2,618.2	328.6	-369.8	-313.7	2.49	1.89	3.73	
2,786.0	26.98	312.23	2,698.5	354.9	-400.7	-340.2	1.98	0.33	4.32	
2,876.0	23.26	314.14	2,780.0	381.0	-428.6	-363.6	4.23	-4.13	2.12	
2,965.0	22.18	320.20	2,862.1	406.2	-452.0	-382.8	2.89	-1.21	6.81	
3,055.0	21.52	319.27	2,945.6	431.7	-473.6	-400.2	0.83	-0.73	-1.03	
3,144.0	18.21	323.85	3,029.3	455.3	-492.5	-415.1	4.11	-3.72	5.15	
3,234.0	15.37	322.69	3,115.5	476.2	-508.0	-427.2	3.18	-3.16	-1.29	
3,324.0	12.93	313.76	3,202.7	492.6	-522.5	-438.9	3.63	-2.71	-9.92	
3,414.0	10.81	299.54	3,290.8	503.8	-537.1	-451.6	4.00	-2.36	-15.80	
3,504.0	8.96	306.62	3,379.5	512.1	-550.1	-463.1	2.46	-2.06	7.87	
3,594.0	14.09	318.77	3,467.7	524.5	-563.0	-473.9	6.28	5.70	13.50	
3,683.0	21.71	315.91	3,552.3	544.5	-581.6	-489.1	8.62	8.56	-3.21	
3,773.0	24.26	314.61	3,635.1	569.5	-606.3	-509.6	2.89	2.83	-1.44	
3,863.0	23.92	308.27	3,717.3	593.8	-633.8	-533.0	2.90	-0.38	-7.04	
3,953.0	23.94	301.08	3,799.6	614.5	-663.8	-559.4	3.24	0.02	-7.99	
4,043.0	22.09	291.57	3,882.5	630.2	-695.2	-587.9	4.61	-2.06	-10.57	
4,132.0	22.93	299.63	3,964.7	644.9	-725.8	-615.9	3.59	0.94	9.06	
4,222.0	20.34	306.30	4,048.4	662.8	-753.7	-640.6	3.96	-2.88	7.41	
4,312.0	16.35	310.71	4,133.8	680.3	-775.9	-659.8	4.69	-4.43	4.90	
4,402.0	15.06	308.24	4,220.4	695.8	-794.7	-675.9	1.61	-1.43	-2.74	
4,491.0	15.43	307.44	4,306.3	710.2	-813.2	-691.9	0.48	0.42	-0.90	
4,581.0	15.65	309.61	4,393.0	725.2	-832.0	-708.2	0.69	0.24	2.41	
4,671.0	17.40	314.31	4,479.3	742.4	-851.0	-724.2	2.45	1.94	5.22	
4,760.0	22.35	327.27	4,563.0	765.9	-869.7	-739.0	7.42	5.56	14.56	
4,850.0	19.89	328.04	4,646.9	793.3	-887.1	-751.9	2.75	-2.73	0.86	
4,940.0	19.57	326.29	4,731.7	818.8	-903.5	-764.1	0.75	-0.36	-1.94	
5,030.0	22.58	317.97	4,815.6	844.2	-923.5	-779.8	4.71	3.34	-9.24	

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Site:	Ferguson 5N64W23F Pad Sec.23-T5N-R64W	MD Reference:	WELL @ 4598.0ft (Original Well Elev)
Well:	Ferguson 23F-212	North Reference:	True
Wellbore:	Ferguson 23F-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Ferguson 23F-212 Wellbore #1	Database:	US_EDM

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)	
5,120.0	23.62	315.28	4,898.4	869.9	-947.7	-799.8	1.65	1.16	-2.99	
5,209.0	17.82	315.81	4,981.6	892.3	-969.8	-818.1	6.52	-6.52	0.60	
5,299.0	14.12	307.70	5,068.2	908.9	-988.1	-833.5	4.79	-4.11	-9.01	
5,389.0	11.03	307.31	5,156.0	920.8	-1,003.6	-847.0	3.43	-3.43	-0.43	
5,478.0	11.94	305.54	5,243.2	931.4	-1,017.9	-859.4	1.10	1.02	-1.99	
5,568.0	11.44	302.20	5,331.3	941.5	-1,033.0	-872.8	0.93	-0.56	-3.71	
5,657.0	10.82	305.81	5,418.7	951.1	-1,047.2	-885.4	1.05	-0.70	4.06	
5,720.0	12.69	319.03	5,480.4	959.8	-1,056.6	-893.2	5.19	2.97	20.98	
5,810.0	12.11	324.62	5,568.3	975.0	-1,068.5	-902.6	1.48	-0.64	6.21	
5,899.0	10.56	323.01	5,655.5	989.1	-1,078.8	-910.6	1.78	-1.74	-1.81	
5,988.0	11.03	338.80	5,743.0	1,003.5	-1,086.8	-916.2	3.35	0.53	17.74	
6,077.0	11.50	5.98	5,830.3	1,020.3	-1,089.0	-915.7	5.93	0.53	30.54	
6,167.0	16.32	38.89	5,917.8	1,039.1	-1,080.1	-904.0	10.09	5.36	36.57	
6,257.0	17.93	58.87	6,003.9	1,056.1	-1,060.3	-881.8	6.74	1.79	22.20	
6,347.0	23.71	59.49	6,088.0	1,072.5	-1,032.8	-852.1	6.43	6.42	0.69	
6,437.0	30.58	64.38	6,168.0	1,091.6	-996.5	-813.3	8.02	7.63	5.43	
6,526.0	37.54	68.39	6,241.7	1,111.4	-950.8	-765.0	8.21	7.82	4.51	
6,616.0	49.15	70.09	6,307.0	1,133.2	-893.1	-704.6	12.96	12.90	1.89	
6,706.0	57.71	79.13	6,360.7	1,152.0	-823.6	-633.0	12.46	9.51	10.04	
6,796.0	57.33	77.31	6,409.0	1,167.5	-749.2	-557.1	1.76	-0.42	-2.02	
6,844.9	60.00	78.12	6,434.4	1,176.4	-708.4	-515.4	5.63	5.45	1.65	
TPZ - 60° Incl. in curve - 1009'FNL, 284'FEL, Sec.22										
6,886.0	62.24	78.76	6,454.3	1,183.6	-673.2	-479.5	5.63	5.46	1.57	
6,975.0	69.81	79.95	6,490.4	1,198.6	-593.3	-398.3	8.59	8.51	1.34	
7,065.0	76.60	81.17	6,516.4	1,212.7	-508.4	-312.2	7.66	7.54	1.36	
7,155.0	83.22	81.81	6,532.2	1,225.8	-420.8	-223.6	7.39	7.36	0.71	
7,245.0	88.49	84.23	6,538.7	1,236.7	-331.7	-133.9	6.44	5.86	2.69	
7,335.0	89.19	83.87	6,540.5	1,246.0	-242.2	-44.1	0.87	0.78	-0.40	
7,425.0	89.56	86.00	6,541.5	1,254.0	-152.6	45.7	2.40	0.41	2.37	
7,515.0	88.96	88.39	6,542.7	1,258.4	-62.7	135.2	2.74	-0.67	2.66	
7,604.0	89.55	91.15	6,543.8	1,258.7	26.3	223.1	3.17	0.66	3.10	
7,694.0	89.88	90.88	6,544.3	1,257.1	116.3	311.7	0.47	0.37	-0.30	
7,783.0	89.76	90.59	6,544.5	1,256.0	205.2	399.4	0.35	-0.13	-0.33	
7,874.0	90.24	90.30	6,544.5	1,255.3	296.2	489.2	0.62	0.53	-0.32	
Deepest TVD Drilled - 6544.54' TVD										
7,963.0	90.64	90.02	6,543.9	1,255.0	385.2	577.1	0.55	0.45	-0.31	
8,053.0	91.24	89.78	6,542.4	1,255.2	475.2	666.0	0.72	0.67	-0.27	
8,143.0	89.94	91.78	6,541.5	1,254.0	565.2	754.6	2.65	-1.44	2.22	
8,233.0	90.16	91.98	6,541.4	1,251.0	655.2	843.0	0.33	0.24	0.22	
8,323.0	90.64	91.61	6,540.7	1,248.2	745.1	931.4	0.67	0.53	-0.41	
8,412.0	91.77	91.65	6,538.9	1,245.7	834.1	1,018.9	1.27	1.27	0.04	
8,503.0	89.01	90.79	6,538.3	1,243.7	925.0	1,108.4	3.18	-3.03	-0.95	
8,592.0	89.15	90.63	6,539.7	1,242.6	1,014.0	1,196.1	0.24	0.16	-0.18	

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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)	
8,682.0	89.19	90.00	6,541.0	1,242.1	1,104.0	1,284.9	0.70	0.04	-0.70	
8,771.0	89.19	89.73	6,542.2	1,242.3	1,193.0	1,372.8	0.30	0.00	-0.30	
8,861.0	89.23	88.99	6,543.5	1,243.3	1,283.0	1,461.9	0.82	0.04	-0.82	
8,949.0	90.02	90.16	6,544.1	1,244.0	1,371.0	1,548.9	1.60	0.90	1.33	
9,038.0	90.08	88.53	6,544.0	1,245.0	1,460.0	1,636.9	1.83	0.07	-1.83	
9,128.0	92.21	89.73	6,542.2	1,246.4	1,549.9	1,726.0	2.72	2.37	1.33	
9,219.0	92.36	89.00	6,538.6	1,247.4	1,640.8	1,816.0	0.82	0.16	-0.80	
9,308.0	92.81	88.77	6,534.5	1,249.1	1,729.7	1,904.0	0.57	0.51	-0.26	
9,397.0	92.55	89.59	6,530.4	1,250.4	1,818.6	1,992.0	0.97	-0.29	0.92	
9,487.0	93.20	89.05	6,525.9	1,251.5	1,908.5	2,081.0	0.94	0.72	-0.60	
9,577.0	90.99	89.38	6,522.6	1,252.7	1,998.4	2,170.0	2.48	-2.46	0.37	
9,666.0	91.45	89.32	6,520.7	1,253.7	2,087.4	2,258.0	0.52	0.52	-0.07	
9,755.0	89.80	90.44	6,519.7	1,253.9	2,176.4	2,345.9	2.24	-1.85	1.26	
9,844.0	90.37	90.46	6,519.6	1,253.2	2,265.4	2,433.7	0.64	0.64	0.02	
9,934.0	89.69	91.35	6,519.5	1,251.8	2,355.4	2,522.4	1.24	-0.76	0.99	
10,024.0	90.21	91.10	6,519.6	1,249.8	2,445.4	2,610.9	0.64	0.58	-0.28	
10,114.0	90.89	91.14	6,518.7	1,248.1	2,535.3	2,699.5	0.76	0.76	0.04	
10,204.0	88.99	91.35	6,518.8	1,246.1	2,625.3	2,788.1	2.12	-2.11	0.23	
10,294.0	88.48	91.15	6,520.8	1,244.2	2,715.3	2,876.6	0.61	-0.57	-0.22	
10,384.0	88.54	90.55	6,523.2	1,242.8	2,805.2	2,965.3	0.67	0.07	-0.67	
10,474.0	88.52	90.36	6,525.5	1,242.1	2,895.2	3,054.0	0.21	-0.02	-0.21	
10,563.0	88.59	90.16	6,527.7	1,241.7	2,984.2	3,141.8	0.24	0.08	-0.22	
10,653.0	87.84	90.46	6,530.5	1,241.2	3,074.1	3,230.6	0.90	-0.83	0.33	
10,742.0	89.17	90.79	6,532.8	1,240.3	3,163.1	3,318.3	1.54	1.49	0.37	
10,832.0	91.47	90.46	6,532.3	1,239.3	3,253.1	3,407.0	2.58	2.56	-0.37	
10,921.0	92.60	90.41	6,529.2	1,238.6	3,342.0	3,494.8	1.27	1.27	-0.06	
11,011.0	90.71	89.98	6,526.6	1,238.3	3,432.0	3,583.6	2.15	-2.10	-0.48	
11,101.0	91.20	90.08	6,525.1	1,238.2	3,522.0	3,672.4	0.56	0.54	0.11	
11,190.0	92.05	89.71	6,522.6	1,238.4	3,610.9	3,760.3	1.04	0.96	-0.42	
11,280.0	89.93	89.80	6,521.0	1,238.8	3,700.9	3,849.2	2.36	-2.36	0.10	
11,370.0	89.94	89.25	6,521.1	1,239.5	3,790.9	3,938.2	0.61	0.01	-0.61	
11,460.0	89.81	88.71	6,521.3	1,241.1	3,880.9	4,027.4	0.62	-0.14	-0.60	
11,549.0	89.71	90.06	6,521.7	1,242.1	3,969.9	4,115.4	1.52	-0.11	1.52	
11,639.0	89.99	89.50	6,521.9	1,242.4	4,059.9	4,204.4	0.70	0.31	-0.62	
11,728.0	90.01	88.59	6,521.9	1,243.9	4,148.9	4,292.5	1.02	0.02	-1.02	
11,818.0	89.92	91.20	6,522.0	1,244.1	4,238.8	4,381.4	2.90	-0.10	2.90	
11,908.0	90.14	90.41	6,521.9	1,242.8	4,328.8	4,470.1	0.91	0.24	-0.88	
11,998.0	89.94	89.13	6,521.9	1,243.2	4,418.8	4,559.0	1.44	-0.22	-1.42	
12,088.0	90.56	88.95	6,521.5	1,244.7	4,508.8	4,648.1	0.72	0.69	-0.20	
12,178.0	89.35	91.11	6,521.5	1,244.6	4,598.8	4,737.0	2.75	-1.34	2.40	
12,268.0	88.99	90.31	6,522.8	1,243.5	4,688.8	4,825.7	0.97	-0.40	-0.89	
12,357.0	90.62	91.19	6,523.1	1,242.4	4,777.8	4,913.4	2.08	1.83	0.99	
12,447.0	90.51	90.48	6,522.3	1,241.1	4,867.8	5,002.1	0.80	-0.12	-0.79	
12,536.0	91.55	91.82	6,520.7	1,239.3	4,956.7	5,089.7	1.91	1.17	1.51	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Ferguson 23F-212
Project:	SEC.23-T5N-R64W	TVD Reference:	WELL @ 4598.0ft (Original Well Elev)
Site:	Ferguson 5N64W23F Pad Sec.23-T5N-R64W	MD Reference:	WELL @ 4598.0ft (Original Well Elev)
Well:	Ferguson 23F-212	North Reference:	True
Wellbore:	Ferguson 23F-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Ferguson 23F-212 Wellbore #1	Database:	US_EDM

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)	
12,626.0	91.06	90.48	6,518.6	1,237.5	5,046.7	5,178.2	1.58	-0.54	-1.49	
12,716.0	90.21	89.98	6,517.6	1,237.1	5,136.7	5,267.0	1.10	-0.94	-0.56	
12,805.0	91.57	90.70	6,516.2	1,236.6	5,225.7	5,354.9	1.73	1.53	0.81	
12,896.0	91.51	89.95	6,513.8	1,236.1	5,316.6	5,444.6	0.83	-0.07	-0.82	
12,985.0	91.42	89.04	6,511.5	1,236.8	5,405.6	5,532.6	1.03	-0.10	-1.02	
13,075.0	91.26	87.81	6,509.4	1,239.3	5,495.5	5,621.8	1.38	-0.18	-1.37	
13,165.0	90.54	91.25	6,508.0	1,240.1	5,585.5	5,710.8	3.90	-0.80	3.82	
13,255.0	89.88	90.76	6,507.7	1,238.5	5,675.5	5,799.4	0.91	-0.73	-0.54	
13,345.0	91.09	91.50	6,506.9	1,236.7	5,765.5	5,888.0	1.58	1.34	0.82	
13,435.0	90.33	90.94	6,505.8	1,234.8	5,855.4	5,976.6	1.05	-0.84	-0.62	
13,525.0	89.88	90.20	6,505.6	1,233.9	5,945.4	6,065.3	0.96	-0.50	-0.82	
13,615.0	91.44	91.16	6,504.6	1,232.8	6,035.4	6,154.0	2.04	1.73	1.07	
13,705.0	91.16	90.58	6,502.5	1,231.5	6,125.4	6,242.7	0.72	-0.31	-0.64	
13,795.0	91.47	90.50	6,500.5	1,230.6	6,215.4	6,331.4	0.36	0.34	-0.09	
13,884.0	91.51	90.16	6,498.2	1,230.1	6,304.3	6,419.2	0.38	0.04	-0.38	
13,974.0	92.36	90.04	6,495.1	1,229.9	6,394.3	6,508.0	0.95	0.94	-0.13	
14,064.0	90.25	89.82	6,493.1	1,230.0	6,484.2	6,596.9	2.36	-2.34	-0.24	
14,154.0	90.53	89.21	6,492.5	1,230.8	6,574.2	6,685.9	0.75	0.31	-0.68	
14,243.0	90.82	88.70	6,491.4	1,232.4	6,663.2	6,774.0	0.66	0.33	-0.57	
14,333.0	91.71	88.39	6,489.4	1,234.7	6,753.2	6,863.2	1.05	0.99	-0.34	
14,422.0	89.82	90.22	6,488.2	1,235.8	6,842.1	6,951.3	2.96	-2.12	2.06	
14,512.0	90.31	90.09	6,488.1	1,235.6	6,932.1	7,040.1	0.56	0.54	-0.14	
14,602.0	90.47	89.83	6,487.5	1,235.6	7,022.1	7,129.0	0.34	0.18	-0.29	
14,691.0	89.85	89.70	6,487.3	1,236.0	7,111.1	7,217.0	0.71	-0.70	-0.15	
14,781.0	89.90	89.11	6,487.5	1,236.9	7,201.1	7,306.0	0.66	0.06	-0.66	
14,871.0	90.63	89.09	6,487.0	1,238.3	7,291.1	7,395.1	0.81	0.81	-0.02	
14,960.0	90.01	89.30	6,486.6	1,239.6	7,380.1	7,483.2	0.74	-0.70	0.24	
15,050.0	90.60	88.77	6,486.1	1,241.1	7,470.1	7,572.3	0.88	0.66	-0.59	
15,139.0	90.93	88.54	6,484.9	1,243.2	7,559.1	7,660.5	0.45	0.37	-0.26	
15,228.0	89.27	89.76	6,484.7	1,244.5	7,648.1	7,748.6	2.31	-1.87	1.37	
15,296.0	89.59	88.84	6,485.4	1,245.3	7,716.0	7,815.9	1.43	0.47	-1.35	
15,356.0	89.59	88.84	6,485.8	1,246.5	7,776.0	7,875.3	0.00	0.00	0.00	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Ferguson 23F-212
Project:	SEC.23-T5N-R64W	TVD Reference:	WELL @ 4598.0ft (Original Well Elev)
Site:	Ferguson 5N64W23F Pad Sec.23-T5N-R64W	MD Reference:	WELL @ 4598.0ft (Original Well Elev)
Well:	Ferguson 23F-212	North Reference:	True
Wellbore:	Ferguson 23F-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Ferguson 23F-212 Wellbore #1	Database:	US_EDM

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
SHL 2184'FNL, 421'FWL - survey hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,384,981.03	3,271,629.52	40.386075	-104.524887
Projected BHL 910'FNL, - survey misses target center by 13.5ft at 15356.0ft MD (6485.8 TVD, 1246.5 N, 7776.0 E) - Point	0.00	0.00	6,488.0	1,233.6	7,779.2	1,386,300.06	3,279,394.38	40.389458	-104.496961

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
6,844.9	6,434.4	1,176.4	-708.4	TPZ - 60° Incl. in curve - 1009'FNL, 284'FEL, Sec.22
7,874.0	6,544.5	1,255.3	296.2	Deepest TVD Drilled - 6544.54' TVD

Checked By: _____ Approved By: _____ Date: _____