

Cirque Resources LP

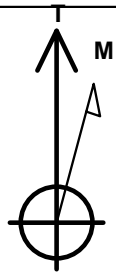
Well Name: **Matira West Federal 30-19-14-1CH**

Surface Location: Matira West Federal Pad Sec.30-T12N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 6018.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1597913.74	3218774.17	40.971950	-104.707790	
RKB - 25' WELL @ 6043.0ft (RKB - 25')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
Sectionline	1.0	-255.0	318.7	Polygon
SHL 255'FSL & 1860'FEL, Sec.30	1.0	0.0	0.0	Point
BHL 203'FNL & 660'FWL, Sec.19	8928.0	10074.3	-1118.0	Point
Landing Pt. 824'FSL & 660'FWL, Sec.30	8928.0	573.0	-1195.7	Point



Azimuths to True North
Magnetic North: 8.45°

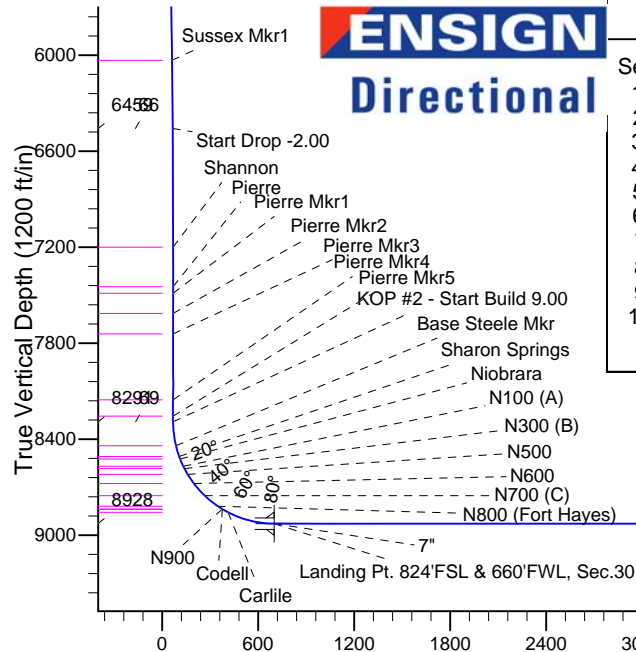
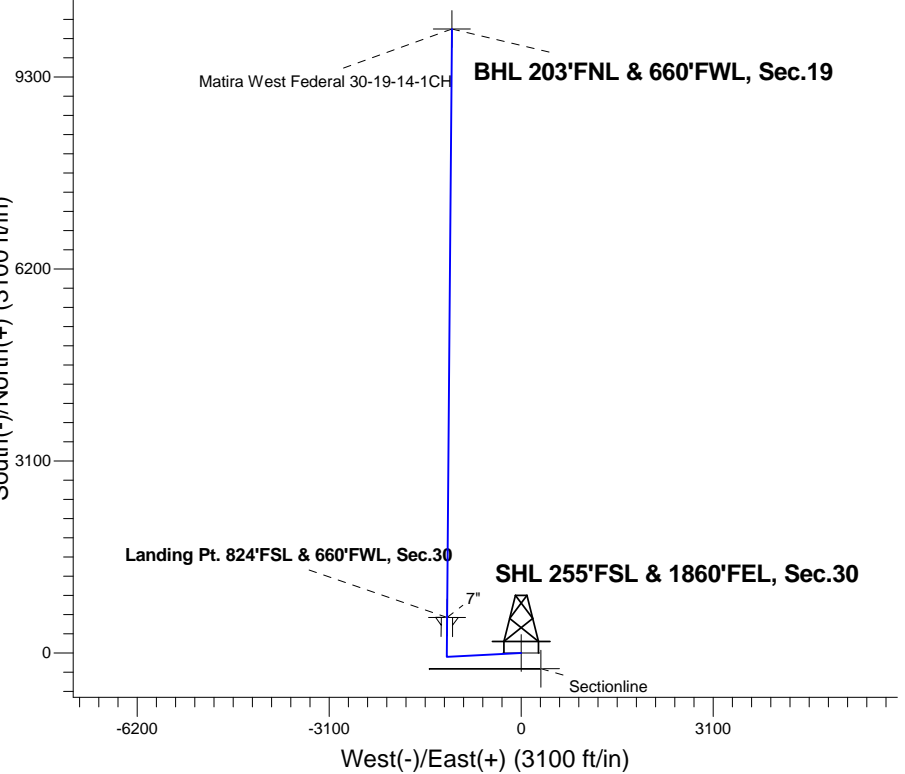
Magnetic Field
Strength: 53089.4snT
Dip Angle: 67.41°
Date: 8/18/2014
Model: IGRF2010

Matira West Federal Pad Sec.30-T12N-R65W
Matira West Federal 30-19-14-1CH
Plan #1 (8-18-14)
9:58, August 20 2014

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 2.00
6459.0	6567.0	Start Drop -2.00
8291.4	8402.7	KOP #2 - Start Build 9.00
8928.0	18904.7	TD at 18904.7

South(-)/North(+) (3100 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	744.3	10.89	266.95	741.0	-2.7	-51.5	2.00	266.95	3.0	
4	6567.0	10.89	266.95	6459.0	-61.3	-1149.5	0.00	0.00	65.9	
5	7111.3	0.00	0.00	7000.0	-64.0	-1201.0	2.00	180.00	68.9	
6	8402.7	0.00	0.00	8291.4	-64.0	-1201.0	0.00	0.00	68.9	
7	9402.7	90.00	0.48	8928.0	572.6	-1195.7	9.00	0.48	701.0	
8	9403.1	90.00	0.48	8928.0	573.0	-1195.7	0.00	0.00	701.4	Landing Pt. 824'FSL & 660'FWL, Sec.30
9	9403.8	90.00	0.47	8928.0	573.7	-1195.7	1.00	-90.00	702.1	
10	18904.7	90.00	0.47	8928.0	10074.3	-1118.0	0.00	0.00	10136.2	BHL 203'FNL & 660'FWL, Sec.19

BHL 203'FNL & 660'FWL, Sec.19

Vertical Section at 353.67° (1200 ft/in)



Cirque Resources LP

Sec.30-T12N-R65W

Matira West Federal Pad Sec.30-T12N-R65W

Matira West Federal 30-19-14-1CH

Wellbore #1

Plan: Plan #1 (8-18-14)

Standard Planning Report

20 August, 2014

Database:	Landmark	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site:	Matira West Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
300.0	2.00	266.95	300.0	-0.1	-1.7	0.1	2.00	2.00	0.00
400.0	4.00	266.95	399.8	-0.4	-7.0	0.4	2.00	2.00	0.00
500.0	6.00	266.95	499.5	-0.8	-15.7	0.9	2.00	2.00	0.00
600.0	8.00	266.95	598.7	-1.5	-27.8	1.6	2.00	2.00	0.00
700.0	10.00	266.95	697.5	-2.3	-43.5	2.5	2.00	2.00	0.00
744.3	10.89	266.95	741.0	-2.7	-51.5	3.0	2.00	2.00	0.00
800.0	10.89	266.95	795.7	-3.3	-62.0	3.6	0.00	0.00	0.00
900.0	10.89	266.95	893.9	-4.3	-80.8	4.6	0.00	0.00	0.00
1,000.0	10.89	266.95	992.1	-5.3	-99.7	5.7	0.00	0.00	0.00
1,100.0	10.89	266.95	1,090.3	-6.3	-118.6	6.8	0.00	0.00	0.00
1,200.0	10.89	266.95	1,188.5	-7.3	-137.4	7.9	0.00	0.00	0.00
1,300.0	10.89	266.95	1,286.7	-8.3	-156.3	9.0	0.00	0.00	0.00
1,400.0	10.89	266.95	1,384.9	-9.3	-175.1	10.0	0.00	0.00	0.00
1,500.0	10.89	266.95	1,483.1	-10.3	-194.0	11.1	0.00	0.00	0.00
1,600.0	10.89	266.95	1,581.3	-11.3	-212.8	12.2	0.00	0.00	0.00
1,700.0	10.89	266.95	1,679.5	-12.3	-231.7	13.3	0.00	0.00	0.00
1,800.0	10.89	266.95	1,777.7	-13.4	-250.6	14.4	0.00	0.00	0.00
1,867.5	10.89	266.95	1,844.0	-14.0	-263.3	15.1	0.00	0.00	0.00
Fox Hills									
1,900.0	10.89	266.95	1,875.9	-14.4	-269.4	15.4	0.00	0.00	0.00
2,000.0	10.89	266.95	1,974.1	-15.4	-288.3	16.5	0.00	0.00	0.00
2,100.0	10.89	266.95	2,072.3	-16.4	-307.1	17.6	0.00	0.00	0.00
2,200.0	10.89	266.95	2,170.5	-17.4	-326.0	18.7	0.00	0.00	0.00
2,300.0	10.89	266.95	2,268.7	-18.4	-344.9	19.8	0.00	0.00	0.00
2,400.0	10.89	266.95	2,366.9	-19.4	-363.7	20.9	0.00	0.00	0.00
2,500.0	10.89	266.95	2,465.1	-20.4	-382.6	21.9	0.00	0.00	0.00
2,549.8	10.89	266.95	2,514.0	-20.9	-392.0	22.5	0.00	0.00	0.00
Fox Hills Mkr 1									
2,600.0	10.89	266.95	2,563.3	-21.4	-401.4	23.0	0.00	0.00	0.00
2,700.0	10.89	266.95	2,661.5	-22.4	-420.3	24.1	0.00	0.00	0.00
2,800.0	10.89	266.95	2,759.7	-23.4	-439.1	25.2	0.00	0.00	0.00
2,900.0	10.89	266.95	2,857.9	-24.4	-458.0	26.3	0.00	0.00	0.00
3,000.0	10.89	266.95	2,956.1	-25.4	-476.9	27.3	0.00	0.00	0.00
3,100.0	10.89	266.95	3,054.3	-26.4	-495.7	28.4	0.00	0.00	0.00
3,200.0	10.89	266.95	3,152.5	-27.4	-514.6	29.5	0.00	0.00	0.00
3,300.0	10.89	266.95	3,250.7	-28.4	-533.4	30.6	0.00	0.00	0.00
3,400.0	10.89	266.95	3,348.9	-29.4	-552.3	31.7	0.00	0.00	0.00
3,500.0	10.89	266.95	3,447.1	-30.4	-571.1	32.7	0.00	0.00	0.00
3,600.0	10.89	266.95	3,545.3	-31.4	-590.0	33.8	0.00	0.00	0.00
3,700.0	10.89	266.95	3,643.5	-32.4	-608.9	34.9	0.00	0.00	0.00
3,800.0	10.89	266.95	3,741.7	-33.5	-627.7	36.0	0.00	0.00	0.00
3,900.0	10.89	266.95	3,839.9	-34.5	-646.6	37.1	0.00	0.00	0.00
4,000.0	10.89	266.95	3,938.1	-35.5	-665.4	38.1	0.00	0.00	0.00
4,100.0	10.89	266.95	4,036.4	-36.5	-684.3	39.2	0.00	0.00	0.00
4,200.0	10.89	266.95	4,134.6	-37.5	-703.2	40.3	0.00	0.00	0.00
4,300.0	10.89	266.95	4,232.8	-38.5	-722.0	41.4	0.00	0.00	0.00
4,380.7	10.89	266.95	4,312.0	-39.3	-737.2	42.3	0.00	0.00	0.00
Teapot									
4,400.0	10.89	266.95	4,331.0	-39.5	-740.9	42.5	0.00	0.00	0.00
4,500.0	10.89	266.95	4,429.2	-40.5	-759.7	43.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site:	Matira West Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.0	10.89	266.95	4,527.4	-41.5	-778.6	44.6	0.00	0.00	0.00
4,700.0	10.89	266.95	4,625.6	-42.5	-797.4	45.7	0.00	0.00	0.00
4,800.0	10.89	266.95	4,723.8	-43.5	-816.3	46.8	0.00	0.00	0.00
4,900.0	10.89	266.95	4,822.0	-44.5	-835.2	47.9	0.00	0.00	0.00
5,000.0	10.89	266.95	4,920.2	-45.5	-854.0	49.0	0.00	0.00	0.00
5,100.0	10.89	266.95	5,018.4	-46.5	-872.9	50.0	0.00	0.00	0.00
5,200.0	10.89	266.95	5,116.6	-47.5	-891.7	51.1	0.00	0.00	0.00
5,300.0	10.89	266.95	5,214.8	-48.5	-910.6	52.2	0.00	0.00	0.00
5,333.9	10.89	266.95	5,248.0	-48.9	-917.0	52.6	0.00	0.00	0.00
Parkman									
5,366.4	10.89	266.95	5,280.0	-49.2	-923.1	52.9	0.00	0.00	0.00
Sussex									
5,400.0	10.89	266.95	5,313.0	-49.5	-929.4	53.3	0.00	0.00	0.00
5,500.0	10.89	266.95	5,411.2	-50.5	-948.3	54.4	0.00	0.00	0.00
5,600.0	10.89	266.95	5,509.4	-51.5	-967.2	55.4	0.00	0.00	0.00
5,700.0	10.89	266.95	5,607.6	-52.5	-986.0	56.5	0.00	0.00	0.00
5,709.6	10.89	266.95	5,617.0	-52.6	-987.8	56.6	0.00	0.00	0.00
Pierre Upper Mkr1									
5,800.0	10.89	266.95	5,705.8	-53.5	-1,004.9	57.6	0.00	0.00	0.00
5,900.0	10.89	266.95	5,804.0	-54.6	-1,023.7	58.7	0.00	0.00	0.00
6,000.0	10.89	266.95	5,902.2	-55.6	-1,042.6	59.8	0.00	0.00	0.00
6,100.0	10.89	266.95	6,000.4	-56.6	-1,061.5	60.9	0.00	0.00	0.00
6,133.2	10.89	266.95	6,033.0	-56.9	-1,067.7	61.2	0.00	0.00	0.00
Sussex Mkr1									
6,200.0	10.89	266.95	6,098.6	-57.6	-1,080.3	61.9	0.00	0.00	0.00
6,300.0	10.89	266.95	6,196.8	-58.6	-1,099.2	63.0	0.00	0.00	0.00
6,400.0	10.89	266.95	6,295.0	-59.6	-1,118.0	64.1	0.00	0.00	0.00
6,500.0	10.89	266.95	6,393.2	-60.6	-1,136.9	65.2	0.00	0.00	0.00
6,567.0	10.89	266.95	6,459.0	-61.3	-1,149.5	65.9	0.00	0.00	0.00
Start Drop -2.00									
6,600.0	10.23	266.95	6,491.4	-61.6	-1,155.6	66.2	2.00	-2.00	0.00
6,700.0	8.23	266.95	6,590.1	-62.4	-1,171.6	67.2	2.00	-2.00	0.00
6,800.0	6.23	266.95	6,689.3	-63.1	-1,184.1	67.9	2.00	-2.00	0.00
6,900.0	4.23	266.95	6,788.9	-63.6	-1,193.2	68.4	2.00	-2.00	0.00
7,000.0	2.23	266.95	6,888.7	-63.9	-1,198.8	68.7	2.00	-2.00	0.00
7,100.0	0.23	266.95	6,988.7	-64.0	-1,201.0	68.9	2.00	-2.00	0.00
7,111.3	0.00	0.00	7,000.0	-64.0	-1,201.0	68.9	2.00	-2.00	0.00
7,200.0	0.00	0.00	7,088.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,188.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,311.3	0.00	0.00	7,200.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00
Shannon									
7,400.0	0.00	0.00	7,288.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,388.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,559.3	0.00	0.00	7,448.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00
Pierre									
7,599.3	0.00	0.00	7,488.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00
Pierre Mkr1									
7,600.0	0.00	0.00	7,488.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,588.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,726.3	0.00	0.00	7,615.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00
Pierre Mkr2									
7,800.0	0.00	0.00	7,688.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00
7,854.3	0.00	0.00	7,743.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00

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Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
Pierre Mkr3										
7,900.0	0.00	0.00	7,788.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,888.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,988.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,088.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
8,266.3	0.00	0.00	8,155.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
Pierre Mkr4										
8,300.0	0.00	0.00	8,188.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
8,368.3	0.00	0.00	8,257.0	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
Pierre Mkr5										
8,400.0	0.00	0.00	8,288.7	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
8,402.7	0.00	0.00	8,291.4	-64.0	-1,201.0	68.9	0.00	0.00	0.00	
KOP #2 - Start Build 9.00										
8,500.0	8.76	0.48	8,388.3	-56.6	-1,200.9	76.2	9.00	9.00	0.00	
8,553.7	13.59	0.48	8,441.0	-46.2	-1,200.9	86.6	9.00	9.00	0.00	
Base Steele Mkr										
8,600.0	17.76	0.48	8,485.5	-33.7	-1,200.7	99.0	9.00	9.00	0.00	
8,624.8	19.99	0.48	8,509.0	-25.7	-1,200.7	106.9	9.00	9.00	0.00	
Sharon Springs										
8,640.8	21.43	0.48	8,524.0	-20.0	-1,200.6	112.6	9.00	9.00	0.00	
Niobrara										
8,691.1	25.95	0.48	8,570.0	0.2	-1,200.5	132.6	9.00	9.00	0.00	
N100 (A)										
8,700.0	26.76	0.48	8,578.0	4.2	-1,200.4	136.5	9.00	9.00	0.00	
8,706.7	27.36	0.48	8,584.0	7.2	-1,200.4	139.6	9.00	9.00	0.00	
N300 (B)										
8,748.0	31.08	0.48	8,620.0	27.4	-1,200.2	159.6	9.00	9.00	0.00	
N500										
8,800.0	35.76	0.48	8,663.4	56.0	-1,200.0	188.0	9.00	9.00	0.00	
8,818.2	37.39	0.48	8,678.0	66.8	-1,199.9	198.8	9.00	9.00	0.00	
N600										
8,900.0	44.76	0.48	8,739.6	120.6	-1,199.5	252.1	9.00	9.00	0.00	
8,919.1	46.48	0.48	8,753.0	134.2	-1,199.4	265.7	9.00	9.00	0.00	
N700 (C)										
9,000.0	53.76	0.48	8,804.8	196.2	-1,198.8	327.3	9.00	9.00	0.00	
9,024.6	55.97	0.48	8,819.0	216.4	-1,198.7	347.3	9.00	9.00	0.00	
N800 (Fort Hayes)										
9,058.1	58.99	0.48	8,837.0	244.6	-1,198.4	375.3	9.00	9.00	0.00	
N900										
9,060.1	59.16	0.48	8,838.0	246.3	-1,198.4	377.0	9.00	9.00	0.00	
Codell										
9,100.0	62.76	0.48	8,857.4	281.2	-1,198.1	411.6	9.00	9.00	0.00	
9,101.3	62.88	0.48	8,858.0	282.4	-1,198.1	412.8	9.00	9.00	0.00	
Carlile										
9,200.0	71.76	0.48	8,896.0	373.3	-1,197.4	503.1	9.00	9.00	0.00	
9,300.0	80.76	0.48	8,919.7	470.4	-1,196.6	599.5	9.00	9.00	0.00	
9,400.0	89.76	0.48	8,928.0	569.9	-1,195.7	698.3	9.00	9.00	0.00	
9,402.7	90.00	0.48	8,928.0	572.6	-1,195.7	701.0	9.00	9.00	0.00	
9,403.1	90.00	0.48	8,928.0	573.0	-1,195.7	701.4	0.00	0.00	0.00	
7"										
9,403.8	90.00	0.47	8,928.0	573.7	-1,195.7	702.1	1.01	0.00	-1.01	
9,500.0	90.00	0.47	8,928.0	669.9	-1,194.9	797.6	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site:	Matira West Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,600.0	90.00	0.47	8,928.0	769.9	-1,194.1	896.9	0.00	0.00	0.00
9,700.0	90.00	0.47	8,928.0	869.9	-1,193.3	996.2	0.00	0.00	0.00
9,800.0	90.00	0.47	8,928.0	969.9	-1,192.5	1,095.5	0.00	0.00	0.00
9,900.0	90.00	0.47	8,928.0	1,069.9	-1,191.6	1,194.8	0.00	0.00	0.00
10,000.0	90.00	0.47	8,928.0	1,169.9	-1,190.8	1,294.1	0.00	0.00	0.00
10,100.0	90.00	0.47	8,928.0	1,269.9	-1,190.0	1,393.4	0.00	0.00	0.00
10,200.0	90.00	0.47	8,928.0	1,369.9	-1,189.2	1,492.7	0.00	0.00	0.00
10,300.0	90.00	0.47	8,928.0	1,469.9	-1,188.4	1,592.0	0.00	0.00	0.00
10,400.0	90.00	0.47	8,928.0	1,569.9	-1,187.6	1,691.3	0.00	0.00	0.00
10,500.0	90.00	0.47	8,928.0	1,669.9	-1,186.7	1,790.6	0.00	0.00	0.00
10,600.0	90.00	0.47	8,928.0	1,769.9	-1,185.9	1,889.9	0.00	0.00	0.00
10,700.0	90.00	0.47	8,928.0	1,869.9	-1,185.1	1,989.2	0.00	0.00	0.00
10,800.0	90.00	0.47	8,928.0	1,969.9	-1,184.3	2,088.5	0.00	0.00	0.00
10,900.0	90.00	0.47	8,928.0	2,069.9	-1,183.5	2,187.8	0.00	0.00	0.00
11,000.0	90.00	0.47	8,928.0	2,169.9	-1,182.6	2,287.1	0.00	0.00	0.00
11,100.0	90.00	0.47	8,928.0	2,269.9	-1,181.8	2,386.4	0.00	0.00	0.00
11,200.0	90.00	0.47	8,928.0	2,369.8	-1,181.0	2,485.6	0.00	0.00	0.00
11,300.0	90.00	0.47	8,928.0	2,469.8	-1,180.2	2,584.9	0.00	0.00	0.00
11,400.0	90.00	0.47	8,928.0	2,569.8	-1,179.4	2,684.2	0.00	0.00	0.00
11,500.0	90.00	0.47	8,928.0	2,669.8	-1,178.5	2,783.5	0.00	0.00	0.00
11,600.0	90.00	0.47	8,928.0	2,769.8	-1,177.7	2,882.8	0.00	0.00	0.00
11,700.0	90.00	0.47	8,928.0	2,869.8	-1,176.9	2,982.1	0.00	0.00	0.00
11,800.0	90.00	0.47	8,928.0	2,969.8	-1,176.1	3,081.4	0.00	0.00	0.00
11,900.0	90.00	0.47	8,928.0	3,069.8	-1,175.3	3,180.7	0.00	0.00	0.00
12,000.0	90.00	0.47	8,928.0	3,169.8	-1,174.5	3,280.0	0.00	0.00	0.00
12,100.0	90.00	0.47	8,928.0	3,269.8	-1,173.6	3,379.3	0.00	0.00	0.00
12,200.0	90.00	0.47	8,928.0	3,369.8	-1,172.8	3,478.6	0.00	0.00	0.00
12,300.0	90.00	0.47	8,928.0	3,469.8	-1,172.0	3,577.9	0.00	0.00	0.00
12,400.0	90.00	0.47	8,928.0	3,569.8	-1,171.2	3,677.2	0.00	0.00	0.00
12,500.0	90.00	0.47	8,928.0	3,669.8	-1,170.4	3,776.5	0.00	0.00	0.00
12,600.0	90.00	0.47	8,928.0	3,769.8	-1,169.5	3,875.8	0.00	0.00	0.00
12,700.0	90.00	0.47	8,928.0	3,869.8	-1,168.7	3,975.1	0.00	0.00	0.00
12,800.0	90.00	0.47	8,928.0	3,969.8	-1,167.9	4,074.4	0.00	0.00	0.00
12,900.0	90.00	0.47	8,928.0	4,069.8	-1,167.1	4,173.7	0.00	0.00	0.00
13,000.0	90.00	0.47	8,928.0	4,169.8	-1,166.3	4,273.0	0.00	0.00	0.00
13,100.0	90.00	0.47	8,928.0	4,269.8	-1,165.5	4,372.3	0.00	0.00	0.00
13,200.0	90.00	0.47	8,928.0	4,369.8	-1,164.6	4,471.6	0.00	0.00	0.00
13,300.0	90.00	0.47	8,928.0	4,469.8	-1,163.8	4,570.9	0.00	0.00	0.00
13,400.0	90.00	0.47	8,928.0	4,569.8	-1,163.0	4,670.2	0.00	0.00	0.00
13,500.0	90.00	0.47	8,928.0	4,669.8	-1,162.2	4,769.5	0.00	0.00	0.00
13,600.0	90.00	0.47	8,928.0	4,769.8	-1,161.4	4,868.8	0.00	0.00	0.00
13,700.0	90.00	0.47	8,928.0	4,869.8	-1,160.5	4,968.1	0.00	0.00	0.00
13,800.0	90.00	0.47	8,928.0	4,969.8	-1,159.7	5,067.4	0.00	0.00	0.00
13,900.0	90.00	0.47	8,928.0	5,069.8	-1,158.9	5,166.6	0.00	0.00	0.00
14,000.0	90.00	0.47	8,928.0	5,169.8	-1,158.1	5,265.9	0.00	0.00	0.00
14,100.0	90.00	0.47	8,928.0	5,269.8	-1,157.3	5,365.2	0.00	0.00	0.00
14,200.0	90.00	0.47	8,928.0	5,369.7	-1,156.5	5,464.5	0.00	0.00	0.00
14,300.0	90.00	0.47	8,928.0	5,469.7	-1,155.6	5,563.8	0.00	0.00	0.00
14,400.0	90.00	0.47	8,928.0	5,569.7	-1,154.8	5,663.1	0.00	0.00	0.00
14,500.0	90.00	0.47	8,928.0	5,669.7	-1,154.0	5,762.4	0.00	0.00	0.00
14,600.0	90.00	0.47	8,928.0	5,769.7	-1,153.2	5,861.7	0.00	0.00	0.00
14,700.0	90.00	0.47	8,928.0	5,869.7	-1,152.4	5,961.0	0.00	0.00	0.00
14,800.0	90.00	0.47	8,928.0	5,969.7	-1,151.5	6,060.3	0.00	0.00	0.00
14,900.0	90.00	0.47	8,928.0	6,069.7	-1,150.7	6,159.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site:	Matira West Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
15,000.0	90.00	0.47	8,928.0	6,169.7	-1,149.9	6,258.9	0.00	0.00	0.00	
15,100.0	90.00	0.47	8,928.0	6,269.7	-1,149.1	6,358.2	0.00	0.00	0.00	
15,200.0	90.00	0.47	8,928.0	6,369.7	-1,148.3	6,457.5	0.00	0.00	0.00	
15,300.0	90.00	0.47	8,928.0	6,469.7	-1,147.5	6,556.8	0.00	0.00	0.00	
15,400.0	90.00	0.47	8,928.0	6,569.7	-1,146.6	6,656.1	0.00	0.00	0.00	
15,500.0	90.00	0.47	8,928.0	6,669.7	-1,145.8	6,755.4	0.00	0.00	0.00	
15,600.0	90.00	0.47	8,928.0	6,769.7	-1,145.0	6,854.7	0.00	0.00	0.00	
15,700.0	90.00	0.47	8,928.0	6,869.7	-1,144.2	6,954.0	0.00	0.00	0.00	
15,800.0	90.00	0.47	8,928.0	6,969.7	-1,143.4	7,053.3	0.00	0.00	0.00	
15,900.0	90.00	0.47	8,928.0	7,069.7	-1,142.5	7,152.6	0.00	0.00	0.00	
16,000.0	90.00	0.47	8,928.0	7,169.7	-1,141.7	7,251.9	0.00	0.00	0.00	
16,100.0	90.00	0.47	8,928.0	7,269.7	-1,140.9	7,351.2	0.00	0.00	0.00	
16,200.0	90.00	0.47	8,928.0	7,369.7	-1,140.1	7,450.5	0.00	0.00	0.00	
16,300.0	90.00	0.47	8,928.0	7,469.7	-1,139.3	7,549.8	0.00	0.00	0.00	
16,400.0	90.00	0.47	8,928.0	7,569.7	-1,138.4	7,649.1	0.00	0.00	0.00	
16,500.0	90.00	0.47	8,928.0	7,669.7	-1,137.6	7,748.4	0.00	0.00	0.00	
16,600.0	90.00	0.47	8,928.0	7,769.7	-1,136.8	7,847.6	0.00	0.00	0.00	
16,700.0	90.00	0.47	8,928.0	7,869.7	-1,136.0	7,946.9	0.00	0.00	0.00	
16,800.0	90.00	0.47	8,928.0	7,969.7	-1,135.2	8,046.2	0.00	0.00	0.00	
16,900.0	90.00	0.47	8,928.0	8,069.7	-1,134.4	8,145.5	0.00	0.00	0.00	
17,000.0	90.00	0.47	8,928.0	8,169.7	-1,133.5	8,244.8	0.00	0.00	0.00	
17,100.0	90.00	0.47	8,928.0	8,269.7	-1,132.7	8,344.1	0.00	0.00	0.00	
17,200.0	90.00	0.47	8,928.0	8,369.6	-1,131.9	8,443.4	0.00	0.00	0.00	
17,300.0	90.00	0.47	8,928.0	8,469.6	-1,131.1	8,542.7	0.00	0.00	0.00	
17,400.0	90.00	0.47	8,928.0	8,569.6	-1,130.3	8,642.0	0.00	0.00	0.00	
17,500.0	90.00	0.47	8,928.0	8,669.6	-1,129.4	8,741.3	0.00	0.00	0.00	
17,600.0	90.00	0.47	8,928.0	8,769.6	-1,128.6	8,840.6	0.00	0.00	0.00	
17,700.0	90.00	0.47	8,928.0	8,869.6	-1,127.8	8,939.9	0.00	0.00	0.00	
17,800.0	90.00	0.47	8,928.0	8,969.6	-1,127.0	9,039.2	0.00	0.00	0.00	
17,900.0	90.00	0.47	8,928.0	9,069.6	-1,126.2	9,138.5	0.00	0.00	0.00	
18,000.0	90.00	0.47	8,928.0	9,169.6	-1,125.4	9,237.8	0.00	0.00	0.00	
18,100.0	90.00	0.47	8,928.0	9,269.6	-1,124.5	9,337.1	0.00	0.00	0.00	
18,200.0	90.00	0.47	8,928.0	9,369.6	-1,123.7	9,436.4	0.00	0.00	0.00	
18,300.0	90.00	0.47	8,928.0	9,469.6	-1,122.9	9,535.7	0.00	0.00	0.00	
18,400.0	90.00	0.47	8,928.0	9,569.6	-1,122.1	9,635.0	0.00	0.00	0.00	
18,500.0	90.00	0.47	8,928.0	9,669.6	-1,121.3	9,734.3	0.00	0.00	0.00	
18,600.0	90.00	0.47	8,928.0	9,769.6	-1,120.4	9,833.6	0.00	0.00	0.00	
18,700.0	90.00	0.47	8,928.0	9,869.6	-1,119.6	9,932.9	0.00	0.00	0.00	
18,800.0	90.00	0.47	8,928.0	9,969.6	-1,118.8	10,032.2	0.00	0.00	0.00	
18,900.0	90.00	0.47	8,928.0	10,069.6	-1,118.0	10,131.5	0.00	0.00	0.00	
18,904.7	90.00	0.47	8,928.0	10,074.3	-1,118.0	10,136.1	0.00	0.00	0.00	
TD at 18904.7										

Database:	Landmark	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site:	Matira West Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N-S (ft)	+E-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL 203'FNL & 660'F - plan hits target center - Point	0.00	0.00	8,928.0	10,074.3	-1,118.0	1,607,978.03	3,217,566.22	40.999600	-104.711840
Sectionline - plan misses target center by 408.2ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	1.0	-255.0	318.7	1,597,661.61	3,219,095.20	40.971250	-104.706636
Point 1			1.0	0.0	0.0	1,597,661.61	3,219,095.20		
Point 2			1.0	0.0	-1,800.0	1,597,645.53	3,217,295.21		
SHL 255'FSL & 1860'I - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,597,913.77	3,218,774.17	40.971950	-104.707790
Landing Pt. 824'FSL & 1860'I - plan hits target center - Point	0.00	0.00	8,928.0	573.0	-1,195.7	1,598,476.06	3,217,573.35	40.973523	-104.712120

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
9,403.1	8,928.0	7"	7	7-1/2	

Database:	Landmark	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site:	Matira West Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-18-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,867.5	1,844.0	Fox Hills				
2,549.8	2,514.0	Fox Hills Mkr 1				
4,380.7	4,312.0	Teapot				
5,333.9	5,248.0	Parkman				
5,366.4	5,280.0	Sussex				
5,709.6	5,617.0	Pierre Upper Mkr1				
6,133.2	6,033.0	Sussex Mkr1				
7,311.3	7,200.0	Shannon				
7,559.3	7,448.0	Pierre				
7,599.3	7,488.0	Pierre Mkr1				
7,726.3	7,615.0	Pierre Mkr2				
7,854.3	7,743.0	Pierre Mkr3				
8,266.3	8,155.0	Pierre Mkr4				
8,368.3	8,257.0	Pierre Mkr5				
8,553.7	8,441.0	Base Steele Mkr				
8,624.8	8,509.0	Sharon Springs				
8,640.8	8,524.0	Niobrara				
8,691.1	8,570.0	N100 (A)				
8,706.7	8,584.0	N300 (B)				
8,748.0	8,620.0	N500				
8,818.2	8,678.0	N600				
8,919.1	8,753.0	N700 (C)				
9,024.6	8,819.0	N800 (Fort Hayes)				
9,058.1	8,837.0	N900				
9,060.1	8,838.0	Codell				
9,101.3	8,858.0	Carlile				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP - Start Build 2.00
6,567.0	6,459.0	-2.7	-51.5	Start Drop -2.00
8,402.7	8,291.4	-61.3	-1,149.5	KOP #2 - Start Build 9.00
18,904.7	8,928.0	-64.0	-1,201.0	TD at 18904.7



Cirque Resources LP

Sec.30-T12N-R65W

Matira West Federal Pad Sec.30-T12N-R65W

Matira West Federal 30-19-14-1CH

Wellbore #1

Plan #1 (8-18-14)

Anticollision Report

20 August, 2014

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Reference Site:	Matira West Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-18-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (8-18-14)		
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 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 8/20/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	18,904.7	Plan #1 (8-18-14) (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						
Matira West Federal Pad Sec.30-T12N-R65W						
Matira West Federal 30-19-14-3CH - Wellbore #1 - Plan	200.0	200.0	80.1	79.4	118.766	CC, ES
Matira West Federal 30-19-14-3CH - Wellbore #1 - Plan	3,000.0	2,950.0	568.9	554.8	40.372	SF
Matira West Federal 30-31-6-14-2CH - Wellbore #1 - Pla	200.0	200.0	38.7	38.0	57.335	CC, ES
Matira West Federal 30-31-6-14-2CH - Wellbore #1 - Pla	8,400.0	8,403.5	100.0	40.3	1.676	SF
Matira West Federal 30-31-6-14-4CH - Wellbore #1 - Pla	200.0	200.0	118.7	118.1	176.102	CC, ES
Matira West Federal 30-31-6-14-4CH - Wellbore #1 - Pla	5,100.0	5,019.0	994.8	971.1	41.948	SF

Offset Design Matira West Federal Pad Sec.30-T12N-R65W - Matira West Federal 30-19-14-3CH - Wellbore #1 - Plan													
Survey Program: 0-MWD													
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		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	89.99	0.0	80.1	80.1				
100.0	100.0	100.0	100.0	0.1	0.1	89.99	0.0	80.1	80.1	79.9	0.22	356.299	
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	80.1	80.1	79.4	0.67	118.766	CC, ES
300.0	300.0	300.0	300.0	0.6	0.6	-177.02	0.0	80.1	81.8	80.7	1.12	73.107	
400.0	399.8	399.8	399.8	0.8	0.8	-177.20	0.0	80.1	87.1	85.5	1.57	55.560	
500.0	499.5	499.5	499.5	1.0	1.0	-177.44	0.0	80.1	95.8	93.7	2.02	47.387	
600.0	598.7	598.7	598.7	1.3	1.2	-177.72	0.0	80.1	107.9	105.5	2.48	43.554	
700.0	697.5	697.5	697.5	1.7	1.5	-178.00	0.0	80.1	123.6	120.6	2.94	42.056	
800.0	795.7	795.7	795.7	2.0	1.7	-178.26	0.0	80.1	142.1	138.7	3.40	41.841	
900.0	893.9	893.9	893.9	2.4	1.9	-178.46	0.0	80.1	161.0	157.1	3.86	41.742	
1,000.0	992.1	992.1	992.1	2.9	2.1	-178.62	0.0	80.1	179.9	175.5	4.32	41.625	
1,100.0	1,090.3	1,090.3	1,090.3	3.3	2.3	-178.75	0.0	80.1	198.7	194.0	4.79	41.505	
1,200.0	1,188.5	1,188.5	1,188.5	3.7	2.6	-178.86	0.0	80.1	217.6	212.4	5.26	41.390	
1,300.0	1,286.7	1,286.7	1,286.7	4.1	2.8	-178.95	0.0	80.1	236.5	230.8	5.73	41.283	
1,400.0	1,384.9	1,384.9	1,384.9	4.5	3.0	-179.03	0.0	80.1	255.4	249.2	6.20	41.184	
1,500.0	1,483.1	1,483.1	1,483.1	5.0	3.2	-179.10	0.0	80.1	274.3	267.6	6.67	41.093	
1,600.0	1,581.3	1,581.3	1,581.3	5.4	3.4	-179.15	0.0	80.1	293.2	286.0	7.15	41.010	
1,700.0	1,679.5	1,679.5	1,679.5	5.8	3.7	-179.21	0.0	80.1	312.0	304.4	7.62	40.933	
1,800.0	1,777.7	1,777.7	1,777.7	6.3	3.9	-179.25	0.0	80.1	330.9	322.8	8.10	40.863	
1,900.0	1,875.9	1,875.8	1,875.7	6.7	4.1	-179.46	1.0	80.1	349.8	341.2	8.57	40.810	
2,000.0	1,974.1	1,973.5	1,973.4	7.1	4.3	179.84	5.3	80.0	368.8	359.8	9.04	40.785	

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

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Reference Site:	Matira West Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-18-14)	Offset TVD Reference:	Offset Datum

Offset Design		Matira West Federal Pad Sec.30-T12N-R65W - Matira West Federal 30-19-14-3CH - Wellbore #1 - Plan										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					
2,100.0	2,072.3	2,070.8	2,070.4	7.5	4.5	178.71	12.8	79.8	388.0	378.5	9.52	40.779					
2,200.0	2,170.5	2,168.4	2,167.5	8.0	4.8	177.38	22.6	79.6	407.5	397.5	10.00	40.767					
2,300.0	2,268.7	2,266.0	2,264.6	8.4	5.0	176.15	32.4	79.3	427.2	416.7	10.49	40.740					
2,400.0	2,366.9	2,363.6	2,361.8	8.8	5.2	175.03	42.2	79.1	447.1	436.1	10.98	40.702					
2,500.0	2,465.1	2,461.3	2,458.9	9.3	5.5	174.01	52.0	78.9	467.1	455.6	11.49	40.653					
2,600.0	2,563.3	2,558.9	2,556.1	9.7	5.7	173.07	61.8	78.6	487.3	475.3	12.00	40.600					
2,700.0	2,661.5	2,656.6	2,653.2	10.1	6.0	172.21	71.6	78.4	507.5	495.0	12.52	40.542					
2,800.0	2,759.7	2,754.2	2,750.4	10.6	6.2	171.41	81.5	78.2	527.9	514.9	13.04	40.481					
2,900.0	2,857.9	2,851.9	2,847.5	11.0	6.5	170.67	91.3	77.9	548.4	534.8	13.57	40.419					
3,000.0	2,956.1	2,950.0	2,945.1	11.4	6.7	169.99	101.1	77.7	568.9	554.8	14.09	40.372 SF					
3,100.0	3,054.3	3,049.8	3,044.5	11.9	6.9	169.46	109.9	77.5	589.3	574.7	14.58	40.408					
3,200.0	3,152.5	3,149.9	3,144.4	12.3	7.1	169.12	117.0	77.3	609.3	594.3	15.05	40.474					
3,300.0	3,250.7	3,250.3	3,244.7	12.7	7.3	168.97	122.3	77.2	629.0	613.5	15.52	40.537					
3,400.0	3,348.9	3,350.8	3,345.1	13.1	7.5	168.98	125.9	77.1	648.3	632.4	15.97	40.598					
3,500.0	3,447.1	3,451.5	3,445.8	13.6	7.7	169.14	127.8	77.1	667.3	650.9	16.41	40.659					
3,600.0	3,545.3	3,551.1	3,545.3	14.0	7.9	169.42	128.0	77.1	685.9	669.0	16.85	40.703					
3,700.0	3,643.5	3,649.3	3,643.5	14.4	8.1	169.70	128.0	77.1	704.5	687.2	17.31	40.707					
3,800.0	3,741.7	3,747.5	3,741.7	14.9	8.3	169.97	128.0	77.1	723.1	705.3	17.77	40.690					
3,900.0	3,839.9	3,845.7	3,839.9	15.3	8.5	170.22	128.0	77.1	741.7	723.4	18.24	40.673					
4,000.0	3,938.1	3,943.9	3,938.1	15.7	8.7	170.47	128.0	77.1	760.3	741.6	18.70	40.656					
4,100.0	4,036.4	4,042.1	4,036.4	16.2	8.9	170.70	128.0	77.1	778.9	759.8	19.17	40.639					
4,200.0	4,134.6	4,140.3	4,134.6	16.6	9.1	170.91	128.0	77.1	797.6	778.0	19.63	40.622					
4,300.0	4,232.8	4,238.5	4,232.8	17.0	9.4	171.12	128.0	77.1	816.3	796.2	20.10	40.606					
4,400.0	4,331.0	4,336.7	4,331.0	17.5	9.6	171.32	128.0	77.1	834.9	814.4	20.57	40.590					
4,500.0	4,429.2	4,434.9	4,429.2	17.9	9.8	171.51	128.0	77.1	853.6	832.6	21.04	40.574					
4,600.0	4,527.4	4,533.1	4,527.4	18.3	10.0	171.70	128.0	77.1	872.3	850.8	21.51	40.558					
4,700.0	4,625.6	4,631.3	4,625.6	18.8	10.2	171.87	128.0	77.1	891.0	869.0	21.98	40.543					
4,800.0	4,723.8	4,729.5	4,723.8	19.2	10.4	172.04	128.0	77.1	909.7	887.3	22.45	40.527					
4,900.0	4,822.0	4,827.7	4,822.0	19.6	10.6	172.20	128.0	77.1	928.4	905.5	22.92	40.512					
5,000.0	4,920.2	4,925.9	4,920.2	20.1	10.8	172.36	128.0	77.1	947.1	923.7	23.39	40.498					
5,100.0	5,018.4	5,024.1	5,018.4	20.5	11.1	172.51	128.0	77.1	965.9	942.0	23.86	40.483					
5,200.0	5,116.6	5,122.3	5,116.6	20.9	11.3	172.65	128.0	77.1	984.6	960.3	24.33	40.469					

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Reference Site:	Matira West Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-18-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0ft
Survey Program: 0-MWWD													Offset Well Error:	0.0ft
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	38.7	38.7					
100.0	100.0	100.0	100.0	0.1	0.1	89.98	0.0	38.7	38.7	38.4	0.22	172.006		
200.0	200.0	200.0	200.0	0.3	0.3	89.98	0.0	38.7	38.7	38.0	0.67	57.335 CC, ES		
300.0	300.0	300.0	300.0	0.6	0.6	-177.10	0.0	38.7	40.4	39.3	1.12	36.098		
400.0	399.8	399.8	399.8	0.8	0.8	-177.43	0.0	38.7	45.6	44.1	1.57	29.124		
500.0	499.5	501.3	501.3	1.0	1.0	-177.62	-0.2	36.9	52.6	50.6	2.00	26.264		
600.0	598.7	603.1	602.9	1.3	1.2	-177.49	-0.9	31.5	59.5	57.1	2.43	24.474		
700.0	697.5	705.0	704.5	1.7	1.5	-177.13	-2.1	22.6	66.4	63.5	2.88	23.081		
800.0	795.7	807.3	805.9	2.0	1.7	-176.60	-3.8	10.0	72.7	69.4	3.34	21.768		
900.0	893.9	909.9	907.2	2.4	2.1	-175.78	-5.9	-6.2	75.8	72.0	3.83	19.816		
1,000.0	992.1	1,010.7	1,006.2	2.9	2.4	-174.70	-8.4	-24.8	76.3	72.0	4.33	17.627		
1,100.0	1,090.3	1,110.6	1,104.4	3.3	2.8	-173.63	-10.8	-43.3	76.7	71.8	4.84	15.833		
1,200.0	1,188.5	1,210.6	1,202.7	3.7	3.2	-172.56	-13.3	-61.9	77.1	71.7	5.37	14.358		
1,300.0	1,286.7	1,310.6	1,300.9	4.1	3.6	-171.51	-15.7	-80.4	77.5	71.6	5.91	13.123		
1,400.0	1,384.9	1,410.6	1,399.1	4.5	4.0	-170.47	-18.2	-99.0	78.0	71.5	6.45	12.086		
1,500.0	1,483.1	1,510.6	1,497.3	5.0	4.4	-169.44	-20.7	-117.5	78.5	71.4	7.01	11.193		
1,600.0	1,581.3	1,610.6	1,595.5	5.4	4.9	-168.43	-23.1	-136.1	79.0	71.4	7.58	10.422		
1,700.0	1,679.5	1,710.6	1,693.8	5.8	5.3	-167.42	-25.6	-154.6	79.5	71.3	8.15	9.749		
1,800.0	1,777.7	1,810.6	1,792.0	6.3	5.7	-166.44	-28.0	-173.2	80.0	71.3	8.74	9.156		
1,900.0	1,875.9	1,910.6	1,890.2	6.7	6.1	-165.46	-30.5	-191.7	80.6	71.3	9.34	8.632		
2,000.0	1,974.1	2,010.5	1,988.4	7.1	6.5	-164.50	-32.9	-210.3	81.2	71.3	9.95	8.164		
2,100.0	2,072.3	2,110.5	2,086.7	7.5	7.0	-163.55	-35.4	-228.8	81.8	71.3	10.57	7.745		
2,200.0	2,170.5	2,210.5	2,184.9	8.0	7.4	-162.62	-37.8	-247.4	82.5	71.3	11.19	7.367		
2,300.0	2,268.7	2,310.5	2,283.1	8.4	7.8	-161.71	-40.3	-266.0	83.1	71.3	11.83	7.025		
2,400.0	2,366.9	2,410.5	2,381.3	8.8	8.2	-160.80	-42.8	-284.5	83.8	71.3	12.48	6.715		
2,500.0	2,465.1	2,510.5	2,479.5	9.3	8.7	-159.91	-45.2	-303.1	84.5	71.4	13.14	6.432		
2,600.0	2,563.3	2,610.5	2,577.8	9.7	9.1	-159.04	-47.7	-321.6	85.2	71.4	13.81	6.173		
2,700.0	2,661.5	2,710.5	2,676.0	10.1	9.5	-158.18	-50.1	-340.2	86.0	71.5	14.49	5.936		
2,800.0	2,759.7	2,810.5	2,774.2	10.6	9.9	-157.34	-52.6	-358.7	86.8	71.6	15.18	5.717		
2,900.0	2,857.9	2,910.4	2,872.4	11.0	10.4	-156.51	-55.0	-377.3	87.5	71.7	15.87	5.515		
3,000.0	2,956.1	3,010.4	2,970.6	11.4	10.8	-155.70	-57.5	-395.8	88.3	71.8	16.58	5.329		
3,100.0	3,054.3	3,110.4	3,068.9	11.9	11.2	-154.90	-60.0	-414.4	89.2	71.9	17.29	5.156		
3,200.0	3,152.5	3,210.4	3,167.1	12.3	11.7	-154.12	-62.4	-432.9	90.0	72.0	18.01	4.996		
3,300.0	3,250.7	3,310.4	3,265.3	12.7	12.1	-153.35	-64.9	-451.5	90.8	72.1	18.74	4.846		
3,400.0	3,348.9	3,410.4	3,363.5	13.1	12.5	-152.59	-67.3	-470.1	91.7	72.2	19.48	4.707		
3,500.0	3,447.1	3,510.4	3,461.8	13.6	12.9	-151.85	-69.8	-488.6	92.6	72.4	20.23	4.577		
3,600.0	3,545.3	3,610.4	3,560.0	14.0	13.4	-151.13	-72.2	-507.2	93.5	72.5	20.98	4.456		
3,700.0	3,643.5	3,710.4	3,658.2	14.4	13.8	-150.41	-74.7	-525.7	94.4	72.7	21.74	4.342		
3,800.0	3,741.7	3,810.3	3,756.4	14.9	14.2	-149.72	-77.1	-544.3	95.3	72.8	22.51	4.235		
3,900.0	3,839.9	3,910.3	3,854.6	15.3	14.7	-149.03	-79.6	-562.8	96.3	73.0	23.28	4.135		
4,000.0	3,938.1	4,010.3	3,952.9	15.7	15.1	-148.36	-82.1	-581.4	97.2	73.2	24.06	4.041		
4,100.0	4,036.4	4,110.3	4,051.1	16.2	15.5	-147.70	-84.5	-599.9	98.2	73.4	24.84	3.952		
4,200.0	4,134.6	4,210.3	4,149.3	16.6	15.9	-147.05	-87.0	-618.5	99.2	73.5	25.63	3.869		
4,300.0	4,232.8	4,310.3	4,247.5	17.0	16.4	-146.42	-89.4	-637.0	100.2	73.7	26.43	3.790		
4,400.0	4,331.0	4,410.3	4,345.8	17.5	16.8	-145.80	-91.9	-655.6	101.2	73.9	27.23	3.715		
4,500.0	4,429.2	4,510.3	4,444.0	17.9	17.2	-145.19	-94.3	-674.2	102.2	74.2	28.04	3.645		
4,600.0	4,527.4	4,610.3	4,542.2	18.3	17.7	-144.60	-96.8	-692.7	103.2	74.4	28.85	3.578		
4,700.0	4,625.6	4,710.2	4,640.4	18.8	18.1	-144.01	-99.2	-711.3	104.3	74.6	29.66	3.515		
4,800.0	4,723.8	4,810.2	4,738.6	19.2	18.5	-143.44	-101.7	-729.8	105.3	74.8	30.48	3.455		
4,900.0	4,822.0	4,910.2	4,836.9	19.6	18.9	-142.88	-104.2	-748.4	106.4	75.1	31.30	3.398		
5,000.0	4,920.2	5,010.2	4,935.1	20.1	19.4	-142.33	-106.6	-766.9	107.4	75.3	32.12	3.344		
5,100.0	5,018.4	5,110.2	5,033.3	20.5	19.8	-141.79	-109.1	-785.5	108.5	75.6	32.95	3.293		

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

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Reference Site:	Matira West Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-18-14)	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
5,200.0	5,116.6	5,210.2	5,131.5	20.9	20.2	-141.26	-111.5	-804.0	109.6	75.8	33.79	3.244	
5,300.0	5,214.8	5,310.2	5,229.7	21.4	20.7	-140.74	-114.0	-822.6	110.7	76.1	34.62	3.197	
5,400.0	5,313.0	5,410.2	5,328.0	21.8	21.1	-140.23	-116.4	-841.1	111.8	76.3	35.46	3.153	
5,500.0	5,411.2	5,510.2	5,426.2	22.2	21.5	-139.74	-118.9	-859.7	112.9	76.6	36.30	3.111	
5,600.0	5,509.4	5,610.1	5,524.4	22.7	22.0	-139.25	-121.4	-878.2	114.0	76.9	37.15	3.070	
5,700.0	5,607.6	5,710.1	5,622.6	23.1	22.4	-138.77	-123.8	-896.8	115.2	77.2	37.99	3.032	
5,800.0	5,705.8	5,810.1	5,720.9	23.5	22.8	-138.30	-126.3	-915.4	116.3	77.5	38.84	2.995	
5,900.0	5,804.0	5,910.1	5,819.1	23.9	23.2	-137.84	-128.7	-933.9	117.5	77.8	39.69	2.959	
6,000.0	5,902.2	6,010.1	5,917.3	24.4	23.7	-137.39	-131.2	-952.5	118.6	78.1	40.54	2.926	
6,100.0	6,000.4	6,110.1	6,015.5	24.8	24.1	-136.94	-133.6	-971.0	119.8	78.4	41.40	2.893	
6,200.0	6,098.6	6,210.1	6,113.7	25.2	24.5	-136.51	-136.1	-989.6	120.9	78.7	42.26	2.862	
6,300.0	6,196.8	6,310.1	6,212.0	25.7	25.0	-136.08	-138.5	-1,008.1	122.1	79.0	43.11	2.833	
6,400.0	6,295.0	6,410.1	6,310.2	26.1	25.4	-135.67	-141.0	-1,026.7	123.3	79.3	43.97	2.804	
6,500.0	6,393.2	6,510.0	6,408.4	26.5	25.8	-135.26	-143.5	-1,045.2	124.5	79.7	44.84	2.777	
6,600.0	6,491.4	6,610.0	6,506.6	27.0	26.3	-134.80	-145.9	-1,063.8	125.6	79.9	45.70	2.747	
6,700.0	6,590.1	6,710.0	6,604.8	27.2	26.7	-133.44	-148.4	-1,082.3	124.8	78.0	46.75	2.668	
6,800.0	6,689.3	6,809.8	6,702.8	27.5	27.1	-130.82	-150.8	-1,100.9	121.7	73.5	48.17	2.527	
6,900.0	6,788.9	6,909.3	6,800.6	27.7	27.5	-126.71	-153.3	-1,119.3	116.8	66.8	49.97	2.337	
7,000.0	6,888.7	7,008.4	6,898.0	27.8	28.0	-120.75	-155.7	-1,137.7	110.7	58.5	52.14	2.123	
7,100.0	6,988.7	7,106.7	6,994.5	27.9	28.4	-112.62	-158.1	-1,155.8	104.5	50.1	54.44	1.920	
7,200.0	7,088.7	7,204.5	7,091.1	28.1	28.6	162.81	-160.1	-1,171.3	100.7	44.6	56.04	1.796	
7,300.0	7,188.7	7,303.4	7,189.2	28.2	28.9	169.89	-161.8	-1,183.6	99.3	42.4	56.94	1.744	
7,344.4	7,233.1	7,347.5	7,233.1	28.2	29.0	172.46	-162.3	-1,188.0	99.2	42.1	57.15	1.736	
7,400.0	7,288.7	7,403.0	7,288.3	28.3	29.1	175.14	-163.0	-1,192.6	99.3	42.0	57.32	1.733	
7,500.0	7,388.7	7,503.1	7,388.3	28.4	29.2	178.38	-163.7	-1,198.2	99.7	42.2	57.50	1.734	
7,600.0	7,488.7	7,603.5	7,488.6	28.5	29.4	179.61	-164.0	-1,200.3	100.0	42.3	57.68	1.733	
7,700.0	7,588.7	7,703.5	7,588.7	28.6	29.5	179.62	-164.0	-1,200.3	100.0	42.1	57.91	1.727	
7,800.0	7,688.7	7,803.5	7,688.7	28.8	29.6	179.62	-164.0	-1,200.3	100.0	41.8	58.15	1.719	
7,900.0	7,788.7	7,903.5	7,788.7	28.9	29.7	179.62	-164.0	-1,200.3	100.0	41.6	58.40	1.712	
8,000.0	7,888.7	8,003.5	7,888.7	29.0	29.8	179.62	-164.0	-1,200.3	100.0	41.3	58.64	1.705	
8,100.0	7,988.7	8,103.5	7,988.7	29.1	29.9	179.62	-164.0	-1,200.3	100.0	41.1	58.89	1.698	
8,200.0	8,088.7	8,203.5	8,088.7	29.3	30.1	179.62	-164.0	-1,200.3	100.0	40.8	59.14	1.691	
8,300.0	8,188.7	8,303.5	8,188.7	29.4	30.2	179.62	-164.0	-1,200.3	100.0	40.6	59.40	1.683	
8,400.0	8,288.7	8,403.5	8,288.7	29.5	30.3	179.62	-164.0	-1,200.3	100.0	40.3	59.65	1.676 SF	
8,500.0	8,388.3	8,488.7	8,373.6	29.7	30.4	179.21	-169.3	-1,200.4	113.7	54.5	59.24	1.919	
8,600.0	8,485.5	8,564.1	8,447.6	29.8	30.5	179.33	-183.5	-1,200.5	154.5	96.9	57.59	2.683	
8,700.0	8,578.0	8,624.0	8,505.0	29.9	30.6	179.40	-200.9	-1,200.6	217.7	162.9	54.73	3.977	
8,800.0	8,663.4	8,667.0	8,545.0	30.0	30.7	179.39	-216.7	-1,200.6	297.3	246.5	50.80	5.852	
8,900.0	8,739.6	8,700.0	8,574.9	30.1	30.8	179.29	-230.6	-1,200.7	387.9	341.9	46.00	8.432	
9,000.0	8,804.8	8,700.0	8,574.9	30.2	30.8	178.58	-230.6	-1,200.7	484.8	444.2	40.62	11.935	
9,100.0	8,857.4	8,713.1	8,586.5	30.4	30.8	23.49	-236.5	-1,200.8	584.3	550.7	33.61	17.386	
9,200.0	8,896.0	8,700.0	8,574.9	30.7	30.8	0.82	-230.6	-1,200.7	684.0	654.5	29.46	23.220	
9,300.0	8,919.7	8,700.0	8,574.9	31.0	30.8	0.42	-230.6	-1,200.7	781.2	755.6	25.61	30.508	
9,400.0	8,928.0	8,683.0	8,559.6	31.4	30.8	0.26	-223.2	-1,200.7	874.5	850.4	24.19	36.156	
9,500.0	8,928.0	8,666.3	8,544.3	32.0	30.7	0.23	-216.4	-1,200.6	965.8	941.3	24.47	39.463	

Offset Design		Matira West Federal Pad Sec.30-T12N-R65W - Matira West Federal 30-31-6-14-4CH - Wellbore #1 - PI										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)			
0.0	0.0	0.0	0.0	0.0	0.0	89.99	0.0	118.7	118.7					
100.0	100.0	100.0	100.0	0.1	0.1	89.99	0.0	118.7	118.7	118.5	0.22	528.305		
200.0	200.0	200.0	200.0	0.3	0.3	89.99	0.0	118.7	118.7	118.1	0.67	176.102	CC, ES	
300.0	300.0	300.0	300.0	0.6	0.6	-177.00	0.0	118.7	120.5	119.4	1.12	107.648		
400.0	399.8	399.8	399.8	0.8	0.8	-177.12	0.0	118.7	125.7	124.1	1.57	80.235		
500.0	499.5	499.5	499.5	1.0	1.0	-177.30	0.0	118.7	134.4	132.4	2.02	66.518		
600.0	598.7	598.7	598.7	1.3	1.2	-177.51	0.0	118.7	146.6	144.1	2.48	59.152		
700.0	697.5	697.5	697.5	1.7	1.5	-177.74	0.0	118.7	162.2	159.3	2.94	55.209		
800.0	795.7	795.7	795.7	2.0	1.7	-177.97	0.0	118.7	180.8	177.4	3.40	53.217		
900.0	893.9	893.9	893.9	2.4	1.9	-178.16	0.0	118.7	199.6	195.8	3.86	51.758		
1,000.0	992.1	992.1	992.1	2.9	2.1	-178.32	0.0	118.7	218.5	214.2	4.32	50.563		
1,100.0	1,090.3	1,090.3	1,090.3	3.3	2.3	-178.45	0.0	118.7	237.4	232.6	4.79	49.570		
1,200.0	1,188.5	1,188.5	1,188.5	3.7	2.6	-178.56	0.0	118.7	256.3	251.0	5.26	48.734		
1,300.0	1,286.7	1,286.7	1,286.7	4.1	2.8	-178.66	0.0	118.7	275.1	269.4	5.73	48.022		
1,400.0	1,384.9	1,384.9	1,384.9	4.5	3.0	-178.75	0.0	118.7	294.0	287.8	6.20	47.409		
1,500.0	1,483.1	1,483.1	1,483.1	5.0	3.2	-178.82	0.0	118.7	312.9	306.2	6.68	46.876		
1,600.0	1,581.3	1,581.3	1,581.3	5.4	3.4	-178.89	0.0	118.7	331.8	324.6	7.15	46.409		
1,700.0	1,679.5	1,679.5	1,679.5	5.8	3.7	-178.95	0.0	118.7	350.7	343.0	7.62	45.996		
1,800.0	1,777.7	1,777.7	1,777.7	6.3	3.9	-179.00	0.0	118.7	369.5	361.4	8.10	45.628		
1,900.0	1,875.9	1,875.9	1,875.9	6.7	4.1	-179.05	0.0	118.7	388.4	379.9	8.57	45.300		
2,000.0	1,974.1	1,974.1	1,974.1	7.1	4.3	-179.10	0.0	118.7	407.3	398.3	9.05	45.003		
2,100.0	2,072.3	2,072.3	2,072.3	7.5	4.5	-179.14	0.0	118.7	426.2	416.7	9.53	44.735		
2,200.0	2,170.5	2,170.5	2,170.5	8.0	4.8	-179.17	0.0	118.7	445.1	435.1	10.00	44.492		
2,300.0	2,268.7	2,268.7	2,268.7	8.4	5.0	-179.21	0.0	118.7	464.0	453.5	10.48	44.269		
2,400.0	2,366.9	2,366.9	2,366.9	8.8	5.2	-179.24	0.0	118.7	482.8	471.9	10.96	44.065		
2,500.0	2,465.1	2,465.1	2,465.1	9.3	5.4	-179.27	0.0	118.7	501.7	490.3	11.43	43.877		
2,600.0	2,563.3	2,563.3	2,563.3	9.7	5.6	-179.29	0.0	118.7	520.6	508.7	11.91	43.704		
2,700.0	2,661.5	2,661.5	2,661.5	10.1	5.9	-179.32	0.0	118.7	539.5	527.1	12.39	43.544		
2,800.0	2,759.7	2,759.7	2,759.7	10.6	6.1	-179.34	0.0	118.7	558.4	545.5	12.87	43.395		
2,900.0	2,857.9	2,857.9	2,857.9	11.0	6.3	-179.36	0.0	118.7	577.3	563.9	13.35	43.256		
3,000.0	2,956.1	2,956.1	2,956.1	11.4	6.5	-179.38	0.0	118.7	596.1	582.3	13.82	43.126		
3,100.0	3,054.3	3,054.1	3,054.1	11.9	6.8	-179.43	0.3	118.7	615.0	600.7	14.30	43.009		
3,200.0	3,152.5	3,151.8	3,151.8	12.3	7.0	-179.60	2.0	118.7	634.0	619.2	14.77	42.911		
3,300.0	3,250.7	3,249.3	3,249.3	12.7	7.2	-179.92	5.4	118.7	653.1	637.8	15.25	42.829		
3,400.0	3,348.9	3,347.4	3,347.2	13.1	7.4	179.70	9.8	118.7	672.2	656.5	15.72	42.753		
3,500.0	3,447.1	3,445.4	3,445.2	13.6	7.6	179.35	14.1	118.7	691.3	675.1	16.20	42.680		
3,600.0	3,545.3	3,543.5	3,543.1	14.0	7.9	179.01	18.4	118.7	710.5	693.8	16.67	42.610		
3,700.0	3,643.5	3,641.6	3,641.1	14.4	8.1	178.69	22.7	118.7	729.7	712.5	17.15	42.542		
3,800.0	3,741.7	3,739.6	3,739.1	14.9	8.3	178.38	27.1	118.7	748.9	731.3	17.63	42.476		
3,900.0	3,839.9	3,838.7	3,838.1	15.3	8.5	178.15	30.7	118.7	768.1	750.0	18.08	42.485		
4,000.0	3,938.1	3,938.1	3,937.4	15.7	8.6	178.05	32.7	118.7	787.1	768.6	18.51	42.527		
4,100.0	4,036.4	4,037.0	4,036.4	16.2	8.8	178.07	33.0	118.7	806.0	787.1	18.95	42.541		
4,200.0	4,134.6	4,135.2	4,134.6	16.6	9.0	178.11	33.0	118.7	824.9	805.5	19.41	42.501		
4,300.0	4,232.8	4,233.4	4,232.8	17.0	9.3	178.16	33.0	118.7	843.8	823.9	19.89	42.429		
4,400.0	4,331.0	4,331.6	4,331.0	17.5	9.5	178.20	33.0	118.7	862.7	842.3	20.37	42.359		
4,500.0	4,429.2	4,429.8	4,429.2	17.9	9.7	178.24	33.0	118.7	881.5	860.7	20.84	42.293		
4,600.0	4,527.4	4,528.0	4,527.4	18.3	9.9	178.27	33.0	118.7	900.4	879.1	21.32	42.230		
4,700.0	4,625.6	4,626.2	4,625.6	18.8	10.1	178.31	33.0	118.7	919.3	897.5	21.80	42.169		
4,800.0	4,723.8	4,724.4	4,723.8	19.2	10.4	178.34	33.0	118.7	938.2	915.9	22.28	42.110		
4,900.0	4,822.0	4,822.6	4,822.0	19.6	10.6	178.38	33.0	118.7	957.0	934.3	22.76	42.054		
5,000.0	4,920.2	4,920.8	4,920.2	20.1	10.8	178.41	33.0	118.7	975.9	952.7	23.24	42.000		
5,100.0	5,018.4	5,019.0	5,018.4	20.5	11.0	178.44	33.0	118.7	994.8	971.1	23.72	41.948	SF	

COMPASS 2003.21 Build 46

Coordinates are relative to: Matira West Federal 30-19-14-1CH
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.51°



Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira West Federal 30-19-14-1CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6043.0ft (RKB - 25')
Reference Site:	Matira West Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6043.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira West Federal 30-19-14-1CH	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (8-18-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 6043.0ft (RKB - 25')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Matira West Federal 30-19-14-1CH
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.51°

