

Cirque Resources LP

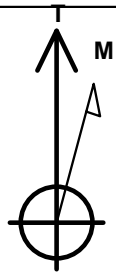
Well Name: **Matira East 30-31-6-15-2CH**

Surface Location: Matira East Federal Pad Sec.30-T12N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 6002.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1597910.97	3220494.75	40.971900	-104.701560	
RKB - 25' WELL @ 6027.0ft (RKB - 25')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
330' Setback	1.0	-10386.6	-480.1	Polygon
Sectionline	1.0	-245.0	-480.1	Polygon
SHL 245'FSL & 1730'FEL, Sec.30	1.0	0.0	0.0	Point
BHL 340'FSL & 660'FEL, Sec.6	8907.0	-10383.8	978.0	Point
Landing Pt. 550'FNL & 660'FEL, Sec.31	8907.0	-797.9	1063.2	Point



Azimuths to True North
Magnetic North: 8.45°

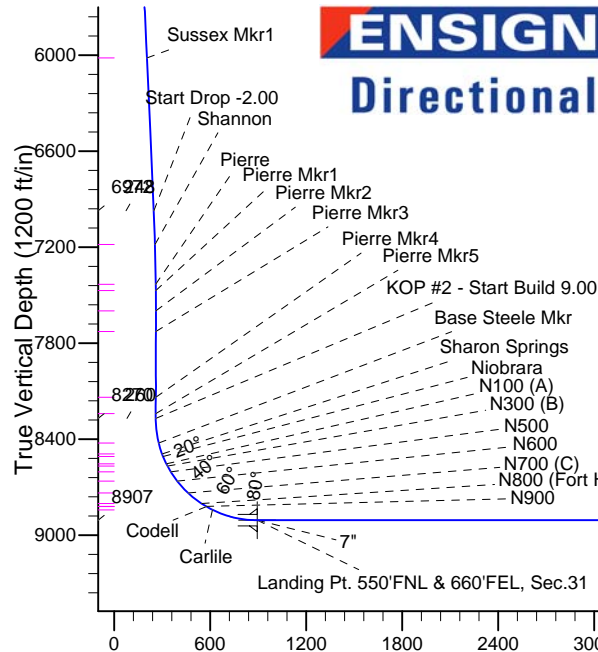
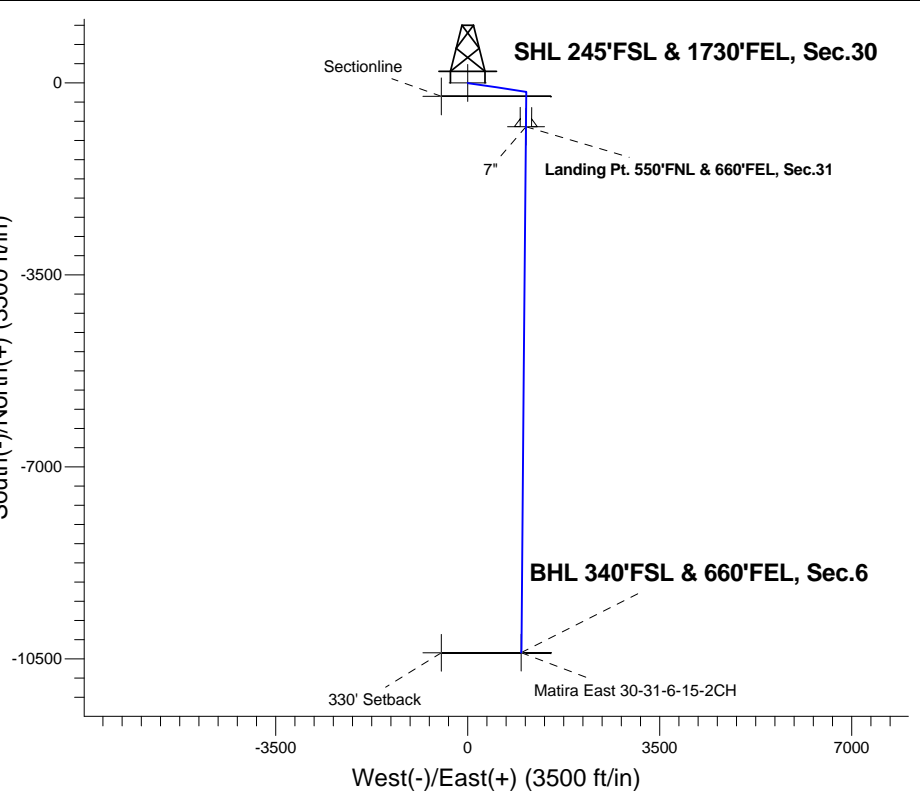
Magnetic Field
Strength: 53088.1snT
Dip Angle: 67.41°
Date: 8/25/2014
Model: IGRF2010

Matira East Federal Pad Sec.30-T12N-R65W
Matira East 30-31-6-15-2CH
Plan #1 (8-25-14)
17:41, August 25 2014

ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	KOP - Start Build 2.00
6972.3	7066.6	Start Drop -2.00
8270.4	8367.8	KOP #2 - Start Build 9.00
8907.0	18954.8	TD at 18954.8

South(-)/North(+) (3500 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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1730.8	10.62	98.54	1727.7	-7.3	48.5	2.00	98.54	11.8	
4	7066.6	10.62	98.54	6972.3	-153.3	1020.5	0.00	0.00	248.3	
5	7597.4	0.00	0.00	7500.0	-160.6	1069.0	2.00	180.00	260.1	
6	8367.8	0.00	0.00	8270.4	-160.6	1069.0	0.00	0.00	260.1	
7	9367.8	90.00	180.52	8907.0	-797.2	1063.2	9.00	180.52	893.4	
8	9368.5	90.00	180.52	8907.0	-797.9	1063.2	0.00	0.00	894.1	Landing Pt. 550'FNL & 660'FEL, Sec.31
9	9369.5	90.00	180.51	8907.0	-798.9	1063.2	1.00	-90.00	895.1	
10	18954.8	90.00	180.51	8907.0	-10383.8	978.0	0.00	0.00	10429.8	BHL 340'FSL & 660'FEL, Sec.6

BHL 340'FSL & 660'FEL, Sec.6

TD at 18954.8

Vertical Section at 174.62° (1200 ft/in)



Cirque Resources LP

Sec.30-T12N-R65W

Matira East Federal Pad Sec.30-T12N-R65W

Matira East 30-31-6-15-2CH

Wellbore #1

Plan: Plan #1 (8-25-14)

Standard Planning Report

25 August, 2014

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,730.8	10.62	98.54	1,727.7	-7.3	48.5	2.00	2.00	0.00	98.54	
7,066.6	10.62	98.54	6,972.3	-153.3	1,020.5	0.00	0.00	0.00	0.00	
7,597.4	0.00	0.00	7,500.0	-160.6	1,069.0	2.00	-2.00	0.00	180.00	
8,367.8	0.00	0.00	8,270.4	-160.6	1,069.0	0.00	0.00	0.00	0.00	
9,367.8	90.00	180.52	8,907.0	-797.2	1,063.2	9.00	9.00	0.00	180.52	
9,368.5	90.00	180.52	8,907.0	-797.9	1,063.2	0.00	0.00	0.00	0.00	Landing Pt. 550'FN
9,369.5	90.00	180.51	8,907.0	-798.9	1,063.2	1.00	0.00	-1.00	-90.00	
18,954.8	90.00	180.51	8,907.0	-10,383.8	978.0	0.00	0.00	0.00	0.00	BHL 340'FSL & 660'FN

Database:	Landmark	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site:	Matira East Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira East 30-31-6-15-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-25-14)		

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
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
KOP - Start Build 2.00									
1,300.0	2.00	98.54	1,300.0	-0.3	1.7	0.4	2.00	2.00	0.00
1,400.0	4.00	98.54	1,399.8	-1.0	6.9	1.7	2.00	2.00	0.00
1,500.0	6.00	98.54	1,499.5	-2.3	15.5	3.8	2.00	2.00	0.00
1,600.0	8.00	98.54	1,598.7	-4.1	27.6	6.7	2.00	2.00	0.00
1,700.0	10.00	98.54	1,697.5	-6.5	43.0	10.5	2.00	2.00	0.00
1,730.8	10.62	98.54	1,727.7	-7.3	48.5	11.8	2.00	2.00	0.00
1,800.0	10.62	98.54	1,795.8	-9.2	61.1	14.9	0.00	0.00	0.00
1,832.8	10.62	98.54	1,828.0	-10.1	67.1	16.3	0.00	0.00	0.00
Fox Hills									
1,900.0	10.62	98.54	1,894.1	-11.9	79.3	19.3	0.00	0.00	0.00
2,000.0	10.62	98.54	1,992.4	-14.7	97.5	23.7	0.00	0.00	0.00
2,100.0	10.62	98.54	2,090.6	-17.4	115.7	28.2	0.00	0.00	0.00
2,200.0	10.62	98.54	2,188.9	-20.1	134.0	32.6	0.00	0.00	0.00
2,300.0	10.62	98.54	2,287.2	-22.9	152.2	37.0	0.00	0.00	0.00
2,400.0	10.62	98.54	2,385.5	-25.6	170.4	41.5	0.00	0.00	0.00
2,500.0	10.62	98.54	2,483.8	-28.3	188.6	45.9	0.00	0.00	0.00
2,514.4	10.62	98.54	2,498.0	-28.7	191.2	46.5	0.00	0.00	0.00
Fox Hills Mkr 1									
2,600.0	10.62	98.54	2,582.1	-31.1	206.8	50.3	0.00	0.00	0.00
2,700.0	10.62	98.54	2,680.4	-33.8	225.0	54.8	0.00	0.00	0.00
2,800.0	10.62	98.54	2,778.7	-36.5	243.3	59.2	0.00	0.00	0.00
2,900.0	10.62	98.54	2,877.0	-39.3	261.5	63.6	0.00	0.00	0.00
3,000.0	10.62	98.54	2,975.2	-42.0	279.7	68.1	0.00	0.00	0.00
3,100.0	10.62	98.54	3,073.5	-44.8	297.9	72.5	0.00	0.00	0.00
3,200.0	10.62	98.54	3,171.8	-47.5	316.1	76.9	0.00	0.00	0.00
3,300.0	10.62	98.54	3,270.1	-50.2	334.4	81.4	0.00	0.00	0.00
3,400.0	10.62	98.54	3,368.4	-53.0	352.6	85.8	0.00	0.00	0.00
3,500.0	10.62	98.54	3,466.7	-55.7	370.8	90.2	0.00	0.00	0.00
3,600.0	10.62	98.54	3,565.0	-58.4	389.0	94.7	0.00	0.00	0.00
3,700.0	10.62	98.54	3,663.3	-61.2	407.2	99.1	0.00	0.00	0.00
3,800.0	10.62	98.54	3,761.6	-63.9	425.4	103.5	0.00	0.00	0.00
3,900.0	10.62	98.54	3,859.8	-66.7	443.7	108.0	0.00	0.00	0.00
4,000.0	10.62	98.54	3,958.1	-69.4	461.9	112.4	0.00	0.00	0.00
4,100.0	10.62	98.54	4,056.4	-72.1	480.1	116.8	0.00	0.00	0.00
4,200.0	10.62	98.54	4,154.7	-74.9	498.3	121.3	0.00	0.00	0.00
4,300.0	10.62	98.54	4,253.0	-77.6	516.5	125.7	0.00	0.00	0.00
4,343.7	10.62	98.54	4,296.0	-78.8	524.5	127.6	0.00	0.00	0.00
Teapot									
4,400.0	10.62	98.54	4,351.3	-80.3	534.7	130.1	0.00	0.00	0.00
4,500.0	10.62	98.54	4,449.6	-83.1	553.0	134.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site:	Matira East Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira East 30-31-6-15-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-25-14)		

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	10.62	98.54	4,547.9	-85.8	571.2	139.0	0.00	0.00	0.00
4,700.0	10.62	98.54	4,646.2	-88.5	589.4	143.4	0.00	0.00	0.00
4,800.0	10.62	98.54	4,744.4	-91.3	607.6	147.9	0.00	0.00	0.00
4,900.0	10.62	98.54	4,842.7	-94.0	625.8	152.3	0.00	0.00	0.00
5,000.0	10.62	98.54	4,941.0	-96.8	644.0	156.7	0.00	0.00	0.00
5,100.0	10.62	98.54	5,039.3	-99.5	662.3	161.2	0.00	0.00	0.00
5,200.0	10.62	98.54	5,137.6	-102.2	680.5	165.6	0.00	0.00	0.00
5,296.0	10.62	98.54	5,232.0	-104.9	698.0	169.8	0.00	0.00	0.00
Parkman									
5,300.0	10.62	98.54	5,235.9	-105.0	698.7	170.0	0.00	0.00	0.00
5,328.6	10.62	98.54	5,264.0	-105.8	703.9	171.3	0.00	0.00	0.00
Sussex									
5,400.0	10.62	98.54	5,334.2	-107.7	716.9	174.5	0.00	0.00	0.00
5,500.0	10.62	98.54	5,432.5	-110.4	735.1	178.9	0.00	0.00	0.00
5,600.0	10.62	98.54	5,530.8	-113.2	753.3	183.3	0.00	0.00	0.00
5,671.5	10.62	98.54	5,601.0	-115.1	766.4	186.5	0.00	0.00	0.00
Pierre Upper Mkr1									
5,700.0	10.62	98.54	5,629.0	-115.9	771.6	187.8	0.00	0.00	0.00
5,800.0	10.62	98.54	5,727.3	-118.7	789.8	192.2	0.00	0.00	0.00
5,900.0	10.62	98.54	5,825.6	-121.4	808.0	196.6	0.00	0.00	0.00
6,000.0	10.62	98.54	5,923.9	-124.1	826.2	201.1	0.00	0.00	0.00
6,094.7	10.62	98.54	6,017.0	-126.7	843.5	205.2	0.00	0.00	0.00
Sussex Mkr1									
6,100.0	10.62	98.54	6,022.2	-126.9	844.4	205.5	0.00	0.00	0.00
6,200.0	10.62	98.54	6,120.5	-129.6	862.6	209.9	0.00	0.00	0.00
6,300.0	10.62	98.54	6,218.8	-132.3	880.9	214.3	0.00	0.00	0.00
6,400.0	10.62	98.54	6,317.1	-135.1	899.1	218.8	0.00	0.00	0.00
6,500.0	10.62	98.54	6,415.3	-137.8	917.3	223.2	0.00	0.00	0.00
6,600.0	10.62	98.54	6,513.6	-140.5	935.5	227.6	0.00	0.00	0.00
6,700.0	10.62	98.54	6,611.9	-143.3	953.7	232.1	0.00	0.00	0.00
6,800.0	10.62	98.54	6,710.2	-146.0	971.9	236.5	0.00	0.00	0.00
6,900.0	10.62	98.54	6,808.5	-148.8	990.2	240.9	0.00	0.00	0.00
7,000.0	10.62	98.54	6,906.8	-151.5	1,008.4	245.4	0.00	0.00	0.00
7,066.6	10.62	98.54	6,972.3	-153.3	1,020.5	248.3	0.00	0.00	0.00
Start Drop -2.00									
7,100.0	9.95	98.54	7,005.1	-154.2	1,026.4	249.8	2.00	-2.00	0.00
7,200.0	7.95	98.54	7,103.9	-156.5	1,041.8	253.5	2.00	-2.00	0.00
7,280.7	6.33	98.54	7,184.0	-158.0	1,051.7	255.9	2.00	-2.00	0.00
Shannon									
7,300.0	5.95	98.54	7,203.2	-158.3	1,053.8	256.4	2.00	-2.00	0.00
7,400.0	3.95	98.54	7,302.8	-159.6	1,062.3	258.5	2.00	-2.00	0.00
7,500.0	1.95	98.54	7,402.6	-160.4	1,067.4	259.7	2.00	-2.00	0.00
7,529.4	1.36	98.54	7,432.0	-160.5	1,068.2	259.9	2.00	-2.00	0.00
Pierre									
7,569.4	0.56	98.54	7,472.0	-160.6	1,068.9	260.1	2.00	-2.00	0.00
Pierre Mkr1									
7,597.4	0.00	0.00	7,500.0	-160.6	1,069.0	260.1	2.00	-2.00	0.00
7,600.0	0.00	0.00	7,502.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
7,696.4	0.00	0.00	7,599.0	-160.6	1,069.0	260.1	0.00	0.00	0.00
Pierre Mkr2									
7,700.0	0.00	0.00	7,602.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
7,800.0	0.00	0.00	7,702.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
7,824.4	0.00	0.00	7,727.0	-160.6	1,069.0	260.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site:	Matira East Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira East 30-31-6-15-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-25-14)		

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	7,802.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
8,000.0	0.00	0.00	7,902.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
8,100.0	0.00	0.00	8,002.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
8,200.0	0.00	0.00	8,102.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
8,236.4	0.00	0.00	8,139.0	-160.6	1,069.0	260.1	0.00	0.00	0.00
Pierre Mkr4									
8,300.0	0.00	0.00	8,202.6	-160.6	1,069.0	260.1	0.00	0.00	0.00
8,338.4	0.00	0.00	8,241.0	-160.6	1,069.0	260.1	0.00	0.00	0.00
Pierre Mkr5									
8,367.8	0.00	0.00	8,270.4	-160.6	1,069.0	260.1	0.00	0.00	0.00
KOP #2 - Start Build 9.00									
8,400.0	2.90	180.52	8,302.6	-161.4	1,069.0	260.9	9.01	9.01	0.00
8,500.0	11.90	180.52	8,401.7	-174.3	1,068.9	273.7	9.00	9.00	0.00
8,523.9	14.06	180.52	8,425.0	-179.7	1,068.8	279.1	9.00	9.00	0.00
Base Steele Mkr									
8,595.2	20.47	180.52	8,493.0	-200.8	1,068.6	300.1	9.00	9.00	0.00
Sharon Springs									
8,600.0	20.90	180.52	8,497.5	-202.5	1,068.6	301.8	9.00	9.00	0.00
8,611.3	21.92	180.52	8,508.0	-206.6	1,068.6	305.9	9.00	9.00	0.00
Niobrara									
8,661.7	26.46	180.52	8,554.0	-227.3	1,068.4	326.4	9.00	9.00	0.00
N100 (A)									
8,677.5	27.87	180.52	8,568.0	-234.4	1,068.3	333.6	9.00	9.00	0.00
N300 (B)									
8,700.0	29.90	180.52	8,587.7	-245.3	1,068.2	344.4	9.00	9.00	0.00
8,718.9	31.60	180.52	8,604.0	-255.0	1,068.1	354.0	9.00	9.00	0.00
N500									
8,789.6	37.96	180.52	8,662.0	-295.3	1,067.8	394.1	9.00	9.00	0.00
N600									
8,800.0	38.90	180.52	8,670.2	-301.8	1,067.7	400.6	9.00	9.00	0.00
8,891.5	47.14	180.52	8,737.0	-364.1	1,067.2	462.6	9.00	9.00	0.00
N700 (C)									
8,900.0	47.90	180.52	8,742.7	-370.4	1,067.1	468.8	9.00	9.00	0.00
8,998.7	56.79	180.52	8,803.0	-448.5	1,066.4	546.5	9.00	9.00	0.00
N800 (Fort Hayes)									
9,000.0	56.90	180.52	8,803.7	-449.6	1,066.4	547.6	9.00	9.00	0.00
9,033.0	59.87	180.52	8,821.0	-477.7	1,066.1	575.5	9.00	9.00	0.00
N900									
9,035.0	60.05	180.52	8,822.0	-479.4	1,066.1	577.3	9.00	9.00	0.00
Codell									
9,077.6	63.88	180.52	8,842.0	-517.0	1,065.8	614.6	9.00	9.00	0.00
Carlile									
9,100.0	65.90	180.52	8,851.5	-537.3	1,065.6	634.8	9.00	9.00	0.00
9,200.0	74.90	180.52	8,885.0	-631.4	1,064.7	728.4	9.00	9.00	0.00
9,300.0	83.90	180.52	8,903.4	-729.6	1,063.8	826.1	9.00	9.00	0.00
9,367.8	90.00	180.52	8,907.0	-797.2	1,063.2	893.4	9.00	9.00	0.00
9,368.5	90.00	180.52	8,907.0	-797.9	1,063.2	894.1	0.00	0.00	0.00
7"									
9,369.5	90.00	180.51	8,907.0	-798.9	1,063.2	895.1	1.04	0.00	-1.04
9,400.0	90.00	180.51	8,907.0	-829.4	1,062.9	925.4	0.00	0.00	0.00
9,500.0	90.00	180.51	8,907.0	-929.4	1,062.0	1,024.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site:	Matira East Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira East 30-31-6-15-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-25-14)		

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	180.51	8,907.0	-1,029.4	1,061.2	1,124.4	0.00	0.00	0.00
9,700.0	90.00	180.51	8,907.0	-1,129.4	1,060.3	1,223.9	0.00	0.00	0.00
9,800.0	90.00	180.51	8,907.0	-1,229.4	1,059.4	1,323.3	0.00	0.00	0.00
9,900.0	90.00	180.51	8,907.0	-1,329.4	1,058.5	1,422.8	0.00	0.00	0.00
10,000.0	90.00	180.51	8,907.0	-1,429.4	1,057.6	1,522.3	0.00	0.00	0.00
10,100.0	90.00	180.51	8,907.0	-1,529.4	1,056.7	1,621.8	0.00	0.00	0.00
10,200.0	90.00	180.51	8,907.0	-1,629.4	1,055.8	1,721.2	0.00	0.00	0.00
10,300.0	90.00	180.51	8,907.0	-1,729.4	1,054.9	1,820.7	0.00	0.00	0.00
10,400.0	90.00	180.51	8,907.0	-1,829.4	1,054.0	1,920.2	0.00	0.00	0.00
10,500.0	90.00	180.51	8,907.0	-1,929.4	1,053.2	2,019.6	0.00	0.00	0.00
10,600.0	90.00	180.51	8,907.0	-2,029.4	1,052.3	2,119.1	0.00	0.00	0.00
10,700.0	90.00	180.51	8,907.0	-2,129.4	1,051.4	2,218.6	0.00	0.00	0.00
10,800.0	90.00	180.51	8,907.0	-2,229.4	1,050.5	2,318.1	0.00	0.00	0.00
10,900.0	90.00	180.51	8,907.0	-2,329.4	1,049.6	2,417.5	0.00	0.00	0.00
11,000.0	90.00	180.51	8,907.0	-2,429.4	1,048.7	2,517.0	0.00	0.00	0.00
11,100.0	90.00	180.51	8,907.0	-2,529.4	1,047.8	2,616.5	0.00	0.00	0.00
11,200.0	90.00	180.51	8,907.0	-2,629.4	1,046.9	2,715.9	0.00	0.00	0.00
11,300.0	90.00	180.51	8,907.0	-2,729.4	1,046.0	2,815.4	0.00	0.00	0.00
11,400.0	90.00	180.51	8,907.0	-2,829.4	1,045.2	2,914.9	0.00	0.00	0.00
11,500.0	90.00	180.51	8,907.0	-2,929.3	1,044.3	3,014.4	0.00	0.00	0.00
11,600.0	90.00	180.51	8,907.0	-3,029.3	1,043.4	3,113.8	0.00	0.00	0.00
11,700.0	90.00	180.51	8,907.0	-3,129.3	1,042.5	3,213.3	0.00	0.00	0.00
11,800.0	90.00	180.51	8,907.0	-3,229.3	1,041.6	3,312.8	0.00	0.00	0.00
11,900.0	90.00	180.51	8,907.0	-3,329.3	1,040.7	3,412.3	0.00	0.00	0.00
12,000.0	90.00	180.51	8,907.0	-3,429.3	1,039.8	3,511.7	0.00	0.00	0.00
12,100.0	90.00	180.51	8,907.0	-3,529.3	1,038.9	3,611.2	0.00	0.00	0.00
12,200.0	90.00	180.51	8,907.0	-3,629.3	1,038.0	3,710.7	0.00	0.00	0.00
12,300.0	90.00	180.51	8,907.0	-3,729.3	1,037.2	3,810.1	0.00	0.00	0.00
12,400.0	90.00	180.51	8,907.0	-3,829.3	1,036.3	3,909.6	0.00	0.00	0.00
12,500.0	90.00	180.51	8,907.0	-3,929.3	1,035.4	4,009.1	0.00	0.00	0.00
12,600.0	90.00	180.51	8,907.0	-4,029.3	1,034.5	4,108.6	0.00	0.00	0.00
12,700.0	90.00	180.51	8,907.0	-4,129.3	1,033.6	4,208.0	0.00	0.00	0.00
12,800.0	90.00	180.51	8,907.0	-4,229.3	1,032.7	4,307.5	0.00	0.00	0.00
12,900.0	90.00	180.51	8,907.0	-4,329.3	1,031.8	4,407.0	0.00	0.00	0.00
13,000.0	90.00	180.51	8,907.0	-4,429.3	1,030.9	4,506.4	0.00	0.00	0.00
13,100.0	90.00	180.51	8,907.0	-4,529.3	1,030.0	4,605.9	0.00	0.00	0.00
13,200.0	90.00	180.51	8,907.0	-4,629.3	1,029.2	4,705.4	0.00	0.00	0.00
13,300.0	90.00	180.51	8,907.0	-4,729.3	1,028.3	4,804.9	0.00	0.00	0.00
13,400.0	90.00	180.51	8,907.0	-4,829.3	1,027.4	4,904.3	0.00	0.00	0.00
13,500.0	90.00	180.51	8,907.0	-4,929.3	1,026.5	5,003.8	0.00	0.00	0.00
13,600.0	90.00	180.51	8,907.0	-5,029.3	1,025.6	5,103.3	0.00	0.00	0.00
13,700.0	90.00	180.51	8,907.0	-5,129.3	1,024.7	5,202.7	0.00	0.00	0.00
13,800.0	90.00	180.51	8,907.0	-5,229.3	1,023.8	5,302.2	0.00	0.00	0.00
13,900.0	90.00	180.51	8,907.0	-5,329.3	1,022.9	5,401.7	0.00	0.00	0.00
14,000.0	90.00	180.51	8,907.0	-5,429.3	1,022.0	5,501.2	0.00	0.00	0.00
14,100.0	90.00	180.51	8,907.0	-5,529.2	1,021.2	5,600.6	0.00	0.00	0.00
14,200.0	90.00	180.51	8,907.0	-5,629.2	1,020.3	5,700.1	0.00	0.00	0.00
14,300.0	90.00	180.51	8,907.0	-5,729.2	1,019.4	5,799.6	0.00	0.00	0.00
14,400.0	90.00	180.51	8,907.0	-5,829.2	1,018.5	5,899.1	0.00	0.00	0.00
14,500.0	90.00	180.51	8,907.0	-5,929.2	1,017.6	5,998.5	0.00	0.00	0.00
14,600.0	90.00	180.51	8,907.0	-6,029.2	1,016.7	6,098.0	0.00	0.00	0.00
14,700.0	90.00	180.51	8,907.0	-6,129.2	1,015.8	6,197.5	0.00	0.00	0.00
14,800.0	90.00	180.51	8,907.0	-6,229.2	1,014.9	6,296.9	0.00	0.00	0.00
14,900.0	90.00	180.51	8,907.0	-6,329.2	1,014.0	6,396.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site:	Matira East Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira East 30-31-6-15-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-25-14)		

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	180.51	8,907.0	-6,429.2	1,013.1	6,495.9	0.00	0.00	0.00	
15,100.0	90.00	180.51	8,907.0	-6,529.2	1,012.3	6,595.4	0.00	0.00	0.00	
15,200.0	90.00	180.51	8,907.0	-6,629.2	1,011.4	6,694.8	0.00	0.00	0.00	
15,300.0	90.00	180.51	8,907.0	-6,729.2	1,010.5	6,794.3	0.00	0.00	0.00	
15,400.0	90.00	180.51	8,907.0	-6,829.2	1,009.6	6,893.8	0.00	0.00	0.00	
15,500.0	90.00	180.51	8,907.0	-6,929.2	1,008.7	6,993.2	0.00	0.00	0.00	
15,600.0	90.00	180.51	8,907.0	-7,029.2	1,007.8	7,092.7	0.00	0.00	0.00	
15,700.0	90.00	180.51	8,907.0	-7,129.2	1,006.9	7,192.2	0.00	0.00	0.00	
15,800.0	90.00	180.51	8,907.0	-7,229.2	1,006.0	7,291.7	0.00	0.00	0.00	
15,900.0	90.00	180.51	8,907.0	-7,329.2	1,005.1	7,391.1	0.00	0.00	0.00	
16,000.0	90.00	180.51	8,907.0	-7,429.2	1,004.3	7,490.6	0.00	0.00	0.00	
16,100.0	90.00	180.51	8,907.0	-7,529.2	1,003.4	7,590.1	0.00	0.00	0.00	
16,200.0	90.00	180.51	8,907.0	-7,629.2	1,002.5	7,689.6	0.00	0.00	0.00	
16,300.0	90.00	180.51	8,907.0	-7,729.2	1,001.6	7,789.0	0.00	0.00	0.00	
16,400.0	90.00	180.51	8,907.0	-7,829.2	1,000.7	7,888.5	0.00	0.00	0.00	
16,500.0	90.00	180.51	8,907.0	-7,929.2	999.8	7,988.0	0.00	0.00	0.00	
16,600.0	90.00	180.51	8,907.0	-8,029.1	998.9	8,087.4	0.00	0.00	0.00	
16,700.0	90.00	180.51	8,907.0	-8,129.1	998.0	8,186.9	0.00	0.00	0.00	
16,800.0	90.00	180.51	8,907.0	-8,229.1	997.1	8,286.4	0.00	0.00	0.00	
16,900.0	90.00	180.51	8,907.0	-8,329.1	996.3	8,385.9	0.00	0.00	0.00	
17,000.0	90.00	180.51	8,907.0	-8,429.1	995.4	8,485.3	0.00	0.00	0.00	
17,100.0	90.00	180.51	8,907.0	-8,529.1	994.5	8,584.8	0.00	0.00	0.00	
17,200.0	90.00	180.51	8,907.0	-8,629.1	993.6	8,684.3	0.00	0.00	0.00	
17,300.0	90.00	180.51	8,907.0	-8,729.1	992.7	8,783.7	0.00	0.00	0.00	
17,400.0	90.00	180.51	8,907.0	-8,829.1	991.8	8,883.2	0.00	0.00	0.00	
17,500.0	90.00	180.51	8,907.0	-8,929.1	990.9	8,982.7	0.00	0.00	0.00	
17,600.0	90.00	180.51	8,907.0	-9,029.1	990.0	9,082.2	0.00	0.00	0.00	
17,700.0	90.00	180.51	8,907.0	-9,129.1	989.1	9,181.6	0.00	0.00	0.00	
17,800.0	90.00	180.51	8,907.0	-9,229.1	988.3	9,281.1	0.00	0.00	0.00	
17,900.0	90.00	180.51	8,907.0	-9,329.1	987.4	9,380.6	0.00	0.00	0.00	
18,000.0	90.00	180.51	8,907.0	-9,429.1	986.5	9,480.0	0.00	0.00	0.00	
18,100.0	90.00	180.51	8,907.0	-9,529.1	985.6	9,579.5	0.00	0.00	0.00	
18,200.0	90.00	180.51	8,907.0	-9,629.1	984.7	9,679.0	0.00	0.00	0.00	
18,300.0	90.00	180.51	8,907.0	-9,729.1	983.8	9,778.5	0.00	0.00	0.00	
18,400.0	90.00	180.51	8,907.0	-9,829.1	982.9	9,877.9	0.00	0.00	0.00	
18,500.0	90.00	180.51	8,907.0	-9,929.1	982.0	9,977.4	0.00	0.00	0.00	
18,600.0	90.00	180.51	8,907.0	-10,029.1	981.1	10,076.9	0.00	0.00	0.00	
18,700.0	90.00	180.51	8,907.0	-10,129.1	980.3	10,176.4	0.00	0.00	0.00	
18,800.0	90.00	180.51	8,907.0	-10,229.1	979.4	10,275.8	0.00	0.00	0.00	
18,900.0	90.00	180.51	8,907.0	-10,329.1	978.5	10,375.3	0.00	0.00	0.00	
18,954.8	90.00	180.51	8,907.0	-10,383.8	978.0	10,429.8	0.00	0.00	0.00	

Casing Points					
	Measured Depth (ft)	Vertical Depth (ft)		Name	
				Casing Diameter (")	Hole Diameter (")
	9,368.5	8,907.0	7"	7	7-1/2

Database:	Landmark	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Company:	Cirque Resources LP	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Project:	Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site:	Matira East Federal Pad Sec.30-T12N-R65W	North Reference:	True
Well:	Matira East 30-31-6-15-2CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-25-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,832.8	1,828.0	Fox Hills				
2,514.4	2,498.0	Fox Hills Mkr 1				
4,343.7	4,296.0	Teapot				
5,296.0	5,232.0	Parkman				
5,328.6	5,264.0	Sussex				
5,671.5	5,601.0	Pierre Upper Mkr1				
6,094.7	6,017.0	Sussex Mkr1				
7,280.7	7,184.0	Shannon				
7,529.4	7,432.0	Pierre				
7,569.4	7,472.0	Pierre Mkr1				
7,696.4	7,599.0	Pierre Mkr2				
7,824.4	7,727.0	Pierre Mkr3				
8,236.4	8,139.0	Pierre Mkr4				
8,338.4	8,241.0	Pierre Mkr5				
8,523.9	8,425.0	Base Steele Mkr				
8,595.2	8,493.0	Sharon Springs				
8,611.3	8,508.0	Niobrara				
8,661.7	8,554.0	N100 (A)				
8,677.5	8,568.0	N300 (B)				
8,718.9	8,604.0	N500				
8,789.6	8,662.0	N600				
8,891.5	8,737.0	N700 (C)				
8,998.7	8,803.0	N800 (Fort Hayes)				
9,033.0	8,821.0	N900				
9,035.0	8,822.0	Codell				
9,077.6	8,842.0	Carlile				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,200.0	1,200.0	0.0	0.0	KOP - Start Build 2.00
7,066.6	6,972.3	-153.3	1,020.5	Start Drop -2.00
8,367.8	8,270.4	-160.6	1,069.0	KOP #2 - Start Build 9.00
18,954.8	8,907.0	-10,383.9	978.0	TD at 18954.8



Cirque Resources LP

Sec.30-T12N-R65W

Matira East Federal Pad Sec.30-T12N-R65W

Matira East 30-31-6-15-2CH

Wellbore #1

Plan #1 (8-25-14)

Anticollision Report

25 August, 2014

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	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						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	2,090.6	2,088.8	2,076.1	5.0	5.3	-14.49	-8.9	193.6	79.7	70.6	9.04	8.815	
2,200.0	2,188.9	2,188.8	2,174.3	5.4	5.7	-15.64	-10.0	212.1	80.2	70.6	9.55	8.395	
2,300.0	2,287.2	2,288.8	2,272.6	5.7	6.1	-16.78	-11.1	230.6	80.7	70.6	10.07	8.011	
2,400.0	2,385.5	2,388.7	2,370.8	6.1	6.5	-17.90	-12.2	249.1	81.2	70.6	10.60	7.658	
2,500.0	2,483.8	2,488.7	2,469.1	6.5	6.9	-19.01	-13.3	267.6	81.8	70.6	11.15	7.334	
2,600.0	2,582.1	2,588.7	2,567.3	6.9	7.3	-20.10	-14.4	286.1	82.4	70.7	11.71	7.035	
2,700.0	2,680.4	2,688.7	2,665.6	7.3	7.7	-21.17	-15.5	304.6	83.0	70.7	12.28	6.759	
2,800.0	2,778.7	2,788.7	2,763.8	7.7	8.1	-22.23	-16.5	323.1	83.7	70.8	12.86	6.504	
2,900.0	2,877.0	2,888.7	2,862.1	8.1	8.5	-23.27	-17.6	341.6	84.4	70.9	13.46	6.267	
3,000.0	2,975.2	2,988.7	2,960.4	8.5	8.9	-24.30	-18.7	360.1	85.1	71.0	14.07	6.047	
3,100.0	3,073.5	3,088.6	3,058.6	8.9	9.3	-25.31	-19.8	378.6	85.8	71.1	14.69	5.843	
3,200.0	3,171.8	3,188.6	3,156.9	9.3	9.7	-26.30	-20.9	397.1	86.6	71.3	15.32	5.652	
3,300.0	3,270.1	3,288.6	3,255.1	9.7	10.2	-27.27	-22.0	415.7	87.4	71.4	15.96	5.474	
3,400.0	3,368.4	3,388.6	3,353.4	10.1	10.6	-28.22	-23.1	434.2	88.2	71.6	16.62	5.308	
3,500.0	3,466.7	3,488.6	3,451.6	10.5	11.0	-29.16	-24.1	452.7	89.0	71.7	17.28	5.152	
3,600.0	3,565.0	3,588.6	3,549.9	10.9	11.4	-30.08	-25.2	471.2	89.9	71.9	17.96	5.006	
3,700.0	3,663.3	3,688.6	3,648.1	11.3	11.8	-30.98	-26.3	489.7	90.8	72.1	18.64	4.870	
3,800.0	3,761.6	3,788.5	3,746.4	11.7	12.2	-31.86	-27.4	508.2	91.7	72.4	19.34	4.741	
3,900.0	3,859.8	3,888.5	3,844.6	12.1	12.6	-32.73	-28.5	526.7	92.6	72.6	20.04	4.621	
4,000.0	3,958.1	3,988.5	3,942.9	12.5	13.1	-33.58	-29.6	545.2	93.6	72.8	20.76	4.508	
4,100.0	4,056.4	4,088.5	4,041.1	12.9	13.5	-34.41	-30.7	563.7	94.5	73.1	21.48	4.401	
4,200.0	4,154.7	4,188.5	4,139.4	13.4	13.9	-35.22	-31.7	582.2	95.5	73.3	22.21	4.301	
4,300.0	4,253.0	4,288.5	4,237.6	13.8	14.3	-36.02	-32.8	600.7	96.6	73.6	22.95	4.206	
4,400.0	4,351.3	4,388.5	4,335.9	14.2	14.7	-36.80	-33.9	619.2	97.6	73.9	23.70	4.117	
4,500.0	4,449.6	4,488.4	4,434.2	14.6	15.1	-37.57	-35.0	637.7	98.6	74.2	24.46	4.033	
4,600.0	4,547.9	4,588.4	4,532.4	15.0	15.6	-38.31	-36.1	656.2	99.7	74.5	25.22	3.953	
4,700.0	4,646.2	4,688.4	4,630.7	15.4	16.0	-39.05	-37.2	674.7	100.8	74.8	25.99	3.878	
4,800.0	4,744.4	4,788.4	4,728.9	15.8	16.4	-39.76	-38.3	693.2	101.9	75.1	26.76	3.806	
4,900.0	4,842.7	4,888.4	4,827.2	16.3	16.8	-40.46	-39.3	711.7	103.0	75.4	27.54	3.739	
5,000.0	4,941.0	4,988.4	4,925.4	16.7	17.2	-41.15	-40.4	730.2	104.1	75.8	28.33	3.675	
5,100.0	5,039.3	5,088.4	5,023.7	17.1	17.7	-41.82	-41.5	748.7	105.2	76.1	29.12	3.614	
5,200.0	5,137.6	5,188.3	5,121.9	17.5	18.1	-42.48	-42.6	767.2	106.4	76.5	29.92	3.556	
5,300.0	5,235.9	5,288.3	5,220.2	17.9	18.5	-43.12	-43.7	785.7	107.6	76.9	30.72	3.502	
5,400.0	5,334.2	5,388.3	5,318.4	18.3	18.9	-43.75	-44.8	804.2	108.8	77.2	31.53	3.450	
5,500.0	5,432.5	5,488.3	5,416.7	18.8	19.3	-44.37	-45.9	822.7	110.0	77.6	32.34	3.400	
5,600.0	5,530.8	5,588.3	5,514.9	19.2	19.8	-44.97	-46.9	841.2	111.2	78.0	33.15	3.353	
5,700.0	5,629.0	5,688.3	5,613.2	19.6	20.2	-45.56	-48.0	859.7	112.4	78.4	33.97	3.308	
5,800.0	5,727.3	5,788.3	5,711.4	20.0	20.6	-46.13	-49.1	878.2	113.6	78.8	34.79	3.266	
5,900.0	5,825.6	5,888.2	5,809.7	20.4	21.0	-46.70	-50.2	896.7	114.9	79.2	35.61	3.225	
6,000.0	5,923.9	5,988.2	5,907.9	20.9	21.4	-47.25	-51.3	915.2	116.1	79.7	36.44	3.186	
6,100.0	6,022.2	6,088.2	6,006.2	21.3	21.9	-47.79	-52.4	933.7	117.4	80.1	37.27	3.149	
6,200.0	6,120.5	6,188.2	6,104.5	21.7	22.3	-48.32	-53.5	952.2	118.6	80.5	38.11	3.114	
6,300.0	6,218.8	6,288.2	6,202.7	22.1	22.7	-48.83	-54.5	970.7	119.9	81.0	38.94	3.080	
6,400.0	6,317.1	6,388.2	6,301.0	22.5	23.1	-49.34	-55.6	989.2	121.2	81.4	39.78	3.047	
6,500.0	6,415.3	6,488.2	6,399.2	23.0	23.6	-49.83	-56.7	1,007.7	122.5	81.9	40.62	3.016	
6,600.0	6,513.6	6,589.1	6,498.4	23.4	24.0	-50.37	-57.8	1,026.2	123.7	82.3	41.47	2.984	
6,700.0	6,611.9	6,692.1	6,600.1	23.8	24.3	-51.84	-58.8	1,044.4	123.1	80.6	42.46	2.899	
6,800.0	6,710.2	6,794.8	6,702.1	24.2	24.5	-54.62	-59.5	1,054.9	120.2	76.4	43.76	2.746	
6,900.0	6,808.5	6,896.9	6,803.8	24.6	24.7	-58.96	-60.0	1,063.7	115.4	70.0	45.37	2.543	
7,000.0	6,906.8	6,998.2	6,905.0	25.1	24.9	-65.21	-60.3	1,068.8	109.4	62.2	47.26	2.315	
7,100.0	7,005.1	7,098.4	7,005.1	25.5	25.0	-73.64	-60.4	1,070.4	103.6	54.4	49.20	2.106	
7,200.0	7,103.9	7,197.2	7,103.9	25.7	25.1	-82.03	-60.4	1,070.4	100.3	49.8	50.51	1.986	

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 East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	Offset TVD Reference:	Offset Datum

Offset Design Matira East Federal Pad Sec.30-T12N-R65W - Martira East Federal 30-19-15-1CH - 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						
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
7,300.0	7,203.2	7,296.4	7,203.2	26.0	25.3	-88.89	-60.4	1,070.4	99.3	48.1	51.20	1.940	
7,319.4	7,222.4	7,315.7	7,222.4	26.0	25.3	-90.00	-60.4	1,070.4	99.3	48.0	51.28	1.937	
7,400.0	7,302.8	7,396.0	7,302.8	26.2	25.4	-93.84	-60.4	1,070.4	99.5	48.0	51.52	1.932	
7,500.0	7,402.6	7,495.9	7,402.6	26.3	25.5	-96.79	-60.4	1,070.4	100.0	48.3	51.72	1.934	
7,600.0	7,502.6	7,595.9	7,502.6	26.5	25.7	0.81	-60.4	1,070.4	100.2	48.3	51.91	1.931	
7,700.0	7,602.6	7,695.9	7,602.6	26.6	25.8	0.81	-60.4	1,070.4	100.2	48.0	52.17	1.921	
7,800.0	7,702.6	7,795.9	7,702.6	26.7	25.9	0.81	-60.4	1,070.4	100.2	47.8	52.45	1.911	
7,900.0	7,802.6	7,895.9	7,802.6	26.9	26.1	0.81	-60.4	1,070.4	100.2	47.5	52.72	1.901	
8,000.0	7,902.6	7,995.9	7,902.6	27.0	26.2	0.81	-60.4	1,070.4	100.2	47.2	53.00	1.891	
8,100.0	8,002.6	8,095.9	8,002.6	27.1	26.4	0.81	-60.4	1,070.4	100.2	46.9	53.27	1.881	
8,200.0	8,102.6	8,195.9	8,102.6	27.3	26.5	0.81	-60.4	1,070.4	100.2	46.7	53.55	1.871	
8,300.0	8,202.6	8,295.9	8,202.6	27.4	26.7	0.81	-60.4	1,070.4	100.2	46.4	53.84	1.861 SF	
8,345.3	8,247.9	8,341.1	8,247.9	27.5	26.7	-179.71	-60.4	1,070.4	100.7	46.7	53.98	1.866	
8,400.0	8,302.6	8,391.4	8,298.2	27.6	26.8	-179.71	-59.8	1,070.4	101.7	47.6	54.09	1.881	
8,500.0	8,401.7	8,473.9	8,380.1	27.7	26.9	-179.74	-50.9	1,070.5	125.3	71.9	53.42	2.346	
8,600.0	8,497.5	8,544.3	8,448.6	27.9	27.0	-179.78	-34.9	1,070.7	174.5	122.9	51.65	3.380	
8,700.0	8,587.7	8,600.0	8,501.3	28.1	27.1	-179.79	-17.0	1,070.9	244.1	195.3	48.85	4.997	
8,800.0	8,670.2	8,635.7	8,534.2	28.4	27.1	-179.77	-3.2	1,071.0	328.1	283.0	45.15	7.267	
8,900.0	8,742.7	8,650.0	8,547.2	28.7	27.1	-179.68	2.9	1,071.1	421.5	380.7	40.76	10.341	
9,000.0	8,803.7	8,668.9	8,564.0	29.2	27.2	-179.33	11.4	1,071.2	519.5	483.6	35.98	14.441	
9,100.0	8,851.5	8,669.9	8,564.9	29.7	27.2	-0.92	11.8	1,071.2	619.4	588.2	31.21	19.846	
9,200.0	8,885.0	8,663.4	8,559.1	30.3	27.1	-0.23	8.9	1,071.1	718.4	691.4	27.07	26.540	
9,300.0	8,903.4	8,650.0	8,547.2	31.1	27.1	-0.12	2.9	1,071.1	814.5	790.1	24.41	33.374	
9,400.0	8,907.0	8,634.4	8,533.0	31.9	27.1	-0.11	-3.7	1,071.0	906.5	882.5	23.96	37.835	
9,500.0	8,907.0	8,618.3	8,518.3	32.8	27.1	-0.11	-10.1	1,070.9	998.1	973.9	24.25	41.158	

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	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							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	-90.00	0.0	-38.7	38.7					
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-38.7	38.7	38.4	0.22	172.006		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-38.7	38.7	38.0	0.67	57.335		
300.0	300.0	300.0	300.0	0.6	0.6	-90.00	0.0	-38.7	38.7	37.5	1.12	34.401		
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-38.7	38.7	37.1	1.57	24.572		
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-38.7	38.7	36.6	2.02	19.112		
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-38.7	38.7	36.2	2.47	15.637		
700.0	700.0	700.0	700.0	1.5	1.5	-90.00	0.0	-38.7	38.7	35.7	2.92	13.231		
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-38.7	38.7	35.3	3.37	11.467		
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-38.7	38.7	34.8	3.82	10.118		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-38.7	38.7	34.4	4.27	9.053		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.00	0.0	-38.7	38.7	33.9	4.72	8.191		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.00	0.0	-38.7	38.7	33.5	5.17	7.479 CC, ES		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	171.82	0.0	-38.7	40.4	34.8	5.60	7.210 SF		
1,400.0	1,399.8	1,399.8	1,399.8	3.0	3.0	172.74	0.0	-38.7	45.6	39.6	6.02	7.576		
1,500.0	1,499.5	1,499.5	1,499.5	3.2	3.3	173.89	0.0	-38.7	54.2	47.8	6.43	8.437		
1,600.0	1,598.7	1,598.7	1,598.7	3.4	3.5	174.99	0.0	-38.7	66.4	59.5	6.84	9.708		
1,700.0	1,697.5	1,697.5	1,697.5	3.7	3.7	175.92	0.0	-38.7	82.0	74.7	7.24	11.319		
1,800.0	1,795.8	1,795.8	1,795.8	4.0	3.9	176.66	0.0	-38.7	100.2	92.5	7.66	13.071		
1,900.0	1,894.1	1,894.1	1,894.1	4.3	4.1	177.18	0.0	-38.7	118.6	110.5	8.10	14.634		
2,000.0	1,992.4	1,992.4	1,992.4	4.7	4.4	177.55	0.0	-38.7	137.0	128.4	8.55	16.028		
2,100.0	2,090.6	2,090.6	2,090.6	5.0	4.6	177.84	0.0	-38.7	155.4	146.4	8.99	17.279		
2,200.0	2,188.9	2,188.9	2,188.9	5.4	4.8	178.07	0.0	-38.7	173.8	164.4	9.44	18.405		
2,300.0	2,287.2	2,287.2	2,287.2	5.7	5.0	178.26	0.0	-38.7	192.2	182.3	9.90	19.423		
2,400.0	2,385.5	2,385.5	2,385.5	6.1	5.2	178.41	0.0	-38.7	210.6	200.3	10.35	20.348		
2,500.0	2,483.8	2,483.8	2,483.8	6.5	5.5	178.54	0.0	-38.7	229.0	218.2	10.81	21.191		
2,600.0	2,582.1	2,576.4	2,576.4	6.9	5.7	178.77	0.6	-39.5	248.4	237.1	11.25	22.076		
2,700.0	2,680.4	2,666.9	2,666.9	7.3	5.9	179.28	3.0	-42.5	270.4	258.7	11.69	23.131		
2,800.0	2,778.7	2,756.2	2,755.9	7.7	6.1	-180.00	7.2	-47.6	295.0	282.9	12.12	24.334		
2,900.0	2,877.0	2,850.3	2,849.6	8.1	6.3	-179.16	12.8	-54.7	321.6	309.0	12.57	25.588		
3,000.0	2,975.2	2,946.6	2,945.4	8.5	6.5	-178.42	18.7	-62.0	348.4	335.4	13.02	26.762		
3,100.0	3,073.5	3,042.9	3,041.2	8.9	6.7	-177.78	24.6	-69.4	375.2	361.7	13.47	27.855		
3,200.0	3,171.8	3,139.1	3,137.0	9.3	7.0	-177.23	30.4	-76.7	402.0	388.1	13.92	28.872		
3,300.0	3,270.1	3,235.4	3,232.8	9.7	7.2	-176.75	36.3	-84.0	428.9	414.5	14.38	29.823		
3,400.0	3,368.4	3,331.7	3,328.6	10.1	7.4	-176.33	42.2	-91.4	455.8	440.9	14.84	30.712		
3,500.0	3,466.7	3,427.9	3,424.4	10.5	7.7	-175.95	48.0	-98.7	482.7	467.4	15.30	31.546		
3,600.0	3,565.0	3,524.2	3,520.2	10.9	7.9	-175.61	53.9	-106.1	509.6	493.9	15.76	32.327		
3,700.0	3,663.3	3,620.4	3,616.0	11.3	8.2	-175.31	59.8	-113.4	536.6	520.3	16.23	33.062		
3,800.0	3,761.6	3,716.7	3,711.8	11.7	8.4	-175.03	65.7	-120.7	563.5	546.8	16.70	33.754		
3,900.0	3,859.8	3,813.0	3,807.6	12.1	8.6	-174.78	71.5	-128.1	590.5	573.3	17.16	34.406		
4,000.0	3,958.1	3,909.2	3,903.4	12.5	8.9	-174.55	77.4	-135.4	617.5	599.9	17.63	35.021		
4,100.0	4,056.4	4,005.5	3,999.2	12.9	9.1	-174.35	83.3	-142.7	644.5	626.4	18.10	35.602		
4,200.0	4,154.7	4,101.8	4,095.0	13.4	9.4	-174.15	89.1	-150.1	671.5	652.9	18.57	36.153		
4,300.0	4,253.0	4,198.0	4,190.8	13.8	9.7	-173.98	95.0	-157.4	698.5	679.4	19.05	36.674		
4,400.0	4,351.3	4,294.3	4,286.6	14.2	9.9	-173.81	100.9	-164.8	725.5	706.0	19.52	37.169		
4,500.0	4,449.6	4,390.6	4,382.4	14.6	10.2	-173.66	106.7	-172.1	752.5	732.5	19.99	37.639		
4,600.0	4,547.9	4,486.8	4,478.2	15.0	10.4	-173.52	112.6	-179.4	779.5	759.0	20.47	38.086		
4,700.0	4,646.2	4,583.1	4,574.0	15.4	10.7	-173.39	118.5	-186.8	806.5	785.6	20.94	38.512		
4,800.0	4,744.4	4,679.3	4,669.8	15.8	10.9	-173.26	124.4	-194.1	833.6	812.1	21.42	38.917		
4,900.0	4,842.7	4,792.9	4,782.9	16.3	11.2	-173.15	130.9	-202.2	860.1	838.2	21.92	39.240		
5,000.0	4,941.0	4,927.9	4,917.8	16.7	11.5	-173.16	135.3	-207.7	883.1	860.7	22.42	39.393		
5,100.0	5,039.3	5,049.5	5,039.3	17.1	11.7	-173.30	136.0	-208.7	902.2	879.3	22.89	39.410		

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 East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	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						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	5,137.6	5,147.8	5,137.6	17.5	11.9	-173.43	136.0	-208.7	920.5	897.1	23.35	39.422	
5,300.0	5,235.9	5,246.1	5,235.9	17.9	12.1	-173.56	136.0	-208.7	938.8	915.0	23.82	39.415	
5,400.0	5,334.2	5,344.4	5,334.2	18.3	12.3	-173.69	136.0	-208.7	957.1	932.8	24.29	39.407	
5,500.0	5,432.5	5,442.7	5,432.5	18.8	12.5	-173.80	136.0	-208.7	975.4	950.7	24.76	39.400	
5,600.0	5,530.8	5,541.0	5,530.8	19.2	12.7	-173.92	136.0	-208.7	993.8	968.5	25.23	39.392	

Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		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	-90.00	0.0	-80.1	80.1					
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	0.0	-80.1	80.1	79.9	0.22	356.299		
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	0.0	-80.1	80.1	79.4	0.67	118.766		
300.0	300.0	300.0	300.0	0.6	0.6	-90.00	0.0	-80.1	80.1	79.0	1.12	71.260		
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	0.0	-80.1	80.1	78.5	1.57	50.900		
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	0.0	-80.1	80.1	78.1	2.02	39.589		
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	0.0	-80.1	80.1	77.6	2.47	32.391		
700.0	700.0	700.0	700.0	1.5	1.5	-90.00	0.0	-80.1	80.1	77.2	2.92	27.408		
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	0.0	-80.1	80.1	76.7	3.37	23.753		
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	0.0	-80.1	80.1	76.3	3.82	20.959		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	0.0	-80.1	80.1	75.8	4.27	18.753		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.00	0.0	-80.1	80.1	75.4	4.72	16.967		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.00	0.0	-80.1	80.1	74.9	5.17	15.491 CC, ES		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	171.63	0.0	-80.1	81.8	76.2	5.60	14.606		
1,400.0	1,399.8	1,399.8	1,399.8	3.0	3.0	172.12	0.0	-80.1	87.0	81.0	6.02	14.461 SF		
1,500.0	1,499.5	1,499.5	1,499.5	3.2	3.3	172.81	0.0	-80.1	95.6	89.2	6.43	14.878		
1,600.0	1,598.7	1,598.7	1,598.7	3.4	3.5	173.60	0.0	-80.1	107.7	100.9	6.84	15.759		
1,700.0	1,697.5	1,697.5	1,697.5	3.7	3.7	174.38	0.0	-80.1	123.3	116.1	7.24	17.026		
1,800.0	1,795.8	1,795.8	1,795.8	4.0	3.9	175.09	0.0	-80.1	141.5	133.8	7.67	18.456		
1,900.0	1,894.1	1,890.3	1,890.3	4.3	4.1	175.71	0.3	-81.1	160.9	152.8	8.09	19.896		
2,000.0	1,992.4	1,983.8	1,983.7	4.7	4.3	176.31	1.1	-84.4	182.8	174.3	8.51	21.482		
2,100.0	2,090.6	2,076.1	2,075.9	5.0	4.5	176.88	2.5	-89.7	207.0	198.0	8.93	23.179		
2,200.0	2,188.9	2,167.8	2,167.3	5.4	4.7	177.42	4.4	-97.2	233.5	224.1	9.35	24.960		
2,300.0	2,287.2	2,264.0	2,263.0	5.7	4.9	177.90	6.6	-106.0	260.9	251.2	9.79	26.667		
2,400.0	2,385.5	2,360.1	2,358.7	6.1	5.2	178.29	8.9	-114.7	288.4	278.2	10.22	28.224		
2,500.0	2,483.8	2,456.2	2,454.4	6.5	5.4	178.61	11.1	-123.4	315.9	305.2	10.65	29.648		
2,600.0	2,582.1	2,552.4	2,550.1	6.9	5.6	178.89	13.4	-132.2	343.4	332.3	11.10	30.943		
2,700.0	2,680.4	2,648.5	2,645.8	7.3	5.9	179.12	15.6	-140.9	370.9	359.3	11.54	32.138		
2,800.0	2,778.7	2,744.7	2,741.5	7.7	6.1	179.31	17.8	-149.6	398.4	386.4	11.99	33.236		
2,900.0	2,877.0	2,840.8	2,837.3	8.1	6.3	179.49	20.1	-158.4	425.9	413.4	12.43	34.249		
3,000.0	2,975.2	2,936.9	2,933.0	8.5	6.6	179.64	22.3	-167.1	453.4	440.5	12.89	35.186		
3,100.0	3,073.5	3,033.1	3,028.7	8.9	6.8	179.77	24.6	-175.8	480.9	467.5	13.34	36.054		
3,200.0	3,171.8	3,129.2	3,124.4	9.3	7.1	179.89	26.8	-184.6	508.4	494.6	13.79	36.862		
3,300.0	3,270.1	3,225.3	3,220.1	9.7	7.3	-180.00	29.0	-193.3	535.9	521.7	14.25	37.613		
3,400.0	3,368.4	3,321.5	3,315.8	10.1	7.6	-179.90	31.3	-202.0	563.4	548.7	14.71	38.314		
3,500.0	3,466.7	3,417.6	3,411.5	10.5	7.9	-179.81	33.5	-210.8	590.9	575.8	15.16	38.970		
3,600.0	3,565.0	3,513.7	3,507.2	10.9	8.1	-179.73	35.8	-219.5	618.5	602.8	15.62	39.584		
3,700.0	3,663.3	3,609.9	3,603.0	11.3	8.4	-179.66	38.0	-228.2	646.0	629.9	16.08	40.161		
3,800.0	3,761.6	3,718.2	3,710.8	11.7	8.6	-179.59	40.4	-237.5	673.0	656.4	16.56	40.648		
3,900.0	3,859.8	3,836.3	3,828.7	12.1	8.9	-179.55	42.1	-244.4	697.3	680.2	17.02	40.962		
4,000.0	3,958.1	3,956.1	3,948.5	12.5	9.1	-179.53	43.0	-247.7	718.5	701.0	17.49	41.079		
4,100.0	4,056.4	4,064.0	4,056.4	12.9	9.3	-179.54	43.1	-248.1	737.2	719.3	17.95	41.074		
4,200.0	4,154.7	4,162.3	4,154.7	13.4	9.5	-179.56	43.1	-248.1	755.7	737.2	18.41	41.051		
4,300.0	4,253.0	4,260.6	4,253.0	13.8	9.7	-179.57	43.1	-248.1	774.1	755.2	18.87	41.015		
4,400.0	4,351.3	4,358.9	4,351.3	14.2	9.9	-179.58	43.1	-248.1	792.5	773.2	19.34	40.979		
4,500.0	4,449.6	4,457.2	4,449.6	14.6	10.1	-179.59	43.1	-248.1	810.9	791.1	19.81	40.943		
4,600.0	4,547.9	4,555.5	4,547.9	15.0	10.3	-179.59	43.1	-248.1	829.3	809.1	20.27	40.908		
4,700.0	4,646.2	4,653.8	4,646.2	15.4	10.5	-179.60	43.1	-248.1	847.8	827.0	20.74	40.873		
4,800.0	4,744.4	4,752.1	4,744.4	15.8	10.7	-179.61	43.1	-248.1	866.2	845.0	21.21	40.839		
4,900.0	4,842.7	4,850.4	4,842.7	16.3	10.9	-179.62	43.1	-248.1	884.6	862.9	21.68	40.806		
5,000.0	4,941.0	4,948.6	4,941.0	16.7	11.1	-179.63	43.1	-248.1	903.0	880.9	22.15	40.773		
5,100.0	5,039.3	5,046.9	5,039.3	17.1	11.3	-179.64	43.1	-248.1	921.4	898.8	22.62	40.740		

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 East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	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						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	5,137.6	5,145.2	5,137.6	17.5	11.6	-179.64	43.1	-248.1	939.9	916.8	23.09	40.709	
5,300.0	5,235.9	5,243.5	5,235.9	17.9	11.8	-179.65	43.1	-248.1	958.3	934.7	23.56	40.677	
5,400.0	5,334.2	5,341.8	5,334.2	18.3	12.0	-179.66	43.1	-248.1	976.7	952.7	24.03	40.647	
5,500.0	5,432.5	5,440.1	5,432.5	18.8	12.2	-179.66	43.1	-248.1	995.1	970.6	24.50	40.617	

Company: Cirque Resources LP
Project: Sec.30-T12N-R65W
Reference Site: Matira East Federal Pad Sec.30-T12N-R65W
Site Error: 0.0ft
Reference Well: Matira East 30-31-6-15-2CH
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1 (8-25-14)

Local Co-ordinate Reference: Well Matira East 30-31-6-15-2CH
TVD Reference: WELL @ 6027.0ft (RKB - 25')
MD Reference: WELL @ 6027.0ft (RKB - 25')
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 6027.0ft (RKB - 25')

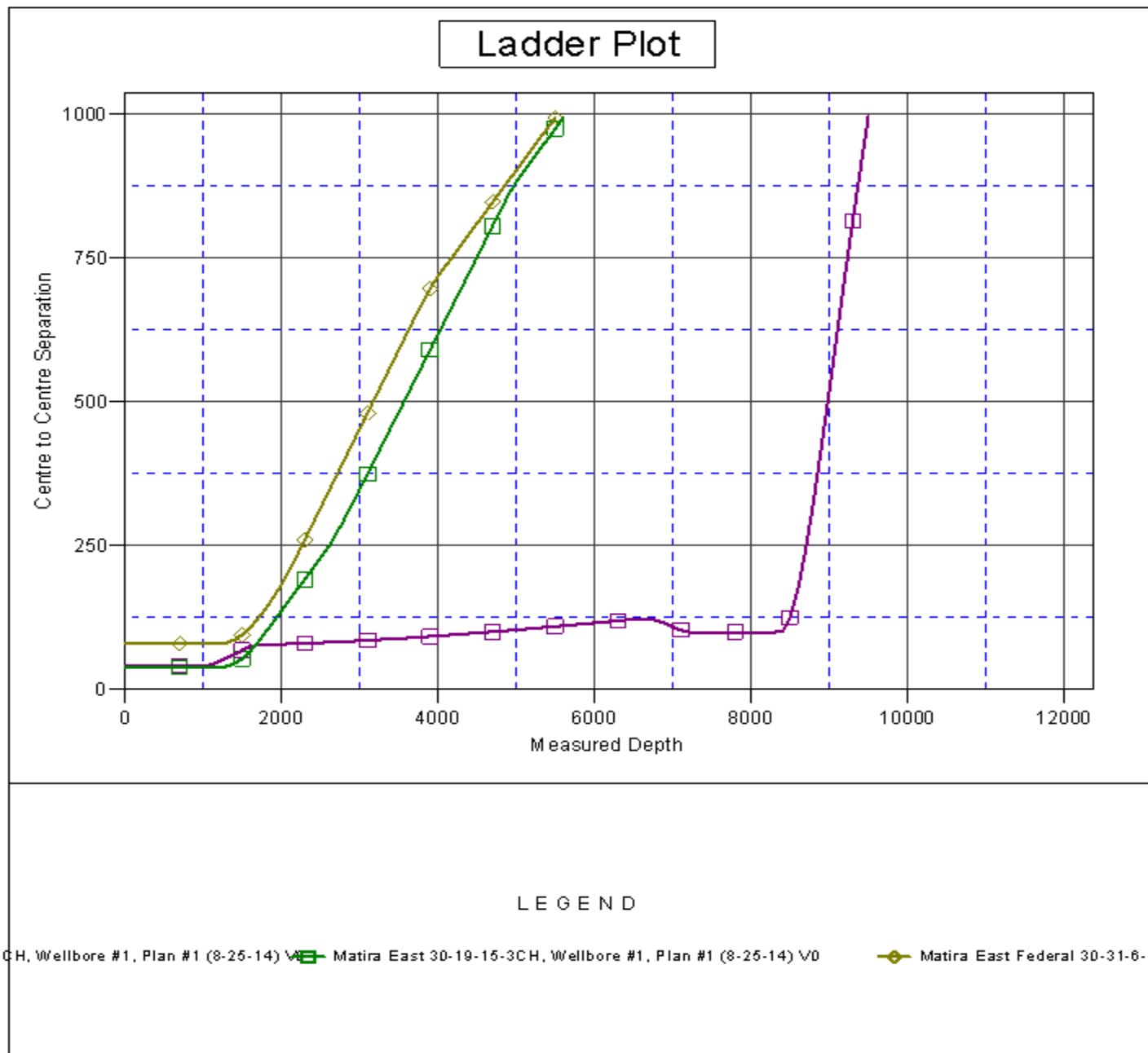
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Matira East 30-31-6-15-2CH

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.52°



Company:	Cirque Resources LP	Local Co-ordinate Reference:	Well Matira East 30-31-6-15-2CH
Project:	Sec.30-T12N-R65W	TVD Reference:	WELL @ 6027.0ft (RKB - 25')
Reference Site:	Matira East Federal Pad Sec.30-T12N-R65W	MD Reference:	WELL @ 6027.0ft (RKB - 25')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Matira East 30-31-6-15-2CH	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 (8-25-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 6027.0ft (RKB - 25')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Matira East 30-31-6-15-2CH

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.52°

