

# Cirque Resources LP

Well Name: **Avila East Federal 32-29-20-1-3CH**

Surface Location: Avila East Pad Sec.32-T12N-R65W

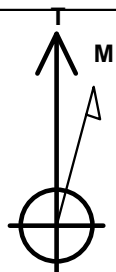
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 5978.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1597261.51	3226783.69	40.969960	-104.678810	
RKB - 25' WELL @ 6003.0ft (RKB - 25')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 420'FNL & 700'FEL	1.0	0.0	0.0	Point
Sectionline	4.0	420.0	261.3	Polygon
BHL 37'FSL & 1980'FEL, Sec.17	8823.0	10923.3	-1192.5	Point
Landing Pt. 500'FSL & 1980'FEL	8823.0	929.1	-1273.0	Point



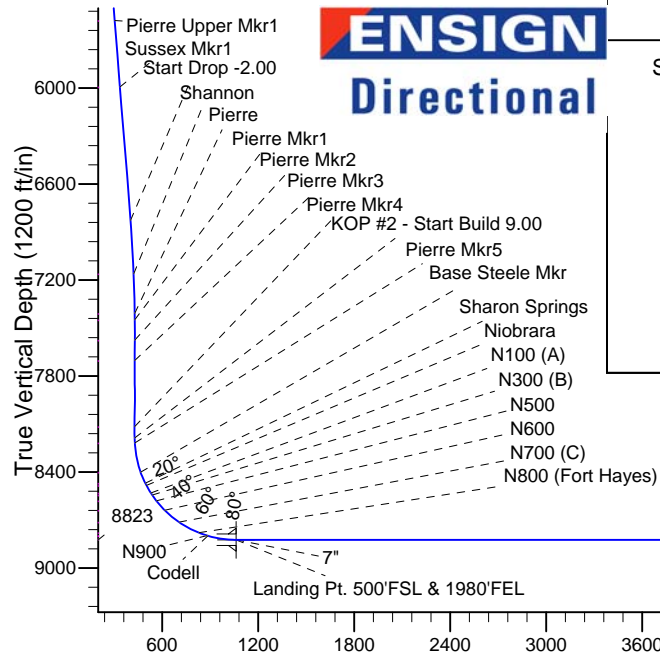
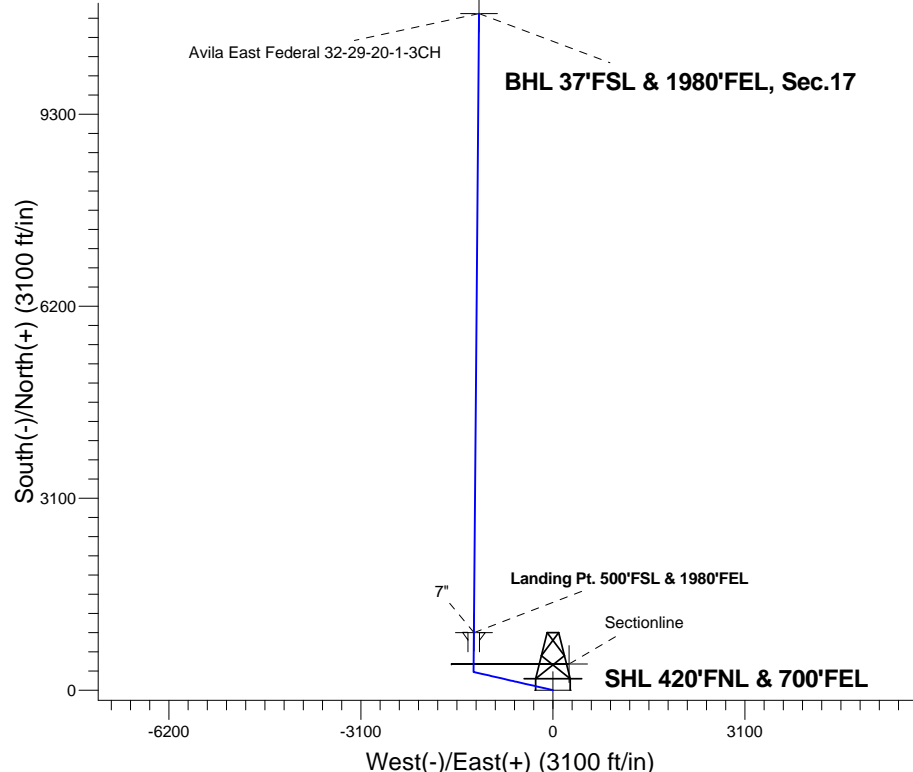
Azimuths to True North  
Magnetic North: 8.43°

Magnetic Field  
Strength: 53085.0snT  
Dip Angle: 67.41°  
Date: 9/10/2014  
Model: IGRF2010

Avila East Pad Sec.32-T12N-R65W  
Avila East Federal 32-29-20-1-3CH  
Plan #1 (9-10-14)  
12:18, September 10 2014

## ANNOTATIONS

TVD	MD	Annotation
1400.0	1400.0	KOP - Start Build 2.00
6826.1	6969.7	Start Drop -2.00
8186.3	8336.3	KOP #2 - Start Build 9.00
8823.0	19331.3	TD at 19331.3



## 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	1400.0	0.00	0.00	1400.0	0.0	0.0	0.00	0.00	0.0	
3	2080.3	13.61	282.87	2073.9	17.9	-78.4	2.00	282.87	26.3	
4	6969.7	13.61	282.87	6826.1	274.1	-1199.6	0.00	0.00	402.7	
5	7650.0	0.00	0.00	7500.0	292.0	-1278.0	2.00	180.00	429.0	
6	8336.3	0.00	0.00	8186.4	292.0	-1278.0	0.00	0.00	429.0	
7	9336.3	90.00	0.45	8823.0	928.6	-1273.1	9.00	0.45	1061.3	
8	9336.9	90.00	0.45	8823.0	929.1	-1273.0	0.00	0.00	1061.8	Landing Pt. 500'FSL & 1980'FEL
9	9338.5	90.00	0.46	8823.0	930.8	-1273.0	1.00	90.00	1063.4	
10	19331.3	90.00	0.46	8823.0	10923.3	-1192.5	0.00	0.00	10988.2	BHL 37'FSL & 1980'FEL, Sec.17

**BHL 37'FSL & 1980'FEL, Sec.17**

Vertical Section at 353.77° (1200 ft/in)



## **Cirque Resources LP**

**Sec.32-T12N-R65W**

**Avila East Pad Sec.32-T12N-R65W**

**Avila East Federal 32-29-20-1-3CH**

**Wellbore #1**

**Plan: Plan #1 (9-10-14)**

## **Standard Planning Report**

**10 September, 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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,080.3	13.61	282.87	2,073.9	17.9	-78.4	2.00	2.00	0.00	282.87	
6,969.7	13.61	282.87	6,826.1	274.1	-1,199.6	0.00	0.00	0.00	0.00	
7,650.0	0.00	0.00	7,500.0	292.0	-1,278.0	2.00	-2.00	0.00	180.00	
8,336.3	0.00	0.00	8,186.4	292.0	-1,278.0	0.00	0.00	0.00	0.00	
9,336.3	90.00	0.45	8,823.0	928.6	-1,273.1	9.00	9.00	0.00	0.45	
9,336.9	90.00	0.45	8,823.0	929.1	-1,273.0	0.00	0.00	0.00	0.00	Landing Pt. 500'FSL
9,338.5	90.00	0.46	8,823.0	930.8	-1,273.0	1.00	0.00	1.00	90.00	
19,331.3	90.00	0.46	8,823.0	10,923.3	-1,192.5	0.00	0.00	0.00	0.00	BHL 37'FSL & 1980'FSL

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

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
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP - Start Build 2.00</b>									
1,500.0	2.00	282.87	1,500.0	0.4	-1.7	0.6	2.00	2.00	0.00
1,600.0	4.00	282.87	1,599.8	1.6	-6.8	2.3	2.00	2.00	0.00
1,700.0	6.00	282.87	1,699.5	3.5	-15.3	5.1	2.00	2.00	0.00
1,800.0	8.00	282.87	1,798.7	6.2	-27.2	9.1	2.00	2.00	0.00
1,805.4	8.11	282.87	1,804.0	6.4	-27.9	9.4	2.00	2.00	0.00
<b>Fox Hills</b>									
1,900.0	10.00	282.87	1,897.5	9.7	-42.4	14.2	2.00	2.00	0.00
2,000.0	12.00	282.87	1,995.6	13.9	-61.0	20.5	2.00	2.00	0.00
2,080.3	13.61	282.87	2,073.9	17.9	-78.4	26.3	2.00	2.00	0.00
2,100.0	13.61	282.87	2,093.1	18.9	-82.9	27.8	0.00	0.00	0.00
2,200.0	13.61	282.87	2,190.3	24.2	-105.8	35.5	0.00	0.00	0.00
2,300.0	13.61	282.87	2,287.5	29.4	-128.8	43.2	0.00	0.00	0.00
2,400.0	13.61	282.87	2,384.7	34.7	-151.7	50.9	0.00	0.00	0.00
2,491.9	13.61	282.87	2,474.0	39.5	-172.8	58.0	0.00	0.00	0.00
<b>Fox Hills Mkr 1</b>									
2,500.0	13.61	282.87	2,481.8	39.9	-174.6	58.6	0.00	0.00	0.00
2,600.0	13.61	282.87	2,579.0	45.1	-197.6	66.3	0.00	0.00	0.00
2,700.0	13.61	282.87	2,676.2	50.4	-220.5	74.0	0.00	0.00	0.00
2,800.0	13.61	282.87	2,773.4	55.6	-243.4	81.7	0.00	0.00	0.00
2,900.0	13.61	282.87	2,870.6	60.9	-266.4	89.4	0.00	0.00	0.00
3,000.0	13.61	282.87	2,967.8	66.1	-289.3	97.1	0.00	0.00	0.00
3,100.0	13.61	282.87	3,065.0	71.3	-312.2	104.8	0.00	0.00	0.00
3,200.0	13.61	282.87	3,162.2	76.6	-335.2	112.5	0.00	0.00	0.00
3,300.0	13.61	282.87	3,259.4	81.8	-358.1	120.2	0.00	0.00	0.00
3,400.0	13.61	282.87	3,356.6	87.1	-381.0	127.9	0.00	0.00	0.00
3,500.0	13.61	282.87	3,453.8	92.3	-403.9	135.6	0.00	0.00	0.00
3,600.0	13.61	282.87	3,551.0	97.5	-426.9	143.3	0.00	0.00	0.00
3,700.0	13.61	282.87	3,648.2	102.8	-449.8	151.0	0.00	0.00	0.00
3,800.0	13.61	282.87	3,745.4	108.0	-472.7	158.7	0.00	0.00	0.00
3,900.0	13.61	282.87	3,842.6	113.3	-495.7	166.4	0.00	0.00	0.00
4,000.0	13.61	282.87	3,939.8	118.5	-518.6	174.1	0.00	0.00	0.00
4,100.0	13.61	282.87	4,036.9	123.7	-541.5	181.8	0.00	0.00	0.00
4,200.0	13.61	282.87	4,134.1	129.0	-564.5	189.5	0.00	0.00	0.00
4,300.0	13.61	282.87	4,231.3	134.2	-587.4	197.2	0.00	0.00	0.00
4,341.8	13.61	282.87	4,272.0	136.4	-597.0	200.4	0.00	0.00	0.00
<b>Teapot</b>									
4,400.0	13.61	282.87	4,328.5	139.5	-610.3	204.9	0.00	0.00	0.00
4,500.0	13.61	282.87	4,425.7	144.7	-633.3	212.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

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	13.61	282.87	4,522.9	149.9	-656.2	220.3	0.00	0.00	0.00
4,700.0	13.61	282.87	4,620.1	155.2	-679.1	228.0	0.00	0.00	0.00
4,800.0	13.61	282.87	4,717.3	160.4	-702.1	235.7	0.00	0.00	0.00
4,900.0	13.61	282.87	4,814.5	165.6	-725.0	243.4	0.00	0.00	0.00
5,000.0	13.61	282.87	4,911.7	170.9	-747.9	251.0	0.00	0.00	0.00
5,100.0	13.61	282.87	5,008.9	176.1	-770.9	258.7	0.00	0.00	0.00
5,200.0	13.61	282.87	5,106.1	181.4	-793.8	266.4	0.00	0.00	0.00
5,300.0	13.61	282.87	5,203.3	186.6	-816.7	274.1	0.00	0.00	0.00
5,304.9	13.61	282.87	5,208.0	186.9	-817.8	274.5	0.00	0.00	0.00
<b>Parkman</b>									
5,337.8	13.61	282.87	5,240.0	188.6	-825.4	277.0	0.00	0.00	0.00
<b>Sussex</b>									
5,400.0	13.61	282.87	5,300.5	191.8	-839.7	281.8	0.00	0.00	0.00
5,500.0	13.61	282.87	5,397.7	197.1	-862.6	289.5	0.00	0.00	0.00
5,600.0	13.61	282.87	5,494.9	202.3	-885.5	297.2	0.00	0.00	0.00
5,684.5	13.61	282.87	5,577.0	206.8	-904.9	303.7	0.00	0.00	0.00
<b>Pierre Upper Mkr1</b>									
5,700.0	13.61	282.87	5,592.1	207.6	-908.5	304.9	0.00	0.00	0.00
5,800.0	13.61	282.87	5,689.2	212.8	-931.4	312.6	0.00	0.00	0.00
5,900.0	13.61	282.87	5,786.4	218.0	-954.3	320.3	0.00	0.00	0.00
6,000.0	13.61	282.87	5,883.6	223.3	-977.3	328.0	0.00	0.00	0.00
6,100.0	13.61	282.87	5,980.8	228.5	-1,000.2	335.7	0.00	0.00	0.00
6,112.5	13.61	282.87	5,993.0	229.2	-1,003.1	336.7	0.00	0.00	0.00
<b>Sussex Mkr1</b>									
6,200.0	13.61	282.87	6,078.0	233.8	-1,023.1	343.4	0.00	0.00	0.00
6,300.0	13.61	282.87	6,175.2	239.0	-1,046.1	351.1	0.00	0.00	0.00
6,400.0	13.61	282.87	6,272.4	244.2	-1,069.0	358.8	0.00	0.00	0.00
6,500.0	13.61	282.87	6,369.6	249.5	-1,091.9	366.5	0.00	0.00	0.00
6,600.0	13.61	282.87	6,466.8	254.7	-1,114.9	374.2	0.00	0.00	0.00
6,700.0	13.61	282.87	6,564.0	260.0	-1,137.8	381.9	0.00	0.00	0.00
6,800.0	13.61	282.87	6,661.2	265.2	-1,160.7	389.6	0.00	0.00	0.00
6,900.0	13.61	282.87	6,758.4	270.4	-1,183.7	397.3	0.00	0.00	0.00
6,969.7	13.61	282.87	6,826.1	274.1	-1,199.6	402.7	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
7,000.0	13.00	282.87	6,855.6	275.6	-1,206.4	404.9	2.00	-2.00	0.00
7,100.0	11.00	282.87	6,953.4	280.3	-1,226.7	411.7	2.00	-2.00	0.00
7,200.0	9.00	282.87	7,051.9	284.1	-1,243.6	417.4	2.00	-2.00	0.00
7,300.0	7.00	282.87	7,150.9	287.2	-1,257.2	422.0	2.00	-2.00	0.00
7,309.1	6.82	282.87	7,160.0	287.5	-1,258.3	422.3	2.00	-2.00	0.00
<b>Shannon</b>									
7,400.0	5.00	282.87	7,250.4	289.6	-1,267.4	425.4	2.00	-2.00	0.00
7,500.0	3.00	282.87	7,350.1	291.1	-1,274.2	427.7	2.00	-2.00	0.00
7,557.9	1.84	282.87	7,408.0	291.7	-1,276.6	428.5	2.00	-2.00	0.00
<b>Pierre</b>									
7,598.0	1.04	282.87	7,448.0	291.9	-1,277.5	428.8	2.00	-2.00	0.00
<b>Pierre Mkr1</b>									
7,600.0	1.00	282.87	7,450.0	291.9	-1,277.6	428.8	2.00	-2.00	0.00
7,650.0	0.00	0.00	7,500.0	292.0	-1,278.0	429.0	2.00	-2.00	0.00
7,700.0	0.00	0.00	7,550.0	292.0	-1,278.0	429.0	0.00	0.00	0.00
7,725.0	0.00	0.00	7,575.0	292.0	-1,278.0	429.0	0.00	0.00	0.00
<b>Pierre Mkr2</b>									
7,800.0	0.00	0.00	7,650.0	292.0	-1,278.0	429.0	0.00	0.00	0.00
7,853.0	0.00	0.00	7,703.0	292.0	-1,278.0	429.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

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	7,750.0	292.0	-1,278.0	429.0	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,850.0	292.0	-1,278.0	429.0	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,950.0	292.0	-1,278.0	429.0	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,050.0	292.0	-1,278.0	429.0	0.00	0.00	0.00	
8,265.0	0.00	0.00	8,115.0	292.0	-1,278.0	429.0	0.00	0.00	0.00	
Pierre Mkr4										
8,300.0	0.00	0.00	8,150.0	292.0	-1,278.0	429.0	0.00	0.00	0.00	
8,336.3	0.00	0.00	8,186.3	292.0	-1,278.0	429.0	0.00	0.00	0.00	
KOP #2 - Start Build 9.00										
8,367.0	2.76	0.45	8,217.0	292.7	-1,278.0	429.7	8.99	8.99	0.00	
Pierre Mkr5										
8,400.0	5.73	0.45	8,249.9	295.2	-1,278.0	432.1	9.00	9.00	0.00	
8,500.0	14.73	0.45	8,348.3	312.9	-1,277.8	449.7	9.00	9.00	0.00	
8,555.2	19.70	0.45	8,401.0	329.3	-1,277.7	466.0	9.00	9.00	0.00	
Base Steele Mkr										
8,600.0	23.73	0.45	8,442.6	345.8	-1,277.6	482.4	9.00	9.00	0.00	
8,629.2	26.36	0.45	8,469.0	358.2	-1,277.5	494.7	9.00	9.00	0.00	
Sharon Springs										
8,646.0	27.87	0.45	8,484.0	365.9	-1,277.4	502.3	9.00	9.00	0.00	
Niobrara										
8,699.3	32.67	0.45	8,530.0	392.7	-1,277.2	529.0	9.00	9.00	0.00	
N100 (A)										
8,700.0	32.73	0.45	8,530.6	393.1	-1,277.2	529.4	9.00	9.00	0.00	
8,716.1	34.18	0.45	8,544.0	401.9	-1,277.1	538.2	9.00	9.00	0.00	
N300 (B)										
8,760.7	38.19	0.45	8,580.0	428.3	-1,276.9	564.3	9.00	9.00	0.00	
N500										
8,800.0	41.73	0.45	8,610.1	453.5	-1,276.7	589.4	9.00	9.00	0.00	
8,838.4	45.19	0.45	8,638.0	479.9	-1,276.5	615.6	9.00	9.00	0.00	
N600										
8,900.0	50.73	0.45	8,679.2	525.6	-1,276.2	661.0	9.00	9.00	0.00	
8,956.5	55.81	0.45	8,713.0	570.9	-1,275.8	706.0	9.00	9.00	0.00	
N700 (C)										
9,000.0	59.73	0.45	8,736.2	607.7	-1,275.5	742.5	9.00	9.00	0.00	
9,098.3	68.57	0.45	8,779.0	696.0	-1,274.9	830.3	9.00	9.00	0.00	
N800 (Fort Hayes)										
9,100.0	68.73	0.45	8,779.6	697.7	-1,274.8	831.9	9.00	9.00	0.00	
9,153.8	73.57	0.45	8,797.0	748.5	-1,274.5	882.4	9.00	9.00	0.00	
N900										
9,157.3	73.89	0.45	8,798.0	752.0	-1,274.4	885.8	9.00	9.00	0.00	
Codell										
9,200.0	77.73	0.45	8,808.5	793.3	-1,274.1	926.9	9.00	9.00	0.00	
9,256.5	82.81	0.45	8,818.0	849.0	-1,273.7	982.2	9.00	9.00	0.00	
Carlile										
9,300.0	86.73	0.45	8,822.0	892.3	-1,273.3	1,025.2	9.00	9.00	0.00	
9,336.3	90.00	0.45	8,823.0	928.6	-1,273.1	1,061.3	9.00	9.00	0.00	
9,336.9	90.00	0.45	8,823.0	929.2	-1,273.0	1,061.8	0.00	0.00	0.00	
7"										
9,338.5	90.00	0.46	8,823.0	930.8	-1,273.0	1,063.4	1.02	0.00	1.02	
9,400.0	90.00	0.46	8,823.0	992.3	-1,272.5	1,124.5	0.00	0.00	0.00	
9,500.0	90.00	0.46	8,823.0	1,092.3	-1,271.7	1,223.8	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

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	0.46	8,823.0	1,192.3	-1,270.9	1,323.1	0.00	0.00	0.00
9,700.0	90.00	0.46	8,823.0	1,292.3	-1,270.1	1,422.5	0.00	0.00	0.00
9,800.0	90.00	0.46	8,823.0	1,392.3	-1,269.3	1,521.8	0.00	0.00	0.00
9,900.0	90.00	0.46	8,823.0	1,492.2	-1,268.5	1,621.1	0.00	0.00	0.00
10,000.0	90.00	0.46	8,823.0	1,592.2	-1,267.7	1,720.4	0.00	0.00	0.00
10,100.0	90.00	0.46	8,823.0	1,692.2	-1,266.9	1,819.7	0.00	0.00	0.00
10,200.0	90.00	0.46	8,823.0	1,792.2	-1,266.1	1,919.1	0.00	0.00	0.00
10,300.0	90.00	0.46	8,823.0	1,892.2	-1,265.3	2,018.4	0.00	0.00	0.00
10,400.0	90.00	0.46	8,823.0	1,992.2	-1,264.5	2,117.7	0.00	0.00	0.00
10,500.0	90.00	0.46	8,823.0	2,092.2	-1,263.7	2,217.0	0.00	0.00	0.00
10,600.0	90.00	0.46	8,823.0	2,192.2	-1,262.9	2,316.3	0.00	0.00	0.00
10,700.0	90.00	0.46	8,823.0	2,292.2	-1,262.1	2,415.6	0.00	0.00	0.00
10,800.0	90.00	0.46	8,823.0	2,392.2	-1,261.3	2,515.0	0.00	0.00	0.00
10,900.0	90.00	0.46	8,823.0	2,492.2	-1,260.4	2,614.3	0.00	0.00	0.00
11,000.0	90.00	0.46	8,823.0	2,592.2	-1,259.6	2,713.6	0.00	0.00	0.00
11,100.0	90.00	0.46	8,823.0	2,692.2	-1,258.8	2,812.9	0.00	0.00	0.00
11,200.0	90.00	0.46	8,823.0	2,792.2	-1,258.0	2,912.2	0.00	0.00	0.00
11,300.0	90.00	0.46	8,823.0	2,892.2	-1,257.2	3,011.6	0.00	0.00	0.00
11,400.0	90.00	0.46	8,823.0	2,992.2	-1,256.4	3,110.9	0.00	0.00	0.00
11,500.0	90.00	0.46	8,823.0	3,092.2	-1,255.6	3,210.2	0.00	0.00	0.00
11,600.0	90.00	0.46	8,823.0	3,192.2	-1,254.8	3,309.5	0.00	0.00	0.00
11,700.0	90.00	0.46	8,823.0	3,292.2	-1,254.0	3,408.8	0.00	0.00	0.00
11,800.0	90.00	0.46	8,823.0	3,392.2	-1,253.2	3,508.2	0.00	0.00	0.00
11,900.0	90.00	0.46	8,823.0	3,492.2	-1,252.4	3,607.5	0.00	0.00	0.00
12,000.0	90.00	0.46	8,823.0	3,592.2	-1,251.6	3,706.8	0.00	0.00	0.00
12,100.0	90.00	0.46	8,823.0	3,692.2	-1,250.8	3,806.1	0.00	0.00	0.00
12,200.0	90.00	0.46	8,823.0	3,792.2	-1,250.0	3,905.4	0.00	0.00	0.00
12,300.0	90.00	0.46	8,823.0	3,892.2	-1,249.2	4,004.7	0.00	0.00	0.00
12,400.0	90.00	0.46	8,823.0	3,992.2	-1,248.4	4,104.1	0.00	0.00	0.00
12,500.0	90.00	0.46	8,823.0	4,092.2	-1,247.5	4,203.4	0.00	0.00	0.00
12,600.0	90.00	0.46	8,823.0	4,192.2	-1,246.7	4,302.7	0.00	0.00	0.00
12,700.0	90.00	0.46	8,823.0	4,292.2	-1,245.9	4,402.0	0.00	0.00	0.00
12,800.0	90.00	0.46	8,823.0	4,392.2	-1,245.1	4,501.3	0.00	0.00	0.00
12,900.0	90.00	0.46	8,823.0	4,492.2	-1,244.3	4,600.7	0.00	0.00	0.00
13,000.0	90.00	0.46	8,823.0	4,592.1	-1,243.5	4,700.0	0.00	0.00	0.00
13,100.0	90.00	0.46	8,823.0	4,692.1	-1,242.7	4,799.3	0.00	0.00	0.00
13,200.0	90.00	0.46	8,823.0	4,792.1	-1,241.9	4,898.6	0.00	0.00	0.00
13,300.0	90.00	0.46	8,823.0	4,892.1	-1,241.1	4,997.9	0.00	0.00	0.00
13,400.0	90.00	0.46	8,823.0	4,992.1	-1,240.3	5,097.3	0.00	0.00	0.00
13,500.0	90.00	0.46	8,823.0	5,092.1	-1,239.5	5,196.6	0.00	0.00	0.00
13,600.0	90.00	0.46	8,823.0	5,192.1	-1,238.7	5,295.9	0.00	0.00	0.00
13,700.0	90.00	0.46	8,823.0	5,292.1	-1,237.9	5,395.2	0.00	0.00	0.00
13,800.0	90.00	0.46	8,823.0	5,392.1	-1,237.1	5,494.5	0.00	0.00	0.00
13,900.0	90.00	0.46	8,823.0	5,492.1	-1,236.3	5,593.8	0.00	0.00	0.00
14,000.0	90.00	0.46	8,823.0	5,592.1	-1,235.5	5,693.2	0.00	0.00	0.00
14,100.0	90.00	0.46	8,823.0	5,692.1	-1,234.6	5,792.5	0.00	0.00	0.00
14,200.0	90.00	0.46	8,823.0	5,792.1	-1,233.8	5,891.8	0.00	0.00	0.00
14,300.0	90.00	0.46	8,823.0	5,892.1	-1,233.0	5,991.1	0.00	0.00	0.00
14,400.0	90.00	0.46	8,823.0	5,992.1	-1,232.2	6,090.4	0.00	0.00	0.00
14,500.0	90.00	0.46	8,823.0	6,092.1	-1,231.4	6,189.8	0.00	0.00	0.00
14,600.0	90.00	0.46	8,823.0	6,192.1	-1,230.6	6,289.1	0.00	0.00	0.00
14,700.0	90.00	0.46	8,823.0	6,292.1	-1,229.8	6,388.4	0.00	0.00	0.00
14,800.0	90.00	0.46	8,823.0	6,392.1	-1,229.0	6,487.7	0.00	0.00	0.00
14,900.0	90.00	0.46	8,823.0	6,492.1	-1,228.2	6,587.0	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

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	0.46	8,823.0	6,592.1	-1,227.4	6,686.4	0.00	0.00	0.00
15,100.0	90.00	0.46	8,823.0	6,692.1	-1,226.6	6,785.7	0.00	0.00	0.00
15,200.0	90.00	0.46	8,823.0	6,792.1	-1,225.8	6,885.0	0.00	0.00	0.00
15,300.0	90.00	0.46	8,823.0	6,892.1	-1,225.0	6,984.3	0.00	0.00	0.00
15,400.0	90.00	0.46	8,823.0	6,992.1	-1,224.2	7,083.6	0.00	0.00	0.00
15,500.0	90.00	0.46	8,823.0	7,092.1	-1,223.4	7,182.9	0.00	0.00	0.00
15,600.0	90.00	0.46	8,823.0	7,192.1	-1,222.6	7,282.3	0.00	0.00	0.00
15,700.0	90.00	0.46	8,823.0	7,292.1	-1,221.8	7,381.6	0.00	0.00	0.00
15,800.0	90.00	0.46	8,823.0	7,392.1	-1,220.9	7,480.9	0.00	0.00	0.00
15,900.0	90.00	0.46	8,823.0	7,492.1	-1,220.1	7,580.2	0.00	0.00	0.00
16,000.0	90.00	0.46	8,823.0	7,592.1	-1,219.3	7,679.5	0.00	0.00	0.00
16,100.0	90.00	0.46	8,823.0	7,692.0	-1,218.5	7,778.9	0.00	0.00	0.00
16,200.0	90.00	0.46	8,823.0	7,792.0	-1,217.7	7,878.2	0.00	0.00	0.00
16,300.0	90.00	0.46	8,823.0	7,892.0	-1,216.9	7,977.5	0.00	0.00	0.00
16,400.0	90.00	0.46	8,823.0	7,992.0	-1,216.1	8,076.8	0.00	0.00	0.00
16,500.0	90.00	0.46	8,823.0	8,092.0	-1,215.3	8,176.1	0.00	0.00	0.00
16,600.0	90.00	0.46	8,823.0	8,192.0	-1,214.5	8,275.5	0.00	0.00	0.00
16,700.0	90.00	0.46	8,823.0	8,292.0	-1,213.7	8,374.8	0.00	0.00	0.00
16,800.0	90.00	0.46	8,823.0	8,392.0	-1,212.9	8,474.1	0.00	0.00	0.00
16,900.0	90.00	0.46	8,823.0	8,492.0	-1,212.1	8,573.4	0.00	0.00	0.00
17,000.0	90.00	0.46	8,823.0	8,592.0	-1,211.3	8,672.7	0.00	0.00	0.00
17,100.0	90.00	0.46	8,823.0	8,692.0	-1,210.5	8,772.0	0.00	0.00	0.00
17,200.0	90.00	0.46	8,823.0	8,792.0	-1,209.7	8,871.4	0.00	0.00	0.00
17,300.0	90.00	0.46	8,823.0	8,892.0	-1,208.9	8,970.7	0.00	0.00	0.00
17,400.0	90.00	0.46	8,823.0	8,992.0	-1,208.0	9,070.0	0.00	0.00	0.00
17,500.0	90.00	0.46	8,823.0	9,092.0	-1,207.2	9,169.3	0.00	0.00	0.00
17,600.0	90.00	0.46	8,823.0	9,192.0	-1,206.4	9,268.6	0.00	0.00	0.00
17,700.0	90.00	0.46	8,823.0	9,292.0	-1,205.6	9,368.0	0.00	0.00	0.00
17,800.0	90.00	0.46	8,823.0	9,392.0	-1,204.8	9,467.3	0.00	0.00	0.00
17,900.0	90.00	0.46	8,823.0	9,492.0	-1,204.0	9,566.6	0.00	0.00	0.00
18,000.0	90.00	0.46	8,823.0	9,592.0	-1,203.2	9,665.9	0.00	0.00	0.00
18,100.0	90.00	0.46	8,823.0	9,692.0	-1,202.4	9,765.2	0.00	0.00	0.00
18,200.0	90.00	0.46	8,823.0	9,792.0	-1,201.6	9,864.5	0.00	0.00	0.00
18,300.0	90.00	0.46	8,823.0	9,892.0	-1,200.8	9,963.9	0.00	0.00	0.00
18,400.0	90.00	0.46	8,823.0	9,992.0	-1,200.0	10,063.2	0.00	0.00	0.00
18,500.0	90.00	0.46	8,823.0	10,092.0	-1,199.2	10,162.5	0.00	0.00	0.00
18,600.0	90.00	0.46	8,823.0	10,192.0	-1,198.4	10,261.8	0.00	0.00	0.00
18,700.0	90.00	0.46	8,823.0	10,292.0	-1,197.6	10,361.1	0.00	0.00	0.00
18,800.0	90.00	0.46	8,823.0	10,392.0	-1,196.8	10,460.5	0.00	0.00	0.00
18,900.0	90.00	0.46	8,823.0	10,492.0	-1,196.0	10,559.8	0.00	0.00	0.00
19,000.0	90.00	0.46	8,823.0	10,592.0	-1,195.1	10,659.1	0.00	0.00	0.00
19,100.0	90.00	0.46	8,823.0	10,692.0	-1,194.3	10,758.4	0.00	0.00	0.00
19,200.0	90.00	0.46	8,823.0	10,791.9	-1,193.5	10,857.7	0.00	0.00	0.00
19,300.0	90.00	0.46	8,823.0	10,891.9	-1,192.7	10,957.1	0.00	0.00	0.00
19,331.3	90.00	0.46	8,823.0	10,923.2	-1,192.5	10,988.1	0.00	0.00	0.00
TD at 19331.3									



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Landing Pt. 500'FSL & - plan hits target center - Point	0.00	0.00	8,823.0	929.1	-1,273.0	1,598,178.85	3,225,502.05	40.972510	-104.683420
Sectionline - plan misses target center by 494.7ft at 4.0ft MD (4.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	4.0	420.0	261.3	1,597,683.93	3,227,041.13	40.971113	-104.677864
Point 1			4.0	0.0	0.0	1,597,683.93	3,227,041.13		
Point 2			4.0	0.0	-1,900.0	1,597,666.34	3,225,141.15		
SHL 420'FNL & 700'F - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,597,261.53	3,226,783.69	40.969960	-104.678810
BHL 37'FSL & 1980'F - plan hits target center - Point	0.00	0.00	8,823.0	10,923.3	-1,192.5	1,608,173.63	3,225,490.06	40.999940	-104.683130

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
9,336.9	8,823.0	7"		7	7-1/2

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Company:</b>	Cirque Resources LP	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Project:</b>	Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (9-10-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,805.4	1,804.0	Fox Hills				
2,491.9	2,474.0	Fox Hills Mkr 1				
4,341.8	4,272.0	Teapot				
5,304.9	5,208.0	Parkman				
5,337.8	5,240.0	Sussex				
5,684.5	5,577.0	Pierre Upper Mkr1				
6,112.5	5,993.0	Sussex Mkr1				
7,309.1	7,160.0	Shannon				
7,557.9	7,408.0	Pierre				
7,598.0	7,448.0	Pierre Mkr1				
7,725.0	7,575.0	Pierre Mkr2				
7,853.0	7,703.0	Pierre Mkr3				
8,265.0	8,115.0	Pierre Mkr4				
8,367.0	8,217.0	Pierre Mkr5				
8,555.2	8,401.0	Base Steele Mkr				
8,629.2	8,469.0	Sharon Springs				
8,646.0	8,484.0	Niobrara				
8,699.3	8,530.0	N100 (A)				
8,716.1	8,544.0	N300 (B)				
8,760.7	8,580.0	N500				
8,838.4	8,638.0	N600				
8,956.5	8,713.0	N700 (C)				
9,098.3	8,779.0	N800 (Fort Hayes)				
9,153.8	8,797.0	N900				
9,157.3	8,798.0	Codell				
9,256.5	8,818.0	Carlile				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,400.0	1,400.0	0.0	0.0	KOP - Start Build 2.00
6,969.7	6,826.1	274.1	-1,199.6	Start Drop -2.00
8,336.3	8,186.3	292.0	-1,278.0	KOP #2 - Start Build 9.00
19,331.3	8,823.0	10,923.2	-1,192.5	TD at 19331.3



# **Cirque Resources LP**

**Sec.32-T12N-R65W**

**Avila East Pad Sec.32-T12N-R65W**

**Avila East Federal 32-29-20-1-3CH**

**Wellbore #1**

**Plan #1 (9-10-14)**

## **Anticollision Report**

**10 September, 2014**

<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (9-10-14)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 9/10/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	19,331.3	Plan #1 (9-10-14) (Wellbore #1)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
Avila East Pad Sec.32-T12N-R65W						
Avila East 32-5-1-2CH - Wellbore #1 - Plan #1 (9-10-14)	1,400.0	1,401.0	38.7	32.6	6.368	CC, ES
Avila East 32-5-1-2CH - Wellbore #1 - Plan #1 (9-10-14)	1,500.0	1,501.0	40.4	33.9	6.203	SF
Avila East 32-5-1-4CH - Wellbore #1 - Plan #1 (9-10-14)	200.0	197.0	38.7	38.0	57.916	CC, ES
Avila East 32-5-1-4CH - Wellbore #1 - Plan #1 (9-10-14)	8,302.9	8,281.8	102.0	41.3	1.680	SF
Avila East Federal 32-29-20-1-1CH - Wellbore #1 - Plan	1,400.0	1,403.0	80.1	74.0	13.182	CC, ES
Avila East Federal 32-29-20-1-1CH - Wellbore #1 - Plan	1,600.0	1,602.8	86.9	80.0	12.535	SF

<b>Offset Design</b> Avila East Pad Sec.32-T12N-R65W - Avila East 32-5-1-2CH - Wellbore #1 - Plan #1 (9-10-14)													<b>Offset Site Error:</b>	0.0 ft
<b>Survey Program:</b> 0-MWD													<b>Offset Well Error:</b>	0.0 ft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>		<b>Minimum Separation</b>		<b>Separation Factor</b>		<b>Warning</b>				
<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Reference (ft)</b>	<b>Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Between Centres (ft)</b>	<b>Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>		
0.0	0.0	1.0	1.0	0.0	0.0	89.99	0.0	38.7	38.7	38.7	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	89.99	0.0	38.7	38.7	38.4	0.23	170.308		
200.0	200.0	201.0	201.0	0.3	0.3	89.99	0.0	38.7	38.7	38.0	0.68	57.147		
300.0	300.0	301.0	301.0	0.6	0.6	89.99	0.0	38.7	38.7	37.5	1.13	34.334		
400.0	400.0	401.0	401.0	0.8	0.8	89.99	0.0	38.7	38.7	37.1	1.58	24.538		
500.0	500.0	501.0	501.0	1.0	1.0	89.99	0.0	38.7	38.7	36.6	2.03	19.091		
600.0	600.0	601.0	601.0	1.2	1.2	89.99	0.0	38.7	38.7	36.2	2.47	15.623		
700.0	700.0	701.0	701.0	1.5	1.5	89.99	0.0	38.7	38.7	35.7	2.92	13.221		
800.0	800.0	801.0	801.0	1.7	1.7	89.99	0.0	38.7	38.7	35.3	3.37	11.460		
900.0	900.0	901.0	901.0	1.9	1.9	89.99	0.0	38.7	38.7	34.8	3.82	10.112		
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	89.99	0.0	38.7	38.7	34.4	4.27	9.048		
1,100.0	1,100.0	1,101.0	1,101.0	2.4	2.4	89.99	0.0	38.7	38.7	33.9	4.72	8.187		
1,200.0	1,200.0	1,201.0	1,201.0	2.6	2.6	89.99	0.0	38.7	38.7	33.5	5.17	7.476		
1,300.0	1,300.0	1,301.0	1,301.0	2.8	2.8	89.99	0.0	38.7	38.7	33.0	5.62	6.878		
1,400.0	1,400.0	1,401.0	1,401.0	3.0	3.0	89.99	0.0	38.7	38.7	32.6	6.07	6.368	CC, ES	
1,500.0	1,500.0	1,501.0	1,501.0	3.2	3.3	167.67	0.0	38.7	40.4	33.9	6.51	6.203	SF	
1,600.0	1,599.8	1,600.8	1,600.8	3.5	3.5	169.06	0.0	38.7	45.5	38.6	6.93	6.566		
1,700.0	1,699.5	1,700.5	1,700.5	3.7	3.7	170.78	0.0	38.7	54.1	46.7	7.34	7.363		
1,800.0	1,798.7	1,799.7	1,799.7	3.9	3.9	172.44	0.0	38.7	66.1	58.4	7.75	8.529		
1,900.0	1,897.5	1,898.5	1,898.5	4.2	4.2	173.85	0.0	38.7	81.7	73.5	8.16	10.012		
2,000.0	1,995.6	1,996.6	1,996.6	4.5	4.4	174.98	0.0	38.7	100.7	92.1	8.55	11.769		

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

<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	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	2,093.1	2,094.1	2,094.1	4.8	4.6	175.87	0.0	38.7	123.0	114.1	8.95	13.741		
2,200.0	2,190.3	2,191.3	2,191.3	5.2	4.8	176.53	0.0	38.7	146.5	137.1	9.40	15.590		
2,300.0	2,287.5	2,288.5	2,288.5	5.6	5.0	177.01	0.0	38.7	170.0	160.1	9.85	17.265		
2,400.0	2,384.7	2,385.7	2,385.7	6.0	5.2	177.37	0.0	38.7	193.5	183.2	10.30	18.786		
2,500.0	2,481.8	2,482.8	2,482.8	6.4	5.5	177.66	0.0	38.7	217.0	206.2	10.76	20.171		
2,600.0	2,579.0	2,580.0	2,580.0	6.9	5.7	177.89	0.0	38.7	240.5	229.3	11.22	21.438		
2,700.0	2,676.2	2,677.2	2,677.2	7.3	5.9	178.08	0.0	38.7	264.0	252.3	11.68	22.600		
2,800.0	2,773.4	2,774.4	2,774.4	7.8	6.1	178.23	0.0	38.7	287.5	275.4	12.15	23.668		
2,900.0	2,870.6	2,871.6	2,871.6	8.3	6.3	178.37	0.0	38.7	311.0	298.4	12.62	24.652		
3,000.0	2,967.8	2,968.8	2,968.8	8.7	6.6	178.48	0.0	38.7	334.5	321.5	13.09	25.563		
3,100.0	3,065.0	3,066.6	3,066.6	9.2	6.8	178.49	0.6	38.7	358.0	344.4	13.56	26.401		
3,200.0	3,162.2	3,164.7	3,164.7	9.7	7.0	178.12	3.5	39.0	381.2	367.2	14.03	27.165		
3,300.0	3,259.4	3,262.6	3,262.4	10.2	7.2	177.45	8.9	39.6	404.3	389.8	14.51	27.865		
3,400.0	3,356.6	3,359.8	3,359.4	10.6	7.4	176.74	15.1	40.2	427.3	412.4	14.99	28.514		
3,500.0	3,453.8	3,456.9	3,456.3	11.1	7.7	176.10	21.3	40.9	450.4	435.0	15.47	29.121		
3,600.0	3,551.0	3,553.6	3,552.9	11.6	7.8	175.67	26.2	41.4	473.7	457.7	15.91	29.765		
3,700.0	3,648.2	3,650.2	3,649.5	12.1	8.0	175.58	28.7	41.6	497.0	480.7	16.35	30.406		
3,800.0	3,745.4	3,747.1	3,746.4	12.6	8.2	175.74	29.0	41.7	520.4	503.7	16.79	31.000		
3,900.0	3,842.6	3,844.3	3,843.6	13.1	8.4	175.93	29.0	41.7	543.9	526.6	17.26	31.521		
4,000.0	3,939.8	3,941.5	3,940.8	13.6	8.6	176.10	29.0	41.7	567.4	549.6	17.74	31.989		
4,100.0	4,036.9	4,038.7	4,037.9	14.1	8.8	176.25	29.0	41.7	590.8	572.6	18.22	32.432		
4,200.0	4,134.1	4,135.9	4,135.1	14.6	9.0	176.39	29.0	41.7	614.3	595.6	18.70	32.850		
4,300.0	4,231.3	4,233.1	4,232.3	15.1	9.3	176.53	29.0	41.7	637.8	618.6	19.18	33.247		
4,400.0	4,328.5	4,330.3	4,329.5	15.6	9.5	176.65	29.0	41.7	661.3	641.6	19.67	33.623		
4,500.0	4,425.7	4,427.5	4,426.7	16.1	9.7	176.77	29.0	41.7	684.8	664.6	20.15	33.980		
4,600.0	4,522.9	4,524.7	4,523.9	16.6	9.9	176.87	29.0	41.7	708.3	687.6	20.64	34.320		
4,700.0	4,620.1	4,621.9	4,621.1	17.1	10.1	176.97	29.0	41.7	731.8	710.6	21.12	34.644		
4,800.0	4,717.3	4,719.1	4,718.3	17.6	10.3	177.07	29.0	41.7	755.3	733.6	21.61	34.952		
4,900.0	4,814.5	4,816.3	4,815.5	18.1	10.6	177.16	29.0	41.7	778.7	756.7	22.09	35.246		
5,000.0	4,911.7	4,913.5	4,912.7	18.6	10.8	177.24	29.0	41.7	802.2	779.7	22.58	35.526		
5,100.0	5,008.9	5,010.7	5,009.9	19.1	11.0	177.32	29.0	41.7	825.7	802.7	23.07	35.795		
5,200.0	5,106.1	5,107.8	5,107.1	19.6	11.2	177.39	29.0	41.7	849.2	825.7	23.56	36.052		
5,300.0	5,203.3	5,205.0	5,204.3	20.1	11.4	177.46	29.0	41.7	872.7	848.7	24.04	36.297		
5,400.0	5,300.5	5,302.2	5,301.5	20.7	11.7	177.53	29.0	41.7	896.2	871.7	24.53	36.533		
5,500.0	5,397.7	5,399.4	5,398.7	21.2	11.9	177.59	29.0	41.7	919.7	894.7	25.02	36.759		
5,600.0	5,494.9	5,496.6	5,495.9	21.7	12.1	177.65	29.0	41.7	943.3	917.7	25.51	36.976		
5,700.0	5,592.1	5,593.8	5,593.1	22.2	12.3	177.71	29.0	41.7	966.8	940.8	26.00	37.184		
5,800.0	5,689.2	5,691.0	5,690.2	22.7	12.5	177.76	29.0	41.7	990.3	963.8	26.49	37.384		

<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	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	38.8					
100.0	100.0	97.0	97.0	0.1	0.1	-90.00	0.0	-38.7	38.7	38.4	0.22	174.626		
200.0	200.0	197.0	197.0	0.3	0.3	-90.00	0.0	-38.7	38.7	38.0	0.67	57.916 CC, ES		
300.0	300.0	295.7	295.7	0.6	0.5	-89.66	0.2	-40.2	40.3	39.2	1.11	36.388		
400.0	400.0	394.1	394.0	0.8	0.8	-88.74	1.0	-45.2	45.3	43.7	1.55	29.149		
500.0	500.0	492.1	491.6	1.0	1.0	-87.58	2.3	-53.4	53.7	51.7	2.02	26.536		
600.0	600.0	589.4	588.2	1.2	1.3	-86.46	4.0	-64.8	65.5	63.0	2.52	25.944		
700.0	700.0	685.7	683.4	1.5	1.6	-85.51	6.2	-79.3	80.7	77.6	3.06	26.328		
800.0	800.0	781.0	777.1	1.7	2.0	-84.74	8.9	-96.7	99.1	95.5	3.65	27.188		
900.0	900.0	877.2	871.1	1.9	2.4	-84.14	12.0	-116.9	120.4	116.1	4.27	28.161		
1,000.0	1,000.0	974.9	966.4	2.1	2.8	-83.71	15.2	-137.7	141.9	137.0	4.93	28.799		
1,100.0	1,100.0	1,072.5	1,061.8	2.4	3.3	-83.39	18.4	-158.6	163.5	157.9	5.59	29.244		
1,200.0	1,200.0	1,170.2	1,157.1	2.6	3.7	-83.14	21.6	-179.4	185.0	178.8	6.26	29.567		
1,300.0	1,300.0	1,267.8	1,252.5	2.8	4.2	-82.95	24.8	-200.2	206.6	199.6	6.93	29.812		
1,400.0	1,400.0	1,365.5	1,347.8	3.0	4.6	-82.79	28.0	-221.0	228.1	220.5	7.60	30.002		
1,500.0	1,500.0	1,463.5	1,443.5	3.2	5.1	-5.53	31.2	-241.9	248.0	241.3	6.69	37.075		
1,600.0	1,599.8	1,562.1	1,539.8	3.5	5.6	-5.49	34.4	-262.9	264.4	257.3	7.15	36.975		
1,700.0	1,699.5	1,661.3	1,636.6	3.7	6.0	-5.53	37.6	-284.1	277.5	269.8	7.62	36.425		
1,800.0	1,798.7	1,760.8	1,733.8	3.9	6.5	-5.64	40.9	-305.3	287.0	278.9	8.08	35.509		
1,900.0	1,897.5	1,860.6	1,831.3	4.2	7.0	-5.82	44.2	-326.6	293.1	284.6	8.55	34.290		
2,000.0	1,995.6	1,960.5	1,928.9	4.5	7.4	-6.07	47.4	-347.9	295.7	286.7	9.01	32.815		
2,100.0	2,093.1	2,060.5	2,026.5	4.8	7.9	-6.39	50.7	-369.2	295.0	285.5	9.48	31.106		
2,200.0	2,190.3	2,160.5	2,124.1	5.2	8.4	-6.74	54.0	-390.5	293.1	283.1	9.99	29.347		
2,300.0	2,287.5	2,260.5	2,221.7	5.6	8.9	-7.09	57.2	-411.8	291.3	280.8	10.50	27.742		
2,400.0	2,384.7	2,360.4	2,319.3	6.0	9.3	-7.45	60.5	-433.1	289.4	278.4	11.02	26.273		
2,500.0	2,481.8	2,460.4	2,417.0	6.4	9.8	-7.81	63.8	-454.4	287.6	276.0	11.54	24.926		
2,600.0	2,579.0	2,560.4	2,514.6	6.9	10.3	-8.18	67.0	-475.8	285.8	273.7	12.06	23.686		
2,700.0	2,676.2	2,660.3	2,612.2	7.3	10.8	-8.55	70.3	-497.1	283.9	271.3	12.60	22.543		
2,800.0	2,773.4	2,760.3	2,709.8	7.8	11.2	-8.92	73.6	-518.4	282.1	269.0	13.13	21.485		
2,900.0	2,870.6	2,860.3	2,807.4	8.3	11.7	-9.30	76.8	-539.7	280.4	266.7	13.67	20.505		
3,000.0	2,967.8	2,960.2	2,905.0	8.7	12.2	-9.69	80.1	-561.0	278.6	264.4	14.22	19.595		
3,100.0	3,065.0	3,060.2	3,002.6	9.2	12.7	-10.08	83.4	-582.3	276.8	262.0	14.77	18.746		
3,200.0	3,162.2	3,160.2	3,100.2	9.7	13.2	-10.47	86.6	-603.6	275.1	259.7	15.32	17.955		
3,300.0	3,259.4	3,260.1	3,197.9	10.2	13.6	-10.87	89.9	-624.9	273.3	257.4	15.88	17.214		
3,400.0	3,356.6	3,360.1	3,295.5	10.6	14.1	-11.28	93.2	-646.3	271.6	255.2	16.44	16.520		
3,500.0	3,453.8	3,460.1	3,393.1	11.1	14.6	-11.69	96.4	-667.6	269.9	252.9	17.01	15.869		
3,600.0	3,551.0	3,560.0	3,490.7	11.6	15.1	-12.11	99.7	-688.9	268.2	250.6	17.58	15.256		
3,700.0	3,648.2	3,660.0	3,588.3	12.1	15.5	-12.53	103.0	-710.2	266.5	248.4	18.16	14.678		
3,800.0	3,745.4	3,760.0	3,685.9	12.6	16.0	-12.95	106.2	-731.5	264.9	246.1	18.74	14.133		
3,900.0	3,842.6	3,859.9	3,783.5	13.1	16.5	-13.38	109.5	-752.8	263.2	243.9	19.33	13.618		
4,000.0	3,939.8	3,959.9	3,881.2	13.6	17.0	-13.82	112.8	-774.1	261.6	241.6	19.92	13.130		
4,100.0	4,036.9	4,059.9	3,978.8	14.1	17.5	-14.26	116.1	-795.4	259.9	239.4	20.52	12.668		
4,200.0	4,134.1	4,159.8	4,076.4	14.6	17.9	-14.71	119.3	-816.8	258.3	237.2	21.13	12.229		
4,300.0	4,231.3	4,259.8	4,174.0	15.1	18.4	-15.17	122.6	-838.1	256.7	235.0	21.74	11.812		
4,400.0	4,328.5	4,359.8	4,271.6	15.6	18.9	-15.63	125.9	-859.4	255.2	232.8	22.36	11.415		
4,500.0	4,425.7	4,459.7	4,369.2	16.1	19.4	-16.09	129.1	-880.7	253.6	230.6	22.98	11.037		
4,600.0	4,522.9	4,559.7	4,466.8	16.6	19.8	-16.56	132.4	-902.0	252.1	228.5	23.61	10.676		
4,700.0	4,620.1	4,659.7	4,564.5	17.1	20.3	-17.04	135.7	-923.3	250.6	226.3	24.25	10.332		
4,800.0	4,717.3	4,759.6	4,662.1	17.6	20.8	-17.52	138.9	-944.6	249.1	224.2	24.90	10.003		
4,900.0	4,814.5	4,859.6	4,759.7	18.1	21.3	-18.01	142.2	-965.9	247.6	222.0	25.55	9.688		
5,000.0	4,911.7	4,959.6	4,857.3	18.6	21.8	-18.50	145.5	-987.3	246.1	219.9	26.22	9.387		
5,100.0	5,008.9	5,059.5	4,954.9	19.1	22.2	-19.00	148.7	-1,008.6	244.6	217.8	26.89	9.099		

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

Avila East Pad Sec.32-T12N-R65W - Avila East 32-5-1-4CH - Wellbore #1 - Plan #1 (9-10-14)													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	5,106.1	5,159.5	5,052.5	19.6	22.7	-19.51	152.0	-1,029.9	243.2	215.6	27.57	8.822		
5,300.0	5,203.3	5,259.5	5,150.1	20.1	23.2	-20.02	155.3	-1,051.2	241.8	213.5	28.26	8.557		
5,400.0	5,300.5	5,359.4	5,247.7	20.7	23.7	-20.54	158.5	-1,072.5	240.4	211.5	28.96	8.302		
5,500.0	5,397.7	5,459.4	5,345.4	21.2	24.1	-21.06	161.8	-1,093.8	239.0	209.4	29.67	8.058		
5,600.0	5,494.9	5,559.4	5,443.0	21.7	24.6	-21.59	165.1	-1,115.1	237.7	207.3	30.39	7.822		
5,700.0	5,592.1	5,659.3	5,540.6	22.2	25.1	-22.13	168.3	-1,136.4	236.4	205.2	31.11	7.596		
5,800.0	5,689.2	5,759.3	5,638.2	22.7	25.6	-22.67	171.6	-1,157.8	235.0	203.2	31.85	7.379		
5,900.0	5,786.4	5,859.3	5,735.8	23.2	26.1	-23.22	174.9	-1,179.1	233.8	201.2	32.61	7.169		
6,000.0	5,883.6	5,959.2	5,833.4	23.7	26.5	-23.77	178.1	-1,200.4	232.5	199.1	33.37	6.967		
6,100.0	5,980.8	6,063.3	5,935.2	24.2	27.0	-24.40	181.5	-1,222.1	230.8	196.6	34.16	6.757		
6,200.0	6,078.0	6,171.2	6,041.3	24.7	27.3	-25.38	184.4	-1,241.1	226.1	191.0	35.02	6.455		
6,300.0	6,175.2	6,278.4	6,147.4	25.2	27.6	-26.80	186.7	-1,256.1	217.9	181.9	36.01	6.051		
6,400.0	6,272.4	6,384.8	6,253.2	25.7	27.9	-28.78	188.4	-1,267.1	206.5	169.3	37.19	5.553		
6,500.0	6,369.6	6,489.9	6,358.1	26.3	28.0	-31.50	189.5	-1,274.2	192.1	153.4	38.64	4.971		
6,600.0	6,466.8	6,593.6	6,461.8	26.8	28.2	-35.27	190.0	-1,277.4	175.0	134.5	40.50	4.321		
6,700.0	6,564.0	6,692.9	6,561.0	27.3	28.3	-40.25	190.0	-1,277.7	156.4	113.5	42.87	3.648		
6,800.0	6,661.2	6,790.0	6,658.2	27.8	28.4	-46.43	190.0	-1,277.7	139.0	93.3	45.74	3.040		
6,900.0	6,758.4	6,887.2	6,755.4	28.3	28.5	-54.20	190.0	-1,277.7	123.7	74.6	49.13	2.518		
7,000.0	6,855.6	6,984.5	6,852.6	28.8	28.6	-63.72	190.0	-1,277.7	111.4	58.6	52.78	2.111		
7,100.0	6,953.4	7,082.3	6,950.4	29.1	28.7	-73.71	190.0	-1,277.7	103.7	47.9	55.74	1.860		
7,200.0	7,051.9	7,180.8	7,048.9	29.4	28.8	-83.08	190.0	-1,277.7	100.1	42.5	57.66	1.736		
7,286.3	7,137.3	7,266.2	7,134.3	29.7	28.9	-90.00	190.0	-1,277.7	99.4	40.9	58.50	1.699		
7,300.0	7,150.9	7,279.8	7,147.9	29.7	28.9	-90.97	190.0	-1,277.7	99.4	40.8	58.58	1.696		
7,400.0	7,250.4	7,379.2	7,247.4	29.9	29.0	-96.95	190.0	-1,277.7	100.1	41.2	58.87	1.700		
7,500.0	7,350.1	7,479.0	7,347.1	30.1	29.2	-100.88	190.0	-1,277.7	101.2	42.3	58.92	1.717		
7,600.0	7,450.0	7,578.9	7,447.0	30.2	29.3	-102.82	190.0	-1,277.7	101.9	42.9	58.99	1.728		
7,700.0	7,550.0	7,678.9	7,547.0	30.3	29.4	179.81	190.0	-1,277.7	102.0	42.9	59.14	1.725		
7,800.0	7,650.0	7,778.9	7,647.0	30.5	29.5	179.81	190.0	-1,277.7	102.0	42.6	59.38	1.718		
7,900.0	7,750.0	7,878.9	7,747.0	30.6	29.7	179.81	190.0	-1,277.7	102.0	42.4	59.63	1.711		
8,000.0	7,850.0	7,978.9	7,847.0	30.7	29.8	179.81	190.0	-1,277.7	102.0	42.1	59.88	1.703		
8,100.0	7,950.0	8,078.9	7,947.0	30.8	29.9	179.81	190.0	-1,277.7	102.0	41.9	60.13	1.696		
8,200.0	8,050.0	8,178.9	8,047.0	31.0	30.0	179.81	190.0	-1,277.7	102.0	41.6	60.39	1.689		
8,300.0	8,150.0	8,278.9	8,147.0	31.1	30.2	179.81	190.0	-1,277.7	102.0	41.4	60.64	1.682		
8,302.9	8,152.9	8,281.8	8,149.9	31.1	30.2	179.36	190.0	-1,277.7	102.0	41.3	60.70	1.680 SF		
8,400.0	8,249.9	8,369.7	8,237.7	31.2	30.3	179.39	187.7	-1,277.7	107.9	47.1	60.76	1.776		
8,500.0	8,348.3	8,450.0	8,317.1	31.4	30.3	179.47	175.8	-1,277.7	140.0	80.3	59.65	2.347		
8,600.0	8,442.6	8,514.3	8,379.2	31.6	30.4	179.54	159.1	-1,277.8	196.2	138.9	57.26	3.426		
8,700.0	8,530.6	8,562.9	8,424.8	31.9	30.4	179.55	142.4	-1,277.9	270.9	217.2	53.71	5.044		
8,800.0	8,610.1	8,600.0	8,458.7	32.2	30.4	179.50	127.4	-1,278.0	358.3	309.2	49.14	7.291		
8,900.0	8,679.2	8,613.9	8,471.2	32.6	30.4	179.26	121.2	-1,278.1	453.4	409.7	43.78	10.357		
9,000.0	8,736.2	8,621.3	8,477.7	33.1	30.4	177.24	117.9	-1,278.1	552.5	514.5	37.96	14.553		
9,100.0	8,779.6	8,619.7	8,476.4	33.6	30.4	1.04	118.6	-1,278.1	652.3	620.0	32.28	20.210		
9,200.0	8,808.5	8,600.0	8,458.7	34.3	30.4	0.36	127.4	-1,278.0	750.8	723.5	27.35	27.454		
9,300.0	8,822.0	8,600.0	8,458.7	35.1	30.4	0.23	127.4	-1,278.0	845.5	821.1	24.45	34.586		
9,400.0	8,823.0	8,580.4	8,441.0	35.9	30.4	0.22	135.6	-1,278.0	936.8	912.5	24.29	38.561		



<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	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	3.0	3.0	0.0	0.0	90.00	0.0	80.1	80.1	80.1	0.00	N/A		
100.0	100.0	103.0	103.0	0.1	0.1	90.00	0.0	80.1	80.1	79.9	0.23	345.931		
200.0	200.0	203.0	203.0	0.3	0.3	90.00	0.0	80.1	80.1	79.4	0.68	117.594		
300.0	300.0	303.0	303.0	0.6	0.6	90.00	0.0	80.1	80.1	79.0	1.13	70.837		
400.0	400.0	403.0	403.0	0.8	0.8	90.00	0.0	80.1	80.1	78.5	1.58	50.684		
500.0	500.0	503.0	503.0	1.0	1.0	90.00	0.0	80.1	80.1	78.1	2.03	39.458		
600.0	600.0	603.0	603.0	1.2	1.2	90.00	0.0	80.1	80.1	77.6	2.48	32.304		
700.0	700.0	703.0	703.0	1.5	1.5	90.00	0.0	80.1	80.1	77.2	2.93	27.345		
800.0	800.0	803.0	803.0	1.7	1.7	90.00	0.0	80.1	80.1	76.7	3.38	23.707		
900.0	900.0	903.0	903.0	1.9	1.9	90.00	0.0	80.1	80.1	76.3	3.83	20.922		
1,000.0	1,000.0	1,003.0	1,003.0	2.1	2.1	90.00	0.0	80.1	80.1	75.8	4.28	18.724		
1,100.0	1,100.0	1,103.0	1,103.0	2.4	2.4	90.00	0.0	80.1	80.1	75.4	4.73	16.943		
1,200.0	1,200.0	1,203.0	1,203.0	2.6	2.6	90.00	0.0	80.1	80.1	74.9	5.18	15.472		
1,300.0	1,300.0	1,303.0	1,303.0	2.8	2.8	90.00	0.0	80.1	80.1	74.5	5.63	14.235		
1,400.0	1,400.0	1,403.0	1,403.0	3.0	3.0	90.00	0.0	80.1	80.1	74.0	6.08	13.182 CC, ES		
1,500.0	1,500.0	1,503.0	1,503.0	3.2	3.3	167.39	0.0	80.1	81.8	75.3	6.51	12.560		
1,600.0	1,599.8	1,602.8	1,602.8	3.5	3.5	168.12	0.0	80.1	86.9	80.0	6.93	12.535 SF		
1,700.0	1,699.5	1,702.5	1,702.5	3.7	3.7	168.06	1.8	80.1	95.4	88.1	7.35	12.983		
1,800.0	1,798.7	1,801.8	1,801.6	3.9	3.9	166.52	7.1	80.1	107.3	99.5	7.76	13.826		
1,900.0	1,897.5	1,900.4	1,899.8	4.2	4.2	164.06	15.7	80.1	122.7	114.5	8.17	15.015		
2,000.0	1,995.6	1,998.2	1,996.9	4.5	4.4	161.25	27.4	80.1	141.8	133.2	8.59	16.502		
2,100.0	2,093.1	2,095.5	2,093.4	4.8	4.6	159.27	39.7	80.1	164.3	155.3	9.03	18.188		
2,200.0	2,190.3	2,192.5	2,189.7	5.2	4.9	157.99	51.9	80.1	188.0	178.5	9.53	19.728		
2,300.0	2,287.5	2,289.6	2,286.0	5.6	5.1	157.00	64.1	80.1	211.8	201.7	10.04	21.086		
2,400.0	2,384.7	2,386.7	2,382.4	6.0	5.4	156.21	76.4	80.1	235.6	225.0	10.57	22.286		
2,500.0	2,481.8	2,483.8	2,478.7	6.4	5.7	155.56	88.6	80.1	259.4	248.3	11.11	23.349		
2,600.0	2,579.0	2,580.9	2,575.0	6.9	5.9	155.03	100.8	80.1	283.3	271.6	11.66	24.293		
2,700.0	2,676.2	2,678.7	2,672.0	7.3	6.2	154.60	113.0	80.1	307.1	294.9	12.21	25.150		
2,800.0	2,773.4	2,778.2	2,771.1	7.8	6.4	154.71	122.6	80.1	330.4	317.7	12.71	25.992		
2,900.0	2,870.6	2,877.9	2,870.5	8.3	6.6	155.36	128.9	80.1	353.1	339.9	13.18	26.779		
3,000.0	2,967.8	2,977.5	2,970.1	8.7	6.8	156.47	131.6	80.1	375.1	361.5	13.63	27.527		
3,100.0	3,065.0	3,075.4	3,068.0	9.2	7.0	157.80	131.8	80.1	396.9	382.9	14.06	28.224		
3,200.0	3,162.2	3,172.6	3,165.2	9.7	7.2	159.01	131.8	80.1	418.9	404.4	14.52	28.856		
3,300.0	3,259.4	3,269.8	3,262.4	10.2	7.4	160.11	131.8	80.1	441.0	426.0	14.97	29.450		
3,400.0	3,356.6	3,367.0	3,359.6	10.6	7.6	161.09	131.8	80.1	463.3	447.8	15.43	30.015		
3,500.0	3,453.8	3,464.2	3,456.8	11.1	7.8	161.99	131.8	80.1	485.6	469.7	15.90	30.553		
3,600.0	3,551.0	3,561.4	3,554.0	11.6	8.0	162.81	131.8	80.1	508.1	491.8	16.36	31.065		
3,700.0	3,648.2	3,658.5	3,651.2	12.1	8.2	163.56	131.8	80.1	530.7	513.9	16.82	31.551		
3,800.0	3,745.4	3,755.7	3,748.4	12.6	8.4	164.24	131.8	80.1	553.3	536.1	17.28	32.014		
3,900.0	3,842.6	3,852.9	3,845.6	13.1	8.6	164.88	131.8	80.1	576.1	558.3	17.75	32.454		
4,000.0	3,939.8	3,950.1	3,942.8	13.6	8.8	165.46	131.8	80.1	598.8	580.6	18.22	32.873		
4,100.0	4,036.9	4,047.3	4,039.9	14.1	9.0	166.01	131.8	80.1	621.7	603.0	18.68	33.272		
4,200.0	4,134.1	4,144.5	4,137.1	14.6	9.2	166.51	131.8	80.1	644.6	625.4	19.15	33.652		
4,300.0	4,231.3	4,241.7	4,234.3	15.1	9.5	166.98	131.8	80.1	667.5	647.9	19.62	34.015		
4,400.0	4,328.5	4,338.9	4,331.5	15.6	9.7	167.42	131.8	80.1	690.5	670.4	20.10	34.360		
4,500.0	4,425.7	4,436.1	4,428.7	16.1	9.9	167.83	131.8	80.1	713.5	692.9	20.57	34.690		
4,600.0	4,522.9	4,533.3	4,525.9	16.6	10.1	168.22	131.8	80.1	736.5	715.5	21.04	35.005		
4,700.0	4,620.1	4,630.5	4,623.1	17.1	10.3	168.58	131.8	80.1	759.6	738.1	21.51	35.306		
4,800.0	4,717.3	4,727.7	4,720.3	17.6	10.5	168.92	131.8	80.1	782.7	760.7	21.99	35.595		
4,900.0	4,814.5	4,824.9	4,817.5	18.1	10.7	169.24	131.8	80.1	805.8	783.3	22.46	35.870		
5,000.0	4,911.7	4,922.1	4,914.7	18.6	10.9	169.55	131.8	80.1	828.9	806.0	22.94	36.134		
5,100.0	5,008.9	5,019.3	5,011.9	19.1	11.2	169.83	131.8	80.1	852.1	828.7	23.42	36.387		

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

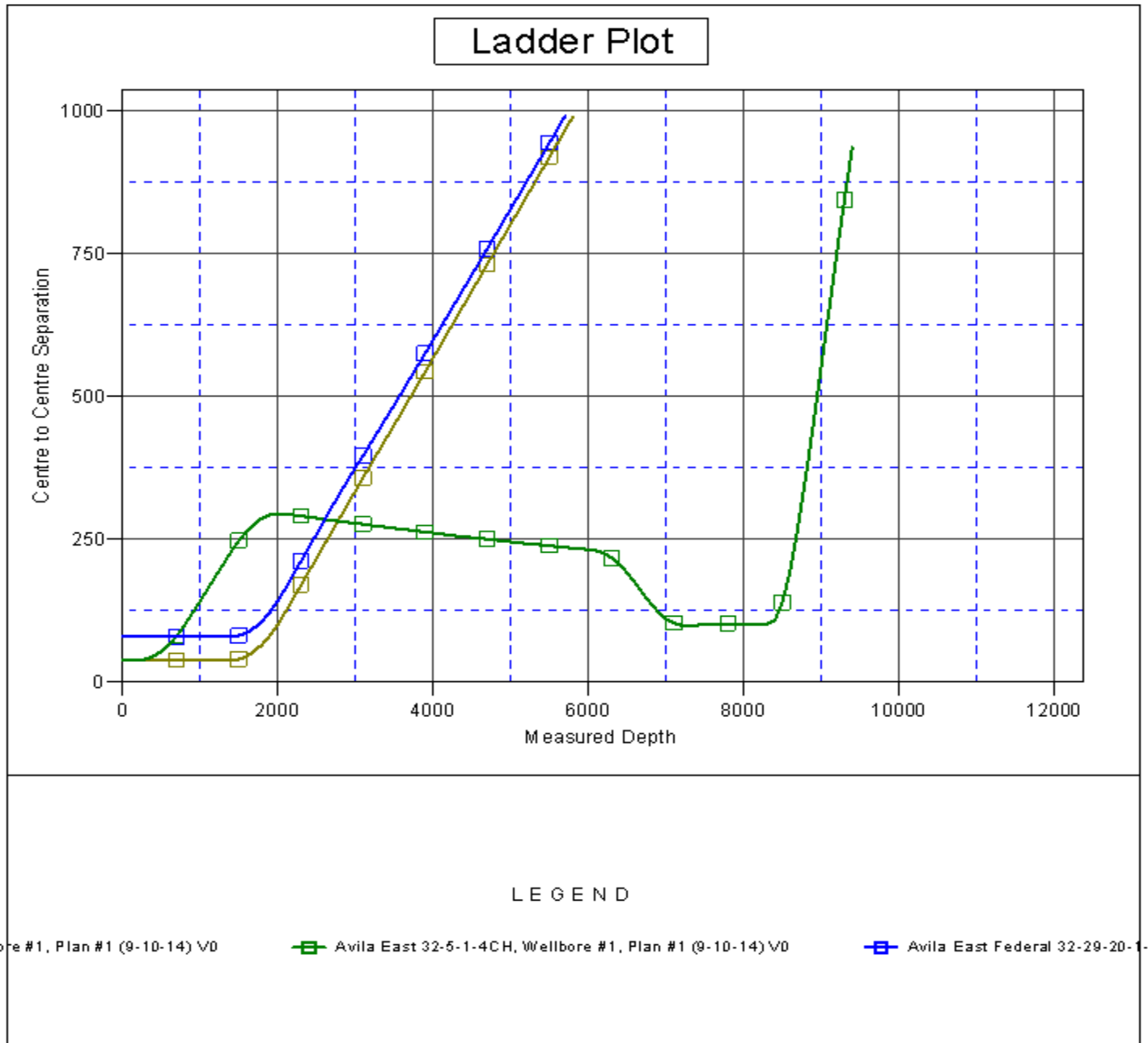
<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>												<b>Offset Site Error:</b>	0.0 ft
Avila East Pad Sec.32-T12N-R65W - Avila East Federal 32-29-20-1-1CH - Wellbore #1 - Plan #1 (9-10-												<b>Offset Well Error:</b>	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,106.1	5,116.5	5,109.1	19.6	11.4	170.10	131.8	80.1	875.3	851.4	23.90	36.630	
5,300.0	5,203.3	5,213.6	5,206.3	20.1	11.6	170.36	131.8	80.1	898.5	874.1	24.37	36.863	
5,400.0	5,300.5	5,310.8	5,303.5	20.7	11.8	170.61	131.8	80.1	921.7	896.9	24.85	37.086	
5,500.0	5,397.7	5,408.0	5,400.7	21.2	12.0	170.84	131.8	80.1	944.9	919.6	25.33	37.301	
5,600.0	5,494.9	5,505.2	5,497.9	21.7	12.2	171.06	131.8	80.1	968.2	942.4	25.81	37.507	
5,700.0	5,592.1	5,602.4	5,595.1	22.2	12.4	171.27	131.8	80.1	991.4	965.2	26.29	37.706	

<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 6003.0ft (RKB - 25')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: Avila East Federal 32-29-20-1-3CH  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.53°



<b>Company:</b>	Cirque Resources LP	<b>Local Co-ordinate Reference:</b>	Well Avila East Federal 32-29-20-1-3CH
<b>Project:</b>	Sec.32-T12N-R65W	<b>TVD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Reference Site:</b>	Avila East Pad Sec.32-T12N-R65W	<b>MD Reference:</b>	WELL @ 6003.0ft (RKB - 25')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Avila East Federal 32-29-20-1-3CH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	Plan #1 (9-10-14)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 6003.0ft (RKB - 25')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Avila East Federal 32-29-20-1-3CH

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.53°

