

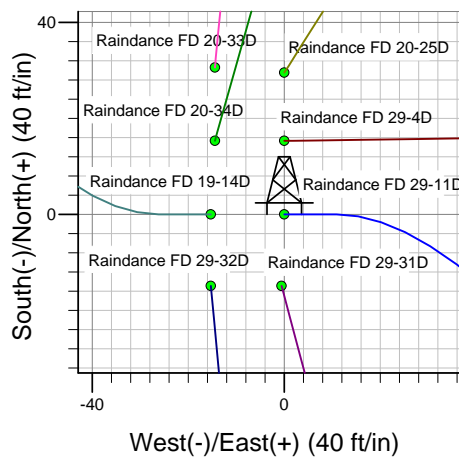
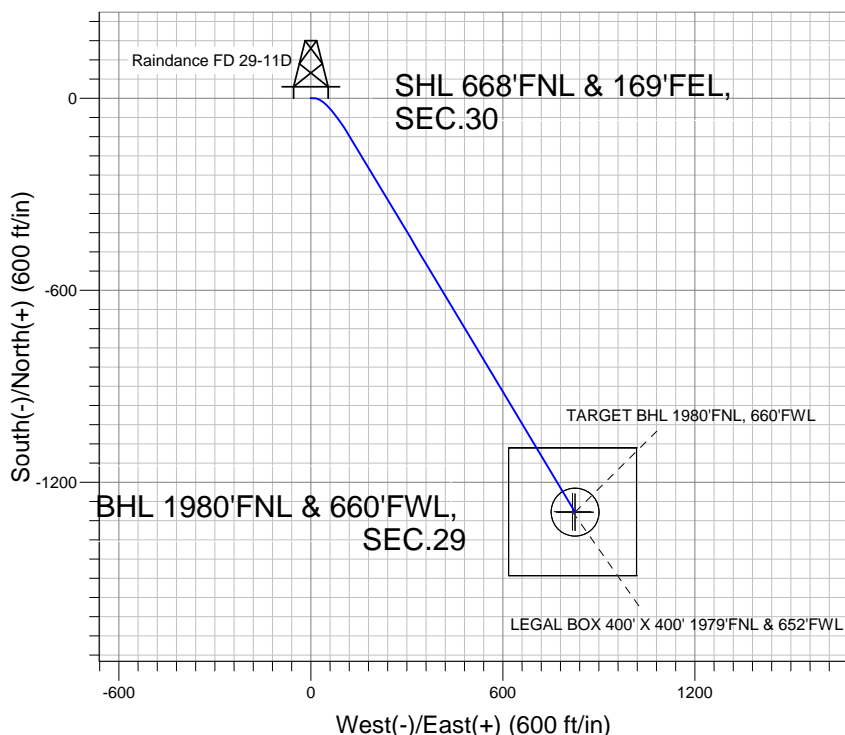
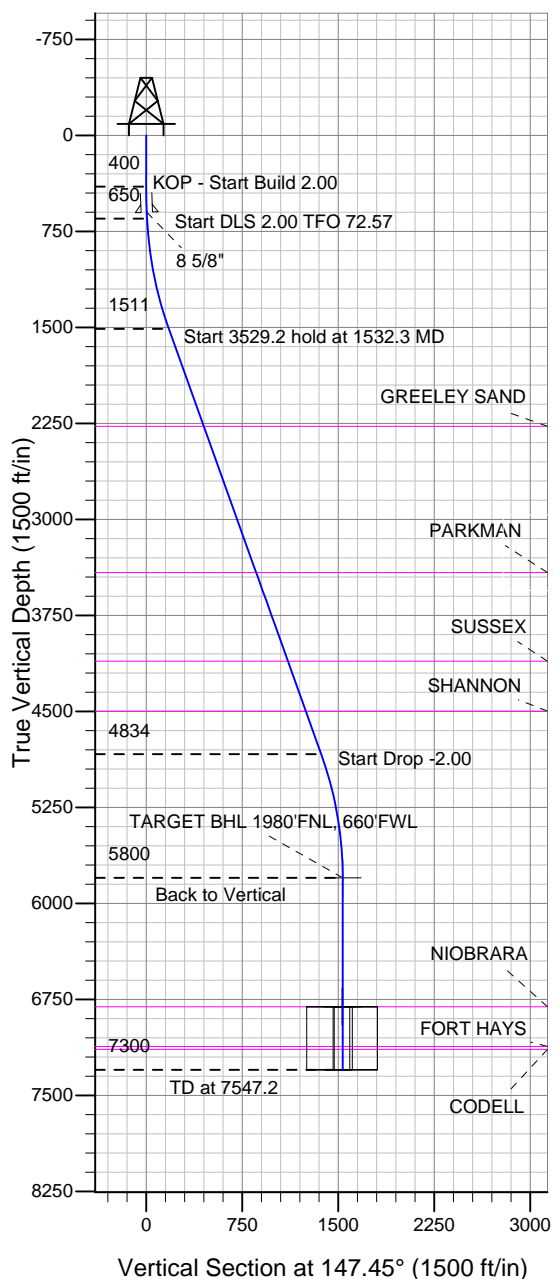
### Well Name: Raindance FD 29-11D

Surface Location: Raindance FD East Row Pad Sec.30-T6N-R67W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4783.2

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1412083.82	3159418.01	40.463158	-104.927067	
Original Well Elev WELL @ 4797.2ft (Original Well Elev)						

## Great Western



Raindance FD East Row Pad Sec.30-T6N-R67W  
Raindance FD 29-11D  
Plan #1 (10-18-12)  
14:45, October 30 2012



Azimuths to True North  
Magnetic North: 8.78°  
Magnetic Field  
Strength: 53005.8snT  
Dip Angle: 67.03°  
Date: 10/18/2012  
Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1980'FNL, 660'FWL	5800.0	-1293.3	825.6	40.459608	-104.924100	Point
LEGAL BOX 400' X 400' 1979'FNL & 652'FWL	6807.0	-1292.3	817.6	40.459611	-104.924129	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 1980'FNL & 660'FWL	6807.0	-1293.3	825.6	40.459608	-104.924100	Circle (Radius: 75.0)

### 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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	650.0	5.00	90.00	649.7	0.0	10.9	2.00	90.00	5.9	
4	1532.3	19.71	149.04	1511.3	-128.6	126.8	2.00	72.57	176.7	
5	5061.6	19.71	149.04	4833.7	-1149.3	739.3	0.00	0.00	1366.6	
6	6047.2	0.00	0.00	5800.0	-1293.3	825.6	2.00	180.00	1534.4	TARGET BHL 1980'FNL, 660'FWL
7	7547.2	0.00	0.00	7300.0	-1293.3	825.6	0.00	0.00	1534.4	



## **Great Western**

**SEC.30-T6N-R67W**

**Raindance FD East Row Pad Sec.30-T6N-R67W**

**Raindance FD 29-11D**

**Wellbore #1**

**Plan: Plan #1 (10-18-12)**

## **Standard Planning Report**

**30 October, 2012**

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
650.0	5.00	90.00	649.7	0.0	10.9	2.00	2.00	0.00	90.00	
1,532.3	19.71	149.04	1,511.3	-128.6	126.8	2.00	1.67	6.69	72.57	
5,061.6	19.71	149.04	4,833.7	-1,149.3	739.3	0.00	0.00	0.00	0.00	
6,047.2	0.00	0.00	5,800.0	-1,293.3	825.6	2.00	-2.00	0.00	180.00	TARGET BHL 1980
7,547.2	0.00	0.00	7,300.0	-1,293.3	825.6	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Company:</b>	Great Western	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Project:</b>	SEC.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Raindance FD 29-11D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-18-12)		

### 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	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
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	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
<b>KOP - Start Build 2.00</b>									
440.0	0.80	90.00	440.0	0.0	0.3	0.2	2.00	2.00	0.00
480.0	1.60	90.00	480.0	0.0	1.1	0.6	2.00	2.00	0.00
520.0	2.40	90.00	520.0	0.0	2.5	1.4	2.00	2.00	0.00
560.0	3.20	90.00	559.9	0.0	4.5	2.4	2.00	2.00	0.00
600.0	4.00	90.00	599.8	0.0	7.0	3.8	2.00	2.00	0.00
600.2	4.00	90.00	600.0	0.0	7.0	3.8	0.00	0.00	0.00
<b>8 5/8"</b>									
640.0	4.80	90.00	639.7	0.0	10.0	5.4	2.01	2.01	0.00
650.0	5.00	90.00	649.7	0.0	10.9	5.9	2.00	2.00	0.00
<b>Start DLS 2.00 TFO 72.57</b>									
680.0	5.21	96.32	679.6	-0.1	13.6	7.4	2.00	0.70	21.05
720.0	5.58	103.87	719.4	-0.8	17.3	10.0	2.00	0.92	18.88
760.0	6.03	110.39	759.2	-2.0	21.1	13.1	2.00	1.13	16.30
800.0	6.55	115.94	798.9	-3.7	25.1	16.7	2.00	1.30	13.88
840.0	7.13	120.64	838.7	-6.0	29.3	20.8	2.00	1.43	11.76
880.0	7.74	124.62	878.3	-8.8	33.7	25.5	2.00	1.53	9.96
920.0	8.38	128.01	917.9	-12.1	38.2	30.8	2.00	1.61	8.48
960.0	9.05	130.92	957.5	-16.0	42.9	36.5	2.00	1.67	7.25
1,000.0	9.74	133.42	996.9	-20.4	47.7	42.8	2.00	1.72	6.25
1,040.0	10.44	135.59	1,036.3	-25.3	52.7	49.7	2.00	1.76	5.42
1,080.0	11.16	137.48	1,075.6	-30.7	57.9	57.0	2.00	1.79	4.74
1,120.0	11.89	139.15	1,114.8	-36.7	63.2	64.9	2.00	1.82	4.17
1,160.0	12.62	140.63	1,153.9	-43.2	68.6	73.3	2.00	1.84	3.69
1,200.0	13.37	141.95	1,192.9	-50.2	74.3	82.3	2.00	1.86	3.29
1,240.0	14.12	143.13	1,231.7	-57.8	80.0	91.7	2.00	1.87	2.95
1,280.0	14.87	144.19	1,270.4	-65.8	86.0	101.7	2.00	1.89	2.66
1,320.0	15.63	145.15	1,309.0	-74.4	92.0	112.2	2.00	1.90	2.41
1,360.0	16.39	146.03	1,347.5	-83.5	98.3	123.3	2.00	1.91	2.19
1,400.0	17.16	146.82	1,385.8	-93.1	104.7	134.8	2.00	1.92	2.00
1,440.0	17.93	147.56	1,423.9	-103.3	111.2	146.9	2.00	1.92	1.83
1,480.0	18.70	148.23	1,461.9	-113.9	117.9	159.4	2.00	1.93	1.69
1,520.0	19.47	148.85	1,499.7	-125.1	124.7	172.5	2.00	1.93	1.56
1,532.3	19.71	149.04	1,511.3	-128.6	126.8	176.7	2.00	1.94	1.48
<b>Start 3529.2 hold at 1532.3 MD</b>									
1,560.0	19.71	149.04	1,537.4	-136.6	131.6	186.0	0.00	0.00	0.00
1,600.0	19.71	149.04	1,575.0	-148.2	138.6	199.5	0.00	0.00	0.00
1,640.0	19.71	149.04	1,612.7	-159.8	145.5	213.0	0.00	0.00	0.00
1,680.0	19.71	149.04	1,650.3	-171.3	152.5	226.4	0.00	0.00	0.00
1,720.0	19.71	149.04	1,688.0	-182.9	159.4	239.9	0.00	0.00	0.00
1,760.0	19.71	149.04	1,725.6	-194.5	166.3	253.4	0.00	0.00	0.00
1,800.0	19.71	149.04	1,763.3	-206.0	173.3	266.9	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Company:</b>	Great Western	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Project:</b>	SEC.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Raindance FD 29-11D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-18-12)		

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)
1,840.0	19.71	149.04	1,800.9	-217.6	180.2	280.4	0.00	0.00	0.00
1,880.0	19.71	149.04	1,838.6	-229.2	187.2	293.9	0.00	0.00	0.00
1,920.0	19.71	149.04	1,876.3	-240.7	194.1	307.4	0.00	0.00	0.00
1,960.0	19.71	149.04	1,913.9	-252.3	201.0	320.8	0.00	0.00	0.00
2,000.0	19.71	149.04	1,951.6	-263.9	208.0	334.3	0.00	0.00	0.00
2,040.0	19.71	149.04	1,989.2	-275.4	214.9	347.8	0.00	0.00	0.00
2,080.0	19.71	149.04	2,026.9	-287.0	221.9	361.3	0.00	0.00	0.00
2,120.0	19.71	149.04	2,064.5	-298.6	228.8	374.8	0.00	0.00	0.00
2,160.0	19.71	149.04	2,102.2	-310.1	235.7	388.3	0.00	0.00	0.00
2,200.0	19.71	149.04	2,139.8	-321.7	242.7	401.8	0.00	0.00	0.00
2,240.0	19.71	149.04	2,177.5	-333.3	249.6	415.2	0.00	0.00	0.00
2,280.0	19.71	149.04	2,215.2	-344.9	256.6	428.7	0.00	0.00	0.00
2,320.0	19.71	149.04	2,252.8	-356.4	263.5	442.2	0.00	0.00	0.00
2,341.4	19.71	149.04	2,273.0	-362.6	267.2	449.4	0.00	0.00	0.00
<b>GREELEY SAND</b>									
2,360.0	19.71	149.04	2,290.5	-368.0	270.5	455.7	0.00	0.00	0.00
2,400.0	19.71	149.04	2,328.1	-379.6	277.4	469.2	0.00	0.00	0.00
2,440.0	19.71	149.04	2,365.8	-391.1	284.3	482.7	0.00	0.00	0.00
2,480.0	19.71	149.04	2,403.4	-402.7	291.3	496.2	0.00	0.00	0.00
2,520.0	19.71	149.04	2,441.1	-414.3	298.2	509.7	0.00	0.00	0.00
2,560.0	19.71	149.04	2,478.8	-425.8	305.2	523.1	0.00	0.00	0.00
2,600.0	19.71	149.04	2,516.4	-437.4	312.1	536.6	0.00	0.00	0.00
2,640.0	19.71	149.04	2,554.1	-449.0	319.0	550.1	0.00	0.00	0.00
2,680.0	19.71	149.04	2,591.7	-460.5	326.0	563.6	0.00	0.00	0.00
2,720.0	19.71	149.04	2,629.4	-472.1	332.9	577.1	0.00	0.00	0.00
2,760.0	19.71	149.04	2,667.0	-483.7	339.9	590.6	0.00	0.00	0.00
2,800.0	19.71	149.04	2,704.7	-495.3	346.8	604.1	0.00	0.00	0.00
2,840.0	19.71	149.04	2,742.3	-506.8	353.8	617.5	0.00	0.00	0.00
2,880.0	19.71	149.04	2,780.0	-518.4	360.7	631.0	0.00	0.00	0.00
2,920.0	19.71	149.04	2,817.7	-530.0	367.6	644.5	0.00	0.00	0.00
2,960.0	19.71	149.04	2,855.3	-541.5	374.6	658.0	0.00	0.00	0.00
3,000.0	19.71	149.04	2,893.0	-553.1	381.5	671.5	0.00	0.00	0.00
3,040.0	19.71	149.04	2,930.6	-564.7	388.5	685.0	0.00	0.00	0.00
3,080.0	19.71	149.04	2,968.3	-576.2	395.4	698.5	0.00	0.00	0.00
3,120.0	19.71	149.04	3,005.9	-587.8	402.3	711.9	0.00	0.00	0.00
3,160.0	19.71	149.04	3,043.6	-599.4	409.3	725.4	0.00	0.00	0.00
3,200.0	19.71	149.04	3,081.3	-610.9	416.2	738.9	0.00	0.00	0.00
3,240.0	19.71	149.04	3,118.9	-622.5	423.2	752.4	0.00	0.00	0.00
3,280.0	19.71	149.04	3,156.6	-634.1	430.1	765.9	0.00	0.00	0.00
3,320.0	19.71	149.04	3,194.2	-645.6	437.1	779.4	0.00	0.00	0.00
3,360.0	19.71	149.04	3,231.9	-657.2	444.0	792.9	0.00	0.00	0.00
3,400.0	19.71	149.04	3,269.5	-668.8	450.9	806.4	0.00	0.00	0.00
3,440.0	19.71	149.04	3,307.2	-680.4	457.9	819.8	0.00	0.00	0.00
3,480.0	19.71	149.04	3,344.8	-691.9	464.8	833.3	0.00	0.00	0.00
3,520.0	19.71	149.04	3,382.5	-703.5	471.8	846.8	0.00	0.00	0.00
3,553.5	19.71	149.04	3,414.0	-713.2	477.6	858.1	0.00	0.00	0.00
<b>PARKMAN</b>									
3,560.0	19.71	149.04	3,420.2	-715.1	478.7	860.3	0.00	0.00	0.00
3,600.0	19.71	149.04	3,457.8	-726.6	485.6	873.8	0.00	0.00	0.00
3,640.0	19.71	149.04	3,495.5	-738.2	492.6	887.3	0.00	0.00	0.00
3,680.0	19.71	149.04	3,533.1	-749.8	499.5	900.8	0.00	0.00	0.00
3,720.0	19.71	149.04	3,570.8	-761.3	506.5	914.2	0.00	0.00	0.00
3,760.0	19.71	149.04	3,608.4	-772.9	513.4	927.7	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Company:</b>	Great Western	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Project:</b>	SEC.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site:</b>	Raindance FD East Row Pad	<b>North Reference:</b>	True
<b>Well:</b>	Raindance FD 29-11D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-18-12)		

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)
3,800.0	19.71	149.04	3,646.1	-784.5	520.3	941.2	0.00	0.00	0.00
3,840.0	19.71	149.04	3,683.7	-796.0	527.3	954.7	0.00	0.00	0.00
3,880.0	19.71	149.04	3,721.4	-807.6	534.2	968.2	0.00	0.00	0.00
3,920.0	19.71	149.04	3,759.1	-819.2	541.2	981.7	0.00	0.00	0.00
3,960.0	19.71	149.04	3,796.7	-830.7	548.1	995.2	0.00	0.00	0.00
4,000.0	19.71	149.04	3,834.4	-842.3	555.1	1,008.6	0.00	0.00	0.00
4,040.0	19.71	149.04	3,872.0	-853.9	562.0	1,022.1	0.00	0.00	0.00
4,080.0	19.71	149.04	3,909.7	-865.5	568.9	1,035.6	0.00	0.00	0.00
4,120.0	19.71	149.04	3,947.3	-877.0	575.9	1,049.1	0.00	0.00	0.00
4,160.0	19.71	149.04	3,985.0	-888.6	582.8	1,062.6	0.00	0.00	0.00
4,200.0	19.71	149.04	4,022.7	-900.2	589.8	1,076.1	0.00	0.00	0.00
4,240.0	19.71	149.04	4,060.3	-911.7	596.7	1,089.6	0.00	0.00	0.00
4,280.0	19.71	149.04	4,098.0	-923.3	603.6	1,103.1	0.00	0.00	0.00
4,289.6	19.71	149.04	4,107.0	-926.1	605.3	1,106.3	0.00	0.00	0.00
<b>SUSSEX</b>									
4,320.0	19.71	149.04	4,135.6	-934.9	610.6	1,116.5	0.00	0.00	0.00
4,360.0	19.71	149.04	4,173.3	-946.4	617.5	1,130.0	0.00	0.00	0.00
4,400.0	19.71	149.04	4,210.9	-958.0	624.5	1,143.5	0.00	0.00	0.00
4,440.0	19.71	149.04	4,248.6	-969.6	631.4	1,157.0	0.00	0.00	0.00
4,480.0	19.71	149.04	4,286.2	-981.1	638.4	1,170.5	0.00	0.00	0.00
4,520.0	19.71	149.04	4,323.9	-992.7	645.3	1,184.0	0.00	0.00	0.00
4,560.0	19.71	149.04	4,361.6	-1,004.3	652.2	1,197.5	0.00	0.00	0.00
4,600.0	19.71	149.04	4,399.2	-1,015.9	659.2	1,210.9	0.00	0.00	0.00
4,640.0	19.71	149.04	4,436.9	-1,027.4	666.1	1,224.4	0.00	0.00	0.00
4,680.0	19.71	149.04	4,474.5	-1,039.0	673.1	1,237.9	0.00	0.00	0.00
4,703.9	19.71	149.04	4,497.0	-1,045.9	677.2	1,246.0	0.00	0.00	0.00
<b>SHANNON</b>									
4,720.0	19.71	149.04	4,512.2	-1,050.6	680.0	1,251.4	0.00	0.00	0.00
4,760.0	19.71	149.04	4,549.8	-1,062.1	686.9	1,264.9	0.00	0.00	0.00
4,800.0	19.71	149.04	4,587.5	-1,073.7	693.9	1,278.4	0.00	0.00	0.00
4,840.0	19.71	149.04	4,625.1	-1,085.3	700.8	1,291.9	0.00	0.00	0.00
4,880.0	19.71	149.04	4,662.8	-1,096.8	707.8	1,305.3	0.00	0.00	0.00
4,920.0	19.71	149.04	4,700.5	-1,108.4	714.7	1,318.8	0.00	0.00	0.00
4,960.0	19.71	149.04	4,738.1	-1,120.0	721.6	1,332.3	0.00	0.00	0.00
5,000.0	19.71	149.04	4,775.8	-1,131.5	728.6	1,345.8	0.00	0.00	0.00
5,040.0	19.71	149.04	4,813.4	-1,143.1	735.5	1,359.3	0.00	0.00	0.00
5,061.6	19.71	149.04	4,833.7	-1,149.3	739.3	1,366.6	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,080.0	19.34	149.04	4,851.1	-1,154.6	742.4	1,372.7	2.00	-2.00	0.00
5,120.0	18.54	149.04	4,888.9	-1,165.8	749.1	1,385.7	2.00	-2.00	0.00
5,160.0	17.74	149.04	4,926.9	-1,176.4	755.5	1,398.2	2.00	-2.00	0.00
5,200.0	16.94	149.04	4,965.1	-1,186.7	761.7	1,410.1	2.00	-2.00	0.00
5,240.0	16.14	149.04	5,003.5	-1,196.4	767.5	1,421.5	2.00	-2.00	0.00
5,280.0	15.34	149.04	5,042.0	-1,205.7	773.1	1,432.3	2.00	-2.00	0.00
5,320.0	14.54	149.04	5,080.6	-1,214.6	778.4	1,442.6	2.00	-2.00	0.00
5,360.0	13.74	149.04	5,119.4	-1,223.0	783.4	1,452.4	2.00	-2.00	0.00
5,400.0	12.94	149.04	5,158.3	-1,230.9	788.2	1,461.6	2.00	-2.00	0.00
5,440.0	12.14	149.04	5,197.4	-1,238.3	792.7	1,470.3	2.00	-2.00	0.00
5,480.0	11.34	149.04	5,236.5	-1,245.3	796.9	1,478.4	2.00	-2.00	0.00
5,520.0	10.54	149.04	5,275.8	-1,251.8	800.8	1,486.0	2.00	-2.00	0.00
5,560.0	9.74	149.04	5,315.2	-1,257.9	804.4	1,493.1	2.00	-2.00	0.00
5,600.0	8.94	149.04	5,354.6	-1,263.4	807.7	1,499.6	2.00	-2.00	0.00
5,640.0	8.14	149.04	5,394.2	-1,268.5	810.8	1,505.5	2.00	-2.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Company:</b>	Great Western	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Project:</b>	SEC.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Raindance FD 29-11D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-18-12)		

### 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)
5,680.0	7.34	149.04	5,433.8	-1,273.2	813.6	1,510.9	2.00	-2.00	0.00
5,720.0	6.54	149.04	5,473.5	-1,277.3	816.0	1,515.7	2.00	-2.00	0.00
5,760.0	5.74	149.04	5,513.3	-1,281.0	818.2	1,520.0	2.00	-2.00	0.00
5,800.0	4.94	149.04	5,553.1	-1,284.2	820.2	1,523.7	2.00	-2.00	0.00
5,840.0	4.14	149.04	5,593.0	-1,286.9	821.8	1,526.9	2.00	-2.00	0.00
5,880.0	3.34	149.04	5,632.9	-1,289.1	823.1	1,529.5	2.00	-2.00	0.00
5,920.0	2.54	149.04	5,672.9	-1,290.9	824.2	1,531.6	2.00	-2.00	0.00
5,960.0	1.74	149.04	5,712.8	-1,292.2	825.0	1,533.1	2.00	-2.00	0.00
6,000.0	0.94	149.04	5,752.8	-1,293.0	825.4	1,534.0	2.00	-2.00	0.00
6,040.0	0.14	149.04	5,792.8	-1,293.3	825.6	1,534.4	2.00	-2.00	0.00
6,047.2	0.00	0.00	5,800.0	-1,293.3	825.6	1,534.4	2.00	-2.00	0.00
<b>Back to Vertical - TARGET BHL 1980'FNL, 660'FWL</b>									
6,080.0	0.00	0.00	5,832.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,120.0	0.00	0.00	5,872.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,160.0	0.00	0.00	5,912.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,200.0	0.00	0.00	5,952.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,240.0	0.00	0.00	5,992.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,032.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,072.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,112.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,152.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,192.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,232.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,272.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,312.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,352.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,392.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,432.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,472.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,512.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,552.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,592.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,632.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,672.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,712.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,752.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,792.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,054.2	0.00	0.00	6,807.0	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
<b>NIOBRARA - TARGET CIRCLE 1980'FNL &amp; 660'FWL - LEGAL BOX 400' X 400' 1979'FNL &amp; 652'FWL</b>									
7,080.0	0.00	0.00	6,832.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,120.0	0.00	0.00	6,872.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,160.0	0.00	0.00	6,912.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,200.0	0.00	0.00	6,952.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,240.0	0.00	0.00	6,992.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,280.0	0.00	0.00	7,032.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,320.0	0.00	0.00	7,072.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,360.0	0.00	0.00	7,112.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,365.2	0.00	0.00	7,118.0	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
<b>FORT HAYS</b>									
7,387.2	0.00	0.00	7,140.0	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
<b>CODELL</b>									
7,400.0	0.00	0.00	7,152.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Company:</b>	Great Western	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Project:</b>	SEC.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Raindance FD 29-11D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-18-12)		

#### 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)
7,440.0	0.00	0.00	7,192.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,480.0	0.00	0.00	7,232.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,520.0	0.00	0.00	7,272.8	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
7,547.2	0.00	0.00	7,300.0	-1,293.3	825.6	1,534.4	0.00	0.00	0.00
TD at 7547.2									

#### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TARGET BHL 1980'F	0.00	0.00	5,800.0	-1,293.3	825.6	1,410,795.93	3,160,251.96	40.459608	-104.924100
- plan hits target center									
- Point									
TARGET CIRCLE 198	0.00	0.00	6,807.0	-1,293.3	825.6	1,410,795.93	3,160,251.96	40.459608	-104.924100
- plan hits target center									
- Circle (radius 75.0)									
LEGAL BOX 400' X 400'	0.00	0.00	6,807.0	-1,292.3	817.6	1,410,796.87	3,160,243.91	40.459611	-104.924129
- plan misses target center by 8.1ft at 7054.2ft MD (6807.0 TVD, -1293.3 N, 825.6 E)									
- Rectangle (sides W400.0 H400.0 D493.0)									

#### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
600.2	600.0	8 5/8"	8-5/8	12-1/4

#### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,341.4	2,273.0	GREELEY SAND		0.00	
3,553.5	3,414.0	PARKMAN		0.00	
4,289.6	4,107.0	SUSSEX		0.00	
4,703.9	4,497.0	SHANNON		0.00	
7,054.2	6,807.0	NIOBRARA		0.00	
7,365.2	7,118.0	FORT HAYS		0.00	
7,387.2	7,140.0	CODELL		0.00	



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Company:</b>	Great Western	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Project:</b>	SEC.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Raindance FD 29-11D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-18-12)		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP - Start Build 2.00
650.0	649.7	0.0	10.9	Start DLS 2.00 TFO 72.57
1,532.3	1,511.3	-128.6	126.8	Start 3529.2 hold at 1532.3 MD
5,061.6	4,833.7	-1,149.3	739.3	Start Drop -2.00
6,047.2	5,800.0	-1,293.3	825.6	Back to Vertical
7,547.2	7,300.0	-1,293.3	825.6	TD at 7547.2



## **Great Western**

**SEC.30-T6N-R67W**

**Raindance FD East Row Pad Sec.30-T6N-R67W**

**Raindance FD 29-11D**

**Wellbore #1**

**Plan #1 (10-18-12)**

## **Anticollision Report**

**30 October, 2012**

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (10-18-12)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<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 10,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	10/19/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	7,547.2	Plan #1 (10-18-12) (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>						
Raindance FD East Row Pad Sec.30-T6N-R67W						
Raindance FD 29-31D - Wellbore #1 - Plan #1 (10-18-12)	400.0	399.2	14.9	13.4	9.511	CC
Raindance FD 29-31D - Wellbore #1 - Plan #1 (10-18-12)	500.0	499.2	15.1	13.1	7.521	ES
Raindance FD 29-31D - Wellbore #1 - Plan #1 (10-18-12)	600.0	599.0	16.7	14.3	6.833	SF
Raindance FD 29-4D - Wellbore #1 - Plan #1 (10-18-12)	400.0	399.4	15.3	13.7	9.736	CC
Raindance FD 29-4D - Wellbore #1 - Plan #1 (10-18-12)	500.0	499.4	15.4	13.4	7.665	ES
Raindance FD 29-4D - Wellbore #1 - Plan #1 (10-18-12)	600.0	599.2	16.8	14.4	6.873	SF
Raindance FD West Row Pad Sec.30-T6N-R67W						
Raindance FD 19-14D - Wellbore #1 - Plan #1 (10-18-12)	200.0	198.9	15.3	14.6	22.780	CC, ES
Raindance FD 19-14D - Wellbore #1 - Plan #1 (10-18-12)	400.0	397.5	22.2	20.6	14.242	SF
Raindance FD 20-32D - Wellbore #1 - Plan #1 (10-18-12)	200.0	199.1	47.8	47.1	71.077	CC, ES
Raindance FD 20-32D - Wellbore #1 - Plan #1 (10-18-12)	600.0	590.4	75.4	72.9	30.315	SF
Raindance FD 20-34D - Wellbore #1 - Plan #1 (10-18-12)	400.0	399.5	21.1	19.5	13.393	CC, ES
Raindance FD 20-34D - Wellbore #1 - Plan #1 (10-18-12)	600.0	599.3	26.3	23.9	10.764	SF

Offset Design		Raindance FD East Row Pad Sec.30-T6N-R67W - Raindance FD 29-31D - Wellbore #1 - Plan #1 (10-1										Offset Site Error:		0.0 ft	
Survey Program:		0-MWD										Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-177.87	-14.9	-0.6	15.0	15.0	0.00	N/A			
100.0	100.0	99.2	99.2	0.1	0.1	-177.87	-14.9	-0.6	14.9	14.7	0.22	66.768			
200.0	200.0	199.2	199.2	0.3	0.3	-177.87	-14.9	-0.6	14.9	14.3	0.67	22.227			
300.0	300.0	299.2	299.2	0.6	0.6	-177.87	-14.9	-0.6	14.9	13.8	1.12	13.322			
400.0	400.0	399.2	399.2	0.8	0.8	-177.87	-14.9	-0.6	14.9	13.4	1.57	9.511 CC			
405.7	405.7	404.9	404.9	0.8	0.8	92.16	-14.9	-0.6	14.9	13.4	1.60	9.362			
500.0	500.0	499.2	499.2	1.0	1.0	98.75	-14.9	-0.6	15.1	13.1	2.01	7.521 ES			
600.0	599.8	599.0	599.0	1.2	1.2	116.71	-14.9	-0.6	16.7	14.3	2.45	6.833 SF			
650.0	649.7	648.9	648.9	1.3	1.3	127.39	-14.9	-0.6	18.8	16.2	2.67	7.040			
700.0	699.5	698.7	698.7	1.4	1.5	127.34	-14.9	-0.6	21.6	18.7	2.89	7.460			
800.0	798.9	798.1	798.1	1.7	1.7	130.34	-14.9	-0.6	28.0	24.7	3.32	8.453			
900.0	898.1	897.3	897.3	1.9	1.9	136.24	-14.9	-0.6	36.8	33.0	3.75	9.807			
1,000.0	996.9	996.1	996.1	2.2	2.1	142.61	-14.9	-0.6	48.6	44.4	4.18	11.609			

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

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD East Row Pad Sec.30-T6N-R67W - Raindance FD 29-31D - Wellbore #1 - Plan #1 (10-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
1,100.0	1,095.2	1,094.4	1,094.4	2.6	2.3	148.18	-14.9	-0.6	63.8	59.2	4.62	13.814		
1,200.0	1,192.9	1,192.1	1,192.1	3.0	2.6	152.67	-14.9	-0.6	82.7	77.6	5.06	16.338		
1,300.0	1,289.8	1,289.0	1,289.0	3.4	2.8	156.18	-14.9	-0.6	105.1	99.6	5.50	19.100		
1,400.0	1,385.8	1,385.0	1,385.0	3.9	3.0	158.93	-14.9	-0.6	131.1	125.1	5.95	22.036		
1,500.0	1,480.8	1,480.0	1,480.0	4.5	3.2	161.10	-14.9	-0.6	160.5	154.1	6.39	25.098		
1,532.3	1,511.3	1,511.1	1,511.1	4.7	3.3	161.72	-15.0	-0.6	170.7	164.2	6.54	26.115		
1,600.0	1,575.0	1,578.7	1,578.7	5.1	3.4	163.78	-16.0	-0.3	191.8	184.9	6.85	28.007		
1,700.0	1,669.1	1,680.5	1,680.4	5.8	3.6	165.72	-20.4	0.9	220.7	213.4	7.30	30.244		
1,800.0	1,763.3	1,784.4	1,783.9	6.4	3.8	166.79	-28.6	3.1	246.8	239.1	7.77	31.781		
1,900.0	1,857.4	1,890.0	1,888.8	7.1	4.0	167.26	-40.6	6.2	269.9	261.6	8.26	32.669		
2,000.0	1,951.6	1,997.3	1,994.8	7.8	4.2	167.28	-56.6	10.5	289.7	280.9	8.78	32.982		
2,100.0	2,045.7	2,099.1	2,094.9	8.5	4.5	167.03	-74.6	15.2	307.0	297.7	9.33	32.920		
2,200.0	2,139.8	2,197.7	2,191.7	9.1	4.8	166.79	-92.3	19.9	324.1	314.2	9.88	32.790		
2,300.0	2,234.0	2,296.2	2,288.5	9.8	5.1	166.58	-109.9	24.6	341.2	330.8	10.46	32.631		
2,400.0	2,328.1	2,394.7	2,385.3	10.5	5.4	166.38	-127.6	29.3	358.3	347.3	11.04	32.456		
2,500.0	2,422.3	2,493.2	2,482.1	11.2	5.7	166.20	-145.3	34.0	375.4	363.8	11.64	32.265		
2,600.0	2,516.4	2,591.7	2,578.9	11.9	6.1	166.04	-163.0	38.7	392.6	380.3	12.24	32.070		
2,700.0	2,610.6	2,690.2	2,675.8	12.6	6.4	165.89	-180.7	43.3	409.7	396.8	12.85	31.873		
2,800.0	2,704.7	2,788.8	2,772.6	13.3	6.8	165.76	-198.3	48.0	426.8	413.3	13.47	31.678		
2,900.0	2,798.8	2,887.3	2,869.4	14.0	7.1	165.63	-216.0	52.7	443.9	429.8	14.10	31.486		
3,000.0	2,893.0	2,985.8	2,966.2	14.7	7.5	165.52	-233.7	57.4	461.0	446.3	14.73	31.299		
3,100.0	2,987.1	3,084.3	3,063.0	15.4	7.9	165.41	-251.4	62.1	478.2	462.8	15.37	31.117		
3,200.0	3,081.3	3,182.8	3,159.8	16.1	8.2	165.31	-269.0	66.7	495.3	479.3	16.01	30.941		
3,300.0	3,175.4	3,281.4	3,256.6	16.8	8.6	165.21	-286.7	71.4	512.4	495.8	16.65	30.772		
3,400.0	3,269.5	3,379.9	3,353.4	17.5	9.0	165.13	-304.4	76.1	529.6	512.3	17.30	30.609		
3,500.0	3,363.7	3,478.4	3,450.2	18.2	9.4	165.04	-322.1	80.8	546.7	528.7	17.95	30.453		
3,600.0	3,457.8	3,576.9	3,547.0	18.9	9.8	164.97	-339.7	85.5	563.8	545.2	18.61	30.303		
3,700.0	3,552.0	3,675.4	3,643.8	19.6	10.2	164.89	-357.4	90.2	581.0	561.7	19.26	30.159		
3,800.0	3,646.1	3,773.9	3,740.6	20.3	10.6	164.83	-375.1	94.8	598.1	578.2	19.92	30.021		
3,900.0	3,740.2	3,872.5	3,837.4	21.0	11.0	164.76	-392.8	99.5	615.2	594.7	20.58	29.889		
4,000.0	3,834.4	3,971.0	3,934.2	21.7	11.4	164.70	-410.4	104.2	632.4	611.1	21.25	29.763		
4,100.0	3,928.5	4,069.5	4,031.0	22.4	11.8	164.64	-428.1	108.9	649.5	627.6	21.91	29.641		
4,200.0	4,022.7	4,168.0	4,127.8	23.1	12.2	164.59	-445.8	113.6	666.7	644.1	22.58	29.525		
4,300.0	4,116.8	4,266.5	4,224.7	23.8	12.6	164.53	-463.5	118.3	683.8	660.6	23.25	29.414		
4,400.0	4,210.9	4,365.1	4,321.5	24.5	13.0	164.48	-481.2	122.9	700.9	677.0	23.92	29.307		
4,500.0	4,305.1	4,463.6	4,418.3	25.2	13.4	164.44	-498.8	127.6	718.1	693.5	24.59	29.204		
4,600.0	4,399.2	4,562.1	4,515.1	25.9	13.8	164.39	-516.5	132.3	735.2	710.0	25.26	29.106		
4,700.0	4,493.4	4,660.6	4,611.9	26.6	14.2	164.35	-534.2	137.0	752.4	726.4	25.93	29.011		
4,800.0	4,587.5	4,759.1	4,708.7	27.3	14.6	164.31	-551.9	141.7	769.5	742.9	26.61	28.920		
4,900.0	4,681.6	4,857.6	4,805.5	28.0	15.0	164.27	-569.5	146.3	786.7	759.4	27.28	28.833		
5,000.0	4,775.8	4,956.2	4,902.3	28.7	15.4	164.23	-587.2	151.0	803.8	775.8	27.96	28.749		
5,061.6	4,833.7	5,016.8	4,961.9	29.2	15.7	164.21	-598.1	153.9	814.3	786.0	28.38	28.699		
5,100.0	4,870.0	5,048.5	4,993.1	29.4	15.8	164.23	-603.7	155.4	820.8	792.2	28.62	28.681		
5,200.0	4,965.1	5,127.7	5,071.2	29.9	16.0	164.31	-616.2	158.7	836.9	807.8	29.16	28.697		
5,300.0	5,061.3	5,200.0	5,142.8	30.3	16.2	164.41	-625.8	161.2	852.1	822.5	29.63	28.761		
5,400.0	5,158.3	5,285.5	5,227.8	30.7	16.4	164.53	-634.9	163.6	866.2	836.1	30.06	28.819		
5,500.0	5,256.2	5,364.2	5,306.2	31.1	16.6	164.67	-641.0	165.3	879.3	848.9	30.41	28.913		
5,600.0	5,354.6	5,442.7	5,384.6	31.4	16.7	164.82	-645.1	166.4	891.4	860.7	30.71	29.028		
5,700.0	5,453.7	5,521.0	5,462.9	31.6	16.9	164.99	-647.1	166.9	902.5	871.5	30.95	29.161		
5,800.0	5,553.1	5,610.5	5,552.3	31.8	17.0	165.18	-647.4	167.0	912.2	881.1	31.15	29.283		
5,900.0	5,652.9	5,710.2	5,652.1	32.0	17.1	165.33	-647.4	167.0	918.9	887.6	31.33	29.329		

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

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD East Row Pad Sec.30-T6N-R67W - Raindance FD 29-31D - Wellbore #1 - Plan #1 (10-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,000.0	5,752.8	5,810.2	5,752.0	32.1	17.3	165.40	-647.4	167.0	922.2	890.7	31.48	29.291		
6,047.2	5,800.0	5,857.3	5,799.2	32.1	17.3	-45.56	-647.4	167.0	922.5	891.0	31.55	29.238		
6,100.0	5,852.8	5,910.2	5,852.0	32.2	17.4	-45.56	-647.4	167.0	922.5	890.8	31.72	29.088		
6,200.0	5,952.8	6,010.2	5,952.0	32.2	17.5	-45.56	-647.4	167.0	922.5	890.5	32.02	28.816		
6,300.0	6,052.8	6,110.2	6,052.0	32.3	17.7	-45.56	-647.4	167.0	922.5	890.2	32.32	28.545		
6,400.0	6,152.8	6,210.2	6,152.0	32.4	17.8	-45.56	-647.4	167.0	922.5	889.9	32.62	28.277		
6,500.0	6,252.8	6,310.2	6,252.0	32.5	18.0	-45.56	-647.4	167.0	922.5	889.6	32.93	28.011		
6,600.0	6,352.8	6,410.2	6,352.0	32.5	18.1	-45.56	-647.4	167.0	922.5	889.3	33.25	27.748		
6,700.0	6,452.8	6,510.2	6,452.0	32.6	18.3	-45.56	-647.4	167.0	922.5	889.0	33.56	27.487		
6,800.0	6,552.8	6,610.2	6,552.0	32.7	18.4	-45.56	-647.4	167.0	922.5	888.7	33.88	27.228		
6,900.0	6,652.8	6,710.2	6,652.0	32.8	18.6	-45.56	-647.4	167.0	922.5	888.3	34.20	26.973		
7,000.0	6,752.8	6,810.2	6,752.0	32.9	18.7	-45.56	-647.4	167.0	922.5	888.0	34.53	26.719		
7,100.0	6,852.8	6,910.2	6,852.0	33.0	18.9	-45.56	-647.4	167.0	922.5	887.7	34.85	26.468		
7,200.0	6,952.8	7,010.2	6,952.0	33.0	19.0	-45.56	-647.4	167.0	922.5	887.4	35.18	26.220		
7,300.0	7,052.8	7,110.2	7,052.0	33.1	19.2	-45.56	-647.4	167.0	922.5	887.0	35.52	25.975		
7,400.0	7,152.8	7,210.2	7,152.0	33.2	19.3	-45.56	-647.4	167.0	922.5	886.7	35.85	25.733		
7,500.0	7,252.8	7,310.2	7,252.0	33.3	19.5	-45.56	-647.4	167.0	922.5	886.3	36.19	25.493		
7,529.5	7,282.3	7,339.7	7,281.5	33.3	19.5	-45.56	-647.4	167.0	922.5	886.2	36.29	25.423		
7,547.2	7,300.0	7,352.1	7,294.0	33.3	19.6	-45.56	-647.4	167.0	922.6	886.2	36.34	25.388		

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD East Row Pad Sec.30-T6N-R67W - Raindance FD 29-4D - Wellbore #1 - Plan #1 (10-18)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	0.00	15.3	0.0	15.3	15.3	0.00	N/A		
100.0	100.0	99.4	99.4	0.1	0.1	0.00	15.3	0.0	15.3	15.1	0.22	68.299		
200.0	200.0	199.4	199.4	0.3	0.3	0.00	15.3	0.0	15.3	14.6	0.67	22.744		
300.0	300.0	299.4	299.4	0.6	0.6	0.00	15.3	0.0	15.3	14.2	1.12	13.635		
400.0	400.0	399.4	399.4	0.8	0.8	0.00	15.3	0.0	15.3	13.7	1.57	9.736 CC		
427.6	427.6	427.0	427.0	0.8	0.8	-90.50	15.3	0.0	15.3	13.6	1.69	9.042		
500.0	500.0	499.4	499.4	1.0	1.0	-96.50	15.3	0.0	15.4	13.4	2.01	7.665 ES		
600.0	599.8	599.2	599.2	1.2	1.2	-114.46	15.3	0.0	16.8	14.4	2.45	6.873 SF		
650.0	649.7	649.1	649.1	1.3	1.3	-125.36	15.3	0.0	18.8	16.1	2.67	7.034		
700.0	699.5	698.9	698.9	1.4	1.5	-144.49	15.3	0.0	22.0	19.1	2.89	7.614		
800.0	798.9	798.3	798.3	1.7	1.7	-168.71	15.3	0.0	31.5	28.2	3.31	9.520		
900.0	898.1	897.5	897.5	1.9	1.9	179.20	15.3	0.0	44.2	40.4	3.74	11.809		
1,000.0	996.9	996.3	996.3	2.2	2.1	173.28	15.3	0.0	59.6	55.4	4.17	14.284		
1,100.0	1,095.2	1,096.6	1,096.6	2.6	2.3	171.29	15.3	1.6	76.6	72.0	4.59	16.678		
1,200.0	1,192.9	1,197.0	1,196.8	3.0	2.5	172.13	15.4	6.8	94.2	89.2	5.01	18.809		
1,300.0	1,289.8	1,297.2	1,296.7	3.4	2.8	174.53	15.5	15.4	113.1	107.7	5.45	20.763		
1,400.0	1,385.8	1,397.0	1,395.7	3.9	3.0	177.77	15.7	27.5	133.8	127.9	5.92	22.617		
1,500.0	1,480.8	1,496.1	1,493.6	4.5	3.3	-178.61	15.9	42.8	157.0	150.5	6.44	24.386		
1,532.3	1,511.3	1,527.9	1,524.9	4.7	3.4	-177.41	16.0	48.5	165.1	158.4	6.62	24.929		
1,600.0	1,575.0	1,594.1	1,589.9	5.1	3.6	-174.03	16.1	61.4	182.2	175.2	7.06	25.825		
1,700.0	1,669.1	1,689.8	1,683.5	5.8	3.9	-169.95	16.4	80.7	208.2	200.4	7.76	26.838		
1,800.0	1,763.3	1,785.4	1,777.2	6.4	4.3	-166.77	16.7	100.0	234.9	226.4	8.50	27.639		
1,900.0	1,857.4	1,881.0	1,870.8	7.1	4.6	-164.24	16.9	119.3	262.2	252.9	9.27	28.276		
2,000.0	1,951.6	1,976.6	1,964.5	7.8	5.0	-162.18	17.2	138.7	289.8	279.7	10.07	28.786		
2,100.0	2,045.7	2,072.2	2,058.1	8.5	5.4	-160.48	17.5	158.0	317.7	306.9	10.88	29.197		
2,200.0	2,139.8	2,167.9	2,151.8	9.1	5.8	-159.06	17.7	177.3	345.9	334.2	11.71	29.534		
2,300.0	2,234.0	2,263.5	2,245.4	9.8	6.2	-157.85	18.0	196.7	374.2	361.7	12.55	29.814		
2,400.0	2,328.1	2,359.1	2,339.1	10.5	6.5	-156.80	18.3	216.0	402.7	389.3	13.40	30.048		
2,500.0	2,422.3	2,454.7	2,432.7	11.2	7.0	-155.90	18.5	235.3	431.3	417.0	14.26	30.246		
2,600.0	2,516.4	2,550.4	2,526.4	11.9	7.4	-155.11	18.8	254.7	459.9	444.8	15.12	30.415		
2,700.0	2,610.6	2,646.0	2,620.0	12.6	7.8	-154.41	19.0	274.0	488.6	472.6	15.99	30.561		
2,800.0	2,704.7	2,741.6	2,713.7	13.3	8.2	-153.79	19.3	293.3	517.4	500.6	16.86	30.688		
2,900.0	2,798.8	2,837.2	2,807.3	14.0	8.6	-153.23	19.6	312.6	546.3	528.5	17.74	30.799		
3,000.0	2,893.0	2,932.9	2,901.0	14.7	9.0	-152.73	19.8	332.0	575.1	556.5	18.61	30.897		
3,100.0	2,987.1	3,028.5	2,994.6	15.4	9.4	-152.28	20.1	351.3	604.0	584.6	19.50	30.983		
3,200.0	3,081.3	3,124.1	3,088.3	16.1	9.8	-151.86	20.4	370.6	633.0	612.6	20.38	31.061		
3,300.0	3,175.4	3,219.7	3,181.9	16.8	10.3	-151.49	20.6	390.0	662.0	640.7	21.26	31.130		
3,400.0	3,269.5	3,315.4	3,275.6	17.5	10.7	-151.14	20.9	409.3	691.0	668.8	22.15	31.192		
3,500.0	3,363.7	3,411.0	3,369.2	18.2	11.1	-150.83	21.2	428.6	720.0	696.9	23.04	31.249		
3,600.0	3,457.8	3,506.6	3,462.9	18.9	11.5	-150.54	21.4	448.0	749.0	725.1	23.93	31.300		
3,700.0	3,552.0	3,602.2	3,556.5	19.6	11.9	-150.26	21.7	467.3	778.1	753.3	24.82	31.347		
3,800.0	3,646.1	3,697.9	3,650.2	20.3	12.4	-150.01	21.9	486.6	807.1	781.4	25.71	31.389		
3,900.0	3,740.2	3,793.5	3,743.8	21.0	12.8	-149.78	22.2	505.9	836.2	809.6	26.61	31.428		
4,000.0	3,834.4	3,889.1	3,837.5	21.7	13.2	-149.56	22.5	525.3	865.3	837.8	27.50	31.464		
4,100.0	3,928.5	3,984.7	3,931.1	22.4	13.6	-149.36	22.7	544.6	894.4	866.0	28.40	31.497		
4,200.0	4,022.7	4,080.4	4,024.8	23.1	14.0	-149.17	23.0	563.9	923.5	894.2	29.29	31.528		
4,300.0	4,116.8	4,176.0	4,118.4	23.8	14.5	-148.99	23.3	583.3	952.7	922.5	30.19	31.557		
4,400.0	4,210.9	4,271.6	4,212.1	24.5	14.9	-148.82	23.5	602.6	981.8	950.7	31.09	31.583		
4,500.0	4,305.1	4,367.2	4,305.7	25.2	15.3	-148.66	23.8	621.9	1,010.9	978.9	31.98	31.608		
4,600.0	4,399.2	4,462.9	4,399.4	25.9	15.7	-148.51	24.1	641.2	1,040.1	1,007.2	32.88	31.631		
4,700.0	4,493.4	4,558.5	4,493.0	26.6	16.2	-148.37	24.3	660.6	1,069.2	1,035.4	33.78	31.652		

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

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD East Row Pad Sec.30-T6N-R67W - Raindance FD 29-4D - Wellbore #1 - Plan #1 (10-18)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
4,800.0	4,587.5	4,654.1	4,586.7	27.3	16.6	-148.24	24.6	679.9	1,098.4	1,063.7	34.68	31.672		
4,900.0	4,681.6	4,749.7	4,680.3	28.0	17.0	-148.11	24.9	699.2	1,127.5	1,092.0	35.58	31.691		
5,000.0	4,775.8	4,845.4	4,774.0	28.7	17.5	-147.99	25.1	718.6	1,156.7	1,120.2	36.48	31.709		
5,061.6	4,833.7	4,904.2	4,831.6	29.2	17.7	-147.92	25.3	730.5	1,174.7	1,137.6	37.03	31.719		
5,100.0	4,870.0	4,941.0	4,867.7	29.4	17.9	-147.99	25.4	737.9	1,185.7	1,148.3	37.39	31.710		
5,200.0	4,965.1	5,037.3	4,962.0	29.9	18.3	-148.09	25.6	757.4	1,212.3	1,174.1	38.27	31.676		
5,300.0	5,061.3	5,134.5	5,057.2	30.3	18.7	-148.09	25.9	776.8	1,236.1	1,197.0	39.10	31.616		
5,400.0	5,158.3	5,232.9	5,154.1	30.7	19.0	-148.11	26.1	793.8	1,257.0	1,217.3	39.79	31.593		
5,500.0	5,256.2	5,332.1	5,252.4	31.1	19.3	-148.16	26.3	807.5	1,275.0	1,234.6	40.38	31.574		
5,600.0	5,354.6	5,431.9	5,351.6	31.4	19.5	-148.26	26.5	817.9	1,289.9	1,249.1	40.87	31.560		
5,700.0	5,453.7	5,532.2	5,451.6	31.6	19.7	-148.40	26.6	824.8	1,301.9	1,260.6	41.26	31.550		
5,800.0	5,553.1	5,632.7	5,552.1	31.8	19.8	-148.59	26.6	828.3	1,310.8	1,269.2	41.55	31.545		
5,900.0	5,652.9	5,732.9	5,652.3	32.0	20.0	-148.79	26.6	828.7	1,316.7	1,274.9	41.76	31.529		
6,000.0	5,752.8	5,832.8	5,752.2	32.1	20.1	-148.89	26.6	828.7	1,319.6	1,277.6	41.94	31.460		
6,047.2	5,800.0	5,880.0	5,799.4	32.1	20.2	0.13	26.6	828.7	1,319.9	1,277.9	42.03	31.406		
6,100.0	5,852.8	5,932.8	5,852.2	32.2	20.2	0.13	26.6	828.7	1,319.9	1,277.8	42.16	31.309		
6,200.0	5,952.8	6,032.8	5,952.2	32.2	20.4	0.13	26.6	828.7	1,319.9	1,277.5	42.40	31.128		
6,300.0	6,052.8	6,132.8	6,052.2	32.3	20.5	0.13	26.6	828.7	1,319.9	1,277.3	42.65	30.946		
6,400.0	6,152.8	6,232.8	6,152.2	32.4	20.6	0.13	26.6	828.7	1,319.9	1,277.0	42.90	30.765		
6,500.0	6,252.8	6,332.8	6,252.2	32.5	20.8	0.13	26.6	828.7	1,319.9	1,276.8	43.16	30.583		
6,600.0	6,352.8	6,432.8	6,352.2	32.5	20.9	0.13	26.6	828.7	1,319.9	1,276.5	43.42	30.401		
6,700.0	6,452.8	6,532.8	6,452.2	32.6	21.1	0.13	26.6	828.7	1,319.9	1,276.2	43.68	30.219		
6,800.0	6,552.8	6,632.8	6,552.2	32.7	21.2	0.13	26.6	828.7	1,319.9	1,276.0	43.94	30.038		
6,900.0	6,652.8	6,732.8	6,652.2	32.8	21.4	0.13	26.6	828.7	1,319.9	1,275.7	44.21	29.856		
7,000.0	6,752.8	6,832.8	6,752.2	32.9	21.5	0.13	26.6	828.7	1,319.9	1,275.4	44.48	29.675		
7,100.0	6,852.8	6,932.8	6,852.2	33.0	21.7	0.13	26.6	828.7	1,319.9	1,275.2	44.75	29.494		
7,200.0	6,952.8	7,032.8	6,952.2	33.0	21.8	0.13	26.6	828.7	1,319.9	1,274.9	45.03	29.313		
7,300.0	7,052.8	7,132.8	7,052.2	33.1	22.0	0.13	26.6	828.7	1,319.9	1,274.6	45.31	29.133		
7,400.0	7,152.8	7,232.8	7,152.2	33.2	22.1	0.13	26.6	828.7	1,319.9	1,274.3	45.59	28.953		
7,500.0	7,252.8	7,332.8	7,252.2	33.3	22.3	0.13	26.6	828.7	1,319.9	1,274.0	45.87	28.774		
7,529.8	7,282.7	7,362.7	7,282.1	33.3	22.3	0.13	26.6	828.7	1,319.9	1,274.0	45.96	28.721		
7,547.2	7,300.0	7,375.6	7,295.0	33.3	22.3	0.13	26.6	828.7	1,319.9	1,273.9	46.00	28.694		



Raindance FD West Row Pad Sec.30-T6N-R67W - Raindance FD 19-14D - Wellbore #1 - Plan #1 (10-1)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	0.0	-15.3	15.3	15.3	0.00	N/A		
100.0	100.0	98.9	98.9	0.1	0.1	-90.00	0.0	-15.3	15.3	15.1	0.22	68.466		
200.0	200.0	198.9	198.9	0.3	0.3	-90.00	0.0	-15.3	15.3	14.6	0.67	22.780 CC, ES		
300.0	300.0	298.3	298.3	0.6	0.5	-90.00	0.0	-17.0	17.0	15.9	1.11	15.314		
400.0	400.0	397.5	397.4	0.8	0.8	-90.00	0.0	-22.1	22.2	20.6	1.56	14.242 SF		
500.0	500.0	496.5	496.0	1.0	1.0	-179.33	0.4	-30.3	32.2	30.2	2.02	15.954		
600.0	599.8	595.1	594.1	1.2	1.3	-175.50	3.6	-39.4	46.8	44.3	2.46	19.029		
650.0	649.7	644.0	642.7	1.3	1.4	-173.21	6.5	-44.2	55.8	53.1	2.69	20.772		
700.0	699.5	692.6	690.9	1.4	1.6	179.06	10.1	-49.0	65.7	62.8	2.90	22.665		
800.0	798.9	788.7	786.1	1.7	1.8	169.43	19.7	-59.0	88.1	84.8	3.33	26.477		
900.0	898.1	882.8	878.7	1.9	2.2	165.20	32.2	-69.2	114.8	111.1	3.77	30.468		
1,000.0	996.9	974.3	968.4	2.2	2.5	163.81	47.2	-79.5	146.6	142.4	4.22	34.777		
1,100.0	1,095.2	1,062.6	1,054.4	2.6	2.9	163.72	64.4	-89.9	183.9	179.2	4.66	39.422		
1,200.0	1,192.9	1,147.3	1,136.3	3.0	3.3	164.14	83.3	-100.3	226.6	221.5	5.11	44.368		
1,300.0	1,289.8	1,228.1	1,213.8	3.4	3.7	164.72	103.6	-110.5	274.8	269.3	5.55	49.544		
1,400.0	1,385.8	1,304.7	1,286.8	3.9	4.1	165.28	124.8	-120.4	328.3	322.3	5.98	54.919		
1,500.0	1,480.8	1,376.9	1,354.9	4.5	4.5	165.75	146.6	-130.0	386.7	380.3	6.40	60.383		
1,532.3	1,511.3	1,400.0	1,376.6	4.7	4.7	165.90	153.9	-133.2	406.6	400.0	6.54	62.172		
1,600.0	1,575.0	1,445.0	1,418.6	5.1	5.0	167.45	168.7	-139.3	449.2	442.3	6.84	65.672		
1,700.0	1,669.1	1,510.4	1,479.3	5.8	5.4	169.39	191.4	-148.5	513.8	506.6	7.29	70.474		
1,800.0	1,763.3	1,573.4	1,537.2	6.4	5.9	170.99	214.5	-157.4	580.3	572.6	7.74	74.944		
1,900.0	1,857.4	1,633.9	1,592.3	7.1	6.4	172.33	237.9	-166.2	648.5	640.3	8.19	79.149		
2,000.0	1,951.6	1,700.0	1,651.9	7.8	6.9	173.62	264.7	-175.9	718.3	709.6	8.66	82.952		
2,100.0	2,045.7	1,748.2	1,694.9	8.5	7.3	174.47	285.2	-183.1	789.4	780.3	9.09	86.833		
2,200.0	2,139.8	1,800.0	1,740.8	9.1	7.7	175.31	308.0	-190.9	861.9	852.4	9.53	90.448		
2,300.0	2,234.0	1,853.9	1,788.0	9.8	8.2	176.12	332.5	-199.2	935.7	925.7	9.98	93.746		
2,400.0	2,328.1	1,900.0	1,828.1	10.5	8.7	176.76	354.3	-206.4	1,010.7	1,000.2	10.41	97.076		
2,500.0	2,422.3	1,951.6	1,872.5	11.2	9.2	177.43	379.3	-214.5	1,086.7	1,075.9	10.86	100.050		
2,600.0	2,516.4	2,000.0	1,913.7	11.9	9.6	178.02	403.6	-222.1	1,163.9	1,152.6	11.30	102.978		
2,700.0	2,610.6	2,042.2	1,949.2	12.6	10.1	178.50	425.2	-228.9	1,242.0	1,230.3	11.73	105.862		
2,800.0	2,704.7	2,084.9	1,984.9	13.3	10.5	178.97	447.8	-235.8	1,321.1	1,308.9	12.16	108.619		
2,900.0	2,798.8	2,126.1	2,018.9	14.0	11.0	179.40	469.9	-242.5	1,401.0	1,388.4	12.59	111.269		
3,000.0	2,893.0	2,165.7	2,051.3	14.7	11.4	179.79	491.7	-249.0	1,481.8	1,468.8	13.02	113.834		
3,100.0	2,987.1	2,214.8	2,091.2	15.4	11.9	-179.74	519.2	-257.1	1,563.3	1,549.8	13.47	116.047		
3,200.0	3,081.3	2,272.1	2,137.7	16.1	12.6	-179.25	551.4	-266.6	1,644.8	1,630.9	13.94	118.002		
3,300.0	3,175.4	2,329.4	2,184.2	16.8	13.2	-178.80	583.5	-276.1	1,726.4	1,712.0	14.41	119.818		
3,400.0	3,269.5	2,386.7	2,230.7	17.5	13.9	-178.39	615.6	-285.5	1,808.1	1,793.2	14.88	121.506		
3,500.0	3,363.7	2,444.0	2,277.1	18.2	14.5	-178.02	647.8	-295.0	1,889.7	1,874.4	15.36	123.067		
3,600.0	3,457.8	2,501.3	2,323.6	18.9	15.2	-177.67	679.9	-304.5	1,971.4	1,955.6	15.83	124.535		
3,700.0	3,552.0	2,558.6	2,370.1	19.6	15.8	-177.36	712.0	-313.9	2,053.1	2,036.8	16.31	125.888		
3,800.0	3,646.1	2,615.9	2,416.6	20.3	16.5	-177.07	744.1	-323.4	2,134.8	2,118.1	16.79	127.164		
3,900.0	3,740.2	2,673.2	2,463.1	21.0	17.1	-176.79	776.3	-332.9	2,216.6	2,199.3	17.27	128.353		
4,000.0	3,834.4	2,730.4	2,509.5	21.7	17.8	-176.54	808.4	-342.3	2,298.3	2,280.6	17.75	129.471		
4,100.0	3,928.5	2,787.7	2,556.0	22.4	18.4	-176.31	840.5	-351.8	2,380.1	2,361.9	18.24	130.523		
4,200.0	4,022.7	2,845.0	2,602.5	23.1	19.1	-176.09	872.6	-361.3	2,461.9	2,443.2	18.72	131.508		
4,300.0	4,116.8	2,902.3	2,649.0	23.8	19.8	-175.88	904.8	-370.7	2,543.7	2,524.5	19.21	132.442		
4,400.0	4,210.9	2,959.6	2,695.5	24.5	20.4	-175.69	936.9	-380.2	2,625.5	2,605.8	19.69	133.316		
4,500.0	4,305.1	3,016.9	2,741.9	25.2	21.1	-175.51	969.0	-389.7	2,707.3	2,687.2	20.18	134.147		
4,600.0	4,399.2	3,074.2	2,788.4	25.9	21.7	-175.34	1,001.1	-399.1	2,789.2	2,768.5	20.67	134.930		
4,700.0	4,493.4	3,131.5	2,834.9	26.6	22.4	-175.18	1,033.3	-408.6	2,871.0	2,849.8	21.16	135.672		
4,800.0	4,587.5	3,188.8	2,881.4	27.3	23.1	-175.03	1,065.4	-418.1	2,952.8	2,931.2	21.65	136.377		

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<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD West Row Pad Sec.30-T6N-R67W - Raindance FD 19-14D - Wellbore #1 - Plan #1 (10-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.0	4,681.6	3,246.1	2,927.9	28.0	23.7	-174.88	1,097.5	-427.5	3,034.7	3,012.5	22.14	137.044		
5,000.0	4,775.8	3,303.3	2,974.3	28.7	24.4	-174.75	1,129.7	-437.0	3,116.5	3,093.9	22.64	137.680		
5,061.6	4,833.7	3,338.6	3,003.0	29.2	24.8	-174.67	1,149.4	-442.8	3,166.9	3,144.0	22.94	138.054		
5,100.0	4,870.0	3,360.8	3,021.0	29.4	25.1	-174.72	1,161.9	-446.5	3,198.3	3,175.0	23.23	137.700		
5,200.0	4,965.1	3,420.6	3,069.5	29.9	25.7	-174.83	1,195.4	-456.4	3,278.3	3,254.4	23.95	136.909		
5,300.0	5,061.3	3,483.1	3,120.1	30.3	26.5	-174.92	1,230.4	-466.7	3,356.2	3,331.6	24.65	136.160		
5,400.0	5,158.3	3,548.2	3,173.0	30.7	27.2	-174.99	1,266.9	-477.5	3,432.0	3,406.6	25.34	135.454		
5,500.0	5,256.2	3,615.8	3,227.8	31.1	28.0	-175.04	1,304.9	-488.6	3,505.4	3,479.4	26.01	134.789		
5,600.0	5,354.6	3,686.0	3,284.8	31.4	28.8	-175.07	1,344.2	-500.2	3,576.4	3,549.7	26.66	134.164		
5,700.0	5,453.7	3,758.5	3,343.6	31.6	29.7	-175.09	1,384.9	-512.2	3,644.9	3,617.6	27.29	133.576		
5,800.0	5,553.1	3,833.3	3,404.3	31.8	30.5	-175.10	1,426.8	-524.6	3,710.9	3,683.0	27.90	133.025		
5,900.0	5,652.9	3,910.4	3,466.8	32.0	31.4	-175.10	1,470.0	-537.3	3,774.2	3,745.7	28.48	132.510		
6,000.0	5,752.8	3,989.5	3,531.0	32.1	32.3	-175.09	1,514.4	-550.4	3,834.8	3,805.8	29.05	132.029		
6,047.2	5,800.0	4,027.6	3,561.9	32.1	32.8	-26.04	1,535.8	-556.7	3,862.5	3,833.2	29.31	131.793		
6,100.0	5,852.8	4,070.4	3,596.7	32.2	33.3	-25.97	1,559.8	-563.8	3,893.1	3,863.5	29.56	131.714		
6,200.0	5,952.8	4,151.6	3,662.5	32.2	34.2	-25.83	1,605.3	-577.2	3,951.0	3,921.0	30.02	131.601		
6,300.0	6,052.8	4,232.7	3,728.3	32.3	35.2	-25.69	1,650.8	-590.6	4,009.0	3,978.5	30.49	131.485		
6,400.0	6,152.8	4,313.8	3,794.2	32.4	36.1	-25.56	1,696.3	-604.0	4,066.9	4,036.0	30.96	131.367		
6,500.0	6,252.8	4,395.0	3,860.0	32.5	37.1	-25.43	1,741.8	-617.4	4,124.9	4,093.5	31.43	131.247		
6,600.0	6,352.8	4,476.1	3,925.8	32.5	38.0	-25.30	1,787.3	-630.8	4,182.9	4,151.0	31.90	131.125		
6,700.0	6,452.8	4,557.2	3,991.6	32.6	38.9	-25.18	1,832.8	-644.2	4,240.9	4,208.5	32.37	131.001		
6,800.0	6,552.8	4,638.4	4,057.4	32.7	39.9	-25.06	1,878.3	-657.6	4,298.9	4,266.1	32.85	130.877		
6,900.0	6,652.8	4,719.5	4,123.3	32.8	40.8	-24.95	1,923.8	-671.0	4,356.9	4,323.6	33.32	130.751		
7,000.0	6,752.8	4,800.6	4,189.1	32.9	41.8	-24.84	1,969.3	-684.4	4,415.0	4,381.2	33.80	130.625		
7,100.0	6,852.8	4,881.7	4,254.9	33.0	42.7	-24.73	2,014.8	-697.8	4,473.0	4,438.7	34.28	130.497		
7,200.0	6,952.8	4,962.9	4,320.7	33.0	43.7	-24.62	2,060.3	-711.3	4,531.1	4,496.3	34.76	130.369		
7,300.0	7,052.8	5,044.0	4,386.6	33.1	44.6	-24.52	2,105.8	-724.7	4,589.1	4,553.9	35.24	130.241		
7,400.0	7,152.8	5,125.1	4,452.4	33.2	45.5	-24.42	2,151.3	-738.1	4,647.2	4,611.5	35.72	130.112		
7,500.0	7,252.8	5,206.3	4,518.2	33.3	46.5	-24.32	2,196.8	-751.5	4,705.3	4,669.1	36.20	129.983		
7,547.2	7,300.0	5,244.5	4,549.2	33.3	46.9	-24.27	2,218.2	-757.8	4,732.7	4,696.3	36.43	129.922		

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD West Row Pad Sec.30-T6N-R67W - Raindance FD 20-32D - Wellbore #1 - Plan #1 (10-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-17.63	45.5	-14.5	47.8					
100.0	100.0	99.1	99.1	0.1	0.1	-17.63	45.5	-14.5	47.8	47.6	0.22	213.549		
200.0	200.0	199.1	199.1	0.3	0.3	-17.63	45.5	-14.5	47.8	47.1	0.67	71.077 CC, ES		
300.0	300.0	297.5	297.5	0.6	0.6	-16.94	47.2	-14.4	49.4	48.2	1.12	44.137		
400.0	400.0	395.7	395.6	0.8	0.8	-15.09	52.2	-14.1	54.2	52.6	1.57	34.510		
500.0	500.0	493.5	493.0	1.0	1.0	-104.02	60.5	-13.6	62.7	60.7	2.03	30.921		
600.0	599.8	590.4	589.2	1.2	1.3	-104.90	72.1	-12.9	75.4	72.9	2.49	30.315 SF		
650.0	649.7	638.5	636.8	1.3	1.4	-105.75	79.0	-12.5	83.2	80.5	2.73	30.533		
700.0	699.5	686.3	684.0	1.4	1.6	-116.85	86.6	-12.1	92.4	89.5	2.97	31.123		
800.0	798.9	780.3	776.4	1.7	1.9	-133.40	104.0	-11.0	115.7	112.3	3.46	33.429		
900.0	898.1	872.0	865.8	1.9	2.3	-143.90	123.9	-9.9	145.3	141.3	3.97	36.638		
1,000.0	996.9	960.7	951.8	2.2	2.7	-150.58	145.8	-8.6	180.9	176.4	4.47	40.439		
1,100.0	1,095.2	1,046.1	1,033.9	2.6	3.2	-154.97	169.4	-7.2	222.4	217.4	4.98	44.640		
1,200.0	1,192.9	1,127.8	1,111.6	3.0	3.6	-157.97	194.2	-5.8	269.4	264.0	5.49	49.116		
1,300.0	1,289.8	1,205.4	1,184.9	3.4	4.1	-160.10	219.9	-4.3	321.8	315.8	5.98	53.785		
1,400.0	1,385.8	1,278.8	1,253.5	3.9	4.6	-161.66	245.9	-2.7	379.2	372.7	6.47	58.591		
1,500.0	1,480.8	1,347.9	1,317.4	4.5	5.1	-162.82	272.1	-1.2	441.2	434.2	6.97	63.335		
1,532.3	1,511.3	1,369.2	1,337.1	4.7	5.2	-163.14	280.5	-0.7	462.2	455.1	7.12	64.939		
1,600.0	1,575.0	1,412.9	1,377.0	5.1	5.6	-162.89	298.1	0.3	507.0	499.6	7.46	67.929		
1,700.0	1,669.1	1,475.4	1,433.7	5.8	6.0	-162.54	324.3	1.9	574.6	566.6	8.00	71.857		
1,800.0	1,763.3	1,535.6	1,487.7	6.4	6.5	-162.22	350.7	3.4	643.7	635.1	8.53	75.454		
1,900.0	1,857.4	1,600.0	1,544.9	7.1	7.1	-161.89	380.3	5.1	714.2	705.1	9.08	78.611		
2,000.0	1,951.6	1,649.1	1,588.1	7.8	7.5	-161.64	403.7	6.5	785.9	776.3	9.60	81.854		
2,100.0	2,045.7	1,700.0	1,632.4	8.5	8.0	-161.38	428.7	8.0	859.0	848.9	10.13	84.826		
2,200.0	2,139.8	1,754.2	1,679.0	9.1	8.5	-161.12	456.2	9.6	933.3	922.6	10.67	87.462		
2,300.0	2,234.0	1,803.7	1,721.3	9.8	9.0	-160.88	482.1	11.1	1,008.6	997.4	11.20	90.034		
2,400.0	2,328.1	1,864.6	1,772.7	10.5	9.6	-160.61	514.5	13.0	1,084.8	1,073.0	11.77	92.132		
2,500.0	2,422.3	1,929.2	1,827.4	11.2	10.2	-160.35	549.0	15.0	1,161.0	1,148.6	12.35	93.989		
2,600.0	2,516.4	1,993.9	1,882.0	11.9	10.9	-160.13	583.5	17.0	1,237.2	1,224.3	12.93	95.666		
2,700.0	2,610.6	2,058.6	1,936.7	12.6	11.5	-159.93	618.0	19.1	1,313.4	1,299.9	13.52	97.168		
2,800.0	2,704.7	2,123.3	1,991.4	13.3	12.2	-159.76	652.5	21.1	1,389.6	1,375.5	14.10	98.534		
2,900.0	2,798.8	2,188.0	2,046.1	14.0	12.8	-159.60	687.0	23.1	1,465.8	1,451.2	14.69	99.774		
3,000.0	2,893.0	2,252.7	2,100.7	14.7	13.5	-159.46	721.6	25.1	1,542.1	1,526.8	15.28	100.902		
3,100.0	2,987.1	2,317.3	2,155.4	15.4	14.1	-159.33	756.1	27.1	1,618.3	1,602.4	15.88	101.938		
3,200.0	3,081.3	2,382.0	2,210.1	16.1	14.8	-159.21	790.6	29.2	1,694.5	1,678.1	16.47	102.886		
3,300.0	3,175.4	2,446.7	2,264.7	16.8	15.5	-159.11	825.1	31.2	1,770.8	1,753.7	17.07	103.758		
3,400.0	3,269.5	2,511.4	2,319.4	17.5	16.1	-159.01	859.6	33.2	1,847.0	1,829.3	17.66	104.566		
3,500.0	3,363.7	2,576.1	2,374.1	18.2	16.8	-158.92	894.1	35.2	1,923.2	1,905.0	18.26	105.310		
3,600.0	3,457.8	2,640.8	2,428.8	18.9	17.4	-158.84	928.6	37.2	1,999.5	1,980.6	18.86	106.001		
3,700.0	3,552.0	2,705.4	2,483.4	19.6	18.1	-158.76	963.1	39.3	2,075.7	2,056.3	19.46	106.645		
3,800.0	3,646.1	2,770.1	2,538.1	20.3	18.7	-158.69	997.6	41.3	2,152.0	2,131.9	20.07	107.242		
3,900.0	3,740.2	2,834.8	2,592.8	21.0	19.4	-158.62	1,032.1	43.3	2,228.2	2,207.5	20.67	107.801		
4,000.0	3,834.4	2,899.5	2,647.5	21.7	20.1	-158.56	1,066.6	45.3	2,304.5	2,283.2	21.27	108.324		
4,100.0	3,928.5	2,964.2	2,702.1	22.4	20.7	-158.50	1,101.1	47.4	2,380.7	2,358.8	21.88	108.813		
4,200.0	4,022.7	3,028.9	2,756.8	23.1	21.4	-158.44	1,135.6	49.4	2,457.0	2,434.5	22.48	109.272		
4,300.0	4,116.8	3,093.5	2,811.5	23.8	22.0	-158.39	1,170.1	51.4	2,533.2	2,510.1	23.09	109.705		
4,400.0	4,210.9	3,158.2	2,866.1	24.5	22.7	-158.34	1,204.7	53.4	2,609.5	2,585.8	23.70	110.111		
4,500.0	4,305.1	3,222.9	2,920.8	25.2	23.4	-158.30	1,239.2	55.4	2,685.7	2,661.4	24.31	110.494		
4,600.0	4,399.2	3,287.6	2,975.5	25.9	24.0	-158.26	1,273.7	57.5	2,762.0	2,737.0	24.91	110.856		
4,700.0	4,493.4	3,352.3	3,030.2	26.6	24.7	-158.21	1,308.2	59.5	2,838.2	2,812.7	25.52	111.198		
4,800.0	4,587.5	3,416.9	3,084.8	27.3	25.3	-158.18	1,342.7	61.5	2,914.5	2,888.3	26.13	111.522		

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

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Raindance FD West Row Pad Sec.30-T6N-R67W - Raindance FD 20-32D - Wellbore #1 - Plan #1 (10-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.0	4,681.6	3,481.6	3,139.5	28.0	26.0	-158.14	1,377.2	63.5	2,990.7	2,964.0	26.74	111.829		
5,000.0	4,775.8	3,546.3	3,194.2	28.7	26.7	-158.10	1,411.7	65.5	3,067.0	3,039.6	27.35	112.120		
5,061.6	4,833.7	3,586.1	3,227.8	29.2	27.1	-158.08	1,432.9	66.8	3,113.9	3,086.2	27.73	112.292		
5,100.0	4,870.0	3,611.2	3,249.0	29.4	27.3	-158.40	1,446.3	67.6	3,143.1	3,115.0	28.06	112.029		
5,200.0	4,965.1	3,678.0	3,305.5	29.9	28.0	-159.14	1,481.9	69.7	3,217.4	3,188.6	28.87	111.434		
5,300.0	5,061.3	3,747.1	3,363.9	30.3	28.7	-159.78	1,518.8	71.8	3,289.6	3,259.9	29.68	110.818		
5,400.0	5,158.3	3,818.5	3,424.3	30.7	29.5	-160.33	1,556.9	74.0	3,359.4	3,328.9	30.48	110.208		
5,500.0	5,256.2	3,892.1	3,486.4	31.1	30.2	-160.80	1,596.2	76.3	3,426.9	3,395.6	31.26	109.621		
5,600.0	5,354.6	3,967.7	3,550.4	31.4	31.0	-161.20	1,636.5	78.7	3,491.9	3,459.9	32.02	109.066		
5,700.0	5,453.7	4,045.3	3,615.9	31.6	31.8	-161.54	1,677.9	81.1	3,554.4	3,521.6	32.74	108.552		
5,800.0	5,553.1	4,124.8	3,683.1	31.8	32.6	-161.82	1,720.3	83.6	3,614.3	3,580.8	33.44	108.083		
5,900.0	5,652.9	4,206.1	3,751.8	32.0	33.4	-162.04	1,763.7	86.2	3,671.5	3,637.4	34.10	107.664		
6,000.0	5,752.8	4,289.1	3,822.0	32.1	34.3	-162.22	1,807.9	88.7	3,726.0	3,691.3	34.73	107.294		
6,047.2	5,800.0	4,328.8	3,855.5	32.1	34.7	-13.26	1,829.1	90.0	3,750.8	3,715.7	35.01	107.127		
6,100.0	5,852.8	4,373.4	3,893.3	32.2	35.1	-13.14	1,852.9	91.4	3,778.1	3,742.9	35.28	107.094		
6,200.0	5,952.8	4,457.9	3,964.7	32.2	36.0	-12.91	1,898.0	94.0	3,830.0	3,794.2	35.78	107.052		
6,300.0	6,052.8	4,542.5	4,036.2	32.3	36.9	-12.69	1,943.1	96.7	3,881.9	3,845.6	36.27	107.015		
6,400.0	6,152.8	4,627.0	4,107.6	32.4	37.7	-12.48	1,988.2	99.3	3,933.9	3,897.1	36.77	106.982		
6,500.0	6,252.8	4,711.5	4,179.0	32.5	38.6	-12.27	2,033.3	101.9	3,985.9	3,948.6	37.27	106.953		
6,600.0	6,352.8	4,796.0	4,250.5	32.5	39.5	-12.07	2,078.4	104.6	4,037.9	4,000.1	37.76	106.926		
6,700.0	6,452.8	4,880.6	4,321.9	32.6	40.3	-11.87	2,123.5	107.2	4,089.9	4,051.7	38.26	106.903		
6,800.0	6,552.8	4,965.1	4,393.4	32.7	41.2	-11.68	2,168.6	109.9	4,142.0	4,103.3	38.75	106.882		
6,900.0	6,652.8	5,049.6	4,464.8	32.8	42.1	-11.49	2,213.7	112.5	4,194.2	4,154.9	39.25	106.863		
7,000.0	6,752.8	5,134.1	4,536.2	32.9	42.9	-11.31	2,258.8	115.2	4,246.3	4,206.6	39.74	106.847		
7,100.0	6,852.8	5,218.7	4,607.7	33.0	43.8	-11.13	2,303.9	117.8	4,298.5	4,258.3	40.24	106.832		
7,200.0	6,952.8	5,303.2	4,679.1	33.0	44.6	-10.96	2,349.0	120.4	4,350.7	4,310.0	40.73	106.818		
7,300.0	7,052.8	5,387.7	4,750.6	33.1	45.5	-10.79	2,394.0	123.1	4,403.0	4,361.8	41.22	106.806		
7,400.0	7,152.8	5,472.2	4,822.0	33.2	46.4	-10.62	2,439.1	125.7	4,455.3	4,413.6	41.72	106.796		
7,500.0	7,252.8	5,556.7	4,893.5	33.3	47.2	-10.46	2,484.2	128.4	4,507.6	4,465.4	42.21	106.786		
7,547.2	7,300.0	5,596.6	4,927.2	33.3	47.7	-10.38	2,505.5	129.6	4,532.3	4,489.8	42.44	106.782		

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

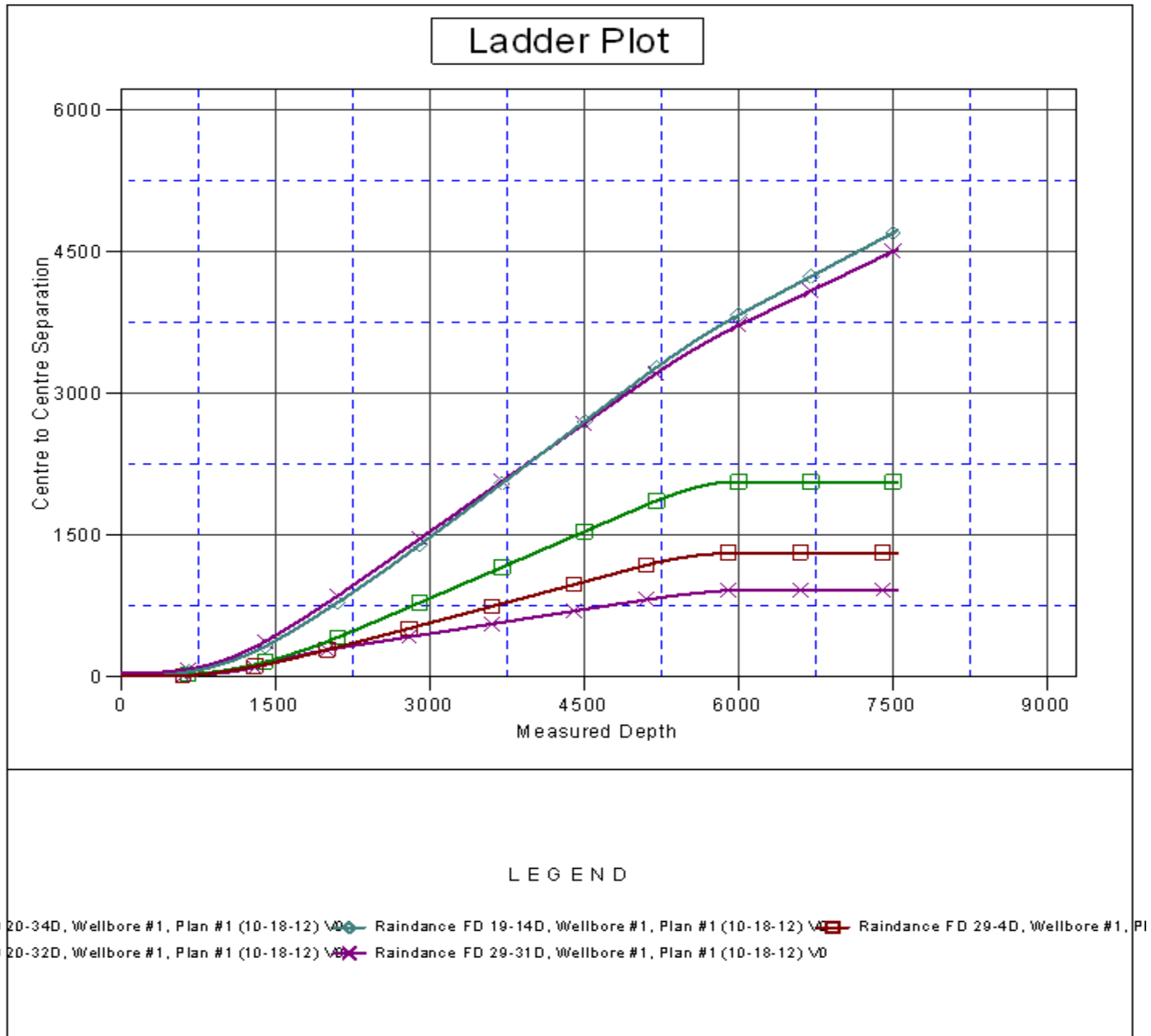
Offset Design Raindance FD West Row Pad Sec.30-T6N-R67W - Raindance FD 20-34D - Wellbore #1 - Plan #1 (10-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	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	
0.0	0.0	0.0	0.0	0.0	0.0	-43.41	15.3	-14.5	21.1					
100.0	100.0	99.5	99.5	0.1	0.1	-43.41	15.3	-14.5	21.1	20.8	0.22	93.916		
200.0	200.0	199.5	199.5	0.3	0.3	-43.41	15.3	-14.5	21.1	20.4	0.67	31.279		
300.0	300.0	299.5	299.5	0.6	0.6	-43.41	15.3	-14.5	21.1	19.9	1.12	18.755		
400.0	400.0	399.5	399.5	0.8	0.8	-43.41	15.3	-14.5	21.1	19.5	1.57	13.393 CC, ES		
500.0	500.0	499.5	499.5	1.0	1.0	-136.65	15.3	-14.5	22.3	20.3	2.01	11.085		
600.0	599.8	599.3	599.3	1.2	1.2	-144.44	15.3	-14.5	26.3	23.9	2.45	10.764 SF		
650.0	649.7	649.2	649.2	1.3	1.3	-148.82	15.3	-14.5	29.6	27.0	2.67	11.101		
700.0	699.5	699.0	699.0	1.4	1.5	-162.39	15.3	-14.5	33.7	30.9	2.88	11.700		
800.0	798.9	798.4	798.4	1.7	1.7	179.74	15.3	-14.5	43.9	40.6	3.31	13.298		
900.0	898.1	897.6	897.6	1.9	1.9	170.54	15.3	-14.5	56.6	52.8	3.73	15.157		
1,000.0	996.9	996.4	996.4	2.2	2.1	166.24	15.3	-14.5	71.7	67.5	4.16	17.217		
1,100.0	1,095.2	1,094.7	1,094.7	2.6	2.3	164.50	15.3	-14.5	89.5	84.9	4.60	19.465		
1,200.0	1,192.9	1,192.4	1,192.4	3.0	2.6	164.09	15.3	-14.5	110.3	105.3	5.04	21.890		
1,300.0	1,289.8	1,289.3	1,289.3	3.4	2.8	164.32	15.3	-14.5	134.1	128.6	5.48	24.473		
1,400.0	1,385.8	1,385.3	1,385.3	3.9	3.0	164.84	15.3	-14.5	161.1	155.2	5.92	27.190		
1,500.0	1,480.8	1,480.3	1,480.3	4.5	3.2	165.47	15.3	-14.5	191.2	184.9	6.37	30.020		
1,532.3	1,511.3	1,510.5	1,510.5	4.7	3.3	165.68	15.3	-14.5	201.7	195.2	6.51	30.961		
1,600.0	1,575.0	1,571.6	1,571.6	5.1	3.4	167.27	16.2	-14.2	224.4	217.6	6.84	32.831		
1,700.0	1,669.1	1,660.7	1,660.6	5.8	3.6	169.57	19.6	-13.2	259.6	252.3	7.32	35.485		
1,800.0	1,763.3	1,748.1	1,747.8	6.4	3.8	171.76	25.6	-11.5	296.7	288.9	7.80	38.045		
1,900.0	1,857.4	1,833.8	1,833.0	7.1	4.0	173.85	34.0	-9.2	335.9	327.6	8.29	40.532		
2,000.0	1,951.6	1,917.6	1,916.1	7.8	4.2	175.81	44.5	-6.2	377.1	368.3	8.78	42.936		
2,100.0	2,045.7	2,000.0	1,997.5	8.5	4.4	177.66	57.2	-2.6	420.4	411.1	9.29	45.256		
2,200.0	2,139.8	2,083.4	2,079.4	9.1	4.7	179.42	72.0	1.6	465.5	455.7	9.81	47.432		
2,300.0	2,234.0	2,171.5	2,166.0	9.8	4.9	-179.01	87.9	6.1	511.2	500.9	10.36	49.365		
2,400.0	2,328.1	2,259.7	2,252.6	10.5	5.2	-177.69	103.8	10.6	557.2	546.3	10.91	51.071		
2,500.0	2,422.3	2,347.8	2,339.1	11.2	5.5	-176.57	119.8	15.1	603.4	591.9	11.47	52.611		
2,600.0	2,516.4	2,435.9	2,425.7	11.9	5.8	-175.61	135.7	19.6	649.7	637.7	12.03	53.988		
2,700.0	2,610.6	2,524.0	2,512.2	12.6	6.1	-174.78	151.6	24.1	696.2	683.6	12.61	55.226		
2,800.0	2,704.7	2,612.2	2,598.8	13.3	6.4	-174.05	167.6	28.6	742.7	729.6	13.18	56.344		
2,900.0	2,798.8	2,700.3	2,685.3	14.0	6.7	-173.40	183.5	33.1	789.4	775.6	13.76	57.359		
3,000.0	2,893.0	2,788.4	2,771.9	14.7	7.0	-172.83	199.4	37.6	836.1	821.8	14.35	58.282		
3,100.0	2,987.1	2,876.5	2,858.4	15.4	7.3	-172.31	215.4	42.2	882.9	867.9	14.93	59.125		
3,200.0	3,081.3	2,964.6	2,945.0	16.1	7.6	-171.85	231.3	46.7	929.7	914.2	15.52	59.897		
3,300.0	3,175.4	3,052.8	3,031.5	16.8	8.0	-171.43	247.2	51.2	976.6	960.5	16.11	60.608		
3,400.0	3,269.5	3,140.9	3,118.1	17.5	8.3	-171.05	263.1	55.7	1,023.5	1,006.8	16.71	61.264		
3,500.0	3,363.7	3,229.0	3,204.6	18.2	8.6	-170.71	279.1	60.2	1,070.4	1,053.1	17.30	61.870		
3,600.0	3,457.8	3,317.1	3,291.2	18.9	9.0	-170.39	295.0	64.7	1,117.4	1,099.5	17.90	62.431		
3,700.0	3,552.0	3,405.3	3,377.8	19.6	9.3	-170.10	310.9	69.2	1,164.4	1,145.9	18.50	62.953		
3,800.0	3,646.1	3,493.4	3,464.3	20.3	9.6	-169.83	326.9	73.7	1,211.4	1,192.3	19.09	63.439		
3,900.0	3,740.2	3,581.5	3,550.9	21.0	10.0	-169.58	342.8	78.2	1,258.4	1,238.7	19.70	63.892		
4,000.0	3,834.4	3,669.6	3,637.4	21.7	10.3	-169.35	358.7	82.7	1,305.4	1,285.2	20.30	64.316		
4,100.0	3,928.5	3,757.7	3,724.0	22.4	10.7	-169.13	374.7	87.3	1,352.5	1,331.6	20.90	64.713		
4,200.0	4,022.7	3,845.9	3,810.5	23.1	11.0	-168.93	390.6	91.8	1,399.6	1,378.1	21.50	65.086		
4,300.0	4,116.8	3,934.0	3,897.1	23.8	11.4	-168.74	406.5	96.3	1,446.7	1,424.6	22.11	65.436		
4,400.0	4,210.9	4,022.1	3,983.6	24.5	11.7	-168.57	422.5	100.8	1,493.8	1,471.1	22.71	65.766		
4,500.0	4,305.1	4,110.2	4,070.2	25.2	12.1	-168.40	438.4	105.3	1,540.9	1,517.6	23.32	66.077		
4,600.0	4,399.2	4,198.4	4,156.7	25.9	12.4	-168.25	454.3	109.8	1,588.0	1,564.1	23.93	66.371		
4,700.0	4,493.4	4,286.5	4,243.3	26.6	12.8	-168.10	470.2	114.3	1,635.1	1,610.6	24.53	66.648		
4,800.0	4,587.5	4,374.6	4,329.8	27.3	13.1	-167.96	486.2	118.8	1,682.3	1,657.1	25.14	66.911		

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

Raindance FD West Row Pad Sec.30-T6N-R67W - Raindance FD 20-34D - Wellbore #1 - Plan #1 (10-1)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance		Minimum		Separation	Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Separation	Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
4,900.0	4,681.6	4,462.7	4,416.4	28.0	13.5	-167.83	502.1	123.3	1,729.4	1,703.7	25.75	67.160	
5,000.0	4,775.8	4,550.9	4,502.9	28.7	13.8	-167.71	518.0	127.8	1,776.6	1,750.2	26.36	67.397	
5,061.6	4,833.7	4,605.1	4,556.2	29.2	14.0	-167.63	527.9	130.6	1,805.6	1,778.9	26.74	67.536	
5,100.0	4,870.0	4,639.1	4,589.6	29.4	14.2	-167.67	534.0	132.4	1,823.5	1,796.5	27.02	67.497	
5,200.0	4,965.1	4,728.6	4,677.5	29.9	14.5	-167.75	550.2	136.9	1,868.0	1,840.3	27.71	67.417	
5,300.0	5,061.3	4,819.5	4,766.8	30.3	14.9	-167.79	566.6	141.6	1,909.4	1,881.0	28.37	67.302	
5,400.0	5,158.3	4,911.7	4,857.4	30.7	15.3	-167.80	583.3	146.3	1,947.7	1,918.7	29.00	67.158	
5,500.0	5,256.2	5,005.1	4,949.1	31.1	15.6	-167.77	600.2	151.1	1,982.8	1,953.2	29.60	66.990	
5,600.0	5,354.6	5,099.6	5,041.9	31.4	16.0	-167.71	617.3	155.9	2,014.8	1,984.6	30.16	66.801	
5,700.0	5,453.7	5,303.2	5,242.9	31.6	16.7	-167.46	648.5	164.8	2,041.5	2,010.6	30.91	66.055	
5,800.0	5,553.1	5,544.5	5,483.3	31.8	17.2	-167.37	667.7	170.2	2,058.4	2,026.9	31.55	65.249	
5,900.0	5,652.9	5,713.7	5,652.4	32.0	17.4	-167.44	670.0	170.8	2,065.9	2,034.0	31.95	64.665	
6,000.0	5,752.8	5,813.6	5,752.3	32.1	17.6	-167.48	670.0	170.8	2,069.2	2,037.0	32.22	64.231	
6,047.2	5,800.0	5,860.8	5,799.5	32.1	17.7	-18.44	670.0	170.8	2,069.6	2,037.3	32.33	64.015	
6,100.0	5,852.8	5,913.6	5,852.3	32.2	17.7	-18.44	670.0	170.8	2,069.6	2,037.1	32.50	63.675	
6,200.0	5,952.8	6,013.6	5,952.3	32.2	17.9	-18.44	670.0	170.8	2,069.6	2,036.8	32.83	63.049	
6,300.0	6,052.8	6,113.6	6,052.3	32.3	18.1	-18.44	670.0	170.8	2,069.6	2,036.5	33.15	62.430	
6,400.0	6,152.8	6,213.6	6,152.3	32.4	18.2	-18.44	670.0	170.8	2,069.6	2,036.1	33.48	61.818	
6,500.0	6,252.8	6,313.6	6,252.3	32.5	18.4	-18.44	670.0	170.8	2,069.6	2,035.8	33.81	61.213	
6,600.0	6,352.8	6,413.6	6,352.3	32.5	18.5	-18.44	670.0	170.8	2,069.6	2,035.5	34.14	60.616	
6,700.0	6,452.8	6,513.6	6,452.3	32.6	18.7	-18.44	670.0	170.8	2,069.6	2,035.1	34.48	60.025	
6,800.0	6,552.8	6,613.6	6,552.3	32.7	18.9	-18.44	670.0	170.8	2,069.6	2,034.8	34.82	59.442	
6,900.0	6,652.8	6,713.6	6,652.3	32.8	19.0	-18.44	670.0	170.8	2,069.6	2,034.4	35.16	58.866	
7,000.0	6,752.8	6,813.6	6,752.3	32.9	19.2	-18.44	670.0	170.8	2,069.6	2,034.1	35.50	58.297	
7,100.0	6,852.8	6,913.6	6,852.3	33.0	19.4	-18.44	670.0	170.8	2,069.6	2,033.8	35.85	57.736	
7,200.0	6,952.8	7,013.6	6,952.3	33.0	19.5	-18.44	670.0	170.8	2,069.6	2,033.4	36.19	57.181	
7,300.0	7,052.8	7,113.6	7,052.3	33.1	19.7	-18.44	670.0	170.8	2,069.6	2,033.1	36.54	56.634	
7,400.0	7,152.8	7,213.6	7,152.3	33.2	19.9	-18.44	670.0	170.8	2,069.6	2,032.7	36.89	56.094	
7,500.0	7,252.8	7,313.6	7,252.3	33.3	20.1	-18.44	670.0	170.8	2,069.6	2,032.4	37.25	55.562	
7,529.8	7,282.6	7,343.4	7,282.1	33.3	20.1	-18.44	670.0	170.8	2,069.6	2,032.2	37.35	55.404	
7,547.2	7,300.0	7,356.3	7,295.0	33.3	20.1	-18.44	670.0	170.8	2,069.6	2,032.2	37.41	55.326	

<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4797.2ft (Original Well Elev) Coordinates are relative to: Raindance FD 29-11D  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.37°





<b>Company:</b>	Great Western	<b>Local Co-ordinate Reference:</b>	Well Raindance FD 29-11D
<b>Project:</b>	SEC.30-T6N-R67W	<b>TVD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Reference Site:</b>	Raindance FD East Row Pad Sec.30-T6N-R67W	<b>MD Reference:</b>	WELL @ 4797.2ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Raindance FD 29-11D	<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 (10-18-12)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4797.2ft (Original Well Elev) Coordinates are relative to: Raindance FD 29-11D  
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.37°

