Great Western

Well Name: **Raindance FD 30-027HN**

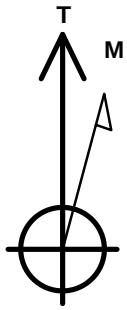
Surface Location: Raindance West Pad Sec.30-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4995.9

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1407825.62	3157065.46	40.451511	-104.935619	

RKB - 16.5' WELL @ 5012.4ft (RKB - 16.5')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 352'FSL & 2382'FWL	1.0	0.0	0.0	Point
BHL 470'FNL & 1589'FWL	7220.4	4392.9	-781.6	Point
Entry Pt. 460'FSL & 1589'FWL	7220.4	87.1	-793.2	Point



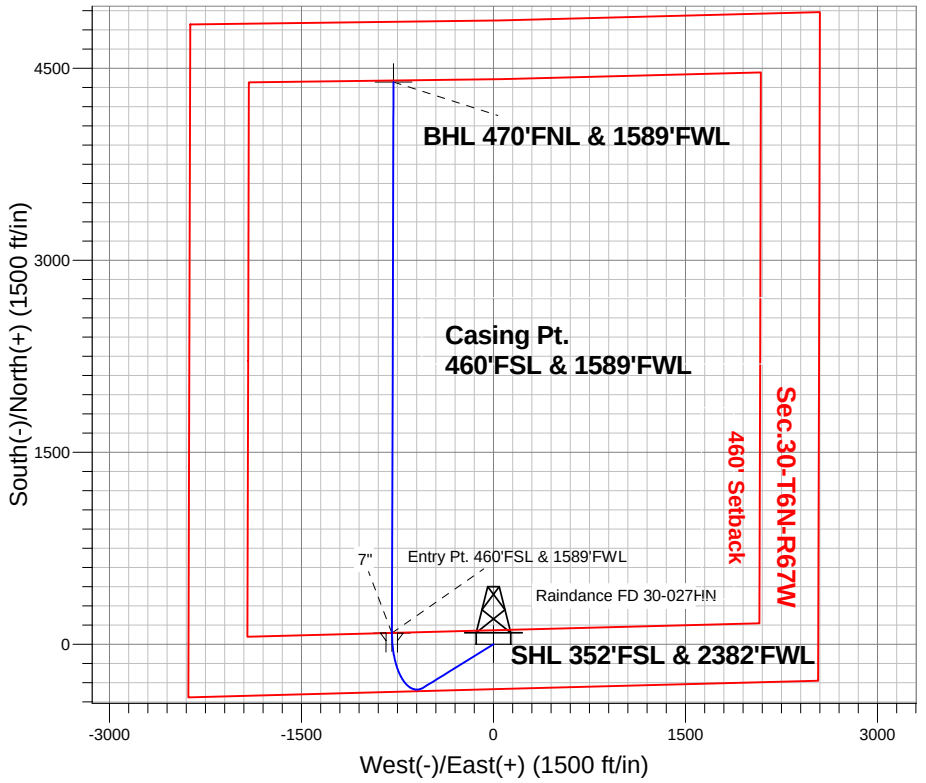
Azimuths to True North
Magnetic North: 8.63°

Magnetic Field
Strength: 52884.4snT
Dip Angle: 66.98°
Date: 11/13/2013
Model: IGRF2010

Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-027HN
Plan #1 (11-13-13)
7:45, November 14 2013

ANNOTATIONS

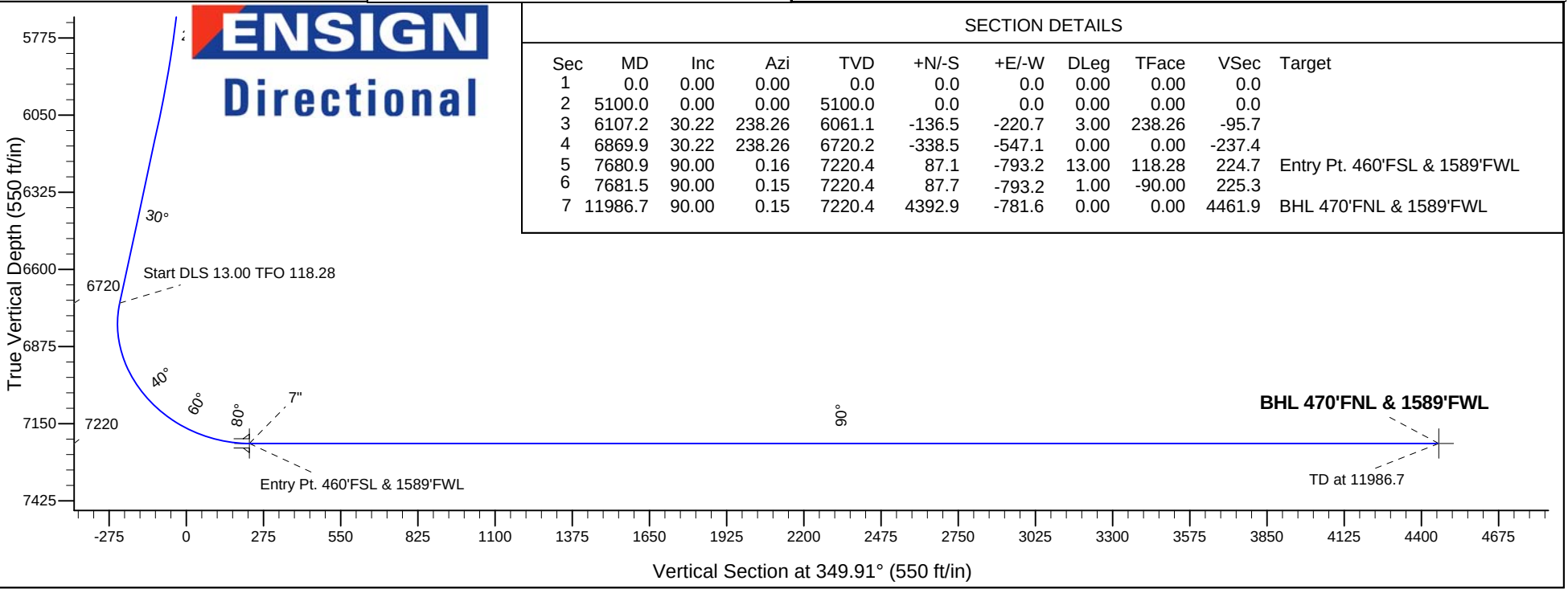
TVD	MD	Annotation
5100.0	5100.0	KOP - Start Build 3.00
6720.2	6869.9	Start DLS 13.00 TFO 118.28
7220.4	11986.7	TD at 11986.7



ENSIGN Directional

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	5100.0	0.00	0.00	5100.0	0.0	0.0	0.00	0.00	0.0	
3	6107.2	30.22	238.26	6061.1	-136.5	-220.7	3.00	238.26	-95.7	
4	6869.9	30.22	238.26	6720.2	-338.5	-547.1	0.00	0.00	-237.4	
5	7680.9	90.00	0.16	7220.4	87.1	-793.2	13.00	118.28	224.7	Entry Pt. 460'FSL & 1589'FWL
6	7681.5	90.00	0.15	7220.4	87.7	-793.2	1.00	-90.00	225.3	
7	11986.7	90.00	0.15	7220.4	4392.9	-781.6	0.00	0.00	4461.9	BHL 470'FNL & 1589'FWL



Great Western

SEC.30-T6N-R67W
Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-027HN

Wellbore #1

Plan: Plan #1 (11-13-13)

Standard Planning Report

14 November, 2013

Database:	Landmark	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Company:	Great Western	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Project:	SEC.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site:	Raindance West Pad Sec.30-T6N-R67W	**North Reference:**	True
Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-13-13)		

Project SEC.30-T6N-R67W, Weld County, Colorado

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Raindance West Pad Sec.30-T6N-R67W

Site Position:		**Northing:**	1,407,829.31 ft	**Latitude:**	40.451519
From:	Lat/Long	**Easting:**	3,157,185.11 ft	**Longitude:**	-104.935189
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.36 °

Well Raindance FD 30-027HN

Well Position	**+N/-S**	-2.9 ft	**Northing:**	1,407,825.62 ft	**Latitude:**	40.451511
	+E/-W	-119.7 ft	**Easting:**	3,157,065.46 ft	**Longitude:**	-104.935619
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,995.9 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/13/2013	8.64	66.98	52,884

Design Plan #1 (11-13-13)

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	349.91

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	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,107.2	30.22	238.26	6,061.1	-136.5	-220.7	3.00	3.00	0.00	238.26	
6,869.9	30.22	238.26	6,720.2	-338.5	-547.1	0.00	0.00	0.00	0.00	
7,680.9	90.00	0.16	7,220.4	87.1	-793.2	13.00	7.37	15.03	118.28	Entry Pt. 460'FSL &
7,681.5	90.00	0.15	7,220.4	87.7	-793.2	1.00	0.00	-1.00	-90.00	
11,986.7	90.00	0.15	7,220.4	4,392.9	-781.6	0.00	0.00	0.00	0.00	BHL 470'FNL & 15

Database:	Landmark	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
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Project:	SEC.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site:	Raindance West Pad Sec.30-T6N-R67W	**North Reference:**	True
Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-13-13)		

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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 352'FSL & 2382'FWL									
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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00

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Site:	Raindance West Pad Sec.30-T6N-R67W	**North Reference:**	True
Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-13-13)		

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)
KOP - Start Build 3.00									
5,200.0	3.00	238.26	5,200.0	-1.4	-2.2	-1.0	3.00	3.00	0.00
5,300.0	6.00	238.26	5,299.6	-5.5	-8.9	-3.9	3.00	3.00	0.00
5,400.0	9.00	238.26	5,398.8	-12.4	-20.0	-8.7	3.00	3.00	0.00
5,500.0	12.00	238.26	5,497.1	-22.0	-35.5	-15.4	3.00	3.00	0.00
5,600.0	15.00	238.26	5,594.3	-34.2	-55.3	-24.0	3.00	3.00	0.00
5,700.0	18.00	238.26	5,690.2	-49.2	-79.5	-34.5	3.00	3.00	0.00
5,800.0	21.00	238.26	5,784.4	-66.7	-107.9	-46.8	3.00	3.00	0.00
5,900.0	24.00	238.26	5,876.8	-86.9	-140.4	-60.9	3.00	3.00	0.00
6,000.0	27.00	238.26	5,967.1	-109.5	-177.0	-76.8	3.00	3.00	0.00
6,100.0	30.00	238.26	6,054.9	-134.6	-217.6	-94.4	3.00	3.00	0.00
6,107.2	30.22	238.26	6,061.1	-136.5	-220.7	-95.7	3.00	3.00	0.00
6,200.0	30.22	238.26	6,141.4	-161.1	-260.4	-113.0	0.00	0.00	0.00
6,300.0	30.22	238.26	6,227.8	-187.6	-303.2	-131.6	0.00	0.00	0.00
6,400.0	30.22	238.26	6,314.2	-214.0	-346.0	-150.1	0.00	0.00	0.00
6,500.0	30.22	238.26	6,400.6	-240.5	-388.8	-168.7	0.00	0.00	0.00
6,600.0	30.22	238.26	6,487.0	-267.0	-431.6	-187.3	0.00	0.00	0.00
6,700.0	30.22	238.26	6,573.4	-293.5	-474.4	-205.8	0.00	0.00	0.00
6,800.0	30.22	238.26	6,659.8	-320.0	-517.2	-224.4	0.00	0.00	0.00
6,869.9	30.22	238.26	6,720.2	-338.5	-547.1	-237.4	0.00	0.00	0.00
Start DLS 13.00 TFO 118.28									
6,900.0	28.55	245.48	6,746.5	-345.4	-560.1	-242.0	13.00	-5.53	24.00
7,000.0	26.35	273.52	6,835.6	-354.0	-604.2	-242.7	13.00	-2.20	28.04
7,100.0	29.78	300.41	6,924.2	-340.0	-647.9	-221.3	13.00	3.44	26.89
7,200.0	37.32	319.74	7,007.7	-304.2	-689.1	-178.8	13.00	7.54	19.33
7,300.0	47.02	332.73	7,081.8	-248.3	-725.6	-117.3	13.00	9.69	12.99
7,400.0	57.77	342.00	7,142.9	-175.2	-755.6	-40.2	13.00	10.75	9.27
7,500.0	69.05	349.25	7,187.6	-88.8	-777.5	48.8	13.00	11.28	7.25
7,600.0	80.59	355.46	7,213.8	6.7	-790.1	145.0	13.00	11.54	6.21
7,680.9	89.99	0.16	7,220.4	87.1	-793.2	224.7	12.99	11.63	5.81
7" - Entry Pt. 460'FSL & 1589'FWL									
7,681.5	90.00	0.15	7,220.4	87.7	-793.2	225.3	1.04	0.87	-0.57
7,700.0	90.00	0.15	7,220.4	106.2	-793.1	243.5	0.00	0.00	0.00
7,800.0	90.00	0.15	7,220.4	206.2	-792.9	341.9	0.00	0.00	0.00
7,900.0	90.00	0.15	7,220.4	306.2	-792.6	440.4	0.00	0.00	0.00
8,000.0	90.00	0.15	7,220.4	406.2	-792.3	538.8	0.00	0.00	0.00
8,100.0	90.00	0.15	7,220.4	506.2	-792.1	637.2	0.00	0.00	0.00
8,200.0	90.00	0.15	7,220.4	606.2	-791.8	735.6	0.00	0.00	0.00
8,300.0	90.00	0.15	7,220.4	706.2	-791.5	834.0	0.00	0.00	0.00
8,400.0	90.00	0.15	7,220.4	806.2	-791.3	932.4	0.00	0.00	0.00
8,500.0	90.00	0.15	7,220.4	906.2	-791.0	1,030.8	0.00	0.00	0.00
8,600.0	90.00	0.15	7,220.4	1,006.2	-790.7	1,129.2	0.00	0.00	0.00
8,700.0	90.00	0.15	7,220.4	1,106.2	-790.4	1,227.6	0.00	0.00	0.00
8,800.0	90.00	0.15	7,220.4	1,206.2	-790.2	1,326.0	0.00	0.00	0.00
8,900.0	90.00	0.15	7,220.4	1,306.2	-789.9	1,424.4	0.00	0.00	0.00
9,000.0	90.00	0.15	7,220.4	1,406.2	-789.6	1,522.8	0.00	0.00	0.00
9,100.0	90.00	0.15	7,220.4	1,506.2	-789.4	1,621.2	0.00	0.00	0.00
9,200.0	90.00	0.15	7,220.4	1,606.2	-789.1	1,719.6	0.00	0.00	0.00
9,300.0	90.00	0.15	7,220.4	1,706.2	-788.8	1,818.0	0.00	0.00	0.00
9,400.0	90.00	0.15	7,220.4	1,806.2	-788.6	1,916.4	0.00	0.00	0.00
9,500.0	90.00	0.15	7,220.4	1,906.2	-788.3	2,014.9	0.00	0.00	0.00
9,600.0	90.00	0.15	7,220.4	2,006.2	-788.0	2,113.3	0.00	0.00	0.00
9,700.0	90.00	0.15	7,220.4	2,106.2	-787.8	2,211.7	0.00	0.00	0.00

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Site:	Raindance West Pad Sec.30-T6N-R67W	**North Reference:**	True
Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (11-13-13)		

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)
9,800.0	90.00	0.15	7,220.4	2,206.2	-787.5	2,310.1	0.00	0.00	0.00
9,900.0	90.00	0.15	7,220.4	2,306.2	-787.2	2,408.5	0.00	0.00	0.00
10,000.0	90.00	0.15	7,220.4	2,406.2	-787.0	2,506.9	0.00	0.00	0.00
10,100.0	90.00	0.15	7,220.4	2,506.2	-786.7	2,605.3	0.00	0.00	0.00
10,200.0	90.00	0.15	7,220.4	2,606.2	-786.4	2,703.7	0.00	0.00	0.00
10,300.0	90.00	0.15	7,220.4	2,706.2	-786.2	2,802.1	0.00	0.00	0.00
10,400.0	90.00	0.15	7,220.4	2,806.2	-785.9	2,900.5	0.00	0.00	0.00
10,500.0	90.00	0.15	7,220.4	2,906.2	-785.6	2,998.9	0.00	0.00	0.00
10,600.0	90.00	0.15	7,220.4	3,006.2	-785.4	3,097.3	0.00	0.00	0.00
10,700.0	90.00	0.15	7,220.4	3,106.2	-785.1	3,195.7	0.00	0.00	0.00
10,800.0	90.00	0.15	7,220.4	3,206.2	-784.8	3,294.1	0.00	0.00	0.00
10,900.0	90.00	0.15	7,220.4	3,306.2	-784.5	3,392.5	0.00	0.00	0.00
11,000.0	90.00	0.15	7,220.4	3,406.2	-784.3	3,490.9	0.00	0.00	0.00
11,100.0	90.00	0.15	7,220.4	3,506.2	-784.0	3,589.4	0.00	0.00	0.00
11,200.0	90.00	0.15	7,220.4	3,606.2	-783.7	3,687.8	0.00	0.00	0.00
11,300.0	90.00	0.15	7,220.4	3,706.2	-783.5	3,786.2	0.00	0.00	0.00
11,400.0	90.00	0.15	7,220.4	3,806.2	-783.2	3,884.6	0.00	0.00	0.00
11,500.0	90.00	0.15	7,220.4	3,906.2	-782.9	3,983.0	0.00	0.00	0.00
11,600.0	90.00	0.15	7,220.4	4,006.2	-782.7	4,081.4	0.00	0.00	0.00
11,700.0	90.00	0.15	7,220.4	4,106.2	-782.4	4,179.8	0.00	0.00	0.00
11,800.0	90.00	0.15	7,220.4	4,206.2	-782.1	4,278.2	0.00	0.00	0.00
11,900.0	90.00	0.15	7,220.4	4,306.2	-781.9	4,376.6	0.00	0.00	0.00
11,986.7	90.00	0.15	7,220.4	4,392.9	-781.6	4,461.9	0.00	0.00	0.00
TD at 11986.7 - BHL 470'FNL & 1589'FWL									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,680.9	7,220.4	7"	7	7-1/2

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
5,100.0	5,100.0	0.0	0.0	KOP - Start Build 3.00
6,869.9	6,720.2	-338.5	-547.1	Start DLS 13.00 TFO 118.28
11,986.7	7,220.4	4,392.9	-781.6	TD at 11986.7

ENSIGN
Directional

Great Western

SEC.30-T6N-R67W
Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-027HN

Wellbore #1
Plan #1 (11-13-13)

Anticollision Report

14 November, 2013

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Reference Plan #1 (11-13-13)

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	**Error Surface:**	Elliptical Conic

Warning Levels Evaluated at: 2.00 **Sigma**

Survey Tool Program **Date** 11/13/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,986.7	Plan #1 (11-13-13) (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Raindance FD Horizontal Pad Sec.30-T6N-R67W						
Raindance FD 19-21HN - Wellbore #1 - Wellbore #1	3,726.4	3,733.4	64.4	48.8	4.148	CC, ES
Raindance FD 19-21HN - Wellbore #1 - Wellbore #1	4,300.0	4,306.4	68.1	50.7	3.914	SF
Raindance West Pad Sec.30-T6N-R67W						
Raindance FD 30-022HN - Wellbore #1 - Plan #1 (11-12-	3,500.0	3,500.0	90.5	75.0	5.833	CC, ES
Raindance FD 30-022HN - Wellbore #1 - Plan #1 (11-12-	3,600.0	3,595.5	92.9	77.0	5.832	SF
Raindance FD 30-024HC - Wellbore #1 - Plan #1 (11-13-	4,000.0	4,000.0	60.4	42.7	3.403	CC, ES, SF
Raindance FD 30-025HN - Wellbore #1 - Plan #1 (11-13-	4,300.0	4,300.0	30.4	11.3	1.589	CC, ES, SF
Raindance FD 30-028HC - Wellbore #1 - Plan #1 (11-13-	5,100.0	5,100.0	29.2	6.5	1.288	Level 3, CC, ES, SF
Raindance FD 30-029HN - Wellbore #1 - Plan #1 (11-13-	5,100.0	5,100.0	59.3	36.6	2.613	CC, ES, SF

Offset Design Raindance FD Horizontal Pad Sec.30-T6N-R67W - Raindance FD 19-21HN - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 100-NS-GYRO-MS, 7105-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	6.6	6.6	0.0	0.0	88.61	2.2	89.6	89.6	89.6	0.01	N/A	
100.0	100.0	106.3	106.3	0.1	0.1	88.70	2.0	89.8	89.8	89.6	0.26	343.416	
200.0	200.0	206.5	206.5	0.3	0.4	88.88	1.8	90.0	90.0	89.3	0.75	120.639	
300.0	300.0	306.5	306.5	0.6	0.7	89.05	1.5	90.2	90.2	88.9	1.23	73.419	
400.0	400.0	406.9	406.9	0.8	0.8	89.15	1.3	90.0	90.1	88.4	1.63	55.186	
500.0	500.0	507.1	507.1	1.0	1.0	89.23	1.2	89.6	89.6	87.6	2.00	44.889	
600.0	600.0	607.6	607.6	1.2	1.2	89.33	1.0	88.7	88.7	86.4	2.39	37.064	
700.0	700.0	708.0	708.0	1.5	1.4	89.41	0.9	87.4	87.4	84.6	2.82	31.028	
800.0	800.0	808.0	808.0	1.7	1.6	89.47	0.8	85.8	85.8	82.5	3.25	26.357	
900.0	900.0	908.3	908.3	1.9	1.8	89.51	0.7	83.9	83.9	80.2	3.71	22.653	
1,000.0	1,000.0	1,008.4	1,008.4	2.1	2.0	89.37	0.9	81.8	81.9	77.7	4.16	19.687	
1,100.0	1,100.0	1,108.4	1,108.3	2.4	2.2	88.90	1.5	79.7	79.7	75.1	4.60	17.316	
1,200.0	1,200.0	1,208.5	1,208.3	2.6	2.5	88.26	2.4	77.5	77.6	72.5	5.05	15.348	
1,300.0	1,300.0	1,308.8	1,308.7	2.8	2.7	87.64	3.1	75.0	75.1	69.6	5.52	13.610	
1,400.0	1,400.0	1,409.0	1,408.8	3.0	3.0	87.10	3.6	72.0	72.1	66.1	5.99	12.045	
1,500.0	1,500.0	1,508.6	1,508.3	3.3	3.2	86.69	4.0	69.1	69.2	62.8	6.46	10.724	
1,575.3	1,575.3	1,582.2	1,581.9	3.4	3.3	86.60	4.0	68.2	68.3	61.6	6.73	10.148	
1,600.0	1,600.0	1,606.5	1,606.2	3.5	3.3	86.63	4.0	68.3	68.4	61.6	6.82	10.027	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance FD Horizontal Pad Sec.30-T6N-R67W - Raindance FD 19-21HN - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 ft

Survey Program: 100-NS-GYRO-MS, 7105-MWD — **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,700.0	1,700.0	1,706.9	1,706.6	3.7	3.5	86.69	4.0	68.5	68.6	61.4	7.19	9.546	
1,800.0	1,800.0	1,807.0	1,806.7	3.9	3.7	86.56	4.1	68.4	68.5	60.9	7.63	8.977	
1,900.0	1,900.0	1,907.0	1,906.8	4.2	3.9	86.76	3.9	68.2	68.3	60.2	8.06	8.475	
2,000.0	2,000.0	2,007.1	2,006.9	4.4	4.1	87.33	3.2	67.9	67.9	59.4	8.49	8.002	
2,100.0	2,100.0	2,107.2	2,106.9	4.6	4.3	87.76	2.6	67.4	67.5	58.5	8.95	7.542	
2,200.0	2,200.0	2,207.3	2,207.1	4.8	4.6	87.71	2.7	66.8	66.9	57.5	9.41	7.106	
2,300.0	2,300.0	2,307.3	2,307.0	5.1	4.8	87.27	3.2	66.1	66.2	56.3	9.86	6.715	
2,400.0	2,400.0	2,407.3	2,407.0	5.3	5.0	86.56	3.9	65.4	65.5	55.2	10.29	6.369	
2,460.2	2,460.2	2,467.1	2,466.8	5.4	5.1	86.05	4.5	65.2	65.3	54.8	10.51	6.213	
2,500.0	2,500.0	2,506.7	2,506.4	5.5	5.2	85.70	4.9	65.2	65.4	54.7	10.66	6.135	
2,600.0	2,600.0	2,606.6	2,606.4	5.7	5.2	85.47	5.2	65.6	65.8	54.8	10.98	5.992	
2,700.0	2,700.0	2,706.7	2,706.5	6.0	5.4	86.03	4.6	65.8	66.0	54.7	11.31	5.838	
2,800.0	2,800.0	2,805.9	2,805.6	6.2	5.5	86.90	3.6	66.8	66.9	55.3	11.64	5.746	
2,900.0	2,900.0	2,906.2	2,905.9	6.4	5.6	87.93	2.5	68.1	68.2	56.2	11.97	5.697	
3,000.0	3,000.0	3,006.4	3,006.1	6.6	5.7	88.96	1.3	69.1	69.1	56.8	12.32	5.610	
3,100.0	3,100.0	3,106.6	3,106.3	6.9	5.8	89.92	0.1	69.7	69.7	57.0	12.70	5.492	
3,200.0	3,200.0	3,207.0	3,206.7	7.1	6.0	90.63	-0.8	69.9	69.9	56.8	13.11	5.333	
3,300.0	3,300.0	3,307.4	3,307.0	7.3	6.3	91.04	-1.3	69.5	69.5	56.0	13.55	5.130	
3,400.0	3,400.0	3,407.8	3,407.5	7.5	6.5	91.53	-1.8	68.6	68.6	54.6	14.02	4.892	
3,500.0	3,500.0	3,508.1	3,507.8	7.8	6.7	92.50	-2.9	67.0	67.1	52.6	14.49	4.627	
3,600.0	3,600.0	3,608.0	3,607.6	8.0	7.0	94.09	-4.7	65.2	65.3	50.4	14.96	4.368	
3,700.0	3,700.0	3,707.2	3,706.8	8.2	7.2	95.53	-6.2	64.1	64.4	49.0	15.42	4.178	
3,726.4	3,726.4	3,733.4	3,733.0	8.3	7.3	95.77	-6.5	64.0	64.4	48.8	15.52	4.148	CC, ES
3,800.0	3,800.0	3,806.5	3,806.1	8.4	7.4	96.06	-6.8	64.3	64.7	48.9	15.80	4.096	
3,900.0	3,900.0	3,906.5	3,906.1	8.7	7.5	96.10	-7.0	65.1	65.5	49.4	16.11	4.064	
4,000.0	4,000.0	4,006.2	4,005.8	8.9	7.6	96.01	-7.0	66.2	66.5	50.1	16.43	4.048	
4,100.0	4,100.0	4,106.8	4,106.3	9.1	7.6	95.68	-6.7	67.0	67.3	50.6	16.75	4.019	
4,200.0	4,200.0	4,206.9	4,206.5	9.3	7.7	94.90	-5.8	67.3	67.6	50.5	17.07	3.957	
4,300.0	4,300.0	4,306.4	4,306.0	9.6	7.9	94.22	-5.0	67.9	68.1	50.7	17.40	3.914	SF
4,400.0	4,400.0	4,405.6	4,405.2	9.8	8.0	94.00	-4.9	69.5	69.6	51.9	17.74	3.926	
4,500.0	4,500.0	4,505.9	4,505.5	10.0	8.1	93.92	-4.9	71.3	71.4	53.4	18.09	3.949	
4,600.0	4,600.0	4,606.1	4,605.6	10.2	8.2	93.67	-4.7	72.7	72.9	54.5	18.44	3.953	
4,700.0	4,700.0	4,705.9	4,705.4	10.5	8.3	93.43	-4.4	74.2	74.4	55.6	18.80	3.956	
4,800.0	4,800.0	4,805.7	4,805.2	10.7	8.5	93.63	-4.8	76.0	76.1	56.9	19.17	3.970	
4,900.0	4,900.0	4,906.2	4,905.7	10.9	8.7	94.02	-5.4	77.4	77.6	58.1	19.56	3.968	
5,000.0	5,000.0	5,006.3	5,005.8	11.1	8.8	94.28	-5.9	78.4	78.6	58.6	19.96	3.939	
5,100.0	5,100.0	5,103.5	5,102.9	11.4	9.0	95.16	-7.3	80.9	81.3	61.0	20.35	3.995	
5,200.0	5,200.0	5,200.0	5,199.1	11.6	9.2	-143.41	-8.7	87.9	90.8	70.1	20.71	4.383	
5,300.0	5,299.6	5,293.2	5,291.7	11.7	9.3	-145.13	-10.2	98.9	108.9	87.9	21.00	5.186	
5,400.0	5,398.8	5,385.6	5,383.0	11.9	9.5	-146.38	-14.0	112.6	134.5	113.3	21.25	6.331	
5,500.0	5,497.1	5,473.9	5,469.6	12.1	9.7	-147.18	-19.5	128.9	167.9	146.4	21.46	7.823	
5,600.0	5,594.3	5,561.9	5,555.3	12.4	9.8	-148.05	-25.5	147.9	208.4	186.8	21.63	9.634	
5,700.0	5,690.2	5,651.1	5,642.0	12.6	10.0	-148.87	-32.2	167.7	253.8	232.0	21.77	11.656	
5,800.0	5,784.4	5,734.1	5,722.6	12.9	10.2	-149.39	-39.5	186.2	303.1	281.2	21.87	13.857	
5,900.0	5,876.8	5,800.0	5,786.1	13.3	10.3	-149.40	-46.1	202.6	358.9	337.0	21.94	16.362	
6,000.0	5,967.1	5,867.4	5,850.1	13.7	10.5	-149.18	-53.8	222.0	421.4	399.4	22.00	19.159	
6,100.0	6,054.9	5,925.8	5,904.8	14.2	10.6	-148.60	-61.1	241.0	490.2	468.1	22.06	22.220	
6,200.0	6,141.4	5,982.8	5,957.8	14.7	10.7	-149.31	-68.5	261.0	562.6	540.2	22.40	25.112	
6,300.0	6,227.8	6,048.1	6,017.9	15.4	10.9	-150.00	-77.2	284.8	636.2	613.4	22.81	27.896	
6,400.0	6,314.2	6,116.7	6,081.1	16.1	11.1	-150.52	-86.9	309.7	709.6	686.4	23.24	30.537	
6,500.0	6,400.6	6,180.3	6,139.5	16.8	11.2	-150.87	-96.2	333.1	783.3	759.6	23.69	33.061	
6,600.0	6,487.0	6,236.2	6,190.6	17.5	11.4	-151.09	-104.7	354.1	857.5	833.4	24.16	35.493	

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

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance FD Horizontal Pad Sec.30-T6N-R67W - Raindance FD 19-21HN - Wellbore #1 - Wellbore #1

Offset Site Error: 0.0 ft

Survey Program: 100-NS-GYRO-MS, 7105-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,700.0	6,573.4	6,287.1	6,236.8	18.3	11.5	-151.23	-112.7	374.0	932.8	908.2	24.64	37.852	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-022HN - Wellbore #1 - Plan #1 (11-12-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-91.15	-1.8	-90.5	90.5				
100.0	100.0	100.0	100.0	0.1	0.1	-91.15	-1.8	-90.5	90.5	90.2	0.22	402.502	
200.0	200.0	200.0	200.0	0.3	0.3	-91.15	-1.8	-90.5	90.5	89.8	0.67	134.167	
300.0	300.0	300.0	300.0	0.6	0.6	-91.15	-1.8	-90.5	90.5	89.3	1.12	80.500	
400.0	400.0	400.0	400.0	0.8	0.8	-91.15	-1.8	-90.5	90.5	88.9	1.57	57.500	
500.0	500.0	500.0	500.0	1.0	1.0	-91.15	-1.8	-90.5	90.5	88.4	2.02	44.722	
600.0	600.0	600.0	600.0	1.2	1.2	-91.15	-1.8	-90.5	90.5	88.0	2.47	36.591	
700.0	700.0	700.0	700.0	1.5	1.5	-91.15	-1.8	-90.5	90.5	87.5	2.92	30.962	
800.0	800.0	800.0	800.0	1.7	1.7	-91.15	-1.8	-90.5	90.5	87.1	3.37	26.833	
900.0	900.0	900.0	900.0	1.9	1.9	-91.15	-1.8	-90.5	90.5	86.6	3.82	23.677	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-91.15	-1.8	-90.5	90.5	86.2	4.27	21.184	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-91.15	-1.8	-90.5	90.5	85.7	4.72	19.167	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-91.15	-1.8	-90.5	90.5	85.3	5.17	17.500	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-91.15	-1.8	-90.5	90.5	84.8	5.62	16.100	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-91.15	-1.8	-90.5	90.5	84.4	6.07	14.907	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-91.15	-1.8	-90.5	90.5	84.0	6.52	13.879	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-91.15	-1.8	-90.5	90.5	83.5	6.97	12.984	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-91.15	-1.8	-90.5	90.5	83.1	7.42	12.197	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-91.15	-1.8	-90.5	90.5	82.6	7.87	11.500	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	-91.15	-1.8	-90.5	90.5	82.2	8.32	10.878	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-91.15	-1.8	-90.5	90.5	81.7	8.77	10.321	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-91.15	-1.8	-90.5	90.5	81.3	9.22	9.817	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-91.15	-1.8	-90.5	90.5	80.8	9.66	9.361	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	-91.15	-1.8	-90.5	90.5	80.4	10.11	8.944	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	-91.15	-1.8	-90.5	90.5	79.9	10.56	8.564	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-91.15	-1.8	-90.5	90.5	79.5	11.01	8.214	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-91.15	-1.8	-90.5	90.5	79.0	11.46	7.892	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	-91.15	-1.8	-90.5	90.5	78.6	11.91	7.594	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	-91.15	-1.8	-90.5	90.5	78.1	12.36	7.318	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-91.15	-1.8	-90.5	90.5	77.7	12.81	7.061	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-91.15	-1.8	-90.5	90.5	77.2	13.26	6.822	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	-91.15	-1.8	-90.5	90.5	76.8	13.71	6.598	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	-91.15	-1.8	-90.5	90.5	76.3	14.16	6.389	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-91.15	-1.8	-90.5	90.5	75.9	14.61	6.192	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-91.15	-1.8	-90.5	90.5	75.4	15.06	6.007	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	-91.15	-1.8	-90.5	90.5	75.0	15.51	5.833	CC, ES
3,600.0	3,600.0	3,595.5	3,595.5	8.0	8.0	-91.47	-2.4	-92.8	92.9	77.0	15.93	5.832	SF
3,700.0	3,700.0	3,690.5	3,690.2	8.2	8.1	-92.32	-4.0	-99.7	100.2	83.9	16.34	6.134	
3,800.0	3,800.0	3,784.6	3,783.6	8.4	8.3	-93.49	-6.8	-111.0	112.4	95.7	16.76	6.710	
3,900.0	3,900.0	3,877.3	3,874.9	8.7	8.5	-94.74	-10.5	-126.6	129.5	112.3	17.18	7.535	
4,000.0	4,000.0	3,968.3	3,963.6	8.9	8.8	-95.93	-15.2	-146.0	151.2	133.6	17.62	8.583	
4,100.0	4,100.0	4,057.1	4,049.2	9.1	9.0	-96.98	-20.7	-168.9	177.6	159.5	18.07	9.827	
4,200.0	4,200.0	4,143.5	4,131.4	9.3	9.3	-97.86	-26.9	-194.9	208.3	189.8	18.54	11.235	
4,300.0	4,300.0	4,227.3	4,209.8	9.6	9.6	-98.60	-33.8	-223.5	243.3	224.3	19.04	12.780	
4,400.0	4,400.0	4,308.2	4,284.3	9.8	10.0	-99.20	-41.2	-254.3	282.4	262.8	19.56	14.434	
4,500.0	4,500.0	4,386.2	4,354.7	10.0	10.4	-99.70	-49.0	-286.8	325.2	305.1	20.12	16.162	
4,600.0	4,600.0	4,461.1	4,421.0	10.2	10.8	-100.11	-57.2	-320.6	371.6	350.9	20.72	17.939	
4,700.0	4,700.0	4,537.6	4,487.4	10.5	11.3	-100.46	-66.0	-357.7	421.3	399.9	21.36	19.726	
4,800.0	4,800.0	4,623.9	4,561.9	10.7	12.0	-100.79	-76.2	-400.1	471.8	449.7	22.10	21.348	
4,900.0	4,900.0	4,710.2	4,636.3	10.9	12.7	-101.05	-86.4	-442.5	522.3	499.4	22.87	22.832	
5,000.0	5,000.0	4,796.5	4,710.8	11.1	13.4	-101.27	-96.6	-484.8	572.7	549.1	23.68	24.185	
5,100.0	5,100.0	4,882.8	4,785.3	11.4	14.1	-101.45	-106.8	-527.2	623.2	598.7	24.52	25.416	

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

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-022HN - Wellbore #1 - Plan #1 (11-12-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,200.0	4,970.3	4,860.8	11.6	14.9	19.66	-117.1	-570.2	671.6	649.2	22.44	29.928	
5,300.0	5,299.6	5,060.1	4,938.3	11.7	15.7	19.27	-127.7	-614.3	715.6	692.7	22.83	31.340	
5,400.0	5,398.8	5,151.9	5,017.5	11.9	16.6	19.08	-138.6	-659.4	755.1	731.9	23.20	32.540	
5,500.0	5,497.1	5,245.5	5,098.3	12.1	17.5	19.06	-149.6	-705.4	790.0	766.4	23.55	33.539	
5,600.0	5,594.3	5,340.6	5,180.4	12.4	18.5	19.19	-160.9	-752.1	820.3	796.4	23.89	34.340	
5,700.0	5,690.2	5,437.0	5,263.5	12.6	19.4	19.46	-172.2	-799.5	845.9	821.7	24.20	34.948	
5,800.0	5,784.4	5,534.3	5,347.6	12.9	20.4	19.87	-183.7	-847.3	866.8	842.2	24.51	35.359	
5,900.0	5,876.8	5,632.4	5,432.2	13.3	21.4	20.41	-195.3	-895.5	882.9	858.1	24.82	35.568	
6,000.0	5,967.1	5,730.9	5,517.2	13.7	22.4	21.10	-207.0	-943.9	894.4	869.2	25.15	35.563	
6,100.0	6,054.9	5,829.7	5,602.4	14.2	23.5	21.93	-218.6	-992.4	901.1	875.6	25.51	35.327	
6,200.0	6,141.4	5,928.4	5,687.6	14.7	24.5	22.89	-230.3	-1,040.9	905.4	879.2	26.22	34.529	
6,300.0	6,227.8	6,027.1	5,772.8	15.4	25.5	23.84	-241.9	-1,089.3	909.9	882.9	27.01	33.688	
6,400.0	6,314.2	6,125.8	5,858.0	16.1	26.6	24.78	-253.6	-1,137.8	914.7	886.8	27.85	32.842	
6,500.0	6,400.6	6,224.6	5,943.2	16.8	27.6	25.72	-265.2	-1,186.3	919.7	891.0	28.75	31.995	
6,600.0	6,487.0	6,323.3	6,028.4	17.5	28.7	26.64	-276.9	-1,234.8	925.0	895.3	29.69	31.150	
6,700.0	6,573.4	6,422.0	6,113.6	18.3	29.8	27.56	-288.6	-1,283.3	930.5	899.8	30.70	30.311	
6,800.0	6,659.8	6,520.7	6,198.8	19.2	30.8	28.46	-300.2	-1,331.8	936.2	904.5	31.76	29.481	
6,900.0	6,746.5	6,619.6	6,284.2	20.0	31.9	23.23	-311.9	-1,380.4	942.2	909.3	32.90	28.638	
7,000.0	6,835.6	6,719.2	6,370.1	20.6	33.0	-1.23	-323.6	-1,429.3	947.9	914.1	33.78	28.062	
7,100.0	6,924.2	6,815.4	6,453.2	21.2	34.0	-25.86	-335.0	-1,476.6	953.2	919.1	34.13	27.928	
7,200.0	7,007.7	6,903.5	6,529.2	21.6	35.0	-43.67	-345.4	-1,519.8	959.6	925.3	34.23	28.030	
7,300.0	7,081.8	6,978.9	6,594.2	21.9	35.8	-54.96	-354.3	-1,556.9	969.5	935.1	34.41	28.179	
7,400.0	7,142.9	7,037.6	6,644.9	22.0	36.4	-61.30	-361.2	-1,585.7	985.7	951.0	34.76	28.358	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-024HC - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-91.74	-1.8	-60.4	60.4				
100.0	100.0	100.0	100.0	0.1	0.1	-91.74	-1.8	-60.4	60.4	60.2	0.22	268.817	
200.0	200.0	200.0	200.0	0.3	0.3	-91.74	-1.8	-60.4	60.4	59.7	0.67	89.606	
300.0	300.0	300.0	300.0	0.6	0.6	-91.74	-1.8	-60.4	60.4	59.3	1.12	53.763	
400.0	400.0	400.0	400.0	0.8	0.8	-91.74	-1.8	-60.4	60.4	58.8	1.57	38.402	
500.0	500.0	500.0	500.0	1.0	1.0	-91.74	-1.8	-60.4	60.4	58.4	2.02	29.869	
600.0	600.0	600.0	600.0	1.2	1.2	-91.74	-1.8	-60.4	60.4	57.9	2.47	24.438	
700.0	700.0	700.0	700.0	1.5	1.5	-91.74	-1.8	-60.4	60.4	57.5	2.92	20.678	
800.0	800.0	800.0	800.0	1.7	1.7	-91.74	-1.8	-60.4	60.4	57.0	3.37	17.921	
900.0	900.0	900.0	900.0	1.9	1.9	-91.74	-1.8	-60.4	60.4	56.6	3.82	15.813	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-91.74	-1.8	-60.4	60.4	56.2	4.27	14.148	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-91.74	-1.8	-60.4	60.4	55.7	4.72	12.801	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-91.74	-1.8	-60.4	60.4	55.3	5.17	11.688	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-91.74	-1.8	-60.4	60.4	54.8	5.62	10.753	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-91.74	-1.8	-60.4	60.4	54.4	6.07	9.956	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-91.74	-1.8	-60.4	60.4	53.9	6.52	9.270	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-91.74	-1.8	-60.4	60.4	53.5	6.97	8.672	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-91.74	-1.8	-60.4	60.4	53.0	7.42	8.146	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-91.74	-1.8	-60.4	60.4	52.6	7.87	7.680	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	-91.74	-1.8	-60.4	60.4	52.1	8.32	7.265	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-91.74	-1.8	-60.4	60.4	51.7	8.77	6.893	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-91.74	-1.8	-60.4	60.4	51.2	9.22	6.557	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-91.74	-1.8	-60.4	60.4	50.8	9.66	6.252	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	-91.74	-1.8	-60.4	60.4	50.3	10.11	5.974	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	-91.74	-1.8	-60.4	60.4	49.9	10.56	5.720	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-91.74	-1.8	-60.4	60.4	49.4	11.01	5.486	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-91.74	-1.8	-60.4	60.4	49.0	11.46	5.271	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	-91.74	-1.8	-60.4	60.4	48.5	11.91	5.072	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	-91.74	-1.8	-60.4	60.4	48.1	12.36	4.888	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-91.74	-1.8	-60.4	60.4	47.6	12.81	4.716	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-91.74	-1.8	-60.4	60.4	47.2	13.26	4.556	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	-91.74	-1.8	-60.4	60.4	46.7	13.71	4.407	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	-91.74	-1.8	-60.4	60.4	46.3	14.16	4.267	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-91.74	-1.8	-60.4	60.4	45.8	14.61	4.136	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-91.74	-1.8	-60.4	60.4	45.4	15.06	4.012	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	-91.74	-1.8	-60.4	60.4	44.9	15.51	3.896	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	-91.74	-1.8	-60.4	60.4	44.5	15.96	3.786	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	-91.74	-1.8	-60.4	60.4	44.0	16.41	3.682	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	-91.74	-1.8	-60.4	60.4	43.6	16.86	3.584	
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	-91.74	-1.8	-60.4	60.4	43.1	17.31	3.491	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	-91.74	-1.8	-60.4	60.4	42.7	17.76	3.403	CC, ES, SF
4,100.0	4,100.0	4,096.9	4,096.9	9.1	9.1	-92.28	-2.5	-62.8	62.9	44.7	18.18	3.459	
4,200.0	4,200.0	4,193.4	4,193.0	9.3	9.3	-93.66	-4.5	-69.8	70.3	51.7	18.59	3.781	
4,300.0	4,300.0	4,288.8	4,287.7	9.6	9.5	-95.40	-7.7	-81.4	82.7	63.7	19.01	4.348	
4,400.0	4,400.0	4,382.9	4,380.3	9.8	9.7	-97.10	-12.1	-97.2	99.9	80.5	19.44	5.142	
4,500.0	4,500.0	4,475.1	4,470.2	10.0	9.9	-98.56	-17.6	-117.0	122.0	102.2	19.87	6.141	
4,600.0	4,600.0	4,565.0	4,556.8	10.2	10.1	-99.75	-24.1	-140.3	148.8	128.5	20.32	7.321	
4,700.0	4,700.0	4,652.5	4,639.9	10.5	10.4	-100.69	-31.5	-166.7	180.0	159.2	20.79	8.657	
4,800.0	4,800.0	4,737.2	4,719.0	10.7	10.7	-101.43	-39.6	-195.8	215.5	194.2	21.29	10.123	
4,900.0	4,900.0	4,819.0	4,794.1	10.9	11.1	-102.01	-48.3	-227.0	255.1	233.3	21.81	11.696	
5,000.0	5,000.0	4,900.0	4,867.1	11.1	11.5	-102.48	-57.7	-260.9	298.5	276.1	22.36	13.347	
5,100.0	5,100.0	4,973.2	4,931.6	11.4	11.9	-102.83	-67.0	-294.1	345.5	322.5	22.94	15.059	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-024HC - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,200.0	5,055.9	5,003.3	11.6	12.4	18.20	-78.1	-333.8	393.1	370.5	22.54	17.441	
5,300.0	5,299.6	5,145.9	5,081.2	11.7	13.1	17.83	-90.2	-377.2	436.5	413.7	22.86	19.092	
5,400.0	5,398.8	5,238.0	5,160.9	11.9	13.8	17.72	-102.5	-421.7	475.4	452.3	23.16	20.525	
5,500.0	5,497.1	5,331.9	5,242.2	12.1	14.5	17.81	-115.2	-466.9	509.7	486.3	23.44	21.746	
5,600.0	5,594.3	5,427.2	5,324.8	12.4	15.3	18.08	-128.0	-512.9	539.3	515.6	23.70	22.759	
5,700.0	5,690.2	5,523.9	5,408.4	12.6	16.1	18.51	-141.0	-559.6	564.2	540.2	23.94	23.567	
5,800.0	5,784.4	5,621.5	5,492.9	12.9	17.0	19.10	-154.1	-606.7	584.3	560.1	24.17	24.169	
5,900.0	5,876.8	5,719.9	5,578.1	13.3	17.9	19.84	-167.3	-654.1	599.7	575.2	24.42	24.561	
6,000.0	5,967.1	5,818.7	5,663.6	13.7	18.8	20.76	-180.6	-701.8	610.3	585.6	24.68	24.734	
6,100.0	6,054.9	5,917.7	5,749.3	14.2	19.8	21.87	-193.9	-749.5	616.3	591.3	24.98	24.672	
6,200.0	6,141.4	6,016.7	5,835.0	14.7	20.8	23.12	-207.3	-797.3	619.9	594.2	25.68	24.136	
6,300.0	6,227.8	6,115.7	5,920.7	15.4	21.7	24.36	-220.6	-845.0	623.7	597.2	26.47	23.560	
6,400.0	6,314.2	6,214.7	6,006.4	16.1	22.7	25.58	-233.9	-892.8	627.8	600.5	27.32	22.975	
6,500.0	6,400.6	6,313.7	6,092.1	16.8	23.7	26.79	-247.2	-940.5	632.2	603.9	28.24	22.383	
6,600.0	6,487.0	6,412.7	6,177.8	17.5	24.7	27.98	-260.5	-988.3	636.8	607.6	29.23	21.788	
6,700.0	6,573.4	6,511.7	6,263.5	18.3	25.7	29.15	-273.8	-1,036.0	641.8	611.5	30.28	21.193	
6,800.0	6,659.8	6,610.7	6,349.2	19.2	26.8	30.31	-287.1	-1,083.8	647.0	615.6	31.40	20.602	
6,900.0	6,746.5	6,709.9	6,435.0	20.0	27.8	25.27	-300.5	-1,131.6	652.4	619.8	32.59	20.017	
7,000.0	6,835.6	6,809.4	6,521.2	20.6	28.8	0.42	-313.8	-1,179.6	657.0	623.7	33.32	19.716	
7,100.0	6,924.2	6,905.3	6,604.2	21.2	29.8	-25.19	-326.7	-1,225.9	660.8	627.3	33.43	19.768	
7,200.0	7,007.7	6,992.6	6,679.8	21.6	30.7	-44.29	-338.5	-1,268.0	666.2	632.8	33.35	19.974	
7,300.0	7,081.8	7,066.9	6,744.1	21.9	31.5	-56.75	-348.5	-1,303.8	677.1	643.6	33.50	20.212	
7,400.0	7,142.9	7,124.4	6,793.8	22.0	32.1	-63.70	-356.2	-1,331.5	697.4	663.4	33.92	20.561	
7,500.0	7,187.6	7,162.0	6,826.4	22.1	32.5	-65.47	-361.3	-1,349.7	729.5	695.1	34.43	21.188	
7,600.0	7,213.8	7,178.0	6,840.2	22.2	32.7	-62.05	-363.4	-1,357.4	773.5	739.0	34.54	22.393	
7,700.0	7,220.4	7,171.8	6,834.8	22.3	32.6	-55.45	-362.6	-1,354.4	826.7	793.0	33.76	24.486	
7,800.0	7,220.4	8,140.8	7,335.4	22.4	36.9	-97.81	208.5	-1,631.6	846.6	811.1	35.54	23.821	
7,900.0	7,220.4	8,240.8	7,335.4	22.8	37.0	-97.81	308.5	-1,631.3	846.6	809.9	36.70	23.071	
8,000.0	7,220.4	8,340.8	7,335.4	23.3	37.2	-97.81	408.5	-1,631.1	846.6	808.4	38.20	22.164	
8,100.0	7,220.4	8,440.8	7,335.4	23.9	37.5	-97.81	508.5	-1,630.8	846.6	806.6	40.01	21.161	
8,200.0	7,220.4	8,540.8	7,335.4	24.8	37.8	-97.81	608.5	-1,630.5	846.6	804.5	42.09	20.116	
8,300.0	7,220.4	8,640.8	7,335.4	25.7	38.3	-97.81	708.5	-1,630.3	846.6	802.2	44.39	19.070	
8,400.0	7,220.4	8,740.8	7,335.4	26.8	38.8	-97.81	808.5	-1,630.0	846.6	799.7	46.90	18.051	
8,500.0	7,220.4	8,840.8	7,335.4	28.0	39.5	-97.81	908.5	-1,629.7	846.6	797.0	49.57	17.078	
8,600.0	7,220.4	8,940.8	7,335.4	29.3	40.2	-97.81	1,008.5	-1,629.4	846.6	794.2	52.39	16.161	
8,700.0	7,220.4	9,040.8	7,335.4	30.6	41.0	-97.81	1,108.5	-1,629.2	846.6	791.3	55.32	15.304	
8,800.0	7,220.4	9,140.8	7,335.4	32.1	41.9	-97.81	1,208.5	-1,628.9	846.6	788.2	58.35	14.508	
8,900.0	7,220.4	9,240.8	7,335.4	33.5	42.9	-97.81	1,308.5	-1,628.6	846.6	785.1	61.47	13.771	
9,000.0	7,220.4	9,340.8	7,335.4	35.0	43.9	-97.81	1,408.5	-1,628.4	846.6	781.9	64.67	13.091	
9,100.0	7,220.4	9,440.8	7,335.4	36.6	45.0	-97.81	1,508.5	-1,628.1	846.6	778.6	67.93	12.463	
9,200.0	7,220.4	9,540.8	7,335.4	38.2	46.2	-97.81	1,608.5	-1,627.8	846.6	775.3	71.24	11.883	
9,300.0	7,220.4	9,640.8	7,335.4	39.8	47.5	-97.81	1,708.5	-1,627.6	846.6	772.0	74.60	11.347	
9,400.0	7,220.4	9,740.8	7,335.4	41.4	48.8	-97.81	1,808.5	-1,627.3	846.6	768.6	78.01	10.852	
9,500.0	7,220.4	9,840.8	7,335.4	43.1	50.1	-97.81	1,908.5	-1,627.0	846.6	765.1	81.45	10.394	
9,600.0	7,220.4	9,940.8	7,335.4	44.8	51.5	-97.81	2,008.5	-1,626.7	846.6	761.6	84.92	9.969	
9,700.0	7,220.4	10,040.8	7,335.4	46.5	53.0	-97.81	2,108.5	-1,626.5	846.6	758.1	88.42	9.575	
9,800.0	7,220.4	10,140.8	7,335.4	48.2	54.4	-97.81	2,208.5	-1,626.2	846.6	754.6	91.94	9.207	
9,900.0	7,220.4	10,240.8	7,335.4	50.0	55.9	-97.81	2,308.5	-1,625.9	846.6	751.1	95.49	8.865	
10,000.0	7,220.4	10,340.8	7,335.4	51.7	57.5	-97.81	2,408.5	-1,625.7	846.6	747.5	99.05	8.546	
10,100.0	7,220.4	10,440.8	7,335.4	53.5	59.0	-97.81	2,508.5	-1,625.4	846.5	743.9	102.64	8.248	
10,200.0	7,220.4	10,540.8	7,335.4	55.3	60.6	-97.81	2,608.5	-1,625.1	846.5	740.3	106.24	7.968	
10,300.0	7,220.4	10,640.8	7,335.4	57.0	62.2	-97.81	2,708.5	-1,624.8	846.5	736.7	109.85	7.706	

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

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-024HC - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.0	7,220.4	10,740.8	7,335.4	58.8	63.8	-97.81	2,808.5	-1,624.6	846.5	733.1	113.48	7.460	
10,500.0	7,220.4	10,840.8	7,335.4	60.6	65.5	-97.81	2,908.5	-1,624.3	846.5	729.4	117.12	7.228	
10,600.0	7,220.4	10,940.8	7,335.4	62.4	67.1	-97.81	3,008.5	-1,624.0	846.5	725.8	120.77	7.010	
10,700.0	7,220.4	11,040.8	7,335.4	64.2	68.8	-97.81	3,108.5	-1,623.8	846.5	722.1	124.43	6.803	
10,800.0	7,220.4	11,140.8	7,335.4	66.1	70.5	-97.81	3,208.5	-1,623.5	846.5	718.4	128.10	6.609	
10,900.0	7,220.4	11,240.8	7,335.4	67.9	72.2	-97.81	3,308.5	-1,623.2	846.5	714.8	131.77	6.424	
11,000.0	7,220.4	11,340.8	7,335.4	69.7	73.9	-97.81	3,408.5	-1,623.0	846.5	711.1	135.46	6.249	
11,100.0	7,220.4	11,440.8	7,335.4	71.5	75.6	-97.81	3,508.5	-1,622.7	846.5	707.4	139.15	6.084	
11,200.0	7,220.4	11,540.8	7,335.4	73.4	77.4	-97.81	3,608.5	-1,622.4	846.5	703.7	142.85	5.926	
11,300.0	7,220.4	11,640.8	7,335.4	75.2	79.1	-97.81	3,708.5	-1,622.1	846.5	700.0	146.55	5.776	
11,400.0	7,220.4	11,740.8	7,335.4	77.1	80.9	-97.81	3,808.5	-1,621.9	846.5	696.3	150.26	5.634	
11,500.0	7,220.4	11,840.8	7,335.4	78.9	82.6	-97.81	3,908.5	-1,621.6	846.5	692.5	153.97	5.498	
11,600.0	7,220.4	11,940.8	7,335.4	80.8	84.4	-97.81	4,008.5	-1,621.3	846.5	688.8	157.69	5.368	
11,700.0	7,220.4	12,040.8	7,335.4	82.6	86.2	-97.81	4,108.5	-1,621.1	846.5	685.1	161.41	5.244	
11,800.0	7,220.4	12,140.8	7,335.4	84.5	87.9	-97.81	4,208.5	-1,620.8	846.5	681.4	165.14	5.126	
11,900.0	7,220.4	12,240.8	7,335.4	86.4	89.7	-97.81	4,308.5	-1,620.5	846.5	677.6	168.87	5.013	
11,957.7	7,220.4	12,298.5	7,335.4	87.4	90.8	-97.81	4,366.2	-1,620.4	846.5	675.5	171.03	4.950	
11,986.7	7,220.4	12,314.3	7,335.4	88.0	91.0	-97.81	4,382.1	-1,620.3	846.6	674.7	171.87	4.926	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-025HN - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-92.06	-1.1	-30.3	30.4				
100.0	100.0	100.0	100.0	0.1	0.1	-92.06	-1.1	-30.3	30.4	30.1	0.22	135.053	
200.0	200.0	200.0	200.0	0.3	0.3	-92.06	-1.1	-30.3	30.4	29.7	0.67	45.018	
300.0	300.0	300.0	300.0	0.6	0.6	-92.06	-1.1	-30.3	30.4	29.2	1.12	27.011	
400.0	400.0	400.0	400.0	0.8	0.8	-92.06	-1.1	-30.3	30.4	28.8	1.57	19.293	
500.0	500.0	500.0	500.0	1.0	1.0	-92.06	-1.1	-30.3	30.4	28.3	2.02	15.006	
600.0	600.0	600.0	600.0	1.2	1.2	-92.06	-1.1	-30.3	30.4	27.9	2.47	12.278	
700.0	700.0	700.0	700.0	1.5	1.5	-92.06	-1.1	-30.3	30.4	27.4	2.92	10.389	
800.0	800.0	800.0	800.0	1.7	1.7	-92.06	-1.1	-30.3	30.4	27.0	3.37	9.004	
900.0	900.0	900.0	900.0	1.9	1.9	-92.06	-1.1	-30.3	30.4	26.5	3.82	7.944	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-92.06	-1.1	-30.3	30.4	26.1	4.27	7.108	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-92.06	-1.1	-30.3	30.4	25.6	4.72	6.431	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-92.06	-1.1	-30.3	30.4	25.2	5.17	5.872	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-92.06	-1.1	-30.3	30.4	24.7	5.62	5.402	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-92.06	-1.1	-30.3	30.4	24.3	6.07	5.002	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-92.06	-1.1	-30.3	30.4	23.8	6.52	4.657	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-92.06	-1.1	-30.3	30.4	23.4	6.97	4.357	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-92.06	-1.1	-30.3	30.4	22.9	7.42	4.093	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-92.06	-1.1	-30.3	30.4	22.5	7.87	3.859	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	-92.06	-1.1	-30.3	30.4	22.0	8.32	3.650	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-92.06	-1.1	-30.3	30.4	21.6	8.77	3.463	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-92.06	-1.1	-30.3	30.4	21.1	9.22	3.294	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-92.06	-1.1	-30.3	30.4	20.7	9.66	3.141	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	-92.06	-1.1	-30.3	30.4	20.2	10.11	3.001	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	-92.06	-1.1	-30.3	30.4	19.8	10.56	2.873	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-92.06	-1.1	-30.3	30.4	19.3	11.01	2.756	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-92.06	-1.1	-30.3	30.4	18.9	11.46	2.648	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	-92.06	-1.1	-30.3	30.4	18.4	11.91	2.548	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	-92.06	-1.1	-30.3	30.4	18.0	12.36	2.456	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-92.06	-1.1	-30.3	30.4	17.5	12.81	2.369	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-92.06	-1.1	-30.3	30.4	17.1	13.26	2.289	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	-92.06	-1.1	-30.3	30.4	16.6	13.71	2.214	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	-92.06	-1.1	-30.3	30.4	16.2	14.16	2.144	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-92.06	-1.1	-30.3	30.4	15.7	14.61	2.078	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-92.06	-1.1	-30.3	30.4	15.3	15.06	2.016	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	-92.06	-1.1	-30.3	30.4	14.8	15.51	1.957	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	-92.06	-1.1	-30.3	30.4	14.4	15.96	1.902	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	-92.06	-1.1	-30.3	30.4	13.9	16.41	1.850	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	-92.06	-1.1	-30.3	30.4	13.5	16.86	1.801	
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	-92.06	-1.1	-30.3	30.4	13.0	17.31	1.754	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	-92.06	-1.1	-30.3	30.4	12.6	17.76	1.710	
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	-92.06	-1.1	-30.3	30.4	12.1	18.21	1.667	
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	-92.06	-1.1	-30.3	30.4	11.7	18.66	1.627	
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	-92.06	-1.1	-30.3	30.4	11.3	19.11	1.589	CC, ES, SF
4,400.0	4,400.0	4,398.4	4,398.4	9.8	9.8	-93.33	-1.9	-32.7	32.8	13.3	19.53	1.681	
4,500.0	4,500.0	4,496.3	4,496.0	10.0	9.9	-96.18	-4.3	-39.9	40.3	20.4	19.95	2.021	
4,600.0	4,600.0	4,593.2	4,592.0	10.2	10.1	-99.11	-8.3	-51.6	52.9	32.5	20.36	2.597	
4,700.0	4,700.0	4,688.5	4,685.9	10.5	10.3	-101.44	-13.7	-67.7	70.5	49.7	20.79	3.389	
4,800.0	4,800.0	4,782.0	4,776.9	10.7	10.6	-103.13	-20.4	-87.7	92.9	71.7	21.23	4.378	
4,900.0	4,900.0	4,873.1	4,864.6	10.9	10.8	-104.32	-28.4	-111.2	120.1	98.4	21.68	5.540	
5,000.0	5,000.0	4,961.7	4,948.5	11.1	11.1	-105.17	-37.4	-137.9	151.8	129.7	22.15	6.853	
5,100.0	5,100.0	5,047.4	5,028.4	11.4	11.4	-105.79	-47.3	-167.1	187.8	165.2	22.65	8.293	

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

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-025HN - Wellbore #1 - Plan #1 (11-13-13) — **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,200.0	5,130.9	5,104.9	11.6	11.8	15.34	-58.0	-198.9	225.6	202.9	22.71	9.936	
5,300.0	5,299.6	5,213.2	5,178.8	11.7	12.1	15.07	-69.6	-233.3	262.8	239.8	23.00	11.428	
5,400.0	5,398.8	5,294.4	5,250.1	11.9	12.6	15.03	-82.0	-270.1	299.2	276.0	23.24	12.875	
5,500.0	5,497.1	5,387.1	5,330.3	12.1	13.2	15.20	-96.9	-314.1	333.3	309.8	23.47	14.199	
5,600.0	5,594.3	5,482.6	5,413.0	12.4	13.9	15.57	-112.2	-359.5	362.6	338.9	23.68	15.311	
5,700.0	5,690.2	5,579.5	5,496.8	12.6	14.6	16.10	-127.7	-405.5	387.1	363.2	23.87	16.216	
5,800.0	5,784.4	5,677.3	5,581.4	12.9	15.4	16.80	-143.4	-451.9	406.8	382.7	24.05	16.912	
5,900.0	5,876.8	5,775.9	5,666.8	13.3	16.2	17.67	-159.2	-498.8	421.6	397.4	24.23	17.397	
6,000.0	5,967.1	5,875.0	5,752.6	13.7	17.0	18.74	-175.1	-545.8	431.7	407.2	24.43	17.666	
6,100.0	6,054.9	5,974.4	5,838.5	14.2	17.9	20.02	-191.0	-593.0	437.0	412.3	24.68	17.707	
6,200.0	6,141.4	6,073.7	5,924.5	14.7	18.8	21.46	-206.9	-640.2	439.7	414.4	25.35	17.347	
6,300.0	6,227.8	6,173.1	6,010.4	15.4	19.7	22.88	-222.9	-687.3	442.8	416.7	26.11	16.954	
6,400.0	6,314.2	6,272.4	6,096.4	16.1	20.7	24.29	-238.8	-734.5	446.1	419.1	26.95	16.552	
6,500.0	6,400.6	6,371.8	6,182.4	16.8	21.6	25.67	-254.7	-781.7	449.6	421.8	27.85	16.143	
6,600.0	6,487.0	6,471.1	6,268.3	17.5	22.6	27.03	-270.6	-828.8	453.5	424.6	28.83	15.727	
6,700.0	6,573.4	6,570.4	6,354.3	18.3	23.6	28.37	-286.5	-876.0	457.6	427.7	29.89	15.309	
6,800.0	6,659.8	6,669.8	6,440.3	19.2	24.6	29.68	-302.5	-923.2	461.9	430.9	31.02	14.892	
6,900.0	6,746.5	6,769.2	6,526.3	20.0	25.6	24.72	-318.4	-970.4	466.4	434.2	32.20	14.484	
7,000.0	6,835.6	6,868.6	6,612.4	20.6	26.6	-0.70	-334.3	-1,017.6	470.3	437.5	32.81	14.333	
7,100.0	6,924.2	6,963.8	6,694.7	21.2	27.6	-27.44	-349.6	-1,062.8	474.2	441.4	32.79	14.460	
7,200.0	7,007.7	7,049.9	6,769.2	21.6	28.4	-47.79	-363.4	-1,103.7	481.9	449.2	32.75	14.713	
7,300.0	7,081.8	7,150.0	6,856.7	21.9	29.3	-62.60	-368.7	-1,151.6	496.7	463.7	33.01	15.048	
7,400.0	7,142.9	7,273.8	6,962.8	22.0	30.2	-73.70	-344.1	-1,209.7	516.9	483.4	33.48	15.441	
7,500.0	7,187.6	7,436.9	7,085.8	22.1	31.1	-82.67	-262.6	-1,277.0	538.6	504.7	33.89	15.893	
7,600.0	7,213.8	7,655.0	7,194.8	22.2	31.6	-88.89	-86.0	-1,336.2	554.2	519.9	34.28	16.169	
7,700.0	7,220.4	7,852.3	7,220.4	22.3	31.7	-90.00	107.7	-1,349.7	556.6	521.5	35.07	15.870	
7,800.0	7,220.4	7,952.3	7,220.4	22.4	31.8	-90.00	207.7	-1,349.4	556.6	520.7	35.86	15.520	
7,900.0	7,220.4	8,052.3	7,220.4	22.8	31.9	-90.00	307.7	-1,349.2	556.6	519.5	37.08	15.009	
8,000.0	7,220.4	8,152.3	7,220.4	23.3	32.2	-90.00	407.7	-1,348.9	556.6	517.9	38.65	14.401	
8,100.0	7,220.4	8,252.3	7,220.4	23.9	32.5	-90.00	507.7	-1,348.6	556.6	516.0	40.52	13.736	
8,200.0	7,220.4	8,352.3	7,220.4	24.8	33.0	-90.00	607.7	-1,348.4	556.6	513.9	42.66	13.048	
8,300.0	7,220.4	8,452.3	7,220.4	25.7	33.6	-90.00	707.7	-1,348.1	556.6	511.5	45.02	12.363	
8,400.0	7,220.4	8,552.3	7,220.4	26.8	34.2	-90.00	807.7	-1,347.8	556.6	509.0	47.58	11.698	
8,500.0	7,220.4	8,652.3	7,220.4	28.0	35.0	-90.00	907.7	-1,347.5	556.6	506.3	50.30	11.065	
8,600.0	7,220.4	8,752.3	7,220.4	29.3	35.9	-90.00	1,007.7	-1,347.3	556.6	503.4	53.16	10.470	
8,700.0	7,220.4	8,852.3	7,220.4	30.6	36.9	-90.00	1,107.7	-1,347.0	556.6	500.4	56.13	9.915	
8,800.0	7,220.4	8,952.3	7,220.4	32.1	37.9	-90.00	1,207.7	-1,346.7	556.6	497.3	59.21	9.400	
8,900.0	7,220.4	9,052.3	7,220.4	33.5	39.1	-90.00	1,307.7	-1,346.5	556.6	494.2	62.37	8.923	
9,000.0	7,220.4	9,152.3	7,220.4	35.0	40.3	-90.00	1,407.7	-1,346.2	556.6	490.9	65.61	8.483	
9,100.0	7,220.4	9,252.3	7,220.4	36.6	41.5	-90.00	1,507.7	-1,345.9	556.6	487.6	68.90	8.077	
9,200.0	7,220.4	9,352.3	7,220.4	38.2	42.9	-90.00	1,607.7	-1,345.7	556.6	484.3	72.26	7.703	
9,300.0	7,220.4	9,452.3	7,220.4	39.8	44.3	-90.00	1,707.7	-1,345.4	556.5	480.9	75.65	7.357	
9,400.0	7,220.4	9,552.3	7,220.4	41.4	45.7	-90.00	1,807.7	-1,345.1	556.5	477.5	79.09	7.037	
9,500.0	7,220.4	9,652.3	7,220.4	43.1	47.2	-90.00	1,907.7	-1,344.8	556.5	474.0	82.57	6.741	
9,600.0	7,220.4	9,752.3	7,220.4	44.8	48.7	-90.00	2,007.7	-1,344.6	556.5	470.5	86.07	6.466	
9,700.0	7,220.4	9,852.3	7,220.4	46.5	50.2	-90.00	2,107.7	-1,344.3	556.5	466.9	89.60	6.211	
9,800.0	7,220.4	9,952.3	7,220.4	48.2	51.8	-90.00	2,207.7	-1,344.0	556.5	463.4	93.16	5.974	
9,900.0	7,220.4	10,052.3	7,220.4	50.0	53.4	-90.00	2,307.7	-1,343.8	556.5	459.8	96.74	5.753	
10,000.0	7,220.4	10,152.3	7,220.4	51.7	55.0	-90.00	2,407.7	-1,343.5	556.5	456.2	100.34	5.546	
10,100.0	7,220.4	10,252.3	7,220.4	53.5	56.6	-90.00	2,507.7	-1,343.2	556.5	452.6	103.96	5.353	
10,200.0	7,220.4	10,352.3	7,220.4	55.3	58.3	-90.00	2,607.7	-1,343.0	556.5	448.9	107.59	5.173	
10,300.0	7,220.4	10,452.3	7,220.4	57.0	60.0	-90.00	2,707.7	-1,342.7	556.5	445.3	111.24	5.003	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-025HN - Wellbore #1 - Plan #1 (11-13-13) — **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.0	7,220.4	10,552.3	7,220.4	58.8	61.7	-90.00	2,807.7	-1,342.4	556.5	441.6	114.90	4.844	
10,500.0	7,220.4	10,652.3	7,220.4	60.6	63.4	-90.00	2,907.7	-1,342.1	556.5	438.0	118.57	4.694	
10,600.0	7,220.4	10,752.3	7,220.4	62.4	65.1	-90.00	3,007.7	-1,341.9	556.5	434.3	122.25	4.552	
10,700.0	7,220.4	10,852.3	7,220.4	64.2	66.8	-90.00	3,107.7	-1,341.6	556.5	430.6	125.94	4.419	
10,800.0	7,220.4	10,952.3	7,220.4	66.1	68.6	-90.00	3,207.7	-1,341.3	556.5	426.9	129.64	4.293	
10,900.0	7,220.4	11,052.3	7,220.4	67.9	70.3	-90.00	3,307.7	-1,341.1	556.5	423.2	133.35	4.174	
11,000.0	7,220.4	11,152.3	7,220.4	69.7	72.1	-90.00	3,407.7	-1,340.8	556.5	419.5	137.06	4.060	
11,100.0	7,220.4	11,252.3	7,220.4	71.5	73.8	-90.00	3,507.7	-1,340.5	556.5	415.7	140.78	3.953	
11,200.0	7,220.4	11,352.3	7,220.4	73.4	75.6	-90.00	3,607.7	-1,340.3	556.5	412.0	144.51	3.851	
11,300.0	7,220.4	11,452.3	7,220.4	75.2	77.4	-90.00	3,707.7	-1,340.0	556.5	408.3	148.25	3.754	
11,400.0	7,220.4	11,552.3	7,220.4	77.1	79.2	-90.00	3,807.7	-1,339.7	556.5	404.5	151.99	3.662	
11,500.0	7,220.4	11,652.3	7,220.4	78.9	81.0	-90.00	3,907.7	-1,339.4	556.5	400.8	155.73	3.574	
11,600.0	7,220.4	11,752.3	7,220.4	80.8	82.8	-90.00	4,007.7	-1,339.2	556.5	397.0	159.48	3.490	
11,700.0	7,220.4	11,852.3	7,220.4	82.6	84.6	-90.00	4,107.7	-1,338.9	556.5	393.3	163.23	3.409	
11,800.0	7,220.4	11,952.3	7,220.4	84.5	86.4	-90.00	4,207.7	-1,338.6	556.5	389.5	166.99	3.333	
11,900.0	7,220.4	12,052.3	7,220.4	86.4	88.2	-90.00	4,307.7	-1,338.4	556.5	385.8	170.75	3.259	
11,959.8	7,220.4	12,112.0	7,220.4	87.5	89.3	-90.00	4,367.5	-1,338.2	556.5	383.5	173.00	3.217	
11,986.7	7,220.4	12,130.6	7,220.4	88.0	89.6	-90.00	4,386.0	-1,338.2	556.6	382.7	173.86	3.201	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-028HC - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	87.86	1.1	29.2	29.2				
100.0	100.0	100.0	100.0	0.1	0.1	87.86	1.1	29.2	29.2	29.0	0.22	130.104	
200.0	200.0	200.0	200.0	0.3	0.3	87.86	1.1	29.2	29.2	28.6	0.67	43.368	
300.0	300.0	300.0	300.0	0.6	0.6	87.86	1.1	29.2	29.2	28.1	1.12	26.021	
400.0	400.0	400.0	400.0	0.8	0.8	87.86	1.1	29.2	29.2	27.7	1.57	18.586	
500.0	500.0	500.0	500.0	1.0	1.0	87.86	1.1	29.2	29.2	27.2	2.02	14.456	
600.0	600.0	600.0	600.0	1.2	1.2	87.86	1.1	29.2	29.2	26.8	2.47	11.828	
700.0	700.0	700.0	700.0	1.5	1.5	87.86	1.1	29.2	29.2	26.3	2.92	10.008	
800.0	800.0	800.0	800.0	1.7	1.7	87.86	1.1	29.2	29.2	25.9	3.37	8.674	
900.0	900.0	900.0	900.0	1.9	1.9	87.86	1.1	29.2	29.2	25.4	3.82	7.653	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	87.86	1.1	29.2	29.2	25.0	4.27	6.848	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	87.86	1.1	29.2	29.2	24.5	4.72	6.195	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	87.86	1.1	29.2	29.2	24.1	5.17	5.657	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	87.86	1.1	29.2	29.2	23.6	5.62	5.204	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	87.86	1.1	29.2	29.2	23.2	6.07	4.819	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	87.86	1.1	29.2	29.2	22.7	6.52	4.486	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	87.86	1.1	29.2	29.2	22.3	6.97	4.197	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	87.86	1.1	29.2	29.2	21.8	7.42	3.943	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	87.86	1.1	29.2	29.2	21.4	7.87	3.717	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	87.86	1.1	29.2	29.2	20.9	8.32	3.516	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	87.86	1.1	29.2	29.2	20.5	8.77	3.336	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	87.86	1.1	29.2	29.2	20.0	9.22	3.173	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	87.86	1.1	29.2	29.2	19.6	9.66	3.026	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	87.86	1.1	29.2	29.2	19.1	10.11	2.891	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	87.86	1.1	29.2	29.2	18.7	10.56	2.768	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	87.86	1.1	29.2	29.2	18.2	11.01	2.655	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	87.86	1.1	29.2	29.2	17.8	11.46	2.551	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	87.86	1.1	29.2	29.2	17.3	11.91	2.455	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	87.86	1.1	29.2	29.2	16.9	12.36	2.366	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	87.86	1.1	29.2	29.2	16.4	12.81	2.283	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	87.86	1.1	29.2	29.2	16.0	13.26	2.205	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	87.86	1.1	29.2	29.2	15.5	13.71	2.133	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	87.86	1.1	29.2	29.2	15.1	14.16	2.065	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	87.86	1.1	29.2	29.2	14.6	14.61	2.002	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	87.86	1.1	29.2	29.2	14.2	15.06	1.942	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	87.86	1.1	29.2	29.2	13.7	15.51	1.886	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	87.86	1.1	29.2	29.2	13.3	15.96	1.832	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	87.86	1.1	29.2	29.2	12.8	16.41	1.782	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	87.86	1.1	29.2	29.2	12.4	16.86	1.735	
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	87.86	1.1	29.2	29.2	11.9	17.31	1.690	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	87.86	1.1	29.2	29.2	11.5	17.76	1.647	
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	87.86	1.1	29.2	29.2	11.0	18.21	1.606	
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	87.86	1.1	29.2	29.2	10.6	18.66	1.568	
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	87.86	1.1	29.2	29.2	10.1	19.11	1.531	
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	87.86	1.1	29.2	29.2	9.7	19.55	1.495	Level 3
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	87.86	1.1	29.2	29.2	9.2	20.00	1.462	Level 3
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	87.86	1.1	29.2	29.2	8.8	20.45	1.430	Level 3
4,700.0	4,700.0	4,700.0	4,700.0	10.5	10.5	87.86	1.1	29.2	29.2	8.3	20.90	1.399	Level 3
4,800.0	4,800.0	4,800.0	4,800.0	10.7	10.7	87.86	1.1	29.2	29.2	7.9	21.35	1.370	Level 3
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	87.86	1.1	29.2	29.2	7.4	21.80	1.341	Level 3
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	87.86	1.1	29.2	29.2	7.0	22.25	1.314	Level 3
5,100.0	5,100.0	5,100.0	5,100.0	11.4	11.4	87.86	1.1	29.2	29.2	6.5	22.70	1.288	Level 3, CC, ES, SF

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

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-028HC - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,200.0	5,200.0	5,200.0	11.6	11.6	-152.72	1.1	29.2	31.5	8.4	23.11	1.365	Level 3
5,300.0	5,299.6	5,299.6	5,299.6	11.7	11.8	-157.97	1.1	29.2	38.7	15.2	23.44	1.650	
5,400.0	5,398.8	5,398.8	5,398.8	11.9	12.0	-163.36	1.1	29.2	51.0	27.3	23.72	2.152	
5,500.0	5,497.1	5,497.1	5,497.1	12.1	12.2	-167.60	1.1	29.2	68.7	44.8	23.93	2.871	
5,600.0	5,594.3	5,597.7	5,597.6	12.4	12.4	-170.29	-0.1	28.1	90.3	66.2	24.07	3.750	
5,700.0	5,690.2	5,700.1	5,699.9	12.6	12.6	-171.24	-5.1	23.4	112.4	88.2	24.14	4.655	
5,800.0	5,784.4	5,803.7	5,802.7	12.9	12.8	-171.25	-14.3	14.9	134.7	110.6	24.17	5.575	
5,900.0	5,876.8	5,908.5	5,905.8	13.3	13.0	-170.68	-27.7	2.4	157.3	133.1	24.16	6.508	
6,000.0	5,967.1	6,014.4	6,008.9	13.7	13.2	-169.75	-45.4	-14.2	179.9	155.8	24.14	7.455	
6,100.0	6,054.9	6,121.4	6,111.5	14.2	13.5	-168.56	-67.6	-34.8	202.7	178.6	24.10	8.411	
6,200.0	6,141.4	6,230.0	6,213.7	14.7	13.8	-167.18	-94.3	-59.8	223.5	198.9	24.56	9.101	
6,300.0	6,227.8	6,340.3	6,315.3	15.4	14.1	-165.33	-125.8	-89.1	239.4	214.3	25.13	9.528	
6,400.0	6,314.2	6,451.8	6,415.2	16.1	14.6	-162.98	-161.8	-122.7	250.5	224.7	25.80	9.711	
6,500.0	6,400.6	6,560.3	6,509.7	16.8	15.1	-160.17	-200.9	-159.2	257.3	230.6	26.60	9.669	
6,600.0	6,487.0	6,659.4	6,595.1	17.5	15.6	-157.54	-237.7	-193.5	263.1	235.6	27.50	9.568	
6,700.0	6,573.4	6,758.5	6,680.6	18.3	16.2	-155.02	-274.4	-227.8	269.6	241.0	28.51	9.454	
6,800.0	6,659.8	6,857.6	6,766.0	19.2	16.9	-152.63	-311.2	-262.0	276.5	246.8	29.64	9.329	
6,900.0	6,746.5	6,955.8	6,853.1	20.0	17.4	-158.58	-339.1	-297.0	284.0	253.5	30.50	9.311	
7,000.0	6,835.6	7,053.6	6,943.6	20.6	17.9	175.08	-345.7	-333.2	291.8	260.9	30.95	9.428	
7,100.0	6,924.2	7,151.1	7,032.9	21.2	18.2	150.03	-330.7	-368.9	299.6	268.4	31.25	9.587	
7,200.0	7,007.7	7,248.5	7,116.8	21.6	18.4	132.80	-295.1	-402.3	307.0	275.5	31.44	9.762	
7,300.0	7,081.8	7,345.8	7,191.5	21.9	18.5	122.32	-240.6	-432.1	313.4	281.8	31.61	9.916	
7,400.0	7,142.9	7,443.2	7,253.4	22.0	18.6	116.07	-169.7	-456.6	318.8	286.9	31.84	10.012	
7,500.0	7,187.6	7,540.9	7,299.4	22.1	18.6	112.52	-85.7	-474.8	322.6	290.4	32.21	10.017	
7,600.0	7,213.8	7,638.9	7,327.2	22.2	18.6	110.87	7.4	-485.7	324.9	292.1	32.76	9.916	
7,700.0	7,220.4	7,737.6	7,335.4	22.3	18.7	110.69	105.5	-488.7	325.4	292.0	33.47	9.722	
7,800.0	7,220.4	7,837.6	7,335.4	22.4	19.1	110.69	205.5	-488.4	325.4	291.0	34.39	9.463	
7,900.0	7,220.4	7,937.6	7,335.4	22.8	19.6	110.70	305.5	-488.2	325.4	289.7	35.69	9.117	
8,000.0	7,220.4	8,037.6	7,335.4	23.3	20.4	110.70	405.5	-487.9	325.4	288.1	37.31	8.722	
8,100.0	7,220.4	8,137.6	7,335.4	23.9	21.3	110.70	505.5	-487.7	325.4	286.2	39.19	8.302	
8,200.0	7,220.4	8,237.6	7,335.4	24.8	22.3	110.70	605.5	-487.4	325.4	284.1	41.31	7.876	
8,300.0	7,220.4	8,337.6	7,335.4	25.7	23.5	110.70	705.5	-487.2	325.4	281.7	43.63	7.457	
8,400.0	7,220.4	8,437.6	7,335.4	26.8	24.7	110.70	805.5	-486.9	325.4	279.2	46.12	7.054	
8,500.0	7,220.4	8,537.6	7,335.4	28.0	26.0	110.70	905.5	-486.6	325.3	276.6	48.75	6.673	
8,600.0	7,220.4	8,637.6	7,335.4	29.3	27.4	110.70	1,005.5	-486.4	325.3	273.8	51.51	6.316	
8,700.0	7,220.4	8,737.6	7,335.4	30.6	28.9	110.70	1,105.5	-486.1	325.3	270.9	54.37	5.984	
8,800.0	7,220.4	8,837.6	7,335.4	32.1	30.4	110.70	1,205.5	-485.9	325.3	268.0	57.31	5.676	
8,900.0	7,220.4	8,937.6	7,335.4	33.5	32.0	110.70	1,305.5	-485.6	325.3	265.0	60.33	5.392	
9,000.0	7,220.4	9,037.6	7,335.4	35.0	33.6	110.70	1,405.5	-485.4	325.3	261.9	63.41	5.129	
9,100.0	7,220.4	9,137.6	7,335.4	36.6	35.2	110.71	1,505.5	-485.1	325.3	258.7	66.55	4.887	
9,200.0	7,220.4	9,237.6	7,335.4	38.2	36.8	110.71	1,605.5	-484.9	325.2	255.5	69.74	4.664	
9,300.0	7,220.4	9,337.6	7,335.4	39.8	38.5	110.71	1,705.5	-484.6	325.2	252.3	72.97	4.457	
9,400.0	7,220.4	9,437.6	7,335.4	41.4	40.2	110.71	1,805.5	-484.4	325.2	249.0	76.23	4.266	
9,500.0	7,220.4	9,537.6	7,335.4	43.1	41.9	110.71	1,905.5	-484.1	325.2	245.7	79.53	4.089	
9,600.0	7,220.4	9,637.6	7,335.4	44.8	43.7	110.71	2,005.5	-483.9	325.2	242.3	82.85	3.925	
9,700.0	7,220.4	9,737.6	7,335.4	46.5	45.4	110.71	2,105.5	-483.6	325.2	239.0	86.20	3.772	
9,800.0	7,220.4	9,837.6	7,335.4	48.2	47.2	110.71	2,205.5	-483.3	325.2	235.6	89.57	3.630	
9,900.0	7,220.4	9,937.6	7,335.4	50.0	48.9	110.71	2,305.5	-483.1	325.2	232.2	92.96	3.498	
10,000.0	7,220.4	10,037.6	7,335.4	51.7	50.7	110.71	2,405.5	-482.8	325.1	228.8	96.37	3.374	
10,100.0	7,220.4	10,137.6	7,335.4	53.5	52.5	110.71	2,505.5	-482.6	325.1	225.3	99.80	3.258	
10,200.0	7,220.4	10,237.6	7,335.4	55.3	54.3	110.71	2,605.5	-482.3	325.1	221.9	103.23	3.149	
10,300.0	7,220.4	10,337.6	7,335.4	57.0	56.1	110.72	2,705.5	-482.1	325.1	218.4	106.68	3.047	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-028HC - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.0	7,220.4	10,437.6	7,335.4	58.8	58.0	110.72	2,805.5	-481.8	325.1	214.9	110.15	2.951	
10,500.0	7,220.4	10,537.6	7,335.4	60.6	59.8	110.72	2,905.5	-481.6	325.1	211.5	113.62	2.861	
10,600.0	7,220.4	10,637.6	7,335.4	62.4	61.6	110.72	3,005.5	-481.3	325.1	208.0	117.10	2.776	
10,700.0	7,220.4	10,737.6	7,335.4	64.2	63.5	110.72	3,105.5	-481.1	325.1	204.5	120.59	2.696	
10,800.0	7,220.4	10,837.6	7,335.4	66.1	65.3	110.72	3,205.5	-480.8	325.0	201.0	124.09	2.619	
10,900.0	7,220.4	10,937.6	7,335.4	67.9	67.1	110.72	3,305.5	-480.5	325.0	197.4	127.60	2.547	
11,000.0	7,220.4	11,037.6	7,335.4	69.7	69.0	110.72	3,405.5	-480.3	325.0	193.9	131.11	2.479	
11,100.0	7,220.4	11,137.6	7,335.4	71.5	70.8	110.72	3,505.5	-480.0	325.0	190.4	134.63	2.414	
11,200.0	7,220.4	11,237.6	7,335.4	73.4	72.7	110.72	3,605.5	-479.8	325.0	186.8	138.15	2.352	
11,300.0	7,220.4	11,337.6	7,335.4	75.2	74.6	110.72	3,705.5	-479.5	325.0	183.3	141.68	2.294	
11,400.0	7,220.4	11,437.6	7,335.4	77.1	76.4	110.73	3,805.5	-479.3	325.0	179.7	145.22	2.238	
11,500.0	7,220.4	11,537.6	7,335.4	78.9	78.3	110.73	3,905.5	-479.0	325.0	176.2	148.76	2.184	
11,600.0	7,220.4	11,637.6	7,335.4	80.8	80.2	110.73	4,005.5	-478.8	324.9	172.6	152.30	2.134	
11,700.0	7,220.4	11,737.6	7,335.4	82.6	82.0	110.73	4,105.5	-478.5	324.9	169.1	155.85	2.085	
11,800.0	7,220.4	11,837.6	7,335.4	84.5	83.9	110.73	4,205.5	-478.3	324.9	165.5	159.40	2.038	
11,900.0	7,220.4	11,937.6	7,335.4	86.4	85.8	110.73	4,305.5	-478.0	324.9	161.9	162.95	1.994	
11,986.7	7,220.4	12,024.3	7,335.4	88.0	87.4	110.73	4,392.2	-477.8	324.9	158.8	166.04	1.957	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-029HN - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	87.88	2.2	59.3	59.3				
100.0	100.0	100.0	100.0	0.1	0.1	87.88	2.2	59.3	59.3	59.1	0.22	263.921	
200.0	200.0	200.0	200.0	0.3	0.3	87.88	2.2	59.3	59.3	58.6	0.67	87.974	
300.0	300.0	300.0	300.0	0.6	0.6	87.88	2.2	59.3	59.3	58.2	1.12	52.784	
400.0	400.0	400.0	400.0	0.8	0.8	87.88	2.2	59.3	59.3	57.7	1.57	37.703	
500.0	500.0	500.0	500.0	1.0	1.0	87.88	2.2	59.3	59.3	57.3	2.02	29.325	
600.0	600.0	600.0	600.0	1.2	1.2	87.88	2.2	59.3	59.3	56.8	2.47	23.993	
700.0	700.0	700.0	700.0	1.5	1.5	87.88	2.2	59.3	59.3	56.4	2.92	20.302	
800.0	800.0	800.0	800.0	1.7	1.7	87.88	2.2	59.3	59.3	55.9	3.37	17.595	
900.0	900.0	900.0	900.0	1.9	1.9	87.88	2.2	59.3	59.3	55.5	3.82	15.525	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	87.88	2.2	59.3	59.3	55.0	4.27	13.891	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	87.88	2.2	59.3	59.3	54.6	4.72	12.568	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	87.88	2.2	59.3	59.3	54.2	5.17	11.475	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	87.88	2.2	59.3	59.3	53.7	5.62	10.557	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	87.88	2.2	59.3	59.3	53.3	6.07	9.775	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	87.88	2.2	59.3	59.3	52.8	6.52	9.101	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	87.88	2.2	59.3	59.3	52.4	6.97	8.514	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	87.88	2.2	59.3	59.3	51.9	7.42	7.998	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	87.88	2.2	59.3	59.3	51.5	7.87	7.541	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	87.88	2.2	59.3	59.3	51.0	8.32	7.133	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	87.88	2.2	59.3	59.3	50.6	8.77	6.767	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	87.88	2.2	59.3	59.3	50.1	9.22	6.437	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	87.88	2.2	59.3	59.3	49.7	9.66	6.138	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	87.88	2.2	59.3	59.3	49.2	10.11	5.865	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	87.88	2.2	59.3	59.3	48.8	10.56	5.615	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	87.88	2.2	59.3	59.3	48.3	11.01	5.386	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	87.88	2.2	59.3	59.3	47.9	11.46	5.175	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	87.88	2.2	59.3	59.3	47.4	11.91	4.980	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	87.88	2.2	59.3	59.3	47.0	12.36	4.799	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	87.88	2.2	59.3	59.3	46.5	12.81	4.630	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	87.88	2.2	59.3	59.3	46.1	13.26	4.473	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	87.88	2.2	59.3	59.3	45.6	13.71	4.327	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	87.88	2.2	59.3	59.3	45.2	14.16	4.189	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	87.88	2.2	59.3	59.3	44.7	14.61	4.060	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	87.88	2.2	59.3	59.3	44.3	15.06	3.939	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	87.88	2.2	59.3	59.3	43.8	15.51	3.825	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	87.88	2.2	59.3	59.3	43.4	15.96	3.717	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	87.88	2.2	59.3	59.3	42.9	16.41	3.615	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	87.88	2.2	59.3	59.3	42.5	16.86	3.519	
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	87.88	2.2	59.3	59.3	42.0	17.31	3.428	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	87.88	2.2	59.3	59.3	41.6	17.76	3.341	
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	87.88	2.2	59.3	59.3	41.1	18.21	3.258	
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	87.88	2.2	59.3	59.3	40.7	18.66	3.180	
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	87.88	2.2	59.3	59.3	40.2	19.11	3.105	
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	87.88	2.2	59.3	59.3	39.8	19.55	3.034	
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	87.88	2.2	59.3	59.3	39.3	20.00	2.965	
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	87.88	2.2	59.3	59.3	38.9	20.45	2.900	
4,700.0	4,700.0	4,700.0	4,700.0	10.5	10.5	87.88	2.2	59.3	59.3	38.4	20.90	2.838	
4,800.0	4,800.0	4,800.0	4,800.0	10.7	10.7	87.88	2.2	59.3	59.3	38.0	21.35	2.778	
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	87.88	2.2	59.3	59.3	37.5	21.80	2.721	
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	87.88	2.2	59.3	59.3	37.1	22.25	2.666	
5,100.0	5,100.0	5,100.0	5,100.0	11.4	11.4	87.88	2.2	59.3	59.3	36.6	22.70	2.613	CC, ES, SF

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

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-029HN - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,200.0	5,200.0	5,200.0	11.6	11.6	-151.54	2.2	59.3	61.6	38.5	23.11	2.666	
5,300.0	5,299.6	5,299.6	5,299.6	11.7	11.8	-154.57	2.2	59.3	68.6	45.2	23.45	2.926	
5,400.0	5,398.8	5,398.8	5,398.8	11.9	12.0	-158.42	2.2	59.3	80.6	56.9	23.73	3.397	
5,500.0	5,497.1	5,497.1	5,497.1	12.1	12.2	-162.19	2.2	59.3	97.8	73.9	23.95	4.084	
5,600.0	5,594.3	5,594.3	5,594.3	12.4	12.5	-165.41	2.2	59.3	120.3	96.2	24.11	4.988	
5,700.0	5,690.2	5,690.2	5,690.2	12.6	12.7	-168.00	2.2	59.3	148.0	123.8	24.21	6.111	
5,800.0	5,784.4	5,791.6	5,791.5	12.9	12.9	-169.79	0.7	58.6	179.7	155.5	24.26	7.409	
5,900.0	5,876.8	5,900.4	5,899.8	13.3	13.1	-169.62	-9.2	53.9	210.5	186.2	24.24	8.681	
6,000.0	5,967.1	6,012.0	6,009.2	13.7	13.3	-167.93	-29.0	44.5	239.4	215.2	24.23	9.882	
6,100.0	6,054.9	6,125.6	6,117.8	14.2	13.5	-165.12	-58.9	30.3	266.7	242.4	24.26	10.996	
6,200.0	6,141.4	6,240.6	6,223.8	14.7	13.8	-161.53	-98.9	11.3	290.7	265.8	24.84	11.701	
6,300.0	6,227.8	6,351.7	6,321.7	15.4	14.1	-157.10	-146.3	-11.2	309.5	283.8	25.64	12.070	
6,400.0	6,314.2	6,447.7	6,404.8	16.1	14.5	-153.31	-189.7	-31.8	327.9	301.3	26.54	12.356	
6,500.0	6,400.6	6,543.6	6,487.9	16.8	14.9	-149.91	-233.1	-52.4	347.6	320.0	27.55	12.616	
6,600.0	6,487.0	6,639.6	6,571.0	17.5	15.3	-146.87	-276.5	-73.0	368.4	339.7	28.67	12.846	
6,700.0	6,573.4	6,739.4	6,659.5	18.3	15.8	-144.82	-316.9	-95.0	389.7	359.9	29.80	13.079	
6,800.0	6,659.8	6,841.8	6,756.6	19.2	16.2	-146.10	-337.1	-119.0	410.1	379.7	30.47	13.461	
6,900.0	6,746.5	6,936.2	6,848.1	20.0	16.5	-157.02	-334.9	-141.5	430.8	400.3	30.49	14.130	
7,000.0	6,835.6	7,023.5	6,930.5	20.6	16.6	171.37	-315.0	-161.8	454.1	423.8	30.28	14.999	
7,100.0	6,924.2	7,106.7	7,004.1	21.2	16.6	141.66	-280.8	-179.8	478.5	448.0	30.48	15.700	
7,200.0	7,007.7	7,187.2	7,068.1	21.6	16.6	120.50	-234.9	-195.5	502.1	471.1	30.96	16.215	
7,300.0	7,081.8	7,265.7	7,121.7	21.9	16.6	106.86	-179.2	-208.6	523.2	491.7	31.50	16.608	
7,400.0	7,142.9	7,343.1	7,164.4	22.0	16.5	98.23	-115.6	-218.9	540.4	508.4	31.95	16.913	
7,500.0	7,187.6	7,419.8	7,195.5	22.1	16.4	93.03	-45.9	-226.4	552.8	520.5	32.33	17.098	
7,600.0	7,213.8	7,496.3	7,214.3	22.2	16.5	90.44	28.0	-230.8	559.7	527.0	32.74	17.096	
7,700.0	7,220.4	7,573.4	7,220.4	22.3	16.7	90.00	104.7	-232.1	561.0	527.8	33.26	16.869	
7,800.0	7,220.4	7,673.4	7,220.4	22.4	17.2	90.00	204.7	-231.8	561.0	526.9	34.17	16.420	
7,900.0	7,220.4	7,773.4	7,220.4	22.8	17.9	90.00	304.7	-231.6	561.0	525.6	35.48	15.815	
8,000.0	7,220.4	7,873.4	7,220.4	23.3	18.8	90.00	404.7	-231.3	561.0	523.9	37.14	15.107	
8,100.0	7,220.4	7,973.4	7,220.4	23.9	19.8	90.00	504.7	-231.0	561.0	521.9	39.11	14.346	
8,200.0	7,220.4	8,073.4	7,220.4	24.8	20.9	90.00	604.7	-230.7	561.1	519.7	41.34	13.571	
8,300.0	7,220.4	8,173.4	7,220.4	25.7	22.1	90.00	704.7	-230.5	561.1	517.3	43.80	12.810	
8,400.0	7,220.4	8,273.4	7,220.4	26.8	23.5	90.00	804.7	-230.2	561.1	514.6	46.45	12.080	
8,500.0	7,220.4	8,373.4	7,220.4	28.0	24.9	90.00	904.7	-229.9	561.1	511.8	49.25	11.392	
8,600.0	7,220.4	8,473.4	7,220.4	29.3	26.3	90.00	1,004.7	-229.6	561.1	508.9	52.19	10.751	
8,700.0	7,220.4	8,573.4	7,220.4	30.6	27.8	90.00	1,104.7	-229.4	561.1	505.8	55.23	10.158	
8,800.0	7,220.4	8,673.4	7,220.4	32.1	29.4	90.00	1,204.7	-229.1	561.1	502.7	58.38	9.612	
8,900.0	7,220.4	8,773.4	7,220.4	33.5	31.0	90.00	1,304.7	-228.8	561.1	499.5	61.60	9.109	
9,000.0	7,220.4	8,873.4	7,220.4	35.0	32.7	90.00	1,404.7	-228.6	561.1	496.2	64.89	8.647	
9,100.0	7,220.4	8,973.4	7,220.4	36.6	34.3	90.00	1,504.7	-228.3	561.1	492.9	68.23	8.223	
9,200.0	7,220.4	9,073.4	7,220.4	38.2	36.0	90.00	1,604.7	-228.0	561.1	489.5	71.63	7.833	
9,300.0	7,220.4	9,173.4	7,220.4	39.8	37.7	90.00	1,704.7	-227.7	561.1	486.0	75.07	7.474	
9,400.0	7,220.4	9,273.4	7,220.4	41.4	39.5	90.00	1,804.7	-227.5	561.1	482.6	78.55	7.144	
9,500.0	7,220.4	9,373.4	7,220.4	43.1	41.2	90.00	1,904.7	-227.2	561.1	479.1	82.06	6.838	
9,600.0	7,220.4	9,473.4	7,220.4	44.8	43.0	90.00	2,004.7	-226.9	561.1	475.5	85.60	6.555	
9,700.0	7,220.4	9,573.4	7,220.4	46.5	44.8	90.00	2,104.7	-226.6	561.1	472.0	89.16	6.293	
9,800.0	7,220.4	9,673.4	7,220.4	48.2	46.5	90.00	2,204.7	-226.4	561.1	468.4	92.75	6.050	
9,900.0	7,220.4	9,773.4	7,220.4	50.0	48.3	90.00	2,304.7	-226.1	561.1	464.8	96.35	5.824	
10,000.0	7,220.4	9,873.4	7,220.4	51.7	50.2	90.00	2,404.7	-225.8	561.1	461.2	99.98	5.613	
10,100.0	7,220.4	9,973.4	7,220.4	53.5	52.0	90.00	2,504.7	-225.5	561.1	457.5	103.62	5.416	
10,200.0	7,220.4	10,073.4	7,220.4	55.3	53.8	90.00	2,604.7	-225.3	561.2	453.9	107.27	5.231	
10,300.0	7,220.4	10,173.4	7,220.4	57.0	55.6	90.00	2,704.7	-225.0	561.2	450.2	110.94	5.058	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-029HN - Wellbore #1 - Plan #1 (11-13-13) **Offset Site Error:** 0.0 ft

Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.0	7,220.4	10,273.4	7,220.4	58.8	57.5	90.00	2,804.7	-224.7	561.2	446.5	114.61	4.896	
10,500.0	7,220.4	10,373.4	7,220.4	60.6	59.3	90.00	2,904.7	-224.5	561.2	442.9	118.30	4.744	
10,600.0	7,220.4	10,473.4	7,220.4	62.4	61.1	90.00	3,004.7	-224.2	561.2	439.2	122.00	4.600	
10,700.0	7,220.4	10,573.4	7,220.4	64.2	63.0	90.00	3,104.7	-223.9	561.2	435.5	125.71	4.464	
10,800.0	7,220.4	10,673.4	7,220.4	66.1	64.8	90.00	3,204.7	-223.6	561.2	431.8	129.42	4.336	
10,900.0	7,220.4	10,773.4	7,220.4	67.9	66.7	90.00	3,304.7	-223.4	561.2	428.0	133.14	4.215	
11,000.0	7,220.4	10,873.4	7,220.4	69.7	68.6	90.00	3,404.7	-223.1	561.2	424.3	136.87	4.100	
11,100.0	7,220.4	10,973.4	7,220.4	71.5	70.4	90.00	3,504.7	-222.8	561.2	420.6	140.61	3.991	
11,200.0	7,220.4	11,073.4	7,220.4	73.4	72.3	90.00	3,604.7	-222.5	561.2	416.9	144.35	3.888	
11,300.0	7,220.4	11,173.4	7,220.4	75.2	74.2	90.00	3,704.7	-222.3	561.2	413.1	148.09	3.790	
11,400.0	7,220.4	11,273.4	7,220.4	77.1	76.0	90.00	3,804.7	-222.0	561.2	409.4	151.84	3.696	
11,500.0	7,220.4	11,373.4	7,220.4	78.9	77.9	90.00	3,904.7	-221.7	561.2	405.6	155.60	3.607	
11,600.0	7,220.4	11,473.4	7,220.4	80.8	79.8	90.00	4,004.7	-221.5	561.2	401.9	159.36	3.522	
11,700.0	7,220.4	11,573.4	7,220.4	82.6	81.7	90.00	4,104.7	-221.2	561.2	398.1	163.12	3.441	
11,800.0	7,220.4	11,673.4	7,220.4	84.5	83.6	90.00	4,204.7	-220.9	561.2	394.3	166.89	3.363	
11,900.0	7,220.4	11,773.4	7,220.4	86.4	85.4	90.00	4,304.7	-220.6	561.2	390.6	170.66	3.289	
11,986.7	7,220.4	11,860.1	7,220.4	88.0	87.1	90.00	4,391.4	-220.4	561.2	387.3	173.93	3.227	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5012.4ft (RKB - 16.5')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Raindance FD 30-027HN
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.36°

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-027HN
Project:	SEC.30-T6N-R67W	**TVD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Reference Site:	Raindance West Pad Sec.30-T6N-R67W	**MD Reference:**	WELL @ 5012.4ft (RKB - 16.5')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Raindance FD 30-027HN	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (11-13-13)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5012.4ft (RKB - 16.5')	Coordinates are relative to: Raindance FD 30-027HN
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: 0.36°