Great Western

Well Name: **Raindance FD 30-025HN**

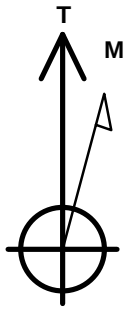
Surface Location: Raindance West Pad Sec.30-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4995.9

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.0	0.0	1407824.33	3157035.13	40.451508	-104.935728	

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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 352'FSL & 2352'FWL	1.0	0.0	0.0	Point
BHL 470'FNL & 1032'FWL	7220.4	4387.1	-1307.8	Point
Entry Pt. 460'FSL & 1032'FWL	7220.4	72.9	-1319.5	Point



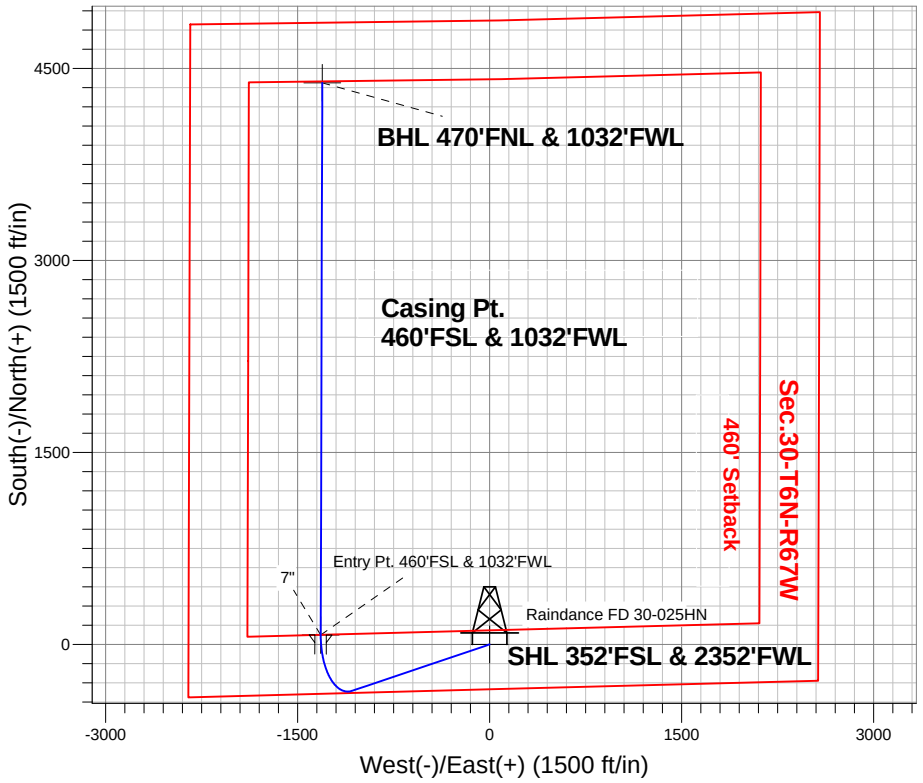
Azimuths to True North
Magnetic North: 8.63°

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

Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-025HN
Plan #1 (11-13-13)
7:22, November 14 2013

ANNOTATIONS

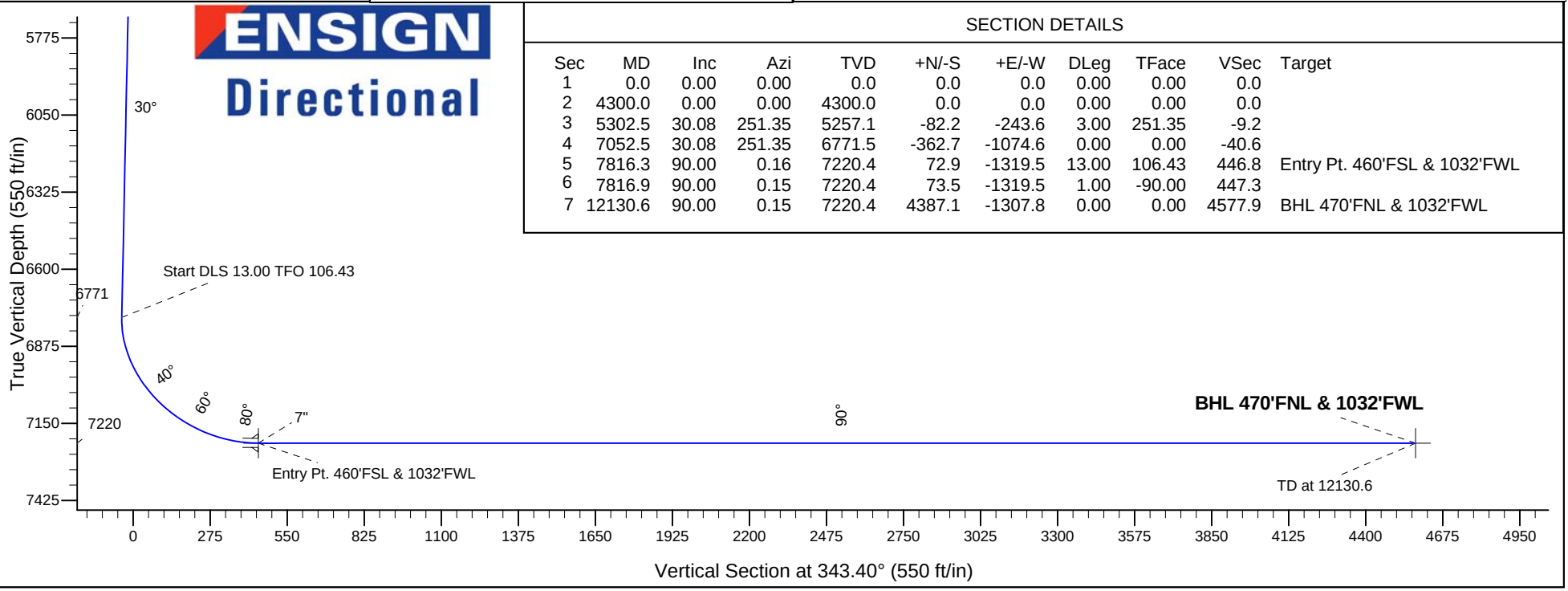
TVD	MD	Annotation
4300.0	4300.0	KOP - Start Build 3.00
6771.5	7052.5	Start DLS 13.00 TFO 106.43
7220.4	12130.6	TD at 12130.6



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	4300.0	0.00	0.00	4300.0	0.0	0.0	0.00	0.00	0.0	
3	5302.5	30.08	251.35	5257.1	-82.2	-243.6	3.00	251.35	-9.2	
4	7052.5	30.08	251.35	6771.5	-362.7	-1074.6	0.00	0.00	-40.6	
5	7816.3	90.00	0.16	7220.4	72.9	-1319.5	13.00	106.43	446.8	Entry Pt. 460'FSL & 1032'FWL
6	7816.9	90.00	0.15	7220.4	73.5	-1319.5	1.00	-90.00	447.3	
7	12130.6	90.00	0.15	7220.4	4387.1	-1307.8	0.00	0.00	4577.9	BHL 470'FNL & 1032'FWL



Great Western

SEC.30-T6N-R67W
Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-025HN

Wellbore #1

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

Standard Planning Report

14 November, 2013

Database:	Landmark	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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 30-025HN

Well Position	**+N/-S**	-4.0 ft	**Northing:**	1,407,824.33 ft	**Latitude:**	40.451508
	+E/-W	-150.0 ft	**Easting:**	3,157,035.13 ft	**Longitude:**	-104.935728
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	343.40

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	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,302.5	30.08	251.35	5,257.1	-82.2	-243.6	3.00	3.00	0.00	251.35	
7,052.5	30.08	251.35	6,771.5	-362.7	-1,074.6	0.00	0.00	0.00	0.00	
7,816.3	90.00	0.16	7,220.4	72.9	-1,319.5	13.00	7.84	14.25	106.43	Entry Pt. 460'FSL &
7,816.9	90.00	0.15	7,220.4	73.5	-1,319.5	1.00	0.00	-1.00	-90.00	
12,130.6	90.00	0.15	7,220.4	4,387.1	-1,307.8	0.00	0.00	0.00	0.00	BHL 470'FNL & 103

Database:	Landmark	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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 & 2352'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
KOP - Start Build 3.00									
4,400.0	3.00	251.35	4,400.0	-0.8	-2.5	-0.1	3.00	3.00	0.00
4,500.0	6.00	251.35	4,499.6	-3.3	-9.9	-0.4	3.00	3.00	0.00
4,600.0	9.00	251.35	4,598.8	-7.5	-22.3	-0.8	3.00	3.00	0.00
4,700.0	12.00	251.35	4,697.1	-13.3	-39.5	-1.5	3.00	3.00	0.00
4,800.0	15.00	251.35	4,794.3	-20.8	-61.7	-2.3	3.00	3.00	0.00
4,900.0	18.00	251.35	4,890.2	-29.9	-88.6	-3.3	3.00	3.00	0.00
5,000.0	21.00	251.35	4,984.4	-40.6	-120.2	-4.5	3.00	3.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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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 30-025HN	**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)
5,100.0	24.00	251.35	5,076.8	-52.8	-156.4	-5.9	3.00	3.00	0.00
5,200.0	27.00	251.35	5,167.1	-66.6	-197.2	-7.5	3.00	3.00	0.00
5,300.0	30.00	251.35	5,254.9	-81.8	-242.4	-9.2	3.00	3.00	0.00
5,302.5	30.08	251.35	5,257.1	-82.2	-243.6	-9.2	3.00	3.00	0.00
5,400.0	30.08	251.35	5,341.5	-97.9	-289.9	-11.0	0.00	0.00	0.00
5,500.0	30.08	251.35	5,428.0	-113.9	-337.4	-12.8	0.00	0.00	0.00
5,600.0	30.08	251.35	5,514.5	-129.9	-384.9	-14.5	0.00	0.00	0.00
5,700.0	30.08	251.35	5,601.1	-145.9	-432.4	-16.3	0.00	0.00	0.00
5,800.0	30.08	251.35	5,687.6	-162.0	-479.8	-18.1	0.00	0.00	0.00
5,900.0	30.08	251.35	5,774.1	-178.0	-527.3	-19.9	0.00	0.00	0.00
6,000.0	30.08	251.35	5,860.7	-194.0	-574.8	-21.7	0.00	0.00	0.00
6,100.0	30.08	251.35	5,947.2	-210.1	-622.3	-23.5	0.00	0.00	0.00
6,200.0	30.08	251.35	6,033.8	-226.1	-669.8	-25.3	0.00	0.00	0.00
6,300.0	30.08	251.35	6,120.3	-242.1	-717.3	-27.1	0.00	0.00	0.00
6,400.0	30.08	251.35	6,206.8	-258.1	-764.7	-28.9	0.00	0.00	0.00
6,500.0	30.08	251.35	6,293.4	-274.2	-812.2	-30.7	0.00	0.00	0.00
6,600.0	30.08	251.35	6,379.9	-290.2	-859.7	-32.5	0.00	0.00	0.00
6,700.0	30.08	251.35	6,466.4	-306.2	-907.2	-34.3	0.00	0.00	0.00
6,800.0	30.08	251.35	6,553.0	-322.2	-954.7	-36.1	0.00	0.00	0.00
6,900.0	30.08	251.35	6,639.5	-338.3	-1,002.2	-37.9	0.00	0.00	0.00
7,000.0	30.08	251.35	6,726.0	-354.3	-1,049.6	-39.7	0.00	0.00	0.00
7,052.5	30.08	251.35	6,771.5	-362.7	-1,074.6	-40.6	0.00	0.00	0.00
Start DLS 13.00 TFO 106.43									
7,100.0	28.89	263.68	6,812.9	-367.8	-1,097.3	-39.0	13.00	-2.51	25.96
7,200.0	30.24	290.07	6,900.2	-361.8	-1,145.1	-19.6	13.00	1.36	26.39
7,300.0	36.11	311.43	6,984.2	-333.5	-1,191.1	20.6	13.00	5.86	21.37
7,400.0	44.72	326.55	7,060.4	-284.5	-1,232.8	79.6	13.00	8.61	15.12
7,500.0	54.78	337.39	7,125.0	-217.1	-1,268.0	154.2	13.00	10.06	10.84
7,600.0	65.58	345.75	7,174.8	-134.9	-1,295.0	240.7	13.00	10.80	8.36
7,700.0	76.77	352.76	7,207.0	-42.1	-1,312.4	334.6	13.00	11.19	7.01
7,800.0	88.14	359.14	7,220.1	56.6	-1,319.4	431.1	13.00	11.36	6.38
7,816.3	89.99	0.16	7,220.4	72.9	-1,319.5	446.8	12.96	11.37	6.23
7" - Entry Pt. 460'FSL & 1032'FWL									
7,816.9	90.00	0.15	7,220.4	73.5	-1,319.5	447.3	1.06	0.95	-0.48
7,900.0	90.00	0.15	7,220.4	156.6	-1,319.2	526.9	0.00	0.00	0.00
8,000.0	90.00	0.15	7,220.4	256.6	-1,319.0	622.7	0.00	0.00	0.00
8,100.0	90.00	0.15	7,220.4	356.6	-1,318.7	718.4	0.00	0.00	0.00
8,200.0	90.00	0.15	7,220.4	456.6	-1,318.4	814.2	0.00	0.00	0.00
8,300.0	90.00	0.15	7,220.4	556.6	-1,318.2	909.9	0.00	0.00	0.00
8,400.0	90.00	0.15	7,220.4	656.6	-1,317.9	1,005.7	0.00	0.00	0.00
8,500.0	90.00	0.15	7,220.4	756.6	-1,317.6	1,101.5	0.00	0.00	0.00
8,600.0	90.00	0.15	7,220.4	856.6	-1,317.3	1,197.2	0.00	0.00	0.00
8,700.0	90.00	0.15	7,220.4	956.6	-1,317.1	1,293.0	0.00	0.00	0.00
8,800.0	90.00	0.15	7,220.4	1,056.6	-1,316.8	1,388.7	0.00	0.00	0.00
8,900.0	90.00	0.15	7,220.4	1,156.6	-1,316.5	1,484.5	0.00	0.00	0.00
9,000.0	90.00	0.15	7,220.4	1,256.6	-1,316.3	1,580.2	0.00	0.00	0.00
9,100.0	90.00	0.15	7,220.4	1,356.6	-1,316.0	1,676.0	0.00	0.00	0.00
9,200.0	90.00	0.15	7,220.4	1,456.6	-1,315.7	1,771.7	0.00	0.00	0.00
9,300.0	90.00	0.15	7,220.4	1,556.6	-1,315.5	1,867.5	0.00	0.00	0.00
9,400.0	90.00	0.15	7,220.4	1,656.6	-1,315.2	1,963.2	0.00	0.00	0.00
9,500.0	90.00	0.15	7,220.4	1,756.6	-1,314.9	2,059.0	0.00	0.00	0.00
9,600.0	90.00	0.15	7,220.4	1,856.6	-1,314.6	2,154.8	0.00	0.00	0.00
9,700.0	90.00	0.15	7,220.4	1,956.6	-1,314.4	2,250.5	0.00	0.00	0.00
9,800.0	90.00	0.15	7,220.4	2,056.6	-1,314.1	2,346.3	0.00	0.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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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 30-025HN	**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)
9,900.0	90.00	0.15	7,220.4	2,156.6	-1,313.8	2,442.0	0.00	0.00	0.00
10,000.0	90.00	0.15	7,220.4	2,256.6	-1,313.6	2,537.8	0.00	0.00	0.00
10,100.0	90.00	0.15	7,220.4	2,356.6	-1,313.3	2,633.5	0.00	0.00	0.00
10,200.0	90.00	0.15	7,220.4	2,456.6	-1,313.0	2,729.3	0.00	0.00	0.00
10,300.0	90.00	0.15	7,220.4	2,556.6	-1,312.8	2,825.0	0.00	0.00	0.00
10,400.0	90.00	0.15	7,220.4	2,656.6	-1,312.5	2,920.8	0.00	0.00	0.00
10,500.0	90.00	0.15	7,220.4	2,756.6	-1,312.2	3,016.6	0.00	0.00	0.00
10,600.0	90.00	0.15	7,220.4	2,856.6	-1,312.0	3,112.3	0.00	0.00	0.00
10,700.0	90.00	0.15	7,220.4	2,956.6	-1,311.7	3,208.1	0.00	0.00	0.00
10,800.0	90.00	0.15	7,220.4	3,056.6	-1,311.4	3,303.8	0.00	0.00	0.00
10,900.0	90.00	0.15	7,220.4	3,156.6	-1,311.1	3,399.6	0.00	0.00	0.00
11,000.0	90.00	0.15	7,220.4	3,256.6	-1,310.9	3,495.3	0.00	0.00	0.00
11,100.0	90.00	0.15	7,220.4	3,356.6	-1,310.6	3,591.1	0.00	0.00	0.00
11,200.0	90.00	0.15	7,220.4	3,456.6	-1,310.3	3,686.8	0.00	0.00	0.00
11,300.0	90.00	0.15	7,220.4	3,556.6	-1,310.1	3,782.6	0.00	0.00	0.00
11,400.0	90.00	0.15	7,220.4	3,656.6	-1,309.8	3,878.3	0.00	0.00	0.00
11,500.0	90.00	0.15	7,220.4	3,756.6	-1,309.5	3,974.1	0.00	0.00	0.00
11,600.0	90.00	0.15	7,220.4	3,856.6	-1,309.3	4,069.9	0.00	0.00	0.00
11,700.0	90.00	0.15	7,220.4	3,956.6	-1,309.0	4,165.6	0.00	0.00	0.00
11,800.0	90.00	0.15	7,220.4	4,056.6	-1,308.7	4,261.4	0.00	0.00	0.00
11,900.0	90.00	0.15	7,220.4	4,156.6	-1,308.4	4,357.1	0.00	0.00	0.00
12,000.0	90.00	0.15	7,220.4	4,256.6	-1,308.2	4,452.9	0.00	0.00	0.00
12,100.0	90.00	0.15	7,220.4	4,356.5	-1,307.9	4,548.6	0.00	0.00	0.00
12,130.6	90.00	0.15	7,220.4	4,387.1	-1,307.8	4,577.9	0.00	0.00	0.00
BHL 470'FNL & 1032'FWL									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,816.3	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
4,300.0	4,300.0	0.0	0.0	KOP - Start Build 3.00
7,052.5	6,771.5	-362.7	-1,074.6	Start DLS 13.00 TFO 106.43
12,130.6	7,220.4	4,387.1	-1,307.8	TD at 12130.6

ENSIGN Directional

Great Western

SEC.30-T6N-R67W
Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-025HN

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

Anticollision Report

14 November, 2013

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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
Depth Range: Unlimited
Results Limited by: Maximum center-center distance of 1,000.0ft
Warning Levels Evaluated at: 2.00 **Sigma**
Error Model: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic

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

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,130.6	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	3,729.2	3,736.3	94.5	79.0	6.087	CC, ES
Raindance FD 19-21HN - Wellbore #1 - Wellbore #1	4,300.0	4,306.1	98.3	80.9	5.650	SF
Raindance West Pad Sec.30-T6N-R67W						
Raindance FD 30-022HN - Wellbore #1 - Plan #1 (11-12-	3,500.0	3,500.0	60.1	44.6	3.876	CC, ES
Raindance FD 30-022HN - Wellbore #1 - Plan #1 (11-12-	12,130.6	12,274.9	561.9	387.8	3.229	SF
Raindance FD 30-024HC - Wellbore #1 - Plan #1 (11-13-	4,000.0	4,000.0	30.1	12.3	1.693	CC, ES, SF
Raindance FD 30-027HN - 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-	4,300.0	4,300.0	59.6	40.5	3.119	CC, ES, SF

Offset Design Raindance FD Horizontal Pad Sec.30-T6N-R67W - Raindance FD 19-21HN - Wellbore #1 - Wellbore #1
Survey Program: 100-NS-GYRO-MS, 7105-MWD
Offset Site Error: 0.0 ft
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	88.44	3.3	120.0	120.0	120.0	0.01	N/A	
100.0	100.0	106.2	106.2	0.1	0.1	88.50	3.1	120.1	120.2	119.9	0.26	459.879	
200.0	200.0	206.4	206.4	0.3	0.4	88.64	2.8	120.3	120.4	119.6	0.75	161.334	
300.0	300.0	306.5	306.5	0.6	0.7	88.77	2.6	120.5	120.5	119.3	1.23	98.138	
400.0	400.0	407.0	407.0	0.8	0.8	88.85	2.4	120.4	120.4	118.8	1.63	73.779	
500.0	500.0	507.3	507.3	1.0	1.0	88.91	2.3	119.9	120.0	118.0	2.00	60.084	
600.0	600.0	607.9	607.9	1.2	1.2	88.97	2.1	119.1	119.1	116.7	2.40	49.723	
700.0	700.0	708.5	708.5	1.5	1.4	89.03	2.0	117.7	117.7	114.9	2.82	41.787	
800.0	800.0	808.5	808.5	1.7	1.6	89.07	1.9	116.1	116.1	112.9	3.26	35.667	
900.0	900.0	908.9	908.9	1.9	1.8	89.09	1.8	114.2	114.3	110.6	3.71	30.829	
1,000.0	1,000.0	1,009.1	1,009.0	2.1	2.0	88.98	2.0	112.1	112.2	108.0	4.16	26.975	
1,100.0	1,100.0	1,109.0	1,108.9	2.4	2.2	88.63	2.6	110.0	110.1	105.5	4.61	23.898	
1,200.0	1,200.0	1,209.1	1,209.0	2.6	2.5	88.16	3.5	107.8	107.9	102.9	5.06	21.345	
1,300.0	1,300.0	1,309.6	1,309.5	2.8	2.7	87.72	4.2	105.3	105.4	99.9	5.52	19.103	
1,400.0	1,400.0	1,410.0	1,409.8	3.0	3.0	87.35	4.7	102.3	102.5	96.5	5.99	17.103	
1,500.0	1,500.0	1,509.3	1,509.0	3.3	3.2	87.07	5.1	99.4	99.6	93.1	6.46	15.420	
1,575.3	1,575.3	1,582.1	1,581.9	3.4	3.3	87.01	5.1	98.5	98.7	91.9	6.73	14.655	
1,600.0	1,600.0	1,606.3	1,606.0	3.5	3.3	87.03	5.1	98.6	98.8	91.9	6.82	14.475	
1,700.0	1,700.0	1,706.9	1,706.7	3.7	3.5	87.07	5.1	98.9	99.0	91.8	7.19	13.766	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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
1,800.0	1,800.0	1,807.0	1,806.8	3.9	3.7	86.98	5.2	98.7	98.9	91.2	7.63	12.953	
1,900.0	1,900.0	1,907.1	1,906.9	4.2	3.9	87.12	5.0	98.5	98.6	90.6	8.06	12.241	
2,000.0	2,000.0	2,007.3	2,007.0	4.4	4.1	87.52	4.3	98.2	98.3	89.8	8.49	11.577	
2,100.0	2,100.0	2,107.4	2,107.1	4.6	4.3	87.81	3.7	97.8	97.8	88.9	8.95	10.933	
2,200.0	2,200.0	2,207.5	2,207.3	4.8	4.6	87.78	3.8	97.1	97.2	87.8	9.41	10.331	
2,300.0	2,300.0	2,307.5	2,307.3	5.1	4.8	87.48	4.2	96.4	96.5	86.7	9.86	9.794	
2,400.0	2,400.0	2,407.5	2,407.2	5.3	5.0	87.00	5.0	95.7	95.9	85.6	10.29	9.319	
2,461.2	2,461.2	2,468.1	2,467.8	5.4	5.1	86.64	5.6	95.5	95.7	85.2	10.52	9.095	
2,500.0	2,500.0	2,506.6	2,506.3	5.5	5.2	86.41	6.0	95.6	95.7	85.1	10.66	8.980	
2,600.0	2,600.0	2,606.5	2,606.2	5.7	5.2	86.25	6.3	95.9	96.1	85.1	10.98	8.756	
2,700.0	2,700.0	2,706.7	2,706.4	6.0	5.4	86.63	5.7	96.2	96.3	85.0	11.31	8.521	
2,800.0	2,800.0	2,805.4	2,805.2	6.2	5.5	87.22	4.7	97.1	97.2	85.6	11.64	8.353	
2,900.0	2,900.0	2,905.8	2,905.5	6.4	5.6	87.93	3.6	98.5	98.5	86.6	11.97	8.233	
3,000.0	3,000.0	3,006.2	3,005.8	6.6	5.7	88.65	2.3	99.4	99.5	87.1	12.32	8.074	
3,100.0	3,100.0	3,106.5	3,106.2	6.9	5.8	89.32	1.2	100.1	100.1	87.4	12.70	7.882	
3,200.0	3,200.0	3,207.0	3,206.7	7.1	6.0	89.82	0.3	100.2	100.2	87.1	13.11	7.647	
3,300.0	3,300.0	3,307.6	3,307.2	7.3	6.3	90.10	-0.2	99.9	99.9	86.3	13.56	7.367	
3,400.0	3,400.0	3,408.2	3,407.9	7.5	6.5	90.43	-0.7	98.9	98.9	84.9	14.02	7.052	
3,500.0	3,500.0	3,508.7	3,508.4	7.8	6.7	91.08	-1.8	97.3	97.3	82.8	14.50	6.716	
3,600.0	3,600.0	3,608.5	3,608.1	8.0	7.0	92.14	-3.6	95.5	95.6	80.6	14.96	6.388	
3,700.0	3,700.0	3,707.4	3,707.0	8.2	7.2	93.10	-5.1	94.4	94.6	79.2	15.42	6.135	
3,729.2	3,729.2	3,736.3	3,735.8	8.3	7.3	93.27	-5.4	94.4	94.5	79.0	15.53	6.087	CC, ES
3,800.0	3,800.0	3,806.2	3,805.8	8.4	7.4	93.47	-5.7	94.7	94.8	79.1	15.80	6.004	
3,900.0	3,900.0	3,906.3	3,905.9	8.7	7.5	93.52	-5.9	95.4	95.6	79.5	16.12	5.934	
4,000.0	4,000.0	4,005.8	4,005.4	8.9	7.6	93.48	-5.9	96.5	96.7	80.2	16.43	5.883	
4,100.0	4,100.0	4,106.6	4,106.2	9.1	7.6	93.28	-5.6	97.3	97.5	80.7	16.75	5.820	
4,200.0	4,200.0	4,206.8	4,206.4	9.3	7.7	92.74	-4.7	97.7	97.8	80.7	17.07	5.726	
4,300.0	4,300.0	4,306.1	4,305.7	9.6	7.9	92.28	-3.9	98.3	98.3	80.9	17.40	5.650	SF
4,400.0	4,400.0	4,404.9	4,404.5	9.8	8.0	-159.66	-3.8	99.8	102.3	84.6	17.70	5.780	
4,500.0	4,499.6	4,504.9	4,504.5	10.0	8.1	-160.99	-3.8	101.6	111.5	93.6	17.96	6.210	
4,600.0	4,598.8	4,604.1	4,603.6	10.2	8.2	-162.91	-3.6	103.0	125.4	107.2	18.17	6.901	
4,700.0	4,697.1	4,701.8	4,701.4	10.4	8.3	-164.95	-3.4	104.5	144.4	126.1	18.34	7.874	
4,800.0	4,794.3	4,798.5	4,798.0	10.6	8.5	-166.68	-3.7	106.2	168.7	150.2	18.48	9.128	
4,900.0	4,890.2	4,895.1	4,894.5	10.9	8.6	-168.18	-4.3	107.6	197.9	179.3	18.59	10.643	
5,000.0	4,984.4	4,989.8	4,989.3	11.2	8.8	-169.55	-4.7	108.6	231.6	212.9	18.66	12.411	
5,100.0	5,076.8	5,076.1	5,075.5	11.6	9.0	-170.46	-5.6	110.2	270.9	252.2	18.68	14.505	
5,200.0	5,167.1	5,152.3	5,151.6	12.1	9.1	-170.89	-7.1	114.1	317.7	299.0	18.64	17.040	
5,300.0	5,254.9	5,223.1	5,222.1	12.6	9.2	-171.24	-7.8	120.7	372.7	354.2	18.57	20.074	
5,400.0	5,341.5	5,300.0	5,298.4	13.3	9.3	-171.66	-9.3	130.1	432.2	413.2	18.91	22.853	
5,500.0	5,428.0	5,365.6	5,363.2	14.0	9.5	-171.71	-11.9	139.7	493.1	473.8	19.27	25.591	
5,600.0	5,514.5	5,431.1	5,427.7	14.8	9.6	-171.53	-15.7	150.9	555.7	536.1	19.64	28.291	
5,700.0	5,601.1	5,500.0	5,495.0	15.6	9.7	-171.28	-20.2	164.7	620.5	600.4	20.04	30.961	
5,800.0	5,687.6	5,561.2	5,554.6	16.4	9.8	-171.04	-24.4	178.0	686.5	666.0	20.44	33.590	
5,900.0	5,774.1	5,636.4	5,627.7	17.3	10.0	-170.74	-30.0	194.8	752.9	732.0	20.87	36.079	
6,000.0	5,860.7	5,700.0	5,689.5	18.1	10.1	-170.48	-35.3	208.8	819.1	797.8	21.29	38.466	
6,100.0	5,947.2	5,765.1	5,752.5	19.1	10.3	-170.17	-41.4	224.0	886.1	864.3	21.74	40.763	
6,200.0	6,033.8	5,800.0	5,786.1	20.0	10.3	-169.98	-45.0	233.0	955.2	933.1	22.14	43.147	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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	-90.69	-0.7	-60.1	60.1				
100.0	100.0	100.0	100.0	0.1	0.1	-90.69	-0.7	-60.1	60.1	59.9	0.22	267.475	
200.0	200.0	200.0	200.0	0.3	0.3	-90.69	-0.7	-60.1	60.1	59.4	0.67	89.158	
300.0	300.0	300.0	300.0	0.6	0.6	-90.69	-0.7	-60.1	60.1	59.0	1.12	53.495	
400.0	400.0	400.0	400.0	0.8	0.8	-90.69	-0.7	-60.1	60.1	58.5	1.57	38.211	
500.0	500.0	500.0	500.0	1.0	1.0	-90.69	-0.7	-60.1	60.1	58.1	2.02	29.719	
600.0	600.0	600.0	600.0	1.2	1.2	-90.69	-0.7	-60.1	60.1	57.6	2.47	24.316	
700.0	700.0	700.0	700.0	1.5	1.5	-90.69	-0.7	-60.1	60.1	57.2	2.92	20.575	
800.0	800.0	800.0	800.0	1.7	1.7	-90.69	-0.7	-60.1	60.1	56.7	3.37	17.832	
900.0	900.0	900.0	900.0	1.9	1.9	-90.69	-0.7	-60.1	60.1	56.3	3.82	15.734	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.69	-0.7	-60.1	60.1	55.8	4.27	14.078	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-90.69	-0.7	-60.1	60.1	55.4	4.72	12.737	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-90.69	-0.7	-60.1	60.1	54.9	5.17	11.629	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-90.69	-0.7	-60.1	60.1	54.5	5.62	10.699	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-90.69	-0.7	-60.1	60.1	54.1	6.07	9.906	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-90.69	-0.7	-60.1	60.1	53.6	6.52	9.223	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-90.69	-0.7	-60.1	60.1	53.2	6.97	8.628	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-90.69	-0.7	-60.1	60.1	52.7	7.42	8.105	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-90.69	-0.7	-60.1	60.1	52.3	7.87	7.642	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	-90.69	-0.7	-60.1	60.1	51.8	8.32	7.229	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-90.69	-0.7	-60.1	60.1	51.4	8.77	6.858	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-90.69	-0.7	-60.1	60.1	50.9	9.22	6.524	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-90.69	-0.7	-60.1	60.1	50.5	9.66	6.220	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	-90.69	-0.7	-60.1	60.1	50.0	10.11	5.944	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	-90.69	-0.7	-60.1	60.1	49.6	10.56	5.691	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-90.69	-0.7	-60.1	60.1	49.1	11.01	5.459	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-90.69	-0.7	-60.1	60.1	48.7	11.46	5.245	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	-90.69	-0.7	-60.1	60.1	48.2	11.91	5.047	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	-90.69	-0.7	-60.1	60.1	47.8	12.36	4.863	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-90.69	-0.7	-60.1	60.1	47.3	12.81	4.693	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-90.69	-0.7	-60.1	60.1	46.9	13.26	4.533	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	-90.69	-0.7	-60.1	60.1	46.4	13.71	4.385	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	-90.69	-0.7	-60.1	60.1	46.0	14.16	4.246	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-90.69	-0.7	-60.1	60.1	45.5	14.61	4.115	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-90.69	-0.7	-60.1	60.1	45.1	15.06	3.992	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	-90.69	-0.7	-60.1	60.1	44.6	15.51	3.876	CC, ES
3,600.0	3,600.0	3,596.9	3,596.9	8.0	8.0	-91.19	-1.3	-62.5	62.6	46.7	15.94	3.928	
3,700.0	3,700.0	3,693.4	3,693.1	8.2	8.1	-92.48	-3.0	-69.6	70.0	53.7	16.35	4.284	
3,800.0	3,800.0	3,788.8	3,787.7	8.4	8.3	-94.09	-5.8	-81.3	82.4	65.7	16.77	4.915	
3,900.0	3,900.0	3,882.9	3,880.3	8.7	8.6	-95.67	-9.7	-97.3	99.7	82.5	17.20	5.798	
4,000.0	4,000.0	3,975.1	3,970.2	8.9	8.8	-97.03	-14.5	-117.3	121.9	104.2	17.65	6.904	
4,100.0	4,100.0	4,065.0	4,056.8	9.1	9.0	-98.13	-20.1	-140.8	148.6	130.5	18.12	8.201	
4,200.0	4,200.0	4,152.5	4,139.9	9.3	9.3	-99.00	-26.5	-167.4	179.9	161.2	18.63	9.657	
4,300.0	4,300.0	4,237.2	4,219.1	9.6	9.7	-99.68	-33.6	-196.8	215.4	196.2	19.16	11.241	
4,400.0	4,400.0	4,319.9	4,295.0	9.8	10.0	8.34	-41.2	-228.6	252.6	233.4	19.14	13.196	
4,500.0	4,499.6	4,400.0	4,367.1	10.0	10.4	7.94	-49.4	-262.5	289.0	269.5	19.44	14.862	
4,600.0	4,598.8	4,482.1	4,439.4	10.2	11.0	7.69	-58.4	-300.3	324.5	304.7	19.72	16.454	
4,700.0	4,697.1	4,571.1	4,516.3	10.4	11.6	7.55	-68.9	-343.8	358.2	338.3	19.98	17.931	
4,800.0	4,794.3	4,666.7	4,598.8	10.6	12.3	7.54	-80.2	-390.8	387.4	367.1	20.22	19.155	
4,900.0	4,890.2	4,763.8	4,682.6	10.9	13.1	7.63	-91.7	-438.4	411.5	391.0	20.45	20.122	
5,000.0	4,984.4	4,861.9	4,767.3	11.2	13.9	7.82	-103.3	-486.6	430.6	409.9	20.66	20.839	
5,100.0	5,076.8	4,960.9	4,852.7	11.6	14.8	8.11	-114.9	-535.3	444.5	423.7	20.86	21.310	

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 30-025HN
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 30-025HN	**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	5,167.1	5,060.4	4,938.6	12.1	15.7	8.49	-126.7	-584.2	453.3	432.3	21.05	21.537	
5,300.0	5,254.9	5,160.3	5,024.8	12.6	16.7	8.98	-138.5	-633.2	457.0	435.8	21.24	21.522	
5,400.0	5,341.5	5,260.2	5,111.0	13.3	17.7	9.53	-150.3	-682.3	458.1	436.2	21.83	20.988	
5,500.0	5,428.0	5,360.1	5,197.2	14.0	18.6	10.08	-162.1	-731.3	459.1	436.7	22.45	20.447	
5,600.0	5,514.5	5,460.0	5,283.4	14.8	19.7	10.63	-173.9	-780.4	460.2	437.1	23.11	19.913	
5,700.0	5,601.1	5,559.9	5,369.6	15.6	20.7	11.17	-185.7	-829.5	461.4	437.6	23.80	19.386	
5,800.0	5,687.6	5,659.8	5,455.8	16.4	21.7	11.71	-197.5	-878.6	462.6	438.0	24.52	18.868	
5,900.0	5,774.1	5,759.6	5,542.0	17.3	22.7	12.25	-209.3	-927.6	463.8	438.5	25.26	18.359	
6,000.0	5,860.7	5,859.5	5,628.2	18.1	23.8	12.79	-221.0	-976.7	465.1	439.0	26.04	17.861	
6,100.0	5,947.2	5,959.4	5,714.4	19.1	24.8	13.32	-232.8	-1,025.8	466.4	439.5	26.84	17.374	
6,200.0	6,033.8	6,059.3	5,800.7	20.0	25.9	13.85	-244.6	-1,074.8	467.7	440.0	27.68	16.898	
6,300.0	6,120.3	6,159.2	5,886.9	20.9	26.9	14.38	-256.4	-1,123.9	469.1	440.6	28.54	16.435	
6,400.0	6,206.8	6,259.1	5,973.1	21.9	28.0	14.90	-268.2	-1,173.0	470.5	441.1	29.44	15.984	
6,500.0	6,293.4	6,359.0	6,059.3	22.9	29.1	15.42	-280.0	-1,222.1	472.0	441.6	30.36	15.545	
6,600.0	6,379.9	6,458.9	6,145.5	23.9	30.1	15.94	-291.8	-1,271.1	473.5	442.2	31.32	15.120	
6,700.0	6,466.4	6,558.8	6,231.7	24.9	31.2	16.46	-303.6	-1,320.2	475.0	442.7	32.30	14.707	
6,800.0	6,553.0	6,658.7	6,317.9	25.9	32.3	16.97	-315.4	-1,369.3	476.6	443.3	33.31	14.308	
6,900.0	6,639.5	6,758.6	6,404.1	26.9	33.4	17.47	-327.2	-1,418.3	478.2	443.9	34.35	13.921	
7,000.0	6,726.0	6,858.5	6,490.3	27.9	34.5	17.98	-339.0	-1,467.4	479.9	444.5	35.43	13.547	
7,100.0	6,812.9	6,958.4	6,576.6	28.9	35.6	7.52	-350.8	-1,516.5	481.5	445.1	36.40	13.230	
7,200.0	6,900.2	7,056.6	6,661.3	29.7	36.6	-17.42	-362.4	-1,564.7	482.8	446.4	36.42	13.255	
7,300.0	6,984.2	7,148.3	6,740.4	30.4	37.7	-39.21	-373.2	-1,609.8	486.1	450.0	36.08	13.473	
7,400.0	7,060.4	7,235.0	6,815.3	30.9	38.6	-55.42	-382.6	-1,652.4	495.8	459.6	36.13	13.722	
7,500.0	7,125.0	7,346.4	6,911.6	31.3	39.6	-68.06	-374.8	-1,707.1	513.1	476.5	36.59	14.024	
7,600.0	7,174.8	7,491.6	7,029.2	31.5	40.6	-78.31	-323.7	-1,773.9	534.9	497.9	37.02	14.448	
7,700.0	7,207.0	7,692.9	7,155.8	31.7	41.6	-86.62	-187.0	-1,845.5	554.8	517.7	37.08	14.962	
7,800.0	7,220.1	7,952.7	7,220.4	31.7	41.9	-89.99	58.0	-1,881.6	562.3	524.6	37.65	14.934	
7,845.2	7,221.3	7,997.9	7,220.4	31.7	41.9	-89.90	103.3	-1,881.5	561.7	523.8	37.90	14.818	
7,900.0	7,220.4	8,052.7	7,220.4	31.7	41.9	-90.00	158.1	-1,881.4	562.1	523.9	38.20	14.717	
8,000.0	7,220.4	8,152.7	7,220.4	31.8	41.9	-90.00	258.1	-1,881.1	562.1	523.0	39.13	14.364	
8,100.0	7,220.4	8,252.7	7,220.4	32.1	42.1	-90.00	358.1	-1,880.8	562.1	521.7	40.42	13.907	
8,200.0	7,220.4	8,352.7	7,220.4	32.4	42.3	-90.00	458.1	-1,880.5	562.1	520.1	42.02	13.378	
8,300.0	7,220.4	8,452.7	7,220.4	32.8	42.5	-90.00	558.1	-1,880.3	562.1	518.2	43.90	12.805	
8,400.0	7,220.4	8,552.7	7,220.4	33.3	42.9	-90.00	658.1	-1,880.0	562.1	516.1	46.02	12.214	
8,500.0	7,220.4	8,652.7	7,220.4	33.9	43.3	-90.00	758.1	-1,879.7	562.1	513.7	48.35	11.624	
8,600.0	7,220.4	8,752.7	7,220.4	34.6	43.8	-90.00	858.1	-1,879.4	562.1	511.2	50.87	11.049	
8,700.0	7,220.4	8,852.7	7,220.4	35.4	44.3	-90.00	958.1	-1,879.1	562.1	508.5	53.55	10.496	
8,800.0	7,220.4	8,952.7	7,220.4	36.3	45.0	-90.00	1,058.1	-1,878.9	562.1	505.7	56.36	9.973	
8,900.0	7,220.4	9,052.7	7,220.4	37.4	45.7	-90.00	1,158.1	-1,878.6	562.1	502.8	59.29	9.480	
9,000.0	7,220.4	9,152.7	7,220.4	38.5	46.5	-90.00	1,258.1	-1,878.3	562.0	499.7	62.31	9.020	
9,100.0	7,220.4	9,252.7	7,220.4	39.6	47.3	-90.00	1,358.1	-1,878.0	562.0	496.6	65.43	8.590	
9,200.0	7,220.4	9,352.7	7,220.4	40.9	48.3	-90.00	1,458.1	-1,877.8	562.0	493.4	68.61	8.191	
9,300.0	7,220.4	9,452.7	7,220.4	42.2	49.3	-90.00	1,558.1	-1,877.5	562.0	490.2	71.86	7.821	
9,400.0	7,220.4	9,552.7	7,220.4	43.5	50.4	-90.00	1,658.1	-1,877.2	562.0	486.8	75.17	7.477	
9,500.0	7,220.4	9,652.7	7,220.4	44.9	51.5	-90.00	1,758.1	-1,876.9	562.0	483.5	78.53	7.157	
9,600.0	7,220.4	9,752.7	7,220.4	46.4	52.7	-90.00	1,858.1	-1,876.6	562.0	480.1	81.92	6.860	
9,700.0	7,220.4	9,852.7	7,220.4	47.9	53.9	-90.00	1,958.1	-1,876.4	562.0	476.6	85.36	6.584	
9,800.0	7,220.4	9,952.7	7,220.4	49.4	55.2	-90.00	2,058.1	-1,876.1	562.0	473.2	88.83	6.327	
9,900.0	7,220.4	10,052.7	7,220.4	51.0	56.6	-90.00	2,158.1	-1,875.8	562.0	469.6	92.33	6.087	
10,000.0	7,220.4	10,152.7	7,220.4	52.6	58.0	-90.00	2,258.1	-1,875.5	562.0	466.1	95.85	5.863	
10,100.0	7,220.4	10,252.7	7,220.4	54.2	59.4	-90.00	2,358.1	-1,875.3	562.0	462.6	99.40	5.653	
10,200.0	7,220.4	10,352.7	7,220.4	55.8	60.8	-90.00	2,458.1	-1,875.0	562.0	459.0	102.97	5.457	

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 30-025HN
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 30-025HN	**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
10,300.0	7,220.4	10,452.7	7,220.4	57.4	62.3	-90.00	2,558.1	-1,874.7	561.9	455.4	106.56	5.274	
10,400.0	7,220.4	10,552.7	7,220.4	59.1	63.8	-90.00	2,658.1	-1,874.4	561.9	451.8	110.16	5.101	
10,500.0	7,220.4	10,652.7	7,220.4	60.8	65.3	-90.00	2,758.1	-1,874.1	561.9	448.1	113.79	4.938	
10,600.0	7,220.4	10,752.7	7,220.4	62.5	66.9	-90.00	2,858.1	-1,873.9	561.9	444.5	117.42	4.785	
10,700.0	7,220.4	10,852.7	7,220.4	64.2	68.5	-90.00	2,958.1	-1,873.6	561.9	440.8	121.07	4.641	
10,800.0	7,220.4	10,952.7	7,220.4	65.9	70.1	-90.00	3,058.1	-1,873.3	561.9	437.2	124.73	4.505	
10,900.0	7,220.4	11,052.7	7,220.4	67.7	71.7	-90.00	3,158.1	-1,873.0	561.9	433.5	128.40	4.376	
11,000.0	7,220.4	11,152.7	7,220.4	69.4	73.3	-90.00	3,258.1	-1,872.8	561.9	429.8	132.08	4.254	
11,100.0	7,220.4	11,252.7	7,220.4	71.2	75.0	-90.00	3,358.1	-1,872.5	561.9	426.1	135.77	4.138	
11,200.0	7,220.4	11,352.7	7,220.4	72.9	76.6	-90.00	3,458.1	-1,872.2	561.9	422.4	139.47	4.029	
11,300.0	7,220.4	11,452.7	7,220.4	74.7	78.3	-90.00	3,558.1	-1,871.9	561.9	418.7	143.17	3.924	
11,400.0	7,220.4	11,552.7	7,220.4	76.5	80.0	-90.00	3,658.1	-1,871.6	561.9	415.0	146.89	3.825	
11,500.0	7,220.4	11,652.7	7,220.4	78.3	81.7	-90.00	3,758.1	-1,871.4	561.8	411.2	150.60	3.731	
11,600.0	7,220.4	11,752.7	7,220.4	80.0	83.4	-90.00	3,858.1	-1,871.1	561.8	407.5	154.33	3.641	
11,700.0	7,220.4	11,852.7	7,220.4	81.8	85.1	-90.00	3,958.1	-1,870.8	561.8	403.8	158.06	3.555	
11,800.0	7,220.4	11,952.7	7,220.4	83.6	86.9	-90.00	4,058.1	-1,870.5	561.8	400.0	161.80	3.472	
11,900.0	7,220.4	12,052.7	7,220.4	85.5	88.6	-90.00	4,158.1	-1,870.3	561.8	396.3	165.54	3.394	
12,000.0	7,220.4	12,152.7	7,220.4	87.3	90.3	-90.00	4,258.1	-1,870.0	561.8	392.5	169.28	3.319	
12,100.0	7,220.4	12,252.7	7,220.4	89.1	92.1	-90.00	4,358.1	-1,869.7	561.8	388.8	173.03	3.247	
12,121.6	7,220.4	12,274.4	7,220.4	89.5	92.5	-90.00	4,379.7	-1,869.6	561.8	388.0	173.84	3.232	
12,130.6	7,220.4	12,274.9	7,220.4	89.6	92.5	-90.00	4,380.2	-1,869.6	561.9	387.8	174.02	3.229	SF

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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	-91.41	-0.7	-30.1	30.1				
100.0	100.0	100.0	100.0	0.1	0.1	-91.41	-0.7	-30.1	30.1	29.8	0.22	133.768	
200.0	200.0	200.0	200.0	0.3	0.3	-91.41	-0.7	-30.1	30.1	29.4	0.67	44.589	
300.0	300.0	300.0	300.0	0.6	0.6	-91.41	-0.7	-30.1	30.1	28.9	1.12	26.754	
400.0	400.0	400.0	400.0	0.8	0.8	-91.41	-0.7	-30.1	30.1	28.5	1.57	19.110	
500.0	500.0	500.0	500.0	1.0	1.0	-91.41	-0.7	-30.1	30.1	28.0	2.02	14.863	
600.0	600.0	600.0	600.0	1.2	1.2	-91.41	-0.7	-30.1	30.1	27.6	2.47	12.161	
700.0	700.0	700.0	700.0	1.5	1.5	-91.41	-0.7	-30.1	30.1	27.1	2.92	10.290	
800.0	800.0	800.0	800.0	1.7	1.7	-91.41	-0.7	-30.1	30.1	26.7	3.37	8.918	
900.0	900.0	900.0	900.0	1.9	1.9	-91.41	-0.7	-30.1	30.1	26.2	3.82	7.869	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-91.41	-0.7	-30.1	30.1	25.8	4.27	7.040	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-91.41	-0.7	-30.1	30.1	25.3	4.72	6.370	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-91.41	-0.7	-30.1	30.1	24.9	5.17	5.816	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-91.41	-0.7	-30.1	30.1	24.4	5.62	5.351	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-91.41	-0.7	-30.1	30.1	24.0	6.07	4.954	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	-91.41	-0.7	-30.1	30.1	23.5	6.52	4.613	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-91.41	-0.7	-30.1	30.1	23.1	6.97	4.315	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-91.41	-0.7	-30.1	30.1	22.6	7.42	4.054	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-91.41	-0.7	-30.1	30.1	22.2	7.87	3.822	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	-91.41	-0.7	-30.1	30.1	21.8	8.32	3.615	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	-91.41	-0.7	-30.1	30.1	21.3	8.77	3.430	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	-91.41	-0.7	-30.1	30.1	20.9	9.22	3.263	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	-91.41	-0.7	-30.1	30.1	20.4	9.66	3.111	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	-91.41	-0.7	-30.1	30.1	20.0	10.11	2.973	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	-91.41	-0.7	-30.1	30.1	19.5	10.56	2.846	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	-91.41	-0.7	-30.1	30.1	19.1	11.01	2.730	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	-91.41	-0.7	-30.1	30.1	18.6	11.46	2.623	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	-91.41	-0.7	-30.1	30.1	18.2	11.91	2.524	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	-91.41	-0.7	-30.1	30.1	17.7	12.36	2.432	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	-91.41	-0.7	-30.1	30.1	17.3	12.81	2.347	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	-91.41	-0.7	-30.1	30.1	16.8	13.26	2.267	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	-91.41	-0.7	-30.1	30.1	16.4	13.71	2.193	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	-91.41	-0.7	-30.1	30.1	15.9	14.16	2.123	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	-91.41	-0.7	-30.1	30.1	15.5	14.61	2.058	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	-91.41	-0.7	-30.1	30.1	15.0	15.06	1.997	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	-91.41	-0.7	-30.1	30.1	14.6	15.51	1.939	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	-91.41	-0.7	-30.1	30.1	14.1	15.96	1.884	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	-91.41	-0.7	-30.1	30.1	13.7	16.41	1.832	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	-91.41	-0.7	-30.1	30.1	13.2	16.86	1.784	
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	-91.41	-0.7	-30.1	30.1	12.8	17.31	1.737	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	-91.41	-0.7	-30.1	30.1	12.3	17.76	1.693	CC, ES, SF
4,100.0	4,100.0	4,098.4	4,098.4	9.1	9.1	-92.50	-1.4	-32.5	32.6	14.4	18.19	1.791	
4,200.0	4,200.0	4,196.3	4,196.0	9.3	9.3	-94.95	-3.4	-39.8	40.1	21.5	18.60	2.157	
4,300.0	4,300.0	4,293.2	4,292.0	9.6	9.5	-97.46	-6.8	-51.7	52.7	33.7	19.02	2.772	
4,400.0	4,400.0	4,389.0	4,386.3	9.8	9.7	9.47	-11.3	-68.1	67.8	48.5	19.37	3.501	
4,500.0	4,499.6	4,484.1	4,479.0	10.0	9.9	8.56	-17.1	-88.9	82.8	63.1	19.68	4.205	
4,600.0	4,598.8	4,578.6	4,569.8	10.2	10.2	8.10	-24.1	-113.8	97.5	77.5	19.94	4.887	
4,700.0	4,697.1	4,672.4	4,658.6	10.4	10.5	7.89	-32.2	-142.9	111.9	91.7	20.16	5.549	
4,800.0	4,794.3	4,765.7	4,745.3	10.6	10.8	7.85	-41.4	-175.9	126.0	105.7	20.35	6.193	
4,900.0	4,890.2	4,858.3	4,829.7	10.9	11.3	7.92	-51.7	-212.7	139.8	119.3	20.50	6.819	
5,000.0	4,984.4	4,950.3	4,911.6	11.2	11.8	8.07	-62.9	-253.2	153.2	132.6	20.63	7.429	
5,100.0	5,076.8	5,045.3	4,994.2	11.6	12.4	8.32	-75.5	-298.4	165.8	145.1	20.74	7.996	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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	5,167.1	5,145.0	5,080.4	12.1	13.1	8.78	-88.9	-346.5	174.0	153.2	20.85	8.346	
5,300.0	5,254.9	5,244.9	5,166.9	12.6	13.8	9.50	-102.4	-394.7	177.0	156.1	20.96	8.446	
5,400.0	5,341.5	5,344.9	5,253.4	13.3	14.6	10.36	-115.8	-442.9	177.4	155.9	21.52	8.245	
5,500.0	5,428.0	5,444.8	5,340.0	14.0	15.5	11.22	-129.3	-491.1	177.8	155.7	22.12	8.037	
5,600.0	5,514.5	5,544.8	5,426.5	14.8	16.3	12.07	-142.7	-539.3	178.2	155.4	22.76	7.829	
5,700.0	5,601.1	5,644.8	5,513.0	15.6	17.2	12.92	-156.1	-587.5	178.7	155.2	23.45	7.620	
5,800.0	5,687.6	5,744.7	5,599.6	16.4	18.1	13.77	-169.6	-635.7	179.2	155.0	24.18	7.411	
5,900.0	5,774.1	5,844.7	5,686.1	17.3	19.1	14.61	-183.0	-684.0	179.7	154.8	24.95	7.203	
6,000.0	5,860.7	5,944.6	5,772.6	18.1	20.1	15.44	-196.5	-732.2	180.3	154.6	25.77	6.997	
6,100.0	5,947.2	6,044.6	5,859.1	19.1	21.0	16.27	-209.9	-780.4	181.0	154.3	26.64	6.794	
6,200.0	6,033.8	6,144.6	5,945.7	20.0	22.0	17.09	-223.4	-828.6	181.6	154.1	27.55	6.593	
6,300.0	6,120.3	6,244.5	6,032.2	20.9	23.0	17.91	-236.8	-876.8	182.3	153.8	28.51	6.396	
6,400.0	6,206.8	6,344.5	6,118.7	21.9	24.0	18.72	-250.2	-925.0	183.1	153.6	29.52	6.202	
6,500.0	6,293.4	6,444.5	6,205.3	22.9	25.0	19.52	-263.7	-973.3	183.8	153.3	30.57	6.014	
6,600.0	6,379.9	6,544.4	6,291.8	23.9	26.1	20.32	-277.1	-1,021.5	184.7	153.0	31.67	5.830	
6,700.0	6,466.4	6,644.4	6,378.3	24.9	27.1	21.11	-290.6	-1,069.7	185.5	152.7	32.82	5.651	
6,800.0	6,553.0	6,744.4	6,464.9	25.9	28.1	21.89	-304.0	-1,117.9	186.4	152.4	34.02	5.478	
6,900.0	6,639.5	6,844.3	6,551.4	26.9	29.2	22.67	-317.4	-1,166.1	187.3	152.0	35.27	5.311	
7,000.0	6,726.0	6,944.3	6,637.9	27.9	30.2	23.44	-330.9	-1,214.3	188.2	151.7	36.56	5.149	
7,100.0	6,812.9	7,044.2	6,724.4	28.9	31.3	12.70	-344.3	-1,262.5	188.9	151.4	37.46	5.043	
7,199.5	6,899.8	7,141.6	6,808.7	29.7	32.3	-16.03	-357.4	-1,309.5	188.2	152.2	35.94	5.235	
7,200.0	6,900.2	7,142.1	6,809.2	29.7	32.3	-16.18	-357.5	-1,309.8	188.2	152.2	35.93	5.237	
7,300.0	6,984.2	7,233.1	6,887.9	30.4	33.3	-44.77	-369.7	-1,353.7	192.3	157.8	34.51	5.573	
7,400.0	7,060.4	7,330.7	6,972.9	30.9	34.2	-68.71	-374.5	-1,401.0	209.9	174.7	35.17	5.968	
7,500.0	7,125.0	7,446.9	7,072.3	31.3	35.1	-86.76	-352.4	-1,456.3	237.8	202.0	35.82	6.639	
7,600.0	7,174.8	7,589.7	7,182.2	31.5	36.0	-100.04	-286.1	-1,517.3	268.9	234.2	34.66	7.758	
7,700.0	7,207.0	7,768.2	7,284.6	31.7	36.6	-108.81	-152.9	-1,574.0	294.4	262.1	32.33	9.107	
7,800.0	7,220.1	7,978.3	7,335.0	31.7	36.8	-112.17	47.1	-1,601.5	304.8	273.5	31.34	9.725	
7,900.0	7,220.4	8,088.5	7,335.4	31.7	36.8	-112.17	157.3	-1,601.4	304.7	273.0	31.73	9.602	
8,000.0	7,220.4	8,188.5	7,335.4	31.8	36.9	-112.17	257.3	-1,601.1	304.7	272.2	32.53	9.367	
8,100.0	7,220.4	8,288.5	7,335.4	32.1	37.1	-112.17	357.3	-1,600.9	304.7	271.0	33.70	9.042	
8,200.0	7,220.4	8,388.5	7,335.4	32.4	37.3	-112.17	457.3	-1,600.6	304.7	269.5	35.20	8.657	
8,300.0	7,220.4	8,488.5	7,335.4	32.8	37.6	-112.17	557.3	-1,600.3	304.7	267.7	36.99	8.238	
8,400.0	7,220.4	8,588.5	7,335.4	33.3	38.0	-112.17	657.3	-1,600.1	304.7	265.7	39.03	7.807	
8,500.0	7,220.4	8,688.5	7,335.4	33.9	38.5	-112.17	757.3	-1,599.8	304.7	263.4	41.29	7.380	
8,600.0	7,220.4	8,788.5	7,335.4	34.6	39.1	-112.17	857.3	-1,599.5	304.7	261.0	43.72	6.969	
8,700.0	7,220.4	8,888.5	7,335.4	35.4	39.8	-112.17	957.3	-1,599.3	304.7	258.4	46.31	6.579	
8,800.0	7,220.4	8,988.5	7,335.4	36.3	40.6	-112.17	1,057.3	-1,599.0	304.7	255.7	49.03	6.215	
8,900.0	7,220.4	9,088.5	7,335.4	37.4	41.4	-112.17	1,157.3	-1,598.7	304.7	252.9	51.85	5.876	
9,000.0	7,220.4	9,188.5	7,335.4	38.5	42.3	-112.17	1,257.3	-1,598.4	304.7	249.9	54.77	5.563	
9,100.0	7,220.4	9,288.5	7,335.4	39.6	43.4	-112.17	1,357.3	-1,598.2	304.7	246.9	57.76	5.275	
9,200.0	7,220.4	9,388.5	7,335.4	40.9	44.4	-112.17	1,457.3	-1,597.9	304.7	243.9	60.82	5.010	
9,300.0	7,220.4	9,488.5	7,335.4	42.2	45.6	-112.17	1,557.3	-1,597.6	304.7	240.8	63.94	4.766	
9,400.0	7,220.4	9,588.5	7,335.4	43.5	46.8	-112.17	1,657.3	-1,597.4	304.7	237.6	67.11	4.541	
9,500.0	7,220.4	9,688.5	7,335.4	44.9	48.1	-112.17	1,757.3	-1,597.1	304.7	234.4	70.31	4.334	
9,600.0	7,220.4	9,788.5	7,335.4	46.4	49.4	-112.17	1,857.3	-1,596.8	304.7	231.1	73.56	4.142	
9,700.0	7,220.4	9,888.5	7,335.4	47.9	50.8	-112.17	1,957.3	-1,596.5	304.7	227.9	76.83	3.966	
9,800.0	7,220.4	9,988.5	7,335.4	49.4	52.2	-112.17	2,057.3	-1,596.3	304.7	224.6	80.14	3.802	
9,900.0	7,220.4	10,088.5	7,335.4	51.0	53.7	-112.17	2,157.3	-1,596.0	304.7	221.2	83.46	3.651	
10,000.0	7,220.4	10,188.5	7,335.4	52.6	55.1	-112.17	2,257.3	-1,595.7	304.7	217.9	86.81	3.510	
10,100.0	7,220.4	10,288.5	7,335.4	54.2	56.7	-112.17	2,357.3	-1,595.5	304.7	214.5	90.18	3.379	
10,200.0	7,220.4	10,388.5	7,335.4	55.8	58.2	-112.17	2,457.3	-1,595.2	304.7	211.1	93.57	3.256	

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 30-025HN
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 30-025HN	**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
10,300.0	7,220.4	10,488.5	7,335.4	57.4	59.8	-112.17	2,557.3	-1,594.9	304.7	207.7	96.97	3.142	
10,400.0	7,220.4	10,588.5	7,335.4	59.1	61.4	-112.17	2,657.3	-1,594.7	304.7	204.3	100.39	3.035	
10,500.0	7,220.4	10,688.5	7,335.4	60.8	63.0	-112.17	2,757.3	-1,594.4	304.7	200.9	103.82	2.935	
10,600.0	7,220.4	10,788.5	7,335.4	62.5	64.6	-112.17	2,857.3	-1,594.1	304.7	197.4	107.26	2.841	
10,700.0	7,220.4	10,888.5	7,335.4	64.2	66.3	-112.17	2,957.3	-1,593.8	304.7	194.0	110.71	2.752	
10,800.0	7,220.4	10,988.5	7,335.4	65.9	67.9	-112.17	3,057.3	-1,593.6	304.7	190.5	114.17	2.669	
10,900.0	7,220.4	11,088.5	7,335.4	67.7	69.6	-112.17	3,157.3	-1,593.3	304.7	187.1	117.64	2.590	
11,000.0	7,220.4	11,188.5	7,335.4	69.4	71.3	-112.17	3,257.3	-1,593.0	304.7	183.6	121.11	2.516	
11,100.0	7,220.4	11,288.5	7,335.4	71.2	73.0	-112.17	3,357.3	-1,592.8	304.7	180.1	124.60	2.445	
11,200.0	7,220.4	11,388.5	7,335.4	72.9	74.7	-112.17	3,457.3	-1,592.5	304.7	176.6	128.09	2.379	
11,300.0	7,220.4	11,488.5	7,335.4	74.7	76.5	-112.17	3,557.3	-1,592.2	304.7	173.1	131.58	2.316	
11,400.0	7,220.4	11,588.5	7,335.4	76.5	78.2	-112.17	3,657.3	-1,591.9	304.7	169.6	135.09	2.256	
11,500.0	7,220.4	11,688.5	7,335.4	78.3	79.9	-112.17	3,757.3	-1,591.7	304.7	166.1	138.59	2.198	
11,600.0	7,220.4	11,788.5	7,335.4	80.0	81.7	-112.17	3,857.3	-1,591.4	304.7	162.6	142.10	2.144	
11,700.0	7,220.4	11,888.5	7,335.4	81.8	83.5	-112.17	3,957.3	-1,591.1	304.7	159.1	145.62	2.092	
11,800.0	7,220.4	11,988.5	7,335.4	83.6	85.2	-112.17	4,057.3	-1,590.9	304.7	155.5	149.14	2.043	
11,900.0	7,220.4	12,088.5	7,335.4	85.5	87.0	-112.17	4,157.3	-1,590.6	304.7	152.0	152.66	1.996	
12,000.0	7,220.4	12,188.5	7,335.4	87.3	88.8	-112.18	4,257.3	-1,590.3	304.7	148.5	156.19	1.951	
12,100.0	7,220.4	12,288.5	7,335.4	89.1	90.6	-112.18	4,357.3	-1,590.1	304.7	145.0	159.72	1.908	
12,123.5	7,220.4	12,312.0	7,335.4	89.5	91.0	-112.18	4,380.8	-1,590.0	304.7	144.1	160.55	1.898	
12,130.6	7,220.4	12,314.3	7,335.4	89.6	91.0	-112.18	4,383.1	-1,590.0	304.7	144.0	160.72	1.896	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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 30-027HN - 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	87.94	1.1	30.3	30.4				
100.0	100.0	100.0	100.0	0.1	0.1	87.94	1.1	30.3	30.4	30.1	0.22	135.053	
200.0	200.0	200.0	200.0	0.3	0.3	87.94	1.1	30.3	30.4	29.7	0.67	45.018	
300.0	300.0	300.0	300.0	0.6	0.6	87.94	1.1	30.3	30.4	29.2	1.12	27.011	
400.0	400.0	400.0	400.0	0.8	0.8	87.94	1.1	30.3	30.4	28.8	1.57	19.293	
500.0	500.0	500.0	500.0	1.0	1.0	87.94	1.1	30.3	30.4	28.3	2.02	15.006	
600.0	600.0	600.0	600.0	1.2	1.2	87.94	1.1	30.3	30.4	27.9	2.47	12.278	
700.0	700.0	700.0	700.0	1.5	1.5	87.94	1.1	30.3	30.4	27.4	2.92	10.389	
800.0	800.0	800.0	800.0	1.7	1.7	87.94	1.1	30.3	30.4	27.0	3.37	9.004	
900.0	900.0	900.0	900.0	1.9	1.9	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	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	87.94	1.1	30.3	30.4	11.3	19.11	1.589	CC, ES, SF
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	-164.69	1.1	30.3	32.9	13.4	19.51	1.685	
4,500.0	4,499.6	4,499.6	4,499.6	10.0	10.0	-167.58	1.1	30.3	40.5	20.6	19.86	2.039	
4,600.0	4,598.8	4,598.8	4,598.8	10.2	10.2	-170.53	1.1	30.3	53.3	33.2	20.15	2.645	
4,700.0	4,697.1	4,697.1	4,697.1	10.4	10.4	-172.87	1.1	30.3	71.4	51.0	20.40	3.498	
4,800.0	4,794.3	4,794.3	4,794.3	10.6	10.7	-174.56	1.1	30.3	94.6	74.0	20.59	4.592	
4,900.0	4,890.2	4,890.2	4,890.2	10.9	10.9	-175.75	1.1	30.3	122.9	102.1	20.74	5.925	
5,000.0	4,984.4	4,984.4	4,984.4	11.2	11.1	-176.59	1.1	30.3	156.2	135.4	20.83	7.497	
5,100.0	5,076.8	5,076.8	5,076.8	11.6	11.3	-177.20	1.1	30.3	194.4	173.5	20.88	9.310	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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 30-027HN - 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	5,167.1	5,176.2	5,176.1	12.1	11.5	-177.59	0.3	29.0	236.1	215.2	20.88	11.306	
5,300.0	5,254.9	5,280.5	5,280.2	12.6	11.7	-177.59	-3.4	23.1	278.0	257.2	20.84	13.342	
5,400.0	5,341.5	5,388.7	5,387.6	13.3	11.9	-177.36	-10.4	11.8	317.5	296.3	21.24	14.946	
5,500.0	5,428.0	5,501.6	5,498.7	14.0	12.1	-176.87	-21.0	-5.4	351.9	330.2	21.69	16.221	
5,600.0	5,514.5	5,619.0	5,612.6	14.8	12.4	-176.17	-35.8	-29.3	380.7	358.5	22.17	17.173	
5,700.0	5,601.1	5,739.9	5,728.0	15.6	12.7	-175.25	-54.8	-60.0	403.8	381.2	22.68	17.803	
5,800.0	5,687.6	5,863.8	5,843.6	16.4	13.1	-174.11	-78.2	-97.8	421.1	397.8	23.24	18.115	
5,900.0	5,774.1	5,989.4	5,957.6	17.3	13.6	-172.70	-105.9	-142.6	432.3	408.4	23.86	18.115	
6,000.0	5,860.7	6,114.0	6,067.1	18.1	14.3	-171.03	-137.2	-193.3	437.5	412.9	24.56	17.812	
6,100.0	5,947.2	6,213.4	6,152.9	19.1	14.8	-169.59	-163.5	-235.8	440.3	415.1	25.26	17.432	
6,200.0	6,033.8	6,312.7	6,238.7	20.0	15.5	-168.17	-189.8	-278.3	443.4	417.4	26.02	17.039	
6,300.0	6,120.3	6,412.1	6,324.6	20.9	16.1	-166.77	-216.1	-320.8	446.8	419.9	26.86	16.635	
6,400.0	6,206.8	6,511.4	6,410.4	21.9	16.9	-165.39	-242.4	-363.3	450.4	422.6	27.77	16.220	
6,500.0	6,293.4	6,610.7	6,496.3	22.9	17.6	-164.04	-268.7	-405.8	454.3	425.5	28.75	15.800	
6,600.0	6,379.9	6,710.1	6,582.1	23.9	18.4	-162.70	-295.1	-448.4	458.4	428.6	29.81	15.375	
6,700.0	6,466.4	6,809.4	6,668.0	24.9	19.2	-161.40	-321.4	-490.9	462.8	431.8	30.95	14.951	
6,800.0	6,553.0	6,911.0	6,756.2	25.9	20.0	-160.32	-346.4	-534.5	467.3	435.2	32.11	14.556	
6,900.0	6,639.5	7,014.9	6,848.9	26.9	20.7	-161.66	-352.3	-580.4	471.1	438.5	32.55	14.472	
7,000.0	6,726.0	7,108.9	6,931.9	27.9	21.2	-165.33	-336.6	-621.4	475.5	443.2	32.25	14.742	
7,100.0	6,812.9	7,188.7	6,998.6	28.9	21.5	178.75	-308.2	-654.3	484.0	452.3	31.78	15.233	
7,200.0	6,900.2	7,262.2	7,055.1	29.7	21.8	150.18	-270.5	-682.1	496.7	464.8	31.93	15.554	
7,300.0	6,984.2	7,332.3	7,103.1	30.4	21.9	127.28	-225.3	-705.7	511.3	478.6	32.70	15.638	
7,400.0	7,060.4	7,400.0	7,142.9	30.9	22.0	111.57	-174.1	-725.2	525.9	492.3	33.55	15.674	
7,500.0	7,125.0	7,466.1	7,174.4	31.3	22.1	101.27	-118.2	-740.7	538.8	504.7	34.11	15.794	
7,600.0	7,174.8	7,531.1	7,197.8	31.5	22.2	94.79	-58.7	-752.1	548.7	514.4	34.33	15.982	
7,700.0	7,207.0	7,595.5	7,213.0	31.7	22.2	91.19	3.4	-759.4	554.9	520.5	34.46	16.102	
7,800.0	7,220.1	7,659.6	7,219.9	31.7	22.2	89.97	66.9	-762.7	556.8	522.0	34.82	15.989	
7,900.0	7,220.4	7,747.7	7,220.4	31.7	22.3	90.00	155.1	-762.7	556.6	521.2	35.37	15.735	
8,000.0	7,220.4	7,847.7	7,220.4	31.8	22.6	90.00	255.1	-762.4	556.6	520.2	36.40	15.291	
8,100.0	7,220.4	7,947.7	7,220.4	32.1	23.0	90.00	355.1	-762.1	556.6	518.8	37.79	14.728	
8,200.0	7,220.4	8,047.7	7,220.4	32.4	23.6	90.00	455.1	-761.9	556.6	517.1	39.51	14.088	
8,300.0	7,220.4	8,147.7	7,220.4	32.8	24.3	90.00	555.1	-761.6	556.6	515.1	41.51	13.408	
8,400.0	7,220.4	8,247.7	7,220.4	33.3	25.2	90.00	655.1	-761.3	556.6	512.8	43.76	12.719	
8,500.0	7,220.4	8,347.7	7,220.4	33.9	26.2	90.00	755.1	-761.1	556.6	510.3	46.22	12.042	
8,600.0	7,220.4	8,447.7	7,220.4	34.6	27.4	90.00	855.1	-760.8	556.6	507.7	48.86	11.392	
8,700.0	7,220.4	8,547.7	7,220.4	35.4	28.6	90.00	955.1	-760.5	556.6	504.9	51.65	10.777	
8,800.0	7,220.4	8,647.7	7,220.4	36.3	29.9	90.00	1,055.1	-760.3	556.6	502.0	54.56	10.200	
8,900.0	7,220.4	8,747.7	7,220.4	37.4	31.3	90.00	1,155.1	-760.0	556.6	499.0	57.59	9.664	
9,000.0	7,220.4	8,847.7	7,220.4	38.5	32.8	90.00	1,255.1	-759.7	556.6	495.8	60.71	9.168	
9,100.0	7,220.4	8,947.7	7,220.4	39.6	34.3	90.00	1,355.1	-759.4	556.6	492.6	63.91	8.709	
9,200.0	7,220.4	9,047.7	7,220.4	40.9	35.8	90.00	1,455.1	-759.2	556.6	489.4	67.17	8.285	
9,300.0	7,220.4	9,147.7	7,220.4	42.2	37.4	90.00	1,555.1	-758.9	556.6	486.1	70.50	7.895	
9,400.0	7,220.4	9,247.7	7,220.4	43.5	39.0	90.00	1,655.1	-758.6	556.5	482.7	73.87	7.534	
9,500.0	7,220.4	9,347.7	7,220.4	44.9	40.6	90.00	1,755.1	-758.4	556.5	479.3	77.29	7.201	
9,600.0	7,220.4	9,447.7	7,220.4	46.4	42.2	90.00	1,855.1	-758.1	556.5	475.8	80.74	6.893	
9,700.0	7,220.4	9,547.7	7,220.4	47.9	43.9	90.00	1,955.1	-757.8	556.5	472.3	84.23	6.607	
9,800.0	7,220.4	9,647.7	7,220.4	49.4	45.6	90.00	2,055.1	-757.6	556.5	468.8	87.75	6.342	
9,900.0	7,220.4	9,747.7	7,220.4	51.0	47.3	90.00	2,155.1	-757.3	556.5	465.2	91.30	6.096	
10,000.0	7,220.4	9,847.7	7,220.4	52.6	49.1	90.00	2,255.1	-757.0	556.5	461.7	94.87	5.866	
10,100.0	7,220.4	9,947.7	7,220.4	54.2	50.8	90.00	2,355.1	-756.8	556.5	458.1	98.46	5.653	
10,200.0	7,220.4	10,047.7	7,220.4	55.8	52.6	90.00	2,455.1	-756.5	556.5	454.5	102.06	5.453	
10,300.0	7,220.4	10,147.7	7,220.4	57.4	54.3	90.00	2,555.1	-756.2	556.5	450.8	105.69	5.266	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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 30-027HN - 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	10,247.7	7,220.4	59.1	56.1	90.00	2,655.1	-756.0	556.5	447.2	109.33	5.090	
10,500.0	7,220.4	10,347.7	7,220.4	60.8	57.9	90.00	2,755.1	-755.7	556.5	443.6	112.98	4.926	
10,600.0	7,220.4	10,447.7	7,220.4	62.5	59.7	90.00	2,855.1	-755.4	556.5	439.9	116.65	4.771	
10,700.0	7,220.4	10,547.7	7,220.4	64.2	61.5	90.00	2,955.1	-755.2	556.5	436.2	120.32	4.625	
10,800.0	7,220.4	10,647.7	7,220.4	65.9	63.3	90.00	3,055.1	-754.9	556.5	432.5	124.01	4.488	
10,900.0	7,220.4	10,747.7	7,220.4	67.7	65.1	90.00	3,155.1	-754.6	556.5	428.8	127.70	4.358	
11,000.0	7,220.4	10,847.7	7,220.4	69.4	66.9	90.00	3,255.1	-754.4	556.5	425.1	131.41	4.235	
11,100.0	7,220.4	10,947.7	7,220.4	71.2	68.8	90.00	3,355.1	-754.1	556.5	421.4	135.12	4.119	
11,200.0	7,220.4	11,047.7	7,220.4	72.9	70.6	90.00	3,455.1	-753.8	556.5	417.7	138.84	4.008	
11,300.0	7,220.4	11,147.7	7,220.4	74.7	72.4	90.00	3,555.1	-753.5	556.5	414.0	142.56	3.904	
11,400.0	7,220.4	11,247.7	7,220.4	76.5	74.3	90.00	3,655.1	-753.3	556.5	410.2	146.29	3.804	
11,500.0	7,220.4	11,347.7	7,220.4	78.3	76.1	90.00	3,755.1	-753.0	556.5	406.5	150.03	3.709	
11,600.0	7,220.4	11,447.7	7,220.4	80.0	78.0	90.00	3,855.1	-752.7	556.5	402.7	153.77	3.619	
11,700.0	7,220.4	11,547.7	7,220.4	81.8	79.8	90.00	3,955.1	-752.5	556.5	399.0	157.52	3.533	
11,800.0	7,220.4	11,647.7	7,220.4	83.6	81.7	90.00	4,055.1	-752.2	556.5	395.2	161.27	3.451	
11,900.0	7,220.4	11,747.7	7,220.4	85.5	83.5	90.00	4,155.1	-751.9	556.5	391.5	165.03	3.372	
12,000.0	7,220.4	11,847.7	7,220.4	87.3	85.4	90.00	4,255.1	-751.7	556.5	387.7	168.79	3.297	
12,100.0	7,220.4	11,947.7	7,220.4	89.1	87.2	90.00	4,355.1	-751.4	556.5	384.0	172.55	3.225	
12,130.6	7,220.4	11,978.3	7,220.4	89.6	87.8	90.00	4,385.6	-751.3	556.5	382.8	173.70	3.204	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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	87.90	2.2	59.6	59.6				
100.0	100.0	100.0	100.0	0.1	0.1	87.90	2.2	59.6	59.6	59.4	0.22	265.157	
200.0	200.0	200.0	200.0	0.3	0.3	87.90	2.2	59.6	59.6	58.9	0.67	88.386	
300.0	300.0	300.0	300.0	0.6	0.6	87.90	2.2	59.6	59.6	58.5	1.12	53.031	
400.0	400.0	400.0	400.0	0.8	0.8	87.90	2.2	59.6	59.6	58.0	1.57	37.880	
500.0	500.0	500.0	500.0	1.0	1.0	87.90	2.2	59.6	59.6	57.6	2.02	29.462	
600.0	600.0	600.0	600.0	1.2	1.2	87.90	2.2	59.6	59.6	57.1	2.47	24.105	
700.0	700.0	700.0	700.0	1.5	1.5	87.90	2.2	59.6	59.6	56.7	2.92	20.397	
800.0	800.0	800.0	800.0	1.7	1.7	87.90	2.2	59.6	59.6	56.2	3.37	17.677	
900.0	900.0	900.0	900.0	1.9	1.9	87.90	2.2	59.6	59.6	55.8	3.82	15.597	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	87.90	2.2	59.6	59.6	55.3	4.27	13.956	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	87.90	2.2	59.6	59.6	54.9	4.72	12.627	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	87.90	2.2	59.6	59.6	54.4	5.17	11.529	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	87.90	2.2	59.6	59.6	54.0	5.62	10.606	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	87.90	2.2	59.6	59.6	53.5	6.07	9.821	
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	87.90	2.2	59.6	59.6	53.1	6.52	9.143	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	87.90	2.2	59.6	59.6	52.6	6.97	8.553	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	87.90	2.2	59.6	59.6	52.2	7.42	8.035	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	87.90	2.2	59.6	59.6	51.7	7.87	7.576	
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	87.90	2.2	59.6	59.6	51.3	8.32	7.166	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	87.90	2.2	59.6	59.6	50.8	8.77	6.799	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	87.90	2.2	59.6	59.6	50.4	9.22	6.467	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	87.90	2.2	59.6	59.6	49.9	9.66	6.166	
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	87.90	2.2	59.6	59.6	49.5	10.11	5.892	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	87.90	2.2	59.6	59.6	49.0	10.56	5.642	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	87.90	2.2	59.6	59.6	48.6	11.01	5.411	
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	87.90	2.2	59.6	59.6	48.1	11.46	5.199	
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	87.90	2.2	59.6	59.6	47.7	11.91	5.003	
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	87.90	2.2	59.6	59.6	47.2	12.36	4.821	
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	87.90	2.2	59.6	59.6	46.8	12.81	4.652	
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	87.90	2.2	59.6	59.6	46.3	13.26	4.494	
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	87.90	2.2	59.6	59.6	45.9	13.71	4.347	
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	87.90	2.2	59.6	59.6	45.4	14.16	4.209	
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	87.90	2.2	59.6	59.6	45.0	14.61	4.079	
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	87.90	2.2	59.6	59.6	44.5	15.06	3.958	
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	87.90	2.2	59.6	59.6	44.1	15.51	3.843	
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	87.90	2.2	59.6	59.6	43.6	15.96	3.735	
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	87.90	2.2	59.6	59.6	43.2	16.41	3.632	
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	87.90	2.2	59.6	59.6	42.7	16.86	3.535	
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	87.90	2.2	59.6	59.6	42.3	17.31	3.444	
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	87.90	2.2	59.6	59.6	41.8	17.76	3.356	
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	87.90	2.2	59.6	59.6	41.4	18.21	3.274	
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	87.90	2.2	59.6	59.6	40.9	18.66	3.195	
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	87.90	2.2	59.6	59.6	40.5	19.11	3.119	CC, ES, SF
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	-164.12	2.2	59.6	62.1	42.6	19.51	3.183	
4,500.0	4,499.6	4,499.6	4,499.6	10.0	10.0	-165.83	2.2	59.6	69.7	49.8	19.86	3.509	
4,600.0	4,598.8	4,598.8	4,598.8	10.2	10.2	-167.97	2.2	59.6	82.4	62.3	20.16	4.088	
4,700.0	4,697.1	4,697.1	4,697.1	10.4	10.4	-170.04	2.2	59.6	100.3	79.9	20.40	4.916	
4,800.0	4,794.3	4,794.3	4,794.3	10.6	10.7	-171.82	2.2	59.6	123.4	102.8	20.60	5.989	
4,900.0	4,890.2	4,890.2	4,890.2	10.9	10.9	-173.24	2.2	59.6	151.6	130.8	20.75	7.306	
5,000.0	4,984.4	4,984.4	4,984.4	11.2	11.1	-174.36	2.2	59.6	184.8	163.9	20.84	8.865	
5,100.0	5,076.8	5,076.8	5,076.8	11.6	11.3	-175.22	2.2	59.6	222.9	202.0	20.89	10.670	

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 30-025HN
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 30-025HN	**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	5,167.1	5,167.1	5,167.1	12.1	11.5	-175.89	2.2	59.6	265.8	244.9	20.89	12.724	
5,300.0	5,254.9	5,254.9	5,254.9	12.6	11.7	-176.42	2.2	59.6	313.5	292.6	20.85	15.033	
5,400.0	5,341.5	5,341.5	5,341.5	13.3	11.9	-176.91	2.2	59.6	363.5	342.3	21.25	17.105	
5,500.0	5,428.0	5,428.0	5,428.0	14.0	12.1	-177.28	2.2	59.6	413.6	391.9	21.68	19.079	
5,600.0	5,514.5	5,514.5	5,514.5	14.8	12.3	-177.58	2.2	59.6	463.7	441.5	22.11	20.967	
5,700.0	5,601.1	5,625.5	5,625.5	15.6	12.5	-177.69	0.1	57.6	511.8	489.2	22.58	22.667	
5,800.0	5,687.6	5,744.1	5,743.6	16.4	12.7	-177.37	-7.4	50.6	555.3	532.3	23.05	24.092	
5,900.0	5,774.1	5,868.4	5,866.4	17.3	12.9	-176.69	-21.0	37.9	593.9	570.3	23.55	25.217	
6,000.0	5,860.7	5,997.6	5,992.7	18.1	13.2	-175.66	-41.3	19.0	627.2	603.1	24.09	26.036	
6,100.0	5,947.2	6,131.0	6,120.6	19.1	13.5	-174.30	-68.7	-6.5	655.2	630.5	24.69	26.539	
6,200.0	6,033.8	6,267.2	6,248.3	20.0	13.9	-172.61	-103.3	-38.9	677.6	652.2	25.36	26.720	
6,300.0	6,120.3	6,405.0	6,373.7	20.9	14.4	-170.57	-145.1	-77.8	694.6	668.5	26.15	26.567	
6,400.0	6,206.8	6,540.8	6,492.9	21.9	15.0	-168.23	-192.6	-122.1	706.5	679.4	27.09	26.079	
6,500.0	6,293.4	6,637.7	6,576.5	22.9	15.5	-166.47	-228.6	-155.6	716.5	688.5	27.99	25.596	
6,600.0	6,379.9	6,734.7	6,660.0	23.9	16.1	-164.75	-264.5	-189.2	727.1	698.2	28.98	25.089	
6,700.0	6,466.4	6,831.7	6,743.6	24.9	16.7	-163.08	-300.5	-222.7	738.5	708.4	30.07	24.561	
6,800.0	6,553.0	6,930.1	6,829.8	25.9	17.3	-161.78	-332.7	-257.3	750.4	719.2	31.15	24.088	
6,900.0	6,639.5	7,031.0	6,922.6	26.9	17.8	-162.10	-345.0	-294.5	762.3	730.4	31.85	23.935	
7,000.0	6,726.0	7,125.0	7,009.3	27.9	18.1	-163.91	-335.7	-329.1	774.4	742.4	32.08	24.143	
7,100.0	6,812.9	7,207.6	7,082.4	28.9	18.3	-178.14	-311.4	-358.3	788.6	756.7	31.92	24.706	
7,200.0	6,900.2	7,283.8	7,145.2	29.7	18.5	154.50	-276.3	-383.3	804.8	772.9	31.92	25.215	
7,300.0	6,984.2	7,356.6	7,199.1	30.4	18.5	132.63	-232.4	-404.7	821.4	789.1	32.33	25.404	
7,400.0	7,060.4	7,425.0	7,242.9	30.9	18.6	117.78	-183.0	-422.1	837.1	804.1	32.97	25.386	
7,500.0	7,125.0	7,496.2	7,280.5	31.3	18.6	108.07	-124.5	-437.0	850.5	816.8	33.62	25.298	
7,600.0	7,174.8	7,564.2	7,307.7	31.5	18.6	102.01	-63.2	-447.7	860.6	826.5	34.16	25.197	
7,700.0	7,207.0	7,631.7	7,325.8	31.7	18.6	98.67	1.4	-454.8	866.9	832.3	34.64	25.024	
7,800.0	7,220.1	7,700.0	7,334.6	31.7	18.7	97.57	69.0	-458.1	868.9	833.7	35.19	24.690	
7,900.0	7,220.4	7,785.4	7,335.4	31.7	18.9	97.61	154.4	-458.2	868.7	832.9	35.73	24.311	
8,000.0	7,220.4	7,885.4	7,335.4	31.8	19.3	97.61	254.4	-458.0	868.6	831.9	36.79	23.609	
8,100.0	7,220.4	7,985.4	7,335.4	32.1	19.9	97.61	354.4	-457.7	868.6	830.4	38.22	22.728	
8,200.0	7,220.4	8,085.4	7,335.4	32.4	20.8	97.61	454.4	-457.5	868.6	828.7	39.96	21.738	
8,300.0	7,220.4	8,185.4	7,335.4	32.8	21.7	97.61	554.4	-457.2	868.6	826.6	41.97	20.694	
8,400.0	7,220.4	8,285.4	7,335.4	33.3	22.8	97.61	654.4	-457.0	868.6	824.4	44.23	19.639	
8,500.0	7,220.4	8,385.4	7,335.4	33.9	24.0	97.61	754.4	-456.7	868.6	821.9	46.68	18.606	
8,600.0	7,220.4	8,485.4	7,335.4	34.6	25.3	97.61	854.4	-456.4	868.6	819.2	49.31	17.614	
8,700.0	7,220.4	8,585.4	7,335.4	35.4	26.7	97.61	954.4	-456.2	868.5	816.4	52.09	16.675	
8,800.0	7,220.4	8,685.4	7,335.4	36.3	28.1	97.61	1,054.4	-455.9	868.5	813.5	54.99	15.795	
8,900.0	7,220.4	8,785.4	7,335.4	37.4	29.6	97.61	1,154.4	-455.7	868.5	810.5	57.99	14.976	
9,000.0	7,220.4	8,885.4	7,335.4	38.5	31.1	97.61	1,254.4	-455.4	868.5	807.4	61.09	14.217	
9,100.0	7,220.4	8,985.4	7,335.4	39.6	32.7	97.61	1,354.4	-455.2	868.5	804.2	64.26	13.515	
9,200.0	7,220.4	9,085.4	7,335.4	40.9	34.3	97.61	1,454.4	-454.9	868.5	801.0	67.50	12.866	
9,300.0	7,220.4	9,185.4	7,335.4	42.2	36.0	97.61	1,554.4	-454.7	868.4	797.6	70.80	12.267	
9,400.0	7,220.4	9,285.4	7,335.4	43.5	37.6	97.61	1,654.4	-454.4	868.4	794.3	74.14	11.713	
9,500.0	7,220.4	9,385.4	7,335.4	44.9	39.3	97.61	1,754.4	-454.2	868.4	790.9	77.53	11.201	
9,600.0	7,220.4	9,485.4	7,335.4	46.4	41.0	97.61	1,854.4	-453.9	868.4	787.4	80.96	10.726	
9,700.0	7,220.4	9,585.4	7,335.4	47.9	42.8	97.61	1,954.4	-453.6	868.4	784.0	84.42	10.286	
9,800.0	7,220.4	9,685.4	7,335.4	49.4	44.5	97.61	2,054.4	-453.4	868.4	780.5	87.91	9.878	
9,900.0	7,220.4	9,785.4	7,335.4	51.0	46.3	97.61	2,154.4	-453.1	868.4	776.9	91.42	9.498	
10,000.0	7,220.4	9,885.4	7,335.4	52.6	48.0	97.61	2,254.4	-452.9	868.3	773.4	94.96	9.144	
10,100.0	7,220.4	9,985.4	7,335.4	54.2	49.8	97.61	2,354.4	-452.6	868.3	769.8	98.52	8.813	
10,200.0	7,220.4	10,085.4	7,335.4	55.8	51.6	97.61	2,454.4	-452.4	868.3	766.2	102.10	8.505	
10,300.0	7,220.4	10,185.4	7,335.4	57.4	53.4	97.61	2,554.4	-452.1	868.3	762.6	105.69	8.215	

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 30-025HN
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 30-025HN	**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

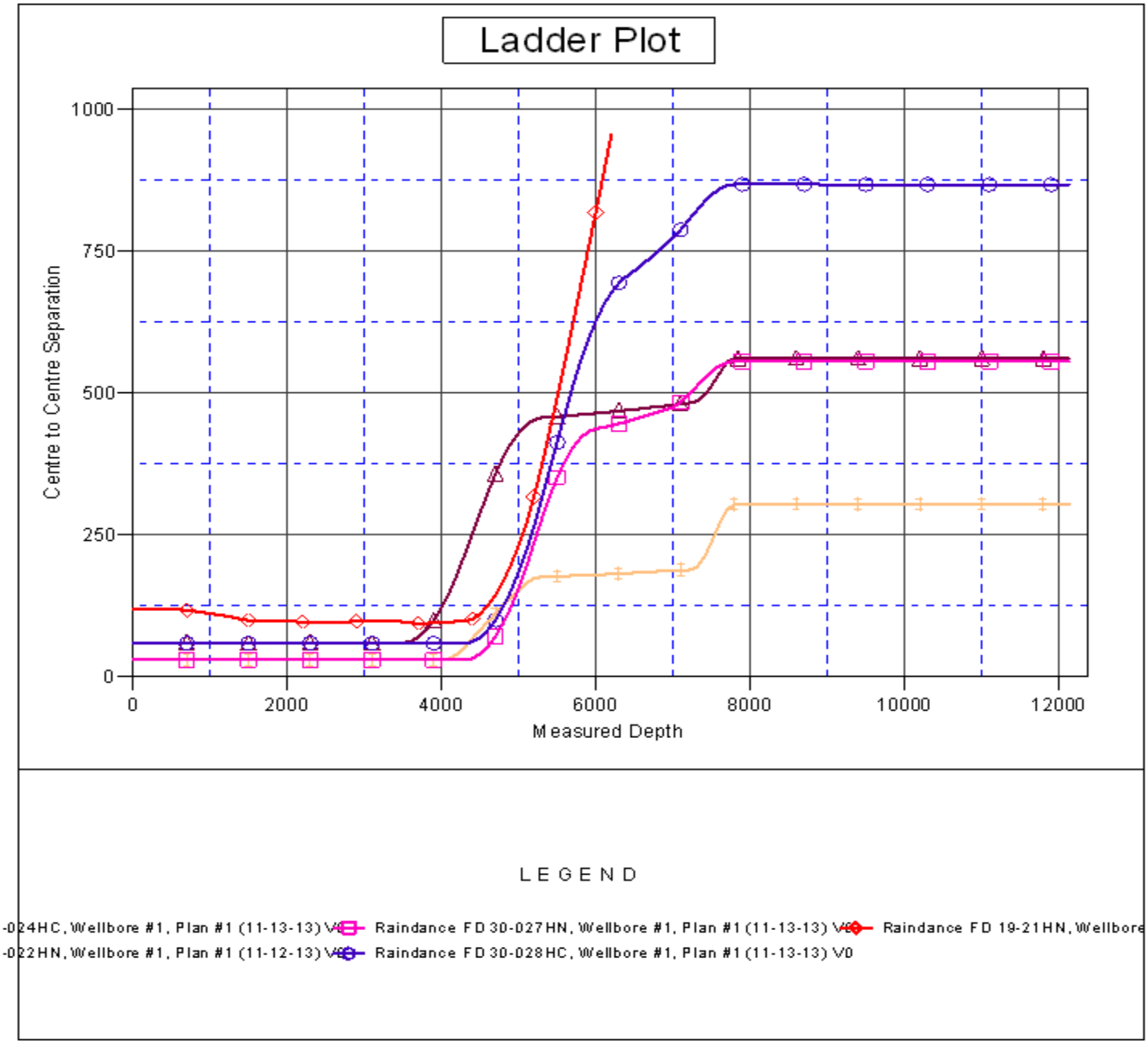
Survey Program: 0-MWD **Offset Well Error:** 0.0 ft

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	10,285.4	7,335.4	59.1	55.2	97.61	2,654.4	-451.9	868.3	759.0	109.30	7.944	
10,500.0	7,220.4	10,385.4	7,335.4	60.8	57.0	97.61	2,754.4	-451.6	868.3	755.3	112.92	7.689	
10,600.0	7,220.4	10,485.4	7,335.4	62.5	58.8	97.61	2,854.4	-451.4	868.2	751.7	116.56	7.449	
10,700.0	7,220.4	10,585.4	7,335.4	64.2	60.7	97.61	2,954.4	-451.1	868.2	748.0	120.20	7.223	
10,800.0	7,220.4	10,685.4	7,335.4	65.9	62.5	97.61	3,054.4	-450.8	868.2	744.4	123.86	7.010	
10,900.0	7,220.4	10,785.4	7,335.4	67.7	64.3	97.61	3,154.4	-450.6	868.2	740.7	127.52	6.808	
11,000.0	7,220.4	10,885.4	7,335.4	69.4	66.2	97.61	3,254.4	-450.3	868.2	737.0	131.20	6.617	
11,100.0	7,220.4	10,985.4	7,335.4	71.2	68.0	97.61	3,354.4	-450.1	868.2	733.3	134.88	6.437	
11,200.0	7,220.4	11,085.4	7,335.4	72.9	69.9	97.61	3,454.4	-449.8	868.2	729.6	138.57	6.265	
11,300.0	7,220.4	11,185.4	7,335.4	74.7	71.7	97.61	3,554.4	-449.6	868.1	725.9	142.26	6.102	
11,400.0	7,220.4	11,285.4	7,335.4	76.5	73.6	97.61	3,654.4	-449.3	868.1	722.2	145.96	5.948	
11,500.0	7,220.4	11,385.4	7,335.4	78.3	75.4	97.61	3,754.4	-449.1	868.1	718.4	149.67	5.800	
11,600.0	7,220.4	11,485.4	7,335.4	80.0	77.3	97.61	3,854.4	-448.8	868.1	714.7	153.38	5.660	
11,700.0	7,220.4	11,585.4	7,335.4	81.8	79.2	97.61	3,954.4	-448.6	868.1	711.0	157.10	5.526	
11,800.0	7,220.4	11,685.4	7,335.4	83.6	81.0	97.61	4,054.4	-448.3	868.1	707.2	160.82	5.398	
11,900.0	7,220.4	11,785.4	7,335.4	85.5	82.9	97.61	4,154.4	-448.1	868.0	703.5	164.54	5.275	
12,000.0	7,220.4	11,885.4	7,335.4	87.3	84.8	97.61	4,254.4	-447.8	868.0	699.8	168.27	5.158	
12,100.0	7,220.4	11,985.4	7,335.4	89.1	86.7	97.61	4,354.4	-447.5	868.0	696.0	172.01	5.046	
12,130.6	7,220.4	12,016.0	7,335.4	89.6	87.2	97.61	4,385.0	-447.5	868.0	694.9	173.15	5.013	

Company:	Great Western	**Local Co-ordinate Reference:**	Well Raindance FD 30-025HN
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 30-025HN	**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 30-025HN
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 30-025HN
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 30-025HN	**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 30-025HN
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°