

Great Western

Well Name: **Raindance FD 30-028HC**

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

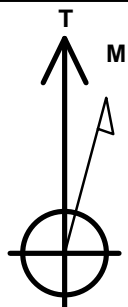
Ground Elevation: 4995.9

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1407826.90	3157094.67	40.451514	-104.935514	

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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 352'FSL & 2412'FWL	1.0	0.0	0.0	Point
BHL 470'FNL & 1893'FWL	7335.4	4396.2	-507.0	Point
Entry Pt. 460'FSL & 1893'FWL	7335.4	94.0	-517.9	Point



Azimuths to True North
Magnetic North: 8.63°

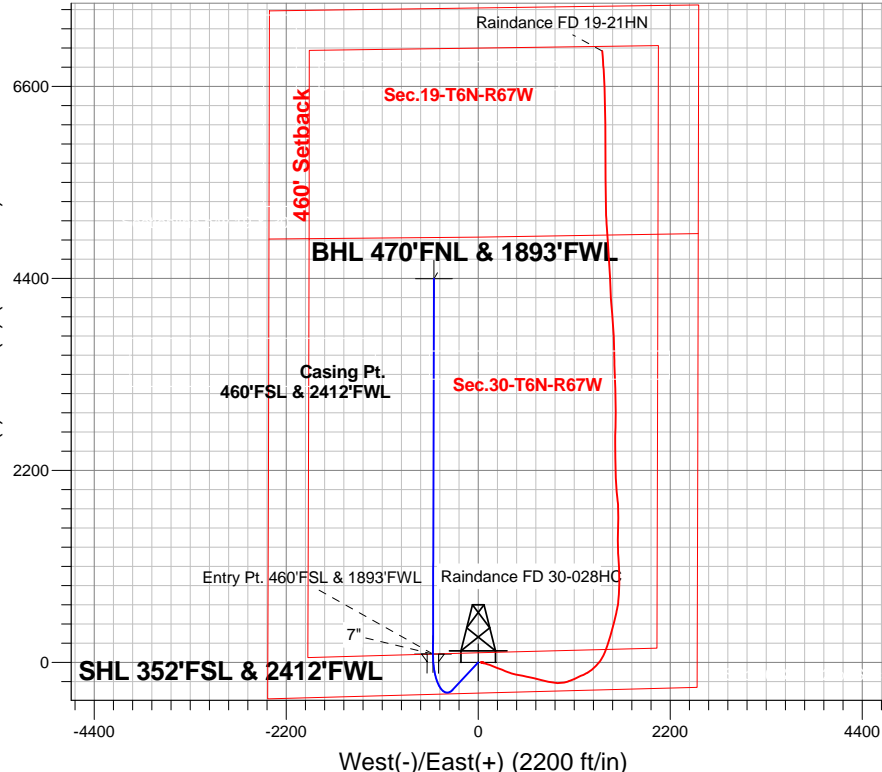
Magnetic Field
Strength: 52884.4snT
Dip Angle: 66.98°
Date: 11/13/2013
Model: IGRF2010

Raindance West Pad Sec.30-T6N-R67W
Raindance FD 30-028HC
Plan #1 (11-13-13)
8:27, November 14 2013

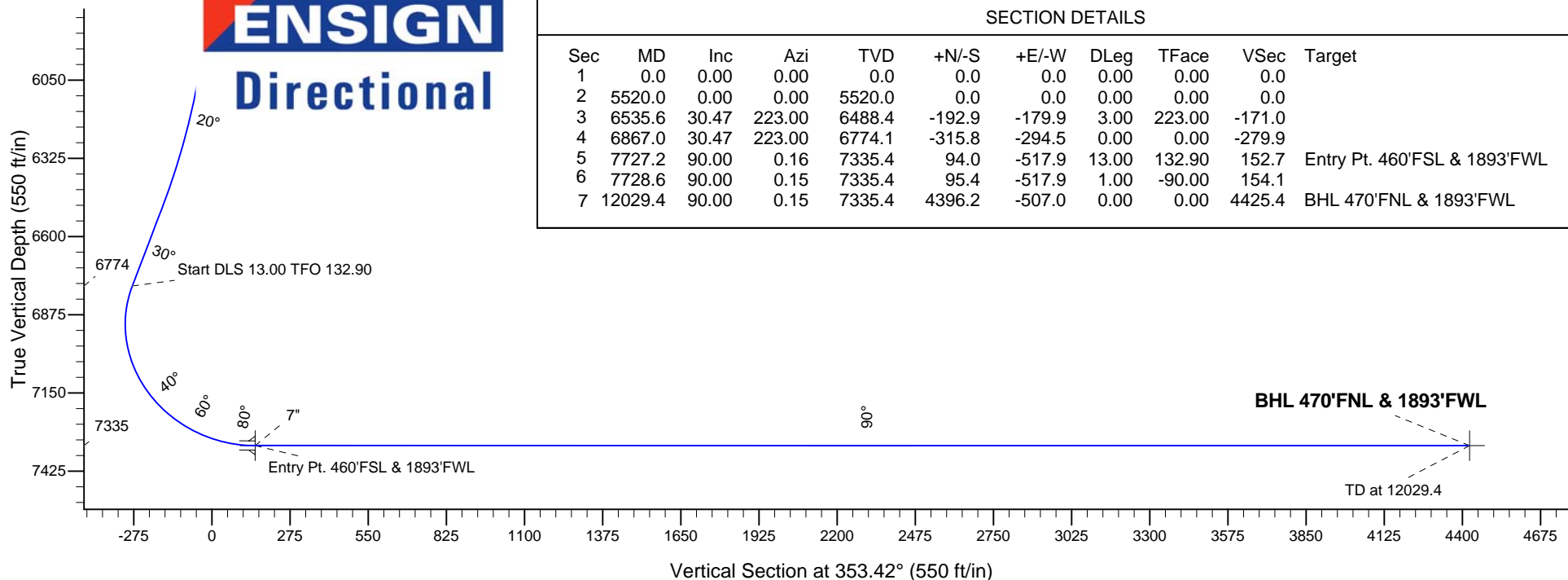
ANNOTATIONS

TVD	MD	Annotation
5520.0	5520.0	KOP - Start Build 3.00
6774.0	6867.0	Start DLS 13.00 TFO 132.90
7335.4	12029.4	TD at 12029.4

South(-)/North(+) (2200 ft/in)



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	5520.0	0.00	0.00	5520.0	0.0	0.0	0.00	0.00	0.0	
3	6535.6	30.47	223.00	6488.4	-192.9	-179.9	3.00	223.00	-171.0	
4	6867.0	30.47	223.00	6774.1	-315.8	-294.5	0.00	0.00	-279.9	
5	7727.2	90.00	0.16	7335.4	94.0	-517.9	13.00	132.90	152.7	Entry Pt. 460'FSL & 1893'FWL
6	7728.6	90.00	0.15	7335.4	95.4	-517.9	1.00	-90.00	154.1	
7	12029.4	90.00	0.15	7335.4	4396.2	-507.0	0.00	0.00	4425.4	BHL 470'FNL & 1893'FWL



Great Western

SEC.30-T6N-R67W

Raindance West Pad Sec.30-T6N-R67W

Raindance FD 30-028HC

Wellbore #1

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

Standard Planning Report

14 November, 2013

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	
5,520.0	0.00	0.00	5,520.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,535.6	30.47	223.00	6,488.4	-192.9	-179.9	3.00	3.00	0.00	223.00	
6,867.0	30.47	223.00	6,774.1	-315.8	-294.5	0.00	0.00	0.00	0.00	
7,727.2	90.00	0.16	7,335.4	94.0	-517.9	13.00	6.92	15.94	132.90	Entry Pt. 460'FSL & 180'FSL
7,728.6	90.00	0.15	7,335.4	95.4	-517.9	1.00	0.00	-1.00	-90.00	
12,029.4	90.00	0.15	7,335.4	4,396.2	-507.0	0.00	0.00	0.00	0.00	BHL 470'FNL & 180'FNL

Database:	Landmark	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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 & 2412'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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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 30-028HC	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)
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,520.0	0.00	0.00	5,520.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 3.00									
5,600.0	2.40	223.00	5,600.0	-1.2	-1.1	-1.1	3.00	3.00	0.00
5,700.0	5.40	223.00	5,699.7	-6.2	-5.8	-5.5	3.00	3.00	0.00
5,800.0	8.40	223.00	5,799.0	-15.0	-14.0	-13.3	3.00	3.00	0.00
5,900.0	11.40	223.00	5,897.5	-27.6	-25.7	-24.4	3.00	3.00	0.00
6,000.0	14.40	223.00	5,995.0	-43.9	-40.9	-38.9	3.00	3.00	0.00
6,100.0	17.40	223.00	6,091.1	-63.9	-59.6	-56.7	3.00	3.00	0.00
6,200.0	20.40	223.00	6,185.7	-87.6	-81.7	-77.7	3.00	3.00	0.00
6,300.0	23.40	223.00	6,278.5	-114.9	-107.1	-101.8	3.00	3.00	0.00
6,400.0	26.40	223.00	6,369.2	-145.7	-135.8	-129.1	3.00	3.00	0.00
6,500.0	29.40	223.00	6,457.6	-179.9	-167.8	-159.5	3.00	3.00	0.00
6,535.6	30.47	223.00	6,488.4	-192.9	-179.9	-171.0	3.00	3.00	0.00
6,600.0	30.47	223.00	6,543.9	-216.7	-202.2	-192.2	0.00	0.00	0.00
6,700.0	30.47	223.00	6,630.1	-253.8	-236.7	-225.0	0.00	0.00	0.00
6,800.0	30.47	223.00	6,716.3	-290.9	-271.3	-257.9	0.00	0.00	0.00
6,867.0	30.47	223.00	6,774.0	-315.8	-294.5	-279.9	0.00	0.00	0.00
Start DLS 13.00 TFO 132.90									
6,900.0	27.71	229.77	6,802.9	-326.8	-306.1	-289.6	12.99	-8.36	20.49
7,000.0	22.25	258.10	6,893.8	-345.8	-342.5	-304.3	13.00	-5.46	28.33
7,100.0	23.31	291.99	6,986.4	-342.3	-379.5	-296.6	13.00	1.06	33.89
7,200.0	30.22	316.79	7,075.9	-316.5	-415.3	-266.8	13.00	6.91	24.80
7,300.0	40.05	331.74	7,157.7	-269.6	-447.9	-216.5	13.00	9.82	14.95
7,400.0	51.12	341.34	7,227.7	-204.1	-475.7	-148.2	13.00	11.07	9.60
7,500.0	62.76	348.27	7,282.2	-123.3	-497.3	-65.6	13.00	11.64	6.93
7,600.0	74.68	353.87	7,318.5	-31.5	-511.5	27.3	13.00	11.92	5.59
7,700.0	86.72	358.84	7,334.6	66.8	-517.7	125.7	13.00	12.04	4.98
7,727.2	90.00	0.16	7,335.4	94.0	-517.9	152.7	12.99	12.06	4.83
7" - Entry Pt. 460'FSL & 1893'FWL									
7,728.6	90.00	0.15	7,335.4	95.4	-517.9	154.1	0.95	0.16	-0.94
7,800.0	90.00	0.15	7,335.4	166.8	-517.7	225.0	0.00	0.00	0.00
7,900.0	90.00	0.15	7,335.4	266.8	-517.5	324.3	0.00	0.00	0.00
8,000.0	90.00	0.15	7,335.4	366.8	-517.2	423.6	0.00	0.00	0.00
8,100.0	90.00	0.15	7,335.4	466.8	-517.0	522.9	0.00	0.00	0.00
8,200.0	90.00	0.15	7,335.4	566.8	-516.7	622.3	0.00	0.00	0.00
8,300.0	90.00	0.15	7,335.4	666.8	-516.5	721.6	0.00	0.00	0.00
8,400.0	90.00	0.15	7,335.4	766.8	-516.2	820.9	0.00	0.00	0.00
8,500.0	90.00	0.15	7,335.4	866.8	-516.0	920.2	0.00	0.00	0.00
8,600.0	90.00	0.15	7,335.4	966.8	-515.7	1,019.5	0.00	0.00	0.00
8,700.0	90.00	0.15	7,335.4	1,066.8	-515.5	1,118.8	0.00	0.00	0.00
8,800.0	90.00	0.15	7,335.4	1,166.8	-515.2	1,218.1	0.00	0.00	0.00
8,900.0	90.00	0.15	7,335.4	1,266.8	-514.9	1,317.4	0.00	0.00	0.00
9,000.0	90.00	0.15	7,335.4	1,366.8	-514.7	1,416.8	0.00	0.00	0.00
9,100.0	90.00	0.15	7,335.4	1,466.8	-514.4	1,516.1	0.00	0.00	0.00
9,200.0	90.00	0.15	7,335.4	1,566.8	-514.2	1,615.4	0.00	0.00	0.00
9,300.0	90.00	0.15	7,335.4	1,666.8	-513.9	1,714.7	0.00	0.00	0.00
9,400.0	90.00	0.15	7,335.4	1,766.8	-513.7	1,814.0	0.00	0.00	0.00
9,500.0	90.00	0.15	7,335.4	1,866.8	-513.4	1,913.3	0.00	0.00	0.00
9,600.0	90.00	0.15	7,335.4	1,966.8	-513.2	2,012.6	0.00	0.00	0.00

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Site:	Raindance West Pad Sec.30-T6N-R67W	North Reference:	True
Well:	Raindance FD 30-028HC	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)	
9,700.0	90.00	0.15	7,335.4	2,066.8	-512.9	2,111.9	0.00	0.00	0.00	
9,800.0	90.00	0.15	7,335.4	2,166.8	-512.7	2,211.3	0.00	0.00	0.00	
9,900.0	90.00	0.15	7,335.4	2,266.8	-512.4	2,310.6	0.00	0.00	0.00	
10,000.0	90.00	0.15	7,335.4	2,366.8	-512.2	2,409.9	0.00	0.00	0.00	
10,100.0	90.00	0.15	7,335.4	2,466.8	-511.9	2,509.2	0.00	0.00	0.00	
10,200.0	90.00	0.15	7,335.4	2,566.8	-511.6	2,608.5	0.00	0.00	0.00	
10,300.0	90.00	0.15	7,335.4	2,666.8	-511.4	2,707.8	0.00	0.00	0.00	
10,400.0	90.00	0.15	7,335.4	2,766.8	-511.1	2,807.1	0.00	0.00	0.00	
10,500.0	90.00	0.15	7,335.4	2,866.8	-510.9	2,906.4	0.00	0.00	0.00	
10,600.0	90.00	0.15	7,335.4	2,966.8	-510.6	3,005.7	0.00	0.00	0.00	
10,700.0	90.00	0.15	7,335.4	3,066.8	-510.4	3,105.1	0.00	0.00	0.00	
10,800.0	90.00	0.15	7,335.4	3,166.8	-510.1	3,204.4	0.00	0.00	0.00	
10,900.0	90.00	0.15	7,335.4	3,266.8	-509.9	3,303.7	0.00	0.00	0.00	
11,000.0	90.00	0.15	7,335.4	3,366.8	-509.6	3,403.0	0.00	0.00	0.00	
11,100.0	90.00	0.15	7,335.4	3,466.8	-509.4	3,502.3	0.00	0.00	0.00	
11,200.0	90.00	0.15	7,335.4	3,566.8	-509.1	3,601.6	0.00	0.00	0.00	
11,300.0	90.00	0.15	7,335.4	3,666.8	-508.8	3,700.9	0.00	0.00	0.00	
11,400.0	90.00	0.15	7,335.4	3,766.8	-508.6	3,800.2	0.00	0.00	0.00	
11,500.0	90.00	0.15	7,335.4	3,866.8	-508.3	3,899.6	0.00	0.00	0.00	
11,600.0	90.00	0.15	7,335.4	3,966.8	-508.1	3,998.9	0.00	0.00	0.00	
11,700.0	90.00	0.15	7,335.4	4,066.8	-507.8	4,098.2	0.00	0.00	0.00	
11,800.0	90.00	0.15	7,335.4	4,166.8	-507.6	4,197.5	0.00	0.00	0.00	
11,900.0	90.00	0.15	7,335.4	4,266.8	-507.3	4,296.8	0.00	0.00	0.00	
12,000.0	90.00	0.15	7,335.4	4,366.8	-507.1	4,396.1	0.00	0.00	0.00	
12,029.4	90.00	0.15	7,335.4	4,396.2	-507.0	4,425.3	0.00	0.00	0.00	
TD at 12029.4 - BHL 470'FNL & 1893'FWL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,727.2	7,335.4	7"	7	7-1/2	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment	
5,520.0	5,520.0	0.0	0.0	KOP - Start Build 3.00	
6,867.0	6,774.0	-315.8	-294.5	Start DLS 13.00 TFO 132.90	
12,029.4	7,335.4	4,396.2	-507.0	TD at 12029.4	



Great Western

SEC.30-T6N-R67W

Raindance West Pad Sec.30-T6N-R67W

Raindance FD 30-028HC

Wellbore #1

Plan #1 (11-13-13)

Anticollision Report

14 November, 2013

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS, 7105-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
1,600.0	1,600.0	1,606.6	1,606.4	3.5	3.3	85.72	2.9	39.1	39.2	32.3	6.82	5.743		
1,700.0	1,700.0	1,706.9	1,706.6	3.7	3.5	85.82	2.9	39.3	39.4	32.2	7.19	5.481		
1,800.0	1,800.0	1,806.9	1,806.7	3.9	3.7	85.60	3.0	39.2	39.3	31.7	7.63	5.148		
1,900.0	1,900.0	1,907.0	1,906.7	4.2	3.9	85.93	2.8	38.9	39.0	31.0	8.06	4.847		
2,000.0	2,000.0	2,007.0	2,006.8	4.4	4.1	86.92	2.1	38.6	38.7	30.2	8.49	4.559		
2,100.0	2,100.0	2,107.1	2,106.8	4.6	4.3	87.68	1.5	38.2	38.2	29.3	8.95	4.274		
2,200.0	2,200.0	2,207.1	2,206.9	4.8	4.6	87.60	1.6	37.6	37.6	28.2	9.41	3.999		
2,300.0	2,300.0	2,307.1	2,306.8	5.1	4.8	86.81	2.1	36.9	36.9	27.1	9.85	3.749		
2,400.0	2,400.0	2,407.1	2,406.8	5.3	5.0	85.53	2.8	36.2	36.3	26.0	10.28	3.528		
2,457.7	2,457.7	2,464.6	2,464.3	5.4	5.1	84.63	3.4	35.9	36.1	25.6	10.50	3.438		
2,500.0	2,500.0	2,506.7	2,506.5	5.5	5.2	83.96	3.8	36.0	36.2	25.5	10.66	3.396		
2,600.0	2,600.0	2,606.7	2,606.5	5.7	5.2	83.57	4.1	36.3	36.6	25.6	10.98	3.332		
2,700.0	2,700.0	2,706.8	2,706.5	6.0	5.4	84.58	3.5	36.6	36.8	25.5	11.31	3.254		
2,800.0	2,800.0	2,806.3	2,806.1	6.2	5.5	86.17	2.5	37.6	37.7	26.0	11.64	3.235		
2,900.0	2,900.0	2,906.5	2,906.2	6.4	5.6	87.98	1.4	38.9	38.9	27.0	11.97	3.254		
3,000.0	3,000.0	3,006.6	3,006.3	6.6	5.7	89.78	0.2	39.9	39.9	27.6	12.32	3.237		
3,100.0	3,100.0	3,106.7	3,106.4	6.9	5.8	91.41	-1.0	40.5	40.5	27.8	12.69	3.191		
3,200.0	3,200.0	3,207.0	3,206.6	7.1	6.0	92.62	-1.9	40.7	40.7	27.6	13.10	3.106		
3,300.0	3,300.0	3,307.2	3,306.8	7.3	6.3	93.34	-2.4	40.3	40.4	26.8	13.55	2.979		
3,400.0	3,400.0	3,407.4	3,407.1	7.5	6.5	94.25	-2.9	39.4	39.5	25.4	14.02	2.814		
3,500.0	3,500.0	3,507.6	3,507.2	7.8	6.7	96.05	-4.0	37.8	38.0	23.5	14.49	2.622		
3,600.0	3,600.0	3,607.5	3,607.1	8.0	7.0	99.07	-5.7	36.0	36.4	21.5	14.96	2.435		
3,700.0	3,700.0	3,707.1	3,706.7	8.2	7.2	101.81	-7.3	34.9	35.6	20.2	15.41	2.312		
3,718.0	3,718.0	3,725.0	3,724.6	8.2	7.2	102.13	-7.5	34.8	35.6	20.1	15.48	2.301 CC, ES		
3,800.0	3,800.0	3,806.7	3,806.3	8.4	7.4	102.71	-7.9	35.1	36.0	20.2	15.80	2.279		
3,900.0	3,900.0	3,906.7	3,906.3	8.7	7.5	102.65	-8.1	35.9	36.8	20.7	16.11	2.283		
4,000.0	4,000.0	4,006.6	4,006.1	8.9	7.6	102.31	-8.1	36.9	37.8	21.4	16.43	2.301		
4,100.0	4,100.0	4,106.9	4,106.5	9.1	7.6	101.60	-7.8	37.8	38.6	21.8	16.75	2.302		
4,200.0	4,200.0	4,207.0	4,206.6	9.3	7.7	100.21	-6.9	38.1	38.7	21.6	17.07	2.267		
4,300.0	4,300.0	4,306.7	4,306.2	9.6	7.9	98.96	-6.1	38.7	39.2	21.8	17.40	2.252 SF		
4,400.0	4,400.0	4,406.2	4,405.8	9.8	8.0	98.41	-6.0	40.2	40.7	23.0	17.74	2.294		
4,500.0	4,500.0	4,506.4	4,505.9	10.0	8.1	98.09	-6.0	42.1	42.5	24.4	18.09	2.348		
4,600.0	4,600.0	4,606.5	4,606.0	10.2	8.2	97.54	-5.8	43.5	43.9	25.5	18.44	2.381		
4,700.0	4,700.0	4,706.4	4,705.9	10.5	8.3	97.02	-5.5	45.0	45.4	26.6	18.80	2.413		
4,800.0	4,800.0	4,806.2	4,805.7	10.7	8.5	97.21	-5.9	46.7	47.1	27.9	19.17	2.458		
4,900.0	4,900.0	4,906.5	4,906.0	10.9	8.7	97.72	-6.5	48.2	48.7	29.1	19.56	2.487		
5,000.0	5,000.0	5,006.6	5,006.1	11.1	8.8	98.06	-7.0	49.2	49.7	29.7	19.96	2.488		
5,100.0	5,100.0	5,104.7	5,104.1	11.4	9.0	99.25	-8.4	51.7	52.5	32.1	20.36	2.578		
5,200.0	5,200.0	5,201.3	5,200.4	11.6	9.2	99.49	-9.8	58.9	60.0	39.2	20.75	2.891		
5,300.0	5,300.0	5,298.3	5,296.8	11.8	9.3	99.26	-11.5	70.4	72.0	50.8	21.14	3.404		
5,400.0	5,400.0	5,393.9	5,391.2	12.0	9.5	100.41	-15.6	84.8	87.6	66.1	21.54	4.067		
5,500.0	5,500.0	5,487.7	5,483.1	12.2	9.7	101.87	-21.5	102.5	107.4	85.4	21.94	4.894		
5,600.0	5,600.0	5,583.2	5,576.0	12.5	9.9	-120.28	-28.1	123.4	131.0	108.7	22.30	5.874		
5,700.0	5,699.7	5,679.8	5,669.8	12.6	10.1	-120.70	-35.7	144.8	157.7	135.1	22.63	6.969		
5,800.0	5,799.0	5,768.6	5,755.9	12.8	10.3	-121.58	-43.9	165.3	188.3	165.3	22.94	8.208		
5,900.0	5,897.5	5,850.2	5,833.9	13.0	10.4	-122.57	-52.8	187.6	225.9	202.7	23.21	9.735		
6,000.0	5,995.0	5,927.7	5,906.6	13.2	10.6	-123.42	-62.5	212.4	271.2	247.8	23.46	11.560		
6,100.0	6,091.1	6,004.3	5,977.5	13.4	10.8	-124.24	-72.4	239.5	322.5	298.8	23.70	13.608		
6,200.0	6,185.7	6,087.5	6,054.2	13.7	11.0	-125.15	-83.8	269.9	377.8	353.8	23.94	15.780		
6,300.0	6,278.5	6,165.0	6,125.5	14.0	11.2	-125.75	-95.1	298.2	436.1	411.9	24.18	18.033		
6,400.0	6,369.2	6,234.7	6,189.3	14.4	11.4	-125.98	-105.6	324.3	498.1	473.7	24.44	20.381		
6,500.0	6,457.6	6,300.0	6,248.4	14.8	11.6	-125.90	-115.9	349.9	564.5	539.8	24.73	22.823		

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

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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												Offset Site Error:	0.0 ft
Raindance FD Horizontal Pad Sec.30-T6N-R67W - Raindance FD 19-21HN - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS, 7105-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
6,600.0	6,543.9	6,340.3	6,284.4	15.3	11.7	-126.39	-122.2	366.9	635.3	610.2	25.11	25.297	
6,700.0	6,630.1	6,400.0	6,336.5	15.9	11.8	-128.10	-131.0	394.7	709.9	684.3	25.54	27.796	
6,800.0	6,716.3	6,400.0	6,336.5	16.5	11.8	-128.10	-131.0	394.7	786.4	760.4	26.02	30.228	
6,900.0	6,802.9	6,448.5	6,377.7	17.1	12.0	-140.84	-137.4	419.5	865.3	839.3	26.00	33.287	
7,000.0	6,893.8	6,500.0	6,420.2	17.6	12.2	176.51	-143.5	447.9	946.8	921.0	25.81	36.688	

Offset Design													Raindance West Pad Sec.30-T6N-R67W - Raindance FD 19-232HN - Wellbore #1 - Plan #1 (11-12-13)		Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
0.0	0.0	0.0	0.0	0.0	0.0	88.85	1.8	90.5	90.5							
100.0	100.0	100.0	100.0	0.1	0.1	88.85	1.8	90.5	90.5	90.2	0.22	402.503				
200.0	200.0	200.0	200.0	0.3	0.3	88.85	1.8	90.5	90.5	89.8	0.67	134.168				
300.0	300.0	300.0	300.0	0.6	0.6	88.85	1.8	90.5	90.5	89.3	1.12	80.501				
400.0	400.0	400.0	400.0	0.8	0.8	88.85	1.8	90.5	90.5	88.9	1.57	57.500				
500.0	500.0	500.0	500.0	1.0	1.0	88.85	1.8	90.5	90.5	88.4	2.02	44.723				
600.0	600.0	600.0	600.0	1.2	1.2	88.85	1.8	90.5	90.5	88.0	2.47	36.591				
700.0	700.0	700.0	700.0	1.5	1.5	88.85	1.8	90.5	90.5	87.5	2.92	30.962				
800.0	800.0	800.0	800.0	1.7	1.7	88.85	1.8	90.5	90.5	87.1	3.37	26.834				
900.0	900.0	900.0	900.0	1.9	1.9	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	1.8	90.5	90.5	84.4	6.07	14.908				
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	1.8	90.5	90.5	80.4	10.11	8.945				
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	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	88.85	1.8	90.5	90.5	75.4	15.06	6.008				
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	88.85	1.8	90.5	90.5	75.0	15.51	5.833				
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	88.85	1.8	90.5	90.5	74.5	15.96	5.669				
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	88.85	1.8	90.5	90.5	74.1	16.41	5.514				
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	88.85	1.8	90.5	90.5	73.6	16.86	5.367				
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	88.85	1.8	90.5	90.5	73.2	17.31	5.227				
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	88.85	1.8	90.5	90.5	72.7	17.76	5.095				
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	88.85	1.8	90.5	90.5	72.3	18.21	4.969				
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	88.85	1.8	90.5	90.5	71.8	18.66	4.849				
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	88.85	1.8	90.5	90.5	71.4	19.11	4.735				
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	88.85	1.8	90.5	90.5	70.9	19.55	4.626				
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	88.85	1.8	90.5	90.5	70.5	20.00	4.523				
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	88.85	1.8	90.5	90.5	70.0	20.45	4.423				
4,700.0	4,700.0	4,700.0	4,700.0	10.5	10.5	88.85	1.8	90.5	90.5	69.6	20.90	4.328				
4,800.0	4,800.0	4,800.0	4,800.0	10.7	10.7	88.85	1.8	90.5	90.5	69.1	21.35	4.237				
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	88.85	1.8	90.5	90.5	68.7	21.80	4.150				
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	88.85	1.8	90.5	90.5	68.2	22.25	4.066				
5,100.0	5,100.0	5,100.0	5,100.0	11.4	11.4	88.85	1.8	90.5	90.5	67.8	22.70	3.985				

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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 19-232HN - Wellbore #1 - Plan #1 (11-12-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,200.0	5,200.0	5,200.0	11.6	11.6	88.85	1.8	90.5	90.5	67.3	23.15	3.908		
5,300.0	5,300.0	5,300.0	5,300.0	11.8	11.8	88.85	1.8	90.5	90.5	66.9	23.60	3.833		
5,400.0	5,400.0	5,400.0	5,400.0	12.0	12.0	88.85	1.8	90.5	90.5	66.4	24.05	3.762		
5,500.0	5,500.0	5,500.0	5,500.0	12.2	12.2	88.85	1.8	90.5	90.5	66.0	24.50	3.693 CC, ES		
5,600.0	5,600.0	5,599.3	5,599.3	12.5	12.5	-134.64	1.5	90.6	91.8	66.9	24.91	3.686 SF		
5,700.0	5,699.7	5,697.2	5,697.1	12.6	12.6	-134.83	-2.7	92.5	98.3	73.1	25.21	3.902		
5,800.0	5,799.0	5,794.4	5,793.8	12.8	12.8	-134.33	-11.3	96.3	110.5	85.0	25.48	4.336		
5,900.0	5,897.5	5,890.5	5,888.9	13.0	13.0	-133.37	-24.2	102.1	128.2	102.4	25.74	4.979		
6,000.0	5,995.0	5,985.1	5,981.6	13.2	13.1	-132.17	-41.2	109.7	151.3	125.3	26.00	5.818		
6,100.0	6,091.1	6,077.7	6,071.4	13.4	13.3	-130.88	-61.8	119.0	179.7	153.4	26.27	6.841		
6,200.0	6,185.7	6,168.0	6,157.8	13.7	13.5	-129.56	-85.7	129.7	213.3	186.7	26.56	8.029		
6,300.0	6,278.5	6,255.8	6,240.5	14.0	13.8	-128.25	-112.5	141.7	251.8	224.9	26.90	9.361		
6,400.0	6,369.2	6,340.8	6,319.2	14.4	14.0	-126.95	-141.8	154.8	295.0	267.7	27.29	10.810		
6,500.0	6,457.6	6,422.8	6,393.8	14.8	14.3	-125.63	-173.0	168.9	342.7	314.9	27.75	12.347		
6,600.0	6,543.9	6,500.0	6,462.5	15.3	14.6	-125.13	-205.0	183.2	394.0	365.7	28.36	13.896		
6,700.0	6,630.1	6,581.2	6,533.3	15.9	15.0	-124.73	-241.3	199.5	447.0	417.9	29.11	15.356		
6,800.0	6,716.3	6,665.3	6,606.1	16.5	15.4	-124.29	-279.7	216.8	500.5	470.6	29.94	16.716		
6,900.0	6,802.9	6,746.2	6,679.8	17.1	15.8	-133.62	-307.8	234.3	554.5	524.1	30.43	18.223		
7,000.0	6,893.8	6,824.3	6,754.5	17.6	16.1	-168.61	-321.5	252.0	611.1	580.7	30.44	20.078		
7,100.0	6,986.4	6,901.7	6,829.6	18.0	16.3	151.52	-321.5	269.9	668.4	637.6	30.83	21.679		
7,200.0	7,075.9	6,980.9	6,905.4	18.3	16.4	122.04	-307.5	288.0	723.7	692.2	31.48	22.993		
7,300.0	7,157.7	7,064.6	6,981.4	18.5	16.5	104.06	-277.8	306.2	774.4	742.5	32.00	24.202		
7,400.0	7,227.7	7,155.5	7,056.1	18.5	16.5	93.22	-229.5	324.1	818.4	786.2	32.19	25.422		
7,500.0	7,282.2	7,256.1	7,125.6	18.6	16.4	86.81	-159.0	340.8	853.3	821.2	32.12	26.566		
7,600.0	7,318.5	7,367.6	7,182.3	18.6	16.3	83.46	-64.3	354.5	877.3	845.2	32.09	27.340		
7,700.0	7,334.6	7,488.8	7,215.6	18.7	16.3	82.43	51.5	362.7	888.6	856.1	32.46	27.371		
7,800.0	7,335.4	7,602.2	7,220.4	18.9	16.7	82.57	164.7	364.1	889.4	856.2	33.17	26.814		
7,900.0	7,335.4	7,702.2	7,220.4	19.4	17.4	82.57	264.7	364.4	889.3	855.0	34.32	25.914		
8,000.0	7,335.4	7,802.2	7,220.4	20.0	18.2	82.57	364.7	364.6	889.3	853.5	35.84	24.813		
8,100.0	7,335.4	7,902.2	7,220.4	20.9	19.1	82.57	464.7	364.9	889.3	851.6	37.69	23.595		
8,200.0	7,335.4	8,002.2	7,220.4	21.9	20.2	82.57	564.7	365.1	889.3	849.5	39.82	22.333		
8,300.0	7,335.4	8,102.2	7,220.4	23.0	21.4	82.57	664.7	365.3	889.3	847.1	42.19	21.079		
8,400.0	7,335.4	8,202.2	7,220.4	24.2	22.7	82.57	764.7	365.6	889.3	844.5	44.76	19.869		
8,500.0	7,335.4	8,302.2	7,220.4	25.5	24.1	82.57	864.7	365.8	889.2	841.7	47.49	18.724		
8,600.0	7,335.4	8,402.2	7,220.4	26.9	25.5	82.57	964.7	366.0	889.2	838.8	50.37	17.654		
8,700.0	7,335.4	8,502.2	7,220.4	28.3	27.0	82.57	1,064.7	366.3	889.2	835.8	53.36	16.663		
8,800.0	7,335.4	8,602.2	7,220.4	29.8	28.6	82.57	1,164.7	366.5	889.2	832.7	56.46	15.749		
8,900.0	7,335.4	8,702.2	7,220.4	31.4	30.1	82.57	1,264.7	366.7	889.2	829.5	59.64	14.910		
9,000.0	7,335.4	8,802.2	7,220.4	32.9	31.8	82.57	1,364.7	367.0	889.2	826.3	62.88	14.139		
9,100.0	7,335.4	8,902.2	7,220.4	34.6	33.4	82.57	1,464.7	367.2	889.1	822.9	66.19	13.432		
9,200.0	7,335.4	9,002.2	7,220.4	36.2	35.1	82.57	1,564.7	367.5	889.1	819.6	69.56	12.783		
9,300.0	7,335.4	9,102.2	7,220.4	37.9	36.8	82.57	1,664.7	367.7	889.1	816.1	72.96	12.186		
9,400.0	7,335.4	9,202.2	7,220.4	39.6	38.6	82.57	1,764.7	367.9	889.1	812.7	76.41	11.636		
9,500.0	7,335.4	9,302.2	7,220.4	41.3	40.3	82.57	1,864.7	368.2	889.1	809.2	79.88	11.129		
9,600.0	7,335.4	9,402.2	7,220.4	43.0	42.1	82.57	1,964.7	368.4	889.0	805.7	83.39	10.661		
9,700.0	7,335.4	9,502.2	7,220.4	44.7	43.8	82.57	2,064.7	368.6	889.0	802.1	86.93	10.228		
9,800.0	7,335.4	9,602.2	7,220.4	46.5	45.6	82.57	2,164.7	368.9	889.0	798.5	90.48	9.825		
9,900.0	7,335.4	9,702.2	7,220.4	48.3	47.4	82.57	2,264.7	369.1	889.0	794.9	94.06	9.451		
10,000.0	7,335.4	9,802.2	7,220.4	50.1	49.2	82.57	2,364.7	369.4	889.0	791.3	97.65	9.103		
10,100.0	7,335.4	9,902.2	7,220.4	51.9	51.1	82.57	2,464.7	369.6	889.0	787.7	101.27	8.779		
10,200.0	7,335.4	10,002.2	7,220.4	53.7	52.9	82.57	2,564.7	369.8	888.9	784.1	104.89	8.475		
10,300.0	7,335.4	10,102.2	7,220.4	55.5	54.7	82.57	2,664.7	370.1	888.9	780.4	108.53	8.191		

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

Offset Design													Offset Site Error:	
Survey Program: 0-MWD													Offset Well Error:	
Reference				Offset			Semi Major Axis			Distance				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
10,400.0	7,335.4	10,202.2	7,220.4	57.3	56.5	82.57	2,764.7	370.3	888.9	776.7	112.18	7.924		
10,500.0	7,335.4	10,302.2	7,220.4	59.1	58.4	82.57	2,864.7	370.5	888.9	773.1	115.84	7.673		
10,600.0	7,335.4	10,402.2	7,220.4	60.9	60.2	82.57	2,964.7	370.8	888.9	769.4	119.51	7.438		
10,700.0	7,335.4	10,502.2	7,220.4	62.8	62.1	82.57	3,064.7	371.0	888.9	765.7	123.19	7.215		
10,800.0	7,335.4	10,602.2	7,220.4	64.6	63.9	82.57	3,164.7	371.3	888.8	762.0	126.88	7.005		
10,900.0	7,335.4	10,702.2	7,220.4	66.4	65.8	82.57	3,264.7	371.5	888.8	758.3	130.57	6.807		
11,000.0	7,335.4	10,802.2	7,220.4	68.3	67.7	82.57	3,364.7	371.7	888.8	754.5	134.28	6.619		
11,100.0	7,335.4	10,902.2	7,220.4	70.1	69.5	82.57	3,464.7	372.0	888.8	750.8	137.98	6.441		
11,200.0	7,335.4	11,002.2	7,220.4	72.0	71.4	82.57	3,564.7	372.2	888.8	747.1	141.70	6.272		
11,300.0	7,335.4	11,102.2	7,220.4	73.9	73.3	82.57	3,664.7	372.4	888.8	743.3	145.42	6.112		
11,400.0	7,335.4	11,202.2	7,220.4	75.7	75.1	82.57	3,764.7	372.7	888.7	739.6	149.14	5.959		
11,500.0	7,335.4	11,302.2	7,220.4	77.6	77.0	82.57	3,864.7	372.9	888.7	735.9	152.87	5.814		
11,600.0	7,335.4	11,402.2	7,220.4	79.5	78.9	82.57	3,964.7	373.2	888.7	732.1	156.60	5.675		
11,700.0	7,335.4	11,502.2	7,220.4	81.3	80.8	82.56	4,064.7	373.4	888.7	728.4	160.34	5.543		
11,800.0	7,335.4	11,602.2	7,220.4	83.2	82.6	82.56	4,164.7	373.6	888.7	724.6	164.08	5.416		
11,900.0	7,335.4	11,702.2	7,220.4	85.1	84.5	82.56	4,264.7	373.9	888.7	720.8	167.82	5.295		
12,000.0	7,335.4	11,802.2	7,220.4	86.9	86.4	82.56	4,364.7	374.1	888.6	717.1	171.57	5.180		
12,029.4	7,335.4	11,831.7	7,220.4	87.5	87.0	82.56	4,394.1	374.2	888.6	716.0	172.67	5.146		

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	88.61	2.9	120.0	120.0					
100.0	100.0	100.0	100.0	0.1	0.1	88.61	2.9	120.0	120.0	119.8	0.22	533.830		
200.0	200.0	200.0	200.0	0.3	0.3	88.61	2.9	120.0	120.0	119.3	0.67	177.943		
300.0	300.0	300.0	300.0	0.6	0.6	88.61	2.9	120.0	120.0	118.9	1.12	106.766		
400.0	400.0	400.0	400.0	0.8	0.8	88.61	2.9	120.0	120.0	118.4	1.57	76.261		
500.0	500.0	500.0	500.0	1.0	1.0	88.61	2.9	120.0	120.0	118.0	2.02	59.314		
600.0	600.0	600.0	600.0	1.2	1.2	88.61	2.9	120.0	120.0	117.5	2.47	48.530		
700.0	700.0	700.0	700.0	1.5	1.5	88.61	2.9	120.0	120.0	117.1	2.92	41.064		
800.0	800.0	800.0	800.0	1.7	1.7	88.61	2.9	120.0	120.0	116.6	3.37	35.589		
900.0	900.0	900.0	900.0	1.9	1.9	88.61	2.9	120.0	120.0	116.2	3.82	31.402		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	88.61	2.9	120.0	120.0	115.7	4.27	28.096		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	88.61	2.9	120.0	120.0	115.3	4.72	25.420		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	88.61	2.9	120.0	120.0	114.8	5.17	23.210		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	88.61	2.9	120.0	120.0	114.4	5.62	21.353		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	88.61	2.9	120.0	120.0	113.9	6.07	19.771		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	88.61	2.9	120.0	120.0	113.5	6.52	18.408		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	88.61	2.9	120.0	120.0	113.0	6.97	17.220		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	88.61	2.9	120.0	120.0	112.6	7.42	16.177		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	88.61	2.9	120.0	120.0	112.1	7.87	15.252		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	88.61	2.9	120.0	120.0	111.7	8.32	14.428		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	88.61	2.9	120.0	120.0	111.2	8.77	13.688		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	88.61	2.9	120.0	120.0	110.8	9.22	13.020		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	88.61	2.9	120.0	120.0	110.3	9.66	12.415		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	88.61	2.9	120.0	120.0	109.9	10.11	11.863		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	88.61	2.9	120.0	120.0	109.4	10.56	11.358		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	88.61	2.9	120.0	120.0	109.0	11.01	10.894		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	88.61	2.9	120.0	120.0	108.5	11.46	10.467		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	88.61	2.9	120.0	120.0	108.1	11.91	10.072		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	88.61	2.9	120.0	120.0	107.6	12.36	9.706		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	88.61	2.9	120.0	120.0	107.2	12.81	9.365		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	88.61	2.9	120.0	120.0	106.7	13.26	9.048		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	88.61	2.9	120.0	120.0	106.3	13.71	8.751		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	88.61	2.9	120.0	120.0	105.8	14.16	8.473		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	88.61	2.9	120.0	120.0	105.4	14.61	8.213		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	88.61	2.9	120.0	120.0	104.9	15.06	7.968		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	88.61	2.9	120.0	120.0	104.5	15.51	7.737		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	88.61	2.9	120.0	120.0	104.0	15.96	7.519		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	88.61	2.9	120.0	120.0	103.6	16.41	7.313		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	88.61	2.9	120.0	120.0	103.1	16.86	7.118		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	88.61	2.9	120.0	120.0	102.7	17.31	6.933		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	88.61	2.9	120.0	120.0	102.2	17.76	6.757		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	88.61	2.9	120.0	120.0	101.8	18.21	6.590		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	88.61	2.9	120.0	120.0	101.3	18.66	6.432		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	88.61	2.9	120.0	120.0	100.9	19.11	6.280		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	88.61	2.9	120.0	120.0	100.4	19.55	6.136		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	88.61	2.9	120.0	120.0	100.0	20.00	5.998		
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	88.61	2.9	120.0	120.0	99.5	20.45	5.866		
4,700.0	4,700.0	4,700.0	4,700.0	10.5	10.5	88.61	2.9	120.0	120.0	99.1	20.90	5.740		
4,800.0	4,800.0	4,800.0	4,800.0	10.7	10.7	88.61	2.9	120.0	120.0	98.6	21.35	5.619		
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	88.61	2.9	120.0	120.0	98.2	21.80	5.503		
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	88.61	2.9	120.0	120.0	97.7	22.25	5.392		
5,100.0	5,100.0	5,100.0	5,100.0	11.4	11.4	88.61	2.9	120.0	120.0	97.3	22.70	5.285		

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

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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 19-233HC - Wellbore #1 - Plan #1 (11-12-13)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,200.0	5,200.0	5,200.0	5,200.0	11.6	11.6	88.61	2.9	120.0	120.0	96.8	23.15	5.183		
5,300.0	5,300.0	5,300.0	5,300.0	11.8	11.8	88.61	2.9	120.0	120.0	96.4	23.60	5.084		
5,400.0	5,400.0	5,400.0	5,400.0	12.0	12.0	88.61	2.9	120.0	120.0	95.9	24.05	4.989 CC, ES		
5,500.0	5,500.0	5,495.6	5,495.6	12.2	12.2	89.39	1.3	121.7	121.8	97.3	24.47	4.978 SF		
5,600.0	5,600.0	5,590.7	5,590.4	12.5	12.4	-131.82	-3.5	127.0	128.5	103.6	24.83	5.174		
5,700.0	5,699.7	5,684.6	5,683.6	12.6	12.6	-130.30	-11.4	135.5	142.3	117.2	25.14	5.662		
5,800.0	5,799.0	5,776.7	5,774.3	12.8	12.7	-129.16	-22.1	147.2	163.2	137.8	25.43	6.419		
5,900.0	5,897.5	5,866.4	5,861.8	13.0	12.9	-128.33	-35.4	161.7	190.9	165.2	25.71	7.427		
6,000.0	5,995.0	5,953.1	5,945.4	13.2	13.1	-127.69	-50.9	178.5	225.1	199.1	25.98	8.665		
6,100.0	6,091.1	6,036.4	6,024.6	13.4	13.4	-127.12	-68.1	197.3	265.4	239.2	26.25	10.113		
6,200.0	6,185.7	6,115.9	6,099.2	13.7	13.6	-126.53	-86.8	217.6	311.6	285.0	26.52	11.747		
6,300.0	6,278.5	6,191.3	6,168.9	14.0	13.8	-125.86	-106.4	239.0	363.2	336.3	26.82	13.538		
6,400.0	6,369.2	6,271.8	6,242.3	14.4	14.2	-125.31	-128.7	263.2	419.1	391.9	27.17	15.424		
6,500.0	6,457.6	6,352.3	6,315.7	14.8	14.5	-125.00	-151.0	287.5	477.7	450.2	27.56	17.334		
6,600.0	6,543.9	6,430.9	6,387.4	15.3	14.8	-125.91	-172.8	311.2	538.5	510.5	28.05	19.201		
6,700.0	6,630.1	6,509.3	6,459.0	15.9	15.2	-127.21	-194.5	334.9	599.7	571.0	28.62	20.954		
6,800.0	6,716.3	6,587.8	6,530.6	16.5	15.6	-128.27	-216.3	358.6	661.0	631.7	29.24	22.602		
6,900.0	6,802.9	6,666.3	6,602.1	17.1	16.0	-138.29	-238.0	382.3	722.5	692.8	29.65	24.369		
7,000.0	6,893.8	6,743.5	6,672.6	17.6	16.5	-173.48	-259.4	405.6	784.9	755.0	29.92	26.229		
7,100.0	6,986.4	6,815.8	6,738.5	18.0	16.9	147.58	-279.4	427.4	846.5	815.7	30.76	27.519		
7,200.0	7,075.9	6,879.5	6,796.6	18.3	17.3	119.11	-297.1	446.6	906.2	874.4	31.79	28.507		
7,300.0	7,157.7	6,935.9	6,848.8	18.5	17.6	101.46	-309.8	463.9	963.5	930.9	32.62	29.536		

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-92.10	-2.2	-59.6	59.6					
100.0	100.0	100.0	100.0	0.1	0.1	-92.10	-2.2	-59.6	59.6	59.4	0.22	265.157		
200.0	200.0	200.0	200.0	0.3	0.3	-92.10	-2.2	-59.6	59.6	58.9	0.67	88.386		
300.0	300.0	300.0	300.0	0.6	0.6	-92.10	-2.2	-59.6	59.6	58.5	1.12	53.031		
400.0	400.0	400.0	400.0	0.8	0.8	-92.10	-2.2	-59.6	59.6	58.0	1.57	37.880		
500.0	500.0	500.0	500.0	1.0	1.0	-92.10	-2.2	-59.6	59.6	57.6	2.02	29.462		
600.0	600.0	600.0	600.0	1.2	1.2	-92.10	-2.2	-59.6	59.6	57.1	2.47	24.105		
700.0	700.0	700.0	700.0	1.5	1.5	-92.10	-2.2	-59.6	59.6	56.7	2.92	20.397		
800.0	800.0	800.0	800.0	1.7	1.7	-92.10	-2.2	-59.6	59.6	56.2	3.37	17.677		
900.0	900.0	900.0	900.0	1.9	1.9	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-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	-92.10	-2.2	-59.6	59.6	40.5	19.11	3.119 CC, ES, SF		
4,400.0	4,400.0	4,397.0	4,397.0	9.8	9.8	-92.75	-3.0	-61.9	62.0	42.5	19.53	3.177		
4,500.0	4,500.0	4,493.5	4,493.2	10.0	9.9	-94.42	-5.3	-68.8	69.4	49.4	19.94	3.480		
4,600.0	4,600.0	4,589.1	4,588.0	10.2	10.1	-96.52	-9.2	-80.2	81.7	61.3	20.35	4.012		
4,700.0	4,700.0	4,683.2	4,680.6	10.5	10.3	-98.57	-14.4	-95.9	98.9	78.1	20.77	4.760		
4,800.0	4,800.0	4,775.4	4,770.5	10.7	10.6	-100.33	-21.0	-115.3	120.9	99.7	21.19	5.705		
4,900.0	4,900.0	4,865.5	4,857.2	10.9	10.8	-101.75	-28.8	-138.3	147.6	126.0	21.62	6.827		
5,000.0	5,000.0	4,953.0	4,940.3	11.1	11.1	-102.87	-37.5	-164.3	178.8	156.7	22.06	8.105		
5,100.0	5,100.0	5,037.7	5,019.5	11.4	11.4	-103.75	-47.2	-192.9	214.3	191.8	22.51	9.519		

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

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,200.0	5,200.0	5,119.6	5,094.6	11.6	11.7	-104.44	-57.6	-223.6	253.8	230.8	22.98	11.047	
5,300.0	5,300.0	5,200.0	5,167.1	11.8	12.1	-104.99	-68.8	-256.8	297.2	273.8	23.46	12.669	
5,400.0	5,400.0	5,273.8	5,232.2	12.0	12.5	-105.41	-79.9	-289.7	344.2	320.3	23.96	14.366	
5,500.0	5,500.0	5,355.2	5,302.7	12.2	13.0	-105.80	-92.9	-328.2	394.0	369.5	24.51	16.075	
5,600.0	5,600.0	5,442.5	5,378.2	12.5	13.6	30.32	-106.9	-369.6	442.9	418.6	24.27	18.245	
5,700.0	5,699.7	5,531.8	5,455.5	12.6	14.2	29.75	-121.2	-412.1	487.8	463.2	24.61	19.822	
5,800.0	5,799.0	5,623.0	5,534.4	12.8	14.9	29.56	-135.8	-455.4	528.6	503.7	24.92	21.211	
5,900.0	5,897.5	5,715.8	5,614.8	13.0	15.7	29.66	-150.7	-499.4	565.3	540.0	25.22	22.417	
6,000.0	5,995.0	5,810.0	5,696.3	13.2	16.5	30.02	-165.8	-544.2	597.8	572.3	25.50	23.443	
6,100.0	6,091.1	5,905.3	5,778.7	13.4	17.3	30.60	-181.0	-589.4	626.1	600.3	25.78	24.288	
6,200.0	6,185.7	6,001.4	5,861.9	13.7	18.2	31.40	-196.4	-635.1	650.3	624.2	26.07	24.947	
6,300.0	6,278.5	6,098.2	5,945.6	14.0	19.0	32.42	-211.9	-681.0	670.5	644.1	26.39	25.408	
6,400.0	6,369.2	6,195.2	6,029.6	14.4	19.9	33.64	-227.5	-727.1	686.7	659.9	26.76	25.658	
6,500.0	6,457.6	6,292.3	6,113.7	14.8	20.9	35.09	-243.1	-773.2	699.1	671.9	27.23	25.677	
6,600.0	6,543.9	6,389.3	6,197.6	15.3	21.8	36.81	-258.6	-819.2	708.9	680.9	27.98	25.332	
6,700.0	6,630.1	6,486.2	6,281.5	15.9	22.8	38.57	-274.1	-865.3	719.0	690.1	28.92	24.861	
6,800.0	6,716.3	6,583.2	6,365.4	16.5	23.7	40.27	-289.7	-911.3	729.9	699.9	29.95	24.371	
6,900.0	6,802.9	6,680.4	6,449.5	17.1	24.7	36.43	-305.3	-957.4	741.4	710.3	31.13	23.814	
7,000.0	6,893.8	6,779.4	6,535.2	17.6	25.7	12.40	-321.1	-1,004.5	753.3	721.1	32.22	23.381	
7,100.0	6,986.4	6,876.6	6,619.2	18.0	26.7	-18.90	-336.7	-1,050.6	765.0	732.1	32.84	23.296	
7,200.0	7,075.9	6,966.8	6,697.3	18.3	27.6	-42.27	-351.2	-1,093.5	777.5	744.4	33.12	23.478	
7,300.0	7,157.7	7,045.6	6,765.5	18.5	28.4	-55.97	-363.8	-1,130.9	793.2	759.9	33.30	23.817	
7,400.0	7,227.7	7,144.3	6,851.7	18.5	29.3	-65.00	-370.1	-1,178.1	813.9	780.3	33.56	24.251	
7,500.0	7,282.2	7,280.1	6,967.9	18.6	30.3	-72.08	-343.1	-1,241.8	837.5	803.6	33.91	24.695	
7,600.0	7,318.5	7,490.8	7,119.7	18.6	31.3	-78.85	-226.1	-1,324.6	859.4	825.1	34.28	25.071	
7,700.0	7,334.6	7,811.1	7,220.4	18.7	31.7	-82.40	65.5	-1,379.0	868.9	833.6	35.24	24.656	
7,759.2	7,337.0	7,873.9	7,220.4	18.8	31.7	-82.27	128.3	-1,378.9	868.2	832.6	35.60	24.389	
7,800.0	7,335.4	7,914.7	7,220.4	18.9	31.7	-82.39	169.1	-1,378.8	868.7	832.8	35.85	24.228	
7,900.0	7,335.4	8,014.7	7,220.4	19.4	31.9	-82.39	269.1	-1,378.5	868.6	831.7	36.98	23.489	
8,000.0	7,335.4	8,114.7	7,220.4	20.0	32.1	-82.39	369.1	-1,378.2	868.6	830.2	38.46	22.588	
8,100.0	7,335.4	8,214.7	7,220.4	20.9	32.4	-82.39	469.1	-1,377.9	868.6	828.4	40.24	21.586	
8,200.0	7,335.4	8,314.7	7,220.4	21.9	32.8	-82.39	569.1	-1,377.7	868.6	826.3	42.29	20.538	
8,300.0	7,335.4	8,414.7	7,220.4	23.0	33.3	-82.39	669.1	-1,377.4	868.6	824.0	44.58	19.485	
8,400.0	7,335.4	8,514.7	7,220.4	24.2	34.0	-82.39	769.1	-1,377.1	868.6	821.5	47.06	18.456	
8,500.0	7,335.4	8,614.7	7,220.4	25.5	34.7	-82.39	869.1	-1,376.9	868.5	818.8	49.71	17.471	
8,600.0	7,335.4	8,714.7	7,220.4	26.9	35.5	-82.39	969.1	-1,376.6	868.5	816.0	52.51	16.541	
8,700.0	7,335.4	8,814.7	7,220.4	28.3	36.5	-82.39	1,069.1	-1,376.3	868.5	813.1	55.43	15.670	
8,800.0	7,335.4	8,914.7	7,220.4	29.8	37.5	-82.39	1,169.1	-1,376.1	868.5	810.1	58.45	14.860	
8,900.0	7,335.4	9,014.7	7,220.4	31.4	38.6	-82.39	1,269.1	-1,375.8	868.5	806.9	61.55	14.110	
9,000.0	7,335.4	9,114.7	7,220.4	32.9	39.8	-82.39	1,369.1	-1,375.5	868.5	803.7	64.74	13.415	
9,100.0	7,335.4	9,214.7	7,220.4	34.6	41.1	-82.39	1,469.1	-1,375.2	868.5	800.5	67.99	12.774	
9,200.0	7,335.4	9,314.7	7,220.4	36.2	42.4	-82.39	1,569.1	-1,375.0	868.4	797.2	71.29	12.182	
9,300.0	7,335.4	9,414.7	7,220.4	37.9	43.7	-82.39	1,669.1	-1,374.7	868.4	793.8	74.64	11.634	
9,400.0	7,335.4	9,514.7	7,220.4	39.6	45.2	-82.39	1,769.1	-1,374.4	868.4	790.4	78.04	11.128	
9,500.0	7,335.4	9,614.7	7,220.4	41.3	46.6	-82.39	1,869.1	-1,374.2	868.4	786.9	81.47	10.659	
9,600.0	7,335.4	9,714.7	7,220.4	43.0	48.1	-82.39	1,969.1	-1,373.9	868.4	783.4	84.93	10.224	
9,700.0	7,335.4	9,814.7	7,220.4	44.7	49.6	-82.39	2,069.1	-1,373.6	868.4	779.9	88.43	9.820	
9,800.0	7,335.4	9,914.7	7,220.4	46.5	51.2	-82.39	2,169.1	-1,373.4	868.4	776.4	91.95	9.444	
9,900.0	7,335.4	10,014.7	7,220.4	48.3	52.8	-82.39	2,269.1	-1,373.1	868.3	772.8	95.49	9.094	
10,000.0	7,335.4	10,114.7	7,220.4	50.1	54.4	-82.39	2,369.1	-1,372.8	868.3	769.3	99.05	8.766	
10,100.0	7,335.4	10,214.7	7,220.4	51.9	56.0	-82.39	2,469.1	-1,372.5	868.3	765.7	102.63	8.461	
10,200.0	7,335.4	10,314.7	7,220.4	53.7	57.7	-82.39	2,569.1	-1,372.3	868.3	762.1	106.23	8.174	

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

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
10,300.0	7,335.4	10,414.7	7,220.4	55.5	59.3	-82.39	2,669.1	-1,372.0	868.3	758.4	109.84	7.905	
10,400.0	7,335.4	10,514.7	7,220.4	57.3	61.0	-82.39	2,769.1	-1,371.7	868.3	754.8	113.46	7.653	
10,500.0	7,335.4	10,614.7	7,220.4	59.1	62.7	-82.39	2,869.1	-1,371.5	868.2	751.1	117.10	7.415	
10,600.0	7,335.4	10,714.7	7,220.4	60.9	64.4	-82.39	2,969.1	-1,371.2	868.2	747.5	120.74	7.191	
10,700.0	7,335.4	10,814.7	7,220.4	62.8	66.2	-82.39	3,069.1	-1,370.9	868.2	743.8	124.40	6.979	
10,800.0	7,335.4	10,914.7	7,220.4	64.6	67.9	-82.39	3,169.1	-1,370.7	868.2	740.1	128.07	6.779	
10,900.0	7,335.4	11,014.7	7,220.4	66.4	69.7	-82.39	3,269.1	-1,370.4	868.2	736.4	131.74	6.590	
11,000.0	7,335.4	11,114.7	7,220.4	68.3	71.4	-82.39	3,369.1	-1,370.1	868.2	732.7	135.42	6.411	
11,100.0	7,335.4	11,214.7	7,220.4	70.1	73.2	-82.39	3,469.1	-1,369.9	868.2	729.0	139.11	6.241	
11,200.0	7,335.4	11,314.7	7,220.4	72.0	74.9	-82.39	3,569.1	-1,369.6	868.1	725.3	142.81	6.079	
11,300.0	7,335.4	11,414.7	7,220.4	73.9	76.7	-82.39	3,669.1	-1,369.3	868.1	721.6	146.51	5.925	
11,400.0	7,335.4	11,514.7	7,220.4	75.7	78.5	-82.39	3,769.1	-1,369.0	868.1	717.9	150.22	5.779	
11,500.0	7,335.4	11,614.7	7,220.4	77.6	80.3	-82.39	3,869.1	-1,368.8	868.1	714.2	153.93	5.640	
11,600.0	7,335.4	11,714.7	7,220.4	79.5	82.1	-82.39	3,969.1	-1,368.5	868.1	710.4	157.65	5.506	
11,700.0	7,335.4	11,814.7	7,220.4	81.3	83.9	-82.39	4,069.1	-1,368.2	868.1	706.7	161.37	5.379	
11,800.0	7,335.4	11,914.7	7,220.4	83.2	85.7	-82.39	4,169.1	-1,368.0	868.0	702.9	165.09	5.258	
11,900.0	7,335.4	12,014.7	7,220.4	85.1	87.5	-82.39	4,269.1	-1,367.7	868.0	699.2	168.82	5.142	
12,000.0	7,335.4	12,114.7	7,220.4	86.9	89.4	-82.39	4,369.1	-1,367.4	868.0	695.5	172.56	5.030	
12,016.0	7,335.4	12,130.6	7,220.4	87.2	89.6	-82.39	4,385.0	-1,367.4	868.0	694.9	173.15	5.013	
12,029.4	7,335.4	12,130.6	7,220.4	87.5	89.6	-82.39	4,385.0	-1,367.4	868.1	694.7	173.40	5.006	

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		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-92.14	-1.1	-29.2	29.2					
100.0	100.0	100.0	100.0	0.1	0.1	-92.14	-1.1	-29.2	29.2	29.0	0.22	130.104		
200.0	200.0	200.0	200.0	0.3	0.3	-92.14	-1.1	-29.2	29.2	28.6	0.67	43.368		
300.0	300.0	300.0	300.0	0.6	0.6	-92.14	-1.1	-29.2	29.2	28.1	1.12	26.021		
400.0	400.0	400.0	400.0	0.8	0.8	-92.14	-1.1	-29.2	29.2	27.7	1.57	18.586		
500.0	500.0	500.0	500.0	1.0	1.0	-92.14	-1.1	-29.2	29.2	27.2	2.02	14.456		
600.0	600.0	600.0	600.0	1.2	1.2	-92.14	-1.1	-29.2	29.2	26.8	2.47	11.828		
700.0	700.0	700.0	700.0	1.5	1.5	-92.14	-1.1	-29.2	29.2	26.3	2.92	10.008		
800.0	800.0	800.0	800.0	1.7	1.7	-92.14	-1.1	-29.2	29.2	25.9	3.37	8.674		
900.0	900.0	900.0	900.0	1.9	1.9	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-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	-92.14	-1.1	-29.2	29.2	6.5	22.70	1.288 Level 3, CC, ES, SF		

COMPASS 2003.21 Build 46

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,200.0	5,198.6	5,198.6	11.6	11.6	-94.43	-2.4	-31.4	31.5	8.4	23.13	1.363	Level 3	
5,300.0	5,300.0	5,296.7	5,296.3	11.8	11.7	-99.63	-6.4	-37.8	38.5	15.0	23.53	1.638		
5,400.0	5,400.0	5,393.7	5,392.6	12.0	11.9	-104.98	-13.0	-48.4	50.6	26.7	23.94	2.116		
5,500.0	5,500.0	5,489.3	5,486.6	12.2	12.1	-109.21	-21.9	-62.8	67.9	43.5	24.35	2.788		
5,600.0	5,600.0	5,583.2	5,578.1	12.5	12.3	24.99	-33.1	-80.9	88.7	64.0	24.69	3.591		
5,700.0	5,699.7	5,676.2	5,667.5	12.6	12.6	23.83	-46.5	-102.6	109.7	84.7	24.98	4.391		
5,800.0	5,799.0	5,768.3	5,754.7	12.8	12.8	23.55	-62.0	-127.6	130.7	105.5	25.22	5.183		
5,900.0	5,897.5	5,859.4	5,839.5	13.0	13.1	23.78	-79.5	-155.9	151.7	126.3	25.42	5.967		
6,000.0	5,995.0	5,949.6	5,921.8	13.2	13.5	24.32	-98.9	-187.3	172.6	147.0	25.59	6.744		
6,100.0	6,091.1	6,038.9	6,001.5	13.4	13.9	25.05	-120.1	-221.6	193.4	167.7	25.74	7.514		
6,200.0	6,185.7	6,129.6	6,080.5	13.7	14.3	25.96	-143.5	-259.5	214.0	188.1	25.88	8.270		
6,300.0	6,278.5	6,227.9	6,165.5	14.0	14.9	27.29	-169.6	-301.5	231.4	205.4	26.06	8.881		
6,400.0	6,369.2	6,326.7	6,250.8	14.4	15.6	29.03	-195.7	-343.8	244.5	218.2	26.30	9.298		
6,500.0	6,457.6	6,425.8	6,336.5	14.8	16.2	31.24	-222.0	-386.2	253.3	226.7	26.64	9.510		
6,600.0	6,543.9	6,524.9	6,422.1	15.3	17.0	33.88	-248.2	-428.7	259.1	231.7	27.35	9.473		
6,700.0	6,630.1	6,624.0	6,507.7	15.9	17.7	36.47	-274.4	-471.1	265.2	236.9	28.30	9.369		
6,800.0	6,716.3	6,723.1	6,593.4	16.5	18.5	38.95	-300.7	-513.5	271.7	242.4	29.36	9.256		
6,900.0	6,802.9	6,822.3	6,679.1	17.1	19.3	35.46	-326.9	-555.9	278.8	248.3	30.53	9.132		
7,000.0	6,893.8	6,922.3	6,766.1	17.6	20.1	9.77	-350.4	-599.0	286.6	255.2	31.34	9.145		
7,100.0	6,986.4	7,023.7	6,856.8	18.0	20.8	-21.92	-353.8	-643.9	294.6	262.8	31.84	9.253		
7,200.0	7,075.9	7,126.9	6,947.3	18.3	21.3	-44.36	-333.6	-688.6	302.5	270.4	32.09	9.427		
7,300.0	7,157.7	7,231.7	7,032.4	18.5	21.7	-56.72	-289.6	-730.5	309.8	277.7	32.15	9.638		
7,400.0	7,227.7	7,337.8	7,106.7	18.5	21.9	-63.43	-223.6	-767.0	316.1	284.0	32.14	9.836		
7,500.0	7,282.2	7,445.1	7,165.2	18.6	22.1	-67.08	-138.7	-795.7	321.0	288.7	32.22	9.961		
7,600.0	7,318.5	7,553.0	7,203.9	18.6	22.2	-68.87	-40.1	-814.6	324.1	291.6	32.55	9.958		
7,700.0	7,334.6	7,661.1	7,220.0	18.7	22.2	-69.35	66.2	-822.3	325.4	292.2	33.20	9.802		
7,800.0	7,335.4	7,762.5	7,220.4	18.9	22.3	-69.31	167.6	-822.2	325.4	291.4	33.99	9.575		
7,900.0	7,335.4	7,862.5	7,220.4	19.4	22.6	-69.31	267.6	-821.9	325.4	290.3	35.17	9.254		
8,000.0	7,335.4	7,962.5	7,220.4	20.0	23.0	-69.30	367.6	-821.6	325.4	288.7	36.67	8.874		
8,100.0	7,335.4	8,062.5	7,220.4	20.9	23.7	-69.30	467.6	-821.4	325.4	286.9	38.46	8.461		
8,200.0	7,335.4	8,162.5	7,220.4	21.9	24.4	-69.30	567.6	-821.1	325.4	284.9	40.49	8.035		
8,300.0	7,335.4	8,262.5	7,220.4	23.0	25.4	-69.30	667.6	-820.8	325.4	282.6	42.74	7.612		
8,400.0	7,335.4	8,362.5	7,220.4	24.2	26.4	-69.30	767.6	-820.6	325.4	280.2	45.17	7.203		
8,500.0	7,335.4	8,462.5	7,220.4	25.5	27.6	-69.30	867.6	-820.3	325.3	277.6	47.75	6.813		
8,600.0	7,335.4	8,562.5	7,220.4	26.9	28.8	-69.30	967.6	-820.0	325.3	274.9	50.46	6.447		
8,700.0	7,335.4	8,662.5	7,220.4	28.3	30.1	-69.30	1,067.6	-819.8	325.3	272.0	53.28	6.105		
8,800.0	7,335.4	8,762.5	7,220.4	29.8	31.5	-69.30	1,167.6	-819.5	325.3	269.1	56.20	5.789		
8,900.0	7,335.4	8,862.5	7,220.4	31.4	33.0	-69.30	1,267.6	-819.2	325.3	266.1	59.19	5.496		
9,000.0	7,335.4	8,962.5	7,220.4	32.9	34.5	-69.30	1,367.6	-819.0	325.3	263.0	62.25	5.225		
9,100.0	7,335.4	9,062.5	7,220.4	34.6	36.0	-69.29	1,467.6	-818.7	325.3	259.9	65.37	4.976		
9,200.0	7,335.4	9,162.5	7,220.4	36.2	37.6	-69.29	1,567.6	-818.4	325.3	256.7	68.54	4.745		
9,300.0	7,335.4	9,262.5	7,220.4	37.9	39.2	-69.29	1,667.6	-818.2	325.2	253.5	71.75	4.533		
9,400.0	7,335.4	9,362.5	7,220.4	39.6	40.8	-69.29	1,767.6	-817.9	325.2	250.2	75.01	4.336		
9,500.0	7,335.4	9,462.5	7,220.4	41.3	42.5	-69.29	1,867.6	-817.6	325.2	246.9	78.29	4.154		
9,600.0	7,335.4	9,562.5	7,220.4	43.0	44.2	-69.29	1,967.6	-817.4	325.2	243.6	81.60	3.985		
9,700.0	7,335.4	9,662.5	7,220.4	44.7	45.9	-69.29	2,067.6	-817.1	325.2	240.2	84.94	3.828		
9,800.0	7,335.4	9,762.5	7,220.4	46.5	47.6	-69.29	2,167.6	-816.8	325.2	236.9	88.31	3.682		
9,900.0	7,335.4	9,862.5	7,220.4	48.3	49.3	-69.29	2,267.6	-816.6	325.2	233.5	91.69	3.546		
10,000.0	7,335.4	9,962.5	7,220.4	50.1	51.1	-69.29	2,367.6	-816.3	325.1	230.1	95.09	3.419		
10,100.0	7,335.4	10,062.5	7,220.4	51.9	52.8	-69.29	2,467.6	-816.0	325.1	226.6	98.51	3.301		
10,200.0	7,335.4	10,162.5	7,220.4	53.7	54.6	-69.29	2,567.6	-815.7	325.1	223.2	101.94	3.189		
10,300.0	7,335.4	10,262.5	7,220.4	55.5	56.4	-69.28	2,667.6	-815.5	325.1	219.7	105.39	3.085		

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

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		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
10,400.0	7,335.4	10,362.5	7,220.4	57.3	58.2	-69.28	2,767.6	-815.2	325.1	216.3	108.85	2.987				
10,500.0	7,335.4	10,462.5	7,220.4	59.1	59.9	-69.28	2,867.6	-814.9	325.1	212.8	112.31	2.894				
10,600.0	7,335.4	10,562.5	7,220.4	60.9	61.7	-69.28	2,967.6	-814.7	325.1	209.3	115.79	2.807				
10,700.0	7,335.4	10,662.5	7,220.4	62.8	63.6	-69.28	3,067.6	-814.4	325.1	205.8	119.28	2.725				
10,800.0	7,335.4	10,762.5	7,220.4	64.6	65.4	-69.28	3,167.6	-814.1	325.0	202.3	122.78	2.647				
10,900.0	7,335.4	10,862.5	7,220.4	66.4	67.2	-69.28	3,267.6	-813.9	325.0	198.8	126.28	2.574				
11,000.0	7,335.4	10,962.5	7,220.4	68.3	69.0	-69.28	3,367.6	-813.6	325.0	195.2	129.79	2.504				
11,100.0	7,335.4	11,062.5	7,220.4	70.1	70.9	-69.28	3,467.6	-813.3	325.0	191.7	133.31	2.438				
11,200.0	7,335.4	11,162.5	7,220.4	72.0	72.7	-69.28	3,567.6	-813.1	325.0	188.2	136.83	2.375				
11,300.0	7,335.4	11,262.5	7,220.4	73.9	74.5	-69.28	3,667.6	-812.8	325.0	184.6	140.36	2.315				
11,400.0	7,335.4	11,362.5	7,220.4	75.7	76.4	-69.28	3,767.6	-812.5	325.0	181.1	143.89	2.258				
11,500.0	7,335.4	11,462.5	7,220.4	77.6	78.2	-69.27	3,867.6	-812.3	325.0	177.5	147.43	2.204				
11,600.0	7,335.4	11,562.5	7,220.4	79.5	80.1	-69.27	3,967.6	-812.0	324.9	174.0	150.97	2.152				
11,700.0	7,335.4	11,662.5	7,220.4	81.3	81.9	-69.27	4,067.6	-811.7	324.9	170.4	154.52	2.103				
11,800.0	7,335.4	11,762.5	7,220.4	83.2	83.8	-69.27	4,167.6	-811.5	324.9	166.8	158.07	2.056				
11,900.0	7,335.4	11,862.5	7,220.4	85.1	85.7	-69.27	4,267.6	-811.2	324.9	163.3	161.62	2.010				
12,000.0	7,335.4	11,962.5	7,220.4	86.9	87.5	-69.27	4,367.6	-810.9	324.9	159.7	165.18	1.967				
12,022.7	7,335.4	11,985.1	7,220.4	87.4	87.9	-69.27	4,390.3	-810.9	324.9	158.9	165.98	1.957				
12,029.4	7,335.4	11,986.7	7,220.4	87.5	88.0	-69.27	4,391.9	-810.9	324.9	158.8	166.13	1.956				

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		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	87.91	1.1	30.1	30.1					
100.0	100.0	100.0	100.0	0.1	0.1	87.91	1.1	30.1	30.1	29.9	0.22	133.817		
200.0	200.0	200.0	200.0	0.3	0.3	87.91	1.1	30.1	30.1	29.4	0.67	44.606		
300.0	300.0	300.0	300.0	0.6	0.6	87.91	1.1	30.1	30.1	29.0	1.12	26.763		
400.0	400.0	400.0	400.0	0.8	0.8	87.91	1.1	30.1	30.1	28.5	1.57	19.117		
500.0	500.0	500.0	500.0	1.0	1.0	87.91	1.1	30.1	30.1	28.1	2.02	14.869		
600.0	600.0	600.0	600.0	1.2	1.2	87.91	1.1	30.1	30.1	27.6	2.47	12.165		
700.0	700.0	700.0	700.0	1.5	1.5	87.91	1.1	30.1	30.1	27.2	2.92	10.294		
800.0	800.0	800.0	800.0	1.7	1.7	87.91	1.1	30.1	30.1	26.7	3.37	8.921		
900.0	900.0	900.0	900.0	1.9	1.9	87.91	1.1	30.1	30.1	26.3	3.82	7.872		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	87.91	1.1	30.1	30.1	25.8	4.27	7.043		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	87.91	1.1	30.1	30.1	25.4	4.72	6.372		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	87.91	1.1	30.1	30.1	24.9	5.17	5.818		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	87.91	1.1	30.1	30.1	24.5	5.62	5.353		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	87.91	1.1	30.1	30.1	24.0	6.07	4.956		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	87.91	1.1	30.1	30.1	23.6	6.52	4.614		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	87.91	1.1	30.1	30.1	23.1	6.97	4.317		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	87.91	1.1	30.1	30.1	22.7	7.42	4.055		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	87.91	1.1	30.1	30.1	22.2	7.87	3.823		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	87.91	1.1	30.1	30.1	21.8	8.32	3.617		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	87.91	1.1	30.1	30.1	21.3	8.77	3.431		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	87.91	1.1	30.1	30.1	20.9	9.22	3.264		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	87.91	1.1	30.1	30.1	20.4	9.66	3.112		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	87.91	1.1	30.1	30.1	20.0	10.11	2.974		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	87.91	1.1	30.1	30.1	19.5	10.56	2.847		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	87.91	1.1	30.1	30.1	19.1	11.01	2.731		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	87.91	1.1	30.1	30.1	18.6	11.46	2.624		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	87.91	1.1	30.1	30.1	18.2	11.91	2.525		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	87.91	1.1	30.1	30.1	17.7	12.36	2.433		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	87.91	1.1	30.1	30.1	17.3	12.81	2.348		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	87.91	1.1	30.1	30.1	16.8	13.26	2.268		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	87.91	1.1	30.1	30.1	16.4	13.71	2.194		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	87.91	1.1	30.1	30.1	15.9	14.16	2.124		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	87.91	1.1	30.1	30.1	15.5	14.61	2.059		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	87.91	1.1	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	87.91	1.1	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	87.91	1.1	30.1	30.1	14.1	15.96	1.885		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	87.91	1.1	30.1	30.1	13.7	16.41	1.833		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	87.91	1.1	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	87.91	1.1	30.1	30.1	12.8	17.31	1.738		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	87.91	1.1	30.1	30.1	12.3	17.76	1.694		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	87.91	1.1	30.1	30.1	11.9	18.21	1.652		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	87.91	1.1	30.1	30.1	11.4	18.66	1.612		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	87.91	1.1	30.1	30.1	11.0	19.11	1.574		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	87.91	1.1	30.1	30.1	10.5	19.55	1.538		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	87.91	1.1	30.1	30.1	10.1	20.00	1.504		
4,600.0	4,600.0	4,600.0	4,600.0	10.2	10.2	87.91	1.1	30.1	30.1	9.6	20.45	1.471 Level 3		
4,700.0	4,700.0	4,700.0	4,700.0	10.5	10.5	87.91	1.1	30.1	30.1	9.2	20.90	1.439 Level 3		
4,800.0	4,800.0	4,800.0	4,800.0	10.7	10.7	87.91	1.1	30.1	30.1	8.7	21.35	1.409 Level 3		
4,900.0	4,900.0	4,900.0	4,900.0	10.9	10.9	87.91	1.1	30.1	30.1	8.3	21.80	1.380 Level 3		
5,000.0	5,000.0	5,000.0	5,000.0	11.1	11.1	87.91	1.1	30.1	30.1	7.8	22.25	1.352 Level 3		
5,100.0	5,100.0	5,100.0	5,100.0	11.4	11.4	87.91	1.1	30.1	30.1	7.4	22.70	1.325 Level 3		

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,200.0	5,200.0	5,200.0	11.6	11.6	87.91	1.1	30.1	30.1	6.9	23.15	1.299	Level 3	
5,300.0	5,300.0	5,300.0	5,300.0	11.8	11.8	87.91	1.1	30.1	30.1	6.5	23.60	1.274	Level 3	
5,400.0	5,400.0	5,400.0	5,400.0	12.0	12.0	87.91	1.1	30.1	30.1	6.0	24.05	1.251	Level 3	
5,500.0	5,500.0	5,500.0	5,500.0	12.2	12.2	87.91	1.1	30.1	30.1	5.6	24.50	1.228	Level 2, CC, ES, SF	
5,600.0	5,600.0	5,600.0	5,600.0	12.5	12.5	-137.24	1.1	30.1	31.3	6.4	24.92	1.256	Level 3	
5,700.0	5,699.7	5,699.7	5,699.7	12.6	12.7	-144.39	1.1	30.1	36.6	11.3	25.26	1.448	Level 3	
5,800.0	5,799.0	5,801.0	5,800.9	12.8	12.9	-151.03	-0.9	29.1	45.4	19.8	25.53	1.777		
5,900.0	5,897.5	5,903.8	5,903.1	13.0	13.1	-151.61	-10.8	24.4	53.1	27.4	25.73	2.065		
6,000.0	5,995.0	6,007.0	6,004.3	13.2	13.3	-148.11	-29.0	15.8	59.4	33.4	25.93	2.289		
6,100.0	6,091.1	6,110.0	6,103.1	13.4	13.5	-141.54	-55.3	3.3	64.6	38.4	26.20	2.465		
6,200.0	6,185.7	6,212.4	6,198.3	13.7	13.7	-132.53	-89.3	-12.8	70.0	43.4	26.65	2.627		
6,300.0	6,278.5	6,313.6	6,288.7	14.0	14.0	-121.87	-130.3	-32.3	77.1	49.7	27.36	2.817		
6,400.0	6,369.2	6,412.5	6,374.3	14.4	14.3	-112.66	-174.9	-53.5	87.5	59.3	28.26	3.097		
6,500.0	6,457.6	6,511.3	6,459.9	14.8	14.7	-108.13	-219.6	-74.7	101.2	72.0	29.18	3.469		
6,600.0	6,543.9	6,610.1	6,545.4	15.3	15.2	-106.81	-264.3	-95.9	116.4	86.2	30.14	3.861		
6,700.0	6,630.1	6,714.8	6,636.9	15.9	15.7	-106.84	-309.7	-118.6	130.8	99.7	31.19	4.196		
6,800.0	6,716.3	6,826.7	6,742.0	16.5	16.2	-115.34	-336.7	-144.6	137.2	105.4	31.74	4.322		
6,900.0	6,802.9	6,925.7	6,838.0	17.1	16.5	-136.88	-337.2	-168.3	142.6	111.5	31.09	4.585		
7,000.0	6,893.8	7,014.9	6,922.6	17.6	16.6	-178.09	-318.8	-189.1	158.4	128.1	30.29	5.229		
7,100.0	6,986.4	7,098.4	6,997.0	18.0	16.6	138.41	-286.0	-207.3	181.5	151.0	30.48	5.954		
7,200.0	7,075.9	7,177.7	7,061.0	18.3	16.6	107.25	-242.0	-223.0	206.7	175.7	31.00	6.668		
7,300.0	7,157.7	7,254.2	7,114.5	18.5	16.6	88.64	-189.1	-236.0	230.7	199.5	31.21	7.392		
7,400.0	7,227.7	7,328.6	7,157.3	18.5	16.5	77.53	-129.2	-246.4	251.3	220.3	30.96	8.116		
7,500.0	7,282.2	7,400.0	7,188.6	18.6	16.5	70.91	-65.5	-253.9	267.0	236.6	30.46	8.768		
7,600.0	7,318.5	7,475.0	7,210.3	18.6	16.5	67.22	6.0	-259.1	277.2	247.1	30.06	9.220		
7,700.0	7,334.6	7,545.8	7,219.7	18.7	16.6	65.87	76.0	-261.2	281.2	251.1	30.08	9.349		
7,799.1	7,337.5	7,634.9	7,220.4	18.9	17.0	65.54	165.1	-261.2	282.8	252.2	30.56	9.253		
7,800.0	7,335.4	7,635.9	7,220.4	18.9	17.0	65.86	166.1	-261.2	281.2	250.6	30.63	9.179		
7,900.0	7,335.4	7,735.9	7,220.4	19.4	17.7	65.86	266.1	-260.9	281.2	249.5	31.70	8.871		
8,000.0	7,335.4	7,835.9	7,220.4	20.0	18.5	65.86	366.1	-260.6	281.2	248.1	33.11	8.492		
8,100.0	7,335.4	7,935.9	7,220.4	20.9	19.4	65.86	466.1	-260.3	281.2	246.4	34.84	8.073		
8,200.0	7,335.4	8,035.9	7,220.4	21.9	20.5	65.87	566.1	-260.1	281.3	244.4	36.82	7.638		
8,300.0	7,335.4	8,135.9	7,220.4	23.0	21.7	65.87	666.1	-259.8	281.3	242.2	39.04	7.205		
8,400.0	7,335.4	8,235.9	7,220.4	24.2	23.0	65.87	766.1	-259.5	281.3	239.9	41.44	6.788		
8,500.0	7,335.4	8,335.9	7,220.4	25.5	24.3	65.87	866.1	-259.2	281.3	237.3	43.99	6.394		
8,600.0	7,335.4	8,435.9	7,220.4	26.9	25.8	65.87	966.1	-259.0	281.3	234.6	46.68	6.026		
8,700.0	7,335.4	8,535.9	7,220.4	28.3	27.3	65.87	1,066.1	-258.7	281.3	231.9	49.48	5.686		
8,800.0	7,335.4	8,635.9	7,220.4	29.8	28.8	65.87	1,166.1	-258.4	281.4	229.0	52.37	5.372		
8,900.0	7,335.4	8,735.9	7,220.4	31.4	30.4	65.88	1,266.1	-258.2	281.4	226.0	55.34	5.084		
9,000.0	7,335.4	8,835.9	7,220.4	32.9	32.0	65.88	1,366.1	-257.9	281.4	223.0	58.38	4.820		
9,100.0	7,335.4	8,935.9	7,220.4	34.6	33.7	65.88	1,466.1	-257.6	281.4	219.9	61.47	4.578		
9,200.0	7,335.4	9,035.9	7,220.4	36.2	35.4	65.88	1,566.1	-257.3	281.4	216.8	64.61	4.356		
9,300.0	7,335.4	9,135.9	7,220.4	37.9	37.1	65.88	1,666.1	-257.1	281.4	213.6	67.79	4.152		
9,400.0	7,335.4	9,235.9	7,220.4	39.6	38.8	65.88	1,766.1	-256.8	281.5	210.4	71.01	3.964		
9,500.0	7,335.4	9,335.9	7,220.4	41.3	40.6	65.89	1,866.1	-256.5	281.5	207.2	74.26	3.790		
9,600.0	7,335.4	9,435.9	7,220.4	43.0	42.3	65.89	1,966.1	-256.2	281.5	204.0	77.54	3.630		
9,700.0	7,335.4	9,535.9	7,220.4	44.7	44.1	65.89	2,066.1	-256.0	281.5	200.7	80.84	3.482		
9,800.0	7,335.4	9,635.9	7,220.4	46.5	45.9	65.89	2,166.1	-255.7	281.5	197.4	84.16	3.345		
9,900.0	7,335.4	9,735.9	7,220.4	48.3	47.7	65.89	2,266.1	-255.4	281.5	194.0	87.50	3.218		
10,000.0	7,335.4	9,835.9	7,220.4	50.1	49.5	65.89	2,366.1	-255.1	281.6	190.7	90.86	3.099		
10,100.0	7,335.4	9,935.9	7,220.4	51.9	51.3	65.89	2,466.1	-254.9	281.6	187.3	94.23	2.988		
10,200.0	7,335.4	10,035.9	7,220.4	53.7	53.1	65.90	2,566.1	-254.6	281.6	184.0	97.62	2.885		

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

Company:	Great Western	Local Co-ordinate Reference:	Well Raindance FD 30-028HC
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 30-028HC	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

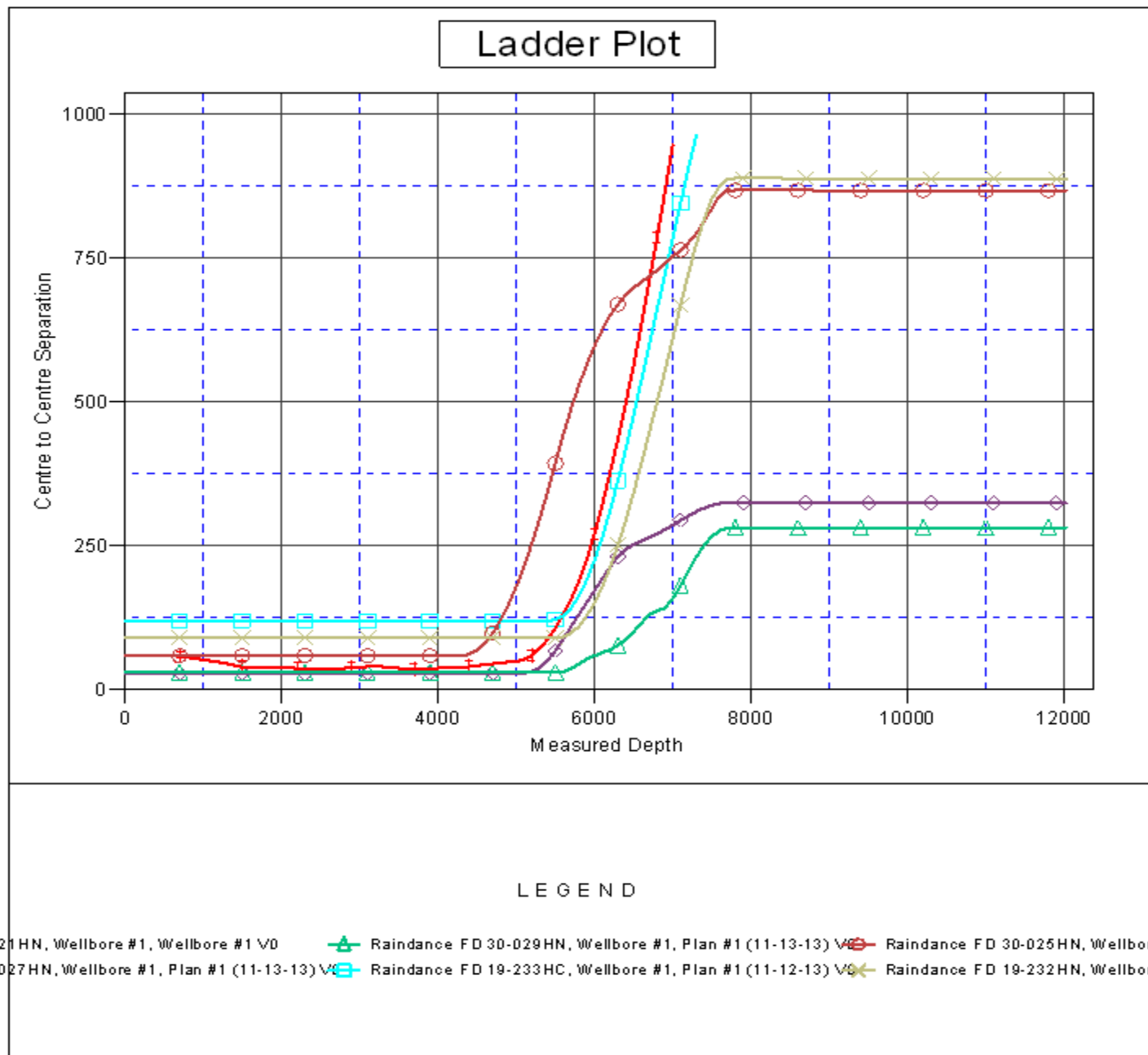
Offset Design												Offset Site Error:	0.0 ft
Raindance West Pad Sec.30-T6N-R67W - Raindance FD 30-029HN - Wellbore #1 - Plan #1 (11-13-13)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,300.0	7,335.4	10,135.9	7,220.4	55.5	54.9	65.90	2,666.1	-254.3	281.6	180.6	101.01	2.788	
10,400.0	7,335.4	10,235.9	7,220.4	57.3	56.8	65.90	2,766.1	-254.1	281.6	177.2	104.42	2.697	
10,500.0	7,335.4	10,335.9	7,220.4	59.1	58.6	65.90	2,866.1	-253.8	281.6	173.8	107.84	2.612	
10,600.0	7,335.4	10,435.9	7,220.4	60.9	60.4	65.90	2,966.1	-253.5	281.7	170.4	111.27	2.531	
10,700.0	7,335.4	10,535.9	7,220.4	62.8	62.3	65.90	3,066.1	-253.2	281.7	167.0	114.70	2.456	
10,800.0	7,335.4	10,635.9	7,220.4	64.6	64.2	65.91	3,166.1	-253.0	281.7	163.6	118.15	2.384	
10,900.0	7,335.4	10,735.9	7,220.4	66.4	66.0	65.91	3,266.1	-252.7	281.7	160.1	121.60	2.317	
11,000.0	7,335.4	10,835.9	7,220.4	68.3	67.9	65.91	3,366.1	-252.4	281.7	156.7	125.05	2.253	
11,100.0	7,335.4	10,935.9	7,220.4	70.1	69.7	65.91	3,466.1	-252.1	281.8	153.2	128.52	2.192	
11,200.0	7,335.4	11,035.9	7,220.4	72.0	71.6	65.91	3,566.1	-251.9	281.8	149.8	131.98	2.135	
11,300.0	7,335.4	11,135.9	7,220.4	73.9	73.5	65.91	3,666.1	-251.6	281.8	146.3	135.46	2.080	
11,400.0	7,335.4	11,235.9	7,220.4	75.7	75.3	65.92	3,766.1	-251.3	281.8	142.9	138.93	2.028	
11,500.0	7,335.4	11,335.9	7,220.4	77.6	77.2	65.92	3,866.1	-251.0	281.8	139.4	142.41	1.979	
11,600.0	7,335.4	11,435.9	7,220.4	79.5	79.1	65.92	3,966.1	-250.8	281.8	135.9	145.90	1.932	
11,700.0	7,335.4	11,535.9	7,220.4	81.3	81.0	65.92	4,066.1	-250.5	281.9	132.5	149.39	1.887	
11,800.0	7,335.4	11,635.9	7,220.4	83.2	82.9	65.92	4,166.1	-250.2	281.9	129.0	152.88	1.844	
11,900.0	7,335.4	11,735.9	7,220.4	85.1	84.7	65.92	4,266.1	-250.0	281.9	125.5	156.38	1.803	
12,000.0	7,335.4	11,835.9	7,220.4	86.9	86.6	65.92	4,366.1	-249.7	281.9	122.0	159.87	1.763	
12,029.4	7,335.4	11,865.3	7,220.4	87.5	87.2	65.93	4,395.5	-249.6	281.9	121.0	160.91	1.752	

Company: Great Western
Project: SEC.30-T6N-R67W
Reference Site: Raindance West Pad Sec.30-T6N-R67W
Site Error: 0.0ft
Reference Well: Raindance FD 30-028HC
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1 (11-13-13)

Local Co-ordinate Reference: Well Raindance FD 30-028HC
TVD Reference: WELL @ 5012.4ft (RKB - 16.5')
MD Reference: WELL @ 5012.4ft (RKB - 16.5')
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

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

Coordinates are relative to: Raindance FD 30-028HC
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.36°



Company: Great Western
Project: SEC.30-T6N-R67W
Reference Site: Raindance West Pad Sec.30-T6N-R67W
Site Error: 0.0ft
Reference Well: Raindance FD 30-028HC
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Plan #1 (11-13-13)

Local Co-ordinate Reference: Well Raindance FD 30-028HC
TVD Reference: WELL @ 5012.4ft (RKB - 16.5')
MD Reference: WELL @ 5012.4ft (RKB - 16.5')
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 5012.4ft (RKB - 16.5')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Raindance FD 30-028HC

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.36°

