

Great Western

Well Name: **Gustafson EF 31-380HN**

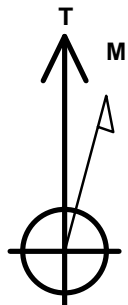
Surface Location: Gustafson Pad Sec.31-T7N-R65W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4828.2

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1439923.17	3219183.10	40.538314	-104.711397	
RKB - 16.5' WELL @ 4844.7ft (RKB - 16.5')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 280'FNL & 1238'FWL	1.0	0.0	0.0	Point
BHL 470'FSL & 1'FWL	7084.7	-4500.4	-1244.9	Point
Entry Pt.460'FNL & 1'FWL	7084.7	-144.6	-1236.1	Point



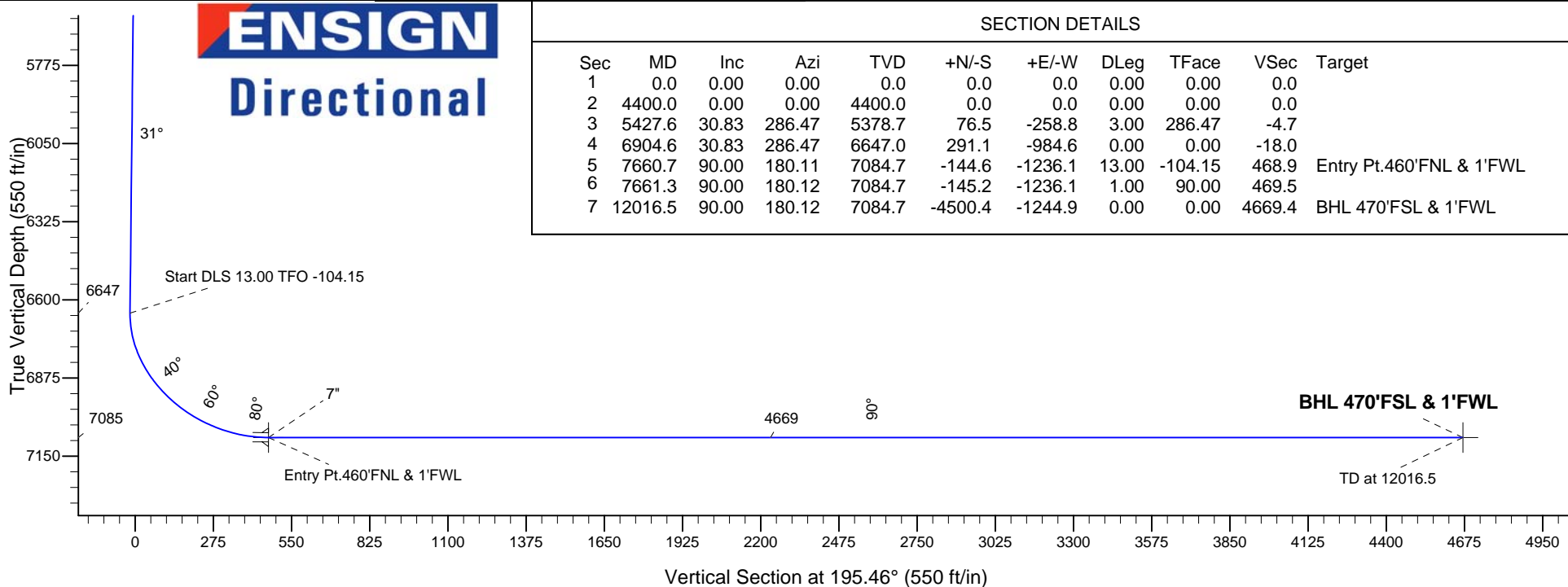
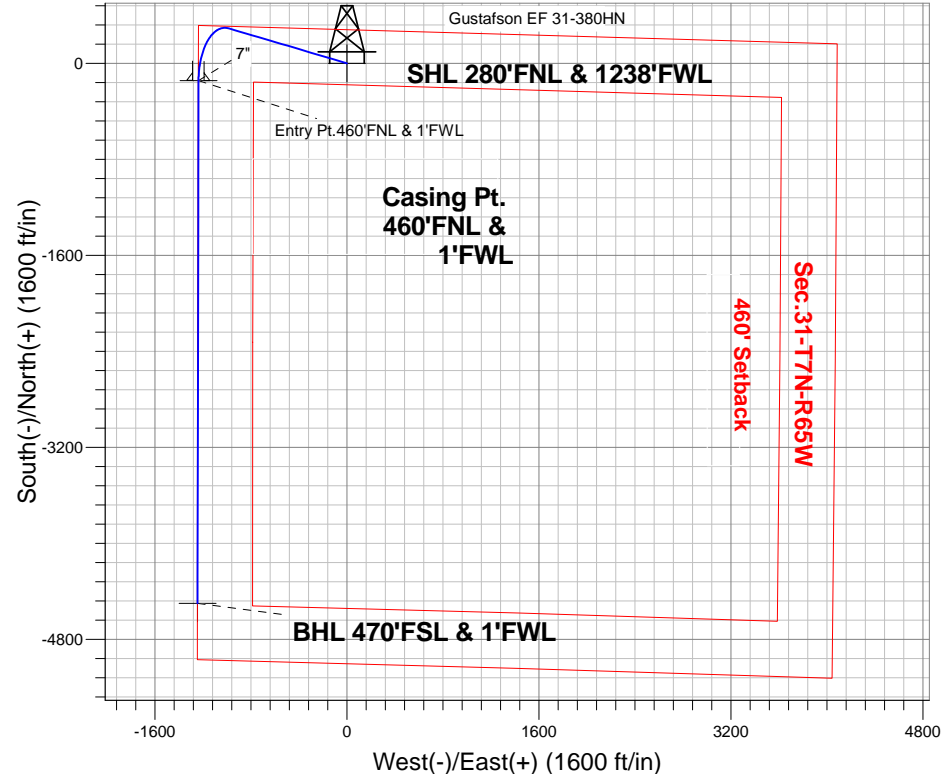
Azimuths to True North
Magnetic North: 8.51°

Magnetic Field
Strength: 52945.2snT
Dip Angle: 67.08°
Date: 12/16/2013
Model: IGRF2010

Gustafson Pad Sec.31-T7N-R65W
Gustafson EF 31-380HN
Plan #1 (12-16-13)
15:35, December 17 2013

ANNOTATIONS

TVD	MD	Annotation
4400.0	4400.0	KOP - Start Build 3.00
6647.1	6904.6	Start DLS 13.00 TFO -104.15
7084.7	12016.5	TD at 12016.5





Great Western

SEC.31-T7N-R65W

Gustafson Pad Sec.31-T7N-R65W

Gustafson EF 31-380HN

Wellbore #1

Plan: Plan #1 (12-16-13)

Standard Planning Report

17 December, 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	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,427.6	30.83	286.47	5,378.7	76.5	-258.8	3.00	3.00	0.00	286.47	
6,904.6	30.83	286.47	6,647.0	291.1	-984.6	0.00	0.00	0.00	0.00	
7,660.7	90.00	180.11	7,084.7	-144.6	-1,236.1	13.00	7.83	-14.07	-104.15	Entry Pt.460'FNL &
7,661.3	90.00	180.12	7,084.7	-145.2	-1,236.1	1.00	0.00	1.00	90.00	
12,016.5	90.00	180.12	7,084.7	-4,500.4	-1,244.9	0.00	0.00	0.00	0.00	BHL 470'FSL & 1'F

Database:	Landmark	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Company:	Great Western	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Project:	SEC.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site:	Gustafson Pad Sec.31-T7N-R65W	North Reference:	True
Well:	Gustafson EF 31-380HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (12-16-13)		

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 280'FNL & 1238'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
KOP - Start Build 3.00									
4,500.0	3.00	286.47	4,500.0	0.7	-2.5	0.0	3.00	3.00	0.00
4,600.0	6.00	286.47	4,599.6	3.0	-10.0	-0.2	3.00	3.00	0.00
4,700.0	9.00	286.47	4,698.8	6.7	-22.5	-0.4	3.00	3.00	0.00
4,800.0	12.00	286.47	4,797.1	11.8	-40.0	-0.7	3.00	3.00	0.00
4,900.0	15.00	286.47	4,894.3	18.4	-62.4	-1.1	3.00	3.00	0.00
5,000.0	18.00	286.47	4,990.2	26.5	-89.6	-1.6	3.00	3.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Company:	Great Western	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Project:	SEC.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site:	Gustafson Pad Sec.31-T7N-R65W	North Reference:	True
Well:	Gustafson EF 31-380HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (12-16-13)		

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	21.00	286.47	5,084.4	36.0	-121.6	-2.2	3.00	3.00	0.00
5,200.0	24.00	286.47	5,176.8	46.8	-158.3	-2.9	3.00	3.00	0.00
5,300.0	27.00	286.47	5,267.1	59.0	-199.6	-3.7	3.00	3.00	0.00
5,400.0	30.00	286.47	5,354.9	72.5	-245.4	-4.5	3.00	3.00	0.00
5,427.6	30.83	286.47	5,378.7	76.5	-258.8	-4.7	3.00	3.00	0.00
5,500.0	30.83	286.47	5,440.9	87.0	-294.4	-5.4	0.00	0.00	0.00
5,600.0	30.83	286.47	5,526.8	101.5	-343.5	-6.3	0.00	0.00	0.00
5,700.0	30.83	286.47	5,612.6	116.1	-392.6	-7.2	0.00	0.00	0.00
5,800.0	30.83	286.47	5,698.5	130.6	-441.8	-8.1	0.00	0.00	0.00
5,900.0	30.83	286.47	5,784.4	145.1	-490.9	-9.0	0.00	0.00	0.00
6,000.0	30.83	286.47	5,870.3	159.6	-540.1	-9.9	0.00	0.00	0.00
6,100.0	30.83	286.47	5,956.1	174.2	-589.2	-10.8	0.00	0.00	0.00
6,200.0	30.83	286.47	6,042.0	188.7	-638.4	-11.7	0.00	0.00	0.00
6,300.0	30.83	286.47	6,127.9	203.2	-687.5	-12.6	0.00	0.00	0.00
6,400.0	30.83	286.47	6,213.7	217.8	-736.6	-13.5	0.00	0.00	0.00
6,500.0	30.83	286.47	6,299.6	232.3	-785.8	-14.4	0.00	0.00	0.00
6,600.0	30.83	286.47	6,385.5	246.8	-834.9	-15.3	0.00	0.00	0.00
6,700.0	30.83	286.47	6,471.4	261.3	-884.1	-16.2	0.00	0.00	0.00
6,800.0	30.83	286.47	6,557.2	275.9	-933.2	-17.1	0.00	0.00	0.00
6,900.0	30.83	286.47	6,643.1	290.4	-982.4	-18.0	0.00	0.00	0.00
6,904.6	30.83	286.47	6,647.1	291.1	-984.6	-18.0	0.00	0.00	0.00
Start DLS 13.00 TFO -104.15									
7,000.0	30.05	261.89	6,729.6	294.6	-1,031.9	-8.9	13.00	-0.81	-25.77
7,100.0	33.96	238.34	6,814.7	276.4	-1,080.7	21.8	13.00	3.91	-23.55
7,200.0	41.35	220.70	6,894.1	236.5	-1,126.2	72.3	13.00	7.38	-17.63
7,300.0	50.69	208.07	6,963.6	177.0	-1,166.1	140.2	13.00	9.34	-12.63
7,400.0	61.06	198.57	7,019.7	101.1	-1,198.4	222.0	13.00	10.37	-9.50
7,500.0	71.97	190.85	7,059.6	12.6	-1,221.4	313.5	13.00	10.91	-7.72
7,600.0	83.16	184.05	7,081.1	-84.1	-1,233.9	410.0	13.00	11.18	-6.80
7,660.7	90.00	180.11	7,084.7	-144.6	-1,236.1	468.9	13.00	11.27	-6.49
7" - Entry Pt.460'FNL & 1'FWL									
7,661.3	90.00	180.12	7,084.7	-145.2	-1,236.1	469.5	0.92	0.18	0.90
7,700.0	90.00	180.12	7,084.7	-183.9	-1,236.1	506.8	0.00	0.00	0.00
7,800.0	90.00	180.12	7,084.7	-283.9	-1,236.3	603.2	0.00	0.00	0.00
7,900.0	90.00	180.12	7,084.7	-383.9	-1,236.5	699.7	0.00	0.00	0.00
8,000.0	90.00	180.12	7,084.7	-483.9	-1,236.7	796.1	0.00	0.00	0.00
8,100.0	90.00	180.12	7,084.7	-583.9	-1,236.9	892.5	0.00	0.00	0.00
8,200.0	90.00	180.12	7,084.7	-683.9	-1,237.2	989.0	0.00	0.00	0.00
8,300.0	90.00	180.12	7,084.7	-783.9	-1,237.4	1,085.4	0.00	0.00	0.00
8,400.0	90.00	180.12	7,084.7	-883.9	-1,237.6	1,181.8	0.00	0.00	0.00
8,500.0	90.00	180.12	7,084.7	-983.9	-1,237.8	1,278.3	0.00	0.00	0.00
8,600.0	90.00	180.12	7,084.7	-1,083.9	-1,238.0	1,374.7	0.00	0.00	0.00
8,700.0	90.00	180.12	7,084.7	-1,183.9	-1,238.2	1,471.1	0.00	0.00	0.00
8,800.0	90.00	180.12	7,084.7	-1,283.9	-1,238.4	1,567.6	0.00	0.00	0.00
8,900.0	90.00	180.12	7,084.7	-1,383.9	-1,238.6	1,664.0	0.00	0.00	0.00
9,000.0	90.00	180.12	7,084.7	-1,483.9	-1,238.8	1,760.4	0.00	0.00	0.00
9,100.0	90.00	180.12	7,084.7	-1,583.9	-1,239.0	1,856.9	0.00	0.00	0.00
9,200.0	90.00	180.12	7,084.7	-1,683.9	-1,239.2	1,953.3	0.00	0.00	0.00
9,300.0	90.00	180.12	7,084.7	-1,783.9	-1,239.4	2,049.7	0.00	0.00	0.00
9,400.0	90.00	180.12	7,084.7	-1,883.9	-1,239.6	2,146.2	0.00	0.00	0.00
9,500.0	90.00	180.12	7,084.7	-1,983.9	-1,239.8	2,242.6	0.00	0.00	0.00
9,600.0	90.00	180.12	7,084.7	-2,083.9	-1,240.0	2,339.0	0.00	0.00	0.00
9,700.0	90.00	180.12	7,084.7	-2,183.9	-1,240.2	2,435.5	0.00	0.00	0.00
9,800.0	90.00	180.12	7,084.7	-2,283.9	-1,240.4	2,531.9	0.00	0.00	0.00

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Site:	Gustafson Pad Sec.31-T7N-R65W	North Reference:	True
Well:	Gustafson EF 31-380HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (12-16-13)		

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	180.12	7,084.7	-2,383.9	-1,240.6	2,628.3	0.00	0.00	0.00	
10,000.0	90.00	180.12	7,084.7	-2,483.9	-1,240.8	2,724.8	0.00	0.00	0.00	
10,100.0	90.00	180.12	7,084.7	-2,583.9	-1,241.0	2,821.2	0.00	0.00	0.00	
10,200.0	90.00	180.12	7,084.7	-2,683.9	-1,241.2	2,917.6	0.00	0.00	0.00	
10,300.0	90.00	180.12	7,084.7	-2,783.9	-1,241.4	3,014.1	0.00	0.00	0.00	
10,400.0	90.00	180.12	7,084.7	-2,883.9	-1,241.6	3,110.5	0.00	0.00	0.00	
10,500.0	90.00	180.12	7,084.7	-2,983.9	-1,241.8	3,206.9	0.00	0.00	0.00	
10,600.0	90.00	180.12	7,084.7	-3,083.9	-1,242.0	3,303.4	0.00	0.00	0.00	
10,700.0	90.00	180.12	7,084.7	-3,183.9	-1,242.2	3,399.8	0.00	0.00	0.00	
10,800.0	90.00	180.12	7,084.7	-3,283.9	-1,242.4	3,496.3	0.00	0.00	0.00	
10,900.0	90.00	180.12	7,084.7	-3,383.9	-1,242.6	3,592.7	0.00	0.00	0.00	
11,000.0	90.00	180.12	7,084.7	-3,483.9	-1,242.8	3,689.1	0.00	0.00	0.00	
11,100.0	90.00	180.12	7,084.7	-3,583.9	-1,243.0	3,785.6	0.00	0.00	0.00	
11,200.0	90.00	180.12	7,084.7	-3,683.9	-1,243.2	3,882.0	0.00	0.00	0.00	
11,300.0	90.00	180.12	7,084.7	-3,783.9	-1,243.4	3,978.4	0.00	0.00	0.00	
11,400.0	90.00	180.12	7,084.7	-3,883.9	-1,243.6	4,074.9	0.00	0.00	0.00	
11,500.0	90.00	180.12	7,084.7	-3,983.9	-1,243.8	4,171.3	0.00	0.00	0.00	
11,600.0	90.00	180.12	7,084.7	-4,083.9	-1,244.0	4,267.7	0.00	0.00	0.00	
11,700.0	90.00	180.12	7,084.7	-4,183.9	-1,244.3	4,364.2	0.00	0.00	0.00	
11,800.0	90.00	180.12	7,084.7	-4,283.9	-1,244.5	4,460.6	0.00	0.00	0.00	
11,900.0	90.00	180.12	7,084.7	-4,383.9	-1,244.7	4,557.0	0.00	0.00	0.00	
12,000.0	90.00	180.12	7,084.7	-4,483.9	-1,244.9	4,653.5	0.00	0.00	0.00	
12,016.5	90.00	180.12	7,084.7	-4,500.4	-1,244.9	4,669.4	0.00	0.00	0.00	
TD at 12016.5 - BHL 470'FSL & 1'FWL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
7,660.7	7,084.7	7"		7	7-1/2

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
4,400.0	4,400.0	0.0	0.0	KOP - Start Build 3.00	
6,904.6	6,647.1	291.1	-984.6	Start DLS 13.00 TFO -104.15	
12,016.5	7,084.7	-4,500.4	-1,244.9	TD at 12016.5	



Great Western

SEC.31-T7N-R65W

Gustafson Pad Sec.31-T7N-R65W

Gustafson EF 31-380HN

Wellbore #1

Plan #1 (12-16-13)

Anticollision Report

17 December, 2013

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	91.62	-5.1	179.8	179.9	172.0	7.87	22.869		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	91.62	-5.1	179.8	179.9	171.6	8.32	21.633		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	91.62	-5.1	179.8	179.9	171.1	8.77	20.524		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	91.62	-5.1	179.8	179.9	170.7	9.22	19.522		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	91.62	-5.1	179.8	179.9	170.2	9.66	18.614		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	91.62	-5.1	179.8	179.9	169.8	10.11	17.787		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	91.62	-5.1	179.8	179.9	169.3	10.56	17.030		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	91.62	-5.1	179.8	179.9	168.9	11.01	16.335		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	91.62	-5.1	179.8	179.9	168.4	11.46	15.694		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	91.62	-5.1	179.8	179.9	168.0	11.91	15.102		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	91.62	-5.1	179.8	179.9	167.5	12.36	14.553		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	91.62	-5.1	179.8	179.9	167.1	12.81	14.042		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	91.62	-5.1	179.8	179.9	166.6	13.26	13.566		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	91.62	-5.1	179.8	179.9	166.2	13.71	13.122		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	91.62	-5.1	179.8	179.9	165.7	14.16	12.705		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	91.62	-5.1	179.8	179.9	165.3	14.61	12.314		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	91.62	-5.1	179.8	179.9	164.8	15.06	11.947		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	91.62	-5.1	179.8	179.9	164.4	15.51	11.600		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	91.62	-5.1	179.8	179.9	163.9	15.96	11.273		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	91.62	-5.1	179.8	179.9	163.5	16.41	10.965		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	91.62	-5.1	179.8	179.9	163.0	16.86	10.672		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	91.62	-5.1	179.8	179.9	162.6	17.31	10.395		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	91.62	-5.1	179.8	179.9	162.2	17.76	10.132		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	91.62	-5.1	179.8	179.9	161.7	18.21	9.882		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	91.62	-5.1	179.8	179.9	161.3	18.66	9.644		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	91.62	-5.1	179.8	179.9	160.8	19.11	9.417		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	91.62	-5.1	179.8	179.9	160.4	19.55	9.200 CC, ES		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	165.35	-5.1	179.8	182.4	162.5	19.97	9.135 SF		
4,600.0	4,599.6	4,599.6	4,599.6	10.2	10.2	165.89	-5.1	179.8	190.0	169.7	20.33	9.346		
4,700.0	4,698.8	4,698.8	4,698.8	10.4	10.4	166.70	-5.1	179.8	202.7	182.1	20.65	9.819		
4,800.0	4,797.1	4,797.1	4,797.1	10.7	10.7	167.67	-5.1	179.8	220.5	199.6	20.91	10.545		
4,900.0	4,894.3	4,894.3	4,894.3	10.9	10.9	168.71	-5.1	179.8	243.4	222.3	21.12	11.523		
5,000.0	4,990.2	4,979.9	4,979.8	11.2	11.1	169.44	-4.6	181.4	273.0	251.8	21.25	12.847		
5,100.0	5,084.4	5,061.0	5,060.8	11.5	11.2	169.79	-2.9	186.3	311.3	289.9	21.33	14.594		
5,200.0	5,176.8	5,137.6	5,137.0	11.9	11.4	169.84	-0.4	193.8	357.5	336.2	21.35	16.745		
5,300.0	5,267.1	5,209.0	5,207.6	12.4	11.6	169.67	2.9	203.5	411.3	390.0	21.33	19.283		
5,400.0	5,354.9	5,274.9	5,272.5	13.0	11.7	169.34	6.6	214.6	471.9	450.7	21.27	22.190		
5,500.0	5,440.9	5,335.7	5,331.9	13.7	11.9	169.23	10.7	226.7	537.8	516.3	21.51	24.997		
5,600.0	5,526.8	5,400.0	5,394.3	14.4	12.0	169.13	15.7	241.5	605.9	584.0	21.91	27.657		
5,700.0	5,612.6	5,448.3	5,440.8	15.2	12.2	168.99	19.9	253.9	675.9	653.6	22.29	30.323		
5,800.0	5,698.5	5,500.0	5,490.2	16.0	12.3	168.79	24.8	268.4	747.7	725.0	22.69	32.956		
5,900.0	5,784.4	5,550.0	5,537.5	16.9	12.5	168.57	29.9	283.6	821.1	798.0	23.10	35.549		
6,000.0	5,870.3	5,600.0	5,584.4	17.8	12.6	168.32	35.4	300.0	896.1	872.5	23.52	38.097		
6,100.0	5,956.1	5,641.7	5,623.2	18.7	12.8	168.09	40.3	314.6	972.4	948.5	23.94	40.619		
6,200.0	6,042.0	5,700.0	5,676.8	19.7	13.0	167.76	47.6	336.3	1,050.3	1,025.9	24.41	43.033		
6,300.0	6,127.9	5,724.5	5,699.1	20.6	13.1	167.61	50.9	345.9	1,129.1	1,104.3	24.82	45.501		
6,400.0	6,213.7	5,762.9	5,733.8	21.6	13.3	167.37	56.1	361.4	1,209.2	1,184.0	25.26	47.864		
6,500.0	6,299.6	5,800.0	5,767.1	22.6	13.4	167.14	61.4	377.1	1,290.4	1,264.7	25.72	50.173		
6,600.0	6,385.5	5,834.1	5,797.3	23.7	13.6	166.93	66.4	392.0	1,372.6	1,346.4	26.18	52.429		
6,700.0	6,471.4	5,867.2	5,826.4	24.7	13.8	166.71	71.5	407.0	1,455.6	1,429.0	26.65	54.629		
6,800.0	6,557.2	5,900.0	5,854.9	25.7	14.0	166.50	76.6	422.3	1,539.6	1,512.5	27.12	56.769		
6,900.0	6,643.1	5,934.8	5,884.9	26.8	14.2	166.28	82.3	439.0	1,624.3	1,596.7	27.61	58.824		

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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						
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
7,000.0	6,729.6	5,986.0	5,929.0	27.7	14.5	-154.23	90.6	463.7	1,708.7	1,680.4	28.30	60.373	
7,100.0	6,814.7	6,032.7	5,969.2	28.5	14.8	-119.73	98.2	486.3	1,789.4	1,757.8	31.64	56.563	
7,200.0	6,894.1	6,072.5	6,003.4	29.1	15.1	-95.85	104.7	505.5	1,863.6	1,830.0	33.64	55.402	
7,300.0	6,963.6	6,103.4	6,030.0	29.5	15.3	-80.40	109.7	520.4	1,928.8	1,895.4	33.43	57.694	
7,400.0	7,019.7	6,123.7	6,047.5	29.9	15.4	-70.50	113.0	530.2	1,983.3	1,951.7	31.56	62.833	
7,500.0	7,059.6	6,132.5	6,055.1	30.1	15.5	-64.27	114.4	534.5	2,025.4	1,996.4	28.98	69.896	
7,600.0	7,081.1	6,129.3	6,052.3	30.2	15.5	-60.65	113.9	532.9	2,054.1	2,027.2	26.87	76.452	
7,700.0	7,084.7	6,115.0	6,040.0	30.3	15.4	-59.33	111.6	526.0	2,069.8	2,043.4	26.35	78.547	
7,800.0	7,084.7	6,098.7	6,025.9	30.4	15.2	-58.88	108.9	518.1	2,086.5	2,059.9	26.62	78.376	
7,900.0	7,084.7	6,082.3	6,011.9	30.5	15.1	-58.43	106.3	510.2	2,107.7	2,080.6	27.07	77.864	
8,000.0	7,084.7	6,065.9	5,997.8	30.8	15.0	-57.98	103.6	502.3	2,133.3	2,105.6	27.67	77.098	
8,100.0	7,084.7	6,049.6	5,983.7	31.2	14.9	-57.53	100.9	494.4	2,163.1	2,134.7	28.40	76.163	
8,200.0	7,084.7	6,033.2	5,969.6	31.6	14.8	-57.08	98.3	486.5	2,196.9	2,167.6	29.24	75.136	
8,300.0	7,084.7	6,016.8	5,955.5	32.2	14.7	-56.63	95.6	478.6	2,234.5	2,204.4	30.16	74.078	
8,400.0	7,084.7	6,000.4	5,941.4	32.8	14.6	-56.18	92.9	470.7	2,275.8	2,244.7	31.16	73.034	
8,500.0	7,084.7	5,984.1	5,927.3	33.6	14.5	-55.73	90.3	462.8	2,320.6	2,288.4	32.22	72.035	
8,600.0	7,084.7	8,458.9	7,084.7	34.5	31.7	-90.00	-1,096.7	1,104.5	2,342.5	2,288.2	54.30	43.136	
8,700.0	7,084.7	8,558.9	7,084.7	35.5	32.9	-90.00	-1,196.7	1,103.9	2,342.1	2,284.8	57.38	40.821	
8,800.0	7,084.7	8,658.9	7,084.7	36.6	34.3	-90.00	-1,296.7	1,103.4	2,341.8	2,281.3	60.54	38.685	
8,900.0	7,084.7	8,758.9	7,084.7	37.8	35.7	-90.00	-1,396.7	1,102.8	2,341.5	2,277.7	63.77	36.717	
9,000.0	7,084.7	8,858.9	7,084.7	39.1	37.1	-90.00	-1,496.6	1,102.3	2,341.1	2,274.0	67.07	34.905	
9,100.0	7,084.7	8,958.9	7,084.7	40.5	38.6	-90.00	-1,596.6	1,101.8	2,340.8	2,270.3	70.43	33.238	
9,200.0	7,084.7	9,058.9	7,084.7	41.9	40.1	-90.00	-1,696.6	1,101.2	2,340.4	2,266.6	73.83	31.701	
9,300.0	7,084.7	9,158.9	7,084.7	43.3	41.7	-90.00	-1,796.6	1,100.7	2,340.1	2,262.8	77.27	30.284	
9,400.0	7,084.7	9,258.9	7,084.7	44.8	43.3	-90.00	-1,896.6	1,100.1	2,339.7	2,259.0	80.75	28.974	
9,500.0	7,084.7	9,358.9	7,084.7	46.4	44.9	-90.00	-1,996.6	1,099.6	2,339.4	2,255.1	84.26	27.763	
9,600.0	7,084.7	9,458.9	7,084.7	48.0	46.6	-90.00	-2,096.6	1,099.0	2,339.1	2,251.2	87.80	26.639	
9,700.0	7,084.7	9,558.9	7,084.7	49.6	48.3	-90.00	-2,196.6	1,098.5	2,338.7	2,247.3	91.37	25.596	
9,800.0	7,084.7	9,658.9	7,084.7	51.2	50.0	-90.00	-2,296.6	1,097.9	2,338.4	2,243.4	94.95	24.626	
9,900.0	7,084.7	9,758.9	7,084.7	52.8	51.7	-90.00	-2,396.6	1,097.4	2,338.0	2,239.5	98.56	23.722	
10,000.0	7,084.7	9,858.9	7,084.7	54.5	53.4	-90.00	-2,496.6	1,096.8	2,337.7	2,235.5	102.18	22.877	
10,100.0	7,084.7	9,958.9	7,084.7	56.2	55.1	-90.00	-2,596.6	1,096.3	2,337.3	2,231.5	105.82	22.087	
10,200.0	7,084.7	10,058.9	7,084.7	57.9	56.9	-90.00	-2,696.6	1,095.8	2,337.0	2,227.5	109.48	21.347	
10,300.0	7,084.7	10,158.9	7,084.7	59.6	58.6	-90.00	-2,796.6	1,095.2	2,336.7	2,223.5	113.14	20.653	
10,400.0	7,084.7	10,258.9	7,084.7	61.4	60.4	-90.00	-2,896.6	1,094.7	2,336.3	2,219.5	116.82	20.000	
10,500.0	7,084.7	10,358.9	7,084.7	63.1	62.2	-90.00	-2,996.6	1,094.1	2,336.0	2,215.5	120.51	19.385	
10,600.0	7,084.7	10,458.9	7,084.7	64.9	64.0	-90.00	-3,096.6	1,093.6	2,335.6	2,211.4	124.20	18.805	
10,700.0	7,084.7	10,558.9	7,084.7	66.7	65.8	-90.00	-3,196.6	1,093.0	2,335.3	2,207.4	127.91	18.257	
10,800.0	7,084.7	10,658.9	7,084.7	68.4	67.6	-90.00	-3,296.6	1,092.5	2,334.9	2,203.3	131.62	17.740	
10,900.0	7,084.7	10,758.9	7,084.7	70.2	69.4	-90.00	-3,396.6	1,091.9	2,334.6	2,199.3	135.34	17.249	
11,000.0	7,084.7	10,858.9	7,084.7	72.0	71.2	-90.00	-3,496.6	1,091.4	2,334.3	2,195.2	139.07	16.785	
11,100.0	7,084.7	10,958.9	7,084.7	73.8	73.0	-90.00	-3,596.6	1,090.8	2,333.9	2,191.1	142.81	16.343	
11,200.0	7,084.7	11,058.9	7,084.7	75.6	74.8	-90.00	-3,696.6	1,090.3	2,333.6	2,187.0	146.54	15.924	
11,300.0	7,084.7	11,158.9	7,084.7	77.5	76.7	-90.00	-3,796.6	1,089.7	2,333.2	2,182.9	150.29	15.525	
11,400.0	7,084.7	11,258.9	7,084.7	79.3	78.5	-90.00	-3,896.6	1,089.2	2,332.9	2,178.8	154.04	15.145	
11,500.0	7,084.7	11,358.9	7,084.7	81.1	80.3	-90.00	-3,996.6	1,088.7	2,332.5	2,174.7	157.79	14.782	
11,600.0	7,084.7	11,458.9	7,084.7	82.9	82.2	-90.00	-4,096.6	1,088.1	2,332.2	2,170.6	161.55	14.436	
11,700.0	7,084.7	11,558.9	7,084.7	84.8	84.0	-90.00	-4,196.6	1,087.6	2,331.9	2,166.5	165.32	14.105	
11,800.0	7,084.7	11,658.9	7,084.7	86.6	85.9	-90.00	-4,296.6	1,087.0	2,331.5	2,162.4	169.08	13.789	
11,900.0	7,084.7	11,758.9	7,084.7	88.4	87.7	-90.00	-4,396.6	1,086.5	2,331.2	2,158.3	172.85	13.487	
12,000.0	7,084.7	11,858.9	7,084.7	90.3	89.6	-90.00	-4,496.6	1,085.9	2,330.8	2,154.2	176.62	13.196	
12,016.5	7,084.7	11,875.4	7,084.7	90.6	89.9	-90.00	-4,513.1	1,085.8	2,330.8	2,153.5	177.25	13.150	

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	Offset TVD Reference:	Offset Datum

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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	91.53	-4.0	149.8	149.9					
100.0	100.0	100.0	100.0	0.1	0.1	91.53	-4.0	149.8	149.9	149.6	0.22	666.779		
200.0	200.0	200.0	200.0	0.3	0.3	91.53	-4.0	149.8	149.9	149.2	0.67	222.260		
300.0	300.0	300.0	300.0	0.6	0.6	91.53	-4.0	149.8	149.9	148.7	1.12	133.356		
400.0	400.0	400.0	400.0	0.8	0.8	91.53	-4.0	149.8	149.9	148.3	1.57	95.254		
500.0	500.0	500.0	500.0	1.0	1.0	91.53	-4.0	149.8	149.9	147.8	2.02	74.087		
600.0	600.0	600.0	600.0	1.2	1.2	91.53	-4.0	149.8	149.9	147.4	2.47	60.616		
700.0	700.0	700.0	700.0	1.5	1.5	91.53	-4.0	149.8	149.9	146.9	2.92	51.291		
800.0	800.0	800.0	800.0	1.7	1.7	91.53	-4.0	149.8	149.9	146.5	3.37	44.452		
900.0	900.0	900.0	900.0	1.9	1.9	91.53	-4.0	149.8	149.9	146.0	3.82	39.222		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	91.53	-4.0	149.8	149.9	145.6	4.27	35.094		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	91.53	-4.0	149.8	149.9	145.1	4.72	31.751		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	91.53	-4.0	149.8	149.9	144.7	5.17	28.990		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	91.53	-4.0	149.8	149.9	144.3	5.62	26.671		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	91.53	-4.0	149.8	149.9	143.8	6.07	24.696		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	91.53	-4.0	149.8	149.9	143.4	6.52	22.992		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	91.53	-4.0	149.8	149.9	142.9	6.97	21.509		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	91.53	-4.0	149.8	149.9	142.5	7.42	20.205		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	91.53	-4.0	149.8	149.9	142.0	7.87	19.051		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	91.53	-4.0	149.8	149.9	141.6	8.32	18.021		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	91.53	-4.0	149.8	149.9	141.1	8.77	17.097		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	91.53	-4.0	149.8	149.9	140.7	9.22	16.263		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	91.53	-4.0	149.8	149.9	140.2	9.66	15.506		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	91.53	-4.0	149.8	149.9	139.8	10.11	14.817		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	91.53	-4.0	149.8	149.9	139.3	10.56	14.187		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	91.53	-4.0	149.8	149.9	138.9	11.01	13.608		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	91.53	-4.0	149.8	149.9	138.4	11.46	13.074		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	91.53	-4.0	149.8	149.9	138.0	11.91	12.581		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	91.53	-4.0	149.8	149.9	137.5	12.36	12.123		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	91.53	-4.0	149.8	149.9	137.1	12.81	11.698		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	91.53	-4.0	149.8	149.9	136.6	13.26	11.301		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	91.53	-4.0	149.8	149.9	136.2	13.71	10.931		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	91.53	-4.0	149.8	149.9	135.7	14.16	10.584		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	91.53	-4.0	149.8	149.9	135.3	14.61	10.258		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	91.53	-4.0	149.8	149.9	134.8	15.06	9.952		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	91.53	-4.0	149.8	149.9	134.4	15.51	9.663		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	91.53	-4.0	149.8	149.9	133.9	15.96	9.391		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	91.53	-4.0	149.8	149.9	133.5	16.41	9.134		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	91.53	-4.0	149.8	149.9	133.0	16.86	8.890		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	91.53	-4.0	149.8	149.9	132.6	17.31	8.659		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	91.53	-4.0	149.8	149.9	132.1	17.76	8.440		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	91.53	-4.0	149.8	149.9	131.7	18.21	8.232		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	91.53	-4.0	149.8	149.9	131.2	18.66	8.033		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	91.53	-4.0	149.8	149.9	130.8	19.11	7.844		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	91.53	-4.0	149.8	149.9	130.3	19.55	7.664 CC, ES		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	165.30	-4.0	149.8	152.4	132.4	19.97	7.631 SF		
4,600.0	4,599.6	4,599.6	4,599.6	10.2	10.2	165.95	-4.0	149.8	160.0	139.7	20.33	7.869		
4,700.0	4,698.8	4,698.8	4,698.8	10.4	10.4	166.92	-4.0	149.8	172.7	152.0	20.65	8.364		
4,800.0	4,797.1	4,797.1	4,797.1	10.7	10.7	168.05	-4.0	149.8	190.5	169.6	20.91	9.111		
4,900.0	4,894.3	4,894.3	4,894.3	10.9	10.9	169.21	-4.0	149.8	213.4	192.3	21.12	10.105		
5,000.0	4,990.2	4,990.2	4,990.2	11.2	11.1	170.33	-4.0	149.8	241.4	220.1	21.28	11.346		
5,100.0	5,084.4	5,084.4	5,084.4	11.5	11.3	171.34	-4.0	149.8	274.4	253.0	21.38	12.834		

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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	5,176.8	5,176.8	5,176.8	11.9	11.5	172.23	-4.0	149.8	312.3	290.9	21.43	14.571		
5,300.0	5,267.1	5,261.2	5,261.2	12.4	11.7	172.86	-3.7	150.4	355.6	334.2	21.43	16.597		
5,400.0	5,354.9	5,339.9	5,339.9	13.0	11.9	173.14	-2.3	152.8	405.4	384.0	21.37	18.972		
5,500.0	5,440.9	5,414.9	5,414.7	13.7	12.0	173.31	0.0	156.8	460.2	438.6	21.63	21.277		
5,600.0	5,526.8	5,487.9	5,487.5	14.4	12.2	173.34	3.2	162.4	516.8	494.8	22.03	23.457		
5,700.0	5,612.6	5,559.0	5,558.1	15.2	12.4	173.22	7.2	169.3	575.0	552.5	22.44	25.618		
5,800.0	5,698.5	5,628.1	5,626.5	16.0	12.5	172.99	11.9	177.5	634.7	611.8	22.87	27.755		
5,900.0	5,784.4	5,700.0	5,697.5	16.9	12.7	172.67	17.7	187.6	695.8	672.5	23.31	29.854		
6,000.0	5,870.3	5,760.5	5,757.0	17.8	12.8	172.36	23.2	197.2	758.3	734.6	23.74	31.945		
6,100.0	5,956.1	5,823.9	5,818.9	18.7	13.0	171.98	29.7	208.5	822.2	798.0	24.19	33.994		
6,200.0	6,042.0	5,885.3	5,878.8	19.7	13.1	171.60	36.6	220.6	887.4	862.8	24.65	36.007		
6,300.0	6,127.9	5,944.9	5,936.5	20.6	13.3	171.20	43.9	233.3	953.9	928.8	25.11	37.982		
6,400.0	6,213.7	6,000.0	5,989.6	21.6	13.5	170.81	51.2	246.1	1,021.6	996.0	25.58	39.930		
6,500.0	6,299.6	6,058.5	6,045.7	22.6	13.6	170.39	59.5	260.6	1,090.5	1,064.4	26.08	41.815		
6,600.0	6,385.5	6,112.7	6,097.4	23.7	13.8	169.99	67.7	274.9	1,160.5	1,133.9	26.57	43.670		
6,700.0	6,471.4	6,165.2	6,147.1	24.7	14.0	169.60	76.2	289.5	1,231.6	1,204.5	27.08	45.482		
6,800.0	6,557.2	6,216.1	6,194.9	25.7	14.2	169.22	84.7	304.5	1,303.7	1,276.1	27.59	47.251		
6,900.0	6,643.1	6,265.3	6,240.9	26.8	14.3	168.85	93.4	319.6	1,376.9	1,348.8	28.11	48.977		
7,000.0	6,729.6	6,300.0	6,273.2	27.7	14.5	-157.18	99.8	330.8	1,450.2	1,421.6	28.64	50.639		
7,100.0	6,814.7	6,353.1	6,322.2	28.5	14.7	-126.56	109.9	348.4	1,520.7	1,489.9	30.84	49.314		
7,200.0	6,894.1	6,400.0	6,365.2	29.1	14.9	-104.58	119.3	364.6	1,586.2	1,553.6	32.61	48.643		
7,300.0	6,963.6	6,400.0	6,365.2	29.5	14.9	-88.38	119.3	364.6	1,644.6	1,611.5	33.02	49.800		
7,400.0	7,019.7	6,428.0	6,390.8	29.9	15.0	-78.68	125.0	374.6	1,694.3	1,662.2	32.08	52.806		
7,500.0	7,059.6	6,434.2	6,396.4	30.1	15.1	-72.00	126.3	376.9	1,734.1	1,703.7	30.40	57.039		
7,600.0	7,081.1	6,431.0	6,393.5	30.2	15.1	-67.95	125.6	375.7	1,762.8	1,733.9	28.92	60.960		
7,700.0	7,084.7	6,419.6	6,383.1	30.3	15.0	-66.41	123.2	371.6	1,780.8	1,752.3	28.56	62.356		
7,800.0	7,084.7	6,400.0	6,365.2	30.4	14.9	-65.79	119.3	364.6	1,800.9	1,772.1	28.82	62.490		
7,900.0	7,084.7	6,400.0	6,365.2	30.5	14.9	-65.79	119.3	364.6	1,826.1	1,796.6	29.46	61.995		
8,000.0	7,084.7	6,400.0	6,365.2	30.8	14.9	-65.79	119.3	364.6	1,856.3	1,826.0	30.26	61.353		
8,100.0	7,084.7	6,369.8	6,337.5	31.2	14.8	-64.83	113.2	354.1	1,890.9	1,860.0	30.89	61.218		
8,200.0	7,084.7	6,357.9	6,326.7	31.6	14.7	-64.45	110.9	350.0	1,930.1	1,898.3	31.82	60.656		
8,300.0	7,084.7	6,346.3	6,316.0	32.2	14.7	-64.08	108.6	346.1	1,973.5	1,940.7	32.85	60.073		
8,400.0	7,084.7	6,334.9	6,305.4	32.8	14.6	-63.72	106.4	342.3	2,020.8	1,986.9	33.96	59.500		
8,500.0	7,084.7	8,447.5	7,255.7	33.6	27.8	-94.81	-993.6	792.8	2,037.8	1,986.3	51.47	39.591		
8,600.0	7,084.7	8,547.5	7,255.7	34.5	29.2	-94.81	-1,093.5	792.4	2,037.5	1,983.1	54.43	37.434		
8,700.0	7,084.7	8,647.5	7,255.7	35.5	30.6	-94.81	-1,193.5	791.9	2,037.3	1,979.8	57.49	35.435		
8,800.0	7,084.7	8,747.5	7,255.7	36.6	32.1	-94.82	-1,293.5	791.4	2,037.0	1,976.4	60.64	33.590		
8,900.0	7,084.7	8,847.5	7,255.7	37.8	33.6	-94.82	-1,393.5	790.9	2,036.7	1,972.9	63.87	31.890		
9,000.0	7,084.7	8,947.5	7,255.7	39.1	35.2	-94.82	-1,493.5	790.5	2,036.5	1,969.3	67.16	30.324		
9,100.0	7,084.7	9,047.5	7,255.7	40.5	36.8	-94.82	-1,593.5	790.0	2,036.2	1,965.7	70.50	28.882		
9,200.0	7,084.7	9,147.5	7,255.7	41.9	38.4	-94.82	-1,693.5	789.5	2,035.9	1,962.0	73.89	27.553		
9,300.0	7,084.7	9,247.5	7,255.7	43.3	40.1	-94.82	-1,793.5	789.0	2,035.6	1,958.3	77.32	26.326		
9,400.0	7,084.7	9,347.5	7,255.7	44.8	41.7	-94.82	-1,893.5	788.6	2,035.4	1,954.6	80.79	25.192		
9,500.0	7,084.7	9,447.5	7,255.7	46.4	43.4	-94.82	-1,993.5	788.1	2,035.1	1,950.8	84.29	24.143		
9,600.0	7,084.7	9,547.5	7,255.7	48.0	45.2	-94.82	-2,093.5	787.6	2,034.8	1,947.0	87.82	23.170		
9,700.0	7,084.7	9,647.5	7,255.7	49.6	46.9	-94.82	-2,193.5	787.1	2,034.5	1,943.2	91.37	22.266		
9,800.0	7,084.7	9,747.5	7,255.7	51.2	48.6	-94.82	-2,293.5	786.7	2,034.3	1,939.3	94.95	21.425		
9,900.0	7,084.7	9,847.5	7,255.7	52.8	50.4	-94.82	-2,393.5	786.2	2,034.0	1,935.5	98.54	20.641		
10,000.0	7,084.7	9,947.5	7,255.7	54.5	52.2	-94.82	-2,493.5	785.7	2,033.7	1,931.6	102.15	19.909		
10,100.0	7,084.7	10,047.5	7,255.7	56.2	54.0	-94.82	-2,593.5	785.2	2,033.5	1,927.7	105.78	19.224		
10,200.0	7,084.7	10,147.5	7,255.7	57.9	55.8	-94.82	-2,693.5	784.7	2,033.2	1,923.8	109.42	18.582		
10,300.0	7,084.7	10,247.5	7,255.7	59.6	57.6	-94.83	-2,793.5	784.3	2,032.9	1,919.8	113.07	17.979		

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	Offset TVD Reference:	Offset Datum

Offset Design		Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-373HC - Wellbore #1 - Plan #1 (12-16-13)										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	7,084.7	10,347.5	7,255.7	61.4	59.4	-94.83	-2,893.5	783.8	2,032.6	1,915.9	116.74	17.412					
10,500.0	7,084.7	10,447.5	7,255.7	63.1	61.2	-94.83	-2,993.5	783.3	2,032.4	1,911.9	120.41	16.878					
10,600.0	7,084.7	10,547.5	7,255.7	64.9	63.0	-94.83	-3,093.5	782.8	2,032.1	1,908.0	124.10	16.375					
10,700.0	7,084.7	10,647.5	7,255.7	66.7	64.8	-94.83	-3,193.5	782.4	2,031.8	1,904.0	127.79	15.899					
10,800.0	7,084.7	10,747.5	7,255.7	68.4	66.7	-94.83	-3,293.5	781.9	2,031.5	1,900.1	131.49	15.450					
10,900.0	7,084.7	10,847.5	7,255.7	70.2	68.5	-94.83	-3,393.5	781.4	2,031.3	1,896.1	135.20	15.024					
11,000.0	7,084.7	10,947.5	7,255.7	72.0	70.3	-94.83	-3,493.5	780.9	2,031.0	1,892.1	138.92	14.620					
11,100.0	7,084.7	11,047.5	7,255.7	73.8	72.2	-94.83	-3,593.5	780.5	2,030.7	1,888.1	142.64	14.237					
11,200.0	7,084.7	11,147.5	7,255.7	75.6	74.0	-94.83	-3,693.5	780.0	2,030.5	1,884.1	146.37	13.872					
11,300.0	7,084.7	11,247.5	7,255.7	77.5	75.9	-94.83	-3,793.5	779.5	2,030.2	1,880.1	150.10	13.526					
11,400.0	7,084.7	11,347.5	7,255.7	79.3	77.8	-94.83	-3,893.5	779.0	2,029.9	1,876.1	153.84	13.195					
11,500.0	7,084.7	11,447.5	7,255.7	81.1	79.6	-94.83	-3,993.5	778.6	2,029.6	1,872.1	157.58	12.880					
11,600.0	7,084.7	11,547.5	7,255.7	82.9	81.5	-94.83	-4,093.5	778.1	2,029.4	1,868.0	161.33	12.579					
11,700.0	7,084.7	11,647.5	7,255.7	84.8	83.3	-94.83	-4,193.5	777.6	2,029.1	1,864.0	165.08	12.292					
11,800.0	7,084.7	11,747.5	7,255.7	86.6	85.2	-94.83	-4,293.5	777.1	2,028.8	1,860.0	168.83	12.017					
11,900.0	7,084.7	11,847.5	7,255.7	88.4	87.1	-94.84	-4,393.5	776.6	2,028.5	1,856.0	172.59	11.754					
12,000.0	7,084.7	11,947.5	7,255.7	90.3	89.0	-94.84	-4,493.5	776.2	2,028.3	1,851.9	176.35	11.501					
12,016.5	7,084.7	11,964.0	7,255.7	90.6	89.3	-94.84	-4,510.0	776.1	2,028.2	1,851.3	176.97	11.461					

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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	91.39	-2.9	120.4	120.4					
100.0	100.0	100.0	100.0	0.1	0.1	91.39	-2.9	120.4	120.4	120.2	0.22	535.615		
200.0	200.0	200.0	200.0	0.3	0.3	91.39	-2.9	120.4	120.4	119.7	0.67	178.538		
300.0	300.0	300.0	300.0	0.6	0.6	91.39	-2.9	120.4	120.4	119.3	1.12	107.123		
400.0	400.0	400.0	400.0	0.8	0.8	91.39	-2.9	120.4	120.4	118.8	1.57	76.516		
500.0	500.0	500.0	500.0	1.0	1.0	91.39	-2.9	120.4	120.4	118.4	2.02	59.513		
600.0	600.0	600.0	600.0	1.2	1.2	91.39	-2.9	120.4	120.4	117.9	2.47	48.692		
700.0	700.0	700.0	700.0	1.5	1.5	91.39	-2.9	120.4	120.4	117.5	2.92	41.201		
800.0	800.0	800.0	800.0	1.7	1.7	91.39	-2.9	120.4	120.4	117.0	3.37	35.708		
900.0	900.0	900.0	900.0	1.9	1.9	91.39	-2.9	120.4	120.4	116.6	3.82	31.507		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	91.39	-2.9	120.4	120.4	116.1	4.27	28.190		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	91.39	-2.9	120.4	120.4	115.7	4.72	25.505		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	91.39	-2.9	120.4	120.4	115.2	5.17	23.288		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	91.39	-2.9	120.4	120.4	114.8	5.62	21.425		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	91.39	-2.9	120.4	120.4	114.3	6.07	19.838		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	91.39	-2.9	120.4	120.4	113.9	6.52	18.469		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	91.39	-2.9	120.4	120.4	113.4	6.97	17.278		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	91.39	-2.9	120.4	120.4	113.0	7.42	16.231		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	91.39	-2.9	120.4	120.4	112.5	7.87	15.303		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	91.39	-2.9	120.4	120.4	112.1	8.32	14.476		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	91.39	-2.9	120.4	120.4	111.6	8.77	13.734		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	91.39	-2.9	120.4	120.4	111.2	9.22	13.064		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	91.39	-2.9	120.4	120.4	110.7	9.66	12.456		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	91.39	-2.9	120.4	120.4	110.3	10.11	11.903		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	91.39	-2.9	120.4	120.4	109.8	10.56	11.396		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	91.39	-2.9	120.4	120.4	109.4	11.01	10.931		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	91.39	-2.9	120.4	120.4	108.9	11.46	10.502		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	91.39	-2.9	120.4	120.4	108.5	11.91	10.106		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	91.39	-2.9	120.4	120.4	108.0	12.36	9.738		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	91.39	-2.9	120.4	120.4	107.6	12.81	9.397		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	91.39	-2.9	120.4	120.4	107.1	13.26	9.078		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	91.39	-2.9	120.4	120.4	106.7	13.71	8.781		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	91.39	-2.9	120.4	120.4	106.2	14.16	8.502		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	91.39	-2.9	120.4	120.4	105.8	14.61	8.240		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	91.39	-2.9	120.4	120.4	105.3	15.06	7.994		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	91.39	-2.9	120.4	120.4	104.9	15.51	7.763		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	91.39	-2.9	120.4	120.4	104.4	15.96	7.544		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	91.39	-2.9	120.4	120.4	104.0	16.41	7.337		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	91.39	-2.9	120.4	120.4	103.5	16.86	7.142		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	91.39	-2.9	120.4	120.4	103.1	17.31	6.956		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	91.39	-2.9	120.4	120.4	102.6	17.76	6.780		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	91.39	-2.9	120.4	120.4	102.2	18.21	6.613		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	91.39	-2.9	120.4	120.4	101.7	18.66	6.453		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	91.39	-2.9	120.4	120.4	101.3	19.11	6.301		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	91.39	-2.9	120.4	120.4	100.8	19.55	6.156 CC, ES		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	165.22	-2.9	120.4	122.9	102.9	19.97	6.154 SF		
4,600.0	4,599.6	4,599.6	4,599.6	10.2	10.2	166.04	-2.9	120.4	130.5	110.2	20.33	6.419		
4,700.0	4,698.8	4,698.8	4,698.8	10.4	10.4	167.21	-2.9	120.4	143.2	122.6	20.65	6.937		
4,800.0	4,797.1	4,797.1	4,797.1	10.7	10.7	168.54	-2.9	120.4	161.1	140.1	20.91	7.703		
4,900.0	4,894.3	4,894.3	4,894.3	10.9	10.9	169.86	-2.9	120.4	184.0	162.9	21.12	8.714		
5,000.0	4,990.2	4,990.2	4,990.2	11.2	11.1	171.07	-2.9	120.4	212.0	190.8	21.27	9.968		
5,100.0	5,084.4	5,084.4	5,084.4	11.5	11.3	172.14	-2.9	120.4	245.1	223.7	21.38	11.467		

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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	5,176.8	5,176.8	5,176.8	11.9	11.5	173.05	-2.9	120.4	283.1	261.7	21.43	13.211		
5,300.0	5,267.1	5,267.1	5,267.1	12.4	11.7	173.81	-2.9	120.4	325.9	304.5	21.43	15.206		
5,400.0	5,354.9	5,354.9	5,354.9	13.0	11.9	174.45	-2.9	120.4	373.4	352.0	21.39	17.457		
5,500.0	5,440.9	5,440.9	5,440.9	13.7	12.1	175.07	-2.9	120.4	424.3	402.7	21.68	19.577		
5,600.0	5,526.8	5,526.8	5,526.8	14.4	12.3	175.60	-2.9	120.4	475.5	453.4	22.10	21.512		
5,700.0	5,612.6	5,600.0	5,600.0	15.2	12.5	175.80	-1.8	121.2	527.4	504.8	22.52	23.417		
5,800.0	5,698.5	5,679.4	5,679.2	16.0	12.6	175.65	2.0	124.1	580.6	557.7	22.96	25.288		
5,900.0	5,784.4	5,753.2	5,752.7	16.9	12.8	175.24	7.8	128.5	635.3	611.9	23.40	27.146		
6,000.0	5,870.3	5,825.2	5,823.9	17.8	13.0	174.64	15.7	134.5	691.3	667.4	23.85	28.980		
6,100.0	5,956.1	5,900.0	5,897.6	18.7	13.1	173.86	26.2	142.4	748.8	724.4	24.33	30.774		
6,200.0	6,042.0	5,962.9	5,959.1	19.7	13.3	173.11	36.7	150.4	807.6	782.8	24.80	32.564		
6,300.0	6,127.9	6,028.6	6,022.8	20.6	13.4	172.25	49.4	160.1	867.8	842.5	25.30	34.306		
6,400.0	6,213.7	6,100.0	6,091.4	21.6	13.6	171.24	65.3	172.1	929.6	903.7	25.84	35.980		
6,500.0	6,299.6	6,153.2	6,142.0	22.6	13.8	170.45	78.4	182.1	992.6	966.3	26.35	37.669		
6,600.0	6,385.5	6,212.1	6,197.4	23.7	14.0	169.55	94.2	194.1	1,057.1	1,030.2	26.91	39.288		
6,700.0	6,471.4	6,268.8	6,250.2	24.7	14.1	168.66	110.7	206.6	1,123.0	1,095.5	27.49	40.857		
6,800.0	6,557.2	6,323.3	6,300.4	25.7	14.3	167.79	127.7	219.5	1,190.3	1,162.2	28.09	42.378		
6,900.0	6,643.1	6,375.7	6,347.9	26.8	14.5	166.94	145.2	232.8	1,258.9	1,230.2	28.71	43.850		
7,000.0	6,729.6	6,423.6	6,390.9	27.7	14.7	-161.08	162.0	245.6	1,328.2	1,299.3	28.90	45.959		
7,100.0	6,814.7	6,462.6	6,425.5	28.5	14.9	-130.95	176.4	256.5	1,396.2	1,365.6	30.61	45.612		
7,200.0	6,894.1	6,500.0	6,458.3	29.1	15.0	-108.73	190.6	267.3	1,460.8	1,428.4	32.39	45.100		
7,300.0	6,963.6	6,508.2	6,465.5	29.5	15.1	-92.37	193.8	269.7	1,519.9	1,486.8	33.12	45.891		
7,400.0	7,019.7	6,514.2	6,470.7	29.9	15.1	-81.23	196.2	271.5	1,572.0	1,539.5	32.47	48.409		
7,500.0	7,059.6	6,509.8	6,466.9	30.1	15.1	-73.59	194.5	270.2	1,615.3	1,584.4	30.92	52.248		
7,600.0	7,081.1	6,500.0	6,458.3	30.2	15.0	-68.81	190.6	267.3	1,648.3	1,618.9	29.40	56.057		
7,700.0	7,084.7	6,475.0	6,436.4	30.3	14.9	-66.56	181.0	260.0	1,670.9	1,642.0	28.86	57.889		
7,800.0	7,084.7	6,453.3	6,417.3	30.4	14.8	-65.86	172.9	253.8	1,695.5	1,666.4	29.09	58.290		
7,900.0	7,084.7	7,620.7	7,084.7	30.5	18.6	-90.00	-390.8	483.1	1,719.7	1,683.1	36.54	47.060		
8,000.0	7,084.7	7,720.7	7,084.7	30.8	19.5	-90.00	-490.8	482.7	1,719.5	1,681.1	38.38	44.804		
8,100.0	7,084.7	7,820.7	7,084.7	31.2	20.6	-90.00	-590.8	482.3	1,719.3	1,678.8	40.50	42.455		
8,200.0	7,084.7	7,920.7	7,084.7	31.6	21.8	-90.00	-690.8	481.9	1,719.1	1,676.2	42.86	40.113		
8,300.0	7,084.7	8,020.7	7,084.7	32.2	23.0	-90.00	-790.8	481.5	1,718.9	1,673.5	45.42	37.846		
8,400.0	7,084.7	8,120.7	7,084.7	32.8	24.4	-90.00	-890.8	481.1	1,718.7	1,670.5	48.15	35.693		
8,500.0	7,084.7	8,220.7	7,084.7	33.6	25.8	-90.00	-990.8	480.7	1,718.5	1,667.5	51.03	33.677		
8,600.0	7,084.7	8,320.7	7,084.7	34.5	27.3	-90.00	-1,090.8	480.3	1,718.3	1,664.3	54.03	31.805		
8,700.0	7,084.7	8,420.7	7,084.7	35.5	28.8	-90.00	-1,190.8	479.9	1,718.1	1,661.0	57.12	30.076		
8,800.0	7,084.7	8,520.7	7,084.7	36.6	30.4	-90.00	-1,290.8	479.5	1,717.9	1,657.6	60.31	28.485		
8,900.0	7,084.7	8,620.7	7,084.7	37.8	32.0	-90.00	-1,390.8	479.1	1,717.7	1,654.1	63.57	27.022		
9,000.0	7,084.7	8,720.7	7,084.7	39.1	33.7	-90.00	-1,490.8	478.7	1,717.5	1,650.6	66.89	25.677		
9,100.0	7,084.7	8,820.7	7,084.7	40.5	35.4	-90.00	-1,590.8	478.3	1,717.3	1,647.0	70.26	24.442		
9,200.0	7,084.7	8,920.7	7,084.7	41.9	37.1	-90.00	-1,690.8	477.9	1,717.1	1,643.4	73.68	23.305		
9,300.0	7,084.7	9,020.7	7,084.7	43.3	38.8	-90.00	-1,790.8	477.5	1,716.9	1,639.8	77.14	22.257		
9,400.0	7,084.7	9,120.7	7,084.7	44.8	40.5	-90.00	-1,890.8	477.1	1,716.7	1,636.1	80.64	21.290		
9,500.0	7,084.7	9,220.7	7,084.7	46.4	42.3	-90.00	-1,990.8	476.7	1,716.5	1,632.4	84.16	20.396		
9,600.0	7,084.7	9,320.7	7,084.7	48.0	44.1	-90.00	-2,090.8	476.3	1,716.3	1,628.6	87.71	19.567		
9,700.0	7,084.7	9,420.7	7,084.7	49.6	45.8	-90.00	-2,190.8	475.9	1,716.1	1,624.8	91.29	18.799		
9,800.0	7,084.7	9,520.7	7,084.7	51.2	47.6	-90.00	-2,290.8	475.5	1,715.9	1,621.0	94.89	18.084		
9,900.0	7,084.7	9,620.7	7,084.7	52.8	49.4	-90.00	-2,390.8	475.1	1,715.7	1,617.2	98.50	17.418		
10,000.0	7,084.7	9,720.7	7,084.7	54.5	51.2	-90.00	-2,490.8	474.7	1,715.5	1,613.4	102.13	16.797		
10,100.0	7,084.7	9,820.7	7,084.7	56.2	53.1	-90.00	-2,590.8	474.3	1,715.3	1,609.5	105.78	16.216		
10,200.0	7,084.7	9,920.7	7,084.7	57.9	54.9	-90.00	-2,690.8	473.9	1,715.1	1,605.7	109.44	15.671		
10,300.0	7,084.7	10,020.7	7,084.7	59.6	56.7	-90.00	-2,790.7	473.5	1,714.9	1,601.8	113.12	15.161		

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	Offset TVD Reference:	Offset Datum

Offset Design Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-374HN - Wellbore #1 - Plan #1 (12-16-13)												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
10,400.0	7,084.7	10,120.7	7,084.7	61.4	58.6	-90.00	-2,890.7	473.1	1,714.7	1,597.9	116.80	14.681	
10,500.0	7,084.7	10,220.7	7,084.7	63.1	60.4	-90.00	-2,990.7	472.7	1,714.5	1,594.0	120.49	14.229	
10,600.0	7,084.7	10,320.7	7,084.7	64.9	62.3	-90.00	-3,090.7	472.3	1,714.3	1,590.1	124.20	13.803	
10,700.0	7,084.7	10,420.7	7,084.7	66.7	64.1	-90.00	-3,190.7	471.9	1,714.1	1,586.2	127.91	13.401	
10,800.0	7,084.7	10,520.7	7,084.7	68.4	66.0	-90.00	-3,290.7	471.5	1,713.9	1,582.3	131.63	13.021	
10,900.0	7,084.7	10,620.7	7,084.7	70.2	67.8	-90.00	-3,390.7	471.1	1,713.7	1,578.4	135.36	12.661	
11,000.0	7,084.7	10,720.7	7,084.7	72.0	69.7	-90.00	-3,490.7	470.7	1,713.5	1,574.5	139.09	12.320	
11,100.0	7,084.7	10,820.7	7,084.7	73.8	71.5	-90.00	-3,590.7	470.3	1,713.3	1,570.5	142.83	11.996	
11,200.0	7,084.7	10,920.7	7,084.7	75.6	73.4	-90.00	-3,690.7	469.9	1,713.1	1,566.6	146.57	11.688	
11,300.0	7,084.7	11,020.7	7,084.7	77.5	75.3	-90.00	-3,790.7	469.5	1,712.9	1,562.6	150.32	11.395	
11,400.0	7,084.7	11,120.7	7,084.7	79.3	77.2	-90.00	-3,890.7	469.1	1,712.7	1,558.7	154.08	11.116	
11,500.0	7,084.7	11,220.7	7,084.7	81.1	79.0	-90.00	-3,990.7	468.7	1,712.6	1,554.7	157.83	10.850	
11,600.0	7,084.7	11,320.7	7,084.7	82.9	80.9	-90.00	-4,090.7	468.3	1,712.4	1,550.8	161.60	10.596	
11,700.0	7,084.7	11,420.7	7,084.7	84.8	82.8	-90.00	-4,190.7	467.9	1,712.2	1,546.8	165.36	10.354	
11,800.0	7,084.7	11,520.7	7,084.7	86.6	84.7	-90.00	-4,290.7	467.5	1,712.0	1,542.8	169.13	10.122	
11,900.0	7,084.7	11,620.7	7,084.7	88.4	86.6	-90.00	-4,390.7	467.1	1,711.8	1,538.9	172.91	9.900	
12,000.0	7,084.7	11,720.7	7,084.7	90.3	88.4	-90.00	-4,490.7	466.7	1,711.6	1,535.0	176.61	9.691	
12,016.5	7,084.7	11,737.2	7,084.7	90.6	88.6	-90.00	-4,507.3	466.6	1,711.5	1,534.4	177.17	9.660	

Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-377HN - Wellbore #1 - Plan #1 (12-16-13)													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	91.39	-2.2	90.3	90.4					
100.0	100.0	100.0	100.0	0.1	0.1	91.39	-2.2	90.3	90.4	90.1	0.22	402.022		
200.0	200.0	200.0	200.0	0.3	0.3	91.39	-2.2	90.3	90.4	89.7	0.67	134.007		
300.0	300.0	300.0	300.0	0.6	0.6	91.39	-2.2	90.3	90.4	89.2	1.12	80.404		
400.0	400.0	400.0	400.0	0.8	0.8	91.39	-2.2	90.3	90.4	88.8	1.57	57.432		
500.0	500.0	500.0	500.0	1.0	1.0	91.39	-2.2	90.3	90.4	88.3	2.02	44.669		
600.0	600.0	600.0	600.0	1.2	1.2	91.39	-2.2	90.3	90.4	87.9	2.47	36.547		
700.0	700.0	700.0	700.0	1.5	1.5	91.39	-2.2	90.3	90.4	87.4	2.92	30.925		
800.0	800.0	800.0	800.0	1.7	1.7	91.39	-2.2	90.3	90.4	87.0	3.37	26.801		
900.0	900.0	900.0	900.0	1.9	1.9	91.39	-2.2	90.3	90.4	86.5	3.82	23.648		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	91.39	-2.2	90.3	90.4	86.1	4.27	21.159		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	91.39	-2.2	90.3	90.4	85.6	4.72	19.144		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	91.39	-2.2	90.3	90.4	85.2	5.17	17.479		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	91.39	-2.2	90.3	90.4	84.7	5.62	16.081		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	91.39	-2.2	90.3	90.4	84.3	6.07	14.890		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	91.39	-2.2	90.3	90.4	83.8	6.52	13.863		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	91.39	-2.2	90.3	90.4	83.4	6.97	12.968		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	91.39	-2.2	90.3	90.4	82.9	7.42	12.182		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	91.39	-2.2	90.3	90.4	82.5	7.87	11.486		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	91.39	-2.2	90.3	90.4	82.0	8.32	10.865		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	91.39	-2.2	90.3	90.4	81.6	8.77	10.308		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	91.39	-2.2	90.3	90.4	81.1	9.22	9.805		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	91.39	-2.2	90.3	90.4	80.7	9.66	9.349		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	91.39	-2.2	90.3	90.4	80.2	10.11	8.934		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	91.39	-2.2	90.3	90.4	79.8	10.56	8.554		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	91.39	-2.2	90.3	90.4	79.3	11.01	8.205		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	91.39	-2.2	90.3	90.4	78.9	11.46	7.883		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	91.39	-2.2	90.3	90.4	78.4	11.91	7.585		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	91.39	-2.2	90.3	90.4	78.0	12.36	7.309		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	91.39	-2.2	90.3	90.4	77.5	12.81	7.053		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	91.39	-2.2	90.3	90.4	77.1	13.26	6.814		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	91.39	-2.2	90.3	90.4	76.7	13.71	6.591		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	91.39	-2.2	90.3	90.4	76.2	14.16	6.381		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	91.39	-2.2	90.3	90.4	75.8	14.61	6.185		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	91.39	-2.2	90.3	90.4	75.3	15.06	6.000		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	91.39	-2.2	90.3	90.4	74.9	15.51	5.826		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	91.39	-2.2	90.3	90.4	74.4	15.96	5.662		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	91.39	-2.2	90.3	90.4	74.0	16.41	5.507		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	91.39	-2.2	90.3	90.4	73.5	16.86	5.360		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	91.39	-2.2	90.3	90.4	73.1	17.31	5.221		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	91.39	-2.2	90.3	90.4	72.6	17.76	5.089		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	91.39	-2.2	90.3	90.4	72.2	18.21	4.963		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	91.39	-2.2	90.3	90.4	71.7	18.66	4.844		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	91.39	-2.2	90.3	90.4	71.3	19.11	4.730		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	91.39	-2.2	90.3	90.4	70.8	19.55	4.621 CC, ES, SF		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	165.32	-2.2	90.3	92.9	72.9	19.97	4.651		
4,600.0	4,599.6	4,599.6	4,599.6	10.2	10.2	166.40	-2.2	90.3	100.5	80.2	20.33	4.943		
4,700.0	4,698.8	4,698.8	4,698.8	10.4	10.4	167.87	-2.2	90.3	113.2	92.6	20.65	5.485		
4,800.0	4,797.1	4,797.1	4,797.1	10.7	10.7	169.45	-2.2	90.3	131.1	110.2	20.91	6.272		
4,900.0	4,894.3	4,894.3	4,894.3	10.9	10.9	170.92	-2.2	90.3	154.1	133.0	21.11	7.300		
5,000.0	4,990.2	4,990.2	4,990.2	11.2	11.1	172.21	-2.2	90.3	182.2	161.0	21.27	8.570		
5,100.0	5,084.4	5,084.4	5,084.4	11.5	11.3	173.29	-2.2	90.3	215.4	194.0	21.37	10.080		

Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-377HN - Wellbore #1 - Plan #1 (12-16-13)													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	5,176.8	5,176.8	5,176.8	11.9	11.5	174.18	-2.2	90.3	253.5	232.0	21.42	11.833		
5,300.0	5,267.1	5,267.1	5,267.1	12.4	11.7	174.90	-2.2	90.3	296.3	274.9	21.42	13.833		
5,400.0	5,354.9	5,354.9	5,354.9	13.0	11.9	175.48	-2.2	90.3	343.9	322.5	21.38	16.085		
5,500.0	5,440.9	5,440.9	5,440.9	13.7	12.1	176.03	-2.2	90.3	394.9	373.2	21.67	18.226		
5,600.0	5,526.8	5,526.8	5,526.8	14.4	12.3	176.48	-2.2	90.3	446.1	424.0	22.10	20.187		
5,700.0	5,612.6	5,612.6	5,612.6	15.2	12.5	176.85	-2.2	90.3	497.2	474.7	22.54	22.063		
5,800.0	5,698.5	5,698.5	5,698.5	16.0	12.7	177.14	-2.2	90.3	548.4	525.4	22.99	23.857		
5,900.0	5,784.4	5,802.2	5,802.2	16.9	12.9	177.30	-0.9	89.8	599.1	575.6	23.48	25.510		
6,000.0	5,870.3	5,933.2	5,932.4	17.8	13.2	176.51	12.1	84.4	644.7	620.7	24.04	26.816		
6,100.0	5,956.1	6,070.4	6,066.0	18.7	13.5	174.67	40.2	72.8	684.3	659.7	24.66	27.756		
6,200.0	6,042.0	6,210.0	6,197.4	19.7	13.9	171.92	83.8	54.8	718.1	692.7	25.38	28.298		
6,300.0	6,127.9	6,348.1	6,320.6	20.6	14.3	168.45	141.1	31.1	746.6	720.3	26.28	28.406		
6,400.0	6,213.7	6,439.9	6,399.9	21.6	14.7	165.96	184.0	13.4	773.5	746.4	27.17	28.474		
6,500.0	6,299.6	6,530.0	6,477.9	22.6	15.1	163.73	225.4	-4.1	801.8	773.7	28.12	28.510		
6,600.0	6,385.5	6,625.2	6,566.0	23.7	15.5	162.60	255.0	-23.8	831.0	802.0	28.98	28.677		
6,700.0	6,471.4	6,722.7	6,660.5	24.7	15.7	162.99	264.5	-45.1	860.0	830.5	29.56	29.094		
6,800.0	6,557.2	6,813.7	6,748.5	25.7	15.9	164.62	254.0	-65.0	889.3	859.5	29.85	29.794		
6,900.0	6,643.1	6,892.2	6,821.4	26.8	15.9	166.88	230.2	-81.5	920.3	890.4	29.97	30.707		
7,000.0	6,729.6	6,961.5	6,881.4	27.7	16.0	-165.30	198.4	-95.1	953.9	924.0	29.88	31.922		
7,100.0	6,814.7	7,028.4	6,934.0	28.5	15.9	-139.00	159.0	-107.1	987.9	957.3	30.56	32.321		
7,200.0	6,894.1	7,093.9	6,979.3	29.1	15.9	-119.59	113.0	-117.4	1,019.8	988.2	31.61	32.267		
7,300.0	6,963.6	7,158.6	7,017.1	29.5	15.9	-106.43	61.2	-126.1	1,047.8	1,015.3	32.46	32.282		
7,400.0	7,019.7	7,225.0	7,047.7	29.9	15.9	-97.85	2.8	-133.2	1,070.1	1,037.2	32.90	32.529		
7,500.0	7,059.6	7,287.3	7,068.4	30.1	16.0	-92.70	-55.8	-138.0	1,085.5	1,052.5	33.06	32.833		
7,600.0	7,081.1	7,350.0	7,080.8	30.2	16.1	-90.26	-117.0	-141.0	1,093.4	1,060.1	33.30	32.837		
7,700.0	7,084.7	7,420.4	7,084.7	30.3	16.5	-90.00	-187.2	-142.1	1,094.1	1,060.2	33.88	32.297		
7,800.0	7,084.7	7,520.4	7,084.7	30.4	17.0	-90.00	-287.2	-142.4	1,094.0	1,059.0	34.95	31.302		
7,900.0	7,084.7	7,620.4	7,084.7	30.5	17.8	-90.00	-387.2	-142.7	1,093.9	1,057.4	36.45	30.007		
8,000.0	7,084.7	7,720.4	7,084.7	30.8	18.8	-90.00	-487.2	-143.0	1,093.8	1,055.5	38.29	28.567		
8,100.0	7,084.7	7,820.4	7,084.7	31.2	19.9	-90.00	-587.2	-143.3	1,093.7	1,053.2	40.40	27.068		
8,200.0	7,084.7	7,920.4	7,084.7	31.6	21.1	-90.00	-687.2	-143.6	1,093.5	1,050.8	42.76	25.572		
8,300.0	7,084.7	8,020.4	7,084.7	32.2	22.4	-90.00	-787.2	-143.9	1,093.4	1,048.1	45.33	24.124		
8,400.0	7,084.7	8,120.4	7,084.7	32.8	23.8	-90.00	-887.2	-144.2	1,093.3	1,045.3	48.06	22.750		
8,500.0	7,084.7	8,220.4	7,084.7	33.6	25.2	-90.00	-987.2	-144.5	1,093.2	1,042.3	50.94	21.462		
8,600.0	7,084.7	8,320.4	7,084.7	34.5	26.7	-90.00	-1,087.2	-144.8	1,093.1	1,039.2	53.94	20.267		
8,700.0	7,084.7	8,420.4	7,084.7	35.5	28.3	-90.00	-1,187.2	-145.1	1,093.0	1,036.0	57.04	19.164		
8,800.0	7,084.7	8,520.4	7,084.7	36.6	29.9	-90.00	-1,287.2	-145.5	1,092.9	1,032.7	60.22	18.148		
8,900.0	7,084.7	8,620.4	7,084.7	37.8	31.6	-90.00	-1,387.2	-145.8	1,092.8	1,029.3	63.48	17.215		
9,000.0	7,084.7	8,720.4	7,084.7	39.1	33.2	-90.00	-1,487.2	-146.1	1,092.7	1,025.9	66.80	16.358		
9,100.0	7,084.7	8,820.4	7,084.7	40.5	34.9	-90.00	-1,587.2	-146.4	1,092.6	1,022.4	70.18	15.569		
9,200.0	7,084.7	8,920.4	7,084.7	41.9	36.6	-90.00	-1,687.2	-146.7	1,092.5	1,018.9	73.60	14.844		
9,300.0	7,084.7	9,020.4	7,084.7	43.3	38.4	-90.00	-1,787.2	-147.0	1,092.4	1,015.3	77.06	14.176		
9,400.0	7,084.7	9,120.4	7,084.7	44.8	40.1	-90.00	-1,887.2	-147.3	1,092.3	1,011.7	80.55	13.560		
9,500.0	7,084.7	9,220.4	7,084.7	46.4	41.9	-90.00	-1,987.2	-147.6	1,092.2	1,008.1	84.08	12.990		
9,600.0	7,084.7	9,320.4	7,084.7	48.0	43.7	-90.00	-2,087.2	-147.9	1,092.1	1,004.5	87.63	12.462		
9,700.0	7,084.7	9,420.4	7,084.7	49.6	45.5	-90.00	-2,187.2	-148.2	1,092.0	1,000.8	91.21	11.972		
9,800.0	7,084.7	9,520.4	7,084.7	51.2	47.3	-90.00	-2,287.2	-148.5	1,091.9	997.1	94.81	11.517		
9,900.0	7,084.7	9,620.4	7,084.7	52.8	49.1	-90.00	-2,387.2	-148.8	1,091.8	993.3	98.42	11.092		
10,000.0	7,084.7	9,720.4	7,084.7	54.5	50.9	-90.00	-2,487.2	-149.1	1,091.7	989.6	102.06	10.697		
10,100.0	7,084.7	9,820.4	7,084.7	56.2	52.8	-90.00	-2,587.2	-149.4	1,091.6	985.9	105.71	10.326		
10,200.0	7,084.7	9,920.4	7,084.7	57.9	54.6	-90.00	-2,687.2	-149.8	1,091.5	982.1	109.37	9.980		
10,300.0	7,084.7	10,020.4	7,084.7	59.6	56.4	-90.00	-2,787.2	-150.1	1,091.4	978.3	113.04	9.654		

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	Offset TVD Reference:	Offset Datum

Offset Design Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-377HN - Wellbore #1 - Plan #1 (12-16-13)												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
10,400.0	7,084.7	10,120.4	7,084.7	61.4	58.3	-90.00	-2,887.2	-150.4	1,091.2	974.5	116.73	9.349	
10,500.0	7,084.7	10,220.4	7,084.7	63.1	60.1	-90.00	-2,987.2	-150.7	1,091.1	970.7	120.42	9.061	
10,600.0	7,084.7	10,320.4	7,084.7	64.9	62.0	-90.00	-3,087.2	-151.0	1,091.0	966.9	124.13	8.790	
10,700.0	7,084.7	10,420.4	7,084.7	66.7	63.8	-90.00	-3,187.2	-151.3	1,090.9	963.1	127.84	8.534	
10,800.0	7,084.7	10,520.4	7,084.7	68.4	65.7	-90.00	-3,287.2	-151.6	1,090.8	959.3	131.56	8.292	
10,900.0	7,084.7	10,620.4	7,084.7	70.2	67.6	-90.00	-3,387.2	-151.9	1,090.7	955.4	135.29	8.062	
11,000.0	7,084.7	10,720.4	7,084.7	72.0	69.4	-90.00	-3,487.2	-152.2	1,090.6	951.6	139.02	7.845	
11,100.0	7,084.7	10,820.4	7,084.7	73.8	71.3	-90.00	-3,587.2	-152.5	1,090.5	947.8	142.76	7.639	
11,200.0	7,084.7	10,920.4	7,084.7	75.6	73.2	-90.00	-3,687.2	-152.8	1,090.4	943.9	146.50	7.443	
11,300.0	7,084.7	11,020.4	7,084.7	77.5	75.1	-90.00	-3,787.2	-153.1	1,090.3	940.1	150.25	7.256	
11,400.0	7,084.7	11,120.4	7,084.7	79.3	76.9	-90.00	-3,887.2	-153.4	1,090.2	936.2	154.01	7.079	
11,500.0	7,084.7	11,220.4	7,084.7	81.1	78.8	-90.00	-3,987.2	-153.8	1,090.1	932.3	157.77	6.909	
11,600.0	7,084.7	11,320.4	7,084.7	82.9	80.7	-90.00	-4,087.2	-154.1	1,090.0	928.5	161.53	6.748	
11,700.0	7,084.7	11,420.4	7,084.7	84.8	82.6	-90.00	-4,187.2	-154.4	1,089.9	924.6	165.30	6.593	
11,800.0	7,084.7	11,520.4	7,084.7	86.6	84.5	-90.00	-4,287.2	-154.7	1,089.8	920.7	169.07	6.446	
11,900.0	7,084.7	11,620.4	7,084.7	88.4	86.4	-90.00	-4,387.2	-155.0	1,089.7	916.8	172.84	6.304	
12,000.0	7,084.7	11,720.4	7,084.7	90.3	88.2	-90.00	-4,487.2	-155.3	1,089.6	913.0	176.55	6.172	
12,016.5	7,084.7	11,736.9	7,084.7	90.6	88.4	-90.00	-4,503.8	-155.3	1,089.6	912.4	177.11	6.152	

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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	92.08	-2.2	60.0	60.1					
100.0	100.0	100.0	100.0	0.1	0.1	92.08	-2.2	60.0	60.1	59.9	0.22	267.287		
200.0	200.0	200.0	200.0	0.3	0.3	92.08	-2.2	60.0	60.1	59.4	0.67	89.096		
300.0	300.0	300.0	300.0	0.6	0.6	92.08	-2.2	60.0	60.1	59.0	1.12	53.457		
400.0	400.0	400.0	400.0	0.8	0.8	92.08	-2.2	60.0	60.1	58.5	1.57	38.184		
500.0	500.0	500.0	500.0	1.0	1.0	92.08	-2.2	60.0	60.1	58.1	2.02	29.699		
600.0	600.0	600.0	600.0	1.2	1.2	92.08	-2.2	60.0	60.1	57.6	2.47	24.299		
700.0	700.0	700.0	700.0	1.5	1.5	92.08	-2.2	60.0	60.1	57.2	2.92	20.561		
800.0	800.0	800.0	800.0	1.7	1.7	92.08	-2.2	60.0	60.1	56.7	3.37	17.819		
900.0	900.0	900.0	900.0	1.9	1.9	92.08	-2.2	60.0	60.1	56.3	3.82	15.723		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	92.08	-2.2	60.0	60.1	55.8	4.27	14.068		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	92.08	-2.2	60.0	60.1	55.4	4.72	12.728		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	92.08	-2.2	60.0	60.1	54.9	5.17	11.621		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	92.08	-2.2	60.0	60.1	54.5	5.62	10.691		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	92.08	-2.2	60.0	60.1	54.0	6.07	9.900		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	92.08	-2.2	60.0	60.1	53.6	6.52	9.217		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	92.08	-2.2	60.0	60.1	53.1	6.97	8.622		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	92.08	-2.2	60.0	60.1	52.7	7.42	8.100		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	92.08	-2.2	60.0	60.1	52.2	7.87	7.637		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	92.08	-2.2	60.0	60.1	51.8	8.32	7.224		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	92.08	-2.2	60.0	60.1	51.3	8.77	6.854		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	92.08	-2.2	60.0	60.1	50.9	9.22	6.519		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	92.08	-2.2	60.0	60.1	50.4	9.66	6.216		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	92.08	-2.2	60.0	60.1	50.0	10.11	5.940		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	92.08	-2.2	60.0	60.1	49.5	10.56	5.687		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	92.08	-2.2	60.0	60.1	49.1	11.01	5.455		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	92.08	-2.2	60.0	60.1	48.6	11.46	5.241		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	92.08	-2.2	60.0	60.1	48.2	11.91	5.043		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	92.08	-2.2	60.0	60.1	47.7	12.36	4.860		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	92.08	-2.2	60.0	60.1	47.3	12.81	4.689		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	92.08	-2.2	60.0	60.1	46.8	13.26	4.530		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	92.08	-2.2	60.0	60.1	46.4	13.71	4.382		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	92.08	-2.2	60.0	60.1	45.9	14.16	4.243		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	92.08	-2.2	60.0	60.1	45.5	14.61	4.112		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	92.08	-2.2	60.0	60.1	45.0	15.06	3.989		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	92.08	-2.2	60.0	60.1	44.6	15.51	3.874		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	92.08	-2.2	60.0	60.1	44.1	15.96	3.765		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	92.08	-2.2	60.0	60.1	43.7	16.41	3.661		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	92.08	-2.2	60.0	60.1	43.2	16.86	3.564		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	92.08	-2.2	60.0	60.1	42.8	17.31	3.471		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	92.08	-2.2	60.0	60.1	42.3	17.76	3.383		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	92.08	-2.2	60.0	60.1	41.9	18.21	3.300		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	92.08	-2.2	60.0	60.1	41.4	18.66	3.220		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	92.08	-2.2	60.0	60.1	41.0	19.11	3.145		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	92.08	-2.2	60.0	60.1	40.5	19.55	3.072 CC, ES, SF		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	166.19	-2.2	60.0	62.6	42.6	19.97	3.135		
4,600.0	4,599.6	4,599.6	4,599.6	10.2	10.2	167.67	-2.2	60.0	70.3	49.9	20.33	3.456		
4,700.0	4,698.8	4,698.8	4,698.8	10.4	10.4	169.52	-2.2	60.0	83.1	62.4	20.64	4.024		
4,800.0	4,797.1	4,797.1	4,797.1	10.7	10.7	171.32	-2.2	60.0	101.0	80.1	20.90	4.834		
4,900.0	4,894.3	4,894.3	4,894.3	10.9	10.9	172.85	-2.2	60.0	124.2	103.1	21.11	5.883		
5,000.0	4,990.2	4,990.2	4,990.2	11.2	11.1	174.09	-2.2	60.0	152.4	131.1	21.26	7.169		
5,100.0	5,084.4	5,084.4	5,084.4	11.5	11.3	175.06	-2.2	60.0	185.6	164.3	21.36	8.691		

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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						
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
5,200.0	5,176.8	5,176.8	5,176.8	11.9	11.5	175.82	-2.2	60.0	223.8	202.4	21.41	10.453	
5,300.0	5,267.1	5,267.1	5,267.1	12.4	11.7	176.40	-2.2	60.0	266.8	245.4	21.41	12.458	
5,400.0	5,354.9	5,354.9	5,354.9	13.0	11.9	176.86	-2.2	60.0	314.4	293.0	21.37	14.712	
5,500.0	5,440.9	5,440.9	5,440.9	13.7	12.1	177.27	-2.2	60.0	365.4	343.8	21.66	16.874	
5,600.0	5,526.8	5,526.8	5,526.8	14.4	12.3	177.61	-2.2	60.0	416.6	394.5	22.09	18.859	
5,700.0	5,612.6	5,639.2	5,639.1	15.2	12.6	177.73	0.1	57.1	465.2	442.7	22.57	20.609	
5,800.0	5,698.5	5,756.3	5,755.7	16.0	12.8	177.47	7.0	48.6	509.0	485.9	23.08	22.057	
5,900.0	5,784.4	5,879.5	5,877.4	16.9	13.1	176.89	18.9	33.7	547.6	524.0	23.61	23.194	
6,000.0	5,870.3	6,008.2	6,002.9	17.8	13.4	176.02	36.6	11.6	580.6	556.4	24.17	24.018	
6,100.0	5,956.1	6,141.3	6,130.4	18.7	13.8	174.86	60.5	-18.1	607.8	583.0	24.78	24.528	
6,200.0	6,042.0	6,278.0	6,258.2	19.7	14.2	173.40	90.7	-55.8	629.1	603.6	25.45	24.720	
6,300.0	6,127.9	6,416.7	6,384.1	20.6	14.8	171.62	127.1	-101.2	644.3	618.1	26.21	24.588	
6,400.0	6,213.7	6,550.8	6,501.5	21.6	15.5	169.60	167.6	-151.8	653.7	626.7	27.07	24.151	
6,500.0	6,299.6	6,648.9	6,586.0	22.6	16.0	168.05	198.8	-190.7	661.3	633.4	27.89	23.706	
6,600.0	6,385.5	6,747.0	6,670.4	23.7	16.7	166.53	229.9	-229.6	669.3	640.5	28.80	23.241	
6,700.0	6,471.4	6,845.1	6,755.2	24.7	17.3	165.13	260.1	-268.6	677.8	648.0	29.75	22.779	
6,800.0	6,557.2	6,944.8	6,844.7	25.7	17.8	165.17	274.1	-309.9	686.5	656.0	30.43	22.557	
6,900.0	6,643.1	7,039.6	6,930.3	26.8	18.3	166.93	266.5	-349.4	695.5	664.8	30.70	22.653	
7,000.0	6,729.6	7,125.0	7,004.7	27.7	18.6	-168.24	242.6	-383.7	706.1	675.3	30.74	22.967	
7,100.0	6,814.7	7,208.5	7,072.0	28.5	18.8	-144.81	204.4	-414.8	717.4	686.4	31.08	23.081	
7,200.0	6,894.1	7,287.8	7,128.7	29.1	18.9	-127.85	155.8	-441.1	728.6	696.9	31.70	22.988	
7,300.0	6,963.6	7,364.9	7,175.4	29.5	19.0	-116.63	98.7	-462.7	738.7	706.3	32.41	22.791	
7,400.0	7,019.7	7,440.4	7,211.7	29.9	19.1	-109.47	34.7	-479.6	746.9	713.8	33.10	22.565	
7,500.0	7,059.6	7,515.0	7,237.4	30.1	19.2	-105.22	-34.2	-491.6	752.6	718.8	33.74	22.307	
7,600.0	7,081.1	7,589.2	7,252.0	30.2	19.3	-103.26	-106.5	-498.5	755.3	720.9	34.38	21.968	
7,700.0	7,084.7	7,668.4	7,255.7	30.3	19.4	-103.08	-185.6	-500.4	755.4	720.3	35.11	21.514	
7,800.0	7,084.7	7,768.4	7,255.7	30.4	19.7	-103.08	-285.6	-500.6	755.4	719.1	36.25	20.840	
7,900.0	7,084.7	7,868.4	7,255.7	30.5	20.2	-103.08	-385.6	-500.8	755.3	717.6	37.74	20.016	
8,000.0	7,084.7	7,968.4	7,255.7	30.8	21.0	-103.09	-485.6	-501.1	755.3	715.8	39.53	19.108	
8,100.0	7,084.7	8,068.4	7,255.7	31.2	21.9	-103.09	-585.6	-501.3	755.3	713.7	41.58	18.162	
8,200.0	7,084.7	8,168.4	7,255.7	31.6	22.9	-103.09	-685.6	-501.5	755.2	711.4	43.87	17.216	
8,300.0	7,084.7	8,268.4	7,255.7	32.2	24.1	-103.09	-785.6	-501.8	755.2	708.9	46.34	16.296	
8,400.0	7,084.7	8,368.4	7,255.7	32.8	25.4	-103.09	-885.6	-502.0	755.2	706.2	48.98	15.417	
8,500.0	7,084.7	8,468.4	7,255.7	33.6	26.7	-103.09	-985.6	-502.2	755.2	703.4	51.76	14.589	
8,600.0	7,084.7	8,568.4	7,255.7	34.5	28.1	-103.09	-1,085.6	-502.5	755.1	700.5	54.66	13.815	
8,700.0	7,084.7	8,668.4	7,255.7	35.5	29.6	-103.09	-1,185.6	-502.7	755.1	697.4	57.66	13.097	
8,800.0	7,084.7	8,768.4	7,255.7	36.6	31.2	-103.09	-1,285.6	-502.9	755.1	694.3	60.74	12.432	
8,900.0	7,084.7	8,868.4	7,255.7	37.8	32.7	-103.09	-1,385.6	-503.1	755.0	691.2	63.89	11.818	
9,000.0	7,084.7	8,968.4	7,255.7	39.1	34.3	-103.09	-1,485.6	-503.4	755.0	687.9	67.11	11.251	
9,100.0	7,084.7	9,068.4	7,255.7	40.5	36.0	-103.09	-1,585.6	-503.6	755.0	684.6	70.38	10.728	
9,200.0	7,084.7	9,168.4	7,255.7	41.9	37.6	-103.09	-1,685.6	-503.8	755.0	681.3	73.69	10.245	
9,300.0	7,084.7	9,268.4	7,255.7	43.3	39.3	-103.09	-1,785.6	-504.1	754.9	677.9	77.05	9.798	
9,400.0	7,084.7	9,368.4	7,255.7	44.8	41.0	-103.09	-1,885.6	-504.3	754.9	674.5	80.44	9.384	
9,500.0	7,084.7	9,468.4	7,255.7	46.4	42.8	-103.09	-1,985.6	-504.5	754.9	671.0	83.87	9.001	
9,600.0	7,084.7	9,568.4	7,255.7	48.0	44.5	-103.09	-2,085.6	-504.8	754.8	667.5	87.32	8.645	
9,700.0	7,084.7	9,668.4	7,255.7	49.6	46.3	-103.09	-2,185.6	-505.0	754.8	664.0	90.80	8.313	
9,800.0	7,084.7	9,768.4	7,255.7	51.2	48.0	-103.09	-2,285.6	-505.2	754.8	660.5	94.29	8.005	
9,900.0	7,084.7	9,868.4	7,255.7	52.8	49.8	-103.09	-2,385.6	-505.5	754.8	656.9	97.81	7.716	
10,000.0	7,084.7	9,968.4	7,255.7	54.5	51.6	-103.10	-2,485.6	-505.7	754.7	653.4	101.35	7.447	
10,100.0	7,084.7	10,068.4	7,255.7	56.2	53.4	-103.10	-2,585.6	-505.9	754.7	649.8	104.90	7.195	
10,200.0	7,084.7	10,168.4	7,255.7	57.9	55.2	-103.10	-2,685.6	-506.2	754.7	646.2	108.46	6.958	
10,300.0	7,084.7	10,268.4	7,255.7	59.6	57.1	-103.10	-2,785.6	-506.4	754.6	642.6	112.04	6.736	

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

Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-378HC - Wellbore #1 - Plan #1 (12-16-13)													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)			
10,400.0	7,084.7	10,368.4	7,255.7	61.4	58.9	-103.10	-2,885.6	-506.6	754.6	639.0	115.63	6.526		
10,500.0	7,084.7	10,468.4	7,255.7	63.1	60.7	-103.10	-2,985.6	-506.9	754.6	635.4	119.23	6.329		
10,600.0	7,084.7	10,568.4	7,255.7	64.9	62.5	-103.10	-3,085.6	-507.1	754.6	631.7	122.84	6.143		
10,700.0	7,084.7	10,668.4	7,255.7	66.7	64.4	-103.10	-3,185.6	-507.3	754.5	628.1	126.45	5.967		
10,800.0	7,084.7	10,768.4	7,255.7	68.4	66.2	-103.10	-3,285.6	-507.6	754.5	624.4	130.08	5.800		
10,900.0	7,084.7	10,868.4	7,255.7	70.2	68.1	-103.10	-3,385.6	-507.8	754.5	620.8	133.71	5.642		
11,000.0	7,084.7	10,968.4	7,255.7	72.0	69.9	-103.10	-3,485.6	-508.0	754.4	617.1	137.35	5.493		
11,100.0	7,084.7	11,068.4	7,255.7	73.8	71.8	-103.10	-3,585.6	-508.3	754.4	613.4	141.00	5.350		
11,200.0	7,084.7	11,168.4	7,255.7	75.6	73.6	-103.10	-3,685.6	-508.5	754.4	609.7	144.65	5.215		
11,300.0	7,084.7	11,268.4	7,255.7	77.5	75.5	-103.10	-3,785.6	-508.7	754.4	606.1	148.31	5.086		
11,400.0	7,084.7	11,368.4	7,255.7	79.3	77.4	-103.10	-3,885.6	-509.0	754.3	602.4	151.97	4.964		
11,500.0	7,084.7	11,468.4	7,255.7	81.1	79.2	-103.10	-3,985.6	-509.2	754.3	598.7	155.64	4.847		
11,600.0	7,084.7	11,568.4	7,255.7	82.9	81.1	-103.10	-4,085.6	-509.4	754.3	595.0	159.31	4.735		
11,700.0	7,084.7	11,668.4	7,255.7	84.8	83.0	-103.10	-4,185.6	-509.6	754.2	591.3	162.98	4.628		
11,800.0	7,084.7	11,768.4	7,255.7	86.6	84.9	-103.10	-4,285.6	-509.9	754.2	587.6	166.66	4.525		
11,900.0	7,084.7	11,868.4	7,255.7	88.4	86.7	-103.10	-4,385.6	-510.1	754.2	583.8	170.35	4.427		
12,000.0	7,084.7	11,968.4	7,255.7	90.3	88.6	-103.11	-4,485.6	-510.3	754.2	580.1	174.03	4.333		
12,016.5	7,084.7	11,985.0	7,255.7	90.6	88.9	-103.11	-4,502.1	-510.4	754.2	579.5	174.64	4.318		

Offset Design Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-379HN - Wellbore #1 - Plan #1 (12-16-13)													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	92.07	-1.1	30.0	30.0					
100.0	100.0	100.0	100.0	0.1	0.1	92.07	-1.1	30.0	30.0	29.8	0.22	133.643		
200.0	200.0	200.0	200.0	0.3	0.3	92.07	-1.1	30.0	30.0	29.4	0.67	44.548		
300.0	300.0	300.0	300.0	0.6	0.6	92.07	-1.1	30.0	30.0	28.9	1.12	26.729		
400.0	400.0	400.0	400.0	0.8	0.8	92.07	-1.1	30.0	30.0	28.5	1.57	19.092		
500.0	500.0	500.0	500.0	1.0	1.0	92.07	-1.1	30.0	30.0	28.0	2.02	14.849		
600.0	600.0	600.0	600.0	1.2	1.2	92.07	-1.1	30.0	30.0	27.6	2.47	12.149		
700.0	700.0	700.0	700.0	1.5	1.5	92.07	-1.1	30.0	30.0	27.1	2.92	10.280		
800.0	800.0	800.0	800.0	1.7	1.7	92.07	-1.1	30.0	30.0	26.7	3.37	8.910		
900.0	900.0	900.0	900.0	1.9	1.9	92.07	-1.1	30.0	30.0	26.2	3.82	7.861		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	92.07	-1.1	30.0	30.0	25.8	4.27	7.034		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	92.07	-1.1	30.0	30.0	25.3	4.72	6.364		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	92.07	-1.1	30.0	30.0	24.9	5.17	5.811		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	92.07	-1.1	30.0	30.0	24.4	5.62	5.346		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	92.07	-1.1	30.0	30.0	24.0	6.07	4.950		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	92.07	-1.1	30.0	30.0	23.5	6.52	4.608		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	92.07	-1.1	30.0	30.0	23.1	6.97	4.311		
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	92.07	-1.1	30.0	30.0	22.6	7.42	4.050		
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	92.07	-1.1	30.0	30.0	22.2	7.87	3.818		
1,900.0	1,900.0	1,900.0	1,900.0	4.2	4.2	92.07	-1.1	30.0	30.0	21.7	8.32	3.612		
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	92.07	-1.1	30.0	30.0	21.3	8.77	3.427		
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	92.07	-1.1	30.0	30.0	20.8	9.22	3.260		
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	92.07	-1.1	30.0	30.0	20.4	9.66	3.108		
2,300.0	2,300.0	2,300.0	2,300.0	5.1	5.1	92.07	-1.1	30.0	30.0	19.9	10.11	2.970		
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	92.07	-1.1	30.0	30.0	19.5	10.56	2.843		
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	92.07	-1.1	30.0	30.0	19.0	11.01	2.727		
2,600.0	2,600.0	2,600.0	2,600.0	5.7	5.7	92.07	-1.1	30.0	30.0	18.6	11.46	2.620		
2,700.0	2,700.0	2,700.0	2,700.0	6.0	6.0	92.07	-1.1	30.0	30.0	18.1	11.91	2.522		
2,800.0	2,800.0	2,800.0	2,800.0	6.2	6.2	92.07	-1.1	30.0	30.0	17.7	12.36	2.430		
2,900.0	2,900.0	2,900.0	2,900.0	6.4	6.4	92.07	-1.1	30.0	30.0	17.2	12.81	2.345		
3,000.0	3,000.0	3,000.0	3,000.0	6.6	6.6	92.07	-1.1	30.0	30.0	16.8	13.26	2.265		
3,100.0	3,100.0	3,100.0	3,100.0	6.9	6.9	92.07	-1.1	30.0	30.0	16.3	13.71	2.191		
3,200.0	3,200.0	3,200.0	3,200.0	7.1	7.1	92.07	-1.1	30.0	30.0	15.9	14.16	2.121		
3,300.0	3,300.0	3,300.0	3,300.0	7.3	7.3	92.07	-1.1	30.0	30.0	15.4	14.61	2.056		
3,400.0	3,400.0	3,400.0	3,400.0	7.5	7.5	92.07	-1.1	30.0	30.0	15.0	15.06	1.995		
3,500.0	3,500.0	3,500.0	3,500.0	7.8	7.8	92.07	-1.1	30.0	30.0	14.5	15.51	1.937		
3,600.0	3,600.0	3,600.0	3,600.0	8.0	8.0	92.07	-1.1	30.0	30.0	14.1	15.96	1.882		
3,700.0	3,700.0	3,700.0	3,700.0	8.2	8.2	92.07	-1.1	30.0	30.0	13.6	16.41	1.831		
3,800.0	3,800.0	3,800.0	3,800.0	8.4	8.4	92.07	-1.1	30.0	30.0	13.2	16.86	1.782		
3,900.0	3,900.0	3,900.0	3,900.0	8.7	8.7	92.07	-1.1	30.0	30.0	12.7	17.31	1.736		
4,000.0	4,000.0	4,000.0	4,000.0	8.9	8.9	92.07	-1.1	30.0	30.0	12.3	17.76	1.692		
4,100.0	4,100.0	4,100.0	4,100.0	9.1	9.1	92.07	-1.1	30.0	30.0	11.8	18.21	1.650		
4,200.0	4,200.0	4,200.0	4,200.0	9.3	9.3	92.07	-1.1	30.0	30.0	11.4	18.66	1.610		
4,300.0	4,300.0	4,300.0	4,300.0	9.6	9.6	92.07	-1.1	30.0	30.0	10.9	19.11	1.572		
4,400.0	4,400.0	4,400.0	4,400.0	9.8	9.8	92.07	-1.1	30.0	30.0	10.5	19.55	1.536 CC, ES, SF		
4,500.0	4,500.0	4,500.0	4,500.0	10.0	10.0	166.73	-1.1	30.0	32.6	12.6	19.97	1.631		
4,600.0	4,599.6	4,599.6	4,599.6	10.2	10.2	169.25	-1.1	30.0	40.3	19.9	20.33	1.980		
4,700.0	4,698.8	4,698.8	4,698.8	10.4	10.4	171.82	-1.1	30.0	53.1	32.5	20.64	2.574		
4,800.0	4,797.1	4,797.1	4,797.1	10.7	10.7	173.85	-1.1	30.0	71.2	50.3	20.90	3.408		
4,900.0	4,894.3	4,894.3	4,894.3	10.9	10.9	175.31	-1.1	30.0	94.5	73.4	21.10	4.477		
5,000.0	4,990.2	4,990.2	4,990.2	11.2	11.1	176.33	-1.1	30.0	122.8	101.5	21.25	5.778		
5,100.0	5,084.4	5,087.4	5,087.4	11.5	11.3	177.05	-0.9	29.7	155.8	134.4	21.36	7.295		

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	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						
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
5,200.0	5,176.8	5,190.6	5,190.4	11.9	11.5	177.31	1.2	25.4	189.8	168.4	21.41	8.863	
5,300.0	5,267.1	5,295.7	5,295.1	12.4	11.8	177.21	6.0	15.9	223.7	202.3	21.43	10.439	
5,400.0	5,354.9	5,403.1	5,401.1	13.0	12.0	176.89	13.5	0.9	257.4	236.0	21.42	12.021	
5,500.0	5,440.9	5,513.1	5,508.6	13.7	12.3	176.43	23.9	-20.0	289.6	267.8	21.75	13.316	
5,600.0	5,526.8	5,627.0	5,618.2	14.4	12.6	175.78	37.6	-47.4	316.5	294.2	22.24	14.231	
5,700.0	5,612.6	5,744.1	5,728.9	15.2	13.0	174.94	54.7	-81.6	337.7	314.9	22.77	14.834	
5,800.0	5,698.5	5,863.7	5,839.3	16.0	13.4	173.88	75.2	-122.7	353.1	329.8	23.33	15.135	
5,900.0	5,784.4	5,984.9	5,948.0	16.9	14.0	172.59	99.1	-170.6	362.6	338.6	23.95	15.140	
6,000.0	5,870.3	6,099.0	6,047.2	17.8	14.6	171.12	124.3	-221.1	366.5	341.9	24.61	14.892	
6,100.0	5,956.1	6,198.6	6,133.1	18.7	15.3	169.80	146.9	-266.2	369.3	344.0	25.29	14.604	
6,200.0	6,042.0	6,298.2	6,219.0	19.7	16.0	168.50	169.4	-311.3	372.3	346.3	26.03	14.306	
6,300.0	6,127.9	6,397.8	6,304.8	20.6	16.7	167.22	191.9	-356.5	375.5	348.7	26.82	14.000	
6,400.0	6,213.7	6,497.4	6,390.7	21.6	17.5	165.96	214.5	-401.6	378.9	351.2	27.69	13.685	
6,500.0	6,299.6	6,597.0	6,476.6	22.6	18.3	164.73	237.0	-446.7	382.5	353.9	28.62	13.365	
6,600.0	6,385.5	6,696.6	6,562.5	23.7	19.1	163.52	259.6	-491.9	386.2	356.6	29.62	13.040	
6,700.0	6,471.4	6,798.5	6,650.8	24.7	20.0	162.73	279.8	-538.3	390.0	359.4	30.58	12.753	
6,800.0	6,557.2	6,900.3	6,740.7	25.7	20.6	164.94	279.6	-585.6	393.1	362.3	30.80	12.760	
6,900.0	6,643.1	6,991.0	6,818.9	26.8	21.1	169.62	259.8	-626.8	397.8	367.3	30.49	13.046	
7,000.0	6,729.6	7,070.9	6,883.5	27.7	21.5	-162.95	227.7	-660.8	407.2	376.7	30.57	13.323	
7,100.0	6,814.7	7,146.3	6,938.9	28.5	21.8	-137.29	185.8	-690.0	419.8	388.3	31.46	13.343	
7,200.0	6,894.1	7,218.6	6,985.2	29.1	21.9	-118.47	136.2	-714.5	433.4	400.8	32.62	13.286	
7,300.0	6,963.6	7,288.6	7,022.7	29.5	22.1	-105.79	80.6	-734.4	446.3	412.8	33.47	13.335	
7,400.0	7,019.7	7,357.1	7,051.4	29.9	22.2	-97.56	20.3	-749.6	457.1	423.3	33.81	13.519	
7,500.0	7,059.6	7,425.0	7,071.4	30.1	22.3	-92.60	-43.6	-760.2	464.7	430.9	33.84	13.731	
7,600.0	7,081.1	7,491.7	7,082.3	30.2	22.4	-90.27	-109.1	-766.1	468.5	434.5	33.97	13.790	
7,700.0	7,084.7	7,567.6	7,084.7	30.3	22.4	-90.00	-184.8	-767.5	468.7	434.1	34.51	13.581	
7,800.0	7,084.7	7,667.6	7,084.7	30.4	22.6	-90.00	-284.8	-767.7	468.7	433.1	35.58	13.170	
7,900.0	7,084.7	7,767.6	7,084.7	30.5	23.0	-90.00	-384.8	-767.9	468.7	431.6	37.05	12.650	
8,000.0	7,084.7	7,867.6	7,084.7	30.8	23.4	-90.00	-484.8	-768.1	468.7	429.8	38.84	12.066	
8,100.0	7,084.7	7,967.6	7,084.7	31.2	24.1	-90.00	-584.8	-768.3	468.7	427.7	40.92	11.454	
8,200.0	7,084.7	8,067.6	7,084.7	31.6	24.9	-90.00	-684.8	-768.5	468.7	425.4	43.23	10.840	
8,300.0	7,084.7	8,167.6	7,084.7	32.2	25.9	-90.00	-784.8	-768.7	468.7	422.9	45.76	10.242	
8,400.0	7,084.7	8,267.6	7,084.7	32.8	27.0	-90.00	-884.8	-768.9	468.7	420.2	48.46	9.672	
8,500.0	7,084.7	8,367.6	7,084.7	33.6	28.2	-90.00	-984.8	-769.1	468.7	417.4	51.30	9.135	
8,600.0	7,084.7	8,467.6	7,084.7	34.5	29.5	-90.00	-1,084.8	-769.3	468.7	414.4	54.27	8.636	
8,700.0	7,084.7	8,567.6	7,084.7	35.5	30.9	-90.00	-1,184.8	-769.5	468.7	411.3	57.34	8.173	
8,800.0	7,084.7	8,667.6	7,084.7	36.6	32.3	-90.00	-1,284.8	-769.7	468.7	408.2	60.51	7.746	
8,900.0	7,084.7	8,767.6	7,084.7	37.8	33.8	-90.00	-1,384.8	-769.9	468.7	404.9	63.74	7.353	
9,000.0	7,084.7	8,867.6	7,084.7	39.1	35.3	-90.00	-1,484.8	-770.1	468.7	401.6	67.04	6.991	
9,100.0	7,084.7	8,967.6	7,084.7	40.5	36.9	-90.00	-1,584.8	-770.3	468.7	398.3	70.40	6.657	
9,200.0	7,084.7	9,067.6	7,084.7	41.9	38.5	-90.00	-1,684.8	-770.5	468.7	394.9	73.81	6.350	
9,300.0	7,084.7	9,167.6	7,084.7	43.3	40.2	-90.00	-1,784.8	-770.7	468.7	391.4	77.25	6.067	
9,400.0	7,084.7	9,267.6	7,084.7	44.8	41.9	-90.00	-1,884.8	-770.9	468.7	387.9	80.73	5.805	
9,500.0	7,084.7	9,367.6	7,084.7	46.4	43.6	-90.00	-1,984.8	-771.1	468.7	384.4	84.25	5.563	
9,600.0	7,084.7	9,467.6	7,084.7	48.0	45.3	-90.00	-2,084.8	-771.3	468.7	380.9	87.79	5.339	
9,700.0	7,084.7	9,567.6	7,084.7	49.6	47.0	-90.00	-2,184.8	-771.5	468.7	377.3	91.35	5.130	
9,800.0	7,084.7	9,667.6	7,084.7	51.2	48.7	-90.00	-2,284.8	-771.7	468.7	373.7	94.94	4.937	
9,900.0	7,084.7	9,767.6	7,084.7	52.8	50.5	-90.00	-2,384.8	-771.9	468.7	370.1	98.55	4.756	
10,000.0	7,084.7	9,867.6	7,084.7	54.5	52.3	-90.00	-2,484.8	-772.1	468.7	366.5	102.17	4.587	
10,100.0	7,084.7	9,967.6	7,084.7	56.2	54.0	-90.00	-2,584.8	-772.3	468.7	362.9	105.82	4.429	
10,200.0	7,084.7	10,067.6	7,084.7	57.9	55.8	-90.00	-2,684.8	-772.5	468.7	359.2	109.47	4.282	
10,300.0	7,084.7	10,167.6	7,084.7	59.6	57.6	-90.00	-2,784.8	-772.7	468.7	355.6	113.14	4.143	

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 Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	Offset TVD Reference:	Offset Datum

Offset Design Gustafson Pad Sec.31-T7N-R65W - Gustafson EF 31-379HN - Wellbore #1 - Plan #1 (12-16-13)												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
10,400.0	7,084.7	10,267.6	7,084.7	61.4	59.4	-90.00	-2,884.8	-772.9	468.7	351.9	116.82	4.012	
10,500.0	7,084.7	10,367.6	7,084.7	63.1	61.2	-90.00	-2,984.8	-773.1	468.7	348.2	120.50	3.890	
10,600.0	7,084.7	10,467.6	7,084.7	64.9	63.1	-90.00	-3,084.8	-773.3	468.7	344.5	124.20	3.774	
10,700.0	7,084.7	10,567.6	7,084.7	66.7	64.9	-90.00	-3,184.8	-773.5	468.7	340.8	127.91	3.664	
10,800.0	7,084.7	10,667.6	7,084.7	68.4	66.7	-90.00	-3,284.8	-773.7	468.7	337.1	131.63	3.561	
10,900.0	7,084.7	10,767.6	7,084.7	70.2	68.6	-90.00	-3,384.8	-773.9	468.7	333.4	135.35	3.463	
11,000.0	7,084.7	10,867.6	7,084.7	72.0	70.4	-90.00	-3,484.8	-774.1	468.7	329.6	139.08	3.370	
11,100.0	7,084.7	10,967.6	7,084.7	73.8	72.2	-90.00	-3,584.8	-774.3	468.7	325.9	142.81	3.282	
11,200.0	7,084.7	11,067.6	7,084.7	75.6	74.1	-90.00	-3,684.8	-774.5	468.7	322.2	146.55	3.198	
11,300.0	7,084.7	11,167.6	7,084.7	77.5	75.9	-90.00	-3,784.8	-774.7	468.7	318.4	150.30	3.119	
11,400.0	7,084.7	11,267.6	7,084.7	79.3	77.8	-90.00	-3,884.8	-774.9	468.7	314.7	154.05	3.043	
11,500.0	7,084.7	11,367.6	7,084.7	81.1	79.7	-90.00	-3,984.8	-775.1	468.7	310.9	157.81	2.970	
11,600.0	7,084.7	11,467.6	7,084.7	82.9	81.5	-90.00	-4,084.8	-775.3	468.7	307.2	161.57	2.901	
11,700.0	7,084.7	11,567.6	7,084.7	84.8	83.4	-90.00	-4,184.8	-775.5	468.7	303.4	165.33	2.835	
11,800.0	7,084.7	11,667.6	7,084.7	86.6	85.3	-90.00	-4,284.8	-775.7	468.7	299.6	169.10	2.772	
11,900.0	7,084.7	11,767.6	7,084.7	88.4	87.1	-90.00	-4,384.8	-775.9	468.7	295.9	172.87	2.711	
12,000.0	7,084.7	11,867.6	7,084.7	90.3	89.0	-90.00	-4,484.8	-776.1	468.7	292.1	176.64	2.654	
12,016.5	7,084.7	11,884.1	7,084.7	90.6	89.3	-90.00	-4,501.3	-776.2	468.7	291.5	177.27	2.644	

Company:	Great Western	Local Co-ordinate Reference:	Well Gustafson EF 31-380HN
Project:	SEC.31-T7N-R65W	TVD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Reference Site:	Gustafson Pad Sec.31-T7N-R65W	MD Reference:	WELL @ 4844.7ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Gustafson EF 31-380HN	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 (12-16-13)	Offset TVD Reference:	Offset Datum

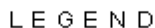
Reference Depths are relative to WELL @ 4844.7ft (RKB - 16.5')
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °




Coordinates are relative to: Gustafson EF 31-380HN
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.51°



Reference Depths are relative to WELL @ 4844.7ft (RKB - 16.5')
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Gustafson EF 31-380HN
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.51°



-379HN, Wellbore #1, Plan #1 (12-16-13)  Gustafson EF 31-373HC, Wellbore #1, Plan #1 (12-16-13)  Gustafson EF 31-378HC, Wellbore #1, Plan #1 (12-16-13) 

-372HN, Wellbore #1, Plan #1 (12-16-13) Gustafson EF 31-374HN, Wellbore #1, Plan #1 (12-16-13) Gustafson EF 31-377HN, Wellbore #1, Plan #1 (12-16-13)