

Great Western

Well Name: **Spaur Brothers EH 31-259HC**

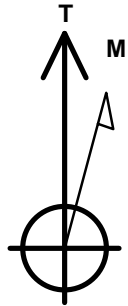
Surface Location: Spaur Brothers North Pad Sec.31-T7N-R63W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4762.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1437403.70	3286004.57	40.529519	-104.471103	
RKB - 16.5' WELL @ 4778.5ft (RKB - 16.5')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 2436'FSL & 222'FEL	1.0	0.0	0.0	Point
BHL 2060'FSL & 470'FWL	6939.5	-418.5	-4480.1	Point
Entry Pt. 2080'FSL & 460'FEL	6939.5	-358.1	-237.1	Point



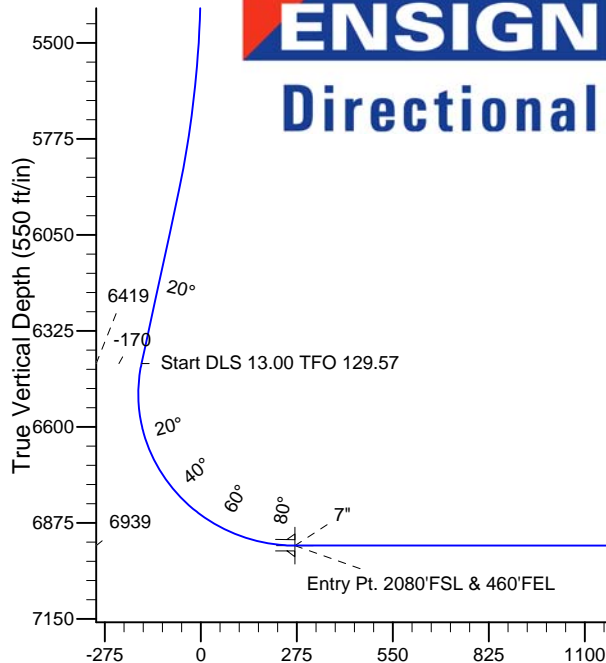
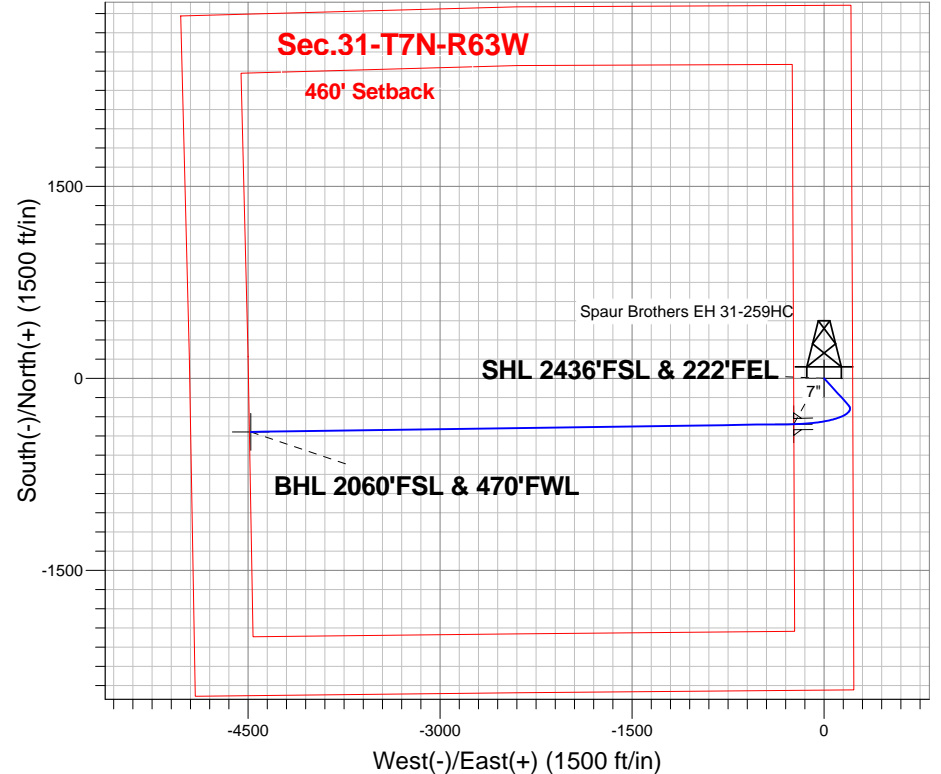
Azimuths to True North
Magnetic North: 8.40°

Magnetic Field
Strength: 52982.0snT
Dip Angle: 67.12°
Date: 10/22/2013
Model: IGRF2010

Spaur Brothers North Pad Sec.31-T7N-R63W
Spaur Brothers EH 31-259HC
Plan #1 (10-22-13)
14:20, October 23 2013

ANNOTATIONS

TVD	MD	Annotation
5300.0	5300.0	KOP - Start Build 3.00
6418.6	6461.6	Start DLS 13.00 TFO 129.57
6939.5	11497.3	TD at 11497.3



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5300.0	0.00	0.00	5300.0	0.0	0.0	0.00	0.00	0.0	
3	5963.2	19.90	137.87	5950.0	-84.5	76.5	3.00	137.87	-68.3	
4	6461.6	19.90	137.87	6418.6	-210.3	190.3	0.00	0.00	-169.9	
5	7253.8	90.00	269.18	6939.5	-358.1	-237.1	13.00	129.57	269.4	Entry Pt. 2080'FSL & 460'FEL
6	7254.2	90.00	269.18	6939.5	-358.1	-237.5	1.00	90.00	269.8	
7	11497.3	90.00	269.18	6939.5	-418.5	-4480.1	0.00	0.00	4499.6	BHL 2060'FSL & 470'FWL

BHL 2060'FSL & 470'FWL

TD at 11497.3

Vertical Section at 264.66° (550 ft/in)



Great Western

SEC.31-T7N-R63W

Spaur Brothers North Pad Sec.31-T7N-R63W

Spaur Brothers EH 31-259HC

Wellbore #1

Plan: Plan #1 (10-22-13)

Standard Planning Report

23 October, 2013

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,963.2	19.90	137.87	5,950.0	-84.5	76.5	3.00	3.00	0.00	137.87	
6,461.6	19.90	137.87	6,418.6	-210.3	190.3	0.00	0.00	0.00	0.00	
7,253.8	90.00	269.18	6,939.5	-358.1	-237.1	13.00	8.85	16.58	129.57	Entry Pt. 2080'FSL
7,254.2	90.00	269.18	6,939.5	-358.1	-237.5	1.00	0.00	1.00	90.00	
11,497.3	90.00	269.18	6,939.5	-418.5	-4,480.1	0.00	0.00	0.00	0.00	BHL 2060'FSL & 47

Planned Survey		Survey Data							
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 2436'FSL & 222'FEL									
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

Database:	Landmark	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Company:	Great Western	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Project:	SEC.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	North Reference:	True
Well:	Spaur Brothers EH 31-259HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-22-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 3.00									
5,400.0	3.00	137.87	5,400.0	-1.9	1.8	-1.6	3.00	3.00	0.00
5,500.0	6.00	137.87	5,499.6	-7.8	7.0	-6.3	3.00	3.00	0.00
5,600.0	9.00	137.87	5,598.8	-17.4	15.8	-14.1	3.00	3.00	0.00
5,700.0	12.00	137.87	5,697.1	-31.0	28.0	-25.0	3.00	3.00	0.00
5,800.0	15.00	137.87	5,794.3	-48.3	43.7	-39.0	3.00	3.00	0.00
5,900.0	18.00	137.87	5,890.2	-69.3	62.7	-56.0	3.00	3.00	0.00
5,963.2	19.90	137.87	5,950.0	-84.5	76.5	-68.3	3.00	3.00	0.00
6,000.0	19.90	137.87	5,984.6	-93.8	84.9	-75.8	0.00	0.00	0.00
6,100.0	19.90	137.87	6,078.6	-119.1	107.7	-96.2	0.00	0.00	0.00
6,200.0	19.90	137.87	6,172.6	-144.3	130.5	-116.5	0.00	0.00	0.00
6,300.0	19.90	137.87	6,266.6	-169.5	153.4	-136.9	0.00	0.00	0.00
6,400.0	19.90	137.87	6,360.7	-194.8	176.2	-157.3	0.00	0.00	0.00
6,461.6	19.90	137.87	6,418.6	-210.3	190.3	-169.9	0.00	0.00	0.00
Start DLS 13.00 TFO 129.57									
6,500.0	17.14	151.01	6,455.0	-220.1	197.4	-176.1	12.98	-7.18	34.22
6,600.0	15.99	197.63	6,551.3	-246.3	200.4	-176.6	13.00	-1.15	46.62
6,700.0	23.40	230.27	6,645.6	-272.2	180.8	-154.7	13.00	7.41	32.64
6,800.0	34.20	245.60	6,733.3	-296.6	139.8	-111.6	13.00	10.79	15.33
6,900.0	46.04	253.98	6,809.6	-318.2	79.4	-49.4	13.00	11.85	8.39
7,000.0	58.30	259.51	6,870.9	-336.0	2.6	28.6	13.00	12.25	5.53
7,100.0	70.73	263.73	6,913.9	-348.9	-86.5	118.6	13.00	12.43	4.21
7,200.0	83.25	267.34	6,936.3	-356.4	-183.4	215.8	13.00	12.52	3.61
7,253.8	90.00	269.18	6,939.5	-358.1	-237.1	269.4	12.99	12.54	3.42
7" - Entry Pt. 2080'FSL & 460'FEL									
7,254.2	90.00	269.18	6,939.5	-358.1	-237.5	269.8	1.64	1.02	1.28
7,300.0	90.00	269.18	6,939.5	-358.7	-283.3	315.4	0.00	0.00	0.00
7,400.0	90.00	269.18	6,939.5	-360.2	-383.3	415.1	0.00	0.00	0.00
7,500.0	90.00	269.18	6,939.5	-361.6	-483.3	514.8	0.00	0.00	0.00
7,600.0	90.00	269.18	6,939.5	-363.0	-583.3	614.5	0.00	0.00	0.00
7,700.0	90.00	269.18	6,939.5	-364.4	-683.2	714.2	0.00	0.00	0.00
7,800.0	90.00	269.18	6,939.5	-365.9	-783.2	813.9	0.00	0.00	0.00
7,900.0	90.00	269.18	6,939.5	-367.3	-883.2	913.6	0.00	0.00	0.00
8,000.0	90.00	269.18	6,939.5	-368.7	-983.2	1,013.3	0.00	0.00	0.00
8,100.0	90.00	269.18	6,939.5	-370.1	-1,083.2	1,112.9	0.00	0.00	0.00
8,200.0	90.00	269.18	6,939.5	-371.6	-1,183.2	1,212.6	0.00	0.00	0.00
8,300.0	90.00	269.18	6,939.5	-373.0	-1,283.2	1,312.3	0.00	0.00	0.00
8,400.0	90.00	269.18	6,939.5	-374.4	-1,383.2	1,412.0	0.00	0.00	0.00
8,500.0	90.00	269.18	6,939.5	-375.8	-1,483.2	1,511.7	0.00	0.00	0.00
8,600.0	90.00	269.18	6,939.5	-377.2	-1,583.2	1,611.4	0.00	0.00	0.00
8,700.0	90.00	269.18	6,939.5	-378.7	-1,683.1	1,711.1	0.00	0.00	0.00
8,800.0	90.00	269.18	6,939.5	-380.1	-1,783.1	1,810.8	0.00	0.00	0.00
8,900.0	90.00	269.18	6,939.5	-381.5	-1,883.1	1,910.5	0.00	0.00	0.00
9,000.0	90.00	269.18	6,939.5	-382.9	-1,983.1	2,010.1	0.00	0.00	0.00
9,100.0	90.00	269.18	6,939.5	-384.4	-2,083.1	2,109.8	0.00	0.00	0.00
9,200.0	90.00	269.18	6,939.5	-385.8	-2,183.1	2,209.5	0.00	0.00	0.00
9,300.0	90.00	269.18	6,939.5	-387.2	-2,283.1	2,309.2	0.00	0.00	0.00
9,400.0	90.00	269.18	6,939.5	-388.6	-2,383.1	2,408.9	0.00	0.00	0.00
9,500.0	90.00	269.18	6,939.5	-390.1	-2,483.1	2,508.6	0.00	0.00	0.00
9,600.0	90.00	269.18	6,939.5	-391.5	-2,583.1	2,608.3	0.00	0.00	0.00
9,700.0	90.00	269.18	6,939.5	-392.9	-2,683.0	2,708.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Company:	Great Western	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Project:	SEC.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	North Reference:	True
Well:	Spaur Brothers EH 31-259HC	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-22-13)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,800.0	90.00	269.18	6,939.5	-394.3	-2,783.0	2,807.7	0.00	0.00	0.00	
9,900.0	90.00	269.18	6,939.5	-395.8	-2,883.0	2,907.3	0.00	0.00	0.00	
10,000.0	90.00	269.18	6,939.5	-397.2	-2,983.0	3,007.0	0.00	0.00	0.00	
10,100.0	90.00	269.18	6,939.5	-398.6	-3,083.0	3,106.7	0.00	0.00	0.00	
10,200.0	90.00	269.18	6,939.5	-400.0	-3,183.0	3,206.4	0.00	0.00	0.00	
10,300.0	90.00	269.18	6,939.5	-401.5	-3,283.0	3,306.1	0.00	0.00	0.00	
10,400.0	90.00	269.18	6,939.5	-402.9	-3,383.0	3,405.8	0.00	0.00	0.00	
10,500.0	90.00	269.18	6,939.5	-404.3	-3,483.0	3,505.5	0.00	0.00	0.00	
10,600.0	90.00	269.18	6,939.5	-405.7	-3,583.0	3,605.2	0.00	0.00	0.00	
10,700.0	90.00	269.18	6,939.5	-407.2	-3,682.9	3,704.8	0.00	0.00	0.00	
10,800.0	90.00	269.18	6,939.5	-408.6	-3,782.9	3,804.5	0.00	0.00	0.00	
10,900.0	90.00	269.18	6,939.5	-410.0	-3,882.9	3,904.2	0.00	0.00	0.00	
11,000.0	90.00	269.18	6,939.5	-411.4	-3,982.9	4,003.9	0.00	0.00	0.00	
11,100.0	90.00	269.18	6,939.5	-412.9	-4,082.9	4,103.6	0.00	0.00	0.00	
11,200.0	90.00	269.18	6,939.5	-414.3	-4,182.9	4,203.3	0.00	0.00	0.00	
11,300.0	90.00	269.18	6,939.5	-415.7	-4,282.9	4,303.0	0.00	0.00	0.00	
11,400.0	90.00	269.18	6,939.5	-417.1	-4,382.9	4,402.7	0.00	0.00	0.00	
11,497.3	90.00	269.18	6,939.5	-418.5	-4,480.1	4,499.6	0.00	0.00	0.00	
BHL 2060'FSL & 470'FWL										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,253.8	6,939.5	7"	7	7-1/2	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,300.0	5,300.0	0.0	0.0	KOP - Start Build 3.00	
6,461.6	6,418.6	-210.3	190.3	Start DLS 13.00 TFO 129.57	
11,497.3	6,939.5	-418.5	-4,480.2	TD at 11497.3	



Great Western

SEC.31-T7N-R63W

Spaur Brothers North Pad Sec.31-T7N-R63W

Spaur Brothers EH 31-259HC

Wellbore #1

Plan #1 (10-22-13)

Anticollision Report

24 October, 2013

Company:	Great Western	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (10-22-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 10/24/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,010.0	Plan #1 (10-22-13) (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
7,010.0	11,497.3	Plan #1 (10-22-13) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Spaur Brothers North Pad Sec.31-T7N-R63W						
Spaur Brothers EH 31-219HN - Wellbore #1 - Plan #1 (10-22-13)	5,300.0	5,300.0	59.8	31.9	2.145	CC, ES, SF
Spaur Brothers EH 31-222HN - Wellbore #1 - Plan #1 (10-22-13)	5,300.0	5,300.0	29.6	1.7	1.060	Level 2, CC, ES, SF
Spaur Brothers EH 31-262HN - Wellbore #1 - Plan #1 (10-22-13)	4,800.0	4,800.0	30.2	4.9	1.196	Level 2, CC, ES, SF

Offset Design		Spaur Brothers North Pad Sec.31-T7N-R63W - Spaur Brothers EH 31-219HN - Wellbore #1 - Plan #1 (1										Offset Site Error:		0.0 ft	
Survey Program:		0-NS-GYRO-MS, 6825-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	0.06	59.8	0.1	59.8						
100.0	100.0	100.0	100.0	0.1	0.1	0.06	59.8	0.1	59.8	59.5	0.27	225.239			
200.0	200.0	200.0	200.0	0.4	0.4	0.06	59.8	0.1	59.8	59.0	0.80	75.080			
300.0	300.0	300.0	300.0	0.7	0.7	0.06	59.8	0.1	59.8	58.5	1.33	45.048			
400.0	400.0	400.0	400.0	0.9	0.9	0.06	59.8	0.1	59.8	57.9	1.86	32.177			
500.0	500.0	500.0	500.0	1.2	1.2	0.06	59.8	0.1	59.8	57.4	2.39	25.027			
600.0	600.0	600.0	600.0	1.5	1.5	0.06	59.8	0.1	59.8	56.9	2.92	20.476			
700.0	700.0	700.0	700.0	1.7	1.7	0.06	59.8	0.1	59.8	56.3	3.45	17.326			
800.0	800.0	800.0	800.0	2.0	2.0	0.06	59.8	0.1	59.8	55.8	3.98	15.016			
900.0	900.0	900.0	900.0	2.3	2.3	0.06	59.8	0.1	59.8	55.3	4.51	13.249			
1,000.0	1,000.0	1,000.0	1,000.0	2.5	2.5	0.06	59.8	0.1	59.8	54.7	5.04	11.855			
1,100.0	1,100.0	1,100.0	1,100.0	2.8	2.8	0.06	59.8	0.1	59.8	54.2	5.57	10.726			
1,200.0	1,200.0	1,200.0	1,200.0	3.1	3.1	0.06	59.8	0.1	59.8	53.7	6.11	9.793			
1,300.0	1,300.0	1,300.0	1,300.0	3.3	3.3	0.06	59.8	0.1	59.8	53.2	6.64	9.010			
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	0.06	59.8	0.1	59.8	52.6	7.17	8.342			
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	0.06	59.8	0.1	59.8	52.1	7.70	7.767			
1,600.0	1,600.0	1,600.0	1,600.0	4.1	4.1	0.06	59.8	0.1	59.8	51.6	8.23	7.266			
1,700.0	1,700.0	1,700.0	1,700.0	4.4	4.4	0.06	59.8	0.1	59.8	51.0	8.76	6.825			
1,800.0	1,800.0	1,800.0	1,800.0	4.6	4.6	0.06	59.8	0.1	59.8	50.5	9.29	6.435			
1,900.0	1,900.0	1,900.0	1,900.0	4.9	4.9	0.06	59.8	0.1	59.8	50.0	9.82	6.088			
2,000.0	2,000.0	2,000.0	2,000.0	5.2	5.2	0.06	59.8	0.1	59.8	49.4	10.35	5.775			
2,100.0	2,100.0	2,100.0	2,100.0	5.4	5.4	0.06	59.8	0.1	59.8	48.9	10.88	5.494			
2,200.0	2,200.0	2,200.0	2,200.0	5.7	5.7	0.06	59.8	0.1	59.8	48.4	11.41	5.238			

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 Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6825-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		
2,300.0	2,300.0	2,300.0	2,300.0	6.0	6.0	0.06	59.8	0.1	59.8	47.8	11.95	5.005		
2,400.0	2,400.0	2,400.0	2,400.0	6.2	6.2	0.06	59.8	0.1	59.8	47.3	12.48	4.792		
2,500.0	2,500.0	2,500.0	2,500.0	6.5	6.5	0.06	59.8	0.1	59.8	46.8	13.01	4.597		
2,600.0	2,600.0	2,600.0	2,600.0	6.8	6.8	0.06	59.8	0.1	59.8	46.3	13.54	4.416		
2,700.0	2,700.0	2,700.0	2,700.0	7.0	7.0	0.06	59.8	0.1	59.8	45.7	14.07	4.250		
2,800.0	2,800.0	2,800.0	2,800.0	7.3	7.3	0.06	59.8	0.1	59.8	45.2	14.60	4.095		
2,900.0	2,900.0	2,900.0	2,900.0	7.6	7.6	0.06	59.8	0.1	59.8	44.7	15.13	3.952		
3,000.0	3,000.0	3,000.0	3,000.0	7.8	7.8	0.06	59.8	0.1	59.8	44.1	15.66	3.818		
3,100.0	3,100.0	3,100.0	3,100.0	8.1	8.1	0.06	59.8	0.1	59.8	43.6	16.19	3.692		
3,200.0	3,200.0	3,200.0	3,200.0	8.4	8.4	0.06	59.8	0.1	59.8	43.1	16.72	3.575		
3,300.0	3,300.0	3,300.0	3,300.0	8.6	8.6	0.06	59.8	0.1	59.8	42.5	17.25	3.465		
3,400.0	3,400.0	3,400.0	3,400.0	8.9	8.9	0.06	59.8	0.1	59.8	42.0	17.78	3.362		
3,500.0	3,500.0	3,500.0	3,500.0	9.2	9.2	0.06	59.8	0.1	59.8	41.5	18.32	3.264		
3,600.0	3,600.0	3,600.0	3,600.0	9.4	9.4	0.06	59.8	0.1	59.8	40.9	18.85	3.172		
3,700.0	3,700.0	3,700.0	3,700.0	9.7	9.7	0.06	59.8	0.1	59.8	40.4	19.38	3.085		
3,800.0	3,800.0	3,800.0	3,800.0	10.0	10.0	0.06	59.8	0.1	59.8	39.9	19.91	3.003		
3,900.0	3,900.0	3,900.0	3,900.0	10.2	10.2	0.06	59.8	0.1	59.8	39.3	20.44	2.925		
4,000.0	4,000.0	4,000.0	4,000.0	10.5	10.5	0.06	59.8	0.1	59.8	38.8	20.97	2.851		
4,100.0	4,100.0	4,100.0	4,100.0	10.8	10.8	0.06	59.8	0.1	59.8	38.3	21.50	2.781		
4,200.0	4,200.0	4,200.0	4,200.0	11.0	11.0	0.06	59.8	0.1	59.8	37.8	22.03	2.714		
4,300.0	4,300.0	4,300.0	4,300.0	11.3	11.3	0.06	59.8	0.1	59.8	37.2	22.56	2.650		
4,400.0	4,400.0	4,400.0	4,400.0	11.5	11.5	0.06	59.8	0.1	59.8	36.7	23.09	2.589		
4,500.0	4,500.0	4,500.0	4,500.0	11.8	11.8	0.06	59.8	0.1	59.8	36.2	23.62	2.531		
4,600.0	4,600.0	4,600.0	4,600.0	12.1	12.1	0.06	59.8	0.1	59.8	35.6	24.16	2.475		
4,700.0	4,700.0	4,700.0	4,700.0	12.3	12.3	0.06	59.8	0.1	59.8	35.1	24.69	2.422		
4,800.0	4,800.0	4,800.0	4,800.0	12.6	12.6	0.06	59.8	0.1	59.8	34.6	25.22	2.371		
4,900.0	4,900.0	4,900.0	4,900.0	12.9	12.9	0.06	59.8	0.1	59.8	34.0	25.75	2.322		
5,000.0	5,000.0	5,000.0	5,000.0	13.1	13.1	0.06	59.8	0.1	59.8	33.5	26.28	2.275		
5,100.0	5,100.0	5,100.0	5,100.0	13.4	13.4	0.06	59.8	0.1	59.8	33.0	26.81	2.230		
5,200.0	5,200.0	5,200.0	5,200.0	13.7	13.7	0.06	59.8	0.1	59.8	32.4	27.34	2.187		
5,300.0	5,300.0	5,300.0	5,300.0	13.9	13.9	0.06	59.8	0.1	59.8	31.9	27.87	2.145 CC, ES, SF		
5,400.0	5,400.0	5,400.0	5,400.0	14.1	14.2	-139.40	59.8	0.1	61.8	33.5	28.25	2.186		
5,500.0	5,499.6	5,499.6	5,499.6	14.1	14.5	-143.60	59.8	0.1	67.9	39.5	28.45	2.387		
5,600.0	5,598.8	5,598.1	5,598.0	14.1	14.7	-147.76	60.4	1.7	79.1	50.5	28.54	2.771		
5,700.0	5,697.1	5,695.3	5,694.8	14.1	14.9	-147.58	63.6	10.6	96.2	67.7	28.53	3.372		
5,800.0	5,794.3	5,790.8	5,788.7	14.1	15.0	-144.69	69.6	26.8	119.2	90.7	28.51	4.180		
5,900.0	5,890.2	5,883.5	5,878.2	14.2	15.2	-140.68	77.9	49.5	148.3	119.8	28.50	5.203		
6,000.0	5,984.6	5,972.7	5,962.2	14.2	15.3	-136.71	88.2	77.6	183.5	154.9	28.61	6.416		
6,100.0	6,078.6	6,058.3	6,040.3	14.3	15.5	-132.84	100.2	110.3	222.6	193.7	28.90	7.702		
6,200.0	6,172.6	6,139.9	6,112.2	14.3	15.7	-128.90	113.4	146.5	265.2	236.0	29.20	9.083		
6,300.0	6,266.6	6,234.9	6,197.7	14.4	15.9	-126.69	130.6	183.6	309.4	279.9	29.49	10.491		
6,400.0	6,360.7	6,332.7	6,291.9	14.5	16.1	-128.78	149.1	201.5	351.6	321.9	29.71	11.832		
6,500.0	6,455.0	6,423.9	6,381.3	14.6	16.4	-147.92	166.3	198.7	393.4	363.7	29.73	13.235		
6,600.0	6,551.3	6,509.9	6,463.4	14.6	16.5	157.48	181.9	179.0	437.6	407.7	29.86	14.657		
6,700.0	6,645.6	6,593.7	6,538.4	14.7	16.6	118.31	195.8	144.6	481.5	451.1	30.43	15.824		
6,800.0	6,733.3	6,676.9	6,605.2	14.7	16.7	98.11	208.0	96.8	522.4	491.4	31.01	16.847		
6,900.0	6,809.6	6,760.6	6,662.4	14.8	16.7	86.55	218.1	36.6	557.8	526.6	31.24	17.856		
7,000.0	6,870.9	6,845.4	6,707.9	14.8	17.9	79.46	225.8	-34.3	586.1	554.9	31.23	18.767		
7,100.0	6,913.9	6,931.3	6,739.6	16.5	18.2	75.24	230.7	-113.8	605.8	574.8	31.08	19.494		
7,200.0	6,936.3	7,018.0	6,755.7	16.6	18.3	73.18	232.4	-198.8	616.1	584.3	31.82	19.366		
7,300.0	6,939.5	7,112.0	6,757.5	16.7	18.3	72.86	231.3	-292.8	617.5	583.8	33.69	18.330		
7,400.0	6,939.5	7,212.0	6,757.5	18.0	19.6	72.85	229.7	-392.8	617.3	581.0	36.30	17.008		

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

Spaur Brothers North Pad Sec.31-T7N-R63W - Spaur Brothers EH 31-219HN - Wellbore #1 - Plan #1 (1)													Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6825-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)			
7,500.0	6,939.5	7,312.0	6,757.5	19.7	21.2	72.85	228.0	-492.8	617.1	577.7	39.47	15.636		
7,600.0	6,939.5	7,412.0	6,757.5	21.7	23.0	72.84	226.4	-592.7	617.0	573.9	43.08	14.320		
7,700.0	6,939.5	7,512.0	6,757.5	23.8	25.0	72.84	224.8	-692.7	616.8	569.8	47.04	13.113		
7,800.0	6,939.5	7,612.0	6,757.5	26.1	27.2	72.83	223.2	-792.7	616.6	565.4	51.25	12.031		
7,900.0	6,939.5	7,712.0	6,757.5	28.4	29.4	72.83	221.6	-892.7	616.4	560.8	55.67	11.074		
8,000.0	6,939.5	7,812.0	6,757.5	30.9	31.8	72.82	220.0	-992.7	616.3	556.0	60.24	10.230		
8,100.0	6,939.5	7,912.0	6,757.5	33.4	34.2	72.82	218.4	-1,092.7	616.1	551.1	64.94	9.488		
8,200.0	6,939.5	8,012.0	6,757.5	35.9	36.6	72.81	216.8	-1,192.7	615.9	546.2	69.73	8.833		
8,300.0	6,939.5	8,112.0	6,757.5	38.5	39.2	72.81	215.2	-1,292.7	615.7	541.1	74.61	8.253		
8,400.0	6,939.5	8,212.0	6,757.5	41.1	41.7	72.80	213.6	-1,392.6	615.6	536.0	79.55	7.738		
8,500.0	6,939.5	8,312.0	6,757.5	43.7	44.3	72.80	211.9	-1,492.6	615.4	530.8	84.54	7.279		
8,600.0	6,939.5	8,412.0	6,757.5	46.4	46.9	72.79	210.3	-1,592.6	615.2	525.6	89.58	6.868		
8,700.0	6,939.5	8,512.0	6,757.5	49.1	49.5	72.79	208.7	-1,692.6	615.0	520.4	94.66	6.497		
8,800.0	6,939.5	8,612.0	6,757.5	51.7	52.2	72.78	207.1	-1,792.6	614.8	515.1	99.76	6.163		
8,900.0	6,939.5	8,712.0	6,757.5	54.4	54.9	72.78	205.5	-1,892.6	614.7	509.8	104.90	5.860		
9,000.0	6,939.5	8,812.0	6,757.5	57.2	57.5	72.77	203.9	-1,992.6	614.5	504.4	110.06	5.583		
9,100.0	6,939.5	8,912.0	6,757.5	59.9	60.2	72.77	202.3	-2,092.6	614.3	499.1	115.23	5.331		
9,200.0	6,939.5	9,012.0	6,757.5	62.6	62.9	72.76	200.7	-2,192.5	614.1	493.7	120.43	5.099		
9,300.0	6,939.5	9,112.0	6,757.5	65.3	65.6	72.76	199.1	-2,292.5	614.0	488.3	125.64	4.887		
9,400.0	6,939.5	9,212.0	6,757.5	68.1	68.4	72.75	197.5	-2,392.5	613.8	482.9	130.87	4.690		
9,500.0	6,939.5	9,312.0	6,757.5	70.8	71.1	72.75	195.8	-2,492.5	613.6	477.5	136.10	4.508		
9,600.0	6,939.5	9,412.0	6,757.5	73.6	73.8	72.74	194.2	-2,592.5	613.4	472.1	141.35	4.340		
9,700.0	6,939.5	9,512.0	6,757.5	76.3	76.5	72.74	192.6	-2,692.5	613.2	466.6	146.60	4.183		
9,800.0	6,939.5	9,612.0	6,757.5	79.1	79.3	72.73	191.0	-2,792.5	613.1	461.2	151.87	4.037		
9,900.0	6,939.5	9,712.0	6,757.5	81.8	82.0	72.73	189.4	-2,892.4	612.9	455.8	157.14	3.900		
10,000.0	6,939.5	9,812.0	6,757.5	84.6	84.8	72.72	187.8	-2,992.4	612.7	450.3	162.42	3.772		
10,100.0	6,939.5	9,912.0	6,757.5	87.4	87.5	72.72	186.2	-3,092.4	612.5	444.8	167.70	3.653		
10,200.0	6,939.5	10,012.0	6,757.5	90.1	90.3	72.71	184.6	-3,192.4	612.4	439.4	172.99	3.540		
10,300.0	6,939.5	10,112.0	6,757.5	92.9	93.1	72.70	183.0	-3,292.4	612.2	433.9	178.29	3.434		
10,400.0	6,939.5	10,212.0	6,757.5	95.7	95.8	72.70	181.4	-3,392.4	612.0	428.4	183.59	3.334		
10,500.0	6,939.5	10,312.0	6,757.5	98.4	98.6	72.69	179.7	-3,492.4	611.8	422.9	188.89	3.239		
10,600.0	6,939.5	10,412.0	6,757.5	101.2	101.3	72.69	178.1	-3,592.4	611.7	417.5	194.20	3.150		
10,700.0	6,939.5	10,512.0	6,757.5	104.0	104.1	72.68	176.5	-3,692.3	611.5	412.0	199.51	3.065		
10,800.0	6,939.5	10,612.0	6,757.5	106.8	106.9	72.68	174.9	-3,792.3	611.3	406.5	204.82	2.985		
10,900.0	6,939.5	10,712.0	6,757.5	109.6	109.7	72.67	173.3	-3,892.3	611.1	401.0	210.14	2.908		
11,000.0	6,939.5	10,812.0	6,757.5	112.3	112.4	72.67	171.7	-3,992.3	610.9	395.5	215.46	2.836		
11,100.0	6,939.5	10,912.0	6,757.5	115.1	115.2	72.66	170.1	-4,092.3	610.8	390.0	220.78	2.766		
11,200.0	6,939.5	11,012.0	6,757.5	117.9	118.0	72.66	168.5	-4,192.3	610.6	384.5	226.10	2.701		
11,300.0	6,939.5	11,112.0	6,757.5	120.7	120.8	72.65	166.9	-4,292.3	610.4	379.0	231.43	2.638		
11,400.0	6,939.5	11,212.0	6,757.5	123.5	123.5	72.65	165.3	-4,392.3	610.2	373.5	236.76	2.577		
11,497.3	6,939.5	11,309.2	6,757.5	126.2	126.3	72.64	163.7	-4,489.5	610.1	368.1	241.94	2.522		

Company:	Great Western	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6840-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	0.00	29.6	0.0	29.6					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.6	0.0	29.6	29.3	0.27	111.323		
200.0	200.0	200.0	200.0	0.4	0.4	0.00	29.6	0.0	29.6	28.8	0.80	37.108		
300.0	300.0	300.0	300.0	0.7	0.7	0.00	29.6	0.0	29.6	28.2	1.33	22.265		
400.0	400.0	400.0	400.0	0.9	0.9	0.00	29.6	0.0	29.6	27.7	1.86	15.903		
500.0	500.0	500.0	500.0	1.2	1.2	0.00	29.6	0.0	29.6	27.2	2.39	12.369		
600.0	600.0	600.0	600.0	1.5	1.5	0.00	29.6	0.0	29.6	26.6	2.92	10.120		
700.0	700.0	700.0	700.0	1.7	1.7	0.00	29.6	0.0	29.6	26.1	3.45	8.563		
800.0	800.0	800.0	800.0	2.0	2.0	0.00	29.6	0.0	29.6	25.6	3.98	7.422		
900.0	900.0	900.0	900.0	2.3	2.3	0.00	29.6	0.0	29.6	25.0	4.51	6.548		
1,000.0	1,000.0	1,000.0	1,000.0	2.5	2.5	0.00	29.6	0.0	29.6	24.5	5.04	5.859		
1,100.0	1,100.0	1,100.0	1,100.0	2.8	2.8	0.00	29.6	0.0	29.6	24.0	5.57	5.301		
1,200.0	1,200.0	1,200.0	1,200.0	3.1	3.1	0.00	29.6	0.0	29.6	23.4	6.11	4.840		
1,300.0	1,300.0	1,300.0	1,300.0	3.3	3.3	0.00	29.6	0.0	29.6	22.9	6.64	4.453		
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	0.00	29.6	0.0	29.6	22.4	7.17	4.123		
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	0.00	29.6	0.0	29.6	21.9	7.70	3.839		
1,600.0	1,600.0	1,600.0	1,600.0	4.1	4.1	0.00	29.6	0.0	29.6	21.3	8.23	3.591		
1,700.0	1,700.0	1,700.0	1,700.0	4.4	4.4	0.00	29.6	0.0	29.6	20.8	8.76	3.373		
1,800.0	1,800.0	1,800.0	1,800.0	4.6	4.6	0.00	29.6	0.0	29.6	20.3	9.29	3.181		
1,900.0	1,900.0	1,900.0	1,900.0	4.9	4.9	0.00	29.6	0.0	29.6	19.7	9.82	3.009		
2,000.0	2,000.0	2,000.0	2,000.0	5.2	5.2	0.00	29.6	0.0	29.6	19.2	10.35	2.854		
2,100.0	2,100.0	2,100.0	2,100.0	5.4	5.4	0.00	29.6	0.0	29.6	18.7	10.88	2.715		
2,200.0	2,200.0	2,200.0	2,200.0	5.7	5.7	0.00	29.6	0.0	29.6	18.1	11.41	2.589		
2,300.0	2,300.0	2,300.0	2,300.0	6.0	6.0	0.00	29.6	0.0	29.6	17.6	11.95	2.474		
2,400.0	2,400.0	2,400.0	2,400.0	6.2	6.2	0.00	29.6	0.0	29.6	17.1	12.48	2.369		
2,500.0	2,500.0	2,500.0	2,500.0	6.5	6.5	0.00	29.6	0.0	29.6	16.5	13.01	2.272		
2,600.0	2,600.0	2,600.0	2,600.0	6.8	6.8	0.00	29.6	0.0	29.6	16.0	13.54	2.183		
2,700.0	2,700.0	2,700.0	2,700.0	7.0	7.0	0.00	29.6	0.0	29.6	15.5	14.07	2.100		
2,800.0	2,800.0	2,800.0	2,800.0	7.3	7.3	0.00	29.6	0.0	29.6	15.0	14.60	2.024		
2,900.0	2,900.0	2,900.0	2,900.0	7.6	7.6	0.00	29.6	0.0	29.6	14.4	15.13	1.953		
3,000.0	3,000.0	3,000.0	3,000.0	7.8	7.8	0.00	29.6	0.0	29.6	13.9	15.66	1.887		
3,100.0	3,100.0	3,100.0	3,100.0	8.1	8.1	0.00	29.6	0.0	29.6	13.4	16.19	1.825		
3,200.0	3,200.0	3,200.0	3,200.0	8.4	8.4	0.00	29.6	0.0	29.6	12.8	16.72	1.767		
3,300.0	3,300.0	3,300.0	3,300.0	8.6	8.6	0.00	29.6	0.0	29.6	12.3	17.25	1.713		
3,400.0	3,400.0	3,400.0	3,400.0	8.9	8.9	0.00	29.6	0.0	29.6	11.8	17.78	1.662		
3,500.0	3,500.0	3,500.0	3,500.0	9.2	9.2	0.00	29.6	0.0	29.6	11.2	18.32	1.613		
3,600.0	3,600.0	3,600.0	3,600.0	9.4	9.4	0.00	29.6	0.0	29.6	10.7	18.85	1.568		
3,700.0	3,700.0	3,700.0	3,700.0	9.7	9.7	0.00	29.6	0.0	29.6	10.2	19.38	1.525		
3,800.0	3,800.0	3,800.0	3,800.0	10.0	10.0	0.00	29.6	0.0	29.6	9.6	19.91	1.484 Level 3		
3,900.0	3,900.0	3,900.0	3,900.0	10.2	10.2	0.00	29.6	0.0	29.6	9.1	20.44	1.446 Level 3		
4,000.0	4,000.0	4,000.0	4,000.0	10.5	10.5	0.00	29.6	0.0	29.6	8.6	20.97	1.409 Level 3		
4,100.0	4,100.0	4,100.0	4,100.0	10.8	10.8	0.00	29.6	0.0	29.6	8.0	21.50	1.374 Level 3		
4,200.0	4,200.0	4,200.0	4,200.0	11.0	11.0	0.00	29.6	0.0	29.6	7.5	22.03	1.341 Level 3		
4,300.0	4,300.0	4,300.0	4,300.0	11.3	11.3	0.00	29.6	0.0	29.6	7.0	22.56	1.310 Level 3		
4,400.0	4,400.0	4,400.0	4,400.0	11.5	11.5	0.00	29.6	0.0	29.6	6.5	23.09	1.280 Level 3		
4,500.0	4,500.0	4,500.0	4,500.0	11.8	11.8	0.00	29.6	0.0	29.6	5.9	23.62	1.251 Level 3		
4,600.0	4,600.0	4,600.0	4,600.0	12.1	12.1	0.00	29.6	0.0	29.6	5.4	24.16	1.223 Level 2		
4,700.0	4,700.0	4,700.0	4,700.0	12.3	12.3	0.00	29.6	0.0	29.6	4.9	24.69	1.197 Level 2		
4,800.0	4,800.0	4,800.0	4,800.0	12.6	12.6	0.00	29.6	0.0	29.6	4.3	25.22	1.172 Level 2		
4,900.0	4,900.0	4,900.0	4,900.0	12.9	12.9	0.00	29.6	0.0	29.6	3.8	25.75	1.148 Level 2		
5,000.0	5,000.0	5,000.0	5,000.0	13.1	13.1	0.00	29.6	0.0	29.6	3.3	26.28	1.124 Level 2		
5,100.0	5,100.0	5,100.0	5,100.0	13.4	13.4	0.00	29.6	0.0	29.6	2.7	26.81	1.102 Level 2		

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 Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6840-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,200.0	5,200.0	5,200.0	13.7	13.7	0.00	29.6	0.0	29.6	2.2	27.34	1.081	Level 2	
5,300.0	5,300.0	5,300.0	5,300.0	13.9	13.9	0.00	29.6	0.0	29.6	1.7	27.87	1.060	Level 2, CC, ES, SF	
5,400.0	5,400.0	5,400.0	5,400.0	14.1	14.2	-141.02	29.6	0.0	31.5	3.3	28.25	1.117	Level 2	
5,500.0	5,499.6	5,499.6	5,499.6	14.1	14.5	-148.38	29.6	0.0	38.0	9.5	28.43	1.335	Level 3	
5,600.0	5,598.8	5,598.8	5,598.8	14.1	14.7	-156.16	29.6	0.0	49.6	21.0	28.53	1.737		
5,700.0	5,697.1	5,700.8	5,700.8	14.1	14.9	-161.60	28.7	1.6	65.3	36.8	28.50	2.293		
5,800.0	5,794.3	5,808.7	5,807.4	14.1	15.0	-160.29	21.2	15.4	76.1	47.8	28.27	2.692		
5,900.0	5,890.2	5,917.1	5,911.0	14.2	15.1	-153.38	6.0	43.2	80.5	52.4	28.09	2.866		
6,000.0	5,984.6	6,023.3	6,006.7	14.2	15.1	-140.75	-16.0	83.5	80.9	52.6	28.27	2.862		
6,022.1	6,005.4	6,045.2	6,025.5	14.2	15.1	-137.26	-21.3	93.2	80.8	52.4	28.40	2.844		
6,100.0	6,078.6	6,121.1	6,091.1	14.3	15.2	-125.25	-39.6	126.7	82.7	53.8	28.84	2.866		
6,200.0	6,172.6	6,222.0	6,178.7	14.3	15.3	-111.64	-64.1	170.2	89.6	60.3	29.33	3.056		
6,300.0	6,266.6	6,333.6	6,282.5	14.4	15.3	-109.75	-93.6	198.0	89.6	60.1	29.50	3.036		
6,400.0	6,360.7	6,439.8	6,384.2	14.5	15.3	-124.12	-122.8	198.7	79.0	49.8	29.20	2.704		
6,469.3	6,426.2	6,505.5	6,446.1	14.6	15.3	-150.69	-140.9	186.3	74.3	45.7	28.66	2.594		
6,500.0	6,455.0	6,531.3	6,469.8	14.6	15.3	-165.57	-147.8	178.9	76.1	47.6	28.50	2.670		
6,600.0	6,551.3	6,613.9	6,542.3	14.6	15.4	124.60	-169.2	145.6	95.0	65.7	29.32	3.239		
6,700.0	6,645.6	6,691.6	6,603.7	14.7	15.4	78.85	-187.6	101.9	123.0	93.4	29.63	4.154		
6,800.0	6,733.3	6,765.8	6,654.6	14.7	15.4	56.87	-203.1	50.3	151.4	123.0	28.45	5.322		
6,900.0	6,809.6	6,837.5	6,695.2	14.8	16.1	45.43	-215.8	-7.3	176.4	150.1	26.33	6.700		
7,000.0	6,870.9	6,907.5	6,725.6	14.8	16.9	39.00	-225.5	-69.4	196.2	172.9	23.28	8.428		
7,100.0	6,913.9	6,975.0	6,745.6	16.5	17.0	35.44	-232.4	-133.5	210.0	189.5	20.48	10.255		
7,200.0	6,936.3	7,044.4	6,756.1	16.6	17.0	33.77	-236.5	-201.9	217.2	197.6	19.61	11.080		
7,300.0	6,939.5	7,127.8	6,757.5	16.7	17.3	33.50	-238.3	-285.3	218.3	197.4	20.85	10.470		
7,400.0	6,939.5	7,227.8	6,757.5	18.0	18.7	33.46	-239.9	-385.2	218.1	195.7	22.46	9.712		
7,500.0	6,939.5	7,327.8	6,757.5	19.7	20.3	33.41	-241.6	-485.2	218.0	193.6	24.42	8.929		
7,600.0	6,939.5	7,427.8	6,757.5	21.7	22.3	33.36	-243.2	-585.2	217.9	191.3	26.65	8.178		
7,700.0	6,939.5	7,527.8	6,757.5	23.8	24.4	33.32	-244.8	-685.2	217.8	188.7	29.07	7.491		
7,800.0	6,939.5	7,627.8	6,757.5	26.1	26.6	33.27	-246.5	-785.2	217.7	186.0	31.66	6.876		
7,900.0	6,939.5	7,727.8	6,757.5	28.4	28.9	33.22	-248.1	-885.2	217.6	183.2	34.36	6.332		
8,000.0	6,939.5	7,827.8	6,757.5	30.9	31.3	33.17	-249.7	-985.2	217.4	180.3	37.15	5.853		
8,100.0	6,939.5	7,927.8	6,757.5	33.4	33.8	33.13	-251.4	-1,085.2	217.3	177.3	40.01	5.432		
8,200.0	6,939.5	8,027.8	6,757.5	35.9	36.3	33.08	-253.0	-1,185.1	217.2	174.3	42.93	5.060		
8,300.0	6,939.5	8,127.8	6,757.5	38.5	38.9	33.03	-254.7	-1,285.1	217.1	171.2	45.88	4.731		
8,400.0	6,939.5	8,227.8	6,757.5	41.1	41.4	32.99	-256.3	-1,385.1	217.0	168.1	48.87	4.439		
8,500.0	6,939.5	8,327.8	6,757.5	43.7	44.1	32.94	-257.9	-1,485.1	216.9	165.0	51.89	4.179		
8,600.0	6,939.5	8,427.8	6,757.5	46.4	46.7	32.89	-259.6	-1,585.1	216.7	161.8	54.93	3.946		
8,700.0	6,939.5	8,527.8	6,757.5	49.1	49.4	32.84	-261.2	-1,685.1	216.6	158.6	57.98	3.736		
8,800.0	6,939.5	8,627.8	6,757.5	51.7	52.0	32.80	-262.8	-1,785.1	216.5	155.5	61.05	3.546		
8,900.0	6,939.5	8,727.8	6,757.5	54.4	54.7	32.75	-264.5	-1,885.0	216.4	152.3	64.13	3.374		
9,000.0	6,939.5	8,827.8	6,757.5	57.2	57.4	32.70	-266.1	-1,985.0	216.3	149.1	67.21	3.218		
9,100.0	6,939.5	8,927.8	6,757.5	59.9	60.1	32.65	-267.8	-2,085.0	216.2	145.9	70.30	3.075		
9,200.0	6,939.5	9,027.8	6,757.5	62.6	62.8	32.60	-269.4	-2,185.0	216.0	142.7	73.39	2.944		
9,300.0	6,939.5	9,127.8	6,757.5	65.3	65.6	32.56	-271.0	-2,285.0	215.9	139.4	76.49	2.823		
9,400.0	6,939.5	9,227.8	6,757.5	68.1	68.3	32.51	-272.7	-2,385.0	215.8	136.2	79.59	2.712		
9,500.0	6,939.5	9,327.8	6,757.5	70.8	71.0	32.46	-274.3	-2,485.0	215.7	133.0	82.69	2.609		
9,600.0	6,939.5	9,427.8	6,757.5	73.6	73.8	32.41	-275.9	-2,584.9	215.6	129.8	85.78	2.513		
9,700.0	6,939.5	9,527.8	6,757.5	76.3	76.5	32.37	-277.6	-2,684.9	215.5	126.6	88.88	2.424		
9,800.0	6,939.5	9,627.8	6,757.5	79.1	79.3	32.32	-279.2	-2,784.9	215.4	123.4	91.98	2.342		
9,900.0	6,939.5	9,727.8	6,757.5	81.8	82.0	32.27	-280.9	-2,884.9	215.2	120.2	95.07	2.264		
10,000.0	6,939.5	9,827.8	6,757.5	84.6	84.8	32.22	-282.5	-2,984.9	215.1	117.0	98.16	2.192		
10,100.0	6,939.5	9,927.8	6,757.5	87.4	87.5	32.17	-284.1	-3,084.9	215.0	113.8	101.24	2.124		

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 Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design Spaur Brothers North Pad Sec.31-T7N-R63W - Spaur Brothers EH 31-222HN - Wellbore #1 - Plan #1 (1												Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6840-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
10,200.0	6,939.5	10,027.8	6,757.5	90.1	90.3	32.13	-285.8	-3,184.9	214.9	110.6	104.33	2.060	
10,300.0	6,939.5	10,127.8	6,757.5	92.9	93.1	32.08	-287.4	-3,284.9	214.8	107.4	107.41	2.000	
10,400.0	6,939.5	10,227.8	6,757.5	95.7	95.8	32.03	-289.0	-3,384.8	214.7	104.2	110.48	1.943	
10,500.0	6,939.5	10,327.8	6,757.5	98.4	98.6	31.98	-290.7	-3,484.8	214.6	101.0	113.55	1.890	
10,600.0	6,939.5	10,427.8	6,757.5	101.2	101.4	31.93	-292.3	-3,584.8	214.5	97.8	116.62	1.839	
10,700.0	6,939.5	10,527.8	6,757.5	104.0	104.2	31.88	-294.0	-3,684.8	214.3	94.7	119.68	1.791	
10,800.0	6,939.5	10,627.8	6,757.5	106.8	106.9	31.83	-295.6	-3,784.8	214.2	91.5	122.74	1.745	
10,900.0	6,939.5	10,727.8	6,757.5	109.6	109.7	31.79	-297.2	-3,884.8	214.1	88.3	125.79	1.702	
11,000.0	6,939.5	10,827.8	6,757.5	112.3	112.5	31.74	-298.9	-3,984.8	214.0	85.2	128.83	1.661	
11,100.0	6,939.5	10,927.8	6,757.5	115.1	115.3	31.69	-300.5	-4,084.7	213.9	82.0	131.88	1.622	
11,200.0	6,939.5	11,027.8	6,757.5	117.9	118.1	31.64	-302.2	-4,184.7	213.8	78.9	134.91	1.585	
11,300.0	6,939.5	11,127.8	6,757.5	120.7	120.8	31.59	-303.8	-4,284.7	213.7	75.7	137.94	1.549	
11,400.0	6,939.5	11,227.8	6,757.5	123.5	123.6	31.54	-305.4	-4,384.7	213.6	72.6	140.96	1.515	
11,497.3	6,939.5	11,325.1	6,757.5	126.2	126.3	31.49	-307.0	-4,481.9	213.4	69.5	143.90	1.483 Level 3	

Company:	Great Western	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6930-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	179.88	-30.2	0.1	30.2				
100.0	100.0	100.0	100.0	0.1	0.1	179.88	-30.2	0.1	30.2	29.9	0.27	113.627	
200.0	200.0	200.0	200.0	0.4	0.4	179.88	-30.2	0.1	30.2	29.4	0.80	37.876	
300.0	300.0	300.0	300.0	0.7	0.7	179.88	-30.2	0.1	30.2	28.8	1.33	22.725	
400.0	400.0	400.0	400.0	0.9	0.9	179.88	-30.2	0.1	30.2	28.3	1.86	16.232	
500.0	500.0	500.0	500.0	1.2	1.2	179.88	-30.2	0.1	30.2	27.8	2.39	12.625	
600.0	600.0	600.0	600.0	1.5	1.5	179.88	-30.2	0.1	30.2	27.2	2.92	10.330	
700.0	700.0	700.0	700.0	1.7	1.7	179.88	-30.2	0.1	30.2	26.7	3.45	8.741	
800.0	800.0	800.0	800.0	2.0	2.0	179.88	-30.2	0.1	30.2	26.2	3.98	7.575	
900.0	900.0	900.0	900.0	2.3	2.3	179.88	-30.2	0.1	30.2	25.6	4.51	6.684	
1,000.0	1,000.0	1,000.0	1,000.0	2.5	2.5	179.88	-30.2	0.1	30.2	25.1	5.04	5.980	
1,100.0	1,100.0	1,100.0	1,100.0	2.8	2.8	179.88	-30.2	0.1	30.2	24.6	5.57	5.411	
1,200.0	1,200.0	1,200.0	1,200.0	3.1	3.1	179.88	-30.2	0.1	30.2	24.1	6.11	4.940	
1,300.0	1,300.0	1,300.0	1,300.0	3.3	3.3	179.88	-30.2	0.1	30.2	23.5	6.64	4.545	
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	179.88	-30.2	0.1	30.2	23.0	7.17	4.208	
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	179.88	-30.2	0.1	30.2	22.5	7.70	3.918	
1,600.0	1,600.0	1,600.0	1,600.0	4.1	4.1	179.88	-30.2	0.1	30.2	21.9	8.23	3.665	
1,700.0	1,700.0	1,700.0	1,700.0	4.4	4.4	179.88	-30.2	0.1	30.2	21.4	8.76	3.443	
1,800.0	1,800.0	1,800.0	1,800.0	4.6	4.6	179.88	-30.2	0.1	30.2	20.9	9.29	3.246	
1,900.0	1,900.0	1,900.0	1,900.0	4.9	4.9	179.88	-30.2	0.1	30.2	20.3	9.82	3.071	
2,000.0	2,000.0	2,000.0	2,000.0	5.2	5.2	179.88	-30.2	0.1	30.2	19.8	10.35	2.914	
2,100.0	2,100.0	2,100.0	2,100.0	5.4	5.4	179.88	-30.2	0.1	30.2	19.3	10.88	2.771	
2,200.0	2,200.0	2,200.0	2,200.0	5.7	5.7	179.88	-30.2	0.1	30.2	18.7	11.41	2.642	
2,300.0	2,300.0	2,300.0	2,300.0	6.0	6.0	179.88	-30.2	0.1	30.2	18.2	11.95	2.525	
2,400.0	2,400.0	2,400.0	2,400.0	6.2	6.2	179.88	-30.2	0.1	30.2	17.7	12.48	2.418	
2,500.0	2,500.0	2,500.0	2,500.0	6.5	6.5	179.88	-30.2	0.1	30.2	17.2	13.01	2.319	
2,600.0	2,600.0	2,600.0	2,600.0	6.8	6.8	179.88	-30.2	0.1	30.2	16.6	13.54	2.228	
2,700.0	2,700.0	2,700.0	2,700.0	7.0	7.0	179.88	-30.2	0.1	30.2	16.1	14.07	2.144	
2,800.0	2,800.0	2,800.0	2,800.0	7.3	7.3	179.88	-30.2	0.1	30.2	15.6	14.60	2.066	
2,900.0	2,900.0	2,900.0	2,900.0	7.6	7.6	179.88	-30.2	0.1	30.2	15.0	15.13	1.993	
3,000.0	3,000.0	3,000.0	3,000.0	7.8	7.8	179.88	-30.2	0.1	30.2	14.5	15.66	1.926	
3,100.0	3,100.0	3,100.0	3,100.0	8.1	8.1	179.88	-30.2	0.1	30.2	14.0	16.19	1.863	
3,200.0	3,200.0	3,200.0	3,200.0	8.4	8.4	179.88	-30.2	0.1	30.2	13.4	16.72	1.804	
3,300.0	3,300.0	3,300.0	3,300.0	8.6	8.6	179.88	-30.2	0.1	30.2	12.9	17.25	1.748	
3,400.0	3,400.0	3,400.0	3,400.0	8.9	8.9	179.88	-30.2	0.1	30.2	12.4	17.78	1.696	
3,500.0	3,500.0	3,500.0	3,500.0	9.2	9.2	179.88	-30.2	0.1	30.2	11.8	18.32	1.647	
3,600.0	3,600.0	3,600.0	3,600.0	9.4	9.4	179.88	-30.2	0.1	30.2	11.3	18.85	1.600	
3,700.0	3,700.0	3,700.0	3,700.0	9.7	9.7	179.88	-30.2	0.1	30.2	10.8	19.38	1.557	
3,800.0	3,800.0	3,800.0	3,800.0	10.0	10.0	179.88	-30.2	0.1	30.2	10.3	19.91	1.515	
3,900.0	3,900.0	3,900.0	3,900.0	10.2	10.2	179.88	-30.2	0.1	30.2	9.7	20.44	1.476 Level 3	
4,000.0	4,000.0	4,000.0	4,000.0	10.5	10.5	179.88	-30.2	0.1	30.2	9.2	20.97	1.438 Level 3	
4,100.0	4,100.0	4,100.0	4,100.0	10.8	10.8	179.88	-30.2	0.1	30.2	8.7	21.50	1.403 Level 3	
4,200.0	4,200.0	4,200.0	4,200.0	11.0	11.0	179.88	-30.2	0.1	30.2	8.1	22.03	1.369 Level 3	
4,300.0	4,300.0	4,300.0	4,300.0	11.3	11.3	179.88	-30.2	0.1	30.2	7.6	22.56	1.337 Level 3	
4,400.0	4,400.0	4,400.0	4,400.0	11.5	11.5	179.88	-30.2	0.1	30.2	7.1	23.09	1.306 Level 3	
4,500.0	4,500.0	4,500.0	4,500.0	11.8	11.8	179.88	-30.2	0.1	30.2	6.5	23.62	1.277 Level 3	
4,600.0	4,600.0	4,600.0	4,600.0	12.1	12.1	179.88	-30.2	0.1	30.2	6.0	24.16	1.249 Level 2	
4,700.0	4,700.0	4,700.0	4,700.0	12.3	12.3	179.88	-30.2	0.1	30.2	5.5	24.69	1.222 Level 2	
4,800.0	4,800.0	4,800.0	4,800.0	12.6	12.6	179.88	-30.2	0.1	30.2	4.9	25.22	1.196 Level 2, CC, ES, SF	
4,900.0	4,900.0	4,898.4	4,898.4	12.9	12.7	178.36	-32.5	0.9	32.6	7.0	25.60	1.273 Level 3	
5,000.0	5,000.0	4,996.4	4,996.0	13.1	12.7	174.92	-39.6	3.5	40.0	14.1	25.85	1.547	
5,100.0	5,100.0	5,093.3	5,092.1	13.4	12.7	171.38	-51.3	7.8	52.5	26.4	26.10	2.010	

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 Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6930-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,200.0	5,188.7	5,186.0	13.7	12.7	168.57	-67.2	13.6	70.0	43.6	26.35	2.654		
5,300.0	5,300.0	5,282.2	5,277.1	13.9	12.7	166.53	-87.0	20.8	92.4	65.8	26.62	3.471		
5,400.0	5,400.0	5,374.0	5,365.4	14.1	12.7	27.44	-110.6	29.4	117.3	90.6	26.72	4.391		
5,500.0	5,499.6	5,464.7	5,451.3	14.1	12.7	27.29	-137.7	39.4	142.4	115.7	26.64	5.343		
5,600.0	5,598.8	5,554.2	5,534.8	14.1	12.7	27.72	-168.2	50.5	167.5	140.9	26.52	6.314		
5,700.0	5,697.1	5,642.7	5,615.6	14.1	12.8	28.48	-202.0	62.8	192.6	166.2	26.36	7.307		
5,800.0	5,794.3	5,730.0	5,693.7	14.1	12.8	29.43	-238.7	76.2	217.8	191.7	26.16	8.325		
5,900.0	5,890.2	5,819.1	5,771.5	14.2	12.9	30.56	-279.4	91.1	242.9	217.0	25.94	9.364		
6,000.0	5,984.6	5,916.3	5,855.8	14.2	13.0	32.18	-324.8	107.7	265.4	239.5	25.84	10.269		
6,100.0	6,078.6	6,013.5	5,940.2	14.3	13.1	33.87	-370.2	124.3	287.2	261.2	25.96	11.061		
6,200.0	6,172.6	6,110.8	6,024.6	14.3	13.2	35.31	-415.6	140.9	309.2	283.1	26.10	11.847		
6,300.0	6,266.6	6,208.1	6,109.0	14.4	13.3	36.56	-461.0	157.5	331.4	305.1	26.25	12.625		
6,400.0	6,360.7	6,305.3	6,193.4	14.5	13.5	37.66	-506.4	174.1	353.7	327.3	26.41	13.392		
6,500.0	6,455.0	6,402.6	6,277.9	14.6	13.7	27.05	-551.9	190.7	376.1	349.5	26.62	14.131		
6,600.0	6,551.3	6,498.8	6,361.7	14.6	13.8	-16.19	-597.1	202.5	398.7	372.0	26.72	14.922		
6,700.0	6,645.6	6,596.4	6,447.1	14.7	14.0	-45.68	-643.3	194.3	421.1	394.4	26.71	15.765		
6,800.0	6,733.3	6,696.9	6,531.0	14.7	14.2	-57.98	-689.0	163.8	442.1	415.5	26.62	16.607		
6,900.0	6,809.6	6,800.9	6,609.0	14.8	14.3	-63.44	-731.8	110.4	460.7	434.3	26.49	17.396		
7,000.0	6,870.9	6,908.7	6,675.7	14.8	14.5	-66.14	-768.9	34.7	475.9	449.5	26.36	18.052		
7,100.0	6,913.9	7,019.9	6,725.5	16.5	16.1	-67.53	-796.9	-60.4	486.7	460.1	26.53	18.346		
7,200.0	6,936.3	7,133.7	6,753.1	16.6	16.2	-68.20	-813.2	-169.3	492.3	464.7	27.67	17.795		
7,300.0	6,939.5	7,242.4	6,757.5	16.7	16.2	-68.34	-816.9	-277.6	493.0	463.1	29.89	16.495		
7,400.0	6,939.5	7,342.4	6,757.5	18.0	17.1	-68.33	-818.2	-377.6	492.9	460.1	32.74	15.055		
7,500.0	6,939.5	7,442.4	6,757.5	19.7	19.0	-68.32	-819.4	-477.6	492.7	456.6	36.11	13.645		
7,600.0	6,939.5	7,542.4	6,757.5	21.7	21.1	-68.31	-820.6	-577.6	492.5	452.6	39.88	12.349		
7,700.0	6,939.5	7,642.4	6,757.5	23.8	23.3	-68.31	-821.9	-677.6	492.3	448.4	43.96	11.199		
7,800.0	6,939.5	7,742.4	6,757.5	26.1	25.6	-68.30	-823.1	-777.6	492.2	443.9	48.27	10.197		
7,900.0	6,939.5	7,842.4	6,757.5	28.4	28.1	-68.29	-824.3	-877.6	492.0	439.3	52.74	9.329		
8,000.0	6,939.5	7,942.4	6,757.5	30.9	30.6	-68.28	-825.6	-977.6	491.8	434.5	57.34	8.578		
8,100.0	6,939.5	8,042.4	6,757.5	33.4	33.1	-68.27	-826.8	-1,077.5	491.7	429.6	62.04	7.925		
8,200.0	6,939.5	8,142.4	6,757.5	35.9	35.7	-68.27	-828.1	-1,177.5	491.5	424.7	66.82	7.355		
8,300.0	6,939.5	8,242.4	6,757.5	38.5	38.3	-68.26	-829.3	-1,277.5	491.3	419.6	71.67	6.855		
8,400.0	6,939.5	8,342.4	6,757.5	41.1	41.0	-68.25	-830.5	-1,377.5	491.1	414.6	76.56	6.415		
8,500.0	6,939.5	8,442.4	6,757.5	43.7	43.6	-68.24	-831.8	-1,477.5	491.0	409.5	81.50	6.024		
8,600.0	6,939.5	8,542.4	6,757.5	46.4	46.3	-68.23	-833.0	-1,577.5	490.8	404.3	86.47	5.676		
8,700.0	6,939.5	8,642.4	6,757.5	49.1	49.0	-68.23	-834.3	-1,677.5	490.6	399.2	91.48	5.363		
8,800.0	6,939.5	8,742.4	6,757.5	51.7	51.7	-68.22	-835.5	-1,777.5	490.5	394.0	96.50	5.082		
8,900.0	6,939.5	8,842.4	6,757.5	54.4	54.4	-68.21	-836.7	-1,877.5	490.3	388.7	101.55	4.828		
9,000.0	6,939.5	8,942.4	6,757.5	57.2	57.1	-68.20	-838.0	-1,977.5	490.1	383.5	106.61	4.597		
9,100.0	6,939.5	9,042.4	6,757.5	59.9	59.9	-68.19	-839.2	-2,077.5	489.9	378.3	111.69	4.387		
9,200.0	6,939.5	9,142.4	6,757.5	62.6	62.6	-68.19	-840.5	-2,177.5	489.8	373.0	116.78	4.194		
9,300.0	6,939.5	9,242.4	6,757.5	65.3	65.4	-68.18	-841.7	-2,277.5	489.6	367.7	121.88	4.017		
9,400.0	6,939.5	9,342.4	6,757.5	68.1	68.1	-68.17	-842.9	-2,377.4	489.4	362.4	127.00	3.854		
9,500.0	6,939.5	9,442.4	6,757.5	70.8	70.9	-68.16	-844.2	-2,477.4	489.3	357.1	132.12	3.703		
9,600.0	6,939.5	9,542.4	6,757.5	73.6	73.6	-68.15	-845.4	-2,577.4	489.1	351.8	137.25	3.564		
9,700.0	6,939.5	9,642.4	6,757.5	76.3	76.4	-68.15	-846.7	-2,677.4	488.9	346.5	142.38	3.434		
9,800.0	6,939.5	9,742.4	6,757.5	79.1	79.1	-68.14	-847.9	-2,777.4	488.7	341.2	147.53	3.313		
9,900.0	6,939.5	9,842.4	6,757.5	81.8	81.9	-68.13	-849.1	-2,877.4	488.6	335.9	152.67	3.200		
10,000.0	6,939.5	9,942.4	6,757.5	84.6	84.7	-68.12	-850.4	-2,977.4	488.4	330.6	157.82	3.095		
10,100.0	6,939.5	10,042.4	6,757.5	87.4	87.5	-68.11	-851.6	-3,077.4	488.2	325.2	162.98	2.996		
10,200.0	6,939.5	10,142.4	6,757.5	90.1	90.2	-68.10	-852.8	-3,177.4	488.1	319.9	168.14	2.903		
10,300.0	6,939.5	10,242.4	6,757.5	92.9	93.0	-68.10	-854.1	-3,277.4	487.9	314.6	173.30	2.815		

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

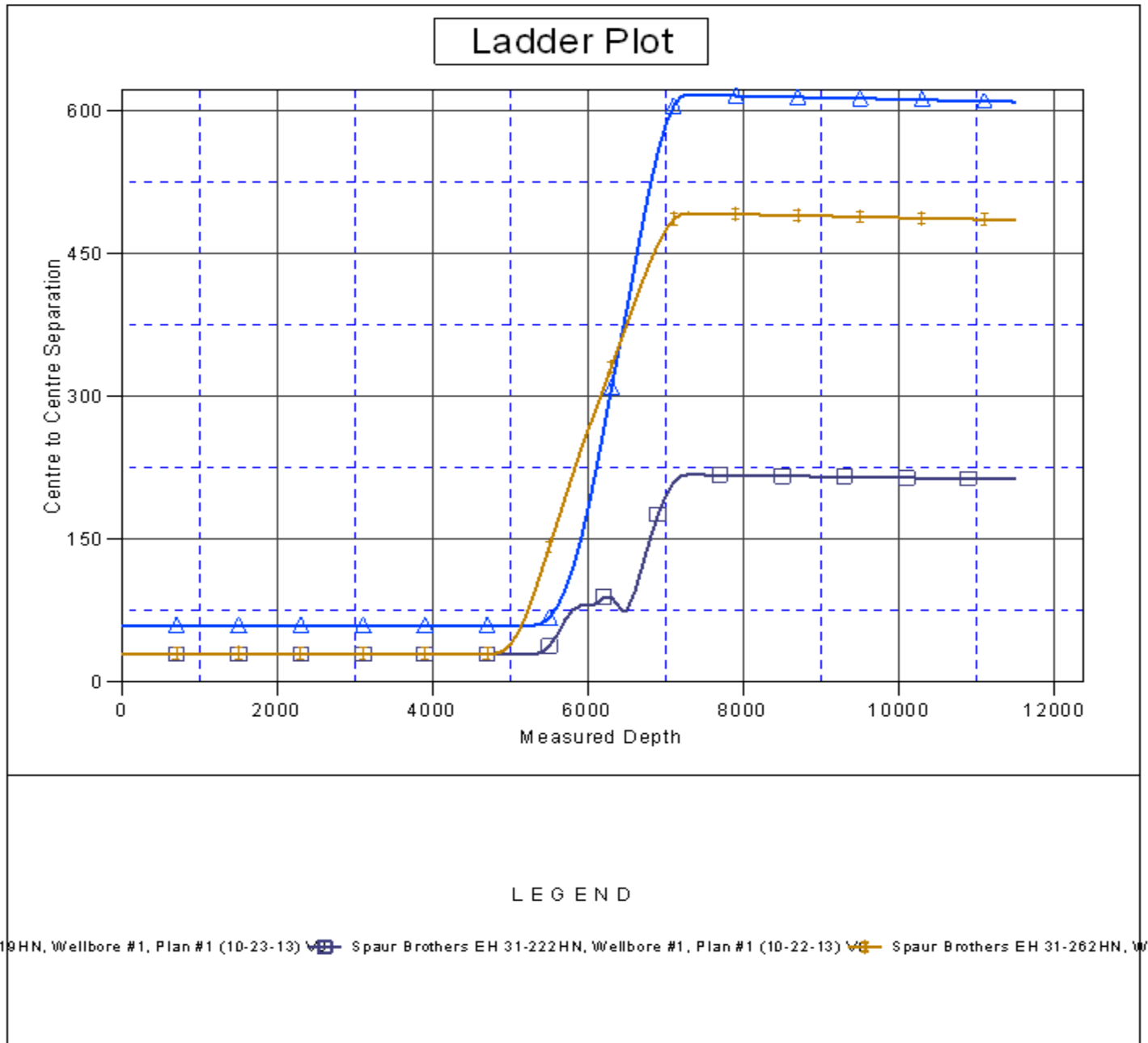
Company:	Great Western	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Offset Design Spaur Brothers North Pad Sec.31-T7N-R63W - Spaur Brothers EH 31-262HN - Wellbore #1 - Plan #1 (1												Offset Site Error:	0.0 ft
Survey Program: 0-NS-GYRO-MS, 6930-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	6,939.5	10,342.4	6,757.5	95.7	95.8	-68.09	-855.3	-3,377.4	487.7	309.2	178.47	2.733	
10,500.0	6,939.5	10,442.4	6,757.5	98.4	98.6	-68.08	-856.6	-3,477.4	487.5	303.9	183.64	2.655	
10,600.0	6,939.5	10,542.4	6,757.5	101.2	101.4	-68.07	-857.8	-3,577.4	487.4	298.6	188.81	2.581	
10,700.0	6,939.5	10,642.4	6,757.5	104.0	104.1	-68.06	-859.0	-3,677.3	487.2	293.2	193.98	2.512	
10,800.0	6,939.5	10,742.4	6,757.5	106.8	106.9	-68.06	-860.3	-3,777.3	487.0	287.9	199.16	2.445	
10,900.0	6,939.5	10,842.4	6,757.5	109.6	109.7	-68.05	-861.5	-3,877.3	486.9	282.5	204.34	2.383	
11,000.0	6,939.5	10,942.4	6,757.5	112.3	112.5	-68.04	-862.8	-3,977.3	486.7	277.2	209.52	2.323	
11,100.0	6,939.5	11,042.4	6,757.5	115.1	115.3	-68.03	-864.0	-4,077.3	486.5	271.8	214.70	2.266	
11,200.0	6,939.5	11,142.4	6,757.5	117.9	118.1	-68.02	-865.2	-4,177.3	486.3	266.5	219.88	2.212	
11,300.0	6,939.5	11,242.4	6,757.5	120.7	120.9	-68.02	-866.5	-4,277.3	486.2	261.1	225.06	2.160	
11,400.0	6,939.5	11,342.4	6,757.5	123.5	123.7	-68.01	-867.7	-4,377.3	486.0	255.7	230.25	2.111	
11,486.1	6,939.5	11,429.5	6,757.5	125.9	126.1	-68.00	-868.7	-4,464.4	485.8	251.0	234.74	2.069	
11,497.3	6,939.5	11,437.8	6,757.5	126.2	126.3	-68.00	-868.8	-4,472.7	485.7	250.5	235.24	2.065	

Company:	Great Western	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4778.5ft (RKB - 16.5')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Spaur Brothers EH 31-259HC
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°



Company:	Great Western	Local Co-ordinate Reference:	Well Spaur Brothers EH 31-259HC
Project:	SEC.31-T7N-R63W	TVD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Reference Site:	Spaur Brothers North Pad Sec.31-T7N-R63W	MD Reference:	WELL @ 4778.5ft (RKB - 16.5')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Spaur Brothers EH 31-259HC	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 (10-22-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4778.5ft (RKB - 16.5')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Spaur Brothers EH 31-259HC
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°

