

ENSIGN

Directional

Well Name: Peterson CX GH 30-27D

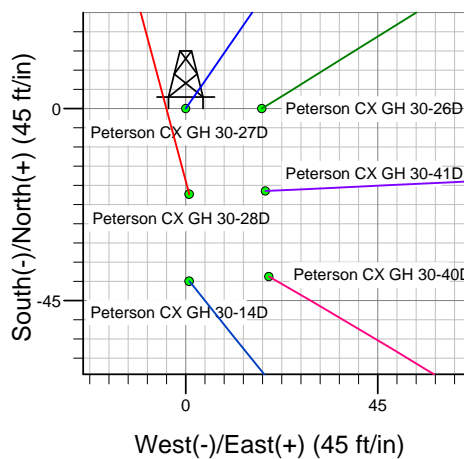
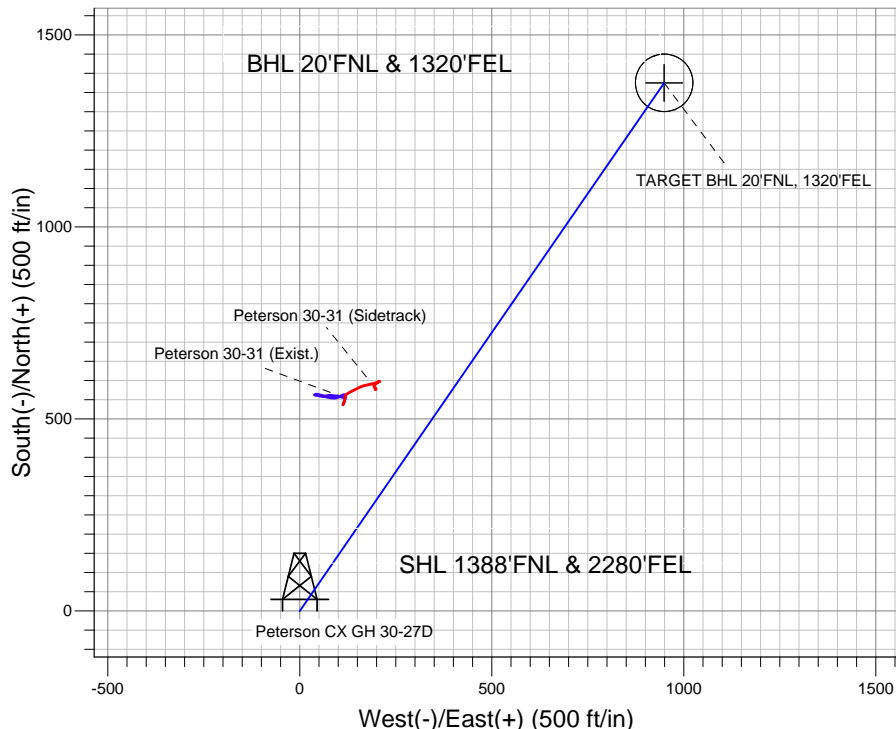
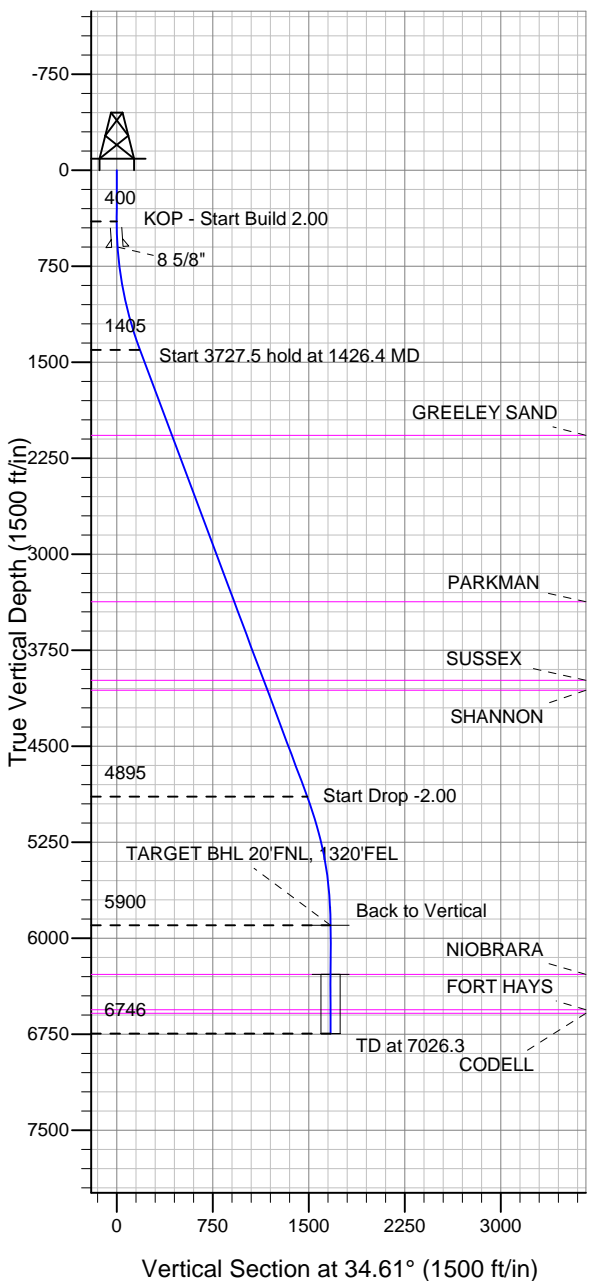
Surface Location: Peterson CX GH 30-41D Pad Sec.30-T5N-R63W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4574.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1380674.17	3284771.18	40.373847	-104.477892	

Original Well Elev WELL @ 4588.0ft (Original Well Elev)

Great Western



Peterson CX GH 30-41D Pad Sec.30-T5N-R63W
 Peterson CX GH 30-27D
 Plan #1 (7-25-12)
 6:58, July 31 2012



Azimuths to True North
 Magnetic North: 8.56°

Magnetic Field
 Strength: 53031.3snT
 Dip Angle: 67.04°
 Date: 7/31/2012
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 20'FNL, 1320'FEL	5900.0	1375.3	949.0	40.377622	-104.474486	Point
TARGET CIRCLE 20'FNL & 1320'FEL	6284.0	1375.3	949.0	40.377622	-104.474486	Circle (Radius: 75.0)

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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1426.4	20.53	34.61	1404.6	149.7	103.3	2.00	34.61	181.9	
4	5153.9	20.53	34.61	4895.4	1225.6	845.6	0.00	0.00	1489.0	
5	6180.3	0.00	0.00	5900.0	1375.3	949.0	2.00	180.00	1670.9	TARGET BHL 20'FNL, 1320'FEL
6	7026.3	0.00	0.00	6746.0	1375.3	949.0	0.00	0.00	1670.9	



Directional

Great Western

SEC.30-T5N-R63W

Peterson CX GH 30-41D Pad Sec.30-T5N-R63W

Peterson CX GH 30-27D

Wellbore #1

Plan: Plan #1 (7-25-12)

Standard Planning Report

31 July, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Company:	Great Western	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Project:	SEC.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	North Reference:	True
Well:	Peterson CX GH 30-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-12)		

Project	SEC.30-T5N-R63W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Peterson CX GH 30-41D Pad Sec.30-T5N-R63W											
Site Position:						Northing:			1,380,655.09ft			Latitude:			40.373794		
From:			Lat/Long			Easting:			3,284,790.06ft			Longitude:			-104.477825		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.66 °		

Well	Peterson CX GH 30-27D					
Well Position	+N/-S	19.3 ft	Northing:	1,380,674.17 ft	Latitude:	40.373847
	+E/-W	-18.7 ft	Easting:	3,284,771.18 ft	Longitude:	-104.477892
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,574.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/31/2012	8.56	67.04	53,031

Design	Plan #1 (7-25-12)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	34.61

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,426.4	20.53	34.61	1,404.6	149.7	103.3	2.00	2.00	0.00	34.61	
5,153.9	20.53	34.61	4,895.4	1,225.6	845.6	0.00	0.00	0.00	0.00	
6,180.3	0.00	0.00	5,900.0	1,375.3	949.0	2.00	-2.00	0.00	180.00	TARGET BHL 20'FI
7,026.3	0.00	0.00	6,746.0	1,375.3	949.0	0.00	0.00	0.00	0.00	

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Project:	SEC.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	North Reference:	True
Well:	Peterson CX GH 30-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-12)		

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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	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
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	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
KOP - Start Build 2.00									
440.0	0.80	34.61	440.0	0.2	0.2	0.3	2.00	2.00	0.00
480.0	1.60	34.61	480.0	0.9	0.6	1.1	2.00	2.00	0.00
520.0	2.40	34.61	520.0	2.1	1.4	2.5	2.00	2.00	0.00
560.0	3.20	34.61	559.9	3.7	2.5	4.5	2.00	2.00	0.00
600.0	4.00	34.61	599.8	5.7	4.0	7.0	2.00	2.00	0.00
600.2	4.00	34.61	600.0	5.8	4.0	7.0	0.00	0.00	0.00
8 5/8"									
640.0	4.80	34.61	639.7	8.3	5.7	10.0	2.01	2.01	0.00
680.0	5.60	34.61	679.6	11.3	7.8	13.7	2.00	2.00	0.00
720.0	6.40	34.61	719.3	14.7	10.1	17.9	2.00	2.00	0.00
760.0	7.20	34.61	759.1	18.6	12.8	22.6	2.00	2.00	0.00
800.0	8.00	34.61	798.7	22.9	15.8	27.9	2.00	2.00	0.00
840.0	8.80	34.61	838.3	27.8	19.2	33.7	2.00	2.00	0.00
880.0	9.60	34.61	877.8	33.0	22.8	40.1	2.00	2.00	0.00
920.0	10.40	34.61	917.1	38.7	26.7	47.1	2.00	2.00	0.00
960.0	11.20	34.61	956.4	44.9	31.0	54.6	2.00	2.00	0.00
1,000.0	12.00	34.61	995.6	51.5	35.6	62.6	2.00	2.00	0.00
1,040.0	12.80	34.61	1,034.7	58.6	40.4	71.2	2.00	2.00	0.00
1,080.0	13.60	34.61	1,073.6	66.1	45.6	80.3	2.00	2.00	0.00
1,120.0	14.40	34.61	1,112.4	74.1	51.1	90.0	2.00	2.00	0.00
1,160.0	15.20	34.61	1,151.1	82.5	56.9	100.2	2.00	2.00	0.00
1,200.0	16.00	34.61	1,189.6	91.3	63.0	111.0	2.00	2.00	0.00
1,240.0	16.80	34.61	1,228.0	100.6	69.4	122.3	2.00	2.00	0.00
1,280.0	17.60	34.61	1,266.2	110.4	76.2	134.1	2.00	2.00	0.00
1,320.0	18.40	34.61	1,304.3	120.5	83.2	146.5	2.00	2.00	0.00
1,360.0	19.20	34.61	1,342.1	131.2	90.5	159.3	2.00	2.00	0.00
1,400.0	20.00	34.61	1,379.8	142.2	98.1	172.8	2.00	2.00	0.00
1,426.4	20.53	34.61	1,404.6	149.7	103.3	181.9	2.00	2.00	0.00
Start 3727.5 hold at 1426.4 MD									
1,440.0	20.53	34.61	1,417.3	153.7	106.0	186.7	0.00	0.00	0.00
1,480.0	20.53	34.61	1,454.8	165.2	114.0	200.7	0.00	0.00	0.00
1,520.0	20.53	34.61	1,492.2	176.7	122.0	214.7	0.00	0.00	0.00
1,560.0	20.53	34.61	1,529.7	188.3	129.9	228.8	0.00	0.00	0.00
1,600.0	20.53	34.61	1,567.2	199.8	137.9	242.8	0.00	0.00	0.00
1,640.0	20.53	34.61	1,604.6	211.4	145.9	256.8	0.00	0.00	0.00
1,680.0	20.53	34.61	1,642.1	222.9	153.8	270.8	0.00	0.00	0.00
1,720.0	20.53	34.61	1,679.5	234.5	161.8	284.9	0.00	0.00	0.00
1,760.0	20.53	34.61	1,717.0	246.0	169.7	298.9	0.00	0.00	0.00
1,800.0	20.53	34.61	1,754.5	257.6	177.7	312.9	0.00	0.00	0.00
1,840.0	20.53	34.61	1,791.9	269.1	185.7	326.9	0.00	0.00	0.00
1,880.0	20.53	34.61	1,829.4	280.6	193.6	341.0	0.00	0.00	0.00

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Project:	SEC.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	North Reference:	True
Well:	Peterson CX GH 30-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-12)		

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)
1,920.0	20.53	34.61	1,866.8	292.2	201.6	355.0	0.00	0.00	0.00
1,960.0	20.53	34.61	1,904.3	303.7	209.6	369.0	0.00	0.00	0.00
2,000.0	20.53	34.61	1,941.8	315.3	217.5	383.1	0.00	0.00	0.00
2,040.0	20.53	34.61	1,979.2	326.8	225.5	397.1	0.00	0.00	0.00
2,080.0	20.53	34.61	2,016.7	338.4	233.5	411.1	0.00	0.00	0.00
2,120.0	20.53	34.61	2,054.1	349.9	241.4	425.1	0.00	0.00	0.00
2,139.1	20.53	34.61	2,072.0	355.4	245.2	431.8	0.00	0.00	0.00
GREELEY SAND									
2,160.0	20.53	34.61	2,091.6	361.5	249.4	439.2	0.00	0.00	0.00
2,200.0	20.53	34.61	2,129.1	373.0	257.4	453.2	0.00	0.00	0.00
2,240.0	20.53	34.61	2,166.5	384.6	265.3	467.2	0.00	0.00	0.00
2,280.0	20.53	34.61	2,204.0	396.1	273.3	481.2	0.00	0.00	0.00
2,320.0	20.53	34.61	2,241.4	407.6	281.3	495.3	0.00	0.00	0.00
2,360.0	20.53	34.61	2,278.9	419.2	289.2	509.3	0.00	0.00	0.00
2,400.0	20.53	34.61	2,316.4	430.7	297.2	523.3	0.00	0.00	0.00
2,440.0	20.53	34.61	2,353.8	442.3	305.2	537.3	0.00	0.00	0.00
2,480.0	20.53	34.61	2,391.3	453.8	313.1	551.4	0.00	0.00	0.00
2,520.0	20.53	34.61	2,428.7	465.4	321.1	565.4	0.00	0.00	0.00
2,560.0	20.53	34.61	2,466.2	476.9	329.1	579.4	0.00	0.00	0.00
2,600.0	20.53	34.61	2,503.7	488.5	337.0	593.4	0.00	0.00	0.00
2,640.0	20.53	34.61	2,541.1	500.0	345.0	607.5	0.00	0.00	0.00
2,680.0	20.53	34.61	2,578.6	511.5	353.0	621.5	0.00	0.00	0.00
2,720.0	20.53	34.61	2,616.0	523.1	360.9	635.5	0.00	0.00	0.00
2,760.0	20.53	34.61	2,653.5	534.6	368.9	649.6	0.00	0.00	0.00
2,800.0	20.53	34.61	2,691.0	546.2	376.9	663.6	0.00	0.00	0.00
2,840.0	20.53	34.61	2,728.4	557.7	384.8	677.6	0.00	0.00	0.00
2,880.0	20.53	34.61	2,765.9	569.3	392.8	691.6	0.00	0.00	0.00
2,920.0	20.53	34.61	2,803.3	580.8	400.8	705.7	0.00	0.00	0.00
2,960.0	20.53	34.61	2,840.8	592.4	408.7	719.7	0.00	0.00	0.00
3,000.0	20.53	34.61	2,878.3	603.9	416.7	733.7	0.00	0.00	0.00
3,040.0	20.53	34.61	2,915.7	615.4	424.7	747.7	0.00	0.00	0.00
3,080.0	20.53	34.61	2,953.2	627.0	432.6	761.8	0.00	0.00	0.00
3,120.0	20.53	34.61	2,990.6	638.5	440.6	775.8	0.00	0.00	0.00
3,160.0	20.53	34.61	3,028.1	650.1	448.6	789.8	0.00	0.00	0.00
3,200.0	20.53	34.61	3,065.6	661.6	456.5	803.8	0.00	0.00	0.00
3,240.0	20.53	34.61	3,103.0	673.2	464.5	817.9	0.00	0.00	0.00
3,280.0	20.53	34.61	3,140.5	684.7	472.5	831.9	0.00	0.00	0.00
3,320.0	20.53	34.61	3,177.9	696.3	480.4	845.9	0.00	0.00	0.00
3,360.0	20.53	34.61	3,215.4	707.8	488.4	860.0	0.00	0.00	0.00
3,400.0	20.53	34.61	3,252.9	719.4	496.4	874.0	0.00	0.00	0.00
3,440.0	20.53	34.61	3,290.3	730.9	504.3	888.0	0.00	0.00	0.00
3,480.0	20.53	34.61	3,327.8	742.4	512.3	902.0	0.00	0.00	0.00
3,520.0	20.53	34.61	3,365.2	754.0	520.3	916.1	0.00	0.00	0.00
3,527.2	20.53	34.61	3,372.0	756.1	521.7	918.6	0.00	0.00	0.00
PARKMAN									
3,560.0	20.53	34.61	3,402.7	765.5	528.2	930.1	0.00	0.00	0.00
3,600.0	20.53	34.61	3,440.2	777.1	536.2	944.1	0.00	0.00	0.00
3,640.0	20.53	34.61	3,477.6	788.6	544.1	958.1	0.00	0.00	0.00
3,680.0	20.53	34.61	3,515.1	800.2	552.1	972.2	0.00	0.00	0.00
3,720.0	20.53	34.61	3,552.5	811.7	560.1	986.2	0.00	0.00	0.00
3,760.0	20.53	34.61	3,590.0	823.3	568.0	1,000.2	0.00	0.00	0.00
3,800.0	20.53	34.61	3,627.5	834.8	576.0	1,014.2	0.00	0.00	0.00
3,840.0	20.53	34.61	3,664.9	846.3	584.0	1,028.3	0.00	0.00	0.00

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Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	North Reference:	True
Well:	Peterson CX GH 30-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-12)		

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)
3,880.0	20.53	34.61	3,702.4	857.9	591.9	1,042.3	0.00	0.00	0.00
3,920.0	20.53	34.61	3,739.8	869.4	599.9	1,056.3	0.00	0.00	0.00
3,960.0	20.53	34.61	3,777.3	881.0	607.9	1,070.3	0.00	0.00	0.00
4,000.0	20.53	34.61	3,814.8	892.5	615.8	1,084.4	0.00	0.00	0.00
4,040.0	20.53	34.61	3,852.2	904.1	623.8	1,098.4	0.00	0.00	0.00
4,080.0	20.53	34.61	3,889.7	915.6	631.8	1,112.4	0.00	0.00	0.00
4,120.0	20.53	34.61	3,927.1	927.2	639.7	1,126.5	0.00	0.00	0.00
4,160.0	20.53	34.61	3,964.6	938.7	647.7	1,140.5	0.00	0.00	0.00
4,182.8	20.53	34.61	3,986.0	945.3	652.3	1,148.5	0.00	0.00	0.00
SUSSEX									
4,200.0	20.53	34.61	4,002.1	950.3	655.7	1,154.5	0.00	0.00	0.00
4,240.0	20.53	34.61	4,039.5	961.8	663.6	1,168.5	0.00	0.00	0.00
4,265.1	20.53	34.61	4,063.0	969.0	668.6	1,177.3	0.00	0.00	0.00
SHANNON									
4,280.0	20.53	34.61	4,077.0	973.3	671.6	1,182.6	0.00	0.00	0.00
4,320.0	20.53	34.61	4,114.4	984.9	679.6	1,196.6	0.00	0.00	0.00
4,360.0	20.53	34.61	4,151.9	996.4	687.5	1,210.6	0.00	0.00	0.00
4,400.0	20.53	34.61	4,189.4	1,008.0	695.5	1,224.6	0.00	0.00	0.00
4,440.0	20.53	34.61	4,226.8	1,019.5	703.5	1,238.7	0.00	0.00	0.00
4,480.0	20.53	34.61	4,264.3	1,031.1	711.4	1,252.7	0.00	0.00	0.00
4,520.0	20.53	34.61	4,301.7	1,042.6	719.4	1,266.7	0.00	0.00	0.00
4,560.0	20.53	34.61	4,339.2	1,054.2	727.4	1,280.7	0.00	0.00	0.00
4,600.0	20.53	34.61	4,376.7	1,065.7	735.3	1,294.8	0.00	0.00	0.00
4,640.0	20.53	34.61	4,414.1	1,077.2	743.3	1,308.8	0.00	0.00	0.00
4,680.0	20.53	34.61	4,451.6	1,088.8	751.3	1,322.8	0.00	0.00	0.00
4,720.0	20.53	34.61	4,489.0	1,100.3	759.2	1,336.9	0.00	0.00	0.00
4,760.0	20.53	34.61	4,526.5	1,111.9	767.2	1,350.9	0.00	0.00	0.00
4,800.0	20.53	34.61	4,564.0	1,123.4	775.2	1,364.9	0.00	0.00	0.00
4,840.0	20.53	34.61	4,601.4	1,135.0	783.1	1,378.9	0.00	0.00	0.00
4,880.0	20.53	34.61	4,638.9	1,146.5	791.1	1,393.0	0.00	0.00	0.00
4,920.0	20.53	34.61	4,676.3	1,158.1	799.1	1,407.0	0.00	0.00	0.00
4,960.0	20.53	34.61	4,713.8	1,169.6	807.0	1,421.0	0.00	0.00	0.00
5,000.0	20.53	34.61	4,751.3	1,181.1	815.0	1,435.0	0.00	0.00	0.00
5,040.0	20.53	34.61	4,788.7	1,192.7	823.0	1,449.1	0.00	0.00	0.00
5,080.0	20.53	34.61	4,826.2	1,204.2	830.9	1,463.1	0.00	0.00	0.00
5,120.0	20.53	34.61	4,863.6	1,215.8	838.9	1,477.1	0.00	0.00	0.00
5,153.9	20.53	34.61	4,895.4	1,225.6	845.6	1,489.0	0.00	0.00	0.00
Start Drop -2.00									
5,160.0	20.41	34.61	4,901.1	1,227.3	846.9	1,491.1	2.00	-2.00	0.00
5,200.0	19.61	34.61	4,938.7	1,238.6	854.6	1,504.8	2.00	-2.00	0.00
5,240.0	18.81	34.61	4,976.5	1,249.4	862.1	1,518.0	2.00	-2.00	0.00
5,280.0	18.01	34.61	5,014.4	1,259.8	869.3	1,530.6	2.00	-2.00	0.00
5,320.0	17.21	34.61	5,052.5	1,269.8	876.1	1,542.7	2.00	-2.00	0.00
5,360.0	16.41	34.61	5,090.8	1,279.3	882.7	1,554.3	2.00	-2.00	0.00
5,400.0	15.61	34.61	5,129.3	1,288.4	889.0	1,565.3	2.00	-2.00	0.00
5,440.0	14.81	34.61	5,167.9	1,297.0	894.9	1,575.8	2.00	-2.00	0.00
5,480.0	14.01	34.61	5,206.6	1,305.2	900.6	1,585.7	2.00	-2.00	0.00
5,520.0	13.21	34.61	5,245.5	1,312.9	905.9	1,595.2	2.00	-2.00	0.00
5,560.0	12.41	34.61	5,284.5	1,320.2	911.0	1,604.0	2.00	-2.00	0.00
5,600.0	11.61	34.61	5,323.6	1,327.1	915.7	1,612.3	2.00	-2.00	0.00
5,640.0	10.81	34.61	5,362.9	1,333.5	920.1	1,620.1	2.00	-2.00	0.00
5,680.0	10.01	34.61	5,402.2	1,339.4	924.2	1,627.3	2.00	-2.00	0.00
5,720.0	9.21	34.61	5,441.7	1,344.9	928.0	1,634.0	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Company:	Great Western	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Project:	SEC.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	North Reference:	True
Well:	Peterson CX GH 30-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-12)		

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)
5,760.0	8.41	34.61	5,481.2	1,350.0	931.5	1,640.1	2.00	-2.00	0.00
5,800.0	7.61	34.61	5,520.8	1,354.6	934.6	1,645.7	2.00	-2.00	0.00
5,840.0	6.81	34.61	5,560.5	1,358.7	937.5	1,650.7	2.00	-2.00	0.00
5,880.0	6.01	34.61	5,600.2	1,362.4	940.0	1,655.2	2.00	-2.00	0.00
5,920.0	5.21	34.61	5,640.0	1,365.6	942.2	1,659.1	2.00	-2.00	0.00
5,960.0	4.41	34.61	5,679.9	1,368.3	944.2	1,662.5	2.00	-2.00	0.00
6,000.0	3.61	34.61	5,719.8	1,370.6	945.7	1,665.2	2.00	-2.00	0.00
6,040.0	2.81	34.61	5,759.7	1,372.5	947.0	1,667.5	2.00	-2.00	0.00
6,080.0	2.01	34.61	5,799.7	1,373.9	948.0	1,669.2	2.00	-2.00	0.00
6,120.0	1.21	34.61	5,839.7	1,374.8	948.6	1,670.3	2.00	-2.00	0.00
6,160.0	0.41	34.61	5,879.7	1,375.2	948.9	1,670.9	2.00	-2.00	0.00
6,180.3	0.00	0.00	5,900.0	1,375.3	949.0	1,670.9	2.00	-2.00	-170.26
Back to Vertical									
6,200.0	0.00	0.00	5,919.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,240.0	0.00	0.00	5,959.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,280.0	0.00	0.00	5,999.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,320.0	0.00	0.00	6,039.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,360.0	0.00	0.00	6,079.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,119.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,159.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,199.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,239.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,279.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,564.3	0.00	0.00	6,284.0	1,375.3	949.0	1,670.9	0.00	0.00	0.00
NIOBRARA									
6,600.0	0.00	0.00	6,319.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,359.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,399.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,439.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,479.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,519.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,839.3	0.00	0.00	6,559.0	1,375.3	949.0	1,670.9	0.00	0.00	0.00
FORT HAYS									
6,840.0	0.00	0.00	6,559.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,866.3	0.00	0.00	6,586.0	1,375.3	949.0	1,670.9	0.00	0.00	0.00
CODELL									
6,880.0	0.00	0.00	6,599.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,639.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,679.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,719.7	1,375.3	949.0	1,670.9	0.00	0.00	0.00
7,026.3	0.00	0.00	6,746.0	1,375.3	949.0	1,670.9	0.00	0.00	0.00
TD at 7026.3									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
600.2	600.0	8 5/8"	8-5/8	12-1/4

Database:	Landmark	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Company:	Great Western	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Project:	SEC.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	North Reference:	True
Well:	Peterson CX GH 30-27D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-25-12)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,139.1	2,072.0	GREELEY SAND		0.00	
3,527.2	3,372.0	PARKMAN		0.00	
4,182.8	3,986.0	SUSSEX		0.00	
4,265.1	4,063.0	SHANNON		0.00	
6,564.3	6,284.0	NIOBRARA		0.00	
6,839.3	6,559.0	FORT HAYS		0.00	
6,866.3	6,586.0	CODELL		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
400.0	400.0	0.0	0.0	KOP - Start Build 2.00
1,426.4	1,404.6	149.7	103.3	Start 3727.5 hold at 1426.4 MD
5,153.9	4,895.4	1,225.6	845.6	Start Drop -2.00
6,180.3	5,900.0	1,375.3	949.0	Back to Vertical
7,026.3	6,746.0	1,375.3	949.0	TD at 7026.3



Directional

Great Western

SEC.30-T5N-R63W

Peterson CX GH 30-41D Pad Sec.30-T5N-R63W

Peterson CX GH 30-27D

Wellbore #1

Plan #1 (7-25-12)

Anticollision Report

31 July, 2012

Company:	Great Western	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Offset Design Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson 30-31 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 1047-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,500.0	1,473.5	1,468.4	1,468.2	5.0	2.1	-36.17	553.5	118.2	382.5	376.3	6.19	61.794	
1,600.0	1,567.2	1,562.8	1,562.6	5.7	2.3	-39.39	554.7	118.5	355.4	348.5	6.93	51.275	
1,700.0	1,660.8	1,657.1	1,657.0	6.3	2.4	-43.11	555.9	118.8	329.5	321.8	7.74	42.551	
1,800.0	1,754.5	1,751.4	1,751.3	7.0	2.6	-47.43	557.0	118.9	305.1	296.5	8.63	35.342	
1,900.0	1,848.1	1,845.6	1,845.4	7.7	2.8	-52.42	558.0	119.1	282.7	273.1	9.60	29.433	
2,000.0	1,941.8	1,939.7	1,939.5	8.4	3.0	-58.17	558.9	119.1	262.7	252.1	10.65	24.665	
2,100.0	2,035.4	2,033.7	2,033.6	9.1	3.2	-64.72	559.7	119.1	245.9	234.2	11.76	20.916	
2,200.0	2,129.1	2,127.7	2,127.5	9.8	3.4	-72.05	560.4	119.0	233.0	220.1	12.88	18.085	
2,300.0	2,222.7	2,221.6	2,221.4	10.4	3.6	-80.01	561.0	118.8	224.6	210.6	13.97	16.081	
2,400.0	2,316.4	2,315.3	2,315.2	11.1	3.8	-88.37	561.6	118.6	221.4	206.5	14.94	14.815	
2,409.0	2,324.8	2,323.8	2,323.6	11.2	3.8	-89.13	561.6	118.6	221.4	206.4	15.03	14.733 CC, ES	
2,500.0	2,410.0	2,409.0	2,408.9	11.8	4.0	-96.77	562.1	118.3	223.6	207.9	15.76	14.189	
2,600.0	2,503.7	2,502.7	2,502.5	12.5	4.2	-104.88	562.4	118.0	231.2	214.8	16.39	14.102 SF	
2,700.0	2,597.3	2,596.2	2,596.1	13.2	4.4	-112.41	562.7	117.6	243.6	226.8	16.86	14.454	
2,800.0	2,691.0	2,689.7	2,689.5	13.9	4.6	-119.19	562.9	117.1	260.3	243.1	17.19	15.145	
2,900.0	2,784.6	2,783.1	2,782.9	14.6	4.8	-125.16	563.0	116.6	280.5	263.0	17.44	16.086	
3,000.0	2,878.3	2,876.4	2,876.2	15.3	5.0	-130.37	563.1	116.0	303.5	285.9	17.64	17.203	
3,100.0	2,971.9	2,969.2	2,969.0	16.0	5.2	-134.85	563.0	115.3	328.8	311.0	17.84	18.431	
3,200.0	3,065.6	3,061.7	3,061.5	16.7	5.4	-138.71	562.8	114.3	356.2	338.1	18.05	19.734	
3,300.0	3,159.2	3,154.0	3,153.8	17.4	5.5	-142.04	562.5	113.2	385.2	366.9	18.27	21.076	
3,400.0	3,252.9	3,246.1	3,245.9	18.1	5.7	-144.92	562.0	111.9	415.5	397.0	18.52	22.430	
3,500.0	3,346.5	3,338.1	3,337.8	18.8	5.9	-147.43	561.4	110.3	446.9	428.2	18.80	23.778	
3,600.0	3,440.2	3,429.8	3,429.6	19.5	6.1	-149.61	560.6	108.6	479.4	460.3	19.09	25.107	
3,700.0	3,533.8	3,521.4	3,521.1	20.2	6.3	-151.53	559.8	106.6	512.6	493.2	19.41	26.407	
3,800.0	3,627.5	3,612.8	3,612.5	20.9	6.5	-153.21	558.8	104.4	546.6	526.9	19.75	27.673	
3,900.0	3,721.1	3,704.0	3,703.7	21.6	6.7	-154.71	557.6	102.1	581.2	561.1	20.11	28.901	
4,000.0	3,814.8	3,795.0	3,794.7	22.3	6.9	-156.04	556.4	99.5	616.4	596.0	20.49	30.091	
4,100.0	3,908.4	3,886.3	3,885.9	23.0	7.1	-157.20	555.2	96.6	652.1	631.3	20.89	31.224	
4,200.0	4,002.1	3,977.7	3,977.2	23.7	7.3	-158.20	554.5	93.2	688.2	666.9	21.31	32.299	
4,300.0	4,095.7	4,069.0	4,068.4	24.4	7.5	-159.04	554.2	89.2	724.7	702.9	21.75	33.317	
4,400.0	4,189.4	4,160.4	4,159.7	25.1	7.7	-159.75	554.3	84.8	761.4	739.1	22.21	34.281	
4,500.0	4,283.0	4,251.7	4,250.9	25.8	7.9	-160.34	554.9	79.8	798.3	775.6	22.68	35.191	
4,600.0	4,376.7	4,343.1	4,342.1	26.5	8.1	-160.84	555.9	74.4	835.4	812.3	23.17	36.052	
4,700.0	4,470.3	4,434.4	4,433.2	27.2	8.3	-161.25	557.3	68.4	872.8	849.1	23.68	36.864	
4,800.0	4,564.0	4,525.7	4,524.3	27.9	8.5	-161.58	559.2	62.0	910.3	886.1	24.19	37.632	
4,900.0	4,657.6	4,616.0	4,614.3	28.6	8.7	-161.84	561.4	55.1	947.9	923.2	24.71	38.360	
5,000.0	4,751.3	4,706.9	4,704.9	29.3	8.9	-162.09	563.5	48.1	985.8	960.5	25.24	39.061	
5,100.0	4,844.9	4,807.9	4,805.7	30.0	9.2	-162.48	564.2	42.0	1,023.4	997.7	25.74	39.756	
5,153.9	4,895.4	4,865.0	4,862.7	30.4	9.3	-162.78	563.8	39.8	1,043.3	1,017.3	26.00	40.130	
5,200.0	4,938.7	4,919.2	4,916.9	30.7	9.4	-163.18	563.1	38.4	1,059.7	1,033.5	26.23	40.406	
5,300.0	5,033.5	5,041.9	5,039.6	31.2	9.6	-164.02	562.3	38.4	1,090.7	1,064.0	26.68	40.879	
5,400.0	5,129.3	5,143.8	5,141.5	31.6	9.8	-164.67	561.8	40.0	1,117.5	1,090.4	27.10	41.236	
5,500.0	5,226.1	5,249.8	5,247.5	32.0	10.0	-165.25	561.3	42.4	1,140.5	1,113.0	27.50	41.474	
5,600.0	5,323.6	5,350.2	5,347.8	32.4	10.2	-165.74	561.0	45.5	1,159.6	1,131.8	27.87	41.613	
5,700.0	5,421.9	5,451.1	5,448.6	32.7	10.4	-166.16	560.7	48.7	1,175.4	1,147.2	28.21	41.665	
5,800.0	5,520.8	5,542.8	5,540.3	33.0	10.6	-166.49	560.2	51.5	1,188.0	1,159.5	28.51	41.668	
5,900.0	5,620.1	5,645.0	5,642.5	33.2	10.8	-166.78	559.6	54.5	1,197.4	1,168.6	28.79	41.585	
6,000.0	5,719.8	5,739.9	5,737.3	33.4	11.0	-167.02	558.8	57.5	1,203.5	1,174.4	29.03	41.459	
6,100.0	5,819.7	5,862.4	5,859.7	33.6	11.3	-167.21	558.9	61.6	1,205.4	1,176.1	29.28	41.167	
6,180.3	5,900.0	5,949.0	5,946.2	33.6	11.4	-132.71	559.5	65.3	1,203.6	1,174.1	29.43	40.890	
6,200.0	5,919.7	5,969.1	5,966.4	33.7	11.5	-132.74	559.7	66.2	1,202.8	1,173.3	29.50	40.777	

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 Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Offset Design										Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson 30-31 (Exist.) - Wellbore #1 - Wellbore #1			Offset Site Error:		0.0 ft
Survey Program: 1047-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)				
6,300.0	6,019.7	6,092.3	6,089.4	33.7	11.7	-132.92	560.7	72.8	1,198.4	1,168.5	29.86	40.134			
6,400.0	6,119.7	6,197.7	6,194.4	33.8	11.9	-133.18	561.1	81.4	1,192.1	1,161.9	30.17	39.507			
6,500.0	6,219.7	6,289.4	6,285.7	33.9	12.1	-133.50	560.1	89.9	1,186.2	1,155.7	30.46	38.941			
6,600.0	6,319.7	6,375.5	6,371.5	34.0	12.3	-133.76	559.2	96.7	1,181.2	1,150.4	30.75	38.412			
6,700.0	6,419.7	6,466.5	6,462.3	34.1	12.5	-134.00	558.2	102.6	1,177.2	1,146.1	31.06	37.903			
6,800.0	6,519.7	6,560.2	6,555.9	34.2	12.7	-134.20	557.3	107.8	1,173.9	1,142.5	31.38	37.406			
6,900.0	6,619.7	6,655.3	6,650.9	34.2	12.9	-134.40	556.4	112.6	1,171.0	1,139.3	31.71	36.924			
7,000.0	6,719.7	6,752.8	6,748.3	34.3	13.1	-134.57	555.5	116.8	1,168.5	1,136.4	32.05	36.455			
7,026.3	6,746.0	6,753.0	6,748.5	34.4	13.1	-134.57	555.5	116.8	1,168.1	1,136.0	32.10	36.395			

Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson 30-31 (Sidetrack) - Wellbore #1 - Wellbore													Offset Site Error:	0.0 ft
Survey Program: 1047-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	11.82	537.4	112.5	549.0					
100.0	100.0	99.0	99.0	0.1	0.1	11.83	537.4	112.5	549.1	548.9	0.22	2,447.056		
200.0	200.0	198.0	198.0	0.3	0.2	11.83	537.7	112.6	549.4	548.8	0.56	979.324		
300.0	300.0	297.0	297.0	0.6	0.3	11.84	538.1	112.8	549.8	548.9	0.90	612.582		
400.0	400.0	396.1	396.0	0.8	0.4	11.85	538.7	113.0	550.4	549.2	1.23	446.025		
500.0	500.0	495.1	495.0	1.0	0.6	-22.82	539.5	113.3	549.6	548.1	1.57	350.408		
600.0	599.8	594.0	594.0	1.2	0.7	-23.05	540.4	113.6	545.8	543.9	1.91	286.238		
700.0	699.5	692.7	692.7	1.5	0.8	-23.44	541.5	114.0	539.0	536.7	2.25	239.336		
800.0	798.7	791.2	791.1	1.7	0.9	-24.02	542.7	114.5	529.1	526.5	2.61	202.899		
900.0	897.5	889.2	889.2	2.0	1.0	-24.79	544.1	115.0	516.3	513.4	2.98	173.310		
1,000.0	995.6	986.8	986.7	2.4	1.1	-25.80	545.7	115.6	500.7	497.3	3.37	148.487		
1,100.0	1,093.1	1,084.3	1,084.2	2.8	1.3	-27.08	547.4	116.3	482.3	478.5	3.82	126.282		
1,200.0	1,189.6	1,181.8	1,181.7	3.3	1.5	-28.71	549.1	116.9	461.0	456.6	4.34	106.249		
1,300.0	1,285.3	1,278.4	1,278.3	3.8	1.7	-30.75	550.7	117.4	436.9	432.0	4.90	89.238		
1,400.0	1,379.8	1,373.8	1,373.7	4.4	1.9	-33.30	552.1	117.8	410.4	404.9	5.51	74.510		
1,426.4	1,404.6	1,398.8	1,398.7	4.5	1.9	-34.08	552.5	118.0	403.1	397.4	5.68	70.942		
1,500.0	1,473.5	1,468.4	1,468.2	5.0	2.1	-36.17	553.5	118.2	382.5	376.3	6.19	61.833		
1,600.0	1,567.2	1,562.8	1,562.7	5.7	2.2	-39.39	554.7	118.5	355.4	348.5	6.93	51.306		
1,700.0	1,660.8	1,657.1	1,657.0	6.3	2.4	-43.11	555.9	118.8	329.5	321.8	7.74	42.576		
1,800.0	1,754.5	1,751.4	1,751.3	7.0	2.6	-47.43	557.0	119.0	305.1	296.5	8.63	35.361		
1,900.0	1,848.1	1,845.6	1,845.4	7.7	2.8	-52.42	557.9	119.1	282.7	273.1	9.60	29.447		
2,000.0	1,941.8	1,939.7	1,939.6	8.4	3.0	-58.17	558.8	119.1	262.7	252.1	10.65	24.676		
2,100.0	2,035.4	2,033.7	2,033.6	9.1	3.2	-64.72	559.7	119.1	245.9	234.1	11.75	20.924		
2,200.0	2,129.1	2,127.7	2,127.5	9.8	3.4	-72.05	560.4	119.0	232.9	220.1	12.88	18.090		
2,300.0	2,222.7	2,222.0	2,221.8	10.4	3.6	-80.03	561.1	119.0	224.5	210.6	13.96	16.080		
2,400.0	2,316.4	2,318.2	2,318.0	11.1	3.8	-88.23	562.5	120.2	220.7	205.7	14.95	14.759		
2,500.0	2,410.0	2,421.9	2,421.4	11.8	4.1	-95.91	567.1	126.3	219.3	203.5	15.83	13.858		
2,595.4	2,499.3	2,516.9	2,515.8	12.5	4.3	-102.41	571.9	135.9	218.0	201.5	16.53	13.188 CC		
2,600.0	2,503.7	2,521.3	2,520.2	12.5	4.3	-102.71	572.2	136.4	218.0	201.5	16.56	13.163 ES		
2,700.0	2,597.3	2,618.1	2,616.3	13.2	4.5	-109.17	577.6	146.5	219.7	202.5	17.17	12.795		
2,800.0	2,691.0	2,716.1	2,713.6	13.9	4.8	-115.59	582.8	157.1	224.0	206.3	17.62	12.710 SF		
2,900.0	2,784.6	2,814.7	2,811.5	14.6	5.0	-122.03	586.8	168.3	230.3	212.4	17.91	12.864		
3,000.0	2,878.3	2,909.3	2,905.3	15.3	5.2	-128.10	589.6	179.3	239.4	221.3	18.06	13.254		
3,100.0	2,971.9	3,000.8	2,996.4	16.0	5.5	-133.64	591.5	188.8	252.4	234.2	18.14	13.913		
3,200.0	3,065.6	3,090.4	3,085.7	16.7	5.7	-138.50	593.2	196.3	269.8	251.6	18.21	14.814		
3,300.0	3,159.2	3,178.7	3,173.7	17.4	5.9	-142.58	595.0	201.5	291.4	273.1	18.32	15.907		
3,400.0	3,252.9	3,266.4	3,261.3	18.1	6.1	-146.01	596.6	204.5	316.7	298.3	18.47	17.149		
3,500.0	3,346.5	3,359.7	3,354.6	18.8	6.3	-149.16	597.5	206.4	344.7	326.1	18.64	18.499		
3,600.0	3,440.2	3,448.7	3,443.6	19.5	6.4	-151.81	597.8	208.2	373.8	355.0	18.84	19.839		
3,700.0	3,533.8	3,536.9	3,531.9	20.2	6.6	-154.07	597.4	208.4	405.4	386.4	19.10	21.233		
3,800.0	3,627.5	3,628.7	3,623.6	20.9	6.8	-155.98	597.3	207.7	438.3	418.9	19.39	22.602		
3,900.0	3,721.1	3,720.1	3,715.0	21.6	7.0	-157.61	597.1	206.6	471.8	452.1	19.72	23.923		
4,000.0	3,814.8	3,812.0	3,806.9	22.3	7.2	-159.00	597.0	205.1	506.1	486.0	20.08	25.200		
4,100.0	3,908.4	3,907.1	3,902.0	23.0	7.3	-160.36	596.1	204.0	540.6	520.2	20.45	26.439		
4,200.0	4,002.1	4,002.4	3,997.3	23.7	7.5	-161.58	595.4	203.5	574.9	554.0	20.83	27.598		
4,300.0	4,095.7	4,093.5	4,088.4	24.4	7.7	-162.62	594.7	202.9	609.3	588.1	21.23	28.701		
4,400.0	4,189.4	4,178.7	4,173.6	25.1	7.9	-163.46	593.8	201.8	644.6	623.0	21.64	29.782		
4,500.0	4,283.0	4,268.3	4,263.2	25.8	8.0	-164.21	592.5	199.2	681.4	659.3	22.08	30.861		
4,600.0	4,376.7	4,371.6	4,366.4	26.5	8.3	-165.00	591.6	197.3	717.2	694.6	22.53	31.831		
4,700.0	4,470.3	4,465.4	4,460.1	27.2	8.4	-165.62	591.5	195.8	752.5	729.5	22.99	32.735		
4,800.0	4,564.0	4,563.0	4,557.8	27.9	8.6	-166.33	590.1	195.3	787.8	764.4	23.44	33.614		

COMPASS 2003.21 Build 46

Company:	Great Western	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Offset Design		Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson 30-31 (Sidetrack) - Wellbore #1 - Wellbore										Offset Site Error:		0.0 ft			
Survey Program: 1047-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)						
4,900.0	4,657.6	4,659.3	4,654.0	28.6	8.8	-166.90	590.2	194.8	822.4	798.5	23.91	34.402					
5,000.0	4,751.3	4,750.9	4,745.7	29.3	9.0	-167.40	590.0	194.2	857.2	832.9	24.37	35.172					
5,100.0	4,844.9	4,844.3	4,839.0	30.0	9.2	-167.88	589.7	193.6	892.2	867.4	24.85	35.907					
5,153.9	4,895.4	4,894.2	4,889.0	30.4	9.3	-168.12	589.5	193.4	911.1	886.0	25.10	36.294					
5,200.0	4,938.7	4,935.8	4,930.6	30.7	9.4	-168.39	589.2	193.3	926.9	901.6	25.34	36.582					
5,300.0	5,033.5	5,031.3	5,026.1	31.2	9.6	-168.96	588.0	193.1	959.2	933.4	25.82	37.152					
5,400.0	5,129.3	5,129.4	5,124.1	31.6	9.8	-169.42	587.3	193.1	987.8	961.6	26.28	37.589					
5,500.0	5,226.1	5,222.4	5,217.1	32.0	10.0	-169.80	586.5	193.1	1,013.3	986.6	26.70	37.944					
5,600.0	5,323.6	5,316.3	5,311.0	32.4	10.2	-170.17	584.7	193.4	1,035.9	1,008.8	27.09	38.235					
5,700.0	5,421.9	5,427.4	5,422.1	32.7	10.4	-170.55	582.4	194.3	1,054.9	1,027.4	27.47	38.399					
5,800.0	5,520.8	5,522.5	5,517.2	33.0	10.6	-170.80	581.5	195.4	1,069.6	1,041.8	27.80	38.481					
5,900.0	5,620.1	5,616.4	5,611.1	33.2	10.8	-171.00	580.2	196.0	1,081.6	1,053.5	28.08	38.521					
6,000.0	5,719.8	5,719.9	5,714.6	33.4	11.0	-171.16	578.9	196.2	1,090.3	1,061.9	28.34	38.466					
6,100.0	5,819.7	5,824.1	5,818.8	33.6	11.2	-171.25	578.2	196.6	1,095.0	1,066.4	28.57	38.323					
6,180.3	5,900.0	5,903.9	5,898.6	33.6	11.4	-136.68	577.8	196.9	1,096.2	1,067.5	28.72	38.164					
6,200.0	5,919.7	5,923.4	5,918.1	33.7	11.4	-136.69	577.7	196.9	1,096.2	1,067.4	28.79	38.074					
6,300.0	6,019.7	6,022.2	6,016.8	33.7	11.6	-136.70	577.3	197.0	1,096.4	1,067.3	29.15	37.614					
6,400.0	6,119.7	6,119.6	6,114.3	33.8	11.8	-136.71	576.9	196.9	1,096.8	1,067.3	29.51	37.173					
6,500.0	6,219.7	6,220.5	6,215.2	33.9	12.0	-136.71	576.5	196.6	1,097.3	1,067.5	29.87	36.733					
6,600.0	6,319.7	6,328.2	6,322.9	34.0	12.3	-136.69	576.8	196.2	1,097.4	1,067.1	30.26	36.267					
6,700.0	6,419.7	6,433.5	6,428.1	34.1	12.5	-136.67	577.4	196.4	1,096.8	1,066.1	30.64	35.800					
6,800.0	6,519.7	6,532.9	6,527.6	34.2	12.7	-136.68	578.0	197.0	1,096.0	1,065.0	31.00	35.352					
6,900.0	6,619.7	6,630.6	6,625.3	34.2	12.9	-136.70	578.1	197.7	1,095.4	1,064.0	31.36	34.926					
7,000.0	6,719.7	6,728.6	6,723.3	34.3	13.1	-136.73	578.0	198.5	1,095.0	1,063.2	31.73	34.514					
7,019.0	6,738.7	6,744.0	6,738.7	34.4	13.1	-136.74	578.0	198.6	1,094.9	1,063.1	31.79	34.444					
7,026.3	6,746.0	6,744.0	6,738.7	34.4	13.1	-136.74	578.0	198.6	1,094.9	1,063.1	31.80	34.432					

Company:	Great Western	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Offset Design Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson CX GH 30-26D - Wellbore #1 - Plan #1 (7-													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	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	90.01	0.0	17.8	17.8	17.8	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	90.01	0.0	17.8	17.8	17.6	0.22	79.337		
200.0	200.0	200.0	200.0	0.3	0.3	90.01	0.0	17.8	17.8	17.2	0.67	26.446 CC, ES		
300.0	300.0	299.4	299.4	0.6	0.6	87.31	0.9	19.3	19.3	18.2	1.12	17.258		
400.0	400.0	398.6	398.5	0.8	0.8	81.29	3.6	23.7	24.0	22.4	1.57	15.250 SF		
500.0	500.0	497.5	497.0	1.0	1.0	42.66	8.1	30.9	30.8	28.8	2.02	15.269		
600.0	599.8	596.1	594.8	1.2	1.3	41.94	14.4	41.1	38.4	35.9	2.47	15.526		
700.0	699.5	694.4	691.9	1.5	1.6	42.93	22.5	54.0	46.7	43.7	2.95	15.837		
800.0	798.7	792.3	788.1	1.7	2.0	44.82	32.2	69.7	55.6	52.2	3.45	16.115		
900.0	897.5	889.9	883.2	2.0	2.4	47.16	43.6	88.0	65.4	61.4	4.01	16.307		
1,000.0	995.6	987.1	977.2	2.4	2.9	49.69	56.7	109.1	76.0	71.3	4.64	16.380		
1,100.0	1,093.1	1,083.9	1,070.0	2.8	3.4	52.25	71.4	132.7	87.5	82.2	5.36	16.322		
1,200.0	1,189.6	1,180.3	1,161.3	3.3	4.0	54.75	87.7	158.9	100.1	93.9	6.20	16.146		
1,300.0	1,285.3	1,276.3	1,251.2	3.8	4.7	57.13	105.5	187.6	113.6	106.5	7.16	15.877		
1,400.0	1,379.8	1,371.9	1,339.5	4.4	5.4	59.36	124.7	218.6	128.2	120.0	8.24	15.559		
1,426.4	1,404.6	1,397.0	1,362.5	4.5	5.6	59.93	130.1	227.2	132.3	123.7	8.55	15.468		
1,500.0	1,473.5	1,466.9	1,426.0	5.0	6.2	61.32	145.5	251.9	144.4	134.9	9.45	15.274		
1,600.0	1,567.2	1,561.3	1,510.6	5.7	7.0	62.24	167.5	287.4	163.1	152.4	10.68	15.271		
1,700.0	1,660.8	1,656.3	1,594.4	6.3	7.9	62.36	191.1	325.3	184.1	172.2	11.91	15.464		
1,800.0	1,754.5	1,753.9	1,680.3	7.0	8.9	62.33	215.7	364.9	205.6	192.5	13.16	15.627		
1,900.0	1,848.1	1,851.6	1,766.1	7.7	9.8	62.31	240.2	404.4	227.2	212.7	14.42	15.750		
2,000.0	1,941.8	1,949.2	1,852.0	8.4	10.8	62.29	264.8	443.9	248.7	233.0	15.70	15.844		
2,100.0	2,035.4	2,046.9	1,937.8	9.1	11.7	62.27	289.3	483.4	270.2	253.3	16.98	15.917		
2,200.0	2,129.1	2,144.5	2,023.7	9.8	12.7	62.25	313.9	523.0	291.8	273.5	18.26	15.975		
2,300.0	2,222.7	2,242.2	2,109.6	10.4	13.6	62.24	338.5	562.5	313.3	293.8	19.56	16.021		
2,400.0	2,316.4	2,339.8	2,195.4	11.1	14.6	62.23	363.0	602.0	334.8	314.0	20.85	16.059		
2,500.0	2,410.0	2,437.5	2,281.3	11.8	15.6	62.22	387.6	641.5	356.4	334.2	22.15	16.090		
2,600.0	2,503.7	2,535.1	2,367.1	12.5	16.6	62.21	412.1	681.1	377.9	354.5	23.45	16.116		
2,700.0	2,597.3	2,632.8	2,453.0	13.2	17.5	62.21	436.7	720.6	399.5	374.7	24.75	16.138		
2,800.0	2,691.0	2,730.4	2,538.8	13.9	18.5	62.20	461.3	760.1	421.0	394.9	26.06	16.157		
2,900.0	2,784.6	2,828.1	2,624.7	14.6	19.5	62.19	485.8	799.6	442.5	415.2	27.36	16.172		
3,000.0	2,878.3	2,925.7	2,710.5	15.3	20.4	62.19	510.4	839.2	464.1	435.4	28.67	16.186		
3,100.0	2,971.9	3,023.4	2,796.4	16.0	21.4	62.18	535.0	878.7	485.6	455.6	29.98	16.198		
3,200.0	3,065.6	3,121.1	2,882.2	16.7	22.4	62.18	559.5	918.2	507.1	475.8	31.29	16.208		
3,300.0	3,159.2	3,218.7	2,968.1	17.4	23.4	62.18	584.1	957.7	528.7	496.1	32.60	16.217		
3,400.0	3,252.9	3,316.4	3,053.9	18.1	24.3	62.17	608.6	997.2	550.2	516.3	33.91	16.225		
3,500.0	3,346.5	3,414.0	3,139.8	18.8	25.3	62.17	633.2	1,036.8	571.7	536.5	35.22	16.232		
3,600.0	3,440.2	3,511.7	3,225.6	19.5	26.3	62.16	657.8	1,076.3	593.3	556.7	36.54	16.238		
3,700.0	3,533.8	3,609.3	3,311.5	20.2	27.3	62.16	682.3	1,115.8	614.8	577.0	37.85	16.244		
3,800.0	3,627.5	3,707.0	3,397.4	20.9	28.2	62.16	706.9	1,155.3	636.3	597.2	39.16	16.249		
3,900.0	3,721.1	3,804.6	3,483.2	21.6	29.2	62.16	731.4	1,194.9	657.9	617.4	40.48	16.254		
4,000.0	3,814.8	3,902.3	3,569.1	22.3	30.2	62.15	756.0	1,234.4	679.4	637.6	41.79	16.258		
4,100.0	3,908.4	3,999.9	3,654.9	23.0	31.2	62.15	780.6	1,273.9	701.0	657.8	43.11	16.261		
4,200.0	4,002.1	4,097.6	3,740.8	23.7	32.2	62.15	805.1	1,313.4	722.5	678.1	44.42	16.264		
4,300.0	4,095.7	4,195.2	3,826.6	24.4	33.1	62.15	829.7	1,353.0	744.0	698.3	45.74	16.267		
4,400.0	4,189.4	4,292.9	3,912.5	25.1	34.1	62.14	854.3	1,392.5	765.6	718.5	47.05	16.270		
4,500.0	4,283.0	4,390.5	3,998.3	25.8	35.1	62.14	878.8	1,432.0	787.1	738.7	48.37	16.273		
4,600.0	4,376.7	4,488.2	4,084.2	26.5	36.1	62.14	903.4	1,471.5	808.6	758.9	49.69	16.275		
4,700.0	4,470.3	4,585.9	4,170.0	27.2	37.0	62.14	927.9	1,511.1	830.2	779.2	51.00	16.277		
4,800.0	4,564.0	4,683.5	4,255.9	27.9	38.0	62.14	952.5	1,550.6	851.7	799.4	52.32	16.279		
4,900.0	4,657.6	4,781.2	4,341.7	28.6	39.0	62.14	977.1	1,590.1	873.2	819.6	53.64	16.281		

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 Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Offset Design Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson CX GH 30-26D - Wellbore #1 - Plan #1 (7-													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.0	4,751.3	4,878.8	4,427.6	29.3	40.0	62.13	1,001.6	1,629.6	894.8	839.8	54.95	16.282		
5,100.0	4,844.9	4,976.5	4,513.5	30.0	41.0	62.13	1,026.2	1,669.2	916.3	860.0	56.27	16.284		
5,153.9	4,895.4	5,029.1	4,559.8	30.4	41.5	62.13	1,039.4	1,690.5	927.9	870.9	56.98	16.284		
5,200.0	4,938.7	5,074.1	4,599.3	30.7	41.9	62.29	1,050.7	1,708.7	938.0	880.4	57.61	16.283		
5,300.0	5,033.5	5,171.3	4,684.8	31.2	42.9	62.53	1,075.2	1,748.0	961.1	902.3	58.80	16.345		
5,400.0	5,129.3	5,268.1	4,769.8	31.6	43.9	62.63	1,099.5	1,787.2	985.7	925.8	59.87	16.465		
5,500.0	5,226.1	5,364.2	4,854.3	32.0	44.8	62.59	1,123.7	1,826.1	1,012.0	951.2	60.81	16.641		
5,600.0	5,323.6	5,459.5	4,938.1	32.4	45.8	62.44	1,147.7	1,864.6	1,039.9	978.2	61.63	16.872		
5,700.0	5,421.9	5,553.9	5,021.1	32.7	46.7	62.19	1,171.4	1,902.9	1,069.5	1,007.2	62.33	17.157		
5,800.0	5,520.8	5,647.4	5,103.3	33.0	47.7	61.86	1,194.9	1,940.7	1,100.9	1,038.0	62.92	17.496		
5,900.0	5,620.1	5,766.2	5,208.3	33.2	48.7	61.20	1,224.3	1,987.9	1,133.5	1,070.2	63.30	17.906		
6,000.0	5,719.8	5,904.3	5,333.0	33.4	49.7	60.35	1,255.5	2,038.2	1,164.6	1,101.1	63.50	18.342		
6,100.0	5,819.7	6,045.9	5,463.7	33.6	50.6	59.51	1,284.3	2,084.5	1,194.0	1,130.5	63.56	18.786		
6,180.3	5,900.0	6,162.2	5,573.0	33.6	51.3	93.42	1,305.3	2,118.3	1,216.3	1,152.7	63.52	19.147		
6,200.0	5,919.7	6,191.0	5,600.3	33.7	51.5	93.17	1,310.2	2,126.1	1,221.5	1,158.0	63.45	19.250		
6,300.0	6,019.7	6,340.6	5,743.5	33.7	52.2	92.00	1,333.0	2,162.9	1,245.7	1,182.5	63.16	19.723		
6,400.0	6,119.7	6,494.6	5,893.0	33.8	52.8	91.06	1,352.4	2,194.0	1,265.7	1,202.7	62.97	20.100		
6,500.0	6,219.7	6,652.3	6,048.0	33.9	53.3	90.34	1,367.7	2,218.8	1,281.4	1,218.5	62.88	20.379		
6,600.0	6,319.7	6,812.8	6,207.1	34.0	53.7	89.85	1,378.8	2,236.5	1,292.5	1,229.6	62.89	20.552		
6,700.0	6,419.7	6,975.1	6,369.0	34.1	54.0	89.57	1,385.1	2,246.7	1,298.8	1,235.8	62.99	20.620		
6,800.0	6,519.7	7,125.9	6,519.7	34.2	54.1	89.50	1,386.7	2,249.3	1,300.3	1,237.2	63.18	20.583		
6,900.0	6,619.7	7,225.9	6,619.7	34.2	54.1	89.50	1,386.7	2,249.3	1,300.3	1,237.0	63.35	20.525		
7,000.0	6,719.7	7,325.9	6,719.7	34.3	54.2	89.50	1,386.7	2,249.3	1,300.3	1,236.8	63.54	20.466		
7,007.2	6,726.8	7,333.1	6,726.8	34.3	54.2	89.50	1,386.7	2,249.3	1,300.3	1,236.8	63.55	20.462		
7,026.3	6,746.0	7,342.2	6,736.0	34.4	54.2	89.50	1,386.7	2,249.3	1,300.4	1,236.8	63.58	20.454		

Company:	Great Western	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Offset Design Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson CX GH 30-28D - Wellbore #1 - Plan #1 (7-												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
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	177.61	-20.0	0.8	20.1				
100.0	100.0	100.0	100.0	0.1	0.1	177.61	-20.0	0.8	20.1	19.8	0.22	89.206	
200.0	200.0	200.0	200.0	0.3	0.3	177.61	-20.0	0.8	20.1	19.4	0.67	29.735	
300.0	300.0	300.0	300.0	0.6	0.6	177.61	-20.0	0.8	20.1	18.9	1.12	17.841	
400.0	400.0	400.0	400.0	0.8	0.8	177.61	-20.0	0.8	20.1	18.5	1.57	12.744 CC, ES	
500.0	500.0	500.0	500.0	1.0	1.0	145.79	-20.0	0.8	21.5	19.4	2.02	10.611	
600.0	599.8	599.8	599.8	1.2	1.2	152.25	-20.0	0.8	26.0	23.5	2.48	10.485 SF	
700.0	699.5	699.5	699.5	1.5	1.5	159.06	-20.0	0.8	33.9	31.0	2.93	11.571	
800.0	798.7	798.7	798.7	1.7	1.7	164.49	-20.0	0.8	45.5	42.1	3.39	13.441	
900.0	897.5	899.1	899.1	2.0	1.9	169.46	-18.4	0.4	59.4	55.6	3.84	15.489	
1,000.0	995.6	999.5	999.3	2.4	2.1	174.72	-13.3	-1.0	74.5	70.2	4.28	17.405	
1,100.0	1,093.1	1,099.8	1,099.3	2.8	2.4	179.92	-4.9	-3.2	91.2	86.4	4.73	19.259	
1,200.0	1,189.6	1,199.9	1,198.6	3.3	2.6	-175.12	6.9	-6.4	109.7	104.5	5.21	21.054	
1,300.0	1,285.3	1,299.6	1,297.1	3.8	2.9	-170.48	21.9	-10.4	130.3	124.6	5.73	22.740	
1,400.0	1,379.8	1,398.8	1,394.5	4.4	3.2	-166.22	40.2	-15.3	153.3	146.9	6.32	24.245	
1,426.4	1,404.6	1,424.9	1,420.0	4.5	3.3	-165.15	45.5	-16.8	159.7	153.2	6.49	24.592	
1,500.0	1,473.5	1,497.7	1,490.8	5.0	3.6	-162.33	61.6	-21.1	177.7	170.7	7.03	25.285	
1,600.0	1,567.2	1,596.5	1,586.2	5.7	4.0	-158.52	86.2	-27.7	201.7	193.8	7.86	25.669	
1,700.0	1,660.8	1,695.0	1,680.5	6.3	4.5	-154.70	113.9	-35.1	225.3	216.5	8.81	25.585	
1,800.0	1,754.5	1,792.3	1,772.6	7.0	5.0	-150.95	144.1	-43.2	249.0	239.1	9.87	25.231	
1,900.0	1,848.1	1,888.2	1,863.2	7.7	5.5	-147.76	174.4	-51.3	273.4	262.4	10.99	24.876	
2,000.0	1,941.8	1,984.1	1,953.9	8.4	6.1	-145.09	204.8	-59.5	298.5	286.4	12.14	24.583	
2,100.0	2,035.4	2,080.0	2,044.5	9.1	6.6	-142.83	235.1	-67.6	324.1	310.8	13.32	24.339	
2,200.0	2,129.1	2,176.0	2,135.1	9.8	7.2	-140.90	265.4	-75.8	350.1	335.6	14.50	24.139	
2,300.0	2,222.7	2,271.9	2,225.8	10.4	7.8	-139.23	295.8	-83.9	376.4	360.7	15.70	23.975	
2,400.0	2,316.4	2,367.8	2,316.4	11.1	8.4	-137.79	326.1	-92.0	403.0	386.1	16.91	23.840	
2,500.0	2,410.0	2,463.7	2,407.1	11.8	9.0	-136.52	356.5	-100.2	429.9	411.7	18.12	23.729	
2,600.0	2,503.7	2,559.7	2,497.7	12.5	9.6	-135.39	386.8	-108.3	456.8	437.5	19.33	23.637	
2,700.0	2,597.3	2,655.6	2,588.3	13.2	10.2	-134.40	417.2	-116.5	484.0	463.4	20.54	23.560	
2,800.0	2,691.0	2,751.5	2,679.0	13.9	10.8	-133.50	447.5	-124.6	511.2	489.5	21.76	23.495	
2,900.0	2,784.6	2,847.4	2,769.6	14.6	11.5	-132.70	477.9	-132.7	538.6	515.6	22.98	23.441	
3,000.0	2,878.3	2,943.4	2,860.2	15.3	12.1	-131.98	508.2	-140.9	566.0	541.8	24.19	23.395	
3,100.0	2,971.9	3,039.3	2,950.9	16.0	12.7	-131.32	538.5	-149.0	593.5	568.1	25.41	23.355	
3,200.0	3,065.6	3,135.2	3,041.5	16.7	13.3	-130.72	568.9	-157.2	621.1	594.5	26.63	23.322	
3,300.0	3,159.2	3,231.1	3,132.1	17.4	13.9	-130.17	599.2	-165.3	648.8	620.9	27.85	23.293	
3,400.0	3,252.9	3,327.1	3,222.8	18.1	14.5	-129.67	629.6	-173.4	676.4	647.4	29.07	23.268	
3,500.0	3,346.5	3,423.0	3,313.4	18.8	15.2	-129.20	659.9	-181.6	704.2	673.9	30.29	23.247	
3,600.0	3,440.2	3,518.9	3,404.0	19.5	15.8	-128.77	690.3	-189.7	732.0	700.5	31.51	23.229	
3,700.0	3,533.8	3,614.8	3,494.7	20.2	16.4	-128.38	720.6	-197.9	759.8	727.0	32.73	23.212	
3,800.0	3,627.5	3,710.8	3,585.3	20.9	17.0	-128.01	750.9	-206.0	787.6	753.7	33.95	23.198	
3,900.0	3,721.1	3,806.7	3,675.9	21.6	17.6	-127.66	781.3	-214.1	815.5	780.3	35.17	23.186	
4,000.0	3,814.8	3,902.6	3,766.6	22.3	18.3	-127.34	811.6	-222.3	843.4	807.0	36.39	23.175	
4,100.0	3,908.4	3,998.5	3,857.2	23.0	18.9	-127.04	842.0	-230.4	871.3	833.7	37.61	23.166	
4,200.0	4,002.1	4,094.5	3,947.8	23.7	19.5	-126.76	872.3	-238.6	899.3	860.4	38.83	23.158	
4,300.0	4,095.7	4,190.4	4,038.5	24.4	20.1	-126.49	902.7	-246.7	927.2	887.2	40.05	23.150	
4,400.0	4,189.4	4,286.3	4,129.1	25.1	20.8	-126.24	933.0	-254.8	955.2	913.9	41.27	23.144	
4,500.0	4,283.0	4,382.2	4,219.7	25.8	21.4	-126.00	963.3	-263.0	983.2	940.7	42.49	23.138	
4,600.0	4,376.7	4,478.2	4,310.4	26.5	22.0	-125.78	993.7	-271.1	1,011.2	967.5	43.71	23.133	
4,700.0	4,470.3	4,574.1	4,401.0	27.2	22.6	-125.57	1,024.0	-279.3	1,039.2	994.3	44.93	23.129	
4,800.0	4,564.0	4,670.0	4,491.7	27.9	23.3	-125.37	1,054.4	-287.4	1,067.3	1,021.1	46.15	23.125	
4,900.0	4,657.6	4,765.9	4,582.3	28.6	23.9	-125.18	1,084.7	-295.5	1,095.3	1,047.9	47.37	23.122	

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

Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson CX GH 30-28D - Wellbore #1 - Plan #1 (7-										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)		
5,000.0	4,751.3	4,861.9	4,672.9	29.3	24.5	-125.00	1,115.1	-303.7	1,123.4	1,074.8	48.59	23.119	
5,100.0	4,844.9	4,957.8	4,763.6	30.0	25.2	-124.83	1,145.4	-311.8	1,151.4	1,101.6	49.81	23.116	
5,153.9	4,895.4	5,009.5	4,812.4	30.4	25.5	-124.74	1,161.8	-316.2	1,166.6	1,116.1	50.47	23.115	
5,200.0	4,938.7	5,053.8	4,854.2	30.7	25.8	-124.87	1,175.8	-320.0	1,179.3	1,128.3	51.03	23.110	
5,300.0	5,033.5	5,150.1	4,945.2	31.2	26.4	-125.02	1,206.2	-328.1	1,205.5	1,153.4	52.18	23.106	
5,400.0	5,129.3	5,255.3	5,045.1	31.6	27.0	-125.04	1,238.3	-336.7	1,229.6	1,176.4	53.23	23.098	
5,500.0	5,226.1	5,363.7	5,149.1	32.0	27.5	-125.05	1,267.6	-344.6	1,251.0	1,196.8	54.17	23.091	
5,600.0	5,323.6	5,473.2	5,255.3	32.4	27.9	-125.05	1,293.4	-351.5	1,269.5	1,214.5	55.02	23.073	
5,700.0	5,421.9	5,583.7	5,363.5	32.7	28.3	-125.06	1,315.4	-357.4	1,285.2	1,229.4	55.77	23.045	
5,800.0	5,520.8	5,695.1	5,473.2	33.0	28.6	-125.07	1,333.5	-362.3	1,298.0	1,241.6	56.41	23.010	
5,900.0	5,620.1	5,807.1	5,584.3	33.2	28.9	-125.07	1,347.5	-366.0	1,307.8	1,250.9	56.94	22.968	
6,000.0	5,719.8	5,919.7	5,696.4	33.4	29.2	-125.08	1,357.4	-368.7	1,314.7	1,257.3	57.36	22.920	
6,100.0	5,819.7	6,032.6	5,809.2	33.6	29.3	-125.08	1,363.0	-370.2	1,318.6	1,260.9	57.67	22.866	
6,180.3	5,900.0	6,123.4	5,900.0	33.6	29.4	-90.48	1,364.4	-370.6	1,319.6	1,261.7	57.84	22.816	
6,200.0	5,919.7	6,143.1	5,919.7	33.7	29.4	-90.48	1,364.4	-370.6	1,319.6	1,261.7	57.87	22.802	
6,300.0	6,019.7	6,243.1	6,019.7	33.7	29.5	-90.48	1,364.4	-370.6	1,319.6	1,261.5	58.05	22.731	
6,400.0	6,119.7	6,343.1	6,119.7	33.8	29.6	-90.48	1,364.4	-370.6	1,319.6	1,261.3	58.24	22.658	
6,500.0	6,219.7	6,443.1	6,219.7	33.9	29.7	-90.48	1,364.4	-370.6	1,319.6	1,261.1	58.43	22.585	
6,600.0	6,319.7	6,543.1	6,319.7	34.0	29.8	-90.48	1,364.4	-370.6	1,319.6	1,260.9	58.62	22.511	
6,700.0	6,419.7	6,643.1	6,419.7	34.1	29.9	-90.48	1,364.4	-370.6	1,319.6	1,260.7	58.81	22.436	
6,800.0	6,519.7	6,743.1	6,519.7	34.2	30.0	-90.48	1,364.4	-370.6	1,319.6	1,260.6	59.01	22.361	
6,900.0	6,619.7	6,843.1	6,619.7	34.2	30.1	-90.48	1,364.4	-370.6	1,319.6	1,260.3	59.21	22.285	
7,000.0	6,719.7	6,943.1	6,719.7	34.3	30.2	-90.48	1,364.4	-370.6	1,319.6	1,260.1	59.42	22.209	
7,026.3	6,746.0	6,969.4	6,746.0	34.4	30.2	-90.48	1,364.4	-370.6	1,319.6	1,260.1	59.47	22.189	

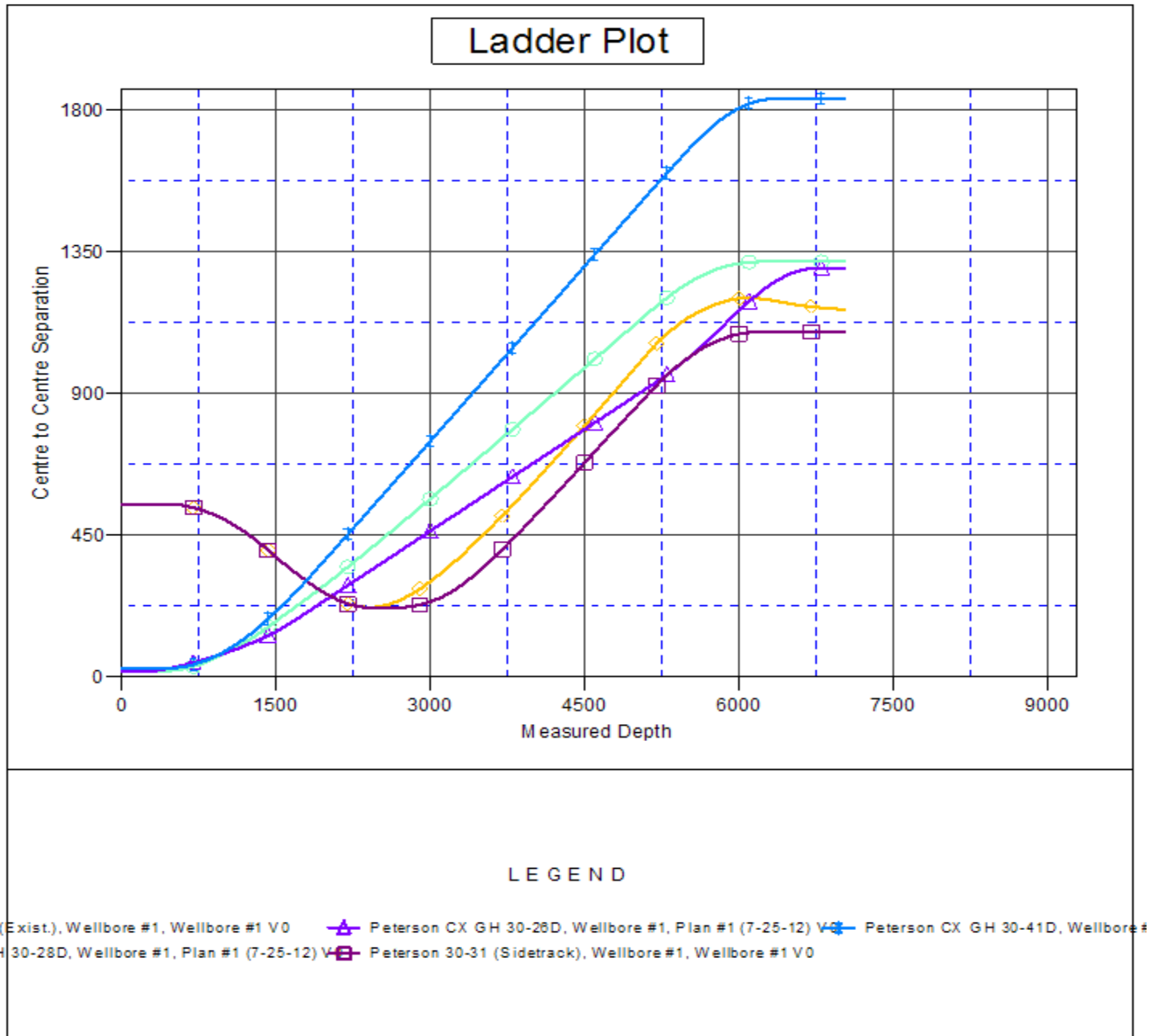
Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson CX GH 30-41D - Wellbore #1 - Plan #1 (7-													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance		Between		Minimum	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	135.95	-19.3	18.7	26.9					
100.0	100.0	100.0	100.0	0.1	0.1	135.95	-19.3	18.7	26.9	26.6	0.22	119.464		
200.0	200.0	200.0	200.0	0.3	0.3	135.95	-19.3	18.7	26.9	26.2	0.67	39.821		
300.0	300.0	300.0	300.0	0.6	0.6	135.95	-19.3	18.7	26.9	25.7	1.12	23.893		
400.0	400.0	400.0	400.0	0.8	0.8	135.95	-19.3	18.7	26.9	25.3	1.57	17.066 CC, ES		
500.0	500.0	499.4	499.3	1.0	1.0	102.14	-19.2	20.4	28.3	26.3	2.01	14.111		
600.0	599.8	598.6	598.4	1.2	1.2	104.08	-19.0	25.5	32.8	30.4	2.45	13.413 SF		
700.0	699.5	697.5	697.0	1.5	1.4	106.32	-18.6	34.1	40.4	37.5	2.92	13.830		
800.0	798.7	796.0	794.8	1.7	1.7	108.30	-18.0	46.0	51.0	47.6	3.44	14.828		
900.0	897.5	894.0	891.6	2.0	2.0	109.83	-17.3	61.1	64.7	60.6	4.02	16.081		
1,000.0	995.6	991.3	987.1	2.4	2.4	110.94	-16.4	79.4	81.3	76.7	4.68	17.386		
1,100.0	1,093.1	1,087.8	1,081.2	2.8	2.8	111.72	-15.4	100.7	101.0	95.5	5.42	18.625		
1,200.0	1,189.6	1,183.4	1,173.7	3.3	3.2	112.22	-14.3	125.0	123.5	117.3	6.26	19.742		
1,300.0	1,285.3	1,278.0	1,264.3	3.8	3.7	112.53	-13.0	152.0	148.9	141.7	7.19	20.712		
1,400.0	1,379.8	1,371.5	1,352.9	4.4	4.3	112.68	-11.6	181.6	177.1	168.9	8.22	21.541		
1,426.4	1,404.6	1,395.9	1,376.0	4.5	4.5	112.70	-11.2	189.9	185.0	176.5	8.51	21.750		
1,500.0	1,473.5	1,463.9	1,439.6	5.0	4.9	112.91	-10.1	213.7	207.6	198.3	9.35	22.206		
1,600.0	1,567.2	1,555.4	1,524.3	5.7	5.6	112.55	-8.5	248.3	239.6	229.1	10.55	22.722		
1,700.0	1,660.8	1,645.8	1,606.9	6.3	6.4	111.71	-6.8	285.0	273.0	261.2	11.79	23.154		
1,800.0	1,754.5	1,735.1	1,687.3	7.0	7.1	110.57	-4.9	323.8	307.9	294.8	13.08	23.543		
1,900.0	1,848.1	1,825.6	1,767.7	7.7	8.0	109.25	-3.0	365.4	344.1	329.7	14.41	23.877		
2,000.0	1,941.8	1,918.4	1,849.9	8.4	8.9	108.11	-1.0	408.3	380.6	364.8	15.77	24.131		
2,100.0	2,035.4	2,011.3	1,932.2	9.1	9.8	107.17	1.0	451.3	417.2	400.1	17.14	24.344		
2,200.0	2,129.1	2,104.1	2,014.5	9.8	10.7	106.37	3.1	494.2	454.0	435.4	18.51	24.525		
2,300.0	2,222.7	2,197.0	2,096.8	10.4	11.7	105.70	5.1	537.2	490.7	470.9	19.88	24.680		
2,400.0	2,316.4	2,289.8	2,179.1	11.1	12.6	105.12	7.1	580.1	527.6	506.3	21.26	24.814		
2,500.0	2,410.0	2,382.7	2,261.4	11.8	13.5	104.62	9.1	623.1	564.5	541.8	22.64	24.932		
2,600.0	2,503.7	2,475.5	2,343.7	12.5	14.4	104.17	11.1	666.0	601.4	577.4	24.02	25.036		
2,700.0	2,597.3	2,568.3	2,426.0	13.2	15.4	103.78	13.2	709.0	638.3	612.9	25.40	25.129		
2,800.0	2,691.0	2,661.2	2,508.3	13.9	16.3	103.43	15.2	751.9	675.3	648.5	26.78	25.212		
2,900.0	2,784.6	2,754.0	2,590.5	14.6	17.2	103.12	17.2	794.9	712.3	684.1	28.17	25.286		
3,000.0	2,878.3	2,846.9	2,672.8	15.3	18.2	102.84	19.2	837.8	749.3	719.7	29.55	25.354		
3,100.0	2,971.9	2,939.7	2,755.1	16.0	19.1	102.58	21.2	880.8	786.3	755.3	30.94	25.415		
3,200.0	3,065.6	3,032.6	2,837.4	16.7	20.1	102.35	23.3	923.7	823.3	791.0	32.32	25.471		
3,300.0	3,159.2	3,125.4	2,919.7	17.4	21.0	102.14	25.3	966.7	860.3	826.6	33.71	25.522		
3,400.0	3,252.9	3,218.2	3,002.0	18.1	21.9	101.94	27.3	1,009.6	897.4	862.3	35.10	25.570		
3,500.0	3,346.5	3,311.1	3,084.3	18.8	22.9	101.76	29.3	1,052.5	934.4	897.9	36.48	25.613		
3,600.0	3,440.2	3,403.9	3,166.6	19.5	23.8	101.60	31.3	1,095.5	971.5	933.6	37.87	25.653		
3,700.0	3,533.8	3,496.8	3,248.9	20.2	24.8	101.44	33.4	1,138.4	1,008.6	969.3	39.26	25.691		
3,800.0	3,627.5	3,589.6	3,331.1	20.9	25.7	101.30	35.4	1,181.4	1,045.6	1,005.0	40.65	25.725		
3,900.0	3,721.1	3,682.5	3,413.4	21.6	26.6	101.17	37.4	1,224.3	1,082.7	1,040.7	42.03	25.758		
4,000.0	3,814.8	3,775.3	3,495.7	22.3	27.6	101.04	39.4	1,267.3	1,119.8	1,076.4	43.42	25.788		
4,100.0	3,908.4	3,868.2	3,578.0	23.0	28.5	100.93	41.4	1,310.2	1,156.9	1,112.1	44.81	25.816		
4,200.0	4,002.1	3,961.0	3,660.3	23.7	29.5	100.82	43.5	1,353.2	1,194.0	1,147.8	46.20	25.843		
4,300.0	4,095.7	4,053.8	3,742.6	24.4	30.4	100.72	45.5	1,396.1	1,231.1	1,183.5	47.59	25.868		
4,400.0	4,189.4	4,146.7	3,824.9	25.1	31.4	100.62	47.5	1,439.1	1,268.2	1,219.2	48.98	25.891		
4,500.0	4,283.0	4,239.5	3,907.2	25.8	32.3	100.53	49.5	1,482.0	1,305.3	1,254.9	50.37	25.914		
4,600.0	4,376.7	4,332.4	3,989.5	26.5	33.3	100.44	51.5	1,525.0	1,342.4	1,290.6	51.76	25.935		
4,700.0	4,470.3	4,425.2	4,071.7	27.2	34.2	100.36	53.6	1,567.9	1,379.5	1,326.3	53.15	25.954		
4,800.0	4,564.0	4,518.1	4,154.0	27.9	35.1	100.29	55.6	1,610.8	1,416.6	1,362.0	54.54	25.973		
4,900.0	4,657.6	4,610.9	4,236.3	28.6	36.1	100.21	57.6	1,653.8	1,453.7	1,397.8	55.93	25.991		

COMPASS 2003.21 Build 46

Peterson CX GH 30-41D Pad Sec.30-T5N-R63W - Peterson CX GH 30-41D - Wellbore #1 - Plan #1 (7-												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	
5,000.0	4,751.3	4,703.7	4,318.6	29.3	37.0	100.14	59.6	1,696.7	1,490.8	1,433.5	57.32	26.008	
5,100.0	4,844.9	4,796.6	4,400.9	30.0	38.0	100.08	61.6	1,739.7	1,527.9	1,469.2	58.71	26.024	
5,153.9	4,895.4	4,846.7	4,445.3	30.4	38.5	100.04	62.7	1,762.9	1,547.9	1,488.5	59.46	26.033	
5,200.0	4,938.7	4,889.5	4,483.2	30.7	38.9	100.36	63.7	1,782.6	1,565.0	1,504.8	60.19	26.002	
5,300.0	5,033.5	4,982.4	4,565.6	31.2	39.9	100.95	65.7	1,825.6	1,601.5	1,539.9	61.63	25.987	
5,400.0	5,129.3	5,075.3	4,648.0	31.6	40.8	101.40	67.7	1,868.6	1,637.5	1,574.5	63.00	25.992	
5,500.0	5,226.1	5,168.2	4,730.3	32.0	41.8	101.72	69.7	1,911.6	1,672.9	1,608.6	64.30	26.018	
5,600.0	5,323.6	5,288.4	4,837.2	32.4	42.9	101.79	72.3	1,966.4	1,707.3	1,641.7	65.63	26.013	
5,700.0	5,421.9	5,442.6	4,977.4	32.7	44.1	101.64	75.3	2,030.5	1,738.5	1,671.6	66.89	25.990	
5,800.0	5,520.8	5,601.7	5,125.4	33.0	45.1	101.46	78.1	2,088.7	1,765.7	1,697.7	67.99	25.969	
5,900.0	5,620.1	5,765.3	5,280.8	33.2	46.0	101.23	80.5	2,139.9	1,788.7	1,719.8	68.91	25.956	
6,000.0	5,719.8	5,932.9	5,442.7	33.4	46.7	100.98	82.5	2,183.1	1,807.5	1,737.8	69.66	25.947	
6,100.0	5,819.7	6,104.0	5,610.3	33.6	47.3	100.68	84.1	2,217.3	1,821.8	1,751.6	70.22	25.942	
6,180.3	5,900.0	6,243.5	5,748.2	33.6	47.7	135.03	85.1	2,237.7	1,829.9	1,759.4	70.53	25.945	
6,200.0	5,919.7	6,277.9	5,782.4	33.7	47.8	134.94	85.3	2,241.8	1,831.5	1,760.9	70.58	25.949	
6,300.0	6,019.7	6,453.9	5,957.8	33.7	48.1	134.61	85.9	2,255.9	1,836.9	1,766.1	70.81	25.943	
6,400.0	6,119.7	6,615.8	6,119.7	33.8	48.2	134.53	86.1	2,259.4	1,838.3	1,767.3	71.01	25.888	
6,500.0	6,219.7	6,715.8	6,219.7	33.9	48.3	134.53	86.1	2,259.4	1,838.3	1,767.1	71.17	25.831	
6,600.0	6,319.7	6,815.8	6,319.7	34.0	48.3	134.53	86.1	2,259.4	1,838.3	1,767.0	71.33	25.773	
6,700.0	6,419.7	6,915.8	6,419.7	34.1	48.4	134.53	86.1	2,259.4	1,838.3	1,766.8	71.49	25.715	
6,800.0	6,519.7	7,015.8	6,519.7	34.2	48.4	134.53	86.1	2,259.4	1,838.3	1,766.6	71.65	25.655	
6,900.0	6,619.7	7,115.8	6,619.7	34.2	48.5	134.53	86.1	2,259.4	1,838.3	1,766.5	71.82	25.596	
7,000.0	6,719.7	7,215.8	6,719.7	34.3	48.6	134.53	86.1	2,259.4	1,838.3	1,766.3	71.99	25.535	
7,007.2	6,726.8	7,223.0	6,726.8	34.3	48.6	134.53	86.1	2,259.4	1,838.3	1,766.3	72.00	25.531	
7,026.3	6,746.0	7,232.1	6,736.0	34.4	48.6	134.53	86.1	2,259.4	1,838.3	1,766.3	72.03	25.523	

Company:	Great Western	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4588.0ft (Original Well Elev) Coordinates are relative to: Peterson CX GH 30-27D
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.66°



Company:	Great Western	Local Co-ordinate Reference:	Well Peterson CX GH 30-27D
Project:	SEC.30-T5N-R63W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Reference Site:	Peterson CX GH 30-41D Pad Sec.30-T5N-R63W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Peterson CX GH 30-27D	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 (7-25-12)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4588.0ft (Original Well Elev) Coordinates are relative to: Peterson CX GH 30-27D
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 ° Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.66°

