

ENSIGN

Directional

Well Name: Andrews 26-13

Surface Location: Andrews 26-23 Pad Sec.26-T7N-R65W
North American Datum 1983, US State Plane 1983Colorado Northern Zone
Ground Elevation: 4871.0

+N/-S
0.0

+E/-W
0.0

Northing
1441084.58

Easting
3240505.67

Latitude
40.540956

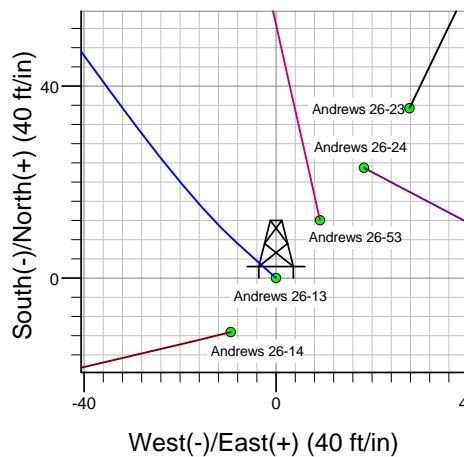
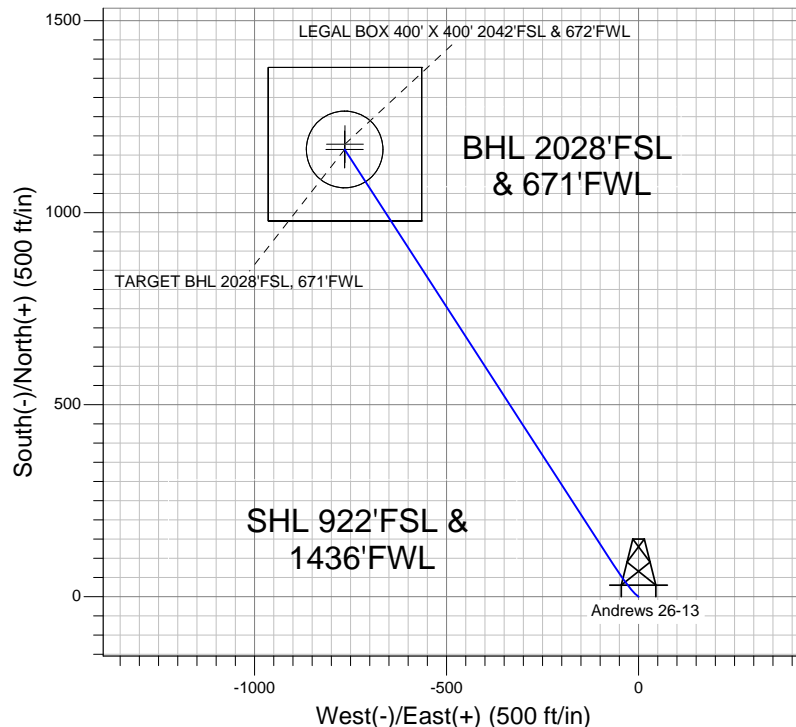
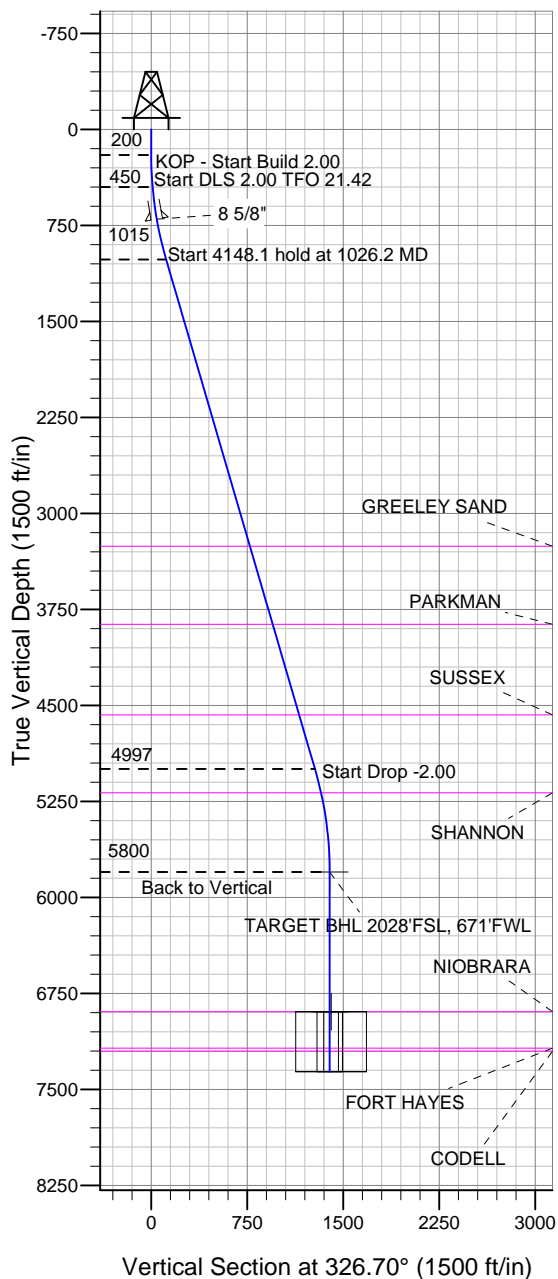
Longitude
-104.634644

Slot

Original Well Elev

WELL @ 4885.0ft (Original Well Elev)

Great Western



Andrews 26-23 Pad Sec.26-T7N-R65W
Andrews 26-13
Plan #2 (5-14-12)
7:44, May 17 2012



Azimuths to True North
Magnetic North: 8.68°
Magnetic Field
Strength: 53122.2snT
Dip Angle: 67.15°
Date: 5/14/2012
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2028'FSL, 671'FWL	5800.0	1164.8	-765.1	40.544153	-104.637397	Point
LEGAL BOX 400' X 400' 2042'FSL & 672'FWL	6892.0	1178.8	-764.1	40.544192	-104.637393	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 2028'FSL, 671'FWL	6892.0	1164.8	-765.1	40.544153	-104.637397	Circle (Radius: 100.0)

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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	450.0	5.00	312.00	449.7	7.3	-8.1	2.00	312.00	10.5	
4	1026.2	16.28	327.09	1015.1	92.2	-70.9	2.00	21.42	115.9	
5	5174.3	16.28	327.09	4996.9	1068.3	-702.7	0.00	0.00	1278.7	
6	5988.3	0.00	0.00	5800.0	1164.8	-765.1	2.00	180.00	1393.6	TARGET BHL 2028'FSL, 671'FWL
7	7549.3	0.00	0.00	7361.0	1164.8	-765.1	0.00	0.00	1393.6	



Great Western

SEC.26-T7N-R65W

Andrews 26-23 Pad Sec.26-T7N-R65W

Andrews 26-13

Wellbore #1

Plan: Plan #2 (5-14-12)

Standard Planning Report

17 May, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Andrews 26-13
Company:	Great Western	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	SEC.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	North Reference:	True
Well:	Andrews 26-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-14-12)		

Project	SEC.26-T7N-R65W, Weld County, CO		
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		Andrews 26-23 Pad Sec.26-T7N-R65W			
Site Position:		Northing:	1,441,120.20ft	Latitude:	40.541053
From:	Lat/Long	Easting:	3,240,533.12ft	Longitude:	-104.634544
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.56 °

Well	Andrews 26-13					
Well Position	+N/-S	-35.4 ft	Northing:	1,441,084.58 ft	Latitude:	40.540956
	+E/-W	-27.8 ft	Easting:	3,240,505.67 ft	Longitude:	-104.634644
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,871.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/14/2012	8.68	67.15	53,122

Design	Plan #2 (5-14-12)			
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	326.70

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
450.0	5.00	312.00	449.7	7.3	-8.1	2.00	2.00	0.00	312.00	
1,026.2	16.28	327.09	1,015.1	92.2	-70.9	2.00	1.96	2.62	21.42	
5,174.3	16.28	327.09	4,996.9	1,068.3	-702.7	0.00	0.00	0.00	0.00	
5,988.3	0.00	0.00	5,800.0	1,164.8	-765.1	2.00	-2.00	0.00	180.00	TARGET BHL 2028
7,549.3	0.00	0.00	7,361.0	1,164.8	-765.1	0.00	0.00	0.00	0.00	

Database: Landmark
Company: Great Western
Project: SEC.26-T7N-R65W
Site: Andrews 26-23 Pad Sec.26-T7N-R65W
Well: Andrews 26-13
Wellbore: Wellbore #1
Design: Plan #2 (5-14-12)

Local Co-ordinate Reference: Well Andrews 26-13
TVD Reference: WELL @ 4885.0ft (Original Well Elev)
MD Reference: WELL @ 4885.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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
KOP - Start Build 2.00									
240.0	0.80	312.00	240.0	0.2	-0.2	0.3	2.00	2.00	0.00
280.0	1.60	312.00	280.0	0.7	-0.8	1.1	2.00	2.00	0.00
320.0	2.40	312.00	320.0	1.7	-1.9	2.4	2.00	2.00	0.00
360.0	3.20	312.00	359.9	3.0	-3.3	4.3	2.00	2.00	0.00
400.0	4.00	312.00	399.8	4.7	-5.2	6.8	2.00	2.00	0.00
440.0	4.80	312.00	439.7	6.7	-7.5	9.7	2.00	2.00	0.00
450.0	5.00	312.00	449.7	7.3	-8.1	10.5	2.00	2.00	0.00
Start DLS 2.00 TFO 21.42									
480.0	5.56	314.26	479.6	9.2	-10.1	13.2	2.00	1.88	7.54
520.0	6.32	316.65	519.3	12.1	-13.0	17.3	2.00	1.90	5.96
560.0	7.09	318.52	559.1	15.6	-16.2	21.9	2.00	1.92	4.68
600.0	7.87	320.02	598.7	19.5	-19.6	27.1	2.00	1.94	3.77
640.0	8.65	321.26	638.3	24.0	-23.2	32.8	2.00	1.95	3.09
680.0	9.43	322.29	677.8	28.9	-27.1	39.0	2.00	1.96	2.58
702.5	9.87	322.80	700.0	31.9	-29.4	42.8	2.00	1.96	2.26
8 5/8"									
720.0	10.22	323.17	717.2	34.4	-31.2	45.9	2.00	1.97	2.09
760.0	11.01	323.92	756.5	40.3	-35.6	53.2	2.00	1.97	1.88
800.0	11.80	324.57	795.8	46.7	-40.2	61.1	2.00	1.97	1.63
840.0	12.59	325.15	834.8	53.6	-45.1	69.6	2.00	1.98	1.43
880.0	13.38	325.65	873.8	61.0	-50.2	78.5	2.00	1.98	1.26
920.0	14.17	326.10	912.7	68.9	-55.5	88.1	2.00	1.98	1.12
960.0	14.97	326.50	951.4	77.3	-61.1	98.1	2.00	1.98	1.01
1,000.0	15.76	326.87	990.0	86.1	-66.9	108.7	2.00	1.99	0.91
1,026.2	16.28	327.09	1,015.1	92.2	-70.9	115.9	2.00	1.99	0.84
Start 4148.1 hold at 1026.2 MD									
1,040.0	16.28	327.09	1,028.4	95.4	-73.0	119.8	0.00	0.00	0.00
1,080.0	16.28	327.09	1,066.8	104.8	-79.1	131.0	0.00	0.00	0.00
1,120.0	16.28	327.09	1,105.2	114.3	-85.1	142.2	0.00	0.00	0.00
1,160.0	16.28	327.09	1,143.6	123.7	-91.2	153.5	0.00	0.00	0.00
1,200.0	16.28	327.09	1,182.0	133.1	-97.3	164.7	0.00	0.00	0.00
1,240.0	16.28	327.09	1,220.4	142.5	-103.4	175.9	0.00	0.00	0.00
1,280.0	16.28	327.09	1,258.8	151.9	-109.5	187.1	0.00	0.00	0.00
1,320.0	16.28	327.09	1,297.2	161.3	-115.6	198.3	0.00	0.00	0.00
1,360.0	16.28	327.09	1,335.6	170.7	-121.7	209.5	0.00	0.00	0.00
1,400.0	16.28	327.09	1,374.0	180.1	-127.8	220.7	0.00	0.00	0.00
1,440.0	16.28	327.09	1,412.4	189.6	-133.9	231.9	0.00	0.00	0.00
1,480.0	16.28	327.09	1,450.7	199.0	-140.0	243.2	0.00	0.00	0.00
1,520.0	16.28	327.09	1,489.1	208.4	-146.1	254.4	0.00	0.00	0.00
1,560.0	16.28	327.09	1,527.5	217.8	-152.2	265.6	0.00	0.00	0.00
1,600.0	16.28	327.09	1,565.9	227.2	-158.3	276.8	0.00	0.00	0.00
1,640.0	16.28	327.09	1,604.3	236.6	-164.4	288.0	0.00	0.00	0.00
1,680.0	16.28	327.09	1,642.7	246.0	-170.4	299.2	0.00	0.00	0.00
1,720.0	16.28	327.09	1,681.1	255.5	-176.5	310.4	0.00	0.00	0.00
1,760.0	16.28	327.09	1,719.5	264.9	-182.6	321.6	0.00	0.00	0.00
1,800.0	16.28	327.09	1,757.9	274.3	-188.7	332.9	0.00	0.00	0.00
1,840.0	16.28	327.09	1,796.3	283.7	-194.8	344.1	0.00	0.00	0.00

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North Reference: True
Survey Calculation Method: Minimum Curvature

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)
1,880.0	16.28	327.09	1,834.7	293.1	-200.9	355.3	0.00	0.00	0.00
1,920.0	16.28	327.09	1,873.1	302.5	-207.0	366.5	0.00	0.00	0.00
1,960.0	16.28	327.09	1,911.5	311.9	-213.1	377.7	0.00	0.00	0.00
2,000.0	16.28	327.09	1,949.9	321.3	-219.2	388.9	0.00	0.00	0.00
2,040.0	16.28	327.09	1,988.3	330.8	-225.3	400.1	0.00	0.00	0.00
2,080.0	16.28	327.09	2,026.7	340.2	-231.4	411.3	0.00	0.00	0.00
2,120.0	16.28	327.09	2,065.1	349.6	-237.5	422.6	0.00	0.00	0.00
2,160.0	16.28	327.09	2,103.5	359.0	-243.6	433.8	0.00	0.00	0.00
2,200.0	16.28	327.09	2,141.9	368.4	-249.7	445.0	0.00	0.00	0.00
2,240.0	16.28	327.09	2,180.3	377.8	-255.8	456.2	0.00	0.00	0.00
2,280.0	16.28	327.09	2,218.7	387.2	-261.8	467.4	0.00	0.00	0.00
2,320.0	16.28	327.09	2,257.1	396.6	-267.9	478.6	0.00	0.00	0.00
2,360.0	16.28	327.09	2,295.5	406.1	-274.0	489.8	0.00	0.00	0.00
2,400.0	16.28	327.09	2,333.9	415.5	-280.1	501.0	0.00	0.00	0.00
2,440.0	16.28	327.09	2,372.3	424.9	-286.2	512.3	0.00	0.00	0.00
2,480.0	16.28	327.09	2,410.7	434.3	-292.3	523.5	0.00	0.00	0.00
2,520.0	16.28	327.09	2,449.0	443.7	-298.4	534.7	0.00	0.00	0.00
2,560.0	16.28	327.09	2,487.4	453.1	-304.5	545.9	0.00	0.00	0.00
2,600.0	16.28	327.09	2,525.8	462.5	-310.6	557.1	0.00	0.00	0.00
2,640.0	16.28	327.09	2,564.2	471.9	-316.7	568.3	0.00	0.00	0.00
2,680.0	16.28	327.09	2,602.6	481.4	-322.8	579.5	0.00	0.00	0.00
2,720.0	16.28	327.09	2,641.0	490.8	-328.9	590.7	0.00	0.00	0.00
2,760.0	16.28	327.09	2,679.4	500.2	-335.0	602.0	0.00	0.00	0.00
2,800.0	16.28	327.09	2,717.8	509.6	-341.1	613.2	0.00	0.00	0.00
2,840.0	16.28	327.09	2,756.2	519.0	-347.1	624.4	0.00	0.00	0.00
2,880.0	16.28	327.09	2,794.6	528.4	-353.2	635.6	0.00	0.00	0.00
2,920.0	16.28	327.09	2,833.0	537.8	-359.3	646.8	0.00	0.00	0.00
2,960.0	16.28	327.09	2,871.4	547.3	-365.4	658.0	0.00	0.00	0.00
3,000.0	16.28	327.09	2,909.8	556.7	-371.5	669.2	0.00	0.00	0.00
3,040.0	16.28	327.09	2,948.2	566.1	-377.6	680.5	0.00	0.00	0.00
3,080.0	16.28	327.09	2,986.6	575.5	-383.7	691.7	0.00	0.00	0.00
3,120.0	16.28	327.09	3,025.0	584.9	-389.8	702.9	0.00	0.00	0.00
3,160.0	16.28	327.09	3,063.4	594.3	-395.9	714.1	0.00	0.00	0.00
3,200.0	16.28	327.09	3,101.8	603.7	-402.0	725.3	0.00	0.00	0.00
3,240.0	16.28	327.09	3,140.2	613.1	-408.1	736.5	0.00	0.00	0.00
3,280.0	16.28	327.09	3,178.6	622.6	-414.2	747.7	0.00	0.00	0.00
3,320.0	16.28	327.09	3,217.0	632.0	-420.3	758.9	0.00	0.00	0.00
3,360.0	16.28	327.09	3,255.4	641.4	-426.4	770.2	0.00	0.00	0.00
3,360.7	16.28	327.09	3,256.0	641.5	-426.5	770.3	0.00	0.00	0.00
GREELEY SAND									
3,400.0	16.28	327.09	3,293.8	650.8	-432.4	781.4	0.00	0.00	0.00
3,440.0	16.28	327.09	3,332.2	660.2	-438.5	792.6	0.00	0.00	0.00
3,480.0	16.28	327.09	3,370.6	669.6	-444.6	803.8	0.00	0.00	0.00
3,520.0	16.28	327.09	3,409.0	679.0	-450.7	815.0	0.00	0.00	0.00
3,560.0	16.28	327.09	3,447.4	688.4	-456.8	826.2	0.00	0.00	0.00
3,600.0	16.28	327.09	3,485.7	697.9	-462.9	837.4	0.00	0.00	0.00
3,640.0	16.28	327.09	3,524.1	707.3	-469.0	848.6	0.00	0.00	0.00
3,680.0	16.28	327.09	3,562.5	716.7	-475.1	859.9	0.00	0.00	0.00
3,720.0	16.28	327.09	3,600.9	726.1	-481.2	871.1	0.00	0.00	0.00
3,760.0	16.28	327.09	3,639.3	735.5	-487.3	882.3	0.00	0.00	0.00
3,800.0	16.28	327.09	3,677.7	744.9	-493.4	893.5	0.00	0.00	0.00
3,840.0	16.28	327.09	3,716.1	754.3	-499.5	904.7	0.00	0.00	0.00
3,880.0	16.28	327.09	3,754.5	763.8	-505.6	915.9	0.00	0.00	0.00

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Local Co-ordinate Reference: Well Andrews 26-13
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MD Reference: WELL @ 4885.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
3,920.0	16.28	327.09	3,792.9	773.2	-511.7	927.1	0.00	0.00	0.00
3,960.0	16.28	327.09	3,831.3	782.6	-517.7	938.3	0.00	0.00	0.00
3,995.1	16.28	327.09	3,865.0	790.8	-523.1	948.2	0.00	0.00	0.00
PARKMAN									
4,000.0	16.28	327.09	3,869.7	792.0	-523.8	949.6	0.00	0.00	0.00
4,040.0	16.28	327.09	3,908.1	801.4	-529.9	960.8	0.00	0.00	0.00
4,080.0	16.28	327.09	3,946.5	810.8	-536.0	972.0	0.00	0.00	0.00
4,120.0	16.28	327.09	3,984.9	820.2	-542.1	983.2	0.00	0.00	0.00
4,160.0	16.28	327.09	4,023.3	829.6	-548.2	994.4	0.00	0.00	0.00
4,200.0	16.28	327.09	4,061.7	839.1	-554.3	1,005.6	0.00	0.00	0.00
4,240.0	16.28	327.09	4,100.1	848.5	-560.4	1,016.8	0.00	0.00	0.00
4,280.0	16.28	327.09	4,138.5	857.9	-566.5	1,028.0	0.00	0.00	0.00
4,320.0	16.28	327.09	4,176.9	867.3	-572.6	1,039.3	0.00	0.00	0.00
4,360.0	16.28	327.09	4,215.3	876.7	-578.7	1,050.5	0.00	0.00	0.00
4,400.0	16.28	327.09	4,253.7	886.1	-584.8	1,061.7	0.00	0.00	0.00
4,440.0	16.28	327.09	4,292.1	895.5	-590.9	1,072.9	0.00	0.00	0.00
4,480.0	16.28	327.09	4,330.5	904.9	-597.0	1,084.1	0.00	0.00	0.00
4,520.0	16.28	327.09	4,368.9	914.4	-603.1	1,095.3	0.00	0.00	0.00
4,560.0	16.28	327.09	4,407.3	923.8	-609.1	1,106.5	0.00	0.00	0.00
4,600.0	16.28	327.09	4,445.7	933.2	-615.2	1,117.7	0.00	0.00	0.00
4,640.0	16.28	327.09	4,484.0	942.6	-621.3	1,129.0	0.00	0.00	0.00
4,680.0	16.28	327.09	4,522.4	952.0	-627.4	1,140.2	0.00	0.00	0.00
4,720.0	16.28	327.09	4,560.8	961.4	-633.5	1,151.4	0.00	0.00	0.00
4,733.7	16.28	327.09	4,574.0	964.7	-635.6	1,155.2	0.00	0.00	0.00
SUSSEX									
4,760.0	16.28	327.09	4,599.2	970.8	-639.6	1,162.6	0.00	0.00	0.00
4,800.0	16.28	327.09	4,637.6	980.3	-645.7	1,173.8	0.00	0.00	0.00
4,840.0	16.28	327.09	4,676.0	989.7	-651.8	1,185.0	0.00	0.00	0.00
4,880.0	16.28	327.09	4,714.4	999.1	-657.9	1,196.2	0.00	0.00	0.00
4,920.0	16.28	327.09	4,752.8	1,008.5	-664.0	1,207.4	0.00	0.00	0.00
4,960.0	16.28	327.09	4,791.2	1,017.9	-670.1	1,218.7	0.00	0.00	0.00
5,000.0	16.28	327.09	4,829.6	1,027.3	-676.2	1,229.9	0.00	0.00	0.00
5,040.0	16.28	327.09	4,868.0	1,036.7	-682.3	1,241.1	0.00	0.00	0.00
5,080.0	16.28	327.09	4,906.4	1,046.1	-688.4	1,252.3	0.00	0.00	0.00
5,120.0	16.28	327.09	4,944.8	1,055.6	-694.4	1,263.5	0.00	0.00	0.00
5,160.0	16.28	327.09	4,983.2	1,065.0	-700.5	1,274.7	0.00	0.00	0.00
5,174.3	16.28	327.09	4,996.9	1,068.3	-702.7	1,278.7	0.00	0.00	0.00
Start Drop -2.00									
5,200.0	15.77	327.09	5,021.6	1,074.3	-706.6	1,285.8	2.00	-2.00	0.00
5,240.0	14.97	327.09	5,060.2	1,083.2	-712.3	1,296.4	2.00	-2.00	0.00
5,280.0	14.17	327.09	5,098.9	1,091.6	-717.8	1,306.5	2.00	-2.00	0.00
5,320.0	13.37	327.09	5,137.8	1,099.6	-723.0	1,316.0	2.00	-2.00	0.00
5,360.0	12.57	327.09	5,176.7	1,107.2	-727.8	1,325.0	2.00	-2.00	0.00
5,365.4	12.46	327.09	5,182.0	1,108.1	-728.5	1,326.1	2.00	-2.00	0.00
SHANNON									
5,400.0	11.77	327.09	5,215.8	1,114.2	-732.4	1,333.4	2.00	-2.00	0.00
5,440.0	10.97	327.09	5,255.1	1,120.8	-736.7	1,341.3	2.00	-2.00	0.00
5,480.0	10.17	327.09	5,294.4	1,127.0	-740.7	1,348.6	2.00	-2.00	0.00
5,520.0	9.37	327.09	5,333.8	1,132.7	-744.4	1,355.4	2.00	-2.00	0.00
5,560.0	8.57	327.09	5,373.3	1,137.9	-747.8	1,361.6	2.00	-2.00	0.00
5,600.0	7.77	327.09	5,412.9	1,142.7	-750.9	1,367.3	2.00	-2.00	0.00
5,640.0	6.97	327.09	5,452.6	1,147.0	-753.6	1,372.4	2.00	-2.00	0.00
5,680.0	6.17	327.09	5,492.3	1,150.8	-756.1	1,377.0	2.00	-2.00	0.00

Database: Landmark
Company: Great Western
Project: SEC.26-T7N-R65W
Site: Andrews 26-23 Pad Sec.26-T7N-R65W
Well: Andrews 26-13
Wellbore: Wellbore #1
Design: Plan #2 (5-14-12)

Local Co-ordinate Reference: Well Andrews 26-13
TVD Reference: WELL @ 4885.0ft (Original Well Elev)
MD Reference: WELL @ 4885.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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)
5,720.0	5.37	327.09	5,532.1	1,154.2	-758.3	1,381.0	2.00	-2.00	0.00
5,760.0	4.57	327.09	5,572.0	1,157.1	-760.2	1,384.5	2.00	-2.00	0.00
5,800.0	3.77	327.09	5,611.9	1,159.6	-761.8	1,387.4	2.00	-2.00	0.00
5,840.0	2.97	327.09	5,651.8	1,161.5	-763.0	1,389.8	2.00	-2.00	0.00
5,880.0	2.17	327.09	5,691.7	1,163.0	-764.0	1,391.5	2.00	-2.00	0.00
5,920.0	1.37	327.09	5,731.7	1,164.1	-764.7	1,392.8	2.00	-2.00	0.00
5,960.0	0.57	327.09	5,771.7	1,164.6	-765.1	1,393.5	2.00	-2.00	0.00
5,988.3	0.00	0.00	5,800.0	1,164.8	-765.1	1,393.6	2.00	-2.00	0.00
Back to Vertical - TARGET BHL 2028'FSL, 671'FWL									
6,000.0	0.00	0.00	5,811.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,851.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,891.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,120.0	0.00	0.00	5,931.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,160.0	0.00	0.00	5,971.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,011.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,240.0	0.00	0.00	6,051.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,280.0	0.00	0.00	6,091.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,131.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,171.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,211.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,251.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,291.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,331.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,371.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,411.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,640.0	0.00	0.00	6,451.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,491.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,531.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,571.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,611.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,651.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,691.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,920.0	0.00	0.00	6,731.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,771.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,811.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,040.0	0.00	0.00	6,851.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,080.0	0.00	0.00	6,891.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,080.3	0.00	0.00	6,892.0	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
NIOBRARA - LEGAL BOX 400' X 400' 2042'FSL & 672'FWL - TARGET CIRCLE 2028'FSL, 671'FWL									
7,120.0	0.00	0.00	6,931.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,160.0	0.00	0.00	6,971.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,011.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,240.0	0.00	0.00	7,051.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,280.0	0.00	0.00	7,091.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,320.0	0.00	0.00	7,131.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,360.0	0.00	0.00	7,171.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,366.3	0.00	0.00	7,178.0	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
FORT HAYES									
7,389.3	0.00	0.00	7,201.0	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
CODELL									
7,400.0	0.00	0.00	7,211.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,440.0	0.00	0.00	7,251.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,480.0	0.00	0.00	7,291.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Andrews 26-13
Company:	Great Western	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Project:	SEC.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	North Reference:	True
Well:	Andrews 26-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-14-12)		

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)
7,520.0	0.00	0.00	7,331.7	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
7,549.3	0.00	0.00	7,361.0	1,164.8	-765.1	1,393.6	0.00	0.00	0.00
TD at 7549.3									

Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
LEGAL BOX 400' X 400' - plan misses target center by 14.1ft at 7080.3ft MD (6892.0 TVD, 1164.8 N, -765.1 E) - Rectangle (sides W400.0 H400.0 D469.0)	0.00	0.00	6,892.0	1,178.8	-764.1	1,442,255.84	3,239,730.13	40.544192	-104.637393
TARGET BHL 2028'F: - plan hits target center - Point	0.00	0.00	5,800.0	1,164.8	-765.1	1,442,241.78	3,239,729.23	40.544153	-104.637397
TARGET CIRCLE 2028'F: - plan hits target center - Circle (radius 100.0)	0.00	0.00	6,892.0	1,164.8	-765.1	1,442,241.78	3,239,729.23	40.544153	-104.637397

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
702.5	700.0	8 5/8"	8-5/8	12-1/4

Formations

	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	3,360.7	3,256.0	GREELEY SAND		0.00	
	3,995.1	3,865.0	PARKMAN		0.00	
	4,733.7	4,574.0	SUSSEX		0.00	
	5,365.4	5,182.0	SHANNON		0.00	
	7,080.3	6,892.0	NIOBRARA		0.00	
	7,366.3	7,178.0	FORT HAYES		0.00	
	7,389.3	7,201.0	CODELL		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP - Start Build 2.00
450.0	449.7	7.3	-8.1	Start DLS 2.00 TFO 21.42
1,026.2	1,015.1	92.2	-70.9	Start 4148.1 hold at 1026.2 MD
5,174.3	4,996.9	1,068.3	-702.7	Start Drop -2.00
5,988.3	5,800.0	1,164.8	-765.1	Back to Vertical
7,549.3	7,361.0	1,164.8	-765.1	TD at 7549.3



Great Western

SEC.26-T7N-R65W

Andrews 26-23 Pad Sec.26-T7N-R65W

Andrews 26-13

Wellbore #1

Plan #2 (5-14-12)

Anticollision Report

17 May, 2012

Company:	Great Western	Local Co-ordinate Reference:	Well Andrews 26-13
Project:	SEC.26-T7N-R65W	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Andrews 26-13	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 #2 (5-14-12)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (5-14-12)		
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 10,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 5/16/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,549.2	Plan #2 (5-14-12) (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						
Andrews 26-23 Pad Sec.26-T7N-R65W						
Andrews 26-14 - Wellbore #1 - Plan #2 (5-14-12)	200.0	200.0	14.7	14.0	21.834	CC
Andrews 26-14 - Wellbore #1 - Plan #2 (5-14-12)	300.0	300.0	14.9	13.8	13.279	ES
Andrews 26-14 - Wellbore #1 - Plan #2 (5-14-12)	400.0	399.8	16.5	14.9	10.462	SF
Andrews 26-53 - Wellbore #1 - Plan #1 (5-14-12)	284.0	284.0	15.1	14.0	14.363	CC
Andrews 26-53 - Wellbore #1 - Plan #1 (5-14-12)	300.0	300.0	15.1	14.0	13.457	ES
Andrews 26-53 - Wellbore #1 - Plan #1 (5-14-12)	500.0	499.5	20.8	18.7	10.166	SF

Offset Design Andrews 26-23 Pad Sec.26-T7N-R65W - Andrews 26-14 - Wellbore #1 - Plan #2 (5-14-12)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		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	-140.07	-11.3	-9.4	14.7	14.7	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	-140.07	-11.3	-9.4	14.7	14.5	0.22	65.503		
200.0	200.0	200.0	200.0	0.3	0.3	-140.07	-11.3	-9.4	14.7	14.0	0.67	21.834	CC	
206.7	206.7	206.7	206.7	0.4	0.4	-92.10	-11.3	-9.4	14.7	14.0	0.70	20.910		
300.0	300.0	300.0	300.0	0.6	0.6	-98.79	-11.3	-9.4	14.9	13.8	1.12	13.279	ES	
400.0	399.8	399.8	399.8	0.8	0.8	-116.98	-11.3	-9.4	16.5	14.9	1.58	10.462	SF	
500.0	499.5	499.5	499.5	1.0	1.0	-140.82	-11.3	-9.4	22.0	19.9	2.05	10.711		
600.0	598.7	598.7	598.7	1.3	1.2	-157.99	-11.3	-9.4	32.4	29.9	2.52	12.855		
700.0	697.5	697.5	697.5	1.7	1.5	-167.22	-11.3	-9.4	47.2	44.2	2.99	15.781		
800.0	795.8	795.8	795.8	2.0	1.7	-172.36	-11.3	-9.4	65.6	62.2	3.45	19.018		
900.0	893.3	893.3	893.3	2.5	1.9	-175.40	-11.3	-9.4	87.7	83.7	3.92	22.388		
1,000.0	990.0	991.0	991.0	2.9	2.1	-176.58	-11.6	-10.9	112.7	108.3	4.37	25.786		
1,100.0	1,086.0	1,088.5	1,088.4	3.5	2.3	-175.51	-12.7	-15.5	139.3	134.4	4.83	28.815		
1,200.0	1,182.0	1,186.2	1,185.8	4.0	2.5	-173.48	-14.6	-23.4	165.2	159.9	5.33	30.995		
1,300.0	1,278.0	1,283.9	1,282.8	4.6	2.7	-170.99	-17.2	-34.4	190.6	184.8	5.87	32.463		
1,400.0	1,374.0	1,381.4	1,379.1	5.1	3.0	-168.21	-20.6	-48.7	215.8	209.4	6.47	33.342		
1,500.0	1,469.9	1,478.0	1,474.2	5.7	3.3	-165.34	-24.6	-65.5	241.1	234.0	7.13	33.793		
1,600.0	1,565.9	1,574.1	1,568.6	6.3	3.6	-162.95	-28.7	-82.6	266.8	259.0	7.84	34.056		
1,700.0	1,661.9	1,670.2	1,663.1	6.9	4.0	-160.98	-32.7	-99.7	292.9	284.4	8.56	34.225		
1,800.0	1,757.9	1,766.2	1,757.6	7.4	4.3	-159.33	-36.8	-116.8	319.3	310.0	9.30	34.330		
1,900.0	1,853.9	1,862.3	1,852.0	8.0	4.7	-157.93	-40.8	-133.9	345.8	335.8	10.05	34.398		

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 Andrews 26-13
Project:	SEC.26-T7N-R65W	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Andrews 26-13	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 #2 (5-14-12)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,000.0	1,949.9	1,958.4	1,946.5	8.6	5.0	-156.73	-44.9	-151.0	372.5	361.7	10.82	34.438		
2,100.0	2,045.9	2,054.5	2,041.0	9.2	5.4	-155.69	-49.0	-168.1	399.4	387.8	11.59	34.457		
2,200.0	2,141.9	2,150.6	2,135.4	9.7	5.8	-154.78	-53.0	-185.2	426.4	414.0	12.37	34.470		
2,300.0	2,237.9	2,246.7	2,229.9	10.3	6.1	-153.98	-57.1	-202.3	453.4	440.3	13.15	34.473		
2,400.0	2,333.9	2,342.8	2,324.4	10.9	6.5	-153.27	-61.1	-219.4	480.6	466.6	13.94	34.470		
2,500.0	2,429.9	2,438.9	2,418.8	11.5	6.9	-152.64	-65.2	-236.5	507.7	493.0	14.73	34.465		
2,600.0	2,525.8	2,535.0	2,513.3	12.0	7.3	-152.07	-69.3	-253.6	535.0	519.5	15.53	34.457		
2,700.0	2,621.8	2,631.0	2,607.8	12.6	7.7	-151.55	-73.3	-270.7	562.3	545.9	16.32	34.448		
2,800.0	2,717.8	2,727.1	2,702.2	13.2	8.1	-151.08	-77.4	-287.8	589.6	572.5	17.12	34.439		
2,900.0	2,813.8	2,823.2	2,796.7	13.8	8.5	-150.66	-81.4	-304.9	616.9	599.0	17.92	34.428		
3,000.0	2,909.8	2,919.3	2,891.2	14.4	8.9	-150.27	-85.5	-322.0	644.3	625.6	18.72	34.418		
3,100.0	3,005.8	3,015.4	2,985.7	14.9	9.3	-149.91	-89.5	-339.1	671.7	652.2	19.52	34.407		
3,200.0	3,101.8	3,111.5	3,080.1	15.5	9.7	-149.58	-93.6	-356.2	699.2	678.8	20.33	34.397		
3,300.0	3,197.8	3,207.6	3,174.6	16.1	10.0	-149.27	-97.7	-373.2	726.6	705.5	21.13	34.387		
3,400.0	3,293.8	3,303.7	3,269.1	16.7	10.4	-148.99	-101.7	-390.3	754.1	732.2	21.94	34.377		
3,500.0	3,389.8	3,399.7	3,363.5	17.3	10.8	-148.72	-105.8	-407.4	781.6	758.8	22.74	34.368		
3,600.0	3,485.7	3,495.8	3,458.0	17.8	11.2	-148.48	-109.8	-424.5	809.1	785.5	23.55	34.359		
3,700.0	3,581.7	3,591.9	3,552.5	18.4	11.6	-148.25	-113.9	-441.6	836.6	812.2	24.36	34.350		
3,800.0	3,677.7	3,688.0	3,646.9	19.0	12.0	-148.04	-118.0	-458.7	864.1	839.0	25.16	34.341		
3,900.0	3,773.7	3,784.1	3,741.4	19.6	12.4	-147.83	-122.0	-475.8	891.7	865.7	25.97	34.333		
4,000.0	3,869.7	3,880.2	3,835.9	20.2	12.8	-147.64	-126.1	-492.9	919.2	892.4	26.78	34.325		
4,100.0	3,965.7	3,976.3	3,930.3	20.8	13.2	-147.47	-130.1	-510.0	946.8	919.2	27.59	34.317		
4,200.0	4,061.7	4,072.4	4,024.8	21.3	13.6	-147.30	-134.2	-527.1	974.3	945.9	28.40	34.310		
4,300.0	4,157.7	4,168.5	4,119.3	21.9	14.0	-147.14	-138.2	-544.2	1,001.9	972.7	29.21	34.303		
4,400.0	4,253.7	4,264.5	4,213.7	22.5	14.4	-146.99	-142.3	-561.3	1,029.5	999.5	30.02	34.296		
4,500.0	4,349.7	4,360.6	4,308.2	23.1	14.8	-146.84	-146.4	-578.4	1,057.1	1,026.2	30.83	34.289		
4,600.0	4,445.7	4,456.7	4,402.7	23.7	15.2	-146.71	-150.4	-595.5	1,084.6	1,053.0	31.64	34.283		
4,700.0	4,541.6	4,552.8	4,497.1	24.2	15.6	-146.58	-154.5	-612.6	1,112.2	1,079.8	32.45	34.277		
4,800.0	4,637.6	4,648.9	4,591.6	24.8	16.0	-146.46	-158.5	-629.7	1,139.8	1,106.6	33.26	34.271		
4,900.0	4,733.6	4,745.0	4,686.1	25.4	16.5	-146.34	-162.6	-646.8	1,167.4	1,133.4	34.07	34.265		
5,000.0	4,829.6	4,841.1	4,780.5	26.0	16.9	-146.23	-166.7	-663.9	1,195.0	1,160.2	34.88	34.260		
5,100.0	4,925.6	4,937.2	4,875.0	26.6	17.3	-146.12	-170.7	-680.9	1,222.7	1,187.0	35.69	34.254		
5,200.0	5,021.6	5,033.3	4,969.5	27.1	17.7	-146.10	-174.8	-698.0	1,250.2	1,213.7	36.51	34.240		
5,300.0	5,118.3	5,129.9	5,064.5	27.6	18.1	-146.23	-178.9	-715.2	1,275.7	1,238.4	37.29	34.207		
5,400.0	5,215.8	5,237.3	5,170.3	27.9	18.4	-146.28	-183.0	-732.8	1,298.1	1,260.1	38.00	34.162		
5,500.0	5,314.1	5,347.3	5,279.4	28.3	18.7	-146.37	-186.4	-746.8	1,316.7	1,278.2	38.57	34.135		
5,600.0	5,412.9	5,458.2	5,389.9	28.5	18.9	-146.51	-188.7	-756.8	1,331.6	1,292.6	39.05	34.100		
5,700.0	5,512.2	5,569.9	5,501.3	28.8	19.1	-146.69	-190.1	-762.7	1,342.8	1,303.3	39.43	34.057		
5,800.0	5,611.9	5,680.4	5,611.9	29.0	19.3	-146.92	-190.5	-764.3	1,350.1	1,310.4	39.70	34.003		
5,900.0	5,711.7	5,780.3	5,711.7	29.1	19.4	-147.08	-190.5	-764.3	1,354.1	1,314.2	39.92	33.918		
6,000.0	5,811.7	5,880.3	5,811.7	29.2	19.5	179.97	-190.5	-764.3	1,355.3	1,315.2	40.12	33.778		
6,100.0	5,911.7	5,980.3	5,911.7	29.3	19.7	179.97	-190.5	-764.3	1,355.3	1,314.9	40.39	33.551		
6,200.0	6,011.7	6,080.3	6,011.7	29.4	19.8	179.97	-190.5	-764.3	1,355.3	1,314.6	40.67	33.325		
6,300.0	6,111.7	6,180.3	6,111.7	29.5	19.9	179.97	-190.5	-764.3	1,355.3	1,314.3	40.95	33.100		
6,400.0	6,211.7	6,280.3	6,211.7	29.6	20.1	179.97	-190.5	-764.3	1,355.3	1,314.0	41.23	32.875		
6,500.0	6,311.7	6,380.3	6,311.7	29.7	20.2	179.97	-190.5	-764.3	1,355.3	1,313.8	41.51	32.650		
6,600.0	6,411.7	6,480.3	6,411.7	29.8	20.4	179.97	-190.5	-764.3	1,355.3	1,313.5	41.79	32.427		
6,700.0	6,511.7	6,580.3	6,511.7	29.9	20.5	179.97	-190.5	-764.3	1,355.3	1,313.2	42.08	32.204		
6,800.0	6,611.7	6,680.3	6,611.7	30.0	20.7	179.97	-190.5	-764.3	1,355.3	1,312.9	42.38	31.983		
6,900.0	6,711.7	6,780.3	6,711.7	30.1	20.8	179.97	-190.5	-764.3	1,355.3	1,312.6	42.67	31.762		
7,000.0	6,811.7	6,880.3	6,811.7	30.2	21.0	179.97	-190.5	-764.3	1,355.3	1,312.3	42.97	31.542		
7,100.0	6,911.7	6,980.3	6,911.7	30.3	21.1	179.97	-190.5	-764.3	1,355.3	1,312.0	43.27	31.324		

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 Andrews 26-13
Project:	SEC.26-T7N-R65W	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Andrews 26-13	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 #2 (5-14-12)	Offset TVD Reference:	Offset Datum

Offset Design Andrews 26-23 Pad Sec.26-T7N-R65W - Andrews 26-14 - Wellbore #1 - Plan #2 (5-14-12)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,200.0	7,011.7	7,080.3	7,011.7	30.4	21.3	179.97	-190.5	-764.3	1,355.3	1,311.7	43.57	31.106	
7,300.0	7,111.7	7,180.3	7,111.7	30.5	21.4	179.97	-190.5	-764.3	1,355.3	1,311.4	43.87	30.890	
7,400.0	7,211.7	7,280.3	7,211.7	30.6	21.6	179.97	-190.5	-764.3	1,355.3	1,311.1	44.18	30.675	
7,500.0	7,311.7	7,380.3	7,311.7	30.8	21.7	179.97	-190.5	-764.3	1,355.3	1,310.8	44.49	30.462	
7,528.8	7,340.5	7,409.1	7,340.5	30.8	21.8	179.97	-190.5	-764.3	1,355.3	1,310.7	44.58	30.401	
7,550.1	7,361.8	7,419.6	7,351.0	30.8	21.8	179.97	-190.5	-764.3	1,355.3	1,310.7	44.63	30.369	

Company:	Great Western	Local Co-ordinate Reference:	Well Andrews 26-13
Project:	SEC.26-T7N-R65W	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Andrews 26-13	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 #2 (5-14-12)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	37.33	12.0	9.2	15.1	15.1	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	37.33	12.0	9.2	15.1	14.9	0.22	67.292		
200.0	200.0	200.0	200.0	0.3	0.3	37.33	12.0	9.2	15.1	14.5	0.67	22.431		
284.0	284.0	284.0	284.0	0.5	0.5	90.00	12.0	9.2	15.1	14.0	1.05	14.363 CC		
300.0	300.0	300.0	300.0	0.6	0.6	91.95	12.0	9.2	15.1	14.0	1.12	13.457 ES		
400.0	399.8	399.8	399.8	0.8	0.8	110.82	12.0	9.2	16.1	14.6	1.57	10.244		
500.0	499.5	499.5	499.5	1.0	1.0	130.37	12.0	9.2	20.8	18.7	2.04	10.166 SF		
600.0	598.7	598.7	598.7	1.3	1.2	144.37	12.0	9.2	29.7	27.2	2.51	11.835		
700.0	697.5	697.5	697.5	1.7	1.5	153.97	12.0	9.2	43.0	40.0	2.97	14.454		
800.0	795.8	795.8	795.8	2.0	1.7	160.11	12.0	9.2	60.3	56.9	3.44	17.544		
900.0	893.3	893.3	893.3	2.5	1.9	164.14	12.0	9.2	81.5	77.6	3.90	20.863		
1,000.0	990.0	990.0	990.0	2.9	2.1	166.89	12.0	9.2	106.2	101.8	4.37	24.293		
1,100.0	1,086.0	1,086.0	1,086.0	3.5	2.3	169.39	12.0	9.2	133.6	128.7	4.85	27.563		
1,200.0	1,182.0	1,182.0	1,182.0	4.0	2.5	171.23	12.0	9.2	161.2	155.9	5.33	30.265		
1,300.0	1,278.0	1,278.0	1,278.0	4.6	2.8	172.52	12.0	9.2	189.0	183.2	5.81	32.512		
1,400.0	1,374.0	1,374.0	1,374.0	5.1	3.0	173.49	12.0	9.2	216.9	210.5	6.30	34.403		
1,500.0	1,469.9	1,469.9	1,469.9	5.7	3.2	174.23	12.0	9.2	244.7	237.9	6.80	36.014		
1,600.0	1,565.9	1,572.1	1,572.1	6.3	3.4	174.77	12.9	9.0	271.9	264.6	7.30	37.244		
1,700.0	1,661.9	1,678.8	1,678.6	6.9	3.7	174.92	17.5	7.9	296.0	288.2	7.81	37.894		
1,800.0	1,757.9	1,787.0	1,786.6	7.4	3.9	174.72	26.0	6.0	316.8	308.5	8.33	38.019		
1,900.0	1,853.9	1,896.7	1,895.5	8.0	4.2	174.24	38.8	3.1	334.2	325.4	8.87	37.690		
2,000.0	1,949.9	2,007.1	2,004.4	8.6	4.4	173.50	55.7	-0.7	348.3	338.9	9.42	36.970		
2,100.0	2,045.9	2,106.2	2,102.0	9.2	4.7	172.76	72.6	-4.5	360.8	350.8	9.96	36.212		
2,200.0	2,141.9	2,205.3	2,199.6	9.7	5.0	172.07	89.5	-8.3	373.4	362.8	10.52	35.496		
2,300.0	2,237.9	2,304.4	2,297.2	10.3	5.3	171.43	106.4	-12.1	386.0	374.9	11.08	34.830		
2,400.0	2,333.9	2,403.5	2,394.8	10.9	5.6	170.82	123.3	-15.9	398.6	387.0	11.65	34.206		
2,500.0	2,429.9	2,502.6	2,492.3	11.5	6.0	170.26	140.2	-19.7	411.3	399.1	12.23	33.623		
2,600.0	2,525.8	2,601.7	2,589.9	12.0	6.3	169.72	157.1	-23.5	424.1	411.3	12.82	33.076		
2,700.0	2,621.8	2,700.8	2,687.5	12.6	6.6	169.22	174.0	-27.3	436.9	423.4	13.42	32.564		
2,800.0	2,717.8	2,799.9	2,785.1	13.2	7.0	168.75	190.9	-31.1	449.7	435.6	14.02	32.084		
2,900.0	2,813.8	2,899.0	2,882.7	13.8	7.3	168.30	207.8	-34.9	462.5	447.9	14.62	31.632		
3,000.0	2,909.8	2,998.2	2,980.3	14.4	7.7	167.88	224.7	-38.7	475.4	460.1	15.23	31.207		
3,100.0	3,005.8	3,097.3	3,077.9	14.9	8.0	167.48	241.6	-42.5	488.2	472.4	15.85	30.807		
3,200.0	3,101.8	3,196.4	3,175.4	15.5	8.4	167.10	258.4	-46.3	501.1	484.7	16.47	30.430		
3,300.0	3,197.8	3,295.5	3,273.0	16.1	8.7	166.74	275.3	-50.1	514.1	497.0	17.09	30.074		
3,400.0	3,293.8	3,394.6	3,370.6	16.7	9.1	166.39	292.2	-53.9	527.0	509.3	17.72	29.738		
3,500.0	3,389.8	3,493.7	3,468.2	17.3	9.5	166.07	309.1	-57.7	540.0	521.6	18.35	29.419		
3,600.0	3,485.7	3,592.8	3,565.8	17.8	9.8	165.76	326.0	-61.5	553.0	534.0	18.99	29.118		
3,700.0	3,581.7	3,691.9	3,663.4	18.4	10.2	165.46	342.9	-65.3	566.0	546.3	19.63	28.832		
3,800.0	3,677.7	3,791.0	3,760.9	19.0	10.6	165.17	359.8	-69.1	579.0	558.7	20.27	28.561		
3,900.0	3,773.7	3,890.2	3,858.5	19.6	11.0	164.90	376.7	-72.9	592.0	571.1	20.92	28.303		
4,000.0	3,869.7	3,989.3	3,956.1	20.2	11.3	164.64	393.6	-76.7	605.0	583.5	21.56	28.058		
4,100.0	3,965.7	4,080.1	4,045.6	20.8	11.6	164.44	408.7	-80.1	618.4	596.3	22.17	27.899		
4,200.0	4,061.7	4,164.0	4,128.6	21.3	11.9	164.37	420.5	-82.8	634.0	611.3	22.70	27.936		
4,300.0	4,157.7	4,247.1	4,211.2	21.9	12.1	164.44	429.9	-84.9	651.9	628.7	23.19	28.115		
4,400.0	4,253.7	4,329.5	4,293.3	22.5	12.3	164.62	436.8	-86.5	672.1	648.5	23.65	28.421		
4,500.0	4,349.7	4,411.0	4,374.6	23.1	12.4	164.90	441.4	-87.5	694.6	670.5	24.08	28.845		
4,600.0	4,445.7	4,491.4	4,455.0	23.7	12.6	165.27	443.8	-88.0	719.4	694.9	24.48	29.382		
4,700.0	4,541.6	4,578.0	4,541.6	24.2	12.7	165.75	444.1	-88.1	746.3	721.4	24.88	29.995		
4,800.0	4,637.6	4,674.0	4,637.6	24.8	12.9	166.26	444.1	-88.1	773.5	748.2	25.30	30.572		
4,900.0	4,733.6	4,770.0	4,733.6	25.4	13.0	166.73	444.1	-88.1	800.8	775.1	25.73	31.122		
5,000.0	4,829.6	4,866.0	4,829.6	26.0	13.2	167.18	444.1	-88.1	828.2	802.0	26.17	31.648		

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

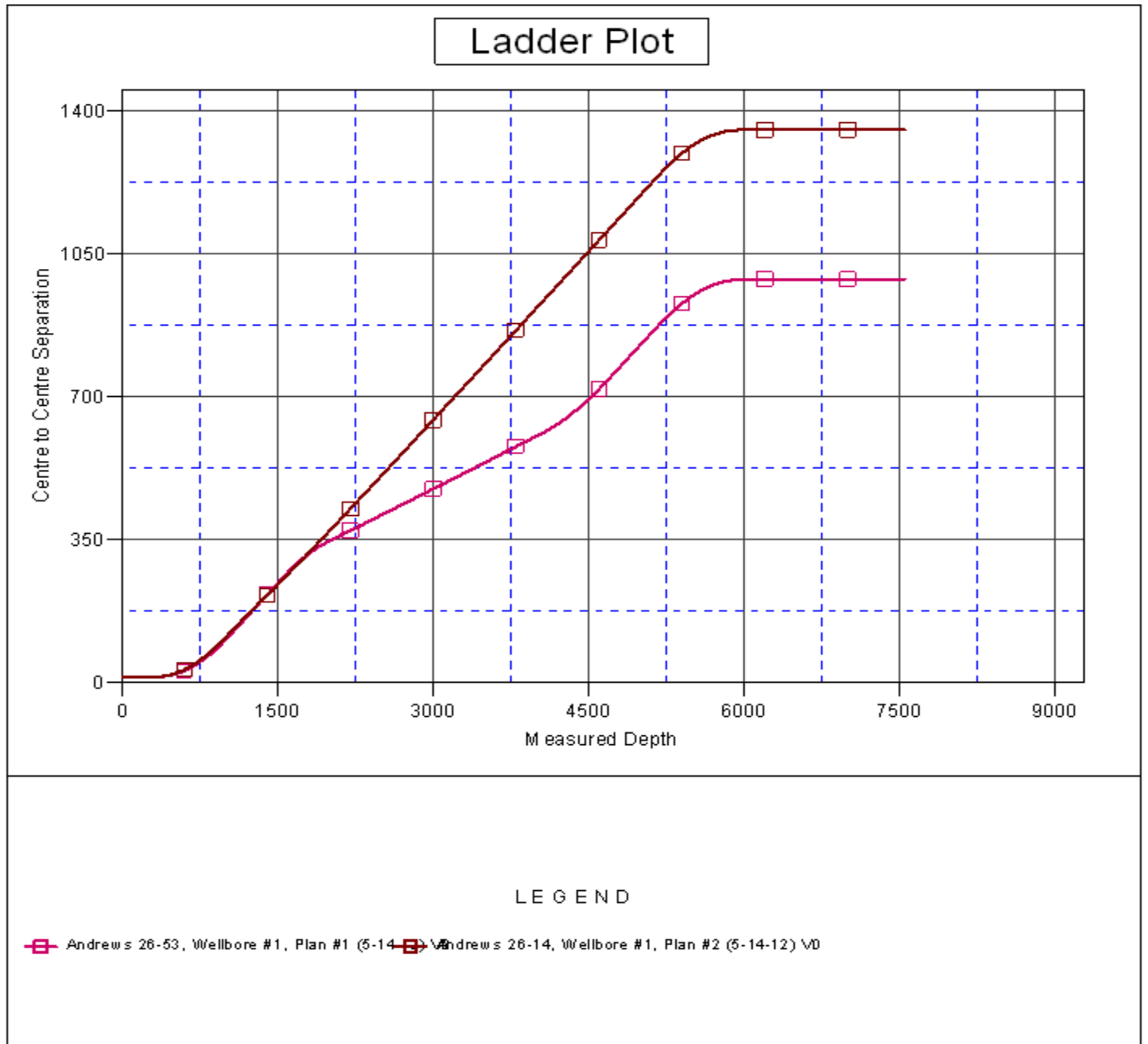
Company:	Great Western	Local Co-ordinate Reference:	Well Andrews 26-13
Project:	SEC.26-T7N-R65W	TVD Reference:	WELL @ 4885.0ft (Original Well Elev)
Reference Site:	Andrews 26-23 Pad Sec.26-T7N-R65W	MD Reference:	WELL @ 4885.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Andrews 26-13	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 #2 (5-14-12)	Offset TVD Reference:	Offset Datum

Offset Design Andrews 26-23 Pad Sec.26-T7N-R65W - Andrews 26-53 - Wellbore #1 - Plan #1 (5-14-12)												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	
5,100.0	4,925.6	4,962.0	4,925.6	26.6	13.4	167.59	444.1	-88.1	855.6	829.0	26.61	32.153	
5,200.0	5,021.6	5,058.0	5,021.6	27.1	13.5	168.01	444.1	-88.1	883.0	855.9	27.06	32.624	
5,300.0	5,118.3	5,154.7	5,118.3	27.6	13.7	168.45	444.1	-88.1	907.9	880.4	27.51	33.005	
5,400.0	5,215.8	5,252.2	5,215.8	27.9	13.9	168.81	444.1	-88.1	929.6	901.7	27.93	33.287	
5,500.0	5,314.1	5,350.5	5,314.1	28.3	14.0	169.10	444.1	-88.1	948.0	919.7	28.32	33.478	
5,600.0	5,412.9	5,449.3	5,412.9	28.5	14.2	169.33	444.1	-88.1	962.9	934.3	28.67	33.583	
5,700.0	5,512.2	5,548.6	5,512.2	28.8	14.4	169.50	444.1	-88.1	974.5	945.5	29.00	33.608	
5,800.0	5,611.9	5,648.3	5,611.9	29.0	14.6	169.62	444.1	-88.1	982.7	953.4	29.28	33.556	
5,900.0	5,711.7	5,748.1	5,711.7	29.1	14.8	169.68	444.1	-88.1	987.4	957.9	29.54	33.431	
6,000.0	5,811.7	5,848.1	5,811.7	29.2	15.0	136.79	444.1	-88.1	988.8	959.0	29.77	33.212	
6,100.0	5,911.7	5,948.1	5,911.7	29.3	15.2	136.79	444.1	-88.1	988.8	958.6	30.14	32.803	
6,200.0	6,011.7	6,048.1	6,011.7	29.4	15.3	136.79	444.1	-88.1	988.8	958.3	30.52	32.402	
6,300.0	6,111.7	6,148.1	6,111.7	29.5	15.5	136.79	444.1	-88.1	988.8	957.9	30.89	32.008	
6,400.0	6,211.7	6,248.1	6,211.7	29.6	15.7	136.79	444.1	-88.1	988.8	957.5	31.27	31.623	
6,500.0	6,311.7	6,348.1	6,311.7	29.7	15.9	136.79	444.1	-88.1	988.8	957.1	31.65	31.244	
6,600.0	6,411.7	6,448.1	6,411.7	29.8	16.1	136.79	444.1	-88.1	988.8	956.8	32.03	30.873	
6,700.0	6,511.7	6,548.1	6,511.7	29.9	16.3	136.79	444.1	-88.1	988.8	956.4	32.41	30.510	
6,800.0	6,611.7	6,648.1	6,611.7	30.0	16.5	136.79	444.1	-88.1	988.8	956.0	32.79	30.153	
6,900.0	6,711.7	6,748.1	6,711.7	30.1	16.7	136.79	444.1	-88.1	988.8	955.6	33.18	29.803	
7,000.0	6,811.7	6,848.1	6,811.7	30.2	16.9	136.79	444.1	-88.1	988.8	955.2	33.56	29.459	
7,100.0	6,911.7	6,948.1	6,911.7	30.3	17.1	136.79	444.1	-88.1	988.8	954.8	33.95	29.123	
7,200.0	7,011.7	7,048.1	7,011.7	30.4	17.3	136.79	444.1	-88.1	988.8	954.4	34.34	28.792	
7,300.0	7,111.7	7,148.1	7,111.7	30.5	17.5	136.79	444.1	-88.1	988.8	954.0	34.73	28.468	
7,400.0	7,211.7	7,248.1	7,211.7	30.6	17.7	136.79	444.1	-88.1	988.8	953.7	35.12	28.150	
7,500.0	7,311.7	7,348.1	7,311.7	30.8	17.9	136.79	444.1	-88.1	988.8	953.3	35.52	27.839	
7,525.7	7,337.4	7,373.8	7,337.4	30.8	17.9	136.79	444.1	-88.1	988.8	953.2	35.62	27.760	
7,550.1	7,361.8	7,382.4	7,346.0	30.8	17.9	136.79	444.1	-88.1	988.9	953.2	35.68	27.715	

Company: Great Western
Project: SEC.26-T7N-R65W
Reference Site: Andrews 26-23 Pad Sec.26-T7N-R65W
Site Error: 0.0ft
Reference Well: Andrews 26-13
Well Error: 0.0ft
Reference Wellbore: Wellbore #1
Reference Design: Plan #2 (5-14-12)

Local Co-ordinate Reference: Well Andrews 26-13
TVD Reference: WELL @ 4885.0ft (Original Well Elev)
MD Reference: WELL @ 4885.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: Landmark
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4885.0ft (Original Well Elev) Coordinates are relative to: Andrews 26-13
 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: 0.56°



Reference Depths are relative to WELL @ 4885.0ft (Original Well Elev)Coordinates are relative to: Andrews 26-13
Offset Depths are relative to Offset DatumCoordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °Grid Convergence at Surface is: 0.56°

