ENSIGN Directional

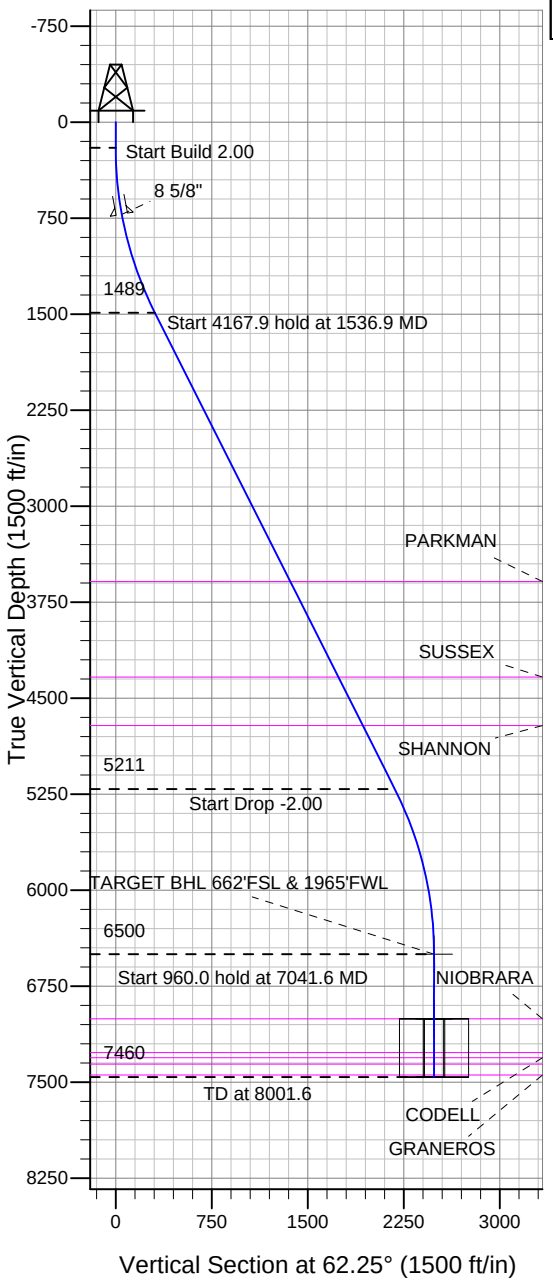
Well Name: Hirsch 14-24

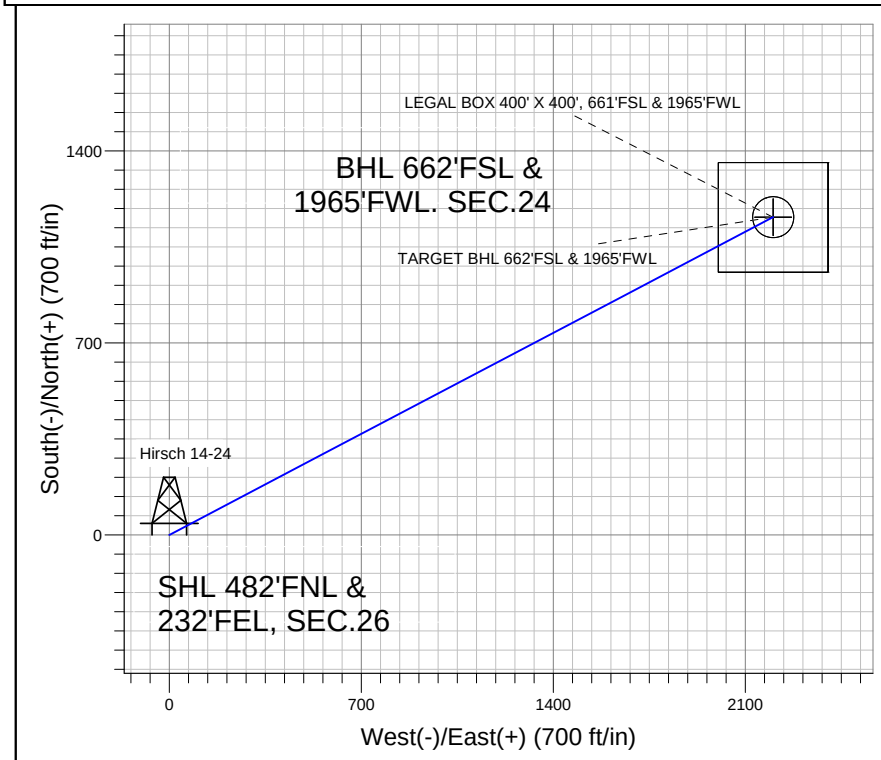
Surface Location: Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4953.0

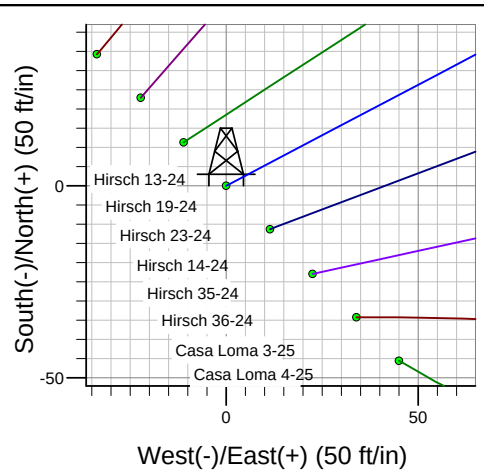
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1444244.73	3180148.25	40.551044	-104.851722	

Original Well Elev WELL @ 4969.0ft (Original Well Elev)

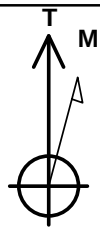
BAYSWATER EXPLORATION & PRODUCTION







Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W
Hirsch 14-24
Plan #1 (7-10-12)
11:22, July 18 2012



Azimuths to True North
Magnetic North: 8.78°

Magnetic Field
Strength: 53087.2snT
Dip Angle: 67.12°
Date: 7/10/2012
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 662'FSL & 1965'FWL	6500.0	1158.3	2201.7	40.554223	-104.843799	Point
LEGAL BOX 400' X 400', 661'FSL & 1965'FWL	7004.0	1157.3	2201.7	40.554220	-104.843799	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 662'FSL & 1965'FWL	7004.0	1158.3	2201.7	40.554223	-104.843799	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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1536.9	26.74	62.25	1488.9	142.6	271.1	2.00	62.25	306.3	
4	5704.8	26.74	62.25	5211.1	1015.7	1930.6	0.00	0.00	2181.5	
5	7041.6	0.00	0.00	6500.0	1158.3	2201.7	2.00	180.00	2487.8	TARGET BHL 662'FSL & 1965'FWL
6	8001.6	0.00	0.00	7460.0	1158.3	2201.7	0.00	0.00	2487.8	

BAYSWATER EXPLORATION & PRODUCTION

SEC.26-T7N-R67W
Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W
Hirsch 14-24

Wellbore #1

Plan: Plan #1 (7-10-12)

Standard Planning Report

18 July, 2012

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

Project SEC.26-T7N-R67W, 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 Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W

Site Position:		**Northing:**	1,444,301.16 ft	**Latitude:**	40.551200
From:	Lat/Long	**Easting:**	3,180,091.71 ft	**Longitude:**	-104.851924
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.42 °

Well Hirsch 14-24

Well Position	**+N/-S**	-56.8 ft	**Northing:**	1,444,244.73 ft	**Latitude:**	40.551044
	+E/-W	56.1 ft	**Easting:**	3,180,148.25 ft	**Longitude:**	-104.851722
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,953.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/10/2012	8.78	67.12	53,087

Design Plan #1 (7-10-12)

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	62.25

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	
1,536.9	26.74	62.25	1,488.9	142.6	271.1	2.00	2.00	0.00	62.25	
5,704.8	26.74	62.25	5,211.1	1,015.7	1,930.6	0.00	0.00	0.00	0.00	
7,041.6	0.00	0.00	6,500.0	1,158.3	2,201.7	2.00	-2.00	0.00	180.00	TARGET BHL 662'F
8,001.6	0.00	0.00	7,460.0	1,158.3	2,201.7	0.00	0.00	0.00	0.00	

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

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	0.80	62.25	240.0	0.1	0.2	0.3	2.00	2.00	0.00
280.0	1.60	62.25	280.0	0.5	1.0	1.1	2.00	2.00	0.00
320.0	2.40	62.25	320.0	1.2	2.2	2.5	2.00	2.00	0.00
360.0	3.20	62.25	359.9	2.1	4.0	4.5	2.00	2.00	0.00
400.0	4.00	62.25	399.8	3.2	6.2	7.0	2.00	2.00	0.00
440.0	4.80	62.25	439.7	4.7	8.9	10.0	2.00	2.00	0.00
480.0	5.60	62.25	479.6	6.4	12.1	13.7	2.00	2.00	0.00
520.0	6.40	62.25	519.3	8.3	15.8	17.9	2.00	2.00	0.00
560.0	7.20	62.25	559.1	10.5	20.0	22.6	2.00	2.00	0.00
600.0	8.00	62.25	598.7	13.0	24.7	27.9	2.00	2.00	0.00
640.0	8.80	62.25	638.3	15.7	29.8	33.7	2.00	2.00	0.00
680.0	9.60	62.25	677.8	18.7	35.5	40.1	2.00	2.00	0.00
720.0	10.40	62.25	717.1	21.9	41.7	47.1	2.00	2.00	0.00
722.9	10.46	62.25	720.0	22.2	42.1	47.6	2.00	2.00	0.00
8 5/8"									
760.0	11.20	62.25	756.4	25.4	48.3	54.6	2.00	2.00	0.00
800.0	12.00	62.25	795.6	29.1	55.4	62.6	2.00	2.00	0.00
840.0	12.80	62.25	834.7	33.1	63.0	71.2	2.00	2.00	0.00
880.0	13.60	62.25	873.6	37.4	71.1	80.3	2.00	2.00	0.00
920.0	14.40	62.25	912.4	41.9	79.7	90.0	2.00	2.00	0.00
960.0	15.20	62.25	951.1	46.7	88.7	100.2	2.00	2.00	0.00
1,000.0	16.00	62.25	989.6	51.7	98.2	111.0	2.00	2.00	0.00
1,040.0	16.80	62.25	1,028.0	56.9	108.2	122.3	2.00	2.00	0.00
1,080.0	17.60	62.25	1,066.2	62.4	118.7	134.1	2.00	2.00	0.00
1,120.0	18.40	62.25	1,104.3	68.2	129.6	146.5	2.00	2.00	0.00
1,160.0	19.20	62.25	1,142.1	74.2	141.0	159.3	2.00	2.00	0.00
1,200.0	20.00	62.25	1,179.8	80.4	152.9	172.8	2.00	2.00	0.00
1,240.0	20.80	62.25	1,217.3	86.9	165.2	186.7	2.00	2.00	0.00
1,280.0	21.60	62.25	1,254.6	93.7	178.0	201.2	2.00	2.00	0.00
1,320.0	22.40	62.25	1,291.7	100.6	191.3	216.2	2.00	2.00	0.00
1,360.0	23.20	62.25	1,328.6	107.9	205.0	231.7	2.00	2.00	0.00
1,400.0	24.00	62.25	1,365.2	115.3	219.2	247.7	2.00	2.00	0.00
1,440.0	24.80	62.25	1,401.6	123.0	233.8	264.2	2.00	2.00	0.00
1,480.0	25.60	62.25	1,437.8	130.9	248.9	281.2	2.00	2.00	0.00
1,520.0	26.40	62.25	1,473.8	139.1	264.4	298.8	2.00	2.00	0.00
1,536.9	26.74	62.25	1,488.9	142.6	271.1	306.3	2.00	2.00	0.00
1,560.0	26.74	62.25	1,509.5	147.5	280.3	316.7	0.00	0.00	0.00
1,600.0	26.74	62.25	1,545.3	155.8	296.2	334.7	0.00	0.00	0.00
1,640.0	26.74	62.25	1,581.0	164.2	312.1	352.7	0.00	0.00	0.00
1,680.0	26.74	62.25	1,616.7	172.6	328.1	370.7	0.00	0.00	0.00
1,720.0	26.74	62.25	1,652.4	181.0	344.0	388.7	0.00	0.00	0.00
1,760.0	26.74	62.25	1,688.1	189.4	359.9	406.7	0.00	0.00	0.00
1,800.0	26.74	62.25	1,723.9	197.7	375.9	424.7	0.00	0.00	0.00
1,840.0	26.74	62.25	1,759.6	206.1	391.8	442.7	0.00	0.00	0.00
1,880.0	26.74	62.25	1,795.3	214.5	407.7	460.7	0.00	0.00	0.00
1,920.0	26.74	62.25	1,831.0	222.9	423.6	478.7	0.00	0.00	0.00
1,960.0	26.74	62.25	1,866.8	231.2	439.6	496.7	0.00	0.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

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)
2,000.0	26.74	62.25	1,902.5	239.6	455.5	514.7	0.00	0.00	0.00
2,040.0	26.74	62.25	1,938.2	248.0	471.4	532.7	0.00	0.00	0.00
2,080.0	26.74	62.25	1,973.9	256.4	487.3	550.7	0.00	0.00	0.00
2,120.0	26.74	62.25	2,009.7	264.8	503.3	568.7	0.00	0.00	0.00
2,160.0	26.74	62.25	2,045.4	273.1	519.2	586.7	0.00	0.00	0.00
2,200.0	26.74	62.25	2,081.1	281.5	535.1	604.7	0.00	0.00	0.00
2,240.0	26.74	62.25	2,116.8	289.9	551.0	622.7	0.00	0.00	0.00
2,280.0	26.74	62.25	2,152.5	298.3	567.0	640.6	0.00	0.00	0.00
2,320.0	26.74	62.25	2,188.3	306.7	582.9	658.6	0.00	0.00	0.00
2,360.0	26.74	62.25	2,224.0	315.0	598.8	676.6	0.00	0.00	0.00
2,400.0	26.74	62.25	2,259.7	323.4	614.8	694.6	0.00	0.00	0.00
2,440.0	26.74	62.25	2,295.4	331.8	630.7	712.6	0.00	0.00	0.00
2,480.0	26.74	62.25	2,331.2	340.2	646.6	730.6	0.00	0.00	0.00
2,520.0	26.74	62.25	2,366.9	348.6	662.5	748.6	0.00	0.00	0.00
2,560.0	26.74	62.25	2,402.6	356.9	678.5	766.6	0.00	0.00	0.00
2,600.0	26.74	62.25	2,438.3	365.3	694.4	784.6	0.00	0.00	0.00
2,640.0	26.74	62.25	2,474.1	373.7	710.3	802.6	0.00	0.00	0.00
2,680.0	26.74	62.25	2,509.8	382.1	726.2	820.6	0.00	0.00	0.00
2,720.0	26.74	62.25	2,545.5	390.4	742.2	838.6	0.00	0.00	0.00
2,760.0	26.74	62.25	2,581.2	398.8	758.1	856.6	0.00	0.00	0.00
2,800.0	26.74	62.25	2,616.9	407.2	774.0	874.6	0.00	0.00	0.00
2,840.0	26.74	62.25	2,652.7	415.6	789.9	892.6	0.00	0.00	0.00
2,880.0	26.74	62.25	2,688.4	424.0	805.9	910.6	0.00	0.00	0.00
2,920.0	26.74	62.25	2,724.1	432.3	821.8	928.6	0.00	0.00	0.00
2,960.0	26.74	62.25	2,759.8	440.7	837.7	946.6	0.00	0.00	0.00
3,000.0	26.74	62.25	2,795.6	449.1	853.7	964.6	0.00	0.00	0.00
3,040.0	26.74	62.25	2,831.3	457.5	869.6	982.6	0.00	0.00	0.00
3,080.0	26.74	62.25	2,867.0	465.9	885.5	1,000.6	0.00	0.00	0.00
3,120.0	26.74	62.25	2,902.7	474.2	901.4	1,018.6	0.00	0.00	0.00
3,160.0	26.74	62.25	2,938.5	482.6	917.4	1,036.6	0.00	0.00	0.00
3,200.0	26.74	62.25	2,974.2	491.0	933.3	1,054.6	0.00	0.00	0.00
3,240.0	26.74	62.25	3,009.9	499.4	949.2	1,072.6	0.00	0.00	0.00
3,280.0	26.74	62.25	3,045.6	507.8	965.1	1,090.6	0.00	0.00	0.00
3,320.0	26.74	62.25	3,081.3	516.1	981.1	1,108.5	0.00	0.00	0.00
3,360.0	26.74	62.25	3,117.1	524.5	997.0	1,126.5	0.00	0.00	0.00
3,400.0	26.74	62.25	3,152.8	532.9	1,012.9	1,144.5	0.00	0.00	0.00
3,440.0	26.74	62.25	3,188.5	541.3	1,028.8	1,162.5	0.00	0.00	0.00
3,480.0	26.74	62.25	3,224.2	549.6	1,044.8	1,180.5	0.00	0.00	0.00
3,520.0	26.74	62.25	3,260.0	558.0	1,060.7	1,198.5	0.00	0.00	0.00
3,560.0	26.74	62.25	3,295.7	566.4	1,076.6	1,216.5	0.00	0.00	0.00
3,600.0	26.74	62.25	3,331.4	574.8	1,092.6	1,234.5	0.00	0.00	0.00
3,640.0	26.74	62.25	3,367.1	583.2	1,108.5	1,252.5	0.00	0.00	0.00
3,680.0	26.74	62.25	3,402.9	591.5	1,124.4	1,270.5	0.00	0.00	0.00
3,720.0	26.74	62.25	3,438.6	599.9	1,140.3	1,288.5	0.00	0.00	0.00
3,760.0	26.74	62.25	3,474.3	608.3	1,156.3	1,306.5	0.00	0.00	0.00
3,800.0	26.74	62.25	3,510.0	616.7	1,172.2	1,324.5	0.00	0.00	0.00
3,840.0	26.74	62.25	3,545.7	625.1	1,188.1	1,342.5	0.00	0.00	0.00
3,880.0	26.74	62.25	3,581.5	633.4	1,204.0	1,360.5	0.00	0.00	0.00
3,888.4	26.74	62.25	3,589.0	635.2	1,207.4	1,364.3	0.00	0.00	0.00
PARKMAN									
3,920.0	26.74	62.25	3,617.2	641.8	1,220.0	1,378.5	0.00	0.00	0.00
3,960.0	26.74	62.25	3,652.9	650.2	1,235.9	1,396.5	0.00	0.00	0.00
4,000.0	26.74	62.25	3,688.6	658.6	1,251.8	1,414.5	0.00	0.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

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)
4,040.0	26.74	62.25	3,724.4	666.9	1,267.7	1,432.5	0.00	0.00	0.00
4,080.0	26.74	62.25	3,760.1	675.3	1,283.7	1,450.5	0.00	0.00	0.00
4,120.0	26.74	62.25	3,795.8	683.7	1,299.6	1,468.5	0.00	0.00	0.00
4,160.0	26.74	62.25	3,831.5	692.1	1,315.5	1,486.5	0.00	0.00	0.00
4,200.0	26.74	62.25	3,867.3	700.5	1,331.5	1,504.5	0.00	0.00	0.00
4,240.0	26.74	62.25	3,903.0	708.8	1,347.4	1,522.5	0.00	0.00	0.00
4,280.0	26.74	62.25	3,938.7	717.2	1,363.3	1,540.5	0.00	0.00	0.00
4,320.0	26.74	62.25	3,974.4	725.6	1,379.2	1,558.5	0.00	0.00	0.00
4,360.0	26.74	62.25	4,010.1	734.0	1,395.2	1,576.5	0.00	0.00	0.00
4,400.0	26.74	62.25	4,045.9	742.4	1,411.1	1,594.4	0.00	0.00	0.00
4,440.0	26.74	62.25	4,081.6	750.7	1,427.0	1,612.4	0.00	0.00	0.00
4,480.0	26.74	62.25	4,117.3	759.1	1,442.9	1,630.4	0.00	0.00	0.00
4,520.0	26.74	62.25	4,153.0	767.5	1,458.9	1,648.4	0.00	0.00	0.00
4,560.0	26.74	62.25	4,188.8	775.9	1,474.8	1,666.4	0.00	0.00	0.00
4,600.0	26.74	62.25	4,224.5	784.3	1,490.7	1,684.4	0.00	0.00	0.00
4,640.0	26.74	62.25	4,260.2	792.6	1,506.6	1,702.4	0.00	0.00	0.00
4,680.0	26.74	62.25	4,295.9	801.0	1,522.6	1,720.4	0.00	0.00	0.00
4,720.0	26.74	62.25	4,331.7	809.4	1,538.5	1,738.4	0.00	0.00	0.00
4,722.6	26.74	62.25	4,334.0	809.9	1,539.5	1,739.6	0.00	0.00	0.00
SUSSEX									
4,760.0	26.74	62.25	4,367.4	817.8	1,554.4	1,756.4	0.00	0.00	0.00
4,800.0	26.74	62.25	4,403.1	826.1	1,570.4	1,774.4	0.00	0.00	0.00
4,840.0	26.74	62.25	4,438.8	834.5	1,586.3	1,792.4	0.00	0.00	0.00
4,880.0	26.74	62.25	4,474.5	842.9	1,602.2	1,810.4	0.00	0.00	0.00
4,920.0	26.74	62.25	4,510.3	851.3	1,618.1	1,828.4	0.00	0.00	0.00
4,960.0	26.74	62.25	4,546.0	859.7	1,634.1	1,846.4	0.00	0.00	0.00
5,000.0	26.74	62.25	4,581.7	868.0	1,650.0	1,864.4	0.00	0.00	0.00
5,040.0	26.74	62.25	4,617.4	876.4	1,665.9	1,882.4	0.00	0.00	0.00
5,080.0	26.74	62.25	4,653.2	884.8	1,681.8	1,900.4	0.00	0.00	0.00
5,120.0	26.74	62.25	4,688.9	893.2	1,697.8	1,918.4	0.00	0.00	0.00
5,148.1	26.74	62.25	4,714.0	899.1	1,709.0	1,931.0	0.00	0.00	0.00
SHANNON									
5,160.0	26.74	62.25	4,724.6	901.6	1,713.7	1,936.4	0.00	0.00	0.00
5,200.0	26.74	62.25	4,760.3	909.9	1,729.6	1,954.4	0.00	0.00	0.00
5,240.0	26.74	62.25	4,796.1	918.3	1,745.5	1,972.4	0.00	0.00	0.00
5,280.0	26.74	62.25	4,831.8	926.7	1,761.5	1,990.4	0.00	0.00	0.00
5,320.0	26.74	62.25	4,867.5	935.1	1,777.4	2,008.4	0.00	0.00	0.00
5,360.0	26.74	62.25	4,903.2	943.5	1,793.3	2,026.4	0.00	0.00	0.00
5,400.0	26.74	62.25	4,938.9	951.8	1,809.3	2,044.4	0.00	0.00	0.00
5,440.0	26.74	62.25	4,974.7	960.2	1,825.2	2,062.4	0.00	0.00	0.00
5,480.0	26.74	62.25	5,010.4	968.6	1,841.1	2,080.3	0.00	0.00	0.00
5,520.0	26.74	62.25	5,046.1	977.0	1,857.0	2,098.3	0.00	0.00	0.00
5,560.0	26.74	62.25	5,081.8	985.3	1,873.0	2,116.3	0.00	0.00	0.00
5,600.0	26.74	62.25	5,117.6	993.7	1,888.9	2,134.3	0.00	0.00	0.00
5,640.0	26.74	62.25	5,153.3	1,002.1	1,904.8	2,152.3	0.00	0.00	0.00
5,680.0	26.74	62.25	5,189.0	1,010.5	1,920.7	2,170.3	0.00	0.00	0.00
5,704.8	26.74	62.25	5,211.1	1,015.7	1,930.6	2,181.5	0.00	0.00	0.00
5,720.0	26.43	62.25	5,224.7	1,018.8	1,936.6	2,188.3	2.00	-2.00	0.00
5,760.0	25.63	62.25	5,260.7	1,027.0	1,952.2	2,205.8	2.00	-2.00	0.00
5,800.0	24.83	62.25	5,296.9	1,035.0	1,967.3	2,222.9	2.00	-2.00	0.00
5,840.0	24.03	62.25	5,333.3	1,042.7	1,981.9	2,239.4	2.00	-2.00	0.00
5,880.0	23.23	62.25	5,369.9	1,050.1	1,996.1	2,255.5	2.00	-2.00	0.00
5,920.0	22.43	62.25	5,406.8	1,057.4	2,009.8	2,271.0	2.00	-2.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

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)
5,960.0	21.63	62.25	5,443.9	1,064.3	2,023.1	2,286.0	2.00	-2.00	0.00
6,000.0	20.83	62.25	5,481.2	1,071.1	2,035.9	2,300.5	2.00	-2.00	0.00
6,040.0	20.03	62.25	5,518.6	1,077.6	2,048.3	2,314.5	2.00	-2.00	0.00
6,080.0	19.23	62.25	5,556.3	1,083.8	2,060.2	2,327.9	2.00	-2.00	0.00
6,120.0	18.43	62.25	5,594.2	1,089.9	2,071.6	2,340.8	2.00	-2.00	0.00
6,160.0	17.63	62.25	5,632.2	1,095.6	2,082.6	2,353.2	2.00	-2.00	0.00
6,200.0	16.83	62.25	5,670.4	1,101.1	2,093.1	2,365.0	2.00	-2.00	0.00
6,240.0	16.03	62.25	5,708.8	1,106.4	2,103.1	2,376.4	2.00	-2.00	0.00
6,280.0	15.23	62.25	5,747.3	1,111.4	2,112.6	2,387.1	2.00	-2.00	0.00
6,320.0	14.43	62.25	5,786.0	1,116.2	2,121.7	2,397.4	2.00	-2.00	0.00
6,360.0	13.63	62.25	5,824.8	1,120.7	2,130.3	2,407.1	2.00	-2.00	0.00
6,400.0	12.83	62.25	5,863.7	1,125.0	2,138.4	2,416.2	2.00	-2.00	0.00
6,440.0	12.03	62.25	5,902.8	1,129.0	2,146.0	2,424.8	2.00	-2.00	0.00
6,480.0	11.23	62.25	5,942.0	1,132.7	2,153.1	2,432.9	2.00	-2.00	0.00
6,520.0	10.43	62.25	5,981.2	1,136.2	2,159.8	2,440.4	2.00	-2.00	0.00
6,560.0	9.63	62.25	6,020.6	1,139.5	2,165.9	2,447.4	2.00	-2.00	0.00
6,600.0	8.83	62.25	6,060.1	1,142.5	2,171.6	2,453.8	2.00	-2.00	0.00
6,640.0	8.03	62.25	6,099.7	1,145.2	2,176.8	2,459.7	2.00	-2.00	0.00
6,680.0	7.23	62.25	6,139.3	1,147.7	2,181.5	2,465.0	2.00	-2.00	0.00
6,720.0	6.43	62.25	6,179.0	1,149.9	2,185.7	2,469.7	2.00	-2.00	0.00
6,760.0	5.63	62.25	6,218.8	1,151.8	2,189.4	2,473.9	2.00	-2.00	0.00
6,800.0	4.83	62.25	6,258.6	1,153.5	2,192.7	2,477.6	2.00	-2.00	0.00
6,840.0	4.03	62.25	6,298.5	1,155.0	2,195.4	2,480.7	2.00	-2.00	0.00
6,880.0	3.23	62.25	6,338.4	1,156.2	2,197.7	2,483.2	2.00	-2.00	0.00
6,920.0	2.43	62.25	6,378.4	1,157.1	2,199.4	2,485.2	2.00	-2.00	0.00
6,960.0	1.63	62.25	6,418.4	1,157.7	2,200.7	2,486.6	2.00	-2.00	0.00
7,000.0	0.83	62.25	6,458.4	1,158.1	2,201.4	2,487.5	2.00	-2.00	0.00
7,040.0	0.03	62.25	6,498.4	1,158.3	2,201.7	2,487.8	2.00	-2.00	0.00
7,041.6	0.00	0.00	6,500.0	1,158.3	2,201.7	2,487.8	2.00	-2.00	-3,797.01
TARGET BHL 662'FSL & 1965'FWL									
7,080.0	0.00	0.00	6,538.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,120.0	0.00	0.00	6,578.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,160.0	0.00	0.00	6,618.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,200.0	0.00	0.00	6,658.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,240.0	0.00	0.00	6,698.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,280.0	0.00	0.00	6,738.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,320.0	0.00	0.00	6,778.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,360.0	0.00	0.00	6,818.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,400.0	0.00	0.00	6,858.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,440.0	0.00	0.00	6,898.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,480.0	0.00	0.00	6,938.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,520.0	0.00	0.00	6,978.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,545.6	0.00	0.00	7,004.0	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
NIOBRARA - LEGAL BOX 400' X 400', 661'FSL & 1965'FWL - TARGET CIRCLE 662'FSL & 1965'FWL									
7,560.0	0.00	0.00	7,018.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,058.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,640.0	0.00	0.00	7,098.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,680.0	0.00	0.00	7,138.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,720.0	0.00	0.00	7,178.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,760.0	0.00	0.00	7,218.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,258.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,810.6	0.00	0.00	7,269.0	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
FORT HAYS									

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

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)
7,840.0	0.00	0.00	7,298.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,850.6	0.00	0.00	7,309.0	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
CODELL									
7,880.0	0.00	0.00	7,338.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,900.6	0.00	0.00	7,359.0	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
GREENHORN									
7,920.0	0.00	0.00	7,378.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,960.0	0.00	0.00	7,418.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
7,985.6	0.00	0.00	7,444.0	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
GRANEROS									
8,000.0	0.00	0.00	7,458.4	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00
8,001.6	0.00	0.00	7,460.0	1,158.3	2,201.7	2,487.8	0.00	0.00	0.00

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
LEGAL BOX 400' X 4(	0.00	0.00	7,004.0	1,157.3	2,201.7	1,445,418.05	3,182,341.36	40.554220	-104.843799
- plan misses target center by 1.0ft at 7545.6ft MD (7004.0 TVD, 1158.3 N, 2201.7 E)									
- Rectangle (sides W400.0 H400.0 D456.0)									
TARGET BHL 662'FS	0.00	0.00	6,500.0	1,158.3	2,201.7	1,445,419.04	3,182,341.34	40.554223	-104.843799
- plan hits target center									
- Point									
TARGET CIRCLE 662	0.00	0.00	7,004.0	1,158.3	2,201.7	1,445,419.04	3,182,341.34	40.554223	-104.843799
- plan hits target center									
- Circle (radius 75.0)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
722.9	720.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,888.4	3,589.0	PARKMAN		0.00	
4,722.6	4,334.0	SUSSEX		0.00	
5,148.1	4,714.0	SHANNON		0.00	
7,545.6	7,004.0	NIOBRARA		0.00	
7,810.6	7,269.0	FORT HAYS		0.00	
7,850.6	7,309.0	CODELL		0.00	
7,900.6	7,359.0	GREENHORN		0.00	
7,985.6	7,444.0	GRANEROS		0.00	

Database:	Landmark	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Company:	BAYSWATER EXPLORATION & PRODUCTION	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Project:	SEC.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**North Reference:**	True
Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-10-12)		

ENSIGN Directional

BAYSWATER EXPLORATION & PRODUCTION

SEC.26-T7N-R67W
Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W
Hirsch 14-24

Wellbore #1
Plan #1 (7-10-12)

Anticollision Report

18 July, 2012

Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Project:	SEC.26-T7N-R67W	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**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 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Reference Plan #1 (7-10-12)

Filter type: NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method: Stations
Depth Range: Unlimited
Results Limited by: Maximum center-center distance of 10,000.0ft
Warning Levels Evaluated at: 2.00 **Sigma**
Error Model: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic

Survey Tool Program **Date** 7/16/2012

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	8,001.6	Plan #1 (7-10-12) (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W						
Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)	229.2	229.2	15.5	14.7	19.338	CC
Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)	300.0	300.0	15.8	14.7	14.060	ES
Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)	5,704.8	5,682.9	345.3	274.5	4.880	SF
Hirsch 35-24 - Wellbore #1 - Plan #1 (7-10-12)	200.0	200.0	16.0	15.4	23.792	CC
Hirsch 35-24 - Wellbore #1 - Plan #1 (7-10-12)	300.0	299.8	16.2	15.1	14.615	ES
Hirsch 35-24 - Wellbore #1 - Plan #1 (7-10-12)	1,400.0	1,396.9	45.3	34.2	4.094	SF

Offset Design Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W - Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)
Offset Site Error: 0.0 ft
Survey Program: 0-MWD
Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-44.54	11.3	-11.1	15.8	15.8	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	-44.54	11.3	-11.1	15.8	15.6	0.22	70.503	
200.0	200.0	200.1	200.1	0.3	0.3	-38.24	12.2	-9.6	15.6	14.9	0.67	23.132	
229.2	229.2	229.2	229.2	0.4	0.4	-96.74	12.9	-8.7	15.5	14.7	0.80	19.338	CC
300.0	300.0	300.0	299.8	0.6	0.6	-87.72	15.1	-5.3	15.8	14.7	1.13	14.060	ES
400.0	399.8	399.8	399.3	0.8	0.8	-76.19	19.8	2.0	17.1	15.5	1.61	10.611	
500.0	499.5	499.5	498.2	1.0	1.1	-67.01	26.4	12.2	19.2	17.1	2.14	8.981	
600.0	598.7	599.0	596.5	1.3	1.5	-60.28	34.9	25.3	22.0	19.3	2.72	8.102	
700.0	697.5	698.5	694.1	1.7	1.9	-55.56	45.2	41.1	25.3	21.9	3.34	7.562	
800.0	795.6	797.8	790.9	2.0	2.3	-52.36	57.3	59.8	28.9	24.9	4.03	7.178	
900.0	893.1	896.9	886.7	2.5	2.8	-50.27	71.2	81.3	32.8	28.0	4.78	6.867	
1,000.0	989.6	996.0	981.5	3.0	3.4	-48.97	86.9	105.5	36.9	31.3	5.60	6.590	
1,100.0	1,085.3	1,094.9	1,075.1	3.5	4.0	-48.25	104.4	132.4	41.3	34.7	6.52	6.330	
1,200.0	1,179.8	1,193.7	1,167.4	4.2	4.7	-47.95	123.6	161.9	45.8	38.2	7.53	6.077	
1,300.0	1,273.2	1,292.4	1,258.3	4.9	5.5	-47.96	144.4	194.1	50.5	41.8	8.65	5.834	
1,400.0	1,365.2	1,391.0	1,347.7	5.6	6.3	-48.20	166.9	228.8	55.4	45.5	9.89	5.594	
1,500.0	1,455.8	1,489.4	1,435.6	6.5	7.2	-48.61	191.1	266.0	60.4	49.1	11.26	5.364	
1,536.9	1,488.9	1,525.7	1,467.6	6.8	7.5	-48.80	200.4	280.4	62.3	50.5	11.80	5.281	
1,600.0	1,545.3	1,588.2	1,522.2	7.4	8.1	-48.75	217.0	305.9	66.1	53.4	12.71	5.199	
1,700.0	1,634.6	1,687.4	1,608.3	8.3	9.1	-48.08	243.8	347.3	72.8	58.7	14.11	5.164	
1,800.0	1,723.9	1,787.2	1,694.9	9.2	10.2	-47.53	270.8	388.8	79.6	64.1	15.51	5.133	

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

Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Project:	SEC.26-T7N-R67W	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**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 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Offset Design Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W - Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,900.0	1,813.2	1,887.0	1,781.5	10.2	11.2	-47.06	297.7	430.4	86.4	69.5	16.92	5.107	
2,000.0	1,902.5	1,986.7	1,868.1	11.1	12.2	-46.66	324.7	471.9	93.2	74.9	18.33	5.085	
2,100.0	1,991.8	2,086.5	1,954.7	12.0	13.2	-46.31	351.6	513.5	100.0	80.2	19.74	5.065	
2,200.0	2,081.1	2,186.3	2,041.3	13.0	14.3	-46.01	378.6	555.0	106.8	85.6	21.15	5.048	
2,300.0	2,170.4	2,286.1	2,128.0	13.9	15.3	-45.75	405.5	596.6	113.5	91.0	22.56	5.033	
2,400.0	2,259.7	2,385.8	2,214.6	14.8	16.3	-45.51	432.5	638.1	120.3	96.4	23.97	5.020	
2,500.0	2,349.0	2,485.6	2,301.2	15.8	17.4	-45.30	459.4	679.7	127.1	101.8	25.39	5.008	
2,600.0	2,438.3	2,585.4	2,387.8	16.7	18.4	-45.11	486.4	721.2	133.9	107.1	26.80	4.998	
2,700.0	2,527.6	2,685.1	2,474.4	17.7	19.4	-44.94	513.4	762.8	140.7	112.5	28.21	4.988	
2,800.0	2,616.9	2,784.9	2,561.0	18.6	20.5	-44.79	540.3	804.3	147.5	117.9	29.63	4.980	
2,900.0	2,706.3	2,884.7	2,647.6	19.6	21.5	-44.65	567.3	845.9	154.3	123.3	31.04	4.972	
3,000.0	2,795.6	2,984.4	2,734.2	20.5	22.6	-44.52	594.2	887.4	161.1	128.7	32.46	4.965	
3,100.0	2,884.9	3,084.2	2,820.8	21.4	23.6	-44.40	621.2	929.0	167.9	134.1	33.87	4.958	
3,200.0	2,974.2	3,184.0	2,907.4	22.4	24.6	-44.29	648.1	970.5	174.8	139.5	35.29	4.952	
3,300.0	3,063.5	3,283.7	2,994.0	23.3	25.7	-44.19	675.1	1,012.1	181.6	144.9	36.71	4.946	
3,400.0	3,152.8	3,383.5	3,080.6	24.3	26.7	-44.09	702.0	1,053.6	188.4	150.2	38.12	4.941	
3,500.0	3,242.1	3,483.3	3,167.2	25.2	27.8	-44.00	729.0	1,095.2	195.2	155.6	39.54	4.936	
3,600.0	3,331.4	3,583.0	3,253.8	26.2	28.8	-43.92	756.0	1,136.7	202.0	161.0	40.95	4.932	
3,700.0	3,420.7	3,682.8	3,340.4	27.1	29.9	-43.85	782.9	1,178.3	208.8	166.4	42.37	4.928	
3,800.0	3,510.0	3,782.6	3,427.0	28.1	30.9	-43.77	809.9	1,219.8	215.6	171.8	43.78	4.924	
3,900.0	3,599.3	3,882.3	3,513.6	29.0	31.9	-43.71	836.8	1,261.4	222.4	177.2	45.20	4.920	
4,000.0	3,688.6	3,982.1	3,600.3	30.0	33.0	-43.64	863.8	1,302.9	229.2	182.6	46.62	4.917	
4,100.0	3,777.9	4,081.9	3,686.9	30.9	34.0	-43.59	890.7	1,344.5	236.0	188.0	48.03	4.914	
4,200.0	3,867.3	4,181.6	3,773.5	31.9	35.1	-43.53	917.7	1,386.0	242.8	193.4	49.45	4.911	
4,300.0	3,956.6	4,281.4	3,860.1	32.8	36.1	-43.48	944.7	1,427.6	249.6	198.8	50.86	4.908	
4,400.0	4,045.9	4,381.2	3,946.7	33.8	37.2	-43.43	971.6	1,469.1	256.4	204.2	52.28	4.905	
4,500.0	4,135.2	4,480.9	4,033.3	34.7	38.2	-43.38	998.6	1,510.7	263.2	209.6	53.70	4.902	
4,600.0	4,224.5	4,580.7	4,119.9	35.7	39.2	-43.33	1,025.5	1,552.2	270.1	214.9	55.11	4.900	
4,700.0	4,313.8	4,680.5	4,206.5	36.6	40.3	-43.29	1,052.5	1,593.8	276.9	220.3	56.53	4.898	
4,800.0	4,403.1	4,780.2	4,293.1	37.6	41.3	-43.25	1,079.4	1,635.3	283.7	225.7	57.95	4.896	
4,900.0	4,492.4	4,880.0	4,379.7	38.5	42.4	-43.21	1,106.4	1,676.9	290.5	231.1	59.36	4.893	
5,000.0	4,581.7	4,979.8	4,466.3	39.5	43.4	-43.17	1,133.3	1,718.4	297.3	236.5	60.78	4.891	
5,100.0	4,671.0	5,079.5	4,552.9	40.4	44.5	-43.14	1,160.3	1,760.0	304.1	241.9	62.19	4.890	
5,200.0	4,760.3	5,179.3	4,639.5	41.4	45.5	-43.10	1,187.3	1,801.5	310.9	247.3	63.61	4.888	
5,300.0	4,849.6	5,279.1	4,726.1	42.3	46.5	-43.07	1,214.2	1,843.1	317.7	252.7	65.03	4.886	
5,400.0	4,938.9	5,378.8	4,812.7	43.2	47.6	-43.04	1,241.2	1,884.6	324.5	258.1	66.44	4.884	
5,500.0	5,028.3	5,478.6	4,899.3	44.2	48.6	-43.01	1,268.1	1,926.2	331.3	263.5	67.86	4.883	
5,600.0	5,117.6	5,578.4	4,985.9	45.1	49.7	-42.98	1,295.1	1,967.7	338.2	268.9	69.28	4.881	
5,704.8	5,211.1	5,682.9	5,076.7	46.1	50.8	-42.95	1,323.3	2,011.2	345.3	274.5	70.76	4.880	SF
5,800.0	5,296.9	5,777.8	5,159.1	46.9	51.8	-42.85	1,349.0	2,050.8	352.9	281.0	71.91	4.908	
5,900.0	5,388.3	5,877.2	5,245.3	47.6	52.8	-42.43	1,375.8	2,092.2	363.5	290.8	72.68	5.001	
6,000.0	5,481.2	5,976.2	5,331.2	48.2	53.8	-41.72	1,402.6	2,133.4	376.6	303.5	73.08	5.153	
6,100.0	5,575.2	6,074.6	5,416.7	48.8	54.9	-40.77	1,429.1	2,174.4	392.5	319.3	73.15	5.366	
6,200.0	5,670.4	6,172.4	5,501.6	49.3	55.9	-39.63	1,455.6	2,215.1	411.1	338.2	72.91	5.638	
6,300.0	5,766.6	6,269.4	5,585.8	49.8	56.9	-38.35	1,481.8	2,255.5	432.7	360.2	72.43	5.974	
6,400.0	5,863.7	6,365.5	5,669.2	50.2	57.9	-36.99	1,507.7	2,295.5	457.2	385.5	71.73	6.374	
6,500.0	5,961.6	6,460.6	5,751.7	50.6	58.9	-35.59	1,533.4	2,335.1	484.8	414.0	70.87	6.841	
6,600.0	6,060.1	6,554.5	5,833.3	50.9	59.9	-34.19	1,558.8	2,374.2	515.6	445.7	69.88	7.378	
6,700.0	6,159.2	6,647.3	5,913.8	51.1	60.9	-32.81	1,583.9	2,412.9	549.5	480.7	68.81	7.987	
6,800.0	6,258.6	6,738.6	5,993.1	51.3	61.8	-31.49	1,608.6	2,450.9	586.7	519.0	67.68	8.669	
6,900.0	6,358.4	6,841.2	6,082.5	51.4	62.8	-30.02	1,635.9	2,493.1	626.6	560.3	66.29	9.452	

Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Project:	SEC.26-T7N-R67W	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**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 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Offset Design Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W - Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,000.0	6,458.4	6,955.3	6,183.8	51.5	63.7	-28.53	1,664.5	2,537.1	666.7	601.9	64.77	10.293	
7,041.6	6,500.0	7,003.5	6,227.3	51.6	64.0	34.29	1,675.9	2,554.7	683.3	619.2	64.16	10.650	
7,100.0	6,558.4	7,072.2	6,289.7	51.6	64.5	35.26	1,691.5	2,578.7	706.1	642.8	63.32	11.150	
7,200.0	6,658.4	7,193.4	6,401.5	51.7	65.3	36.69	1,716.9	2,617.9	742.4	680.2	62.18	11.939	
7,300.0	6,758.4	7,318.7	6,519.1	51.7	66.0	37.86	1,740.4	2,654.2	775.2	713.8	61.34	12.637	
7,400.0	6,858.4	7,447.8	6,642.1	51.8	66.7	38.81	1,761.8	2,687.1	804.1	743.3	60.74	13.239	
7,500.0	6,958.4	7,580.5	6,770.3	51.8	67.3	39.57	1,780.5	2,716.0	828.9	768.6	60.34	13.738	
7,600.0	7,058.4	7,716.3	6,902.9	51.9	67.7	40.17	1,796.4	2,740.4	849.4	789.3	60.10	14.134	
7,700.0	7,158.4	7,854.6	7,039.2	52.0	68.1	40.62	1,808.9	2,759.8	865.5	805.5	59.99	14.427	
7,800.0	7,258.4	7,994.9	7,178.5	52.0	68.4	40.93	1,818.0	2,773.8	876.9	816.9	60.00	14.614	
7,900.0	7,358.4	8,136.5	7,319.7	52.1	68.6	41.11	1,823.4	2,782.1	883.7	823.5	60.11	14.701	
8,001.6	7,460.0	8,276.8	7,460.0	52.2	68.8	41.16	1,825.1	2,784.6	885.7	825.3	60.31	14.684	

Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Project:	SEC.26-T7N-R67W	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**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 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Offset Design Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W - Hirsch 35-24 - Wellbore #1 - Plan #1 (7-10-12)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	134.75	-11.3	11.4	16.0	16.0	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	134.75	-11.3	11.4	16.0	15.8	0.22	71.376	
200.0	200.0	200.0	200.0	0.3	0.3	134.75	-11.3	11.4	16.0	15.4	0.67	23.792	CC
300.0	300.0	299.8	299.7	0.6	0.6	72.78	-10.7	13.0	16.2	15.1	1.11	14.615	ES
400.0	399.8	399.5	399.4	0.8	0.8	73.59	-8.8	17.9	16.8	15.3	1.56	10.793	
500.0	499.5	499.3	498.7	1.0	1.0	74.81	-5.8	26.0	17.9	15.8	2.05	8.692	
600.0	598.7	599.0	597.8	1.3	1.3	76.30	-1.5	37.4	19.3	16.7	2.61	7.379	
700.0	697.5	698.8	696.3	1.7	1.6	77.91	4.0	51.9	21.1	17.9	3.26	6.484	
800.0	795.6	798.5	794.2	2.0	2.0	79.53	10.7	69.7	23.4	19.4	4.01	5.839	
900.0	893.1	898.2	891.3	2.5	2.5	81.07	18.5	90.6	26.1	21.2	4.88	5.355	
1,000.0	989.6	997.9	987.7	3.0	3.0	82.48	27.6	114.7	29.2	23.4	5.87	4.982	
1,100.0	1,085.3	1,097.6	1,083.0	3.5	3.5	83.74	37.9	141.9	32.8	25.8	6.99	4.688	
1,200.0	1,179.8	1,197.4	1,177.5	4.2	4.2	85.36	49.2	171.9	36.7	28.4	8.26	4.443	
1,300.0	1,273.2	1,297.2	1,271.8	4.9	4.8	90.79	60.7	202.5	40.6	31.0	9.66	4.206	
1,400.0	1,365.2	1,396.9	1,366.0	5.6	5.5	99.58	72.2	233.0	45.3	34.2	11.07	4.094	SF
1,500.0	1,455.8	1,496.2	1,459.9	6.5	6.1	110.19	83.6	263.4	52.0	39.7	12.28	4.235	
1,536.9	1,488.9	1,532.8	1,494.4	6.8	6.4	114.22	87.8	274.6	55.2	42.6	12.64	4.368	
1,600.0	1,545.3	1,595.3	1,553.5	7.4	6.8	120.50	95.0	293.7	61.4	48.3	13.16	4.667	
1,700.0	1,634.6	1,694.3	1,647.1	8.3	7.5	128.10	106.4	324.0	72.5	58.6	13.90	5.215	
1,800.0	1,723.9	1,793.3	1,740.6	9.2	8.1	133.64	117.8	354.2	84.5	69.9	14.59	5.788	
1,900.0	1,813.2	1,892.3	1,834.2	10.2	8.8	137.78	129.2	384.5	97.0	81.7	15.29	6.347	
2,000.0	1,902.5	1,991.3	1,927.7	11.1	9.5	140.96	140.6	414.8	110.0	94.0	16.00	6.874	
2,100.0	1,991.8	2,090.2	2,021.3	12.0	10.1	143.46	152.0	445.1	123.2	106.4	16.73	7.364	
2,200.0	2,081.1	2,189.2	2,114.8	13.0	10.8	145.48	163.5	475.4	136.6	119.1	17.47	7.816	
2,300.0	2,170.4	2,288.2	2,208.4	13.9	11.5	147.14	174.9	505.7	150.1	131.9	18.23	8.231	
2,400.0	2,259.7	2,387.2	2,301.9	14.8	12.2	148.52	186.3	535.9	163.7	144.7	19.01	8.613	
2,500.0	2,349.0	2,486.2	2,395.5	15.8	12.8	149.69	197.7	566.2	177.4	157.6	19.79	8.964	
2,600.0	2,438.3	2,585.2	2,489.1	16.7	13.5	150.69	209.1	596.5	191.2	170.6	20.59	9.287	
2,700.0	2,527.6	2,684.2	2,582.6	17.7	14.2	151.56	220.5	626.8	205.0	183.6	21.39	9.584	
2,800.0	2,616.9	2,783.2	2,676.2	18.6	14.9	152.32	231.9	657.1	218.9	196.7	22.20	9.859	
2,900.0	2,706.3	2,882.2	2,769.7	19.6	15.5	152.98	243.3	687.4	232.8	209.8	23.02	10.113	
3,000.0	2,795.6	2,981.2	2,863.3	20.5	16.2	153.57	254.7	717.7	246.7	222.9	23.84	10.349	
3,100.0	2,884.9	3,080.2	2,956.8	21.4	16.9	154.10	266.1	747.9	260.7	236.0	24.67	10.569	
3,200.0	2,974.2	3,179.2	3,050.4	22.4	17.6	154.58	277.5	778.2	274.6	249.2	25.49	10.773	
3,300.0	3,063.5	3,278.2	3,144.0	23.3	18.3	155.01	288.9	808.5	288.6	262.3	26.33	10.964	
3,400.0	3,152.8	3,377.2	3,237.5	24.3	18.9	155.40	300.3	838.8	302.6	275.5	27.16	11.142	
3,500.0	3,242.1	3,476.2	3,331.1	25.2	19.6	155.75	311.7	869.1	316.6	288.6	28.00	11.309	
3,600.0	3,331.4	3,575.2	3,424.6	26.2	20.3	156.08	323.1	899.4	330.7	301.8	28.84	11.466	
3,700.0	3,420.7	3,674.2	3,518.2	27.1	21.0	156.37	334.5	929.7	344.7	315.0	29.68	11.614	
3,800.0	3,510.0	3,773.2	3,611.7	28.1	21.6	156.65	345.9	959.9	358.7	328.2	30.52	11.753	
3,900.0	3,599.3	3,872.2	3,705.3	29.0	22.3	156.90	357.3	990.2	372.8	341.4	31.37	11.884	
4,000.0	3,688.6	3,971.2	3,798.8	30.0	23.0	157.14	368.8	1,020.5	386.8	354.6	32.21	12.008	
4,100.0	3,777.9	4,070.2	3,892.4	30.9	23.7	157.36	380.2	1,050.8	400.9	367.8	33.06	12.126	
4,200.0	3,867.3	4,169.1	3,986.0	31.9	24.4	157.56	391.6	1,081.1	415.0	381.1	33.91	12.237	
4,300.0	3,956.6	4,268.1	4,079.5	32.8	25.0	157.75	403.0	1,111.4	429.0	394.3	34.76	12.343	
4,400.0	4,045.9	4,367.1	4,173.1	33.8	25.7	157.93	414.4	1,141.6	443.1	407.5	35.61	12.443	
4,500.0	4,135.2	4,466.1	4,266.6	34.7	26.4	158.10	425.8	1,171.9	457.2	420.7	36.46	12.538	
4,600.0	4,224.5	4,565.1	4,360.2	35.7	27.1	158.26	437.2	1,202.2	471.3	434.0	37.32	12.629	
4,700.0	4,313.8	4,664.1	4,453.7	36.6	27.8	158.41	448.6	1,232.5	485.4	447.2	38.17	12.716	
4,800.0	4,403.1	4,763.1	4,547.3	37.6	28.4	158.55	460.0	1,262.8	499.5	460.4	39.02	12.799	
4,900.0	4,492.4	4,862.1	4,640.9	38.5	29.1	158.68	471.4	1,293.1	513.6	473.7	39.88	12.878	

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

Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Project:	SEC.26-T7N-R67W	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**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 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Offset Design Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W - Hirsch 35-24 - Wellbore #1 - Plan #1 (7-10-12)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.0	4,581.7	4,961.1	4,734.4	39.5	29.8	158.81	482.8	1,323.4	527.6	486.9	40.73	12.953	
5,100.0	4,671.0	5,060.1	4,828.0	40.4	30.5	158.93	494.2	1,353.6	541.7	500.2	41.59	13.026	
5,200.0	4,760.3	5,159.1	4,921.5	41.4	31.2	159.04	505.6	1,383.9	555.8	513.4	42.45	13.095	
5,300.0	4,849.6	5,249.9	5,007.5	42.3	31.7	159.15	516.0	1,411.4	570.3	527.1	43.24	13.191	
5,400.0	4,938.9	5,333.4	5,087.2	43.2	32.2	159.36	524.7	1,434.6	587.1	543.3	43.89	13.377	
5,500.0	5,028.3	5,416.1	5,166.8	44.2	32.6	159.65	532.6	1,455.5	606.5	562.1	44.44	13.648	
5,600.0	5,117.6	5,500.0	5,248.2	45.1	32.9	160.04	539.7	1,474.5	628.4	583.5	44.91	13.993	
5,704.8	5,211.1	5,582.3	5,328.6	46.1	33.2	160.49	545.9	1,490.9	654.0	608.7	45.32	14.431	
5,800.0	5,296.9	5,658.2	5,403.2	46.9	33.4	161.09	550.9	1,504.2	678.3	632.7	45.61	14.873	
5,900.0	5,388.3	5,737.6	5,481.6	47.6	33.7	161.68	555.4	1,516.1	703.0	657.2	45.83	15.341	
6,000.0	5,481.2	5,816.6	5,559.8	48.2	33.9	162.23	559.1	1,525.8	727.0	681.0	46.00	15.805	
6,100.0	5,575.2	5,900.0	5,642.8	48.8	34.0	162.77	562.1	1,534.0	750.3	704.2	46.11	16.270	
6,200.0	5,670.4	5,973.4	5,716.0	49.3	34.2	163.23	564.1	1,539.3	772.7	726.6	46.18	16.732	
6,300.0	5,766.6	6,051.3	5,793.7	49.8	34.3	163.70	565.5	1,543.0	794.4	748.3	46.19	17.198	
6,400.0	5,863.7	6,128.8	5,871.3	50.2	34.4	164.14	566.2	1,544.7	815.3	769.2	46.15	17.668	
6,500.0	5,961.6	6,219.1	5,961.6	50.6	34.4	164.59	566.2	1,544.8	835.0	788.9	46.05	18.133	
6,600.0	6,060.1	6,317.7	6,060.1	50.9	34.5	164.98	566.2	1,544.8	851.5	805.5	45.95	18.531	
6,700.0	6,159.2	6,416.7	6,159.2	51.1	34.6	165.29	566.2	1,544.8	864.6	818.8	45.85	18.858	
6,800.0	6,258.6	6,516.2	6,258.6	51.3	34.7	165.50	566.2	1,544.8	874.5	828.7	45.75	19.115	
6,900.0	6,358.4	6,616.0	6,358.4	51.4	34.8	165.65	566.2	1,544.8	880.9	835.3	45.64	19.303	
7,000.0	6,458.4	6,715.9	6,458.4	51.5	34.9	165.71	566.2	1,544.8	884.0	838.5	45.52	19.420	
7,041.6	6,500.0	6,757.6	6,500.0	51.6	34.9	-132.03	566.2	1,544.8	884.3	838.9	45.47	19.448	
7,100.0	6,558.4	6,815.9	6,558.4	51.6	34.9	-132.03	566.2	1,544.8	884.3	838.7	45.62	19.386	
7,200.0	6,658.4	6,915.9	6,658.4	51.7	35.0	-132.03	566.2	1,544.8	884.3	838.5	45.87	19.277	
7,300.0	6,758.4	7,015.9	6,758.4	51.7	35.1	-132.03	566.2	1,544.8	884.3	838.2	46.13	19.168	
7,400.0	6,858.4	7,115.9	6,858.4	51.8	35.2	-132.03	566.2	1,544.8	884.3	837.9	46.40	19.060	
7,500.0	6,958.4	7,215.9	6,958.4	51.8	35.3	-132.03	566.2	1,544.8	884.3	837.7	46.66	18.951	
7,600.0	7,058.4	7,315.9	7,058.4	51.9	35.4	-132.03	566.2	1,544.8	884.3	837.4	46.93	18.842	
7,700.0	7,158.4	7,415.9	7,158.4	52.0	35.5	-132.03	566.2	1,544.8	884.3	837.1	47.21	18.734	
7,800.0	7,258.4	7,515.9	7,258.4	52.0	35.6	-132.03	566.2	1,544.8	884.3	836.9	47.48	18.626	
7,900.0	7,358.4	7,615.9	7,358.4	52.1	35.7	-132.03	566.2	1,544.8	884.3	836.6	47.76	18.517	
7,966.0	7,424.4	7,681.9	7,424.4	52.1	35.8	-132.03	566.2	1,544.8	884.3	836.4	47.94	18.446	
8,001.6	7,460.0	7,712.6	7,455.0	52.2	35.8	-132.03	566.2	1,544.8	884.3	836.3	48.03	18.411	

Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
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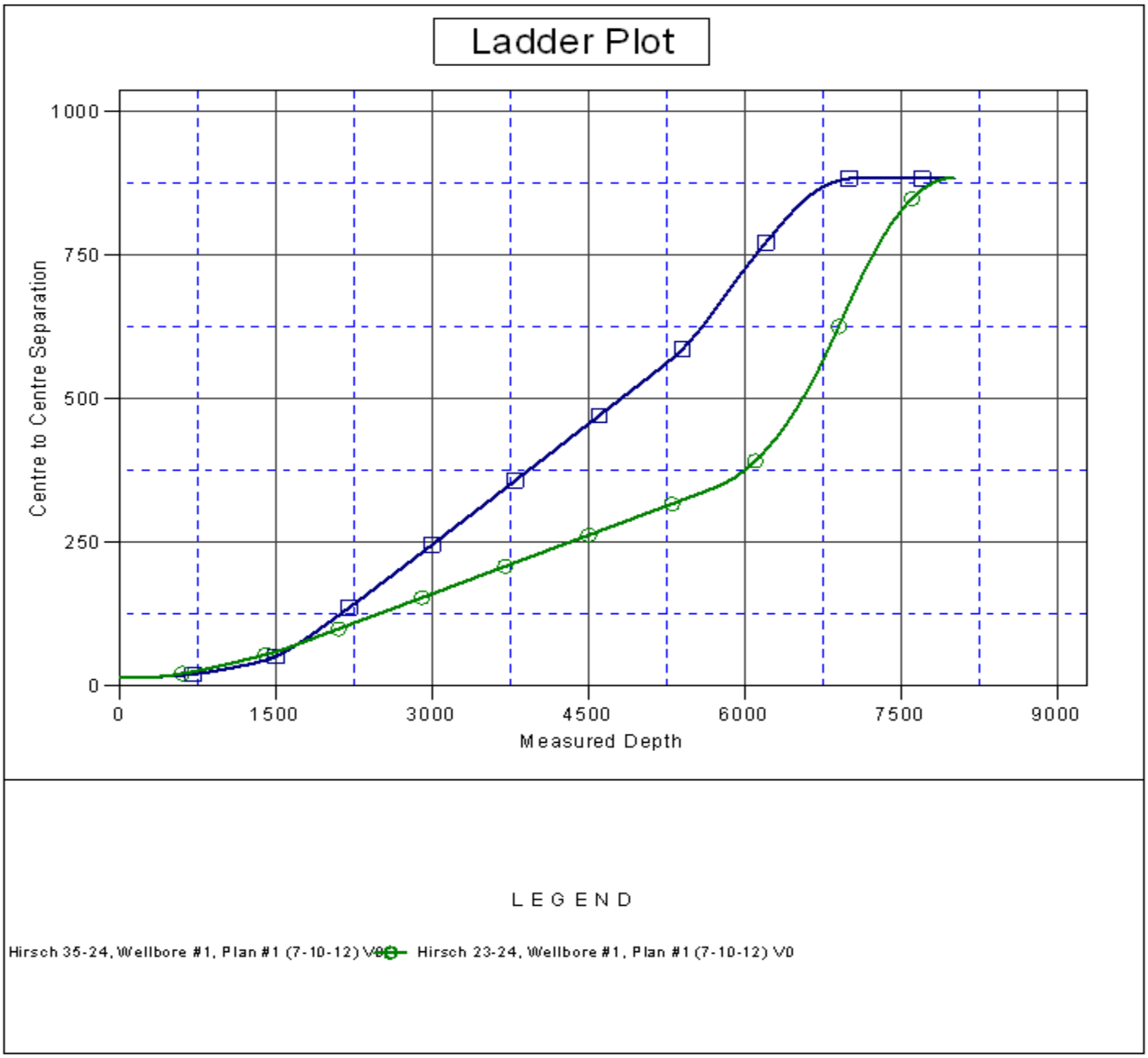
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	Landmark
Reference Design:	Plan #1 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4969.0ft (Original Well Elev) Coordinates are relative to: Hirsch 14-24
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: 0.42°



Company:	BAYSWATER EXPLORATION & PRODUCTION	**Local Co-ordinate Reference:**	Well Hirsch 14-24
Project:	SEC.26-T7N-R67W	**TVD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Reference Site:	Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W	**MD Reference:**	WELL @ 4969.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Hirsch 14-24	**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 (7-10-12)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4969.0ft (Original Well Elev) Coordinates are relative to: Hirsch 14-24
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: 0.42°