

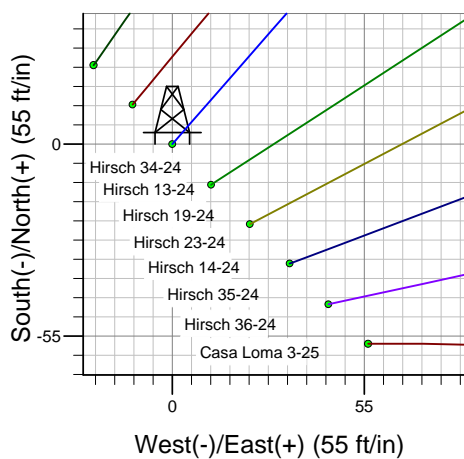
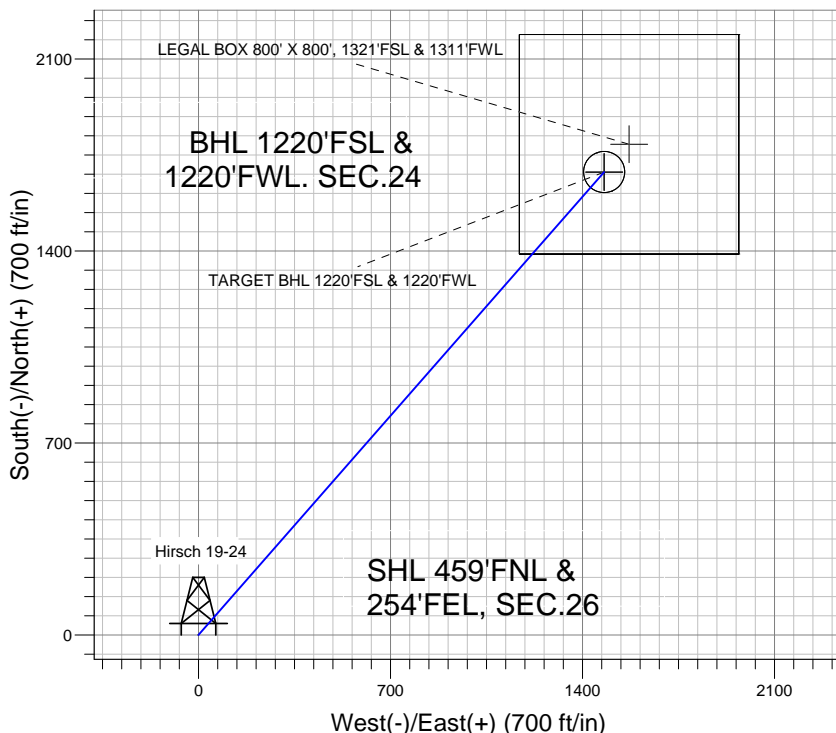
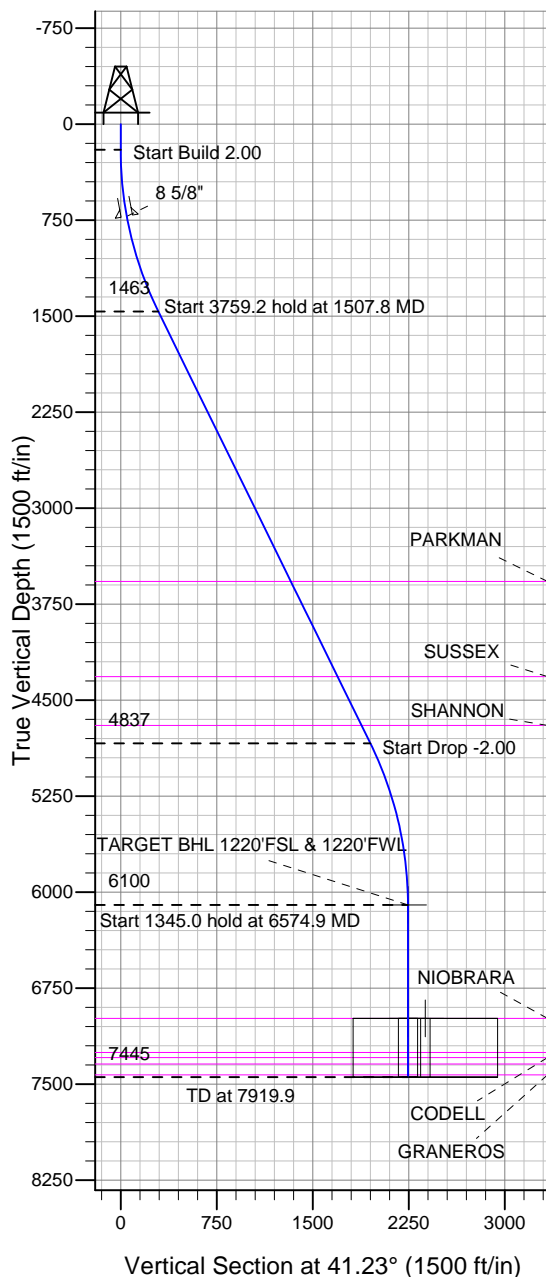
Well Name: Hirsch 19-24

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	1444267.51	3180125.85	40.551107	-104.851802	
Original Well Elev WELL @ 4969.0ft (Original Well Elev)						

BAYSWATER EXPLORATION & PRODUCTION



Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W
Hirsch 19-24
Plan #1 (7-10-12)
10:51, July 18 2012



Azimuths to True North
Magnetic North: 8.78°
Magnetic Field
Strength: 53087.3snT
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 1220'FSL & 1220'FWL	6100.0	1687.6	1478.9	40.555739	-104.846480	Point
LEGAL BOX 800' X 800', 1321'FSL & 1311'FWL	6987.0	1788.6	1569.9	40.556016	-104.846152	Rectangle (Sides: L800.0 W800.0)
TARGET CIRCLE 1220'FSL & 1220'FWL	6987.0	1687.6	1478.9	40.555739	-104.846480	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	1507.8	26.16	41.23	1462.9	220.6	193.3	2.00	41.23	293.4	
4	5267.1	26.16	41.23	4837.1	1467.0	1285.5	0.00	0.00	1950.5	
5	6574.9	0.00	0.00	6100.0	1687.6	1478.9	2.00	180.00	2243.9	TARGET BHL 1220'FSL & 1220'FWL
6	7919.9	0.00	0.00	7445.0	1687.6	1478.9	0.00	0.00	2243.9	



BAYSWATER EXPLORATION & PRODUCTION

SEC.26-T7N-R67W

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

Hirsch 19-24

Wellbore #1

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

Standard Planning Report

18 July, 2012

Database:	Landmark	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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:			1,444,301.16ft			Latitude:			40.551200		
From:			Lat/Long			Easting:			3,180,091.71ft			Longitude:			-104.851924		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.42 °		

Well	Hirsch 19-24					
Well Position	+N/-S	-33.9 ft	Northing:	1,444,267.51 ft	Latitude:	40.551107
	+E/-W	33.9 ft	Easting:	3,180,125.85 ft	Longitude:	-104.851802
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	41.23

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	
1,507.8	26.16	41.23	1,462.9	220.6	193.3	2.00	2.00	0.00	41.23	
5,267.1	26.16	41.23	4,837.1	1,467.0	1,285.5	0.00	0.00	0.00	0.00	
6,574.9	0.00	0.00	6,100.0	1,687.6	1,478.9	2.00	-2.00	0.00	180.00	TARGET BHL 122C
7,919.9	0.00	0.00	7,445.0	1,687.6	1,478.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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	41.23	240.0	0.2	0.2	0.3	2.00	2.00	0.00
280.0	1.60	41.23	280.0	0.8	0.7	1.1	2.00	2.00	0.00
320.0	2.40	41.23	320.0	1.9	1.7	2.5	2.00	2.00	0.00
360.0	3.20	41.23	359.9	3.4	2.9	4.5	2.00	2.00	0.00
400.0	4.00	41.23	399.8	5.2	4.6	7.0	2.00	2.00	0.00
440.0	4.80	41.23	439.7	7.6	6.6	10.0	2.00	2.00	0.00
480.0	5.60	41.23	479.6	10.3	9.0	13.7	2.00	2.00	0.00
520.0	6.40	41.23	519.3	13.4	11.8	17.9	2.00	2.00	0.00
560.0	7.20	41.23	559.1	17.0	14.9	22.6	2.00	2.00	0.00
600.0	8.00	41.23	598.7	21.0	18.4	27.9	2.00	2.00	0.00
640.0	8.80	41.23	638.3	25.4	22.2	33.7	2.00	2.00	0.00
680.0	9.60	41.23	677.8	30.2	26.4	40.1	2.00	2.00	0.00
720.0	10.40	41.23	717.1	35.4	31.0	47.1	2.00	2.00	0.00
722.9	10.46	41.23	720.0	35.8	31.4	47.6	2.00	2.00	0.00
8 5/8"									
760.0	11.20	41.23	756.4	41.0	36.0	54.6	2.00	2.00	0.00
800.0	12.00	41.23	795.6	47.1	41.3	62.6	2.00	2.00	0.00
840.0	12.80	41.23	834.7	53.5	46.9	71.2	2.00	2.00	0.00
880.0	13.60	41.23	873.6	60.4	52.9	80.3	2.00	2.00	0.00
920.0	14.40	41.23	912.4	67.7	59.3	90.0	2.00	2.00	0.00
960.0	15.20	41.23	951.1	75.4	66.1	100.2	2.00	2.00	0.00
1,000.0	16.00	41.23	989.6	83.5	73.1	111.0	2.00	2.00	0.00
1,040.0	16.80	41.23	1,028.0	92.0	80.6	122.3	2.00	2.00	0.00
1,080.0	17.60	41.23	1,066.2	100.9	88.4	134.1	2.00	2.00	0.00
1,120.0	18.40	41.23	1,104.3	110.1	96.5	146.5	2.00	2.00	0.00
1,160.0	19.20	41.23	1,142.1	119.8	105.0	159.3	2.00	2.00	0.00
1,200.0	20.00	41.23	1,179.8	129.9	113.9	172.8	2.00	2.00	0.00
1,240.0	20.80	41.23	1,217.3	140.4	123.1	186.7	2.00	2.00	0.00
1,280.0	21.60	41.23	1,254.6	151.3	132.6	201.2	2.00	2.00	0.00
1,320.0	22.40	41.23	1,291.7	162.6	142.5	216.2	2.00	2.00	0.00
1,360.0	23.20	41.23	1,328.6	174.2	152.7	231.7	2.00	2.00	0.00
1,400.0	24.00	41.23	1,365.2	186.3	163.2	247.7	2.00	2.00	0.00
1,440.0	24.80	41.23	1,401.6	198.7	174.1	264.2	2.00	2.00	0.00
1,480.0	25.60	41.23	1,437.8	211.5	185.3	281.2	2.00	2.00	0.00
1,507.8	26.16	41.23	1,462.9	220.6	193.3	293.4	2.00	2.00	0.00
1,520.0	26.16	41.23	1,473.8	224.7	196.9	298.7	0.00	0.00	0.00
1,560.0	26.16	41.23	1,509.7	237.9	208.5	316.4	0.00	0.00	0.00
1,600.0	26.16	41.23	1,545.6	251.2	220.1	334.0	0.00	0.00	0.00
1,640.0	26.16	41.23	1,581.5	264.5	231.8	351.6	0.00	0.00	0.00
1,680.0	26.16	41.23	1,617.4	277.7	243.4	369.3	0.00	0.00	0.00
1,720.0	26.16	41.23	1,653.3	291.0	255.0	386.9	0.00	0.00	0.00
1,760.0	26.16	41.23	1,689.2	304.2	266.6	404.5	0.00	0.00	0.00
1,800.0	26.16	41.23	1,725.1	317.5	278.2	422.2	0.00	0.00	0.00
1,840.0	26.16	41.23	1,761.0	330.8	289.9	439.8	0.00	0.00	0.00
1,880.0	26.16	41.23	1,796.9	344.0	301.5	457.4	0.00	0.00	0.00
1,920.0	26.16	41.23	1,832.8	357.3	313.1	475.1	0.00	0.00	0.00
1,960.0	26.16	41.23	1,868.7	370.6	324.7	492.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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	26.16	41.23	1,904.6	383.8	336.3	510.3	0.00	0.00	0.00
2,040.0	26.16	41.23	1,940.5	397.1	348.0	528.0	0.00	0.00	0.00
2,080.0	26.16	41.23	1,976.5	410.3	359.6	545.6	0.00	0.00	0.00
2,120.0	26.16	41.23	2,012.4	423.6	371.2	563.2	0.00	0.00	0.00
2,160.0	26.16	41.23	2,048.3	436.9	382.8	580.9	0.00	0.00	0.00
2,200.0	26.16	41.23	2,084.2	450.1	394.5	598.5	0.00	0.00	0.00
2,240.0	26.16	41.23	2,120.1	463.4	406.1	616.1	0.00	0.00	0.00
2,280.0	26.16	41.23	2,156.0	476.6	417.7	633.8	0.00	0.00	0.00
2,320.0	26.16	41.23	2,191.9	489.9	429.3	651.4	0.00	0.00	0.00
2,360.0	26.16	41.23	2,227.8	503.2	440.9	669.0	0.00	0.00	0.00
2,400.0	26.16	41.23	2,263.7	516.4	452.6	686.7	0.00	0.00	0.00
2,440.0	26.16	41.23	2,299.6	529.7	464.2	704.3	0.00	0.00	0.00
2,480.0	26.16	41.23	2,335.5	542.9	475.8	721.9	0.00	0.00	0.00
2,520.0	26.16	41.23	2,371.4	556.2	487.4	739.6	0.00	0.00	0.00
2,560.0	26.16	41.23	2,407.3	569.5	499.0	757.2	0.00	0.00	0.00
2,600.0	26.16	41.23	2,443.2	582.7	510.7	774.8	0.00	0.00	0.00
2,640.0	26.16	41.23	2,479.1	596.0	522.3	792.5	0.00	0.00	0.00
2,680.0	26.16	41.23	2,515.0	609.3	533.9	810.1	0.00	0.00	0.00
2,720.0	26.16	41.23	2,550.9	622.5	545.5	827.7	0.00	0.00	0.00
2,760.0	26.16	41.23	2,586.8	635.8	557.1	845.4	0.00	0.00	0.00
2,800.0	26.16	41.23	2,622.7	649.0	568.8	863.0	0.00	0.00	0.00
2,840.0	26.16	41.23	2,658.6	662.3	580.4	880.6	0.00	0.00	0.00
2,880.0	26.16	41.23	2,694.5	675.6	592.0	898.3	0.00	0.00	0.00
2,920.0	26.16	41.23	2,730.4	688.8	603.6	915.9	0.00	0.00	0.00
2,960.0	26.16	41.23	2,766.3	702.1	615.3	933.5	0.00	0.00	0.00
3,000.0	26.16	41.23	2,802.2	715.3	626.9	951.2	0.00	0.00	0.00
3,040.0	26.16	41.23	2,838.1	728.6	638.5	968.8	0.00	0.00	0.00
3,080.0	26.16	41.23	2,874.0	741.9	650.1	986.4	0.00	0.00	0.00
3,120.0	26.16	41.23	2,910.0	755.1	661.7	1,004.1	0.00	0.00	0.00
3,160.0	26.16	41.23	2,945.9	768.4	673.4	1,021.7	0.00	0.00	0.00
3,200.0	26.16	41.23	2,981.8	781.7	685.0	1,039.3	0.00	0.00	0.00
3,240.0	26.16	41.23	3,017.7	794.9	696.6	1,057.0	0.00	0.00	0.00
3,280.0	26.16	41.23	3,053.6	808.2	708.2	1,074.6	0.00	0.00	0.00
3,320.0	26.16	41.23	3,089.5	821.4	719.8	1,092.2	0.00	0.00	0.00
3,360.0	26.16	41.23	3,125.4	834.7	731.5	1,109.8	0.00	0.00	0.00
3,400.0	26.16	41.23	3,161.3	848.0	743.1	1,127.5	0.00	0.00	0.00
3,440.0	26.16	41.23	3,197.2	861.2	754.7	1,145.1	0.00	0.00	0.00
3,480.0	26.16	41.23	3,233.1	874.5	766.3	1,162.7	0.00	0.00	0.00
3,520.0	26.16	41.23	3,269.0	887.7	778.0	1,180.4	0.00	0.00	0.00
3,560.0	26.16	41.23	3,304.9	901.0	789.6	1,198.0	0.00	0.00	0.00
3,600.0	26.16	41.23	3,340.8	914.3	801.2	1,215.6	0.00	0.00	0.00
3,640.0	26.16	41.23	3,376.7	927.5	812.8	1,233.3	0.00	0.00	0.00
3,680.0	26.16	41.23	3,412.6	940.8	824.4	1,250.9	0.00	0.00	0.00
3,720.0	26.16	41.23	3,448.5	954.1	836.1	1,268.5	0.00	0.00	0.00
3,760.0	26.16	41.23	3,484.4	967.3	847.7	1,286.2	0.00	0.00	0.00
3,800.0	26.16	41.23	3,520.3	980.6	859.3	1,303.8	0.00	0.00	0.00
3,840.0	26.16	41.23	3,556.2	993.8	870.9	1,321.4	0.00	0.00	0.00
3,857.6	26.16	41.23	3,572.0	999.7	876.0	1,329.2	0.00	0.00	0.00
PARKMAN									
3,880.0	26.16	41.23	3,592.1	1,007.1	882.5	1,339.1	0.00	0.00	0.00
3,920.0	26.16	41.23	3,628.0	1,020.4	894.2	1,356.7	0.00	0.00	0.00
3,960.0	26.16	41.23	3,663.9	1,033.6	905.8	1,374.3	0.00	0.00	0.00
4,000.0	26.16	41.23	3,699.8	1,046.9	917.4	1,392.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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	26.16	41.23	3,735.7	1,060.1	929.0	1,409.6	0.00	0.00	0.00
4,080.0	26.16	41.23	3,771.6	1,073.4	940.6	1,427.2	0.00	0.00	0.00
4,120.0	26.16	41.23	3,807.5	1,086.7	952.3	1,444.9	0.00	0.00	0.00
4,160.0	26.16	41.23	3,843.4	1,099.9	963.9	1,462.5	0.00	0.00	0.00
4,200.0	26.16	41.23	3,879.4	1,113.2	975.5	1,480.1	0.00	0.00	0.00
4,240.0	26.16	41.23	3,915.3	1,126.4	987.1	1,497.8	0.00	0.00	0.00
4,280.0	26.16	41.23	3,951.2	1,139.7	998.8	1,515.4	0.00	0.00	0.00
4,320.0	26.16	41.23	3,987.1	1,153.0	1,010.4	1,533.0	0.00	0.00	0.00
4,360.0	26.16	41.23	4,023.0	1,166.2	1,022.0	1,550.7	0.00	0.00	0.00
4,400.0	26.16	41.23	4,058.9	1,179.5	1,033.6	1,568.3	0.00	0.00	0.00
4,440.0	26.16	41.23	4,094.8	1,192.8	1,045.2	1,585.9	0.00	0.00	0.00
4,480.0	26.16	41.23	4,130.7	1,206.0	1,056.9	1,603.6	0.00	0.00	0.00
4,520.0	26.16	41.23	4,166.6	1,219.3	1,068.5	1,621.2	0.00	0.00	0.00
4,560.0	26.16	41.23	4,202.5	1,232.5	1,080.1	1,638.8	0.00	0.00	0.00
4,600.0	26.16	41.23	4,238.4	1,245.8	1,091.7	1,656.5	0.00	0.00	0.00
4,640.0	26.16	41.23	4,274.3	1,259.1	1,103.3	1,674.1	0.00	0.00	0.00
4,680.0	26.16	41.23	4,310.2	1,272.3	1,115.0	1,691.7	0.00	0.00	0.00
4,687.6	26.16	41.23	4,317.0	1,274.8	1,117.2	1,695.1	0.00	0.00	0.00
SUSSEX									
4,720.0	26.16	41.23	4,346.1	1,285.6	1,126.6	1,709.4	0.00	0.00	0.00
4,760.0	26.16	41.23	4,382.0	1,298.8	1,138.2	1,727.0	0.00	0.00	0.00
4,800.0	26.16	41.23	4,417.9	1,312.1	1,149.8	1,744.6	0.00	0.00	0.00
4,840.0	26.16	41.23	4,453.8	1,325.4	1,161.5	1,762.3	0.00	0.00	0.00
4,880.0	26.16	41.23	4,489.7	1,338.6	1,173.1	1,779.9	0.00	0.00	0.00
4,920.0	26.16	41.23	4,525.6	1,351.9	1,184.7	1,797.5	0.00	0.00	0.00
4,960.0	26.16	41.23	4,561.5	1,365.2	1,196.3	1,815.2	0.00	0.00	0.00
5,000.0	26.16	41.23	4,597.4	1,378.4	1,207.9	1,832.8	0.00	0.00	0.00
5,040.0	26.16	41.23	4,633.3	1,391.7	1,219.6	1,850.4	0.00	0.00	0.00
5,080.0	26.16	41.23	4,669.2	1,404.9	1,231.2	1,868.1	0.00	0.00	0.00
5,110.9	26.16	41.23	4,697.0	1,415.2	1,240.2	1,881.7	0.00	0.00	0.00
SHANNON									
5,120.0	26.16	41.23	4,705.1	1,418.2	1,242.8	1,885.7	0.00	0.00	0.00
5,160.0	26.16	41.23	4,741.0	1,431.5	1,254.4	1,903.3	0.00	0.00	0.00
5,200.0	26.16	41.23	4,776.9	1,444.7	1,266.0	1,921.0	0.00	0.00	0.00
5,240.0	26.16	41.23	4,812.9	1,458.0	1,277.7	1,938.6	0.00	0.00	0.00
5,267.1	26.16	41.23	4,837.1	1,467.0	1,285.5	1,950.5	0.00	0.00	0.00
5,280.0	25.90	41.23	4,848.8	1,471.2	1,289.3	1,956.2	2.00	-2.00	0.00
5,320.0	25.10	41.23	4,884.9	1,484.2	1,300.6	1,973.4	2.00	-2.00	0.00
5,360.0	24.30	41.23	4,921.2	1,496.7	1,311.6	1,990.1	2.00	-2.00	0.00
5,400.0	23.50	41.23	4,957.8	1,508.9	1,322.3	2,006.3	2.00	-2.00	0.00
5,440.0	22.70	41.23	4,994.6	1,520.7	1,332.7	2,022.0	2.00	-2.00	0.00
5,480.0	21.90	41.23	5,031.6	1,532.1	1,342.7	2,037.2	2.00	-2.00	0.00
5,520.0	21.10	41.23	5,068.8	1,543.2	1,352.3	2,051.9	2.00	-2.00	0.00
5,560.0	20.30	41.23	5,106.2	1,553.8	1,361.6	2,066.0	2.00	-2.00	0.00
5,600.0	19.50	41.23	5,143.8	1,564.0	1,370.6	2,079.6	2.00	-2.00	0.00
5,640.0	18.70	41.23	5,181.6	1,573.9	1,379.2	2,092.7	2.00	-2.00	0.00
5,680.0	17.90	41.23	5,219.6	1,583.3	1,387.5	2,105.3	2.00	-2.00	0.00
5,720.0	17.10	41.23	5,257.8	1,592.4	1,395.4	2,117.3	2.00	-2.00	0.00
5,760.0	16.30	41.23	5,296.1	1,601.0	1,403.0	2,128.8	2.00	-2.00	0.00
5,800.0	15.50	41.23	5,334.5	1,609.3	1,410.2	2,139.7	2.00	-2.00	0.00
5,840.0	14.70	41.23	5,373.2	1,617.1	1,417.1	2,150.1	2.00	-2.00	0.00
5,880.0	13.90	41.23	5,411.9	1,624.5	1,423.6	2,160.0	2.00	-2.00	0.00
5,920.0	13.10	41.23	5,450.8	1,631.5	1,429.8	2,169.4	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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	12.30	41.23	5,489.8	1,638.2	1,435.6	2,178.2	2.00	-2.00	0.00
6,000.0	11.50	41.23	5,529.0	1,644.4	1,441.0	2,186.4	2.00	-2.00	0.00
6,040.0	10.70	41.23	5,568.2	1,650.1	1,446.1	2,194.1	2.00	-2.00	0.00
6,080.0	9.90	41.23	5,607.6	1,655.5	1,450.8	2,201.3	2.00	-2.00	0.00
6,120.0	9.10	41.23	5,647.0	1,660.5	1,455.1	2,207.9	2.00	-2.00	0.00
6,160.0	8.30	41.23	5,686.6	1,665.0	1,459.1	2,213.9	2.00	-2.00	0.00
6,200.0	7.50	41.23	5,726.2	1,669.2	1,462.7	2,219.4	2.00	-2.00	0.00
6,240.0	6.70	41.23	5,765.9	1,672.9	1,466.0	2,224.3	2.00	-2.00	0.00
6,280.0	5.90	41.23	5,805.6	1,676.2	1,468.9	2,228.7	2.00	-2.00	0.00
6,320.0	5.10	41.23	5,845.5	1,679.1	1,471.4	2,232.6	2.00	-2.00	0.00
6,360.0	4.30	41.23	5,885.3	1,681.5	1,473.6	2,235.8	2.00	-2.00	0.00
6,400.0	3.50	41.23	5,925.2	1,683.6	1,475.4	2,238.6	2.00	-2.00	0.00
6,440.0	2.70	41.23	5,965.2	1,685.2	1,476.8	2,240.7	2.00	-2.00	0.00
6,480.0	1.90	41.23	6,005.1	1,686.4	1,477.8	2,242.3	2.00	-2.00	0.00
6,520.0	1.10	41.23	6,045.1	1,687.2	1,478.5	2,243.4	2.00	-2.00	0.00
6,560.0	0.30	41.23	6,085.1	1,687.6	1,478.8	2,243.8	2.00	-2.00	0.00
6,574.9	0.00	0.00	6,100.0	1,687.6	1,478.9	2,243.9	2.00	-2.00	-277.21
TARGET BHL 1220'FSL & 1220'FWL									
6,600.0	0.00	0.00	6,125.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,165.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,205.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,245.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,285.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,325.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,365.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,405.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,445.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
6,960.0	0.00	0.00	6,485.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,525.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,565.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,605.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,120.0	0.00	0.00	6,645.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,160.0	0.00	0.00	6,685.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,200.0	0.00	0.00	6,725.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,240.0	0.00	0.00	6,765.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,280.0	0.00	0.00	6,805.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,320.0	0.00	0.00	6,845.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,360.0	0.00	0.00	6,885.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,400.0	0.00	0.00	6,925.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,440.0	0.00	0.00	6,965.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,461.9	0.00	0.00	6,987.0	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 1220'FSL & 1220'FWL - LEGAL BOX 800' X 800', 1321'FSL & 1311'FWL									
7,480.0	0.00	0.00	7,005.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,520.0	0.00	0.00	7,045.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,560.0	0.00	0.00	7,085.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,125.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,640.0	0.00	0.00	7,165.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,680.0	0.00	0.00	7,205.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,720.0	0.00	0.00	7,245.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,726.9	0.00	0.00	7,252.0	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
FORT HAYS									
7,760.0	0.00	0.00	7,285.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,766.9	0.00	0.00	7,292.0	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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)
CODELL									
7,800.0	0.00	0.00	7,325.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,816.9	0.00	0.00	7,342.0	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
GREENHORN									
7,840.0	0.00	0.00	7,365.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,880.0	0.00	0.00	7,405.1	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
7,901.9	0.00	0.00	7,427.0	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00
GRANEROS									
7,919.9	0.00	0.00	7,445.0	1,687.6	1,478.9	2,243.9	0.00	0.00	0.00

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
TARGET CIRCLE 122	0.00	0.00	6,987.0	1,687.6	1,478.9	1,445,965.82	3,181,592.31	40.555739	-104.846480
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 1220'F	0.00	0.00	6,100.0	1,687.6	1,478.9	1,445,965.82	3,181,592.31	40.555739	-104.846480
- plan hits target center									
- Point									
LEGAL BOX 800' X 800'	0.00	0.00	6,987.0	1,788.6	1,569.9	1,446,067.49	3,181,682.59	40.556016	-104.846152
- plan misses target center by 136.0ft at 7461.9ft MD (6987.0 TVD, 1687.6 N, 1478.9 E)									
- Rectangle (sides W800.0 H800.0 D458.0)									

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 (°)	
3,857.6	3,572.0	PARKMAN		0.00		
4,687.6	4,317.0	SUSSEX		0.00		
5,110.9	4,697.0	SHANNON		0.00		
7,461.9	6,987.0	NIOBRARA		0.00		
7,726.9	7,252.0	FORT HAYS		0.00		
7,766.9	7,292.0	CODELL		0.00		
7,816.9	7,342.0	GREENHORN		0.00		
7,901.9	7,427.0	GRANEROS		0.00		



BAYSWATER EXPLORATION & PRODUCTION

SEC.26-T7N-R67W

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

Hirsch 19-24

Wellbore #1

Plan #1 (7-10-12)

Anticollision Report

18 July, 2012

Company:	BAYSWATER EXPLORATION & PRODUCTION	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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 13-24 - Wellbore #1 - Plan #1 (7-10-12)												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
2,000.0	1,904.6	1,999.7	1,955.0	10.7	7.8	-171.78	274.9	207.9	175.8	165.3	10.53	16.702	
2,100.0	1,994.4	2,098.4	2,049.4	11.6	8.3	-172.25	296.9	226.2	191.9	180.7	11.18	17.158	
2,200.0	2,084.2	2,197.1	2,143.9	12.4	8.9	-172.65	318.9	244.5	208.0	196.1	11.84	17.560	
2,300.0	2,173.9	2,295.8	2,238.3	13.3	9.5	-172.98	340.9	262.9	224.1	211.6	12.51	17.915	
2,400.0	2,263.7	2,394.5	2,332.7	14.2	10.1	-173.28	363.0	281.2	240.2	227.0	13.17	18.233	
2,500.0	2,353.4	2,493.1	2,427.2	15.1	10.6	-173.54	385.0	299.5	256.3	242.4	13.84	18.517	
2,600.0	2,443.2	2,591.8	2,521.6	16.0	11.2	-173.76	407.0	317.9	272.4	257.9	14.51	18.773	
2,700.0	2,533.0	2,690.5	2,616.0	16.8	11.8	-173.96	429.1	336.2	288.5	273.3	15.18	19.006	
2,800.0	2,622.7	2,789.2	2,710.5	17.7	12.4	-174.14	451.1	354.5	304.6	288.8	15.85	19.217	
2,900.0	2,712.5	2,887.9	2,804.9	18.6	13.0	-174.30	473.1	372.8	320.7	304.2	16.52	19.409	
3,000.0	2,802.2	2,986.6	2,899.3	19.5	13.5	-174.45	495.1	391.2	336.9	319.7	17.20	19.586	
3,100.0	2,892.0	3,085.3	2,993.8	20.4	14.1	-174.58	517.2	409.5	353.0	335.1	17.87	19.749	
3,200.0	2,981.8	3,184.0	3,088.2	21.3	14.7	-174.70	539.2	427.8	369.1	350.6	18.55	19.899	
3,300.0	3,071.5	3,282.6	3,182.7	22.1	15.3	-174.82	561.2	446.1	385.2	366.0	19.23	20.037	
3,400.0	3,161.3	3,381.3	3,277.1	23.0	15.9	-174.92	583.3	464.5	401.4	381.5	19.90	20.166	
3,500.0	3,251.0	3,480.0	3,371.5	23.9	16.5	-175.01	605.3	482.8	417.5	396.9	20.58	20.286	
3,600.0	3,340.8	3,578.7	3,466.0	24.8	17.0	-175.10	627.3	501.1	433.6	412.4	21.26	20.398	
3,700.0	3,430.6	3,677.4	3,560.4	25.7	17.6	-175.18	649.4	519.5	449.8	427.8	21.94	20.502	
3,800.0	3,520.3	3,776.1	3,654.8	26.6	18.2	-175.26	671.4	537.8	465.9	443.3	22.62	20.600	
3,900.0	3,610.1	3,874.8	3,749.3	27.5	18.8	-175.33	693.4	556.1	482.0	458.7	23.30	20.691	
4,000.0	3,699.8	3,973.5	3,843.7	28.3	19.4	-175.39	715.4	574.4	498.2	474.2	23.98	20.778	
4,100.0	3,789.6	4,072.2	3,938.1	29.2	20.0	-175.45	737.5	592.8	514.3	489.7	24.66	20.859	
4,200.0	3,879.4	4,170.8	4,032.6	30.1	20.6	-175.51	759.5	611.1	530.5	505.1	25.34	20.936	
4,300.0	3,969.1	4,269.5	4,127.0	31.0	21.1	-175.57	781.5	629.4	546.6	520.6	26.02	21.008	
4,400.0	4,058.9	4,368.2	4,221.5	31.9	21.7	-175.62	803.6	647.7	562.7	536.0	26.70	21.077	
4,500.0	4,148.6	4,466.9	4,315.9	32.8	22.3	-175.67	825.6	666.1	578.9	551.5	27.38	21.142	
4,600.0	4,238.4	4,565.6	4,410.3	33.7	22.9	-175.71	847.6	684.4	595.0	566.9	28.06	21.203	
4,700.0	4,328.2	4,664.3	4,504.8	34.5	23.5	-175.76	869.6	702.7	611.1	582.4	28.74	21.262	
4,800.0	4,417.9	4,763.0	4,599.2	35.4	24.1	-175.80	891.7	721.1	627.3	597.9	29.43	21.318	
4,900.0	4,507.7	4,856.8	4,689.0	36.3	24.6	-175.83	912.5	738.4	643.5	613.4	30.09	21.388	
5,000.0	4,597.4	4,936.9	4,766.2	37.2	25.0	-175.88	929.2	752.2	661.8	631.1	30.68	21.569	
5,100.0	4,687.2	5,016.2	4,843.1	38.1	25.3	-175.94	944.0	764.6	682.8	651.5	31.26	21.845	
5,200.0	4,776.9	5,100.0	4,924.9	39.0	25.6	-176.02	957.8	776.1	706.4	674.6	31.83	22.195	
5,267.1	4,837.1	5,146.3	4,970.4	39.6	25.8	-176.07	964.7	781.8	723.7	691.5	32.18	22.489	
5,300.0	4,866.8	5,171.7	4,995.3	39.8	25.8	-176.11	968.2	784.7	732.5	700.1	32.39	22.616	
5,400.0	4,957.8	5,248.4	5,070.9	40.5	26.1	-176.23	977.8	792.7	758.5	725.6	32.96	23.017	
5,500.0	5,050.2	5,324.6	5,146.5	41.1	26.3	-176.34	985.8	799.4	783.8	750.3	33.46	23.422	
5,600.0	5,143.8	5,400.0	5,221.4	41.7	26.4	-176.44	992.2	804.7	808.3	774.3	33.91	23.835	
5,700.0	5,238.7	5,476.2	5,297.3	42.2	26.6	-176.54	997.1	808.8	831.9	797.6	34.29	24.258	
5,800.0	5,334.5	5,551.4	5,372.5	42.7	26.7	-176.63	1,000.5	811.6	854.7	820.1	34.61	24.692	
5,900.0	5,431.4	5,626.4	5,447.4	43.1	26.8	-176.71	1,002.3	813.1	876.6	841.8	34.87	25.140	
6,000.0	5,529.0	5,708.0	5,529.0	43.4	26.9	-176.80	1,002.6	813.4	897.6	862.5	35.08	25.588	
6,100.0	5,627.3	5,806.3	5,627.3	43.8	27.0	-176.89	1,002.6	813.4	915.8	880.5	35.27	25.964	
6,200.0	5,726.2	5,905.2	5,726.2	44.0	27.1	-176.95	1,002.6	813.4	930.6	895.1	35.41	26.276	
6,300.0	5,825.5	6,004.6	5,825.5	44.3	27.2	-177.00	1,002.6	813.4	941.9	906.4	35.50	26.527	
6,400.0	5,925.2	6,104.3	5,925.2	44.4	27.3	-177.03	1,002.6	813.4	949.7	914.1	35.54	26.718	
6,500.0	6,025.1	6,204.2	6,025.1	44.5	27.4	-177.05	1,002.6	813.4	954.0	918.5	35.53	26.850	
6,574.9	6,100.0	6,279.0	6,100.0	44.6	27.5	-135.83	1,002.6	813.4	955.0	919.5	35.49	26.909	
6,600.0	6,125.1	6,304.2	6,125.1	44.6	27.5	-135.83	1,002.6	813.4	955.0	919.4	35.57	26.852	
6,700.0	6,225.1	6,404.2	6,225.1	44.7	27.6	-135.83	1,002.6	813.4	955.0	919.1	35.88	26.618	
6,800.0	6,325.1	6,504.2	6,325.1	44.7	27.7	-135.83	1,002.6	813.4	955.0	918.8	36.19	26.387	

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

Company:	BAYSWATER EXPLORATION & PRODUCTION	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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 13-24 - Wellbore #1 - Plan #1 (7-10-12)												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	Semi Major Axis 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
6,900.0	6,425.1	6,604.2	6,425.1	44.8	27.8	-135.83	1,002.6	813.4	955.0	918.5	36.51	26.157	
7,000.0	6,525.1	6,704.2	6,525.1	44.9	27.9	-135.83	1,002.6	813.4	955.0	918.2	36.83	25.930	
7,100.0	6,625.1	6,804.2	6,625.1	44.9	28.0	-135.83	1,002.6	813.4	955.0	917.9	37.15	25.705	
7,200.0	6,725.1	6,904.2	6,725.1	45.0	28.1	-135.83	1,002.6	813.4	955.0	917.5	37.48	25.482	
7,300.0	6,825.1	7,004.2	6,825.1	45.1	28.2	-135.83	1,002.6	813.4	955.0	917.2	37.81	25.261	
7,400.0	6,925.1	7,104.2	6,925.1	45.1	28.4	-135.83	1,002.6	813.4	955.0	916.9	38.14	25.042	
7,500.0	7,025.1	7,204.2	7,025.1	45.2	28.5	-135.83	1,002.6	813.4	955.0	916.5	38.47	24.826	
7,600.0	7,125.1	7,304.2	7,125.1	45.3	28.6	-135.83	1,002.6	813.4	955.0	916.2	38.80	24.612	
7,700.0	7,225.1	7,404.2	7,225.1	45.4	28.7	-135.83	1,002.6	813.4	955.0	915.9	39.14	24.400	
7,800.0	7,325.1	7,504.2	7,325.1	45.4	28.8	-135.83	1,002.6	813.4	955.0	915.5	39.48	24.190	
7,900.0	7,425.1	7,604.2	7,425.1	45.5	28.9	-135.83	1,002.6	813.4	955.0	915.2	39.82	23.983	
7,906.0	7,431.1	7,610.2	7,431.1	45.5	29.0	-135.83	1,002.6	813.4	955.0	915.2	39.84	23.971	
7,919.9	7,445.0	7,619.0	7,440.0	45.5	29.0	-135.83	1,002.6	813.4	955.0	915.1	39.88	23.948	

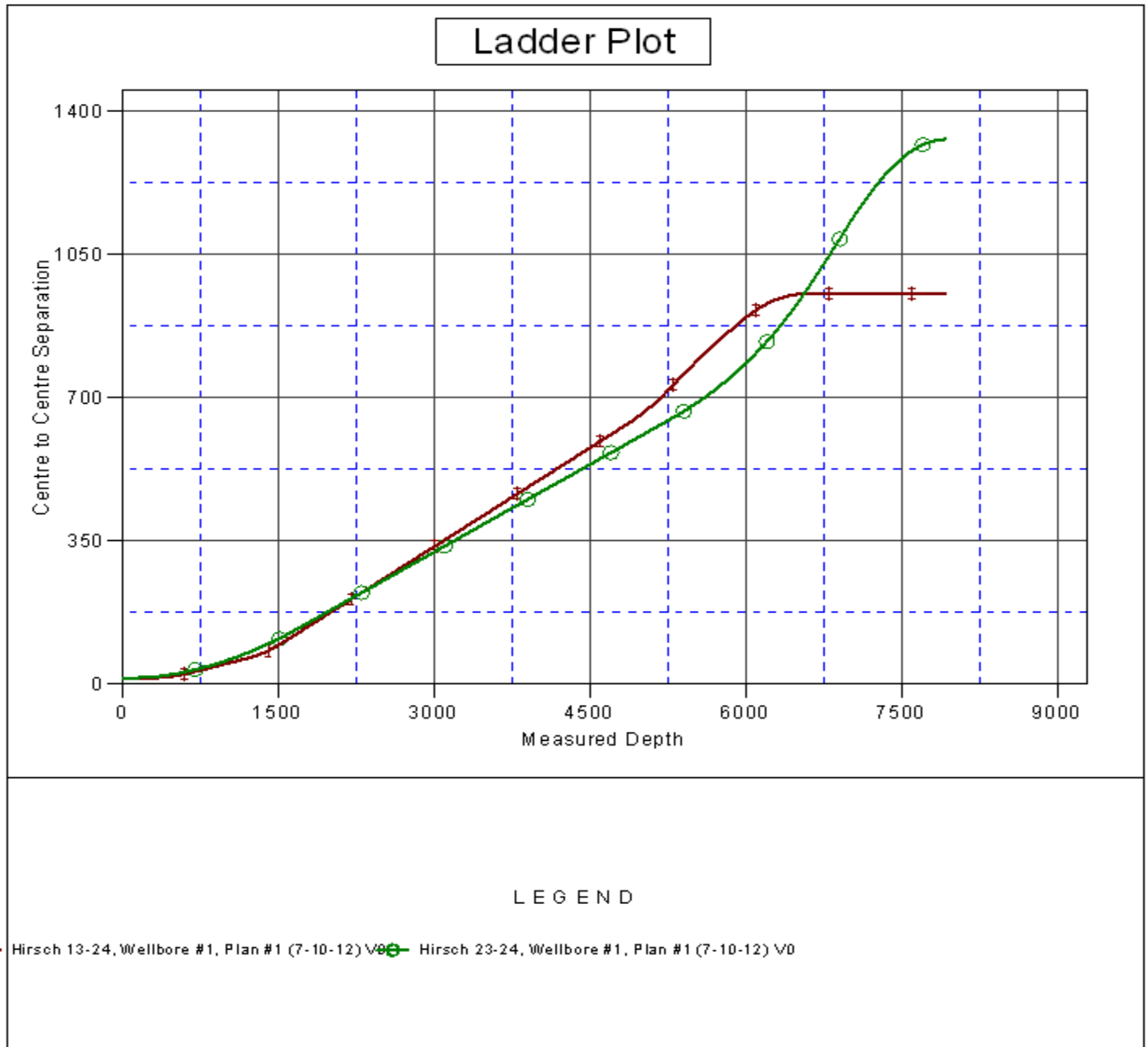
Hirsch/Casa Loma 10 Pad Sec.26-T7N-R67W - Hirsch 23-24 - Wellbore #1 - Plan #1 (7-10-12)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	136.36	-11.7	11.1	16.1	16.1	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	136.36	-11.7	11.1	16.1	15.9	0.22	71.667 CC		
200.0	200.0	199.9	199.8	0.3	0.3	130.42	-10.7	12.6	16.5	15.8	0.67	24.550 ES		
300.0	300.0	299.6	299.4	0.6	0.6	78.91	-7.9	16.9	18.3	17.2	1.12	16.255		
400.0	399.8	399.1	398.6	0.8	0.8	71.82	-3.2	24.2	21.4	19.8	1.60	13.354		
500.0	499.5	498.6	497.3	1.0	1.1	67.69	3.4	34.3	25.5	23.4	2.11	12.073		
600.0	598.7	597.8	595.3	1.3	1.5	65.70	11.8	47.3	30.5	27.9	2.68	11.398		
700.0	697.5	696.9	692.6	1.6	1.8	65.10	22.1	63.1	36.4	33.0	3.32	10.966		
800.0	795.6	795.8	789.0	2.0	2.3	65.34	34.1	81.7	42.9	38.9	4.04	10.631		
900.0	893.1	894.5	884.4	2.5	2.8	66.07	47.9	102.9	50.3	45.4	4.87	10.335		
1,000.0	989.6	993.0	978.6	2.9	3.4	67.08	63.5	126.9	58.4	52.6	5.81	10.057		
1,100.0	1,085.3	1,091.3	1,071.6	3.5	4.0	68.22	80.8	153.6	67.3	60.5	6.88	9.792		
1,200.0	1,179.8	1,189.3	1,163.3	4.1	4.7	69.39	99.7	182.8	77.0	69.0	8.07	9.542		
1,300.0	1,273.2	1,287.2	1,253.5	4.8	5.4	70.56	120.3	214.5	87.5	78.1	9.40	9.308		
1,400.0	1,365.2	1,384.8	1,342.1	5.5	6.2	71.69	142.5	248.8	98.8	87.9	10.87	9.091		
1,507.8	1,462.9	1,489.7	1,435.9	6.4	7.2	72.83	168.2	288.4	111.8	99.2	12.60	8.879		
1,600.0	1,545.6	1,579.2	1,514.3	7.2	8.0	73.33	191.6	324.4	124.1	110.0	14.14	8.778		
1,700.0	1,635.4	1,678.0	1,600.1	8.1	9.0	73.11	218.3	365.6	138.4	122.6	15.82	8.750		
1,800.0	1,725.1	1,777.0	1,686.0	8.9	10.1	72.93	245.0	406.8	152.7	135.2	17.50	8.721		
1,900.0	1,814.9	1,875.9	1,771.9	9.8	11.1	72.78	271.8	448.0	166.9	147.7	19.20	8.694		
2,000.0	1,904.6	1,974.9	1,857.9	10.7	12.1	72.65	298.5	489.2	181.2	160.3	20.90	8.669		
2,100.0	1,994.4	2,073.9	1,943.8	11.6	13.1	72.54	325.3	530.4	195.5	172.9	22.61	8.646		
2,200.0	2,084.2	2,172.9	2,029.7	12.4	14.1	72.45	352.0	571.7	209.8	185.4	24.32	8.624		
2,300.0	2,173.9	2,271.8	2,115.6	13.3	15.2	72.37	378.7	612.9	224.0	198.0	26.04	8.605		
2,400.0	2,263.7	2,370.8	2,201.5	14.2	16.2	72.30	405.5	654.1	238.3	210.6	27.75	8.587		
2,500.0	2,353.4	2,469.8	2,287.4	15.1	17.2	72.23	432.2	695.3	252.6	223.1	29.47	8.571		
2,600.0	2,443.2	2,568.8	2,373.4	16.0	18.2	72.17	459.0	736.5	266.9	235.7	31.19	8.556		
2,700.0	2,533.0	2,667.7	2,459.3	16.8	19.3	72.12	485.7	777.8	281.1	248.2	32.91	8.542		
2,800.0	2,622.7	2,766.7	2,545.2	17.7	20.3	72.08	512.4	819.0	295.4	260.8	34.64	8.529		
2,900.0	2,712.5	2,865.7	2,631.1	18.6	21.3	72.03	539.2	860.2	309.7	273.3	36.36	8.517		
3,000.0	2,802.2	2,964.7	2,717.0	19.5	22.4	72.00	565.9	901.4	324.0	285.9	38.08	8.507		
3,100.0	2,892.0	3,063.6	2,802.9	20.4	23.4	71.96	592.7	942.6	338.2	298.4	39.81	8.496		
3,200.0	2,981.8	3,162.6	2,888.9	21.3	24.4	71.93	619.4	983.9	352.5	311.0	41.54	8.487		
3,300.0	3,071.5	3,261.6	2,974.8	22.1	25.5	71.90	646.2	1,025.1	366.8	323.5	43.26	8.478		
3,400.0	3,161.3	3,360.6	3,060.7	23.0	26.5	71.87	672.9	1,066.3	381.1	336.1	44.99	8.470		
3,500.0	3,251.0	3,459.5	3,146.6	23.9	27.5	71.85	699.6	1,107.5	395.4	348.6	46.72	8.463		
3,600.0	3,340.8	3,558.5	3,232.5	24.8	28.6	71.82	726.4	1,148.7	409.6	361.2	48.45	8.455		
3,700.0	3,430.6	3,657.5	3,318.5	25.7	29.6	71.80	753.1	1,190.0	423.9	373.7	50.18	8.449		
3,800.0	3,520.3	3,756.5	3,404.4	26.6	30.6	71.78	779.9	1,231.2	438.2	386.3	51.91	8.442		
3,900.0	3,610.1	3,855.4	3,490.3	27.5	31.7	71.76	806.6	1,272.4	452.5	398.8	53.63	8.436		
4,000.0	3,699.8	3,954.4	3,576.2	28.3	32.7	71.74	833.4	1,313.6	466.8	411.4	55.36	8.431		
4,100.0	3,789.6	4,053.4	3,662.1	29.2	33.7	71.72	860.1	1,354.8	481.0	423.9	57.09	8.425		
4,200.0	3,879.4	4,152.4	3,748.0	30.1	34.8	71.71	886.8	1,396.1	495.3	436.5	58.82	8.420		
4,300.0	3,969.1	4,251.3	3,834.0	31.0	35.8	71.69	913.6	1,437.3	509.6	449.0	60.55	8.415		
4,400.0	4,058.9	4,350.3	3,919.9	31.9	36.8	71.68	940.3	1,478.5	523.9	461.6	62.29	8.411		
4,500.0	4,148.6	4,449.3	4,005.8	32.8	37.9	71.67	967.1	1,519.7	538.1	474.1	64.02	8.406		
4,600.0	4,238.4	4,548.3	4,091.7	33.7	38.9	71.65	993.8	1,560.9	552.4	486.7	65.75	8.402		
4,700.0	4,328.2	4,647.2	4,177.6	34.5	39.9	71.64	1,020.5	1,602.1	566.7	499.2	67.48	8.398		
4,800.0	4,417.9	4,746.2	4,263.6	35.4	41.0	71.63	1,047.3	1,643.4	581.0	511.8	69.21	8.395		
4,900.0	4,507.7	4,845.2	4,349.5	36.3	42.0	71.62	1,074.0	1,684.6	595.3	524.3	70.94	8.391		
5,000.0	4,597.4	4,944.2	4,435.4	37.2	43.0	71.61	1,100.8	1,725.8	609.5	536.9	72.67	8.388		

Company:	BAYSWATER EXPLORATION & PRODUCTION	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis 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	
5,100.0	4,687.2	5,043.1	4,521.3	38.1	44.1	71.60	1,127.5	1,767.0	623.8	549.4	74.40	8.384		
5,200.0	4,776.9	5,142.1	4,607.2	39.0	45.1	71.59	1,154.3	1,808.2	638.1	562.0	76.13	8.381		
5,267.1	4,837.1	5,208.5	4,664.8	39.6	45.8	71.58	1,172.2	1,835.9	647.7	570.4	77.30	8.379 SF		
5,300.0	4,866.8	5,241.1	4,693.1	39.8	46.1	71.65	1,181.0	1,849.5	652.4	574.6	77.86	8.380		
5,400.0	4,957.8	5,339.9	4,778.9	40.5	47.2	71.70	1,207.7	1,890.6	667.6	588.3	79.34	8.414		
5,500.0	5,050.2	5,438.3	4,864.4	41.1	48.2	71.50	1,234.3	1,931.6	683.9	603.3	80.65	8.480		
5,600.0	5,143.8	5,536.4	4,949.5	41.7	49.2	71.07	1,260.8	1,972.4	701.4	619.6	81.77	8.578		
5,700.0	5,238.7	5,633.9	5,034.1	42.2	50.3	70.45	1,287.1	2,013.0	720.2	637.4	82.70	8.708		
5,800.0	5,334.5	5,730.6	5,118.1	42.7	51.3	69.65	1,313.3	2,053.4	740.3	656.9	83.45	8.871		
5,900.0	5,431.4	5,826.6	5,201.5	43.1	52.3	68.71	1,339.2	2,093.3	762.0	678.0	84.02	9.069		
6,000.0	5,529.0	5,921.7	5,284.0	43.4	53.3	67.65	1,364.9	2,132.9	785.4	701.0	84.41	9.305		
6,100.0	5,627.3	6,015.8	5,365.6	43.8	54.2	66.49	1,390.3	2,172.1	810.7	726.1	84.62	9.580		
6,200.0	5,726.2	6,108.7	5,446.3	44.0	55.2	65.27	1,415.4	2,210.8	838.1	753.4	84.68	9.897		
6,300.0	5,825.5	6,200.3	5,525.9	44.3	56.2	64.01	1,440.2	2,249.0	867.6	783.0	84.58	10.257		
6,400.0	5,925.2	6,290.6	5,604.2	44.4	57.1	62.73	1,464.6	2,286.6	899.5	815.1	84.36	10.663		
6,500.0	6,025.1	6,379.4	5,681.3	44.5	58.1	61.46	1,488.6	2,323.5	933.9	849.9	84.01	11.116		
6,574.9	6,100.0	6,444.9	5,738.1	44.6	58.7	101.75	1,506.2	2,350.8	961.3	877.6	83.69	11.487		
6,600.0	6,125.1	6,466.7	5,757.1	44.6	59.0	101.26	1,512.1	2,359.9	970.8	887.4	83.43	11.636		
6,700.0	6,225.1	6,553.5	5,832.4	44.7	59.9	99.41	1,535.6	2,396.0	1,009.2	926.8	82.45	12.241		
6,800.0	6,325.1	6,640.3	5,907.8	44.7	60.8	97.68	1,559.0	2,432.2	1,048.6	967.1	81.49	12.867		
6,900.0	6,425.1	6,727.1	5,983.1	44.8	61.7	96.06	1,582.5	2,468.3	1,088.8	1,008.2	80.59	13.511		
7,000.0	6,525.1	6,831.2	6,073.7	44.9	62.7	94.28	1,610.4	2,511.3	1,129.5	1,050.0	79.51	14.205		
7,100.0	6,625.1	6,964.9	6,192.5	44.9	63.7	92.31	1,643.9	2,562.9	1,168.0	1,089.8	78.24	14.930		
7,200.0	6,725.1	7,105.1	6,319.8	45.0	64.7	90.60	1,675.6	2,611.9	1,203.4	1,126.3	77.15	15.599		
7,300.0	6,825.1	7,251.3	6,455.7	45.1	65.6	89.15	1,705.2	2,657.4	1,235.2	1,159.0	76.24	16.202		
7,400.0	6,925.1	7,403.4	6,599.6	45.1	66.5	87.92	1,731.8	2,698.5	1,263.1	1,187.6	75.53	16.724		
7,500.0	7,025.1	7,560.6	6,750.9	45.2	67.2	86.93	1,755.0	2,734.2	1,286.7	1,211.7	74.98	17.159		
7,600.0	7,125.1	7,722.2	6,908.7	45.3	67.8	86.15	1,774.0	2,763.6	1,305.6	1,231.0	74.62	17.497		
7,700.0	7,225.1	7,887.5	7,071.8	45.4	68.2	85.59	1,788.5	2,785.8	1,319.8	1,245.3	74.42	17.735		
7,800.0	7,325.1	8,055.3	7,238.7	45.4	68.5	85.23	1,797.9	2,800.3	1,328.8	1,254.5	74.37	17.868		
7,900.0	7,425.1	8,224.6	7,407.8	45.5	68.7	85.08	1,801.9	2,806.6	1,332.7	1,258.3	74.48	17.895		
7,919.9	7,445.0	8,258.3	7,441.5	45.5	68.7	85.07	1,802.1	2,806.8	1,332.9	1,258.4	74.52	17.887		

Company:	BAYSWATER EXPLORATION & PRODUCTION	Local Co-ordinate Reference:	Well Hirsch 19-24
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 19-24	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 19-24
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°



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