

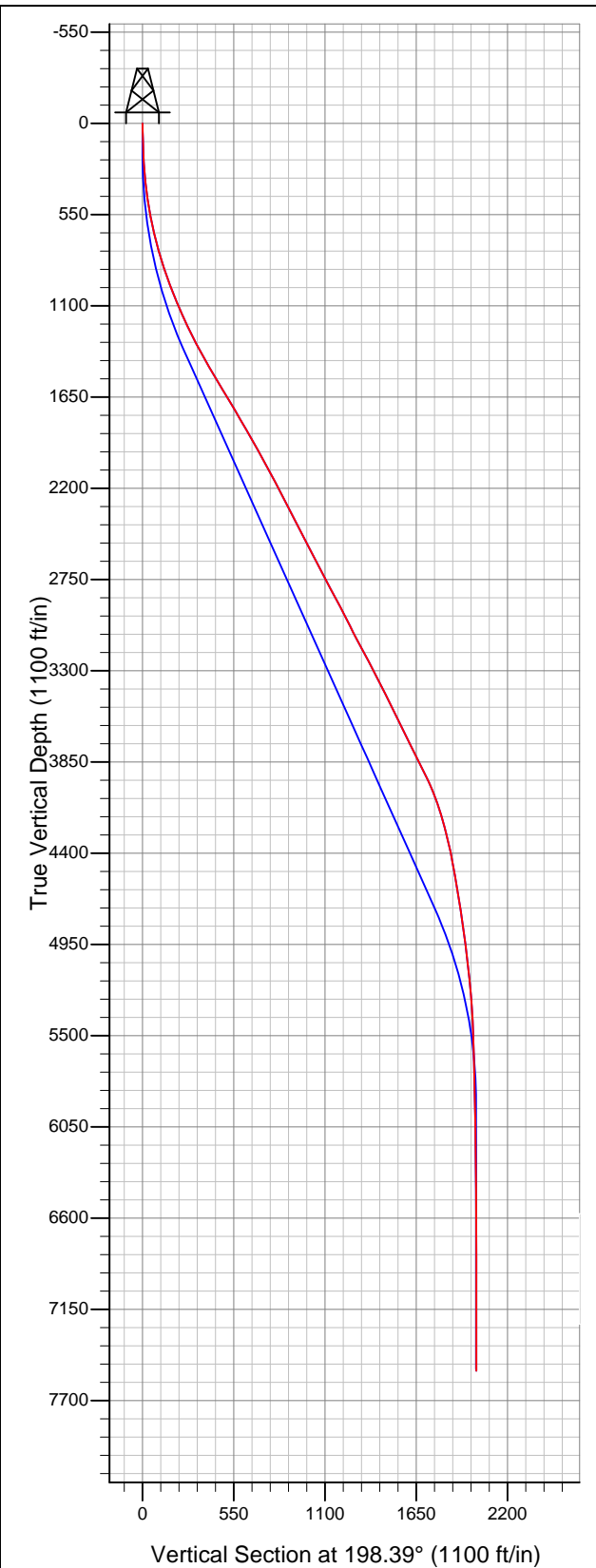


# Well Name: Hirsch 11-24

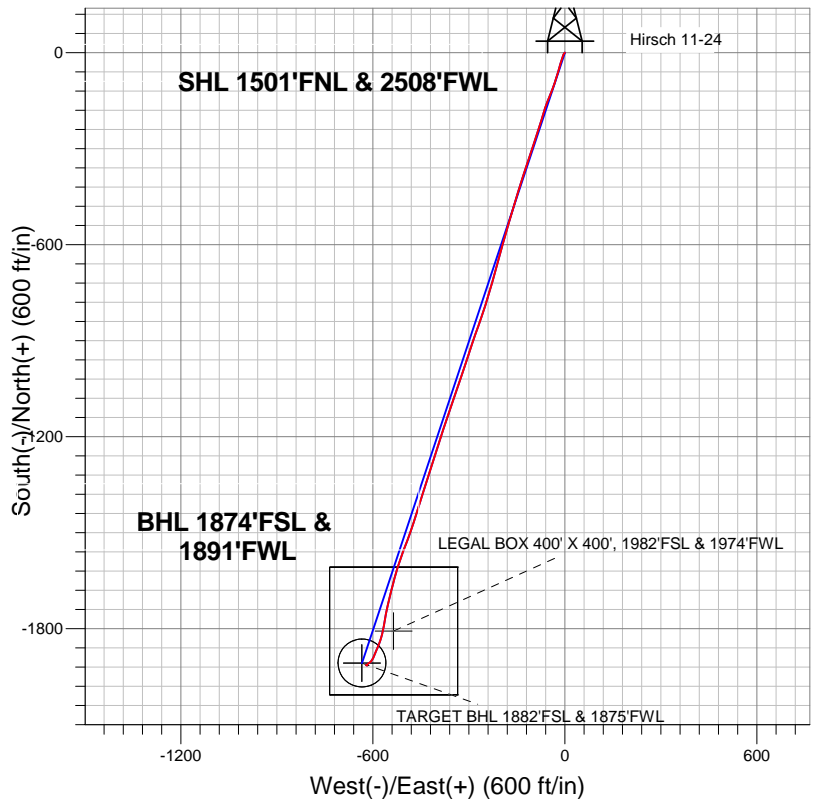
Surface Location: Hirsch 24-G Pad Sec. 24-T7N-R67W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 5035.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1448553.14	3182862.74	40.562815	-104.841839	
		RKB-16'	WELL @ 5051.0ft (RKB-16')			



## Bayswater Exploration & Production, LLC



### LEGEND

- Hirsch 11-24, Wellbore #1, Plan #1 (06-10-13) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
7955'MD & 7521'TVD @ 2012'VS  
0.30 deg Inc 90.10 deg AZ

Project: SEC.24-T7N-R67W  
Site: Hirsch 24-G Pad Sec. 24-T7N-R67W  
Well: Hirsch 11-24  
Plan: Wellbore #1



# **Bayswater Exploration & Production, LLC**

**SEC.24-T7N-R67W**

**Hirsch 24-G Pad Sec. 24-T7N-R67W**

**Hirsch 11-24**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**17 January, 2014**



<b>Company:</b>	Bayswater Exploration & Production, LLC	<b>Local Co-ordinate Reference:</b>	Well Hirsch 11-24
<b>Project:</b>	SEC.24-T7N-R67W	<b>TVD Reference:</b>	WELL @ 5051.0ft (RKB-16')
<b>Site:</b>	Hirsch 24-G Pad Sec. 24-T7N-R67W	<b>MD Reference:</b>	WELL @ 5051.0ft (RKB-16')
<b>Well:</b>	Hirsch 11-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.24-T7N-R67W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Hirsch 24-G Pad Sec. 24-T7N-R67W				
Site Position:		Northing:	1,448,553.15ft	Latitude:	40.562815
From:	Lat/Long	Easting:	3,182,862.74ft	Longitude:	-104.841839
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.43 °

Well	Hirsch 11-24					
Well Position	+N/-S	0.0 ft	Northing:	1,448,553.14 ft	Latitude:	40.562815
	+E/-W	0.0 ft	Easting:	3,182,862.74 ft	Longitude:	-104.841839
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,035.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/10/2013	8.65	67.10	52,997

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	198.39	

<b>Survey Program</b>	<b>Date</b>	1/17/2014			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
96.0	7,955.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
96.0	2.00	227.90	96.0	-1.1	-1.2	1.5	2.08	2.08	0.00	
186.0	2.60	211.80	185.9	-3.9	-3.5	4.8	0.97	0.67	-17.89	
276.0	4.20	203.00	275.7	-8.7	-5.8	10.1	1.86	1.78	-9.78	
366.0	6.40	194.90	365.4	-16.6	-8.4	18.4	2.58	2.44	-9.00	
458.0	8.60	197.00	456.6	-28.1	-11.8	30.4	2.41	2.39	2.28	
548.0	10.50	196.50	545.3	-42.4	-16.1	45.3	2.11	2.11	-0.56	
639.0	12.30	197.20	634.5	-59.6	-21.3	63.3	1.98	1.98	0.77	
730.0	14.60	197.00	723.0	-79.8	-27.5	84.4	2.53	2.53	-0.22	
787.0	16.10	197.70	778.0	-94.2	-32.0	99.5	2.65	2.63	1.23	
885.0	18.80	202.60	871.5	-121.8	-42.2	128.9	3.13	2.76	5.00	
1,013.0	20.80	200.00	991.9	-162.2	-57.9	172.2	1.71	1.56	-2.03	
1,141.0	23.60	196.50	1,110.4	-208.1	-73.0	220.5	2.42	2.19	-2.73	

<b>Company:</b>	Bayswater Exploration & Production, LLC	<b>Local Co-ordinate Reference:</b>	Well Hirsch 11-24
<b>Project:</b>	SEC.24-T7N-R67W	<b>TVD Reference:</b>	WELL @ 5051.0ft (RKB-16')
<b>Site:</b>	Hirsch 24-G Pad Sec. 24-T7N-R67W	<b>MD Reference:</b>	WELL @ 5051.0ft (RKB-16')
<b>Well:</b>	Hirsch 11-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

## 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)
1,269.0	25.10	197.70	1,227.0	-258.5	-88.5	273.3	1.23	1.17	0.94
1,398.0	27.80	199.10	1,342.5	-313.0	-106.7	330.7	2.15	2.09	1.09
1,526.0	30.10	197.70	1,454.5	-371.8	-126.2	392.7	1.87	1.80	-1.09
1,654.0	31.10	197.20	1,564.7	-434.0	-145.7	457.8	0.81	0.78	-0.39
1,783.0	30.90	197.20	1,675.2	-497.5	-165.4	524.2	0.16	-0.16	0.00
1,911.0	29.90	196.10	1,785.6	-559.5	-183.9	589.0	0.89	-0.78	-0.86
2,039.0	30.30	194.40	1,896.4	-621.4	-200.8	653.1	0.74	0.31	-1.33
2,167.0	28.80	195.60	2,007.7	-682.4	-217.1	716.1	1.26	-1.17	0.94
2,296.0	27.70	196.80	2,121.4	-741.0	-234.2	777.1	0.96	-0.85	0.93
2,424.0	27.80	197.50	2,234.6	-798.0	-251.7	836.7	0.27	0.08	0.55
2,552.0	27.30	200.20	2,348.1	-854.0	-270.8	895.8	1.05	-0.39	2.11
2,680.0	26.80	197.70	2,462.1	-909.1	-289.7	954.0	0.97	-0.39	-1.95
2,808.0	27.60	198.40	2,576.0	-964.7	-307.9	1,012.5	0.67	0.63	0.55
2,937.0	27.40	198.80	2,690.4	-1,021.1	-326.9	1,072.1	0.21	-0.16	0.31
3,065.0	28.40	198.60	2,803.5	-1,077.9	-346.1	1,132.0	0.78	0.78	-0.16
3,193.0	27.50	198.90	2,916.6	-1,134.7	-365.4	1,192.0	0.71	-0.70	0.23
3,321.0	26.40	198.40	3,030.7	-1,189.6	-383.9	1,250.0	0.88	-0.86	-0.39
3,450.0	28.90	198.20	3,145.0	-1,246.5	-402.7	1,309.9	1.94	1.94	-0.16
3,578.0	27.10	196.80	3,258.0	-1,303.8	-420.8	1,369.9	1.50	-1.41	-1.09
3,706.0	27.10	198.20	3,371.9	-1,359.4	-438.3	1,428.2	0.50	0.00	1.09
3,834.0	26.50	197.20	3,486.2	-1,414.4	-455.9	1,485.9	0.59	-0.47	-0.78
3,963.0	26.00	197.40	3,601.9	-1,468.8	-472.8	1,543.0	0.39	-0.39	0.16
4,091.0	26.20	201.60	3,716.8	-1,521.9	-491.6	1,599.3	1.45	0.16	3.28
4,219.0	27.20	199.60	3,831.2	-1,575.7	-511.9	1,656.7	1.05	0.78	-1.56
4,348.0	25.30	195.60	3,946.9	-1,630.0	-529.2	1,713.7	2.01	-1.47	-3.10
4,476.0	20.60	193.80	4,064.7	-1,678.3	-541.9	1,763.5	3.71	-3.67	-1.41
4,604.0	16.50	193.70	4,186.0	-1,717.8	-551.6	1,804.1	3.20	-3.20	-0.08
4,732.0	13.60	190.50	4,309.6	-1,750.3	-558.6	1,837.1	2.36	-2.27	-2.50
4,861.0	11.00	190.20	4,435.7	-1,777.3	-563.6	1,864.4	2.02	-2.02	-0.23
4,989.0	10.30	190.00	4,561.5	-1,800.6	-567.7	1,887.8	0.55	-0.55	-0.16
5,117.0	8.90	195.10	4,687.7	-1,821.4	-572.3	1,909.0	1.28	-1.09	3.98
5,245.0	7.30	199.10	4,814.4	-1,838.7	-577.5	1,927.0	1.32	-1.25	3.13
5,373.0	7.40	201.90	4,941.3	-1,854.0	-583.3	1,943.3	0.29	0.08	2.19
5,502.0	7.30	203.00	5,069.3	-1,869.3	-589.6	1,959.8	0.13	-0.08	0.85
5,630.0	5.20	203.70	5,196.5	-1,882.1	-595.1	1,973.7	1.64	-1.64	0.55
5,758.0	3.90	204.60	5,324.1	-1,891.3	-599.2	1,983.8	1.02	-1.02	0.70
5,929.0	2.60	219.90	5,494.8	-1,899.6	-604.1	1,993.2	0.91	-0.76	8.95
6,099.0	1.10	229.20	5,664.7	-1,903.6	-607.8	1,998.2	0.90	-0.88	5.47
6,270.0	1.20	229.90	5,835.7	-1,905.9	-610.4	2,001.1	0.06	0.06	0.41
6,334.7	1.16	233.73	5,900.4	-1,906.7	-611.5	2,002.2	0.14	-0.07	5.92
<b>TARGET BHL 1882'FSL &amp; 1875'FWL</b>									
6,441.0	1.10	240.60	6,006.7	-1,907.8	-613.2	2,003.9	0.14	-0.05	6.46
6,612.0	1.00	229.30	6,177.6	-1,909.6	-615.8	2,006.3	0.13	-0.06	-6.61
6,783.0	1.10	230.10	6,348.6	-1,911.6	-618.2	2,009.0	0.06	0.06	0.47
6,954.0	0.80	247.10	6,519.6	-1,913.1	-620.6	2,011.2	0.24	-0.18	9.94
7,125.0	0.10	9.10	6,690.6	-1,913.5	-621.6	2,011.8	0.50	-0.41	71.35
7,296.0	0.40	91.40	6,861.6	-1,913.3	-621.0	2,011.5	0.23	0.18	48.13
7,467.0	0.30	126.70	7,032.6	-1,913.6	-620.1	2,011.5	0.14	-0.06	20.64
7,490.3	0.30	126.70	7,055.9	-1,913.7	-620.0	2,011.5	0.00	0.00	0.00
<b>TARGET CIRCLE 1882'FSL &amp; 1875'FWL</b>									
7,490.5	0.30	126.70	7,056.0	-1,913.7	-620.0	2,011.5	0.00	0.00	0.00
<b>LEGAL BOX 400' X 400', 1982'FSL &amp; 1974'FWL</b>									
7,638.0	0.30	124.80	7,203.6	-1,914.1	-619.3	2,011.8	0.01	0.00	-1.29
7,809.0	0.20	125.10	7,374.6	-1,914.6	-618.7	2,012.0	0.06	-0.06	0.18

<b>Company:</b>	Bayswater Exploration & Production, LLC	<b>Local Co-ordinate Reference:</b>	Well Hirsch 11-24
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<b>Well:</b>	Hirsch 11-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

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)
7,894.0	0.30	90.10	7,459.6	-1,914.6	-618.4	2,011.9	0.21	0.12	-41.18
7,955.0	0.30	90.10	7,520.6	-1,914.6	-618.1	2,011.8	0.00	0.00	0.00

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_