

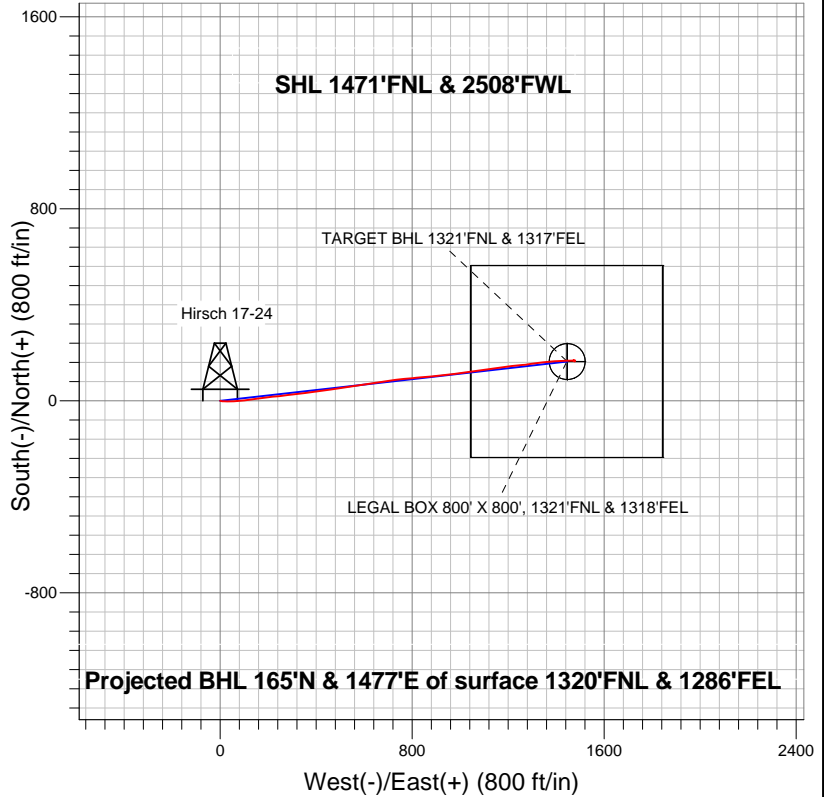
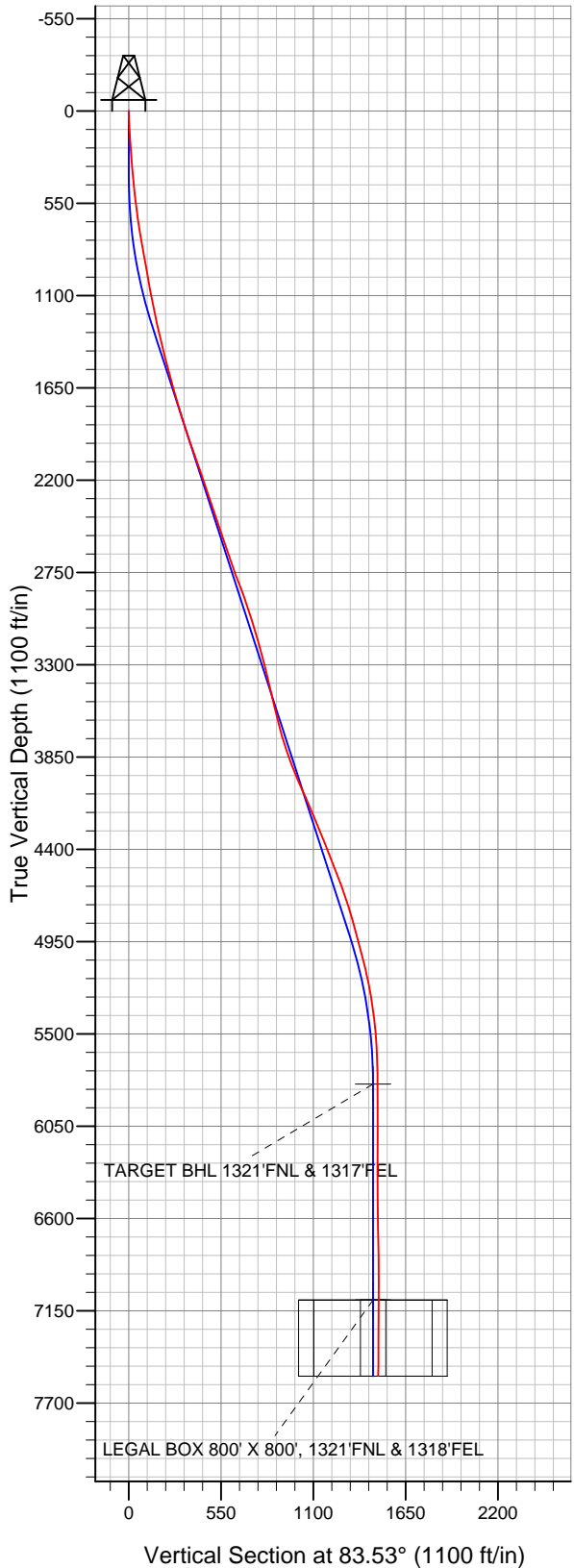


Well Name: Hirsch 17-24

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	1448583.38	3182862.79	40.562898	-104.841838	
		RKB-16' WELL @ 5051.0ft (RKB-16')				

Bayswater Exploration & Production, LLC



LEGEND

- Hirsch 17-24, Wellbore #1, Plan #1 (1-23-14)R V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
7758'MD & 7538'TVD @ 1486°VS
0.3 deg Inc 276.2 deg AZ

Project: SEC.24-T7N-R67W
Site: Hirsch 24-G Pad Sec. 24-T7N-R67W
Well: Hirsch 17-24
Plan: Wellbore #1



Bayswater Exploration & Production, LLC

SEC.24-T7N-R67W

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

Hirsch 17-24

Wellbore #1

Design: Wellbore #1

Standard Survey Report

28 January, 2014

Company:	Bayswater Exploration & Production, LLC	Local Co-ordinate Reference:	Well Hirsch 17-24
Project:	SEC.24-T7N-R67W	TVD Reference:	WELL @ 5051.0ft (RKB-16')
Site:	Hirsch 24-G Pad Sec. 24-T7N-R67W	MD Reference:	WELL @ 5051.0ft (RKB-16')
Well:	Hirsch 17-24	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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

Well	Hirsch 17-24		
Well Position	+N/-S	0.0 ft	Northing: 1,448,583.38 ft
	+E/-W	0.0 ft	Easting: 3,182,862.79 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.562898
		Longitude:	-104.841838
		Ground Level:	5,035.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/23/2014	8.57	67.08	52,932

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	83.53	

Survey Program	Date	1/28/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
97.0	7,758.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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	
97.0	3.30	100.20	96.9	-0.5	2.7	2.7	3.40	3.40	0.00	
187.0	4.10	91.80	186.8	-1.1	8.5	8.3	1.07	0.89	-9.33	
276.0	4.60	94.10	275.5	-1.4	15.3	15.0	0.59	0.56	2.58	
366.0	4.80	91.40	365.2	-1.8	22.6	22.3	0.33	0.22	-3.00	
458.0	5.70	91.60	456.8	-2.0	31.0	30.6	0.98	0.98	0.22	
549.0	7.10	89.90	547.2	-2.1	41.2	40.7	1.55	1.54	-1.87	
640.0	8.30	87.20	637.4	-1.8	53.4	52.8	1.38	1.32	-2.97	
731.0	9.60	86.00	727.3	-0.9	67.5	67.0	1.44	1.43	-1.32	
842.0	10.00	83.40	836.7	0.8	86.3	85.8	0.54	0.36	-2.34	
970.0	10.10	82.50	962.7	3.6	108.5	108.2	0.15	0.08	-0.70	
1,098.0	10.60	82.30	1,088.6	6.6	131.3	131.2	0.39	0.39	-0.16	
1,226.0	11.90	82.10	1,214.2	10.0	156.0	156.1	1.02	1.02	-0.16	

Company:	Bayswater Exploration & Production, LLC	Local Co-ordinate Reference:	Well Hirsch 17-24
Project:	SEC.24-T7N-R67W	TVD Reference:	WELL @ 5051.0ft (RKB-16')
Site:	Hirsch 24-G Pad Sec. 24-T7N-R67W	MD Reference:	WELL @ 5051.0ft (RKB-16')
Well:	Hirsch 17-24	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	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)	
1,355.0	12.80	83.90	1,340.2	13.4	183.4	183.7	0.76	0.70	1.40	
1,483.0	15.10	84.90	1,464.4	16.3	214.1	214.6	1.81	1.80	0.78	
1,611.0	15.40	83.40	1,587.9	19.8	247.6	248.2	0.39	0.23	-1.17	
1,740.0	15.70	81.40	1,712.2	24.4	281.9	282.8	0.48	0.23	-1.55	
1,868.0	17.10	82.80	1,835.0	29.3	317.6	318.9	1.14	1.09	1.09	
1,996.0	19.10	84.80	1,956.6	33.6	357.2	358.7	1.64	1.56	1.56	
2,125.0	18.90	82.50	2,078.6	38.2	398.9	400.7	0.60	-0.16	-1.78	
2,253.0	19.90	80.90	2,199.3	44.4	441.0	443.2	0.88	0.78	-1.25	
2,381.0	18.40	80.40	2,320.3	51.2	482.4	485.1	1.18	-1.17	-0.39	
2,509.0	18.70	82.30	2,441.6	57.3	522.7	525.8	0.53	0.23	1.48	
2,638.0	18.50	81.10	2,563.9	63.2	563.4	566.9	0.33	-0.16	-0.93	
2,766.0	19.00	82.00	2,685.1	69.3	604.1	608.0	0.45	0.39	0.70	
2,894.0	21.60	82.70	2,805.1	75.2	648.1	652.4	2.04	2.03	0.55	
3,022.0	18.90	80.20	2,925.2	81.7	691.9	696.7	2.21	-2.11	-1.95	
3,150.0	16.60	82.30	3,047.1	87.7	730.4	735.7	1.86	-1.80	1.64	
3,278.0	16.60	85.30	3,169.8	91.6	766.8	772.2	0.67	0.00	2.34	
3,407.0	14.20	84.60	3,294.1	94.6	800.9	806.5	1.87	-1.86	-0.54	
3,535.0	12.80	83.00	3,418.6	97.8	830.6	836.3	1.13	-1.09	-1.25	
3,663.0	13.70	83.70	3,543.2	101.2	859.8	865.7	0.71	0.70	0.55	
3,791.0	14.70	86.20	3,667.3	104.0	891.0	897.1	0.92	0.78	1.95	
3,920.0	17.80	84.60	3,791.1	106.9	927.0	933.1	2.43	2.40	-1.24	
4,048.0	21.30	83.70	3,911.7	111.3	969.6	976.0	2.74	2.73	-0.70	
4,176.0	24.40	82.70	4,029.6	117.2	1,018.9	1,025.7	2.44	2.42	-0.78	
4,305.0	23.40	80.40	4,147.6	124.9	1,070.6	1,077.9	1.06	-0.78	-1.78	
4,433.0	22.10	80.50	4,265.6	133.1	1,119.4	1,127.3	1.02	-1.02	0.08	
4,561.0	21.90	83.50	4,384.3	139.7	1,166.9	1,175.2	0.89	-0.16	2.34	
4,689.0	21.30	84.20	4,503.3	144.8	1,213.8	1,222.3	0.51	-0.47	0.55	
4,818.0	20.30	83.40	4,623.9	149.7	1,259.3	1,268.1	0.81	-0.78	-0.62	
4,946.0	17.10	81.60	4,745.1	155.0	1,300.0	1,309.2	2.54	-2.50	-1.41	
5,074.0	15.30	83.20	4,868.0	159.8	1,335.4	1,344.9	1.45	-1.41	1.25	
5,202.0	14.80	85.10	4,991.7	163.2	1,368.4	1,378.1	0.55	-0.39	1.48	
5,330.0	13.70	86.00	5,115.7	165.6	1,399.8	1,409.6	0.88	-0.86	0.70	
5,459.0	10.30	88.50	5,241.9	167.0	1,426.6	1,436.3	2.67	-2.64	1.94	
5,587.0	7.70	88.50	5,368.3	167.5	1,446.6	1,456.3	2.03	-2.03	0.00	
5,715.0	4.70	93.00	5,495.5	167.5	1,460.4	1,470.0	2.37	-2.34	3.52	
5,843.0	2.50	83.00	5,623.3	167.5	1,468.4	1,478.0	1.78	-1.72	-7.81	
6,013.0	0.10	88.60	5,793.2	168.0	1,472.3	1,481.8	1.41	-1.41	3.29	
6,019.8	0.10	88.60	5,800.0	168.0	1,472.3	1,481.8	0.06	-0.06	0.00	
TARGET BHL 1321'FNL & 1317'FEL										
6,184.0	0.00	282.70	5,964.2	168.0	1,472.4	1,482.0	0.06	-0.06	0.00	
6,355.0	0.10	195.90	6,135.2	167.9	1,472.4	1,481.9	0.06	0.06	0.00	
6,526.0	0.10	321.90	6,306.2	167.8	1,472.2	1,481.8	0.10	0.00	73.68	
6,697.0	0.90	34.50	6,477.2	169.1	1,472.9	1,482.6	0.51	0.47	42.46	
6,868.0	1.10	83.00	6,648.2	170.4	1,475.3	1,485.1	0.49	0.12	28.36	
7,039.0	1.00	132.00	6,819.2	169.6	1,478.0	1,487.7	0.51	-0.06	28.66	
7,210.0	0.70	178.30	6,990.1	167.5	1,479.2	1,488.6	0.42	-0.18	27.08	
7,306.0	0.61	198.95	7,086.1	166.5	1,479.0	1,488.4	0.26	-0.10	21.51	
TARGET CIRCLE 1321'FNL & 1317'FEL										
7,306.1	0.61	198.95	7,086.2	166.5	1,479.0	1,488.4	0.00	0.00	0.00	
LEGAL BOX 800' X 800', 1321'FNL & 1318'FEL										
7,381.0	0.60	217.70	7,161.1	165.8	1,478.7	1,487.9	0.26	-0.01	25.02	
7,552.0	0.30	223.40	7,332.1	164.7	1,477.8	1,487.0	0.18	-0.18	3.33	
7,698.0	0.30	276.20	7,478.1	164.5	1,477.2	1,486.3	0.18	0.00	36.16	
7,758.0	0.30	276.20	7,538.1	164.5	1,476.9	1,486.0	0.00	0.00	0.00	

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Checked By: _____	Approved By: _____	Date: _____
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