

# Conoco Phillips Company

Arapahoe County, Colorado

Sec. 25-T4S-R64W

Murphy Family 25N-1H

Plan A

Plan: Plan A Rev 0 (Lateral)

## Sperry Drilling Services

# Proposal Report

28 August, 2012

Well Coordinates: 1,673,592.01 N, 3,279,071.89 E (39° 40' 43.06" N, 104° 30' 30.58" W)

Ground Level: 5,822.00 ft

Local Coordinate Origin: Centered on Well Murphy Family 25N-1H

Viewing Datum: RKB 24 ft @ 5846.00ft (H&P 280)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Version: 2003.16 Build: 43I

**HALLIBURTON**

Project: Arapahoe County, Colorado  
Site: Sec. 25-T4S-R64W  
Well: Murphy Family 25N-1H  
Wellbore: Plan A  
Design: Plan A Rev 0 (Lateral)

# Conoco Phillips Company

**HALLIBURTON**  
Sperry Drilling

WELL DETAILS: Murphy Family 25N-1H

Ground Level: 5822.00 Northing: 1673592.01 Easting: 3279071.89 Latitude: 39° 40' 43.061 N Longitude: 104° 30' 30.578 W

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	6500.00	0.00	0.00	6500.00	0.00	0.00	0.00	0.00	0.00	
2	6986.04	0.00	0.00	6986.04	0.00	0.00	0.00	0.00	0.00	
3	7886.04	90.00	95.99	7559.00	-59.75	569.83	10.00	95.99	572.96	
4	11919.74	90.00	95.99	7559.00	-480.41	4581.54	0.00	0.00	4606.66	Murphy Family 25N-1H PARO BHL Tgt

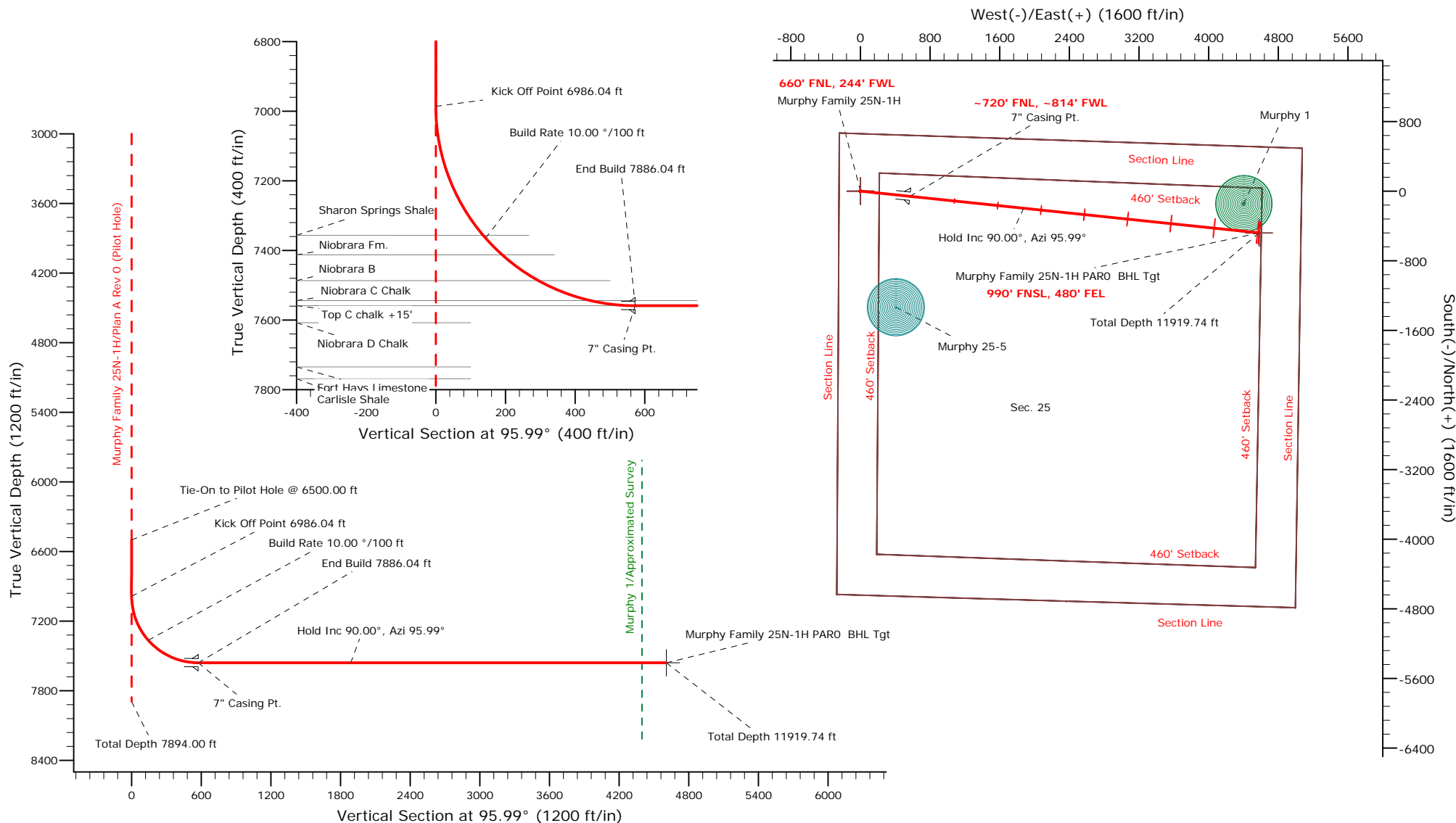
Plan: Plan A Rev 0 (Lateral) (Murphy Family 25N-1H/Plan A)

Created By: Matthew R. Epp Date: 08-28-2012

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_



## Plan Report for Murphy Family 25N-1H - Plan A Rev 0 (Lateral)

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)	Toolface Azimuth (°)
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Tie-On to Pilot Hole @ 6500.00 ft</b>										
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,986.04	0.00	0.00	6,986.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Kick Off Point 6986.04 ft</b>										
7,000.00	1.40	95.99	7,000.00	-0.02	0.17	0.17	10.00	10.00	0.00	95.99
7,100.00	11.40	95.99	7,099.25	-1.18	11.23	11.30	10.00	10.00	0.00	0.00
7,200.00	21.40	95.99	7,195.06	-4.12	39.27	39.49	10.00	10.00	0.00	0.00
7,300.00	31.40	95.99	7,284.52	-8.75	83.43	83.89	10.00	10.00	0.00	0.00
7,400.00	41.40	95.99	7,364.91	-14.93	142.37	143.15	10.00	10.00	0.00	0.00
<b>Build Rate 10.00 °/100 ft</b>										
7,500.00	51.40	95.99	7,433.79	-22.47	214.29	215.47	10.00	10.00	0.00	0.00
7,600.00	61.40	95.99	7,489.07	-31.14	297.02	298.65	10.00	10.00	0.00	0.00
7,700.00	71.40	95.99	7,529.06	-40.69	388.04	390.17	10.00	10.00	0.00	0.00
7,800.00	81.40	95.99	7,552.55	-50.81	484.58	487.24	10.00	10.00	0.00	0.00
7,886.04	90.00	95.99	7,559.00	-59.75	569.83	572.96	10.00	10.00	0.00	0.00
<b>End Build 7886.04 ft - 7" Casing Pt.</b>										
7,900.00	90.00	95.99	7,559.00	-61.21	583.72	586.92	0.00	0.00	0.00	0.00
8,000.00	90.00	95.99	7,559.00	-71.64	683.17	686.92	0.00	0.00	0.00	0.00
8,100.00	90.00	95.99	7,559.00	-82.06	782.63	786.92	0.00	0.00	0.00	0.00
8,200.00	90.00	95.99	7,559.00	-92.49	882.08	886.92	0.00	0.00	0.00	0.00
8,300.00	90.00	95.99	7,559.00	-102.92	981.54	986.92	0.00	0.00	0.00	0.00
8,400.00	90.00	95.99	7,559.00	-113.35	1,080.99	1,086.92	0.00	0.00	0.00	0.00
8,500.00	90.00	95.99	7,559.00	-123.78	1,180.45	1,186.92	0.00	0.00	0.00	0.00
8,600.00	90.00	95.99	7,559.00	-134.21	1,279.90	1,286.92	0.00	0.00	0.00	0.00
8,700.00	90.00	95.99	7,559.00	-144.63	1,379.36	1,386.92	0.00	0.00	0.00	0.00
8,800.00	90.00	95.99	7,559.00	-155.06	1,478.81	1,486.92	0.00	0.00	0.00	0.00
8,900.00	90.00	95.99	7,559.00	-165.49	1,578.27	1,586.92	0.00	0.00	0.00	0.00
9,000.00	90.00	95.99	7,559.00	-175.92	1,677.72	1,686.92	0.00	0.00	0.00	0.00
9,100.00	90.00	95.99	7,559.00	-186.35	1,777.17	1,786.92	0.00	0.00	0.00	0.00
9,200.00	90.00	95.99	7,559.00	-196.78	1,876.63	1,886.92	0.00	0.00	0.00	0.00
<b>Hold Inc 90.00°, Azi 95.99°</b>										
9,300.00	90.00	95.99	7,559.00	-207.21	1,976.08	1,986.92	0.00	0.00	0.00	0.00
9,400.00	90.00	95.99	7,559.00	-217.63	2,075.54	2,086.92	0.00	0.00	0.00	0.00
9,500.00	90.00	95.99	7,559.00	-228.06	2,174.99	2,186.92	0.00	0.00	0.00	0.00
9,600.00	90.00	95.99	7,559.00	-238.49	2,274.45	2,286.92	0.00	0.00	0.00	0.00
9,700.00	90.00	95.99	7,559.00	-248.92	2,373.90	2,386.92	0.00	0.00	0.00	0.00
9,800.00	90.00	95.99	7,559.00	-259.35	2,473.36	2,486.92	0.00	0.00	0.00	0.00
9,900.00	90.00	95.99	7,559.00	-269.78	2,572.81	2,586.92	0.00	0.00	0.00	0.00
10,000.00	90.00	95.99	7,559.00	-280.20	2,672.27	2,686.92	0.00	0.00	0.00	0.00
10,100.00	90.00	95.99	7,559.00	-290.63	2,771.72	2,786.92	0.00	0.00	0.00	0.00
10,200.00	90.00	95.99	7,559.00	-301.06	2,871.18	2,886.92	0.00	0.00	0.00	0.00
10,300.00	90.00	95.99	7,559.00	-311.49	2,970.63	2,986.92	0.00	0.00	0.00	0.00
10,400.00	90.00	95.99	7,559.00	-321.92	3,070.09	3,086.92	0.00	0.00	0.00	0.00
10,500.00	90.00	95.99	7,559.00	-332.35	3,169.54	3,186.92	0.00	0.00	0.00	0.00
10,600.00	90.00	95.99	7,559.00	-342.78	3,269.00	3,286.92	0.00	0.00	0.00	0.00
10,700.00	90.00	95.99	7,559.00	-353.20	3,368.45	3,386.92	0.00	0.00	0.00	0.00
10,800.00	90.00	95.99	7,559.00	-363.63	3,467.91	3,486.92	0.00	0.00	0.00	0.00
10,900.00	90.00	95.99	7,559.00	-374.06	3,567.36	3,586.92	0.00	0.00	0.00	0.00
11,000.00	90.00	95.99	7,559.00	-384.49	3,666.81	3,686.92	0.00	0.00	0.00	0.00
11,100.00	90.00	95.99	7,559.00	-394.92	3,766.27	3,786.92	0.00	0.00	0.00	0.00
11,200.00	90.00	95.99	7,559.00	-405.35	3,865.72	3,886.92	0.00	0.00	0.00	0.00
11,300.00	90.00	95.99	7,559.00	-415.78	3,965.18	3,986.92	0.00	0.00	0.00	0.00
11,400.00	90.00	95.99	7,559.00	-426.20	4,064.63	4,086.92	0.00	0.00	0.00	0.00
11,500.00	90.00	95.99	7,559.00	-436.63	4,164.09	4,186.92	0.00	0.00	0.00	0.00

## Plan Report for Murphy Family 25N-1H - Plan A Rev 0 (Lateral)

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)	Toolface Azimuth (°)
11,600.00	90.00	95.99	7,559.00	-447.06	4,263.54	4,286.92	0.00	0.00	0.00	0.00
11,700.00	90.00	95.99	7,559.00	-457.49	4,363.00	4,386.92	0.00	0.00	0.00	0.00
11,800.00	90.00	95.99	7,559.00	-467.92	4,462.45	4,486.92	0.00	0.00	0.00	0.00
11,900.00	90.00	95.99	7,559.00	-478.35	4,561.91	4,586.92	0.00	0.00	0.00	0.00
11,919.74	90.00	95.99	7,559.00	-480.41	4,581.54	4,606.66	0.00	0.00	0.00	0.00
Total Depth 11919.74 ft - Murphy Family 25N-1H PAR0 BHL Tgt										

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,500.00	6,500.00	0.00	0.00	Tie-On to Pilot Hole @ 6500.00 ft
6,986.04	6,986.04	0.00	0.00	Kick Off Point 6986.04 ft
7,400.00	7,364.91	-14.93	142.37	Build Rate 10.00 °/100 ft
7,886.04	7,559.00	-59.75	569.83	End Build 7886.04 ft
9,200.00	7,559.00	-196.78	1,876.63	Hold Inc 90.00°, Azi 95.99°
11,919.74	7,559.00	-480.41	4,581.54	Total Depth 11919.74 ft

### Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
TD	No Target (Freehand)	95.99	Slot	0.00	0.00	0.00

### Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
6,500.00	11,919.74	Plan A Rev 0 (Lateral)	MWD

### Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,886.04	7,559.00	7" Casing Pt.	7	8-3/4

### Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Murphy Family 25N-1H SL	0.00	0.00	0.00	Polygon
Murphy Family 25N-1H SB	0.00	0.00	0.00	Polygon
Murphy Family 25N-1H PAR0 BHL Tgt	7,559.00	-480.41	4,581.54	Point

# North Reference Sheet for Sec. 25-T4S-R64W - Murphy Family 25N-1H - Plan A

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.  
 Vertical Depths are relative to RKB 24 ft @ 5846.00ft (H&P 280). Northing and Easting are relative to Murphy Family 25N-1H  
 Coordinate System is US State Plane 1983, Colorado Central Zone using datum North American Datum 1983, ellipsoid GRS 1980  
 Projection method is Lambert Conformal Conic (2 parallel)  
 Central Meridian is -105.50°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:39° 45' 0.000 N°  
 False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99998666  
 Grid Coordinates of Well: 1,673,592.01 ft N, 3,279,071.89 ft E  
 Geographical Coordinates of Well: 39° 40' 43.06" N, 104° 30' 30.58" W  
 Grid Convergence at Surface is: 0.63°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,919.74ft  
 the Bottom Hole Displacement is 4,606.66ft in the Direction of 95.99° (True).  
 Magnetic Convergence at surface is: -7.88° (28 August 2012, , BGGM2011)

