

Conoco Phillips Company

Arapahoe County, Colorado

Sec. 1-T5S-R64W

Tebo 1-1H

Plan A

Plan: Plan A Rev 0 (Lateral)

Sperry Drilling Services

Proposal Report

11 July, 2012

Well Coordinates: 1,662,936.41 N, 3,283,836.89 E (39° 38' 57.24" N, 104° 29' 31.15" W)

Ground Level: 5,932.00 ft

Local Coordinate Origin:

Centered on Well Tebo 1-1H

Viewing Datum:

RKB 24 ft @ 5956.00ft (H&P 280)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Version: 2003.16 Build: 431

HALLIBURTON

Project: Arapahoe County, Colorado
Site: Sec. 1-T5S-R64W
Well: Tebo 1-1H
Wellbore: Plan A
Design: Plan A Rev 0 (Lateral)

Conoco Phillips Company

HALLIBURTON
Sperry Drilling

WELL DETAILS: Tebo 1-1H

Ground Level: 5932.00 Northing: 1662936.41 Easting: 3283836.89 Latitude: 39° 38' 57.239 N Longitude: 104° 29' 31.150 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	0.00	
2	7042.04	0.00	0.00	7042.04	0.00	0.00	0.00	0.00	0.00	
3	7942.04	90.00	271.24	7615.00	12.43	-572.82	10.00	271.24	572.96	
4	11920.00	90.00	271.24	7615.00	98.76	-4549.85	0.00	0.00	4550.92	Tebo 1-1H BHL Tgt

Plan: Plan A Rev 0 (Lateral) (Tebo 1-1H/Plan A)

Created By: Matthew R. Epp

Date: 07-11-2012

Checked: _____

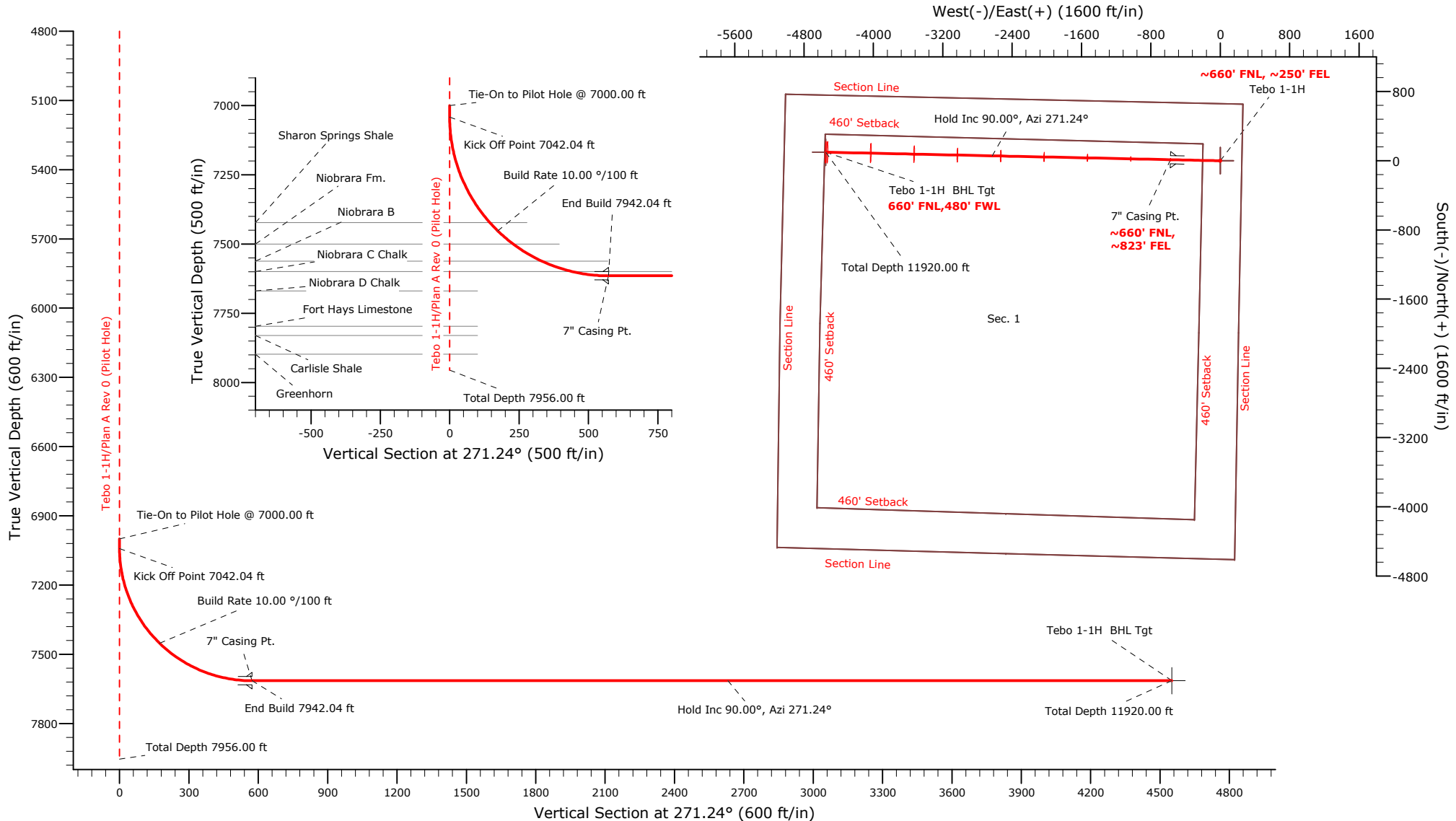
Date: _____

Reviewed: _____

Date: _____

Approved: _____

Date: _____



Plan Report for Tebo 1-1H - 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 (°)
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tie-On to Pilot Hole @ 7000.00 ft										
7,042.04	0.00	0.00	7,042.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kick Off Point 7042.04 ft										
7,100.00	5.80	271.24	7,099.90	0.06	-2.93	2.93	10.00	10.00	0.00	271.24
7,200.00	15.80	271.24	7,198.01	0.47	-21.63	21.64	10.00	10.00	0.00	0.00
7,300.00	25.80	271.24	7,291.37	1.24	-57.08	57.10	10.00	10.00	0.00	0.00
7,400.00	35.80	271.24	7,377.16	2.35	-108.20	108.23	10.00	10.00	0.00	0.00
7,458.79	41.67	271.24	7,423.00	3.15	-144.96	145.00	10.00	10.00	0.00	0.00
Sharon Springs Shale										
7,500.00	45.80	271.24	7,452.77	3.76	-173.44	173.48	10.00	10.00	0.00	0.00
Build Rate 10.00 °/100 ft										
7,572.66	53.06	271.24	7,500.00	4.96	-228.59	228.64	10.00	10.00	0.00	0.00
Niobrara Fm.										
7,600.00	55.80	271.24	7,515.90	5.44	-250.82	250.87	10.00	10.00	0.00	0.00
7,693.66	65.16	271.24	7,562.00	7.21	-332.21	332.29	10.00	10.00	0.00	0.00
Niobrara B										
7,700.00	65.80	271.24	7,564.63	7.34	-337.97	338.05	10.00	10.00	0.00	0.00
7,800.00	75.80	271.24	7,597.48	9.38	-432.27	432.37	10.00	10.00	0.00	0.00
7,806.33	76.43	271.24	7,599.00	9.52	-438.41	438.51	10.00	10.00	0.00	0.00
Niobrara C Chalk										
7,900.00	85.80	271.24	7,613.46	11.52	-530.83	530.96	10.00	10.00	0.00	0.00
7,942.04	90.00	271.24	7,615.00	12.43	-572.82	572.96	10.00	10.00	0.00	0.00
End Build 7942.04 ft - 7" Casing Pt.										
8,000.00	90.00	271.24	7,615.00	13.69	-630.77	630.92	0.00	0.00	0.00	0.00
8,100.00	90.00	271.24	7,615.00	15.86	-730.75	730.92	0.00	0.00	0.00	0.00
8,200.00	90.00	271.24	7,615.00	18.03	-830.72	830.92	0.00	0.00	0.00	0.00
8,300.00	90.00	271.24	7,615.00	20.20	-930.70	930.92	0.00	0.00	0.00	0.00
8,400.00	90.00	271.24	7,615.00	22.37	-1,030.68	1,030.92	0.00	0.00	0.00	0.00
8,500.00	90.00	271.24	7,615.00	24.54	-1,130.65	1,130.92	0.00	0.00	0.00	0.00
8,600.00	90.00	271.24	7,615.00	26.71	-1,230.63	1,230.92	0.00	0.00	0.00	0.00
8,700.00	90.00	271.24	7,615.00	28.88	-1,330.60	1,330.92	0.00	0.00	0.00	0.00
8,800.00	90.00	271.24	7,615.00	31.05	-1,430.58	1,430.92	0.00	0.00	0.00	0.00
8,900.00	90.00	271.24	7,615.00	33.22	-1,530.56	1,530.92	0.00	0.00	0.00	0.00
9,000.00	90.00	271.24	7,615.00	35.39	-1,630.53	1,630.92	0.00	0.00	0.00	0.00
9,100.00	90.00	271.24	7,615.00	37.56	-1,730.51	1,730.92	0.00	0.00	0.00	0.00
9,200.00	90.00	271.24	7,615.00	39.73	-1,830.49	1,830.92	0.00	0.00	0.00	0.00
9,300.00	90.00	271.24	7,615.00	41.90	-1,930.46	1,930.92	0.00	0.00	0.00	0.00
9,400.00	90.00	271.24	7,615.00	44.07	-2,030.44	2,030.92	0.00	0.00	0.00	0.00
9,500.00	90.00	271.24	7,615.00	46.24	-2,130.42	2,130.92	0.00	0.00	0.00	0.00
9,600.00	90.00	271.24	7,615.00	48.41	-2,230.39	2,230.92	0.00	0.00	0.00	0.00
9,700.00	90.00	271.24	7,615.00	50.58	-2,330.37	2,330.92	0.00	0.00	0.00	0.00
9,800.00	90.00	271.24	7,615.00	52.75	-2,430.35	2,430.92	0.00	0.00	0.00	0.00
9,900.00	90.00	271.24	7,615.00	54.92	-2,530.32	2,530.92	0.00	0.00	0.00	0.00
10,000.00	90.00	271.24	7,615.00	57.09	-2,630.30	2,630.92	0.00	0.00	0.00	0.00
Hold Inc 90.00°, Azi 271.24°										
10,100.00	90.00	271.24	7,615.00	59.26	-2,730.27	2,730.92	0.00	0.00	0.00	0.00
10,200.00	90.00	271.24	7,615.00	61.43	-2,830.25	2,830.92	0.00	0.00	0.00	0.00
10,300.00	90.00	271.24	7,615.00	63.60	-2,930.23	2,930.92	0.00	0.00	0.00	0.00
10,400.00	90.00	271.24	7,615.00	65.77	-3,030.20	3,030.92	0.00	0.00	0.00	0.00
10,500.00	90.00	271.24	7,615.00	67.94	-3,130.18	3,130.92	0.00	0.00	0.00	0.00
10,600.00	90.00	271.24	7,615.00	70.11	-3,230.16	3,230.92	0.00	0.00	0.00	0.00
10,700.00	90.00	271.24	7,615.00	72.28	-3,330.13	3,330.92	0.00	0.00	0.00	0.00
10,800.00	90.00	271.24	7,615.00	74.45	-3,430.11	3,430.92	0.00	0.00	0.00	0.00
10,900.00	90.00	271.24	7,615.00	76.62	-3,530.09	3,530.92	0.00	0.00	0.00	0.00
11,000.00	90.00	271.24	7,615.00	78.79	-3,630.06	3,630.92	0.00	0.00	0.00	0.00
11,100.00	90.00	271.24	7,615.00	80.96	-3,730.04	3,730.92	0.00	0.00	0.00	0.00
11,200.00	90.00	271.24	7,615.00	83.13	-3,830.02	3,830.92	0.00	0.00	0.00	0.00

Plan Report for Tebo 1-1H - 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 (°)
11,300.00	90.00	271.24	7,615.00	85.30	-3,929.99	3,930.92	0.00	0.00	0.00	0.00
11,400.00	90.00	271.24	7,615.00	87.47	-4,029.97	4,030.92	0.00	0.00	0.00	0.00
11,500.00	90.00	271.24	7,615.00	89.64	-4,129.95	4,130.92	0.00	0.00	0.00	0.00
11,600.00	90.00	271.24	7,615.00	91.81	-4,229.92	4,230.92	0.00	0.00	0.00	0.00
11,700.00	90.00	271.24	7,615.00	93.98	-4,329.90	4,330.92	0.00	0.00	0.00	0.00
11,800.00	90.00	271.24	7,615.00	96.15	-4,429.87	4,430.92	0.00	0.00	0.00	0.00
11,900.00	90.00	271.24	7,615.00	98.32	-4,529.85	4,530.92	0.00	0.00	0.00	0.00
11,920.00	90.00	271.24	7,615.00	98.76	-4,549.85	4,550.92	0.00	0.00	0.00	0.00
Total Depth 11920.00 ft - Tebo 1-1H BHL Tgt										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,000.00	7,000.00	0.00	0.00	Tie-On to Pilot Hole @ 7000.00 ft
7,042.04	7,042.04	0.00	0.00	Kick Off Point 7042.04 ft
7,500.00	7,452.77	3.76	-173.44	Build Rate 10.00 °/100 ft
7,942.04	7,615.00	12.43	-572.82	End Build 7942.04 ft
10,000.00	7,615.00	57.09	-2,630.30	Hold Inc 90.00°, Azi 271.24°
11,920.00	7,615.00	98.76	-4,549.85	Total Depth 11920.00 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Tebo 1-1H BHL Tgt	271.24	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
7,000.00	11,920.00	Plan A Rev 0 (Lateral)	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,942.04	7,615.00	7" Casing Pt.	7	8-3/4

Plan Report for Tebo 1-1H - Plan A Rev 0 (Lateral)

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,713.00	Fox Hills Aquifer			
	1,922.00	Pierre Shale (Base Fox Hills)			
	7,669.00	Niobrara D Chalk			
	7,797.00	Fort Hays Limestone			
	7,830.00	Carlisle Shale			
	7,898.00	Greenhorn			
7,458.79	7,423.00	Sharon Springs Shale			
7,572.66	7,500.00	Niobrara Fm.			
7,693.66	7,562.00	Niobrara B			
7,806.33	7,599.00	Niobrara C Chalk			

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Tebo 1-1H SB	0.00	0.00	0.00	Polygon
Tebo 1-1H SL	0.00	0.00	0.00	Polygon
Tebo 1-1H BHL Tgt	7,615.00	98.76	-4,549.85	Point

North Reference Sheet for Sec. 1-T5S-R64W - Tebo 1-1H - 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 @ 5956.00ft (H&P 280). Northing and Easting are relative to Tebo 1-1H
 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: 0.99998162
 Grid Coordinates of Well: 1,662,936.41 ft N, 3,283,836.89 ft E
 Geographical Coordinates of Well: 39° 38' 57.24" N, 104° 29' 31.15" W
 Grid Convergence at Surface is: 0.64°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,920.00ft
 the Bottom Hole Displacement is 4,550.92ft in the Direction of 271.24° (True).
 Magnetic Convergence at surface is: -7.87° (11 July 2012, , BGGM2011)

