

Conoco Phillips Company

Arapahoe County, Colorado

Sec. 3-T5S-R64W

Tebo 3-1H

Plan B

Plan: Plan B Rev 0 (Pilot Hole)

Sperry Drilling Services

Proposal Report

03 July, 2012

Well Coordinates: 1,663,106.19 N, 3,273,131.94 E (39° 39' 00.07" N, 104° 31' 47.98" W)

Ground Level: 5,875.00 ft

Local Coordinate Origin:

Centered on Well Tebo 3-1H

Viewing Datum:

RKB 24 ft @ 5899.00ft (H&P 280)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Version: 2003.16 Build: 431

HALLIBURTON

Plan Report for Tebo 3-1H - Plan B Rev 0 (Pilot Hole)

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 (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,785.00	0.00	0.00	1,785.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Aquifer										
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,985.00	0.00	0.00	1,985.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Shale										
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,714.00	0.00	0.00	3,714.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(Base Fox Hills)										
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Plan Report for Tebo 3-1H - Plan B Rev 0 (Pilot Hole)

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 (°)
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,429.00	0.00	0.00	7,429.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sharon Springs Shale										
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,535.00	0.00	0.00	7,535.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niobrara Fm.										
7,590.00	0.00	0.00	7,590.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niobrara B										
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,627.00	0.00	0.00	7,627.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niobrara C Chalk										
7,642.00	0.00	0.00	7,642.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Horizontal Target										
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Niobrara D Chalk										
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,826.00	0.00	0.00	7,826.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fort Hays Limestone										
7,858.00	0.00	0.00	7,858.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carlisle Shale										
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,911.00	0.00	0.00	7,911.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Greenhorn										
7,983.00	0.00	0.00	7,983.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Depth 7983.00 ft - Pilot Hole TD										

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,983.00	7,983.00	0.00	0.00	Total Depth 7983.00 ft

Plan Report for Tebo 3-1H - Plan B Rev 0 (Pilot Hole)

Vertical Section Information

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

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,983.00	Plan B Rev 0 (Pilot Hole)	MWD

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,785.00	1,785.00	Fox Hills Aquifer			
1,985.00	1,985.00	Pierre Shale			
3,714.00	3,714.00	(Base Fox Hills)			
7,429.00	7,429.00	Sharon Springs Shale			
7,535.00	7,535.00	Niobrara Fm.			
7,590.00	7,590.00	Niobrara B			
7,627.00	7,627.00	Niobrara C Chalk			
7,642.00	7,642.00	Horizontal Target			
7,700.00	7,700.00	Niobrara D Chalk			
7,826.00	7,826.00	Fort Hays Limestone			
7,858.00	7,858.00	Carlisle Shale			
7,911.00	7,911.00	Greenhorn			
7,983.00	7,983.00	Pilot Hole TD			

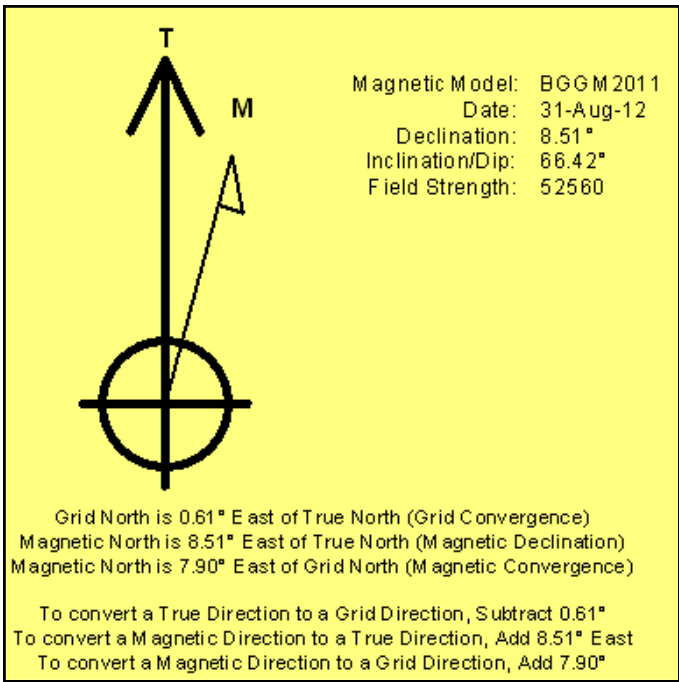
Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Tebo 3-1H SL	0.00	0.00	0.00	Polygon
Tebo 3-1H BHL	7,642.00	32.07	-4,396.07	Point
Tebo 3-1H SB	0.00	0.00	0.00	Polygon

North Reference Sheet for Sec. 3-T5S-R64W - Tebo 3-1H - Plan B

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 @ 5899.00ft (H&P 280). Northing and Easting are relative to Tebo 3-1H
 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: 0.99998175
 Grid Coordinates of Well: 1,663,106.19 ft N, 3,273,131.94 ft E
 Geographical Coordinates of Well: 39° 39' 00.07" N, 104° 31' 47.98" W
 Grid Convergence at Surface is: 0.61°

Based upon Minimum Curvature type calculations, at a Measured Depth of 7,983.00ft
 the Bottom Hole Displacement is 0.00ft in the Direction of 0.00° (True).
 Magnetic Convergence at surface is: -7.90° (31 August 2012, , BGGM2011)



Conoco Phillips Company

Arapahoe County, Colorado

Sec. 3-T5S-R64W

Tebo 3-1H

Plan B

Plan: Plan B Rev 0 (Lateral)

Sperry Drilling Services

Proposal Report

03 July, 2012

Well Coordinates: 1,663,106.19 N, 3,273,131.94 E (39° 39' 00.07" N, 104° 31' 47.98" W)

Ground Level: 5,875.00 ft

Local Coordinate Origin:

Centered on Well Tebo 3-1H

Viewing Datum:

RKB 24 ft @ 5899.00ft (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. 3-T5S-R64W
Well: Tebo 3-1H
Wellbore: Plan B
Design: Plan B Rev 0 (Lateral)

Conoco Phillips Company

HALLIBURTON

Sperry Drilling

WELL DETAILS: Tebo 3-1H

Ground Level: 5875.00 Northing: 1663106.19 Easting: 3273131.94 Latitude: 39° 39' 0.068 N Longitude: 104° 31' 47.978 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	7069.04	0.00	0.00	7069.04	0.00	0.00	0.00	0.00	0.00	
3	7969.04	90.00	270.42	7642.00	4.18	-572.94	10.00	270.42	572.96	
4	11792.27	90.00	270.42	7642.00	32.07	-4396.07	0.00	0.00	4396.18	Tebo 3-1H BHL

Plan: Plan B Rev 0 (Lateral) (Tebo 3-1H/Plan B)

Created By: Matthew R. Epp

Date: 07-03-2012

Checked: _____

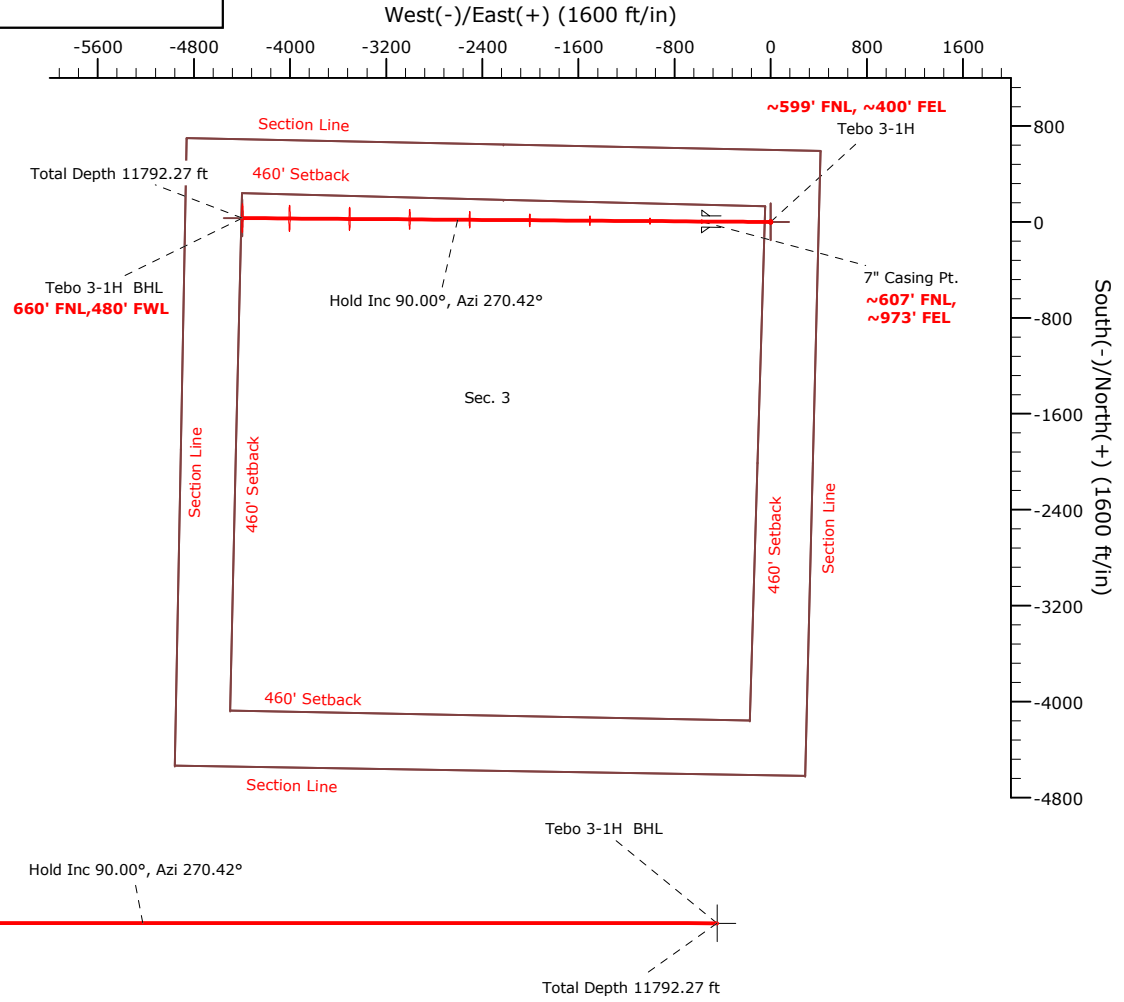
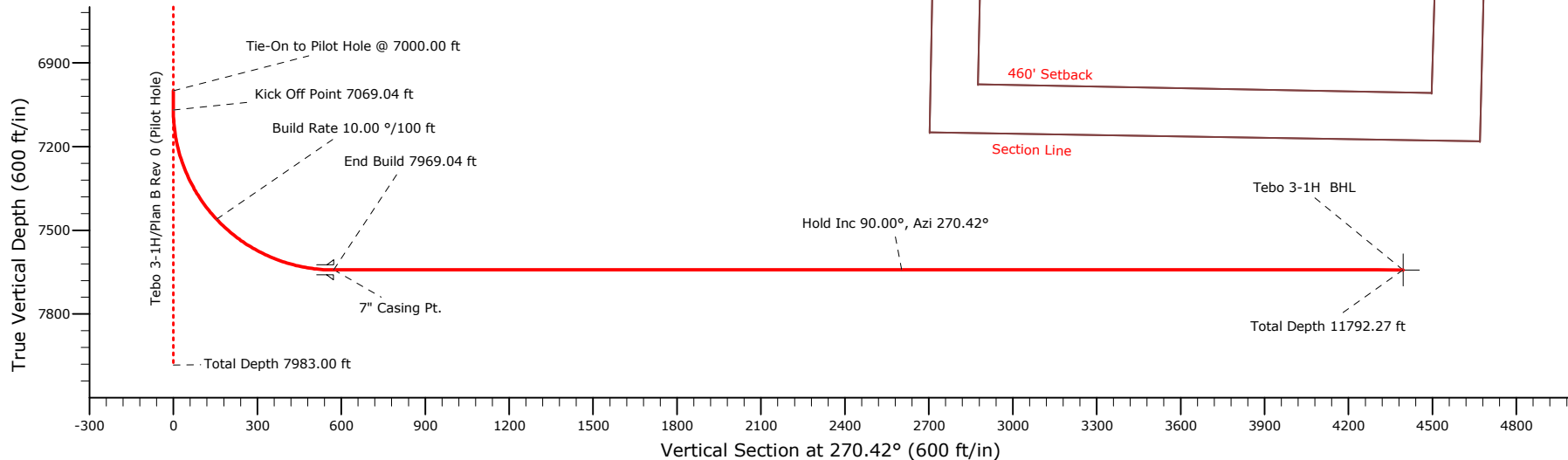
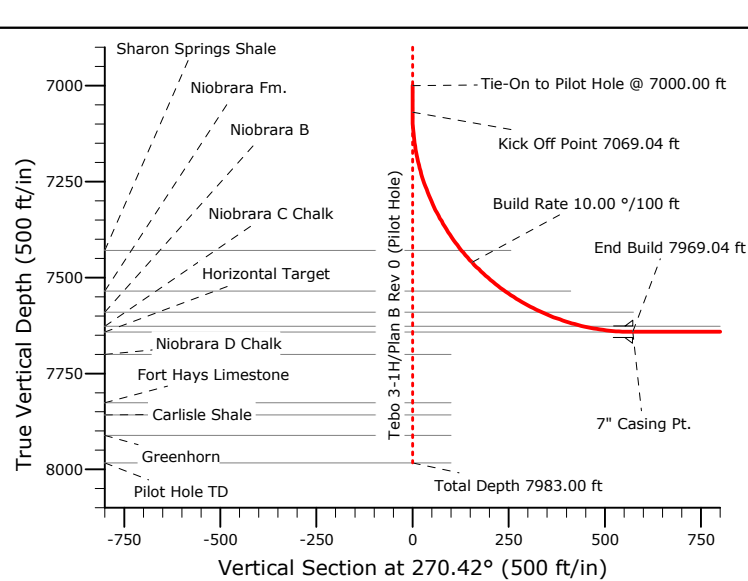
Date: _____

Reviewed: _____

Date: _____

Approved: _____

Date: _____



Plan Report for Tebo 3-1H - Plan B 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										
7,069.04	0.00	0.00	7,069.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kick Off Point 7069.04 ft										
7,100.00	3.10	270.42	7,099.98	0.01	-0.84	0.84	10.00	10.00	0.00	270.42
7,200.00	13.10	270.42	7,198.86	0.11	-14.90	14.90	10.00	10.00	0.00	0.00
7,300.00	23.10	270.42	7,293.80	0.34	-45.92	45.92	10.00	10.00	0.00	0.00
7,400.00	33.10	270.42	7,381.90	0.68	-92.96	92.96	10.00	10.00	0.00	0.00
7,458.25	38.92	270.42	7,429.00	0.93	-127.19	127.19	10.00	10.00	0.00	0.00
Sharon Springs Shale										
7,500.00	43.10	270.42	7,460.50	1.13	-154.57	154.58	10.00	10.00	0.00	0.00
Build Rate 10.00 °/100 ft										
7,600.00	53.10	270.42	7,527.20	1.67	-228.90	228.91	10.00	10.00	0.00	0.00
7,613.19	54.42	270.42	7,535.00	1.75	-239.54	239.55	10.00	10.00	0.00	0.00
Niobrara Fm.										
7,700.00	63.10	270.42	7,579.98	2.29	-313.69	313.70	10.00	10.00	0.00	0.00
7,723.05	65.40	270.42	7,590.00	2.44	-334.45	334.46	10.00	10.00	0.00	0.00
Niobrara B										
7,800.00	73.10	270.42	7,617.24	2.96	-406.35	406.36	10.00	10.00	0.00	0.00
7,837.66	76.86	270.42	7,627.00	3.23	-442.71	442.72	10.00	10.00	0.00	0.00
Niobrara C Chalk										
7,900.00	83.10	270.42	7,637.84	3.68	-504.07	504.08	10.00	10.00	0.00	0.00
7,969.04	90.00	270.42	7,642.00	4.18	-572.94	572.96	10.00	10.00	0.00	0.00
End Build 7969.04 ft - Horizontal Target - 7" Casing Pt.										
8,000.00	90.00	270.42	7,642.00	4.41	-603.90	603.92	0.00	0.00	0.00	0.00
8,100.00	90.00	270.42	7,642.00	5.14	-703.90	703.92	0.00	0.00	0.00	0.00
8,200.00	90.00	270.42	7,642.00	5.87	-803.90	803.92	0.00	0.00	0.00	0.00
8,300.00	90.00	270.42	7,642.00	6.59	-903.89	903.92	0.00	0.00	0.00	0.00
8,400.00	90.00	270.42	7,642.00	7.32	-1,003.89	1,003.92	0.00	0.00	0.00	0.00
8,500.00	90.00	270.42	7,642.00	8.05	-1,103.89	1,103.92	0.00	0.00	0.00	0.00
8,600.00	90.00	270.42	7,642.00	8.78	-1,203.89	1,203.92	0.00	0.00	0.00	0.00
8,700.00	90.00	270.42	7,642.00	9.51	-1,303.88	1,303.92	0.00	0.00	0.00	0.00
8,800.00	90.00	270.42	7,642.00	10.24	-1,403.88	1,403.92	0.00	0.00	0.00	0.00
8,900.00	90.00	270.42	7,642.00	10.97	-1,503.88	1,503.92	0.00	0.00	0.00	0.00
9,000.00	90.00	270.42	7,642.00	11.70	-1,603.88	1,603.92	0.00	0.00	0.00	0.00
9,100.00	90.00	270.42	7,642.00	12.43	-1,703.87	1,703.92	0.00	0.00	0.00	0.00
9,200.00	90.00	270.42	7,642.00	13.16	-1,803.87	1,803.92	0.00	0.00	0.00	0.00
9,300.00	90.00	270.42	7,642.00	13.89	-1,903.87	1,903.92	0.00	0.00	0.00	0.00
9,400.00	90.00	270.42	7,642.00	14.62	-2,003.86	2,003.92	0.00	0.00	0.00	0.00
9,500.00	90.00	270.42	7,642.00	15.35	-2,103.86	2,103.92	0.00	0.00	0.00	0.00
9,600.00	90.00	270.42	7,642.00	16.08	-2,203.86	2,203.92	0.00	0.00	0.00	0.00
9,700.00	90.00	270.42	7,642.00	16.81	-2,303.86	2,303.92	0.00	0.00	0.00	0.00
9,800.00	90.00	270.42	7,642.00	17.54	-2,403.85	2,403.92	0.00	0.00	0.00	0.00
9,900.00	90.00	270.42	7,642.00	18.27	-2,503.85	2,503.92	0.00	0.00	0.00	0.00
10,000.00	90.00	270.42	7,642.00	19.00	-2,603.85	2,603.92	0.00	0.00	0.00	0.00
Hold Inc 90.00°, Azi 270.42°										
10,100.00	90.00	270.42	7,642.00	19.73	-2,703.85	2,703.92	0.00	0.00	0.00	0.00
10,200.00	90.00	270.42	7,642.00	20.46	-2,803.84	2,803.92	0.00	0.00	0.00	0.00
10,300.00	90.00	270.42	7,642.00	21.19	-2,903.84	2,903.92	0.00	0.00	0.00	0.00
10,400.00	90.00	270.42	7,642.00	21.92	-3,003.84	3,003.92	0.00	0.00	0.00	0.00
10,500.00	90.00	270.42	7,642.00	22.64	-3,103.84	3,103.92	0.00	0.00	0.00	0.00
10,600.00	90.00	270.42	7,642.00	23.37	-3,203.83	3,203.92	0.00	0.00	0.00	0.00
10,700.00	90.00	270.42	7,642.00	24.10	-3,303.83	3,303.92	0.00	0.00	0.00	0.00
10,800.00	90.00	270.42	7,642.00	24.83	-3,403.83	3,403.92	0.00	0.00	0.00	0.00
10,900.00	90.00	270.42	7,642.00	25.56	-3,503.82	3,503.92	0.00	0.00	0.00	0.00
11,000.00	90.00	270.42	7,642.00	26.29	-3,603.82	3,603.92	0.00	0.00	0.00	0.00
11,100.00	90.00	270.42	7,642.00	27.02	-3,703.82	3,703.92	0.00	0.00	0.00	0.00
11,200.00	90.00	270.42	7,642.00	27.75	-3,803.82	3,803.92	0.00	0.00	0.00	0.00

Plan Report for Tebo 3-1H - Plan B 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	270.42	7,642.00	28.48	-3,903.81	3,903.92	0.00	0.00	0.00	0.00
11,400.00	90.00	270.42	7,642.00	29.21	-4,003.81	4,003.92	0.00	0.00	0.00	0.00
11,500.00	90.00	270.42	7,642.00	29.94	-4,103.81	4,103.92	0.00	0.00	0.00	0.00
11,600.00	90.00	270.42	7,642.00	30.67	-4,203.81	4,203.92	0.00	0.00	0.00	0.00
11,700.00	90.00	270.42	7,642.00	31.40	-4,303.80	4,303.92	0.00	0.00	0.00	0.00
11,792.27	90.00	270.42	7,642.00	32.07	-4,396.07	4,396.18	0.00	0.00	0.00	0.00
Total Depth 11792.27 ft - Tebo 3-1H BHL										

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
7,069.04	7,069.04	0.00	0.00	Kick Off Point 7069.04 ft
7,500.00	7,460.50	1.13	-154.57	Build Rate 10.00 °/100 ft
7,969.04	7,642.00	4.18	-572.94	End Build 7969.04 ft
10,000.00	7,642.00	19.00	-2,603.85	Hold Inc 90.00°, Azi 270.42°
11,792.27	7,642.00	32.07	-4,396.07	Total Depth 11792.27 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	Tebo 3-1H BHL	270.42	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
7,000.00	11,792.27	Plan B Rev 0 (Lateral)	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,969.04	7,642.00	7" Casing Pt.	7	8-3/4

Plan Report for Tebo 3-1H - Plan B Rev 0 (Lateral)

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,785.00	Fox Hills Aquifer			
	1,985.00	Pierre Shale			
	3,714.00	(Base Fox Hills)			
	7,700.00	Niobrara D Chalk			
	7,826.00	Fort Hays Limestone			
	7,858.00	Carlisle Shale			
	7,911.00	Greenhorn			
	7,983.00	Pilot Hole TD			
7,458.25	7,429.00	Sharon Springs Shale			
7,613.19	7,535.00	Niobrara Fm.			
7,723.05	7,590.00	Niobrara B			
7,837.66	7,627.00	Niobrara C Chalk			
7,969.04	7,642.00	Horizontal Target			

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Tebo 3-1H SL	0.00	0.00	0.00	Polygon
Tebo 3-1H BHL	7,642.00	32.07	-4,396.07	Point
Tebo 3-1H SB	0.00	0.00	0.00	Polygon

North Reference Sheet for Sec. 3-T5S-R64W - Tebo 3-1H - Plan B

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 @ 5899.00ft (H&P 280). Northing and Easting are relative to Tebo 3-1H
 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: 0.99998175
 Grid Coordinates of Well: 1,663,106.19 ft N, 3,273,131.94 ft E
 Geographical Coordinates of Well: 39° 39' 00.07" N, 104° 31' 47.98" W
 Grid Convergence at Surface is: 0.61°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,792.27ft
 the Bottom Hole Displacement is 4,396.18ft in the Direction of 270.42° (True).
 Magnetic Convergence at surface is: -7.90° (31 August 2012, , BGGM2011)

