

Conoco Phillips Company

Adams County, Colorado

Sec. 26-T3S-R65W

Reserve 3-65 26-1H

Plan A

Plan: Reserve 3-65 26-1H Rev A0 Proposal

Sperry Drilling Services

Proposal Report

23 September, 2013

Well Coordinates: 1,159,209.03 N, 3,241,990.62 E (39° 46' 01.82" N, 104° 38' 20.93" W)

Ground Level: 5,486.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Reserve 3-65 26-1H

RKB 24 ft @ 5510.00usft (H&P 280)

N

True

API - US Survey Feet - Custom

HALLIBURTON

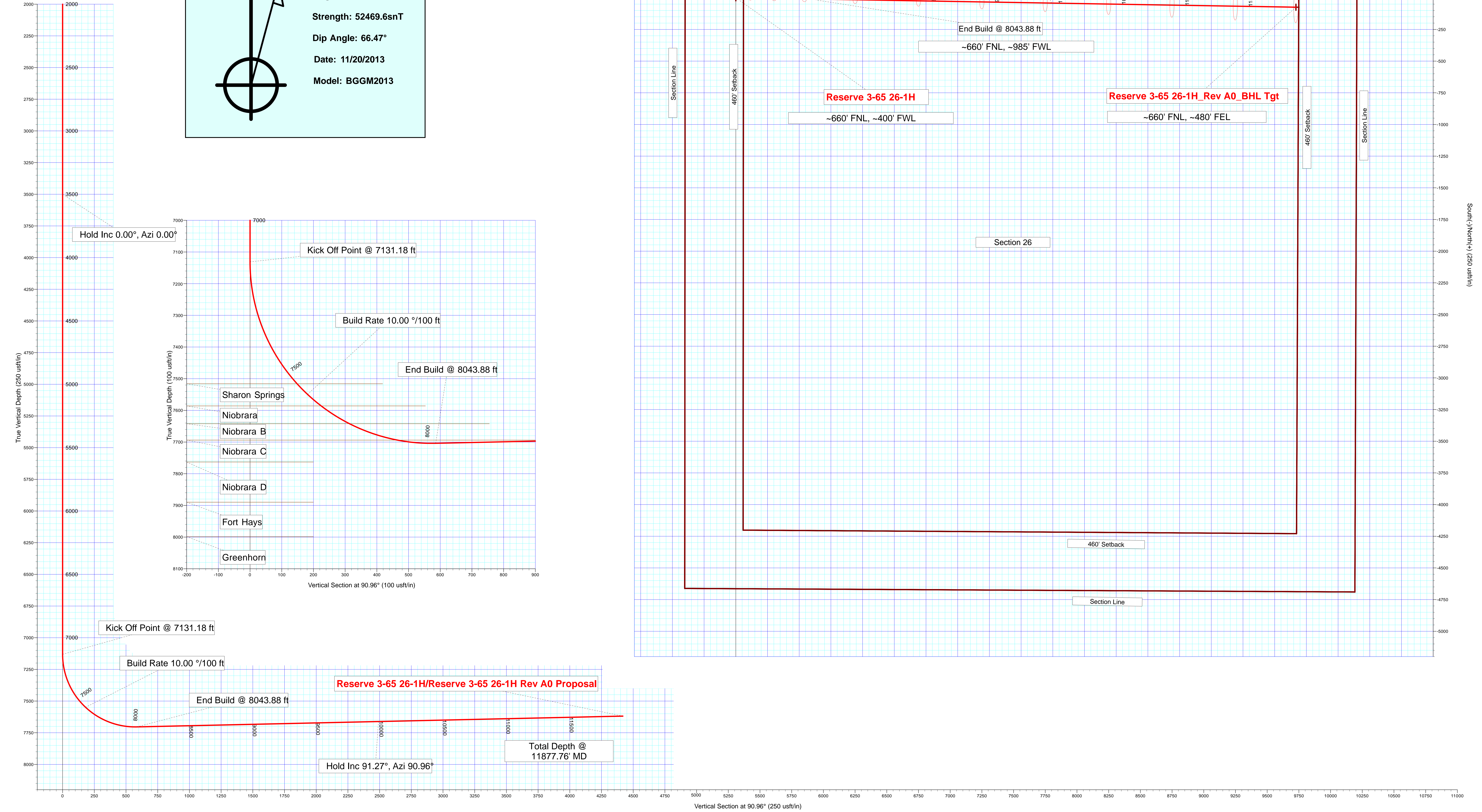
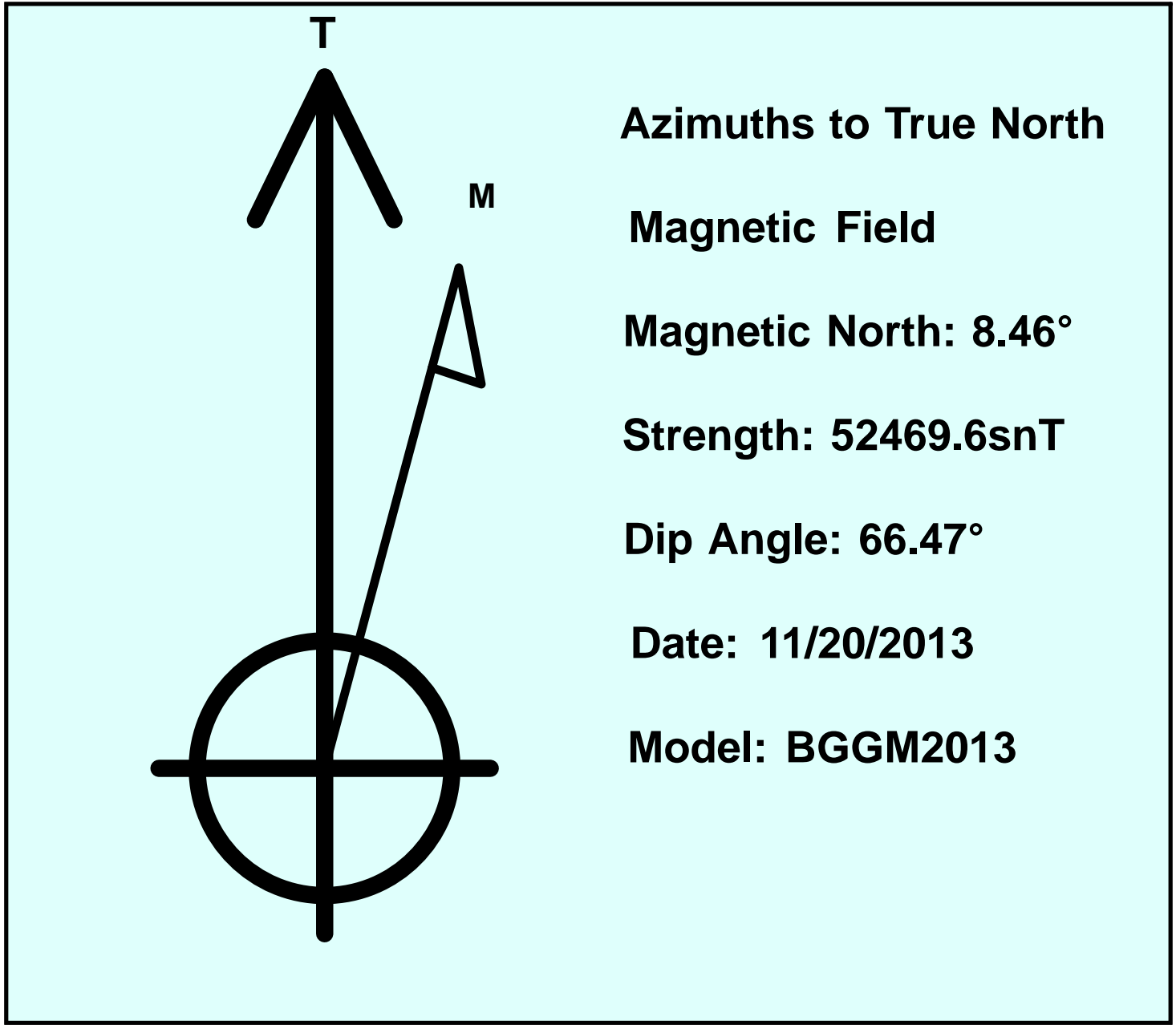
Project: Adams County, Colorado
Site: Sec. 26-T3S-R65W
Well: Reserve 3-65 26-1H
Wellbore: Plan A
Plan: Reserve 3-65 26-1H Rev A0 Proposal

Conoco Phillips Company

HALLIBURTON
Sperry Drilling

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7131.18	0.00	0.00	7131.18	0.00	0.00	0.00	0.00	0.00	
3	8043.88	91.27	90.96	7704.00	-9.85	585.58	10.00	90.96	585.66	
4	11877.76	91.27	90.96	7619.00	-74.28	4417.97	0.00	0.00	4418.60	Reserve 3-65 26-1H_Rev A0_BHL Tgt



Plan Report for Reserve 3-65 26-1H - Reserve 3-65 26-1H Rev A0 Proposal

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	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
1,598.00	0.00	0.00	1,598.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills										
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
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,838.00	0.00	0.00	1,838.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Shale										
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,038.00	0.00	0.00	2,038.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing										
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
Hold Inc 0.00°, Azi 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
3,800.00	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

Plan Report for Reserve 3-65 26-1H - Reserve 3-65 26-1H Rev A0 Proposal

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
7,131.18	0.00	0.00	7,131.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kick Off Point @ 7131.18 ft										
7,200.00	6.88	90.96	7,199.83	-0.07	4.13	4.13	10.00	10.00	0.00	90.96
7,300.00	16.88	90.96	7,297.57	-0.42	24.69	24.69	10.00	10.00	0.00	0.00
7,400.00	26.88	90.96	7,390.25	-1.04	61.91	61.91	10.00	10.00	0.00	0.00
7,500.00	36.88	90.96	7,475.05	-1.93	114.65	114.66	10.00	10.00	0.00	0.00
7,553.12	42.19	90.96	7,516.00	-2.50	148.44	148.46	10.00	10.00	0.00	0.00
Sharon Springs										
7,600.00	46.88	90.96	7,549.41	-3.05	181.31	181.34	10.00	10.00	0.00	0.00
Build Rate 10.00 °/100 ft										
7,656.61	52.54	90.96	7,586.00	-3.77	224.47	224.50	10.00	10.00	0.00	0.00
Niobrara										
7,700.00	56.88	90.96	7,611.06	-4.37	259.88	259.91	10.00	10.00	0.00	0.00
7,761.87	63.07	90.96	7,642.00	-5.27	313.41	313.45	10.00	10.00	0.00	0.00
Niobrara B										
7,800.00	66.88	90.96	7,658.13	-5.85	347.95	348.00	10.00	10.00	0.00	0.00
7,900.00	76.88	90.96	7,689.19	-7.45	442.86	442.92	10.00	10.00	0.00	0.00
7,923.24	79.21	90.96	7,694.00	-7.83	465.59	465.65	10.00	10.00	0.00	0.00
Niobrara C										
8,000.00	86.88	90.96	7,703.29	-9.11	541.72	541.79	10.00	10.00	0.00	0.00
8,043.88	91.27	90.96	7,704.00	-9.85	585.58	585.66	10.00	10.00	0.00	0.00
End Build @ 8043.88 ft										
8,100.00	91.27	90.96	7,702.75	-10.79	641.67	641.76	0.00	0.00	0.00	0.00
8,200.00	91.27	90.96	7,700.54	-12.47	741.63	741.74	0.00	0.00	0.00	0.00
8,300.00	91.27	90.96	7,698.32	-14.15	841.59	841.71	0.00	0.00	0.00	0.00
8,400.00	91.27	90.96	7,696.10	-15.83	941.56	941.69	0.00	0.00	0.00	0.00
8,500.00	91.27	90.96	7,693.88	-17.51	1,041.52	1,041.66	0.00	0.00	0.00	0.00
8,600.00	91.27	90.96	7,691.67	-19.19	1,141.48	1,141.64	0.00	0.00	0.00	0.00
8,700.00	91.27	90.96	7,689.45	-20.87	1,241.44	1,241.62	0.00	0.00	0.00	0.00
8,800.00	91.27	90.96	7,687.23	-22.55	1,341.40	1,341.59	0.00	0.00	0.00	0.00
8,900.00	91.27	90.96	7,685.02	-24.24	1,441.36	1,441.57	0.00	0.00	0.00	0.00
9,000.00	91.27	90.96	7,682.80	-25.92	1,541.32	1,541.54	0.00	0.00	0.00	0.00
9,100.00	91.27	90.96	7,680.58	-27.60	1,641.29	1,641.52	0.00	0.00	0.00	0.00
9,200.00	91.27	90.96	7,678.37	-29.28	1,741.25	1,741.49	0.00	0.00	0.00	0.00
9,300.00	91.27	90.96	7,676.15	-30.96	1,841.21	1,841.47	0.00	0.00	0.00	0.00
9,400.00	91.27	90.96	7,673.93	-32.64	1,941.17	1,941.44	0.00	0.00	0.00	0.00
9,500.00	91.27	90.96	7,671.71	-34.32	2,041.13	2,041.42	0.00	0.00	0.00	0.00

Plan Report for Reserve 3-65 26-1H - Reserve 3-65 26-1H Rev A0 Proposal

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	Toolface Azimuth (°)
9,600.00	91.27	90.96	7,669.50	-36.00	2,141.09	2,141.39	0.00	0.00	0.00	0.00
9,700.00	91.27	90.96	7,667.28	-37.68	2,241.05	2,241.37	0.00	0.00	0.00	0.00
9,800.00	91.27	90.96	7,665.06	-39.36	2,341.01	2,341.35	0.00	0.00	0.00	0.00
9,900.00	91.27	90.96	7,662.85	-41.04	2,440.98	2,441.32	0.00	0.00	0.00	0.00
9,950.00	91.27	90.96	7,661.74	-41.88	2,490.96	2,491.31	0.00	0.00	0.00	0.00
Hold Inc 91.27°, Azi 90.96°										
10,000.00	91.27	90.96	7,660.63	-42.72	2,540.94	2,541.30	0.00	0.00	0.00	0.00
10,100.00	91.27	90.96	7,658.41	-44.40	2,640.90	2,641.27	0.00	0.00	0.00	0.00
10,200.00	91.27	90.96	7,656.20	-46.09	2,740.86	2,741.25	0.00	0.00	0.00	0.00
10,300.00	91.27	90.96	7,653.98	-47.77	2,840.82	2,841.22	0.00	0.00	0.00	0.00
10,400.00	91.27	90.96	7,651.76	-49.45	2,940.78	2,941.20	0.00	0.00	0.00	0.00
10,500.00	91.27	90.96	7,649.54	-51.13	3,040.74	3,041.17	0.00	0.00	0.00	0.00
10,600.00	91.27	90.96	7,647.33	-52.81	3,140.70	3,141.15	0.00	0.00	0.00	0.00
10,700.00	91.27	90.96	7,645.11	-54.49	3,240.67	3,241.12	0.00	0.00	0.00	0.00
10,800.00	91.27	90.96	7,642.89	-56.17	3,340.63	3,341.10	0.00	0.00	0.00	0.00
10,900.00	91.27	90.96	7,640.68	-57.85	3,440.59	3,441.07	0.00	0.00	0.00	0.00
11,000.00	91.27	90.96	7,638.46	-59.53	3,540.55	3,541.05	0.00	0.00	0.00	0.00
11,100.00	91.27	90.96	7,636.24	-61.21	3,640.51	3,641.03	0.00	0.00	0.00	0.00
11,200.00	91.27	90.96	7,634.03	-62.89	3,740.47	3,741.00	0.00	0.00	0.00	0.00
11,300.00	91.27	90.96	7,631.81	-64.57	3,840.43	3,840.98	0.00	0.00	0.00	0.00
11,400.00	91.27	90.96	7,629.59	-66.25	3,940.39	3,940.95	0.00	0.00	0.00	0.00
11,500.00	91.27	90.96	7,627.37	-67.93	4,040.36	4,040.93	0.00	0.00	0.00	0.00
11,600.00	91.27	90.96	7,625.16	-69.62	4,140.32	4,140.90	0.00	0.00	0.00	0.00
11,700.00	91.27	90.96	7,622.94	-71.30	4,240.28	4,240.88	0.00	0.00	0.00	0.00
11,800.00	91.27	90.96	7,620.72	-72.98	4,340.24	4,340.85	0.00	0.00	0.00	0.00
11,877.76	91.27	90.96	7,619.00	-74.28	4,417.97	4,418.60	0.00	0.00	0.00	0.00
Total Depth 11877.76 ft										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,500.00	3,500.00	0.00	0.00	Hold Inc 0.00°, Azi 0.00°
7,131.18	7,131.18	0.00	0.00	Kick Off Point @ 7131.18 ft
7,600.00	7,549.41	-3.05	181.31	Build Rate 10.00 °/100 ft
8,043.88	7,704.00	-9.85	585.58	End Build @ 8043.88 ft
9,950.00	7,661.74	-41.88	2,490.96	Hold Inc 91.27°, Azi 90.96°
11,877.76	7,619.00	-74.28	4,417.97	Total Depth 11877.76 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
Target	Reserve 3-65 26-1H_Rev A0_BHL Tgt	90.96	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	11,877.58	Reserve 3-65 26-1H Rev A0 Proposal	MWD

Plan Report for Reserve 3-65 26-1H - Reserve 3-65 26-1H Rev A0 Proposal

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,598.00	1,598.00	Fox Hills			
1,838.00	1,838.00	Pierre Shale			
2,038.00	2,038.00	Surface Casing			
7,553.12	7,516.00	Sharon Springs			
7,656.61	7,586.00	Niobrara			
7,761.87	7,642.00	Niobrara B			
7,923.24	7,694.00	Niobrara C			

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Reserve 3-65 26-1H_SL	0.00	0.00	0.00	Polygon
Reserve 3-65 26-1H_SB	0.00	0.00	0.00	Polygon
Reserve 3-65 26-1H_Rev A0_BHL Tgt	7,619.00	-74.28	4,417.97	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.77 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 8,043.88 usft
Net Tortousity applicable to Plans:	0.77 °/100usft	Directional Difficulty Index:	5.998

Audit Info

North Reference Sheet for Sec. 26-T3S-R65W - Reserve 3-65 26-1H - 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 @ 5510.00usft (H&P 280). Northing and Easting are relative to Reserve 3-65 26-1H
 Coordinate System is US State Plane 1983, Colorado Northern 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:40° 47' 0.000 N°
 False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99999223

Grid Coordinates of Well: 1,159,209.03 usft N, 3,241,990.62 usft E
 Geographical Coordinates of Well: 39° 46' 01.82" N, 104° 38' 20.93" W
 Grid Convergence at Surface is: 0.56°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,877.76usft
 the Bottom Hole Displacement is 4,418.60usft in the Direction of 90.96° (True).
 Magnetic Convergence at surface is: -7.90° (20 November 2013, , BGGM2013)

