

# **ConocoPhillips RBU Gold Data**

**Niobrara North Zone**

**Reserve**

**Reserve 3-65 35-34 1DH**

**Reserve 3-65 35-34 1DH**

**Plan: Design A**

## **Standard Planning Report**

**15 October, 2018**

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well Reserve 3-65 35-34 1DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5531.00ft (25' RKB)
<b>Project:</b>	Niobrara North Zone	<b>MD Reference:</b>	25' RKB @ 5531.00ft (25' RKB)
<b>Site:</b>	Reserve	<b>North Reference:</b>	True
<b>Well:</b>	Reserve 3-65 35-34 1DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reserve 3-65 35-34 1DH		
<b>Design:</b>	Design A		

<b>Project</b>	Niobrara North Zone, Colorado North Zone, FIPS Zone: 0501		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		Reserve			
Site Position:		Northing:	1,153,729.825 usft	Latitude:	39° 45' 7.247 N
From:	Lat/Long	Easting:	3,246,381.347 usft	Longitude:	104° 37' 25.396 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.57 °

Well	Reserve 3-65 35-34 1DH					
Well Position	+N/-S	-50.28 ft	Northing:	1,153,679.547 usft	Latitude:	39° 45' 6.750 N
	+E/-W	-0.31 ft	Easting:	3,246,381.532 usft	Longitude:	104° 37' 25.400 W
Position Uncertainty		2.00 ft	Wellhead Elevation:	5,506.00 ft	Ground Level:	5,506.00 ft

<b>Wellbore</b>	Reserve 3-65 35-34 1DH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2018	12/1/2018	8.11	66.33	51,888.01478231

Design	Design A			
Audit Notes:				
Version:	0	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	268.44

Plan Survey Tool Program		Date	10/11/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,999.00	Design A (Reserve 3-65 35-34 1D	Gyro-BM-MS	
				Gyro - bat/mem drop m/s	
2	1,999.00	5,085.00	Design A (Reserve 3-65 35-34 1D	MWD+IFR_No SAG	
				MWD + IFR (No SAG) correctic	
3	5,085.00	6,978.41	Design A (Reserve 3-65 35-34 1D	MWD+IFR_No SAG	
				MWD + IFR (No SAG) correctic	
4	6,978.41	6,998.85	Design A (Reserve 3-65 35-34 1D	MWD+IFR_No SAG	
				MWD + IFR (No SAG) correctic	
5	6,998.85	8,155.95	Design A (Reserve 3-65 35-34 1D	MWD+IFR_No SAG	
				MWD + IFR (No SAG) correctic	
6	8,155.95	17,804.19	Design A (Reserve 3-65 35-34 1D	MWD+IFR_No SAG	
				MWD + IFR (No SAG) correctic	

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<b>Wellbore:</b>	Reserve 3-65 35-34 1DH		
<b>Design:</b>	Design A		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,085.00	0.00	0.00	5,085.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,978.41	28.40	111.85	6,901.82	-171.07	426.73	1.50	1.50	0.00	111.85	
6,998.85	28.40	111.85	6,919.80	-174.69	435.75	0.00	0.00	0.00	0.00	
8,155.95	89.42	270.39	7,731.00	-329.86	-73.42	10.00	5.27	13.70	156.05	Reserve 3-65 35-34 1
17,804.19	89.42	270.39	7,828.00	-264.22	-9,720.95	0.00	0.00	0.00	0.00	Reserve 3-65 35-34 1

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<b>Site:</b>	Reserve	<b>North Reference:</b>	True
<b>Well:</b>	Reserve 3-65 35-34 1DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reserve 3-65 35-34 1DH		
<b>Design:</b>	Design A		

Planned 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)
0.00	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
SHL: 886' FNL, 541' FEL									
200.00	0.00	0.00	200.00	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
400.00	0.00	0.00	400.00	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
600.00	0.00	0.00	600.00	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
800.00	0.00	0.00	800.00	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
1,000.00	0.00	0.00	1,000.00	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
1,200.00	0.00	0.00	1,200.00	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
1,400.00	0.00	0.00	1,400.00	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
1,559.00	0.00	0.00	1,559.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Top									
1,600.00	0.00	0.00	1,600.00	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
1,799.00	0.00	0.00	1,799.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Top - Fox Hills Base									
1,800.00	0.00	0.00	1,800.00	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
1,999.00	0.00	0.00	1,999.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing - 9-5/8" Casing									
2,000.00	0.00	0.00	2,000.00	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
2,200.00	0.00	0.00	2,200.00	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
2,400.00	0.00	0.00	2,400.00	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
2,600.00	0.00	0.00	2,600.00	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
2,800.00	0.00	0.00	2,800.00	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
3,000.00	0.00	0.00	3,000.00	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
3,200.00	0.00	0.00	3,200.00	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
3,400.00	0.00	0.00	3,400.00	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
3,600.00	0.00	0.00	3,600.00	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
3,800.00	0.00	0.00	3,800.00	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
4,000.00	0.00	0.00	4,000.00	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
4,200.00	0.00	0.00	4,200.00	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
4,400.00	0.00	0.00	4,400.00	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
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

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<b>Well:</b>	Reserve 3-65 35-34 1DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reserve 3-65 35-34 1DH		
<b>Design:</b>	Design A		

Planned 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)
4,700.00	0.00	0.00	4,700.00	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
4,900.00	0.00	0.00	4,900.00	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
5,085.00	0.00	0.00	5,085.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.23	111.85	5,100.00	-0.01	0.03	-0.03	1.50	1.50	0.00
5,200.00	1.73	111.85	5,199.98	-0.64	1.61	-1.59	1.50	1.50	0.00
5,300.00	3.23	111.85	5,299.89	-2.25	5.61	-5.55	1.50	1.50	0.00
5,400.00	4.73	111.85	5,399.64	-4.83	12.05	-11.91	1.50	1.50	0.00
5,500.00	6.23	111.85	5,499.18	-8.38	20.90	-20.67	1.50	1.50	0.00
5,600.00	7.73	111.85	5,598.44	-12.90	32.18	-31.81	1.50	1.50	0.00
5,700.00	9.23	111.85	5,697.35	-18.38	45.86	-45.34	1.50	1.50	0.00
5,800.00	10.73	111.85	5,795.83	-24.83	61.93	-61.24	1.50	1.50	0.00
5,900.00	12.23	111.85	5,893.83	-32.23	80.40	-79.49	1.50	1.50	0.00
6,000.00	13.73	111.85	5,991.27	-40.58	101.24	-100.10	1.50	1.50	0.00
6,100.00	15.23	111.85	6,088.10	-49.89	124.44	-123.04	1.50	1.50	0.00
6,200.00	16.73	111.85	6,184.23	-60.13	149.98	-148.29	1.50	1.50	0.00
6,300.00	18.23	111.85	6,279.61	-71.30	177.85	-175.85	1.50	1.50	0.00
6,400.00	19.73	111.85	6,374.18	-83.40	208.03	-205.69	1.50	1.50	0.00
6,500.00	21.23	111.85	6,467.86	-96.41	240.50	-237.79	1.50	1.50	0.00
6,600.00	22.73	111.85	6,560.59	-110.34	275.23	-272.13	1.50	1.50	0.00
6,700.00	24.23	111.85	6,652.31	-125.16	312.21	-308.69	1.50	1.50	0.00
6,800.00	25.73	111.85	6,742.96	-140.87	351.40	-347.44	1.50	1.50	0.00
6,900.00	27.23	111.85	6,832.47	-157.46	392.77	-388.35	1.50	1.50	0.00
6,978.41	28.40	111.85	6,901.82	-171.07	426.73	-421.93	1.50	1.50	0.00
EOB: 1057' FNL, 114' FEL									
6,998.85	28.40	111.85	6,919.80	-174.69	435.76	-430.85	0.00	0.00	0.00
KOP: 1061' FNL, 105' FEL									
7,000.00	28.30	111.94	6,920.81	-174.89	436.26	-431.35	10.02	-9.15	8.58
7,050.00	23.81	116.99	6,965.72	-183.91	456.26	-451.10	10.00	-8.97	10.09
7,100.00	19.56	124.14	7,012.18	-193.19	472.19	-466.77	10.00	-8.51	14.31
7,150.00	15.73	134.83	7,059.84	-202.67	483.93	-478.24	10.00	-7.66	21.38
7,200.00	12.72	151.21	7,108.32	-212.28	491.39	-485.44	10.00	-6.03	32.76
7,250.00	11.19	174.40	7,157.26	-221.94	494.52	-488.30	10.00	-3.04	46.38
7,300.00	11.76	199.57	7,206.29	-231.58	493.28	-486.81	10.00	1.13	50.33
7,350.00	14.17	219.28	7,255.04	-241.12	487.70	-480.97	10.00	4.81	39.43
7,400.00	17.68	232.37	7,303.12	-250.50	477.80	-470.82	10.00	7.02	26.17
7,450.00	21.76	240.97	7,350.19	-259.63	463.68	-456.45	10.00	8.17	17.19
7,500.00	26.15	246.88	7,395.88	-268.47	445.43	-437.97	10.00	8.78	11.82
7,550.00	30.72	251.16	7,439.84	-276.92	423.19	-415.51	10.00	9.13	8.57
7,600.00	35.40	254.42	7,481.74	-284.94	397.14	-389.25	10.00	9.35	6.52
7,650.00	40.14	257.01	7,521.25	-292.45	367.47	-359.39	10.00	9.49	5.17
7,653.60	40.48	257.17	7,524.00	-292.97	365.20	-357.10	10.00	9.54	4.61
Niobrara Top									
7,700.00	44.93	259.13	7,558.09	-299.41	334.41	-326.15	10.00	9.59	4.21
7,750.00	49.75	260.92	7,591.96	-305.76	298.20	-289.78	10.00	9.65	3.58
7,800.00	54.60	262.46	7,622.61	-311.45	259.13	-250.57	10.00	9.70	3.10
7,850.00	59.47	263.84	7,649.81	-316.44	217.49	-208.81	10.00	9.73	2.75
7,900.00	64.35	265.08	7,673.35	-320.68	173.60	-164.82	10.00	9.76	2.48
7,950.00	69.24	266.22	7,693.05	-324.16	127.79	-118.94	10.00	9.78	2.29
8,000.00	74.13	267.30	7,708.76	-326.83	80.42	-71.51	10.00	9.79	2.14
8,050.00	79.03	268.32	7,720.36	-328.69	31.83	-22.89	10.00	9.80	2.04
8,053.43	79.37	268.39	7,721.00	-328.79	28.47	-19.52	10.00	9.80	2.00

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<b>Design:</b>	Design A		

Planned 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)
<b>D Chalk Top</b>									
8,100.00	83.93	269.31	7,727.76	-329.71	-17.59	26.54	10.00	9.81	1.97
8,150.00	88.84	270.27	7,730.91	-329.89	-67.47	76.41	10.00	9.81	1.94
8,155.95	89.42	270.39	7,731.00	-329.86	-73.42	82.36	10.00	9.81	1.93
<b>BPI/LP: 1216' FNL, 613' FEL</b>									
8,200.00	89.42	270.39	7,731.44	-329.56	-117.47	126.38	0.00	0.00	0.00
8,300.00	89.42	270.39	7,732.45	-328.88	-217.46	226.32	0.00	0.00	0.00
8,400.00	89.42	270.39	7,733.45	-328.20	-317.45	326.25	0.00	0.00	0.00
8,500.00	89.42	270.39	7,734.46	-327.52	-417.45	426.19	0.00	0.00	0.00
8,600.00	89.42	270.39	7,735.46	-326.84	-517.44	526.13	0.00	0.00	0.00
8,700.00	89.42	270.39	7,736.47	-326.16	-617.43	626.07	0.00	0.00	0.00
8,800.00	89.42	270.39	7,737.48	-325.48	-717.42	726.00	0.00	0.00	0.00
8,900.00	89.42	270.39	7,738.48	-324.80	-817.42	825.94	0.00	0.00	0.00
9,000.00	89.42	270.39	7,739.49	-324.12	-917.41	925.88	0.00	0.00	0.00
9,100.00	89.42	270.39	7,740.49	-323.44	-1,017.40	1,025.81	0.00	0.00	0.00
9,200.00	89.42	270.39	7,741.50	-322.76	-1,117.39	1,125.75	0.00	0.00	0.00
9,300.00	89.42	270.39	7,742.50	-322.08	-1,217.39	1,225.69	0.00	0.00	0.00
9,400.00	89.42	270.39	7,743.51	-321.40	-1,317.38	1,325.63	0.00	0.00	0.00
9,500.00	89.42	270.39	7,744.51	-320.71	-1,417.37	1,425.56	0.00	0.00	0.00
9,600.00	89.42	270.39	7,745.52	-320.03	-1,517.37	1,525.50	0.00	0.00	0.00
9,700.00	89.42	270.39	7,746.52	-319.35	-1,617.36	1,625.44	0.00	0.00	0.00
9,800.00	89.42	270.39	7,747.53	-318.67	-1,717.35	1,725.37	0.00	0.00	0.00
9,900.00	89.42	270.39	7,748.53	-317.99	-1,817.34	1,825.31	0.00	0.00	0.00
10,000.00	89.42	270.39	7,749.54	-317.31	-1,917.34	1,925.25	0.00	0.00	0.00
10,100.00	89.42	270.39	7,750.54	-316.63	-2,017.33	2,025.19	0.00	0.00	0.00
10,200.00	89.42	270.39	7,751.55	-315.95	-2,117.32	2,125.12	0.00	0.00	0.00
10,300.00	89.42	270.39	7,752.56	-315.27	-2,217.31	2,225.06	0.00	0.00	0.00
10,400.00	89.42	270.39	7,753.56	-314.59	-2,317.31	2,325.00	0.00	0.00	0.00
10,500.00	89.42	270.39	7,754.57	-313.91	-2,417.30	2,424.94	0.00	0.00	0.00
10,600.00	89.42	270.39	7,755.57	-313.23	-2,517.29	2,524.87	0.00	0.00	0.00
10,700.00	89.42	270.39	7,756.58	-312.55	-2,617.28	2,624.81	0.00	0.00	0.00
10,800.00	89.42	270.39	7,757.58	-311.87	-2,717.28	2,724.75	0.00	0.00	0.00
10,900.00	89.42	270.39	7,758.59	-311.19	-2,817.27	2,824.68	0.00	0.00	0.00
11,000.00	89.42	270.39	7,759.59	-310.51	-2,917.26	2,924.62	0.00	0.00	0.00
11,100.00	89.42	270.39	7,760.60	-309.83	-3,017.25	3,024.56	0.00	0.00	0.00
11,200.00	89.42	270.39	7,761.60	-309.15	-3,117.25	3,124.50	0.00	0.00	0.00
11,300.00	89.42	270.39	7,762.61	-308.47	-3,217.24	3,224.43	0.00	0.00	0.00
11,400.00	89.42	270.39	7,763.61	-307.79	-3,317.23	3,324.37	0.00	0.00	0.00
11,500.00	89.42	270.39	7,764.62	-307.11	-3,417.23	3,424.31	0.00	0.00	0.00
11,600.00	89.42	270.39	7,765.63	-306.43	-3,517.22	3,524.25	0.00	0.00	0.00
11,700.00	89.42	270.39	7,766.63	-305.75	-3,617.21	3,624.18	0.00	0.00	0.00
11,800.00	89.42	270.39	7,767.64	-305.07	-3,717.20	3,724.12	0.00	0.00	0.00
11,900.00	89.42	270.39	7,768.64	-304.39	-3,817.20	3,824.06	0.00	0.00	0.00
12,000.00	89.42	270.39	7,769.65	-303.71	-3,917.19	3,923.99	0.00	0.00	0.00
12,100.00	89.42	270.39	7,770.65	-303.03	-4,017.18	4,023.93	0.00	0.00	0.00
12,200.00	89.42	270.39	7,771.66	-302.35	-4,117.17	4,123.87	0.00	0.00	0.00
12,300.00	89.42	270.39	7,772.66	-301.66	-4,217.17	4,223.81	0.00	0.00	0.00
12,400.00	89.42	270.39	7,773.67	-300.98	-4,317.16	4,323.74	0.00	0.00	0.00
12,500.00	89.42	270.39	7,774.67	-300.30	-4,417.15	4,423.68	0.00	0.00	0.00
12,600.00	89.42	270.39	7,775.68	-299.62	-4,517.14	4,523.62	0.00	0.00	0.00
12,700.00	89.42	270.39	7,776.68	-298.94	-4,617.14	4,623.55	0.00	0.00	0.00
12,800.00	89.42	270.39	7,777.69	-298.26	-4,717.13	4,723.49	0.00	0.00	0.00
12,900.00	89.42	270.39	7,778.70	-297.58	-4,817.12	4,823.43	0.00	0.00	0.00

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well Reserve 3-65 35-34 1DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5531.00ft (25' RKB)
<b>Project:</b>	Niobrara North Zone	<b>MD Reference:</b>	25' RKB @ 5531.00ft (25' RKB)
<b>Site:</b>	Reserve	<b>North Reference:</b>	True
<b>Well:</b>	Reserve 3-65 35-34 1DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reserve 3-65 35-34 1DH		
<b>Design:</b>	Design A		

Planned 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)
13,000.00	89.42	270.39	7,779.70	-296.90	-4,917.11	4,923.37	0.00	0.00	0.00
13,100.00	89.42	270.39	7,780.71	-296.22	-5,017.11	5,023.30	0.00	0.00	0.00
13,200.00	89.42	270.39	7,781.71	-295.54	-5,117.10	5,123.24	0.00	0.00	0.00
13,300.00	89.42	270.39	7,782.72	-294.86	-5,217.09	5,223.18	0.00	0.00	0.00
13,400.00	89.42	270.39	7,783.72	-294.18	-5,317.09	5,323.12	0.00	0.00	0.00
13,500.00	89.42	270.39	7,784.73	-293.50	-5,417.08	5,423.05	0.00	0.00	0.00
13,600.00	89.42	270.39	7,785.73	-292.82	-5,517.07	5,522.99	0.00	0.00	0.00
13,700.00	89.42	270.39	7,786.74	-292.14	-5,617.06	5,622.93	0.00	0.00	0.00
13,800.00	89.42	270.39	7,787.74	-291.46	-5,717.06	5,722.86	0.00	0.00	0.00
13,900.00	89.42	270.39	7,788.75	-290.78	-5,817.05	5,822.80	0.00	0.00	0.00
14,000.00	89.42	270.39	7,789.75	-290.10	-5,917.04	5,922.74	0.00	0.00	0.00
14,100.00	89.42	270.39	7,790.76	-289.42	-6,017.03	6,022.68	0.00	0.00	0.00
14,200.00	89.42	270.39	7,791.76	-288.74	-6,117.03	6,122.61	0.00	0.00	0.00
14,300.00	89.42	270.39	7,792.77	-288.06	-6,217.02	6,222.55	0.00	0.00	0.00
14,400.00	89.42	270.39	7,793.78	-287.38	-6,317.01	6,322.49	0.00	0.00	0.00
14,500.00	89.42	270.39	7,794.78	-286.70	-6,417.00	6,422.42	0.00	0.00	0.00
14,600.00	89.42	270.39	7,795.79	-286.02	-6,517.00	6,522.36	0.00	0.00	0.00
14,700.00	89.42	270.39	7,796.79	-285.34	-6,616.99	6,622.30	0.00	0.00	0.00
14,800.00	89.42	270.39	7,797.80	-284.66	-6,716.98	6,722.24	0.00	0.00	0.00
14,900.00	89.42	270.39	7,798.80	-283.98	-6,816.97	6,822.17	0.00	0.00	0.00
15,000.00	89.42	270.39	7,799.81	-283.30	-6,916.97	6,922.11	0.00	0.00	0.00
15,100.00	89.42	270.39	7,800.81	-282.61	-7,016.96	7,022.05	0.00	0.00	0.00
15,200.00	89.42	270.39	7,801.82	-281.93	-7,116.95	7,121.99	0.00	0.00	0.00
15,300.00	89.42	270.39	7,802.82	-281.25	-7,216.95	7,221.92	0.00	0.00	0.00
15,400.00	89.42	270.39	7,803.83	-280.57	-7,316.94	7,321.86	0.00	0.00	0.00
15,500.00	89.42	270.39	7,804.83	-279.89	-7,416.93	7,421.80	0.00	0.00	0.00
15,600.00	89.42	270.39	7,805.84	-279.21	-7,516.92	7,521.73	0.00	0.00	0.00
15,700.00	89.42	270.39	7,806.85	-278.53	-7,616.92	7,621.67	0.00	0.00	0.00
15,800.00	89.42	270.39	7,807.85	-277.85	-7,716.91	7,721.61	0.00	0.00	0.00
15,900.00	89.42	270.39	7,808.86	-277.17	-7,816.90	7,821.55	0.00	0.00	0.00
16,000.00	89.42	270.39	7,809.86	-276.49	-7,916.89	7,921.48	0.00	0.00	0.00
16,100.00	89.42	270.39	7,810.87	-275.81	-8,016.89	8,021.42	0.00	0.00	0.00
16,200.00	89.42	270.39	7,811.87	-275.13	-8,116.88	8,121.36	0.00	0.00	0.00
16,300.00	89.42	270.39	7,812.88	-274.45	-8,216.87	8,221.30	0.00	0.00	0.00
16,400.00	89.42	270.39	7,813.88	-273.77	-8,316.86	8,321.23	0.00	0.00	0.00
16,500.00	89.42	270.39	7,814.89	-273.09	-8,416.86	8,421.17	0.00	0.00	0.00
16,600.00	89.42	270.39	7,815.89	-272.41	-8,516.85	8,521.11	0.00	0.00	0.00
16,700.00	89.42	270.39	7,816.90	-271.73	-8,616.84	8,621.04	0.00	0.00	0.00
16,800.00	89.42	270.39	7,817.90	-271.05	-8,716.83	8,720.98	0.00	0.00	0.00
16,900.00	89.42	270.39	7,818.91	-270.37	-8,816.83	8,820.92	0.00	0.00	0.00
17,000.00	89.42	270.39	7,819.92	-269.69	-8,916.82	8,920.86	0.00	0.00	0.00
17,100.00	89.42	270.39	7,820.92	-269.01	-9,016.81	9,020.79	0.00	0.00	0.00
17,200.00	89.42	270.39	7,821.93	-268.33	-9,116.81	9,120.73	0.00	0.00	0.00
17,300.00	89.42	270.39	7,822.93	-267.65	-9,216.80	9,220.67	0.00	0.00	0.00
17,400.00	89.42	270.39	7,823.94	-266.97	-9,316.79	9,320.60	0.00	0.00	0.00
17,500.00	89.42	270.39	7,824.94	-266.29	-9,416.78	9,420.54	0.00	0.00	0.00
17,600.00	89.42	270.39	7,825.95	-265.61	-9,516.78	9,520.48	0.00	0.00	0.00
17,700.00	89.42	270.39	7,826.95	-264.93	-9,616.77	9,620.42	0.00	0.00	0.00
17,804.19	89.42	270.39	7,828.00	-264.22	-9,720.95	9,724.54	0.00	0.00	0.00
BHL: 1216' FNL, 323' FWL									

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well Reserve 3-65 35-34 1DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5531.00ft (25' RKB)
<b>Project:</b>	Niobrara North Zone	<b>MD Reference:</b>	25' RKB @ 5531.00ft (25' RKB)
<b>Site:</b>	Reserve	<b>North Reference:</b>	True
<b>Well:</b>	Reserve 3-65 35-34 1DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Reserve 3-65 35-34 1DH		
<b>Design:</b>	Design A		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Reserve 3-65 35-34 1DH - plan hits target center - Point	0.00	0.00	7,731.00	-329.86	-73.42	1,153,348.981	3,246,311.377	39° 45' 3.490 N	104° 37' 26.340 W
Reserve 3-65 35-34 1DH - plan hits target center - Point	0.00	0.00	7,828.00	-264.22	-9,720.95	1,153,319.285	3,236,663.743	39° 45' 4.120 N	104° 39' 29.860 W

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
1,999.00	1,999.00	9-5/8" Casing		9-5/8	12-1/4
17,804.19	7,828.00	5-1/2" Casing		5-1/2	8-1/2

Formations					
Measured Depth	Vertical Depth	Name		Lithology	Dip Direction
(ft)	(ft)				(°)
1,559.00	1,559.00	Fox Hills Top			0.00
1,799.00	1,799.00	Pierre Top - Fox Hills Base			0.00
1,999.00	1,999.00	Surface Casing			0.00
7,653.60	7,524.00	Niobrara Top			0.00
8,053.43	7,721.00	D Chalk Top			0.00

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
100.00	100.00	0.00	0.00	SHL: 886' FNL, 541' FEL	
6,978.41	6,901.82	-171.07	426.73	EOB: 1057' FNL, 114' FEL	
6,998.85	6,919.80	-174.69	435.76	KOP: 1061' FNL, 105' FEL	
8,155.95	7,731.00	-329.86	-73.42	BPI/LP: 1216' FNL, 613' FEL	
17,804.19	7,828.00	-264.22	-9,720.95	BHL: 1216' FNL, 323' FWL	