

# **ConocoPhillips RBU Gold Data\_Niobrara**

**Niobrara - CO Central Zone**

**Eastern Hills**

**Eastern Hills 4-65 17-18 2H\_D**

**Eastern Hills 4-65 17-18 2H\_D**

**Plan: Eastern Hills 4-65 17-18 2H\_D**

## **Standard Planning Report**

**12 October, 2016**

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDM Central Planning	<b>Local Co-ordinate Reference:</b>	Well Eastern Hills 4-65 17-18 2H_D
<b>Company:</b>	ConocoPhillips RBU Gold Data_Niobrara	<b>TVD Reference:</b>	25' RKB @ 5648.80ft
<b>Project:</b>	Niobrara - CO Central Zone	<b>MD Reference:</b>	25' RKB @ 5648.80ft
<b>Site:</b>	Eastern Hills	<b>North Reference:</b>	True
<b>Well:</b>	Eastern Hills 4-65 17-18 2H_D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Eastern Hills 4-65 17-18 2H_D		
<b>Design:</b>	Eastern Hills 4-65 17-18 2H_D		

<b>Project</b>	Niobrara - CO Central Zone, Arapahoe, Douglas, Elbert County - Colorado, Definitive (Gold) Database		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Central Zone		Using geodetic scale factor

Site		Eastern Hills				
Site Position:		Northing:	1,684,847.875 usft	Latitude:	39° 42' 39.949 N	
From:	Lat/Long	Easting:	3,220,540.398 usft	Longitude:	104° 42' 57.931 W	
Position Uncertainty:		0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.49 °

Well	Eastern Hills 4-65 17-18 2H_D					
Well Position	+N-S	-1,511.77 ft	Northing:	1,683,421.143 usft	Latitude:	39° 42' 24.990 N
	+E-W	9,846.82 ft	Easting:	3,230,399.802 usft	Longitude:	104° 40' 51.940 W
Position Uncertainty		2.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	5,621.80 ft

<b>Wellbore</b>	Eastern Hills 4-65 17-18 2H_D				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2016	10/10/2016	8.35	66.39	52,115

<b>Design</b>	Eastern Hills 4-65 17-18 2H_D			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	264.20

<b>Plan Sections</b>										
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	
2,198.00	0.00	0.00	2,198.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,122.17	13.86	141.53	3,113.18	-87.10	69.22	1.50	1.50	0.00	141.53	
7,379.05	13.86	141.53	7,246.07	-885.58	703.78	0.00	0.00	0.00	0.00	
8,365.23	90.00	270.24	7,893.00	-1,007.80	136.78	10.00	7.72	13.05	127.89	Eastern Hills 4-65 1
18,032.66	90.00	270.24	7,893.00	-967.57	-9,530.57	0.00	0.00	0.00	0.00	Eastern Hills 4-65 1

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<b>Company:</b>	ConocoPhillips RBU Gold Data_Niobrara	<b>TVD Reference:</b>	25' RKB @ 5648.80ft
<b>Project:</b>	Niobrara - CO Central Zone	<b>MD Reference:</b>	25' RKB @ 5648.80ft
<b>Site:</b>	Eastern Hills	<b>North Reference:</b>	True
<b>Well:</b>	Eastern Hills 4-65 17-18 2H_D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Eastern Hills 4-65 17-18 2H_D		
<b>Design:</b>	Eastern Hills 4-65 17-18 2H_D		

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
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
1,600.00	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
1,800.00	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
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
2,198.00	0.00	0.00	2,198.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.03	141.53	2,200.00	0.00	0.00	0.00	1.50	1.50	0.00
2,300.00	1.53	141.53	2,299.99	-1.07	0.85	-0.74	1.50	1.50	0.00
2,400.00	3.03	141.53	2,399.91	-4.18	3.32	-2.88	1.50	1.50	0.00
2,500.00	4.53	141.53	2,499.69	-9.34	7.42	-6.44	1.50	1.50	0.00
2,600.00	6.03	141.53	2,599.26	-16.55	13.15	-11.41	1.50	1.50	0.00
2,700.00	7.53	141.53	2,698.56	-25.79	20.49	-17.78	1.50	1.50	0.00
2,800.00	9.03	141.53	2,797.51	-37.06	29.45	-25.56	1.50	1.50	0.00
2,900.00	10.53	141.53	2,896.05	-50.36	40.02	-34.73	1.50	1.50	0.00
3,000.00	12.03	141.53	2,994.12	-65.67	52.19	-45.29	1.50	1.50	0.00
3,100.00	13.53	141.53	3,091.64	-82.99	65.95	-57.23	1.50	1.50	0.00
3,122.17	13.86	141.53	3,113.18	-87.10	69.22	-60.07	1.50	1.50	0.00
3,200.00	13.86	141.53	3,188.74	-101.70	80.82	-70.14	0.00	0.00	0.00
3,300.00	13.86	141.53	3,285.83	-120.46	95.73	-83.07	0.00	0.00	0.00
3,400.00	13.86	141.53	3,382.92	-139.21	110.63	-96.01	0.00	0.00	0.00
3,500.00	13.86	141.53	3,480.00	-157.97	125.54	-108.94	0.00	0.00	0.00
3,600.00	13.86	141.53	3,577.09	-176.73	140.45	-121.88	0.00	0.00	0.00
3,700.00	13.86	141.53	3,674.18	-195.49	155.35	-134.82	0.00	0.00	0.00
3,800.00	13.86	141.53	3,771.27	-214.24	170.26	-147.75	0.00	0.00	0.00
3,900.00	13.86	141.53	3,868.35	-233.00	185.17	-160.69	0.00	0.00	0.00
4,000.00	13.86	141.53	3,965.44	-251.76	200.07	-173.62	0.00	0.00	0.00
4,100.00	13.86	141.53	4,062.53	-270.52	214.98	-186.56	0.00	0.00	0.00
4,200.00	13.86	141.53	4,159.62	-289.27	229.89	-199.49	0.00	0.00	0.00
4,300.00	13.86	141.53	4,256.70	-308.03	244.79	-212.43	0.00	0.00	0.00
4,400.00	13.86	141.53	4,353.79	-326.79	259.70	-225.37	0.00	0.00	0.00
4,500.00	13.86	141.53	4,450.88	-345.55	274.61	-238.30	0.00	0.00	0.00
4,600.00	13.86	141.53	4,547.97	-364.30	289.51	-251.24	0.00	0.00	0.00
4,700.00	13.86	141.53	4,645.05	-383.06	304.42	-264.17	0.00	0.00	0.00
4,800.00	13.86	141.53	4,742.14	-401.82	319.33	-277.11	0.00	0.00	0.00
4,900.00	13.86	141.53	4,839.23	-420.58	334.23	-290.05	0.00	0.00	0.00
5,000.00	13.86	141.53	4,936.31	-439.33	349.14	-302.98	0.00	0.00	0.00
5,100.00	13.86	141.53	5,033.40	-458.09	364.05	-315.92	0.00	0.00	0.00

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<b>Wellbore:</b>	Eastern Hills 4-65 17-18 2H_D		
<b>Design:</b>	Eastern Hills 4-65 17-18 2H_D		

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)
5,200.00	13.86	141.53	5,130.49	-476.85	378.95	-328.85	0.00	0.00	0.00
5,300.00	13.86	141.53	5,227.58	-495.61	393.86	-341.79	0.00	0.00	0.00
5,400.00	13.86	141.53	5,324.66	-514.36	408.77	-354.72	0.00	0.00	0.00
5,500.00	13.86	141.53	5,421.75	-533.12	423.67	-367.66	0.00	0.00	0.00
5,600.00	13.86	141.53	5,518.84	-551.88	438.58	-380.60	0.00	0.00	0.00
5,700.00	13.86	141.53	5,615.93	-570.64	453.49	-393.53	0.00	0.00	0.00
5,800.00	13.86	141.53	5,713.01	-589.39	468.39	-406.47	0.00	0.00	0.00
5,900.00	13.86	141.53	5,810.10	-608.15	483.30	-419.40	0.00	0.00	0.00
6,000.00	13.86	141.53	5,907.19	-626.91	498.21	-432.34	0.00	0.00	0.00
6,100.00	13.86	141.53	6,004.28	-645.67	513.11	-445.28	0.00	0.00	0.00
6,200.00	13.86	141.53	6,101.36	-664.42	528.02	-458.21	0.00	0.00	0.00
6,300.00	13.86	141.53	6,198.45	-683.18	542.93	-471.15	0.00	0.00	0.00
6,400.00	13.86	141.53	6,295.54	-701.94	557.83	-484.08	0.00	0.00	0.00
6,500.00	13.86	141.53	6,392.62	-720.70	572.74	-497.02	0.00	0.00	0.00
6,600.00	13.86	141.53	6,489.71	-739.45	587.65	-509.96	0.00	0.00	0.00
6,700.00	13.86	141.53	6,586.80	-758.21	602.55	-522.89	0.00	0.00	0.00
6,800.00	13.86	141.53	6,683.89	-776.97	617.46	-535.83	0.00	0.00	0.00
6,900.00	13.86	141.53	6,780.97	-795.73	632.37	-548.76	0.00	0.00	0.00
7,000.00	13.86	141.53	6,878.06	-814.48	647.27	-561.70	0.00	0.00	0.00
7,100.00	13.86	141.53	6,975.15	-833.24	662.18	-574.63	0.00	0.00	0.00
7,200.00	13.86	141.53	7,072.24	-852.00	677.09	-587.57	0.00	0.00	0.00
7,300.00	13.86	141.53	7,169.32	-870.76	691.99	-600.51	0.00	0.00	0.00
7,379.05	13.86	141.53	7,246.07	-885.58	703.78	-610.73	0.00	0.00	0.00
7,400.00	12.68	149.08	7,266.46	-889.52	706.52	-613.06	10.00	-5.63	36.04
7,450.00	11.00	172.23	7,315.42	-898.96	709.99	-615.56	10.00	-3.36	46.32
7,500.00	11.43	198.05	7,364.50	-908.41	709.10	-613.72	10.00	0.86	51.64
7,550.00	13.78	218.48	7,413.31	-917.79	703.85	-607.55	10.00	4.68	40.86
7,600.00	17.27	231.96	7,461.50	-927.03	694.30	-597.11	10.00	6.99	26.96
7,650.00	21.36	240.73	7,508.69	-936.06	680.50	-582.48	10.00	8.17	17.54
7,700.00	25.75	246.71	7,554.52	-944.81	662.57	-563.75	10.00	8.80	11.96
7,750.00	30.33	251.02	7,598.64	-953.21	640.64	-541.09	10.00	9.15	8.62
7,800.00	35.01	254.28	7,640.72	-961.21	614.88	-514.65	10.00	9.36	6.52
7,850.00	39.76	256.86	7,680.44	-968.74	585.49	-484.65	10.00	9.50	5.15
7,900.00	44.56	258.96	7,717.50	-975.73	552.68	-451.30	10.00	9.59	4.21
7,950.00	49.39	260.73	7,751.61	-982.15	516.71	-414.87	10.00	9.66	3.55
8,000.00	54.24	262.27	7,782.51	-987.94	477.86	-375.63	10.00	9.71	3.07
8,050.00	59.11	263.62	7,809.97	-993.06	436.41	-333.87	10.00	9.74	2.71
8,100.00	63.99	264.85	7,833.79	-997.46	392.68	-289.93	10.00	9.77	2.45
8,150.00	68.88	265.97	7,853.77	-1,001.12	347.01	-244.12	10.00	9.78	2.25
8,200.00	73.78	267.03	7,869.77	-1,004.00	299.74	-196.80	10.00	9.80	2.11
8,250.00	78.69	268.03	7,881.66	-1,006.09	251.24	-148.34	10.00	9.81	2.01
8,300.00	83.60	269.00	7,889.36	-1,007.37	201.87	-99.09	10.00	9.82	1.94
8,350.00	88.50	269.95	7,892.80	-1,007.82	152.01	-49.43	10.00	9.82	1.90
8,365.23	90.00	270.24	7,893.00	-1,007.80	136.78	-34.29	10.00	9.82	1.89
8,400.00	90.00	270.24	7,893.00	-1,007.66	102.01	0.29	0.00	0.00	0.00
8,500.00	90.00	270.24	7,893.00	-1,007.24	2.01	99.74	0.00	0.00	0.00
8,600.00	90.00	270.24	7,893.00	-1,006.82	-97.99	199.18	0.00	0.00	0.00
8,700.00	90.00	270.24	7,893.00	-1,006.41	-197.99	298.63	0.00	0.00	0.00
8,800.00	90.00	270.24	7,893.00	-1,005.99	-297.99	398.07	0.00	0.00	0.00
8,900.00	90.00	270.24	7,893.00	-1,005.57	-397.99	497.52	0.00	0.00	0.00
9,000.00	90.00	270.24	7,893.00	-1,005.16	-497.99	596.97	0.00	0.00	0.00
9,100.00	90.00	270.24	7,893.00	-1,004.74	-597.99	696.41	0.00	0.00	0.00
9,200.00	90.00	270.24	7,893.00	-1,004.33	-697.99	795.86	0.00	0.00	0.00
9,300.00	90.00	270.24	7,893.00	-1,003.91	-797.98	895.30	0.00	0.00	0.00

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## Planning Report

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<b>Wellbore:</b>	Eastern Hills 4-65 17-18 2H_D		
<b>Design:</b>	Eastern Hills 4-65 17-18 2H_D		

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)
9,400.00	90.00	270.24	7,893.00	-1,003.49	-897.98	994.75	0.00	0.00	0.00
9,500.00	90.00	270.24	7,893.00	-1,003.08	-997.98	1,094.19	0.00	0.00	0.00
9,600.00	90.00	270.24	7,893.00	-1,002.66	-1,097.98	1,193.64	0.00	0.00	0.00
9,700.00	90.00	270.24	7,893.00	-1,002.25	-1,197.98	1,293.09	0.00	0.00	0.00
9,800.00	90.00	270.24	7,893.00	-1,001.83	-1,297.98	1,392.53	0.00	0.00	0.00
9,900.00	90.00	270.24	7,893.00	-1,001.41	-1,397.98	1,491.98	0.00	0.00	0.00
10,000.00	90.00	270.24	7,893.00	-1,001.00	-1,497.98	1,591.42	0.00	0.00	0.00
10,100.00	90.00	270.24	7,893.00	-1,000.58	-1,597.98	1,690.87	0.00	0.00	0.00
10,200.00	90.00	270.24	7,893.00	-1,000.17	-1,697.98	1,790.31	0.00	0.00	0.00
10,300.00	90.00	270.24	7,893.00	-999.75	-1,797.98	1,889.76	0.00	0.00	0.00
10,400.00	90.00	270.24	7,893.00	-999.33	-1,897.97	1,989.21	0.00	0.00	0.00
10,500.00	90.00	270.24	7,893.00	-998.92	-1,997.97	2,088.65	0.00	0.00	0.00
10,600.00	90.00	270.24	7,893.00	-998.50	-2,097.97	2,188.10	0.00	0.00	0.00
10,700.00	90.00	270.24	7,893.00	-998.08	-2,197.97	2,287.54	0.00	0.00	0.00
10,800.00	90.00	270.24	7,893.00	-997.67	-2,297.97	2,386.99	0.00	0.00	0.00
10,900.00	90.00	270.24	7,893.00	-997.25	-2,397.97	2,486.43	0.00	0.00	0.00
11,000.00	90.00	270.24	7,893.00	-996.84	-2,497.97	2,585.88	0.00	0.00	0.00
11,100.00	90.00	270.24	7,893.00	-996.42	-2,597.97	2,685.33	0.00	0.00	0.00
11,200.00	90.00	270.24	7,893.00	-996.00	-2,697.97	2,784.77	0.00	0.00	0.00
11,300.00	90.00	270.24	7,893.00	-995.59	-2,797.97	2,884.22	0.00	0.00	0.00
11,400.00	90.00	270.24	7,893.00	-995.17	-2,897.97	2,983.66	0.00	0.00	0.00
11,500.00	90.00	270.24	7,893.00	-994.76	-2,997.97	3,083.11	0.00	0.00	0.00
11,600.00	90.00	270.24	7,893.00	-994.34	-3,097.96	3,182.55	0.00	0.00	0.00
11,700.00	90.00	270.24	7,893.00	-993.92	-3,197.96	3,282.00	0.00	0.00	0.00
11,800.00	90.00	270.24	7,893.00	-993.51	-3,297.96	3,381.45	0.00	0.00	0.00
11,900.00	90.00	270.24	7,893.00	-993.09	-3,397.96	3,480.89	0.00	0.00	0.00
12,000.00	90.00	270.24	7,893.00	-992.68	-3,497.96	3,580.34	0.00	0.00	0.00
12,100.00	90.00	270.24	7,893.00	-992.26	-3,597.96	3,679.78	0.00	0.00	0.00
12,200.00	90.00	270.24	7,893.00	-991.84	-3,697.96	3,779.23	0.00	0.00	0.00
12,300.00	90.00	270.24	7,893.00	-991.43	-3,797.96	3,878.67	0.00	0.00	0.00
12,400.00	90.00	270.24	7,893.00	-991.01	-3,897.96	3,978.12	0.00	0.00	0.00
12,500.00	90.00	270.24	7,893.00	-990.59	-3,997.96	4,077.57	0.00	0.00	0.00
12,600.00	90.00	270.24	7,893.00	-990.18	-4,097.96	4,177.01	0.00	0.00	0.00
12,700.00	90.00	270.24	7,893.00	-989.76	-4,197.95	4,276.46	0.00	0.00	0.00
12,800.00	90.00	270.24	7,893.00	-989.35	-4,297.95	4,375.90	0.00	0.00	0.00
12,900.00	90.00	270.24	7,893.00	-988.93	-4,397.95	4,475.35	0.00	0.00	0.00
13,000.00	90.00	270.24	7,893.00	-988.51	-4,497.95	4,574.79	0.00	0.00	0.00
13,100.00	90.00	270.24	7,893.00	-988.10	-4,597.95	4,674.24	0.00	0.00	0.00
13,200.00	90.00	270.24	7,893.00	-987.68	-4,697.95	4,773.69	0.00	0.00	0.00
13,300.00	90.00	270.24	7,893.00	-987.27	-4,797.95	4,873.13	0.00	0.00	0.00
13,400.00	90.00	270.24	7,893.00	-986.85	-4,897.95	4,972.58	0.00	0.00	0.00
13,500.00	90.00	270.24	7,893.00	-986.43	-4,997.95	5,072.02	0.00	0.00	0.00
13,600.00	90.00	270.24	7,893.00	-986.02	-5,097.95	5,171.47	0.00	0.00	0.00
13,700.00	90.00	270.24	7,893.00	-985.60	-5,197.95	5,270.91	0.00	0.00	0.00
13,800.00	90.00	270.24	7,893.00	-985.19	-5,297.95	5,370.36	0.00	0.00	0.00
13,900.00	90.00	270.24	7,893.00	-984.77	-5,397.94	5,469.81	0.00	0.00	0.00
14,000.00	90.00	270.24	7,893.00	-984.35	-5,497.94	5,569.25	0.00	0.00	0.00
14,100.00	90.00	270.24	7,893.00	-983.94	-5,597.94	5,668.70	0.00	0.00	0.00
14,200.00	90.00	270.24	7,893.00	-983.52	-5,697.94	5,768.14	0.00	0.00	0.00
14,300.00	90.00	270.24	7,893.00	-983.10	-5,797.94	5,867.59	0.00	0.00	0.00
14,400.00	90.00	270.24	7,893.00	-982.69	-5,897.94	5,967.03	0.00	0.00	0.00
14,500.00	90.00	270.24	7,893.00	-982.27	-5,997.94	6,066.48	0.00	0.00	0.00
14,600.00	90.00	270.24	7,893.00	-981.86	-6,097.94	6,165.93	0.00	0.00	0.00
14,700.00	90.00	270.24	7,893.00	-981.44	-6,197.94	6,265.37	0.00	0.00	0.00

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDM Central Planning	<b>Local Co-ordinate Reference:</b>	Well Eastern Hills 4-65 17-18 2H_D
<b>Company:</b>	ConocoPhillips RBU Gold Data_Niobrara	<b>TVD Reference:</b>	25' RKB @ 5648.80ft
<b>Project:</b>	Niobrara - CO Central Zone	<b>MD Reference:</b>	25' RKB @ 5648.80ft
<b>Site:</b>	Eastern Hills	<b>North Reference:</b>	True
<b>Well:</b>	Eastern Hills 4-65 17-18 2H_D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Eastern Hills 4-65 17-18 2H_D		
<b>Design:</b>	Eastern Hills 4-65 17-18 2H_D		

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)	
14,800.00	90.00	270.24	7,893.00	-981.02	-6,297.94	6,364.82	0.00	0.00	0.00	
14,900.00	90.00	270.24	7,893.00	-980.61	-6,397.94	6,464.26	0.00	0.00	0.00	
15,000.00	90.00	270.24	7,893.00	-980.19	-6,497.94	6,563.71	0.00	0.00	0.00	
15,100.00	90.00	270.24	7,893.00	-979.78	-6,597.93	6,663.15	0.00	0.00	0.00	
15,200.00	90.00	270.24	7,893.00	-979.36	-6,697.93	6,762.60	0.00	0.00	0.00	
15,300.00	90.00	270.24	7,893.00	-978.94	-6,797.93	6,862.05	0.00	0.00	0.00	
15,400.00	90.00	270.24	7,893.00	-978.53	-6,897.93	6,961.49	0.00	0.00	0.00	
15,500.00	90.00	270.24	7,893.00	-978.11	-6,997.93	7,060.94	0.00	0.00	0.00	
15,600.00	90.00	270.24	7,893.00	-977.70	-7,097.93	7,160.38	0.00	0.00	0.00	
15,700.00	90.00	270.24	7,893.00	-977.28	-7,197.93	7,259.83	0.00	0.00	0.00	
15,800.00	90.00	270.24	7,893.00	-976.86	-7,297.93	7,359.27	0.00	0.00	0.00	
15,900.00	90.00	270.24	7,893.00	-976.45	-7,397.93	7,458.72	0.00	0.00	0.00	
16,000.00	90.00	270.24	7,893.00	-976.03	-7,497.93	7,558.17	0.00	0.00	0.00	
16,100.00	90.00	270.24	7,893.00	-975.61	-7,597.93	7,657.61	0.00	0.00	0.00	
16,200.00	90.00	270.24	7,893.00	-975.20	-7,697.92	7,757.06	0.00	0.00	0.00	
16,300.00	90.00	270.24	7,893.00	-974.78	-7,797.92	7,856.50	0.00	0.00	0.00	
16,400.00	90.00	270.24	7,893.00	-974.37	-7,897.92	7,955.95	0.00	0.00	0.00	
16,500.00	90.00	270.24	7,893.00	-973.95	-7,997.92	8,055.39	0.00	0.00	0.00	
16,600.00	90.00	270.24	7,893.00	-973.53	-8,097.92	8,154.84	0.00	0.00	0.00	
16,700.00	90.00	270.24	7,893.00	-973.12	-8,197.92	8,254.29	0.00	0.00	0.00	
16,800.00	90.00	270.24	7,893.00	-972.70	-8,297.92	8,353.73	0.00	0.00	0.00	
16,900.00	90.00	270.24	7,893.00	-972.29	-8,397.92	8,453.18	0.00	0.00	0.00	
17,000.00	90.00	270.24	7,893.00	-971.87	-8,497.92	8,552.62	0.00	0.00	0.00	
17,100.00	90.00	270.24	7,893.00	-971.45	-8,597.92	8,652.07	0.00	0.00	0.00	
17,200.00	90.00	270.24	7,893.00	-971.04	-8,697.92	8,751.51	0.00	0.00	0.00	
17,300.00	90.00	270.24	7,893.00	-970.62	-8,797.92	8,850.96	0.00	0.00	0.00	
17,400.00	90.00	270.24	7,893.00	-970.21	-8,897.91	8,950.41	0.00	0.00	0.00	
17,500.00	90.00	270.24	7,893.00	-969.79	-8,997.91	9,049.85	0.00	0.00	0.00	
17,600.00	90.00	270.24	7,893.00	-969.37	-9,097.91	9,149.30	0.00	0.00	0.00	
17,700.00	90.00	270.24	7,893.00	-968.96	-9,197.91	9,248.74	0.00	0.00	0.00	
17,800.00	90.00	270.24	7,893.00	-968.54	-9,297.91	9,348.19	0.00	0.00	0.00	
17,900.00	90.00	270.24	7,893.00	-968.12	-9,397.91	9,447.63	0.00	0.00	0.00	
18,000.00	90.00	270.24	7,893.00	-967.71	-9,497.91	9,547.08	0.00	0.00	0.00	
18,032.66	90.00	270.24	7,893.00	-967.57	-9,530.57	9,579.56	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Eastern Hills 4-65 17- - plan hits target center - Point	0.00	0.00	7,893.00	-1,007.80	136.78	1,682,414.627	3,230,545.656	39° 42' 15.030 N	104° 40' 50.190 W	
Eastern Hills 4-65 17- - plan hits target center - Point	0.00	0.00	7,893.00	-967.57	-9,530.57	1,682,367.711	3,220,878.441	39° 42' 15.410 N	104° 42' 53.880 W	

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDM Central Planning	<b>Local Co-ordinate Reference:</b>	Well Eastern Hills 4-65 17-18 2H_D
<b>Company:</b>	ConocoPhillips RBU Gold Data_Niobrara	<b>TVD Reference:</b>	25' RKB @ 5648.80ft
<b>Project:</b>	Niobrara - CO Central Zone	<b>MD Reference:</b>	25' RKB @ 5648.80ft
<b>Site:</b>	Eastern Hills	<b>North Reference:</b>	True
<b>Well:</b>	Eastern Hills 4-65 17-18 2H_D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Eastern Hills 4-65 17-18 2H_D		
<b>Design:</b>	Eastern Hills 4-65 17-18 2H_D		

Casing Points					
	Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
	2,098.00	2,098.00	Surface	9-5/8	13-1/2
	18,032.66	7,893.00	Production	5-1/2	8-3/4



ConocoPhillips

Arapahoe County, Colorado

Eastern Hills 4-65 17-18 2H\_D

Well Targets

Name	TVD	Latitude	Longitude
Eastern Hills 4-65 17-18 2H_D BHL	7893.00	39° 42' 15.410 N	104° 42' 53.880 W
Eastern Hills 4-65 17-18 2H_D BPI	7893.00	39° 42' 15.030 N	104° 40' 50.190 W

Casing Depths

TVD	MD	Name	Size
2098.00	2098.00	Surface	9-5/8
7893.00	18032.66	Production	5-1/2

Well Profile Data

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2198.00	0.00	0.00	2198.00	0.00	0.00	0.00	0.00
3122.17	13.86	141.53	3113.18	-87.10	69.22	1.50	-60.07
7379.05	13.86	141.53	7246.07	-885.58	703.78	0.00	-610.73
8365.23	90.00	270.24	7893.00	-1007.80	136.78	10.00	-34.29
18032.66	90.00	270.24	7893.00	-967.57	-9530.57	0.00	9579.56

