



# ConocoPhillips

## Arapahoe County, Colorado

### State Massive 5-65 2-3 2DH

### Design A

Ground Level: 5823.90  
Surface Location Latitude: 39° 38' 50.810 N  
Surface Location Longitude: 104° 37' 25.820 W  
North Reference: True  
25' RKB @ 5848.90ft (25' RKB)

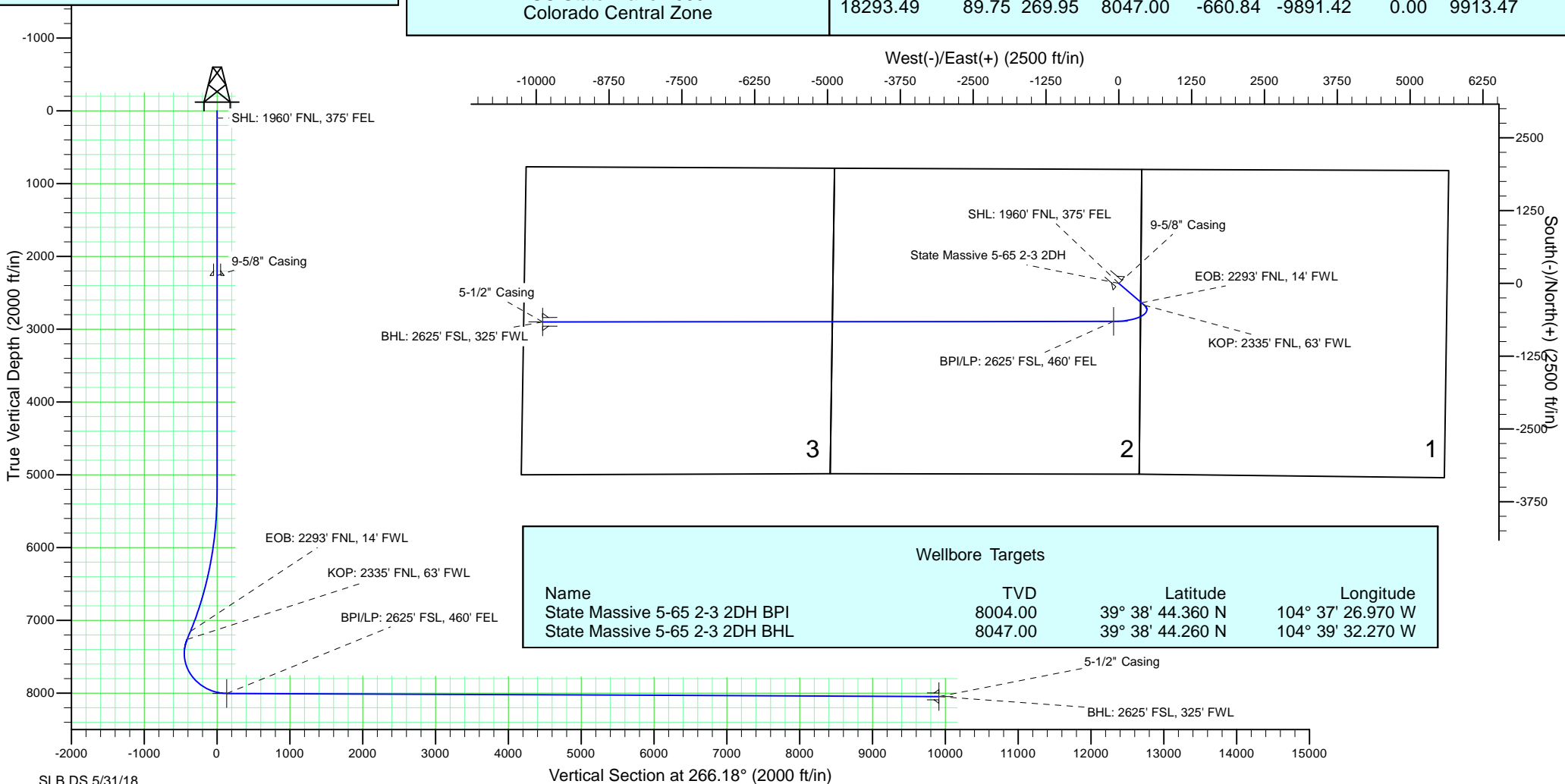
North American Datum 1983  
GRS 1980  
US State Plane 1983  
Colorado Central Zone

#### 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
5242.00	0.00	0.00	5242.00	0.00	0.00	0.00	0.00
7242.28	30.00	130.61	7152.10	-333.16	388.63	1.50	-365.56
7371.29	30.00	130.61	7263.83	-375.14	437.61	0.00	-411.63
8491.89	89.75	269.95	8004.00	-652.63	-89.93	10.00	133.23
18293.49	89.75	269.95	8047.00	-660.84	-9891.42	0.00	9913.47

#### Casing Depths

TVD	MD	Name	Size
2263.00	2263.00	9-5/8" Casing	9-5/8
8047.00	18293.49	5-1/2" Casing	5-1/2



# **ConocoPhillips RBU Gold Data**

**Niobrara Central Zone**

**State Massive**

**State Massive 5-65 2-3 2DH**

**State Massive 5-65 2-3 2DH**

**Plan: Design A**

## **Standard Planning Report**

**31 May, 2018**



# ConocoPhillips

## Arapahoe County, Colorado

### State Massive 5-65 2-3 2DH

### Design A

Ground Level: 5823.90  
Surface Location Latitude: 39° 38' 50.810 N  
Surface Location Longitude: 104° 37' 25.820 W  
North Reference: True  
25' RKB @ 5848.90ft (25' RKB)

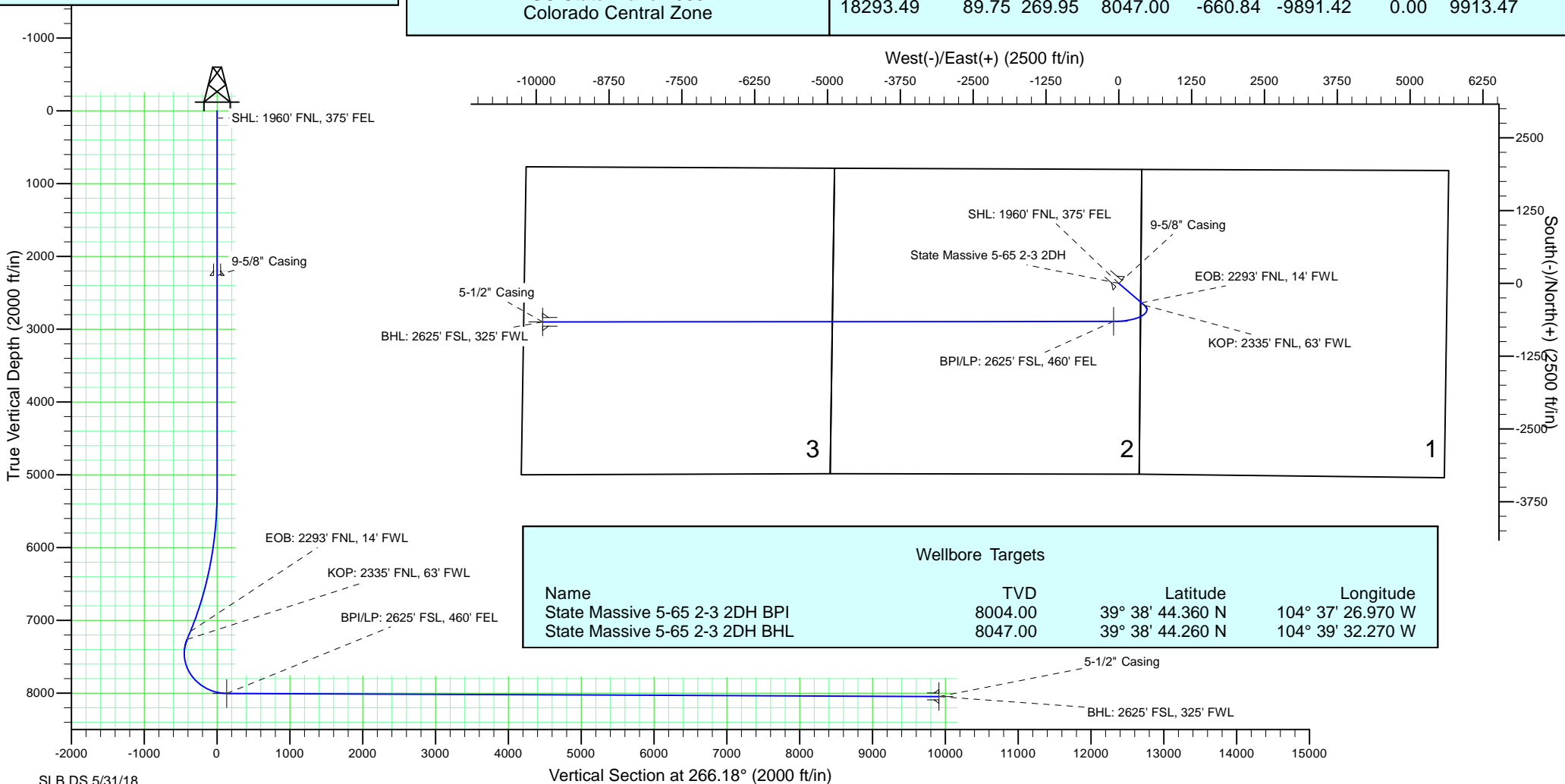
North American Datum 1983  
GRS 1980  
US State Plane 1983  
Colorado Central Zone

#### 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
5242.00	0.00	0.00	5242.00	0.00	0.00	0.00	0.00
7242.28	30.00	130.61	7152.10	-333.16	388.63	1.50	-365.56
7371.29	30.00	130.61	7263.83	-375.14	437.61	0.00	-411.63
8491.89	89.75	269.95	8004.00	-652.63	-89.93	10.00	133.23
18293.49	89.75	269.95	8047.00	-660.84	-9891.42	0.00	9913.47

#### Casing Depths

TVD	MD	Name	Size
2263.00	2263.00	9-5/8" Casing	9-5/8
8047.00	18293.49	5-1/2" Casing	5-1/2



# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<b>Design:</b>	Design A		

<b>Project</b>	Niobrara Central Zone, Colorado Central Zone, FIPS Zone: 0502		
<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 Central Zone		Using geodetic scale factor

<b>Site</b>	State Massive, T5S-R65W Sec 2		
<b>Site Position:</b>		<b>Northing:</b>	1,663,805.184 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,236,525.188 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	39° 39' 10.580 N
		<b>Longitude:</b>	104° 39' 35.888 W
		<b>Grid Convergence:</b>	0.53 °

<b>Well</b>	State Massive 5-65 2-3 2DH		
<b>Well Position</b>	<b>+N-S</b>	-1,998.45 ft	<b>Northing:</b> 1,661,900.938 usft
	<b>+E-W</b>	10,174.16 ft	<b>Easting:</b> 3,246,717.195 usft
<b>Position Uncertainty</b>		2.00 ft	<b>Wellhead Elevation:</b> 5,823.90 ft
			<b>Ground Level:</b> 5,823.90 ft

<b>Wellbore</b>	State Massive 5-65 2-3 2DH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2017	12/1/2018	8.13	66.27	51,828.84722270

<b>Design</b>	Design A			
<b>Audit Notes:</b>				
<b>Version:</b>	0	<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	266.18

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/31/2018		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	2,263.00	Design A (State Massive 5-65 2-3 2DH)	Gyro - bat/mem drop m/s
2	2,263.00	5,242.00	Design A (State Massive 5-65 2-3 2DH)	MWD + IFR (No SAG) corre
3	5,242.00	7,242.28	Design A (State Massive 5-65 2-3 2DH)	MWD + IFR (No SAG) corre
4	7,242.28	7,371.29	Design A (State Massive 5-65 2-3 2DH)	MWD + IFR (No SAG) corre
5	7,371.29	8,491.89	Design A (State Massive 5-65 2-3 2DH)	MWD + IFR (No SAG) corre
6	8,491.89	18,293.49	Design A (State Massive 5-65 2-3 2DH)	MWD + IFR (No SAG) corre

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<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	
5,242.00	0.00	0.00	5,242.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,242.28	30.00	130.61	7,152.10	-333.16	388.63	1.50	1.50	0.00	130.61	
7,371.29	30.00	130.61	7,263.83	-375.14	437.61	0.00	0.00	0.00	0.00	
8,491.90	89.75	269.95	8,004.00	-652.63	-89.93	10.00	5.33	12.44	135.34	State Massive 5-65
18,293.49	89.75	269.95	8,047.00	-660.84	-9,891.42	0.00	0.00	0.00	0.00	State Massive 5-65

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## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<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: 1960' FNL, 375' 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
1,600.00	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
1,891.00	0.00	0.00	1,891.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Top									
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
2,063.00	0.00	0.00	2,063.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Top - Fox Hills Base									
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
2,263.00	0.00	0.00	2,263.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing - 9-5/8" Casing									
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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## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<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
5,100.00	0.00	0.00	5,100.00	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
5,242.00	0.00	0.00	5,242.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.87	130.61	5,300.00	-0.29	0.33	-0.31	1.50	1.50	0.00
5,400.00	2.37	130.61	5,399.96	-2.13	2.48	-2.33	1.50	1.50	0.00
5,500.00	3.87	130.61	5,499.80	-5.67	6.61	-6.22	1.50	1.50	0.00
5,600.00	5.37	130.61	5,599.48	-10.91	12.73	-11.97	1.50	1.50	0.00
5,700.00	6.87	130.61	5,698.90	-17.85	20.82	-19.59	1.50	1.50	0.00
5,800.00	8.37	130.61	5,798.02	-26.48	30.89	-29.05	1.50	1.50	0.00
5,900.00	9.87	130.61	5,896.75	-36.80	42.92	-40.37	1.50	1.50	0.00
6,000.00	11.37	130.61	5,995.03	-48.79	56.91	-53.53	1.50	1.50	0.00
6,100.00	12.87	130.61	6,092.80	-62.45	72.85	-68.53	1.50	1.50	0.00
6,200.00	14.37	130.61	6,189.99	-77.78	90.73	-85.34	1.50	1.50	0.00
6,300.00	15.87	130.61	6,286.52	-94.76	110.53	-103.97	1.50	1.50	0.00
6,400.00	17.37	130.61	6,382.34	-113.37	132.25	-124.40	1.50	1.50	0.00
6,500.00	18.87	130.61	6,477.38	-133.61	155.86	-146.61	1.50	1.50	0.00
6,600.00	20.37	130.61	6,571.57	-155.47	181.35	-170.59	1.50	1.50	0.00
6,700.00	21.87	130.61	6,664.85	-178.92	208.71	-196.32	1.50	1.50	0.00
6,800.00	23.37	130.61	6,757.16	-203.95	237.91	-223.78	1.50	1.50	0.00
6,900.00	24.87	130.61	6,848.42	-230.54	268.93	-252.97	1.50	1.50	0.00
7,000.00	26.37	130.61	6,938.59	-258.69	301.76	-283.84	1.50	1.50	0.00
7,100.00	27.87	130.61	7,027.59	-288.35	336.37	-316.40	1.50	1.50	0.00
7,200.00	29.37	130.61	7,115.37	-319.53	372.73	-350.60	1.50	1.50	0.00
7,242.28	30.00	130.61	7,152.10	-333.16	388.63	-365.56	1.50	1.50	0.00
<b>EOB: 2293' FNL, 14' FWL</b>									
7,300.00	30.00	130.61	7,202.09	-351.94	410.54	-386.17	0.00	0.00	0.00
7,371.29	30.00	130.61	7,263.82	-375.14	437.61	-411.63	0.00	0.00	0.00
<b>KOP: 2335' FNL, 63' FWL</b>									
7,400.00	28.03	134.90	7,288.93	-384.58	447.84	-421.21	10.00	-6.88	14.96
7,450.00	24.97	143.79	7,333.69	-401.40	462.41	-434.62	10.00	-6.12	17.77
7,500.00	22.56	154.69	7,379.47	-418.59	472.75	-443.79	10.00	-4.81	21.81
7,550.00	21.04	167.54	7,425.92	-436.04	478.79	-448.66	10.00	-3.05	25.70
7,600.00	20.59	181.59	7,472.69	-453.60	480.48	-449.18	10.00	-0.90	28.09
7,650.00	21.28	195.48	7,519.41	-471.14	477.82	-445.35	10.00	1.39	27.78
7,700.00	23.02	207.94	7,565.75	-488.54	470.81	-437.20	10.00	3.47	24.93
7,750.00	25.58	218.40	7,611.34	-505.64	459.52	-424.79	10.00	5.13	20.91
7,800.00	28.76	226.88	7,655.83	-522.34	444.02	-408.22	10.00	6.35	16.96
7,850.00	32.36	233.71	7,698.89	-538.49	424.44	-387.61	10.00	7.21	13.66
7,900.00	36.26	239.26	7,740.19	-553.98	400.93	-363.11	10.00	7.81	11.11
7,950.00	40.38	243.85	7,779.42	-568.68	373.67	-334.93	10.00	8.23	9.17
7,998.22	44.49	247.58	7,815.00	-582.02	344.01	-304.45	10.00	8.53	7.74
<b>Niobrara Top</b>									
8,000.00	44.65	247.71	7,816.27	-582.50	342.85	-303.26	10.00	8.66	7.14
8,050.00	49.03	251.02	7,850.47	-595.31	308.73	-268.36	10.00	8.76	6.62
8,100.00	53.49	253.91	7,881.76	-607.03	271.55	-230.48	10.00	8.92	5.79
8,150.00	58.02	256.49	7,909.89	-617.56	231.60	-189.92	10.00	9.05	5.15
8,200.00	62.59	258.82	7,934.66	-626.82	189.18	-146.98	10.00	9.14	4.66
8,250.00	67.19	260.96	7,955.87	-634.75	144.62	-101.99	10.00	9.21	4.29
8,300.00	71.83	262.97	7,973.37	-641.28	98.26	-55.29	10.00	9.27	4.01

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<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)
8,350.00	76.48	264.87	7,987.02	-646.37	50.44	-7.25	10.00	9.31	3.80
8,383.74	79.63	266.11	7,994.00	-648.96	17.54	25.75	10.00	9.33	3.67
<b>D Chalk Top</b>									
8,400.00	81.15	266.70	7,996.71	-649.97	1.54	41.79	10.00	9.34	3.62
8,450.00	85.83	268.48	8,002.38	-652.06	-48.08	91.43	10.00	9.35	3.56
8,491.89	89.75	269.95	8,004.00	-652.63	-89.92	133.22	10.00	9.36	3.52
<b>BPI/LP: 2625' FSL, 460' FEL</b>									
8,500.00	89.75	269.95	8,004.04	-652.64	-98.03	141.32	0.01	0.01	0.00
8,600.00	89.75	269.95	8,004.47	-652.72	-198.03	241.10	0.00	0.00	0.00
8,700.00	89.75	269.95	8,004.91	-652.81	-298.03	340.88	0.00	0.00	0.00
8,800.00	89.75	269.95	8,005.35	-652.89	-398.03	440.66	0.00	0.00	0.00
8,900.00	89.75	269.95	8,005.79	-652.97	-498.03	540.45	0.00	0.00	0.00
9,000.00	89.75	269.95	8,006.23	-653.06	-598.03	640.23	0.00	0.00	0.00
9,100.00	89.75	269.95	8,006.67	-653.14	-698.03	740.01	0.00	0.00	0.00
9,200.00	89.75	269.95	8,007.11	-653.22	-798.02	839.79	0.00	0.00	0.00
9,300.00	89.75	269.95	8,007.55	-653.31	-898.02	939.57	0.00	0.00	0.00
9,400.00	89.75	269.95	8,007.98	-653.39	-998.02	1,039.36	0.00	0.00	0.00
9,500.00	89.75	269.95	8,008.42	-653.48	-1,098.02	1,139.14	0.00	0.00	0.00
9,600.00	89.75	269.95	8,008.86	-653.56	-1,198.02	1,238.92	0.00	0.00	0.00
9,700.00	89.75	269.95	8,009.30	-653.64	-1,298.02	1,338.70	0.00	0.00	0.00
9,800.00	89.75	269.95	8,009.74	-653.73	-1,398.02	1,438.49	0.00	0.00	0.00
9,900.00	89.75	269.95	8,010.18	-653.81	-1,498.02	1,538.27	0.00	0.00	0.00
10,000.00	89.75	269.95	8,010.62	-653.89	-1,598.02	1,638.05	0.00	0.00	0.00
10,100.00	89.75	269.95	8,011.06	-653.98	-1,698.02	1,737.83	0.00	0.00	0.00
10,200.00	89.75	269.95	8,011.49	-654.06	-1,798.01	1,837.61	0.00	0.00	0.00
10,300.00	89.75	269.95	8,011.93	-654.15	-1,898.01	1,937.40	0.00	0.00	0.00
10,400.00	89.75	269.95	8,012.37	-654.23	-1,998.01	2,037.18	0.00	0.00	0.00
10,500.00	89.75	269.95	8,012.81	-654.31	-2,098.01	2,136.96	0.00	0.00	0.00
10,600.00	89.75	269.95	8,013.25	-654.40	-2,198.01	2,236.74	0.00	0.00	0.00
10,700.00	89.75	269.95	8,013.69	-654.48	-2,298.01	2,336.52	0.00	0.00	0.00
10,800.00	89.75	269.95	8,014.13	-654.56	-2,398.01	2,436.31	0.00	0.00	0.00
10,900.00	89.75	269.95	8,014.56	-654.65	-2,498.01	2,536.09	0.00	0.00	0.00
11,000.00	89.75	269.95	8,015.00	-654.73	-2,598.01	2,635.87	0.00	0.00	0.00
11,100.00	89.75	269.95	8,015.44	-654.82	-2,698.01	2,735.65	0.00	0.00	0.00
11,200.00	89.75	269.95	8,015.88	-654.90	-2,798.00	2,835.44	0.00	0.00	0.00
11,300.00	89.75	269.95	8,016.32	-654.98	-2,898.00	2,935.22	0.00	0.00	0.00
11,400.00	89.75	269.95	8,016.76	-655.07	-2,998.00	3,035.00	0.00	0.00	0.00
11,500.00	89.75	269.95	8,017.20	-655.15	-3,098.00	3,134.78	0.00	0.00	0.00
11,600.00	89.75	269.95	8,017.64	-655.23	-3,198.00	3,234.56	0.00	0.00	0.00
11,700.00	89.75	269.95	8,018.07	-655.32	-3,298.00	3,334.35	0.00	0.00	0.00
11,800.00	89.75	269.95	8,018.51	-655.40	-3,398.00	3,434.13	0.00	0.00	0.00
11,900.00	89.75	269.95	8,018.95	-655.49	-3,498.00	3,533.91	0.00	0.00	0.00
12,000.00	89.75	269.95	8,019.39	-655.57	-3,598.00	3,633.69	0.00	0.00	0.00
12,100.00	89.75	269.95	8,019.83	-655.65	-3,698.00	3,733.48	0.00	0.00	0.00
12,200.00	89.75	269.95	8,020.27	-655.74	-3,797.99	3,833.26	0.00	0.00	0.00
12,300.00	89.75	269.95	8,020.71	-655.82	-3,897.99	3,933.04	0.00	0.00	0.00
12,400.00	89.75	269.95	8,021.15	-655.90	-3,997.99	4,032.82	0.00	0.00	0.00
12,500.00	89.75	269.95	8,021.58	-655.99	-4,097.99	4,132.60	0.00	0.00	0.00
12,600.00	89.75	269.95	8,022.02	-656.07	-4,197.99	4,232.39	0.00	0.00	0.00
12,700.00	89.75	269.95	8,022.46	-656.16	-4,297.99	4,332.17	0.00	0.00	0.00
12,800.00	89.75	269.95	8,022.90	-656.24	-4,397.99	4,431.95	0.00	0.00	0.00
12,900.00	89.75	269.95	8,023.34	-656.32	-4,497.99	4,531.73	0.00	0.00	0.00
13,000.00	89.75	269.95	8,023.78	-656.41	-4,597.99	4,631.51	0.00	0.00	0.00
13,100.00	89.75	269.95	8,024.22	-656.49	-4,697.99	4,731.30	0.00	0.00	0.00



# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<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)	
13,200.00	89.75	269.95	8,024.65	-656.57	-4,797.98	4,831.08	0.00	0.00	0.00	
13,300.00	89.75	269.95	8,025.09	-656.66	-4,897.98	4,930.86	0.00	0.00	0.00	
13,400.00	89.75	269.95	8,025.53	-656.74	-4,997.98	5,030.64	0.00	0.00	0.00	
13,500.00	89.75	269.95	8,025.97	-656.82	-5,097.98	5,130.43	0.00	0.00	0.00	
13,600.00	89.75	269.95	8,026.41	-656.91	-5,197.98	5,230.21	0.00	0.00	0.00	
13,700.00	89.75	269.95	8,026.85	-656.99	-5,297.98	5,329.99	0.00	0.00	0.00	
13,800.00	89.75	269.95	8,027.29	-657.08	-5,397.98	5,429.77	0.00	0.00	0.00	
13,900.00	89.75	269.95	8,027.73	-657.16	-5,497.98	5,529.55	0.00	0.00	0.00	
14,000.00	89.75	269.95	8,028.16	-657.24	-5,597.98	5,629.34	0.00	0.00	0.00	
14,100.00	89.75	269.95	8,028.60	-657.33	-5,697.98	5,729.12	0.00	0.00	0.00	
14,200.00	89.75	269.95	8,029.04	-657.41	-5,797.97	5,828.90	0.00	0.00	0.00	
14,300.00	89.75	269.95	8,029.48	-657.49	-5,897.97	5,928.68	0.00	0.00	0.00	
14,400.00	89.75	269.95	8,029.92	-657.58	-5,997.97	6,028.47	0.00	0.00	0.00	
14,500.00	89.75	269.95	8,030.36	-657.66	-6,097.97	6,128.25	0.00	0.00	0.00	
14,600.00	89.75	269.95	8,030.80	-657.75	-6,197.97	6,228.03	0.00	0.00	0.00	
14,700.00	89.75	269.95	8,031.24	-657.83	-6,297.97	6,327.81	0.00	0.00	0.00	
14,800.00	89.75	269.95	8,031.67	-657.91	-6,397.97	6,427.59	0.00	0.00	0.00	
14,900.00	89.75	269.95	8,032.11	-658.00	-6,497.97	6,527.38	0.00	0.00	0.00	
15,000.00	89.75	269.95	8,032.55	-658.08	-6,597.97	6,627.16	0.00	0.00	0.00	
15,100.00	89.75	269.95	8,032.99	-658.16	-6,697.97	6,726.94	0.00	0.00	0.00	
15,200.00	89.75	269.95	8,033.43	-658.25	-6,797.96	6,826.72	0.00	0.00	0.00	
15,300.00	89.75	269.95	8,033.87	-658.33	-6,897.96	6,926.50	0.00	0.00	0.00	
15,400.00	89.75	269.95	8,034.31	-658.42	-6,997.96	7,026.29	0.00	0.00	0.00	
15,500.00	89.75	269.95	8,034.75	-658.50	-7,097.96	7,126.07	0.00	0.00	0.00	
15,600.00	89.75	269.95	8,035.18	-658.58	-7,197.96	7,225.85	0.00	0.00	0.00	
15,700.00	89.75	269.95	8,035.62	-658.67	-7,297.96	7,325.63	0.00	0.00	0.00	
15,800.00	89.75	269.95	8,036.06	-658.75	-7,397.96	7,425.42	0.00	0.00	0.00	
15,900.00	89.75	269.95	8,036.50	-658.83	-7,497.96	7,525.20	0.00	0.00	0.00	
16,000.00	89.75	269.95	8,036.94	-658.92	-7,597.96	7,624.98	0.00	0.00	0.00	
16,100.00	89.75	269.95	8,037.38	-659.00	-7,697.96	7,724.76	0.00	0.00	0.00	
16,200.00	89.75	269.95	8,037.82	-659.09	-7,797.95	7,824.54	0.00	0.00	0.00	
16,300.00	89.75	269.95	8,038.25	-659.17	-7,897.95	7,924.33	0.00	0.00	0.00	
16,400.00	89.75	269.95	8,038.69	-659.25	-7,997.95	8,024.11	0.00	0.00	0.00	
16,500.00	89.75	269.95	8,039.13	-659.34	-8,097.95	8,123.89	0.00	0.00	0.00	
16,600.00	89.75	269.95	8,039.57	-659.42	-8,197.95	8,223.67	0.00	0.00	0.00	
16,700.00	89.75	269.95	8,040.01	-659.50	-8,297.95	8,323.46	0.00	0.00	0.00	
16,800.00	89.75	269.95	8,040.45	-659.59	-8,397.95	8,423.24	0.00	0.00	0.00	
16,900.00	89.75	269.95	8,040.89	-659.67	-8,497.95	8,523.02	0.00	0.00	0.00	
17,000.00	89.75	269.95	8,041.33	-659.76	-8,597.95	8,622.80	0.00	0.00	0.00	
17,100.00	89.75	269.95	8,041.76	-659.84	-8,697.95	8,722.58	0.00	0.00	0.00	
17,200.00	89.75	269.95	8,042.20	-659.92	-8,797.94	8,822.37	0.00	0.00	0.00	
17,300.00	89.75	269.95	8,042.64	-660.01	-8,897.94	8,922.15	0.00	0.00	0.00	
17,400.00	89.75	269.95	8,043.08	-660.09	-8,997.94	9,021.93	0.00	0.00	0.00	
17,500.00	89.75	269.95	8,043.52	-660.17	-9,097.94	9,121.71	0.00	0.00	0.00	
17,600.00	89.75	269.95	8,043.96	-660.26	-9,197.94	9,221.49	0.00	0.00	0.00	
17,700.00	89.75	269.95	8,044.40	-660.34	-9,297.94	9,321.28	0.00	0.00	0.00	
17,800.00	89.75	269.95	8,044.84	-660.43	-9,397.94	9,421.06	0.00	0.00	0.00	
17,900.00	89.75	269.95	8,045.27	-660.51	-9,497.94	9,520.84	0.00	0.00	0.00	
18,000.00	89.75	269.95	8,045.71	-660.59	-9,597.94	9,620.62	0.00	0.00	0.00	
18,100.00	89.75	269.95	8,046.15	-660.68	-9,697.94	9,720.41	0.00	0.00	0.00	
18,200.00	89.75	269.95	8,046.59	-660.76	-9,797.93	9,820.19	0.00	0.00	0.00	
18,293.49	89.75	269.95	8,047.00	-660.84	-9,891.42	9,913.47	0.00	0.00	0.00	
BHL: 2625' FSL, 325' FWL										

# ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 14 Central Planning	<b>Local Co-ordinate Reference:</b>	Well State Massive 5-65 2-3 2DH
<b>Company:</b>	ConocoPhillips RBU Gold Data	<b>TVD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Project:</b>	Niobrara Central Zone	<b>MD Reference:</b>	25' RKB @ 5848.90ft (25' RKB)
<b>Site:</b>	State Massive	<b>North Reference:</b>	True
<b>Well:</b>	State Massive 5-65 2-3 2DH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	State Massive 5-65 2-3 2DH		
<b>Design:</b>	Design A		

### Design Targets

#### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
State Massive 5-65 2- - plan hits target center - Point	0.00	0.00	8,004.00	-652.63	-89.93	1,661,247.483	3,246,633.569	39° 38' 44.360 N	104° 37' 26.970 W
State Massive 5-65 2- - plan hits target center - Point	0.00	0.00	8,047.00	-660.84	-9,891.42	1,661,144.750	3,236,832.810	39° 38' 44.260 N	104° 39' 32.270 W

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,263.00	2,263.00	9-5/8" Casing	9-5/8	12-1/4
18,293.49	8,047.00	5-1/2" Casing	5-1/2	8-1/2

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,891.00	1,891.00	Fox Hills Top		0.00	
2,063.00	2,063.00	Pierre Top - Fox Hills Base		0.00	
2,263.00	2,263.00	Surface Casing		0.00	
7,998.22	7,815.00	Niobrara Top		0.00	
8,383.74	7,994.00	D Chalk Top		0.00	

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
100.00	100.00	0.00	0.00	SHL: 1960' FNL, 375' FEL
7,242.28	7,152.10	-333.16	388.63	EOB: 2293' FNL, 14' FWL
7,371.29	7,263.82	-375.14	437.61	KOP: 2335' FNL, 63' FWL
8,491.89	8,004.00	-652.63	-89.92	BPI/LP: 2625' FSL, 460' FEL
18,293.49	8,047.00	-660.84	-9,891.42	BHL: 2625' FSL, 325' FWL