



Casing Depths

TVD	MD	Name	Size
2183.00	2183.00	9-5/8" Casing	9-5/8
7967.00	18122.39	5-1/2" Casing	5-1/2

ConocoPhillips

Arapahoe County, Colorado

Eastern Hills 4-65 17-18 2DH

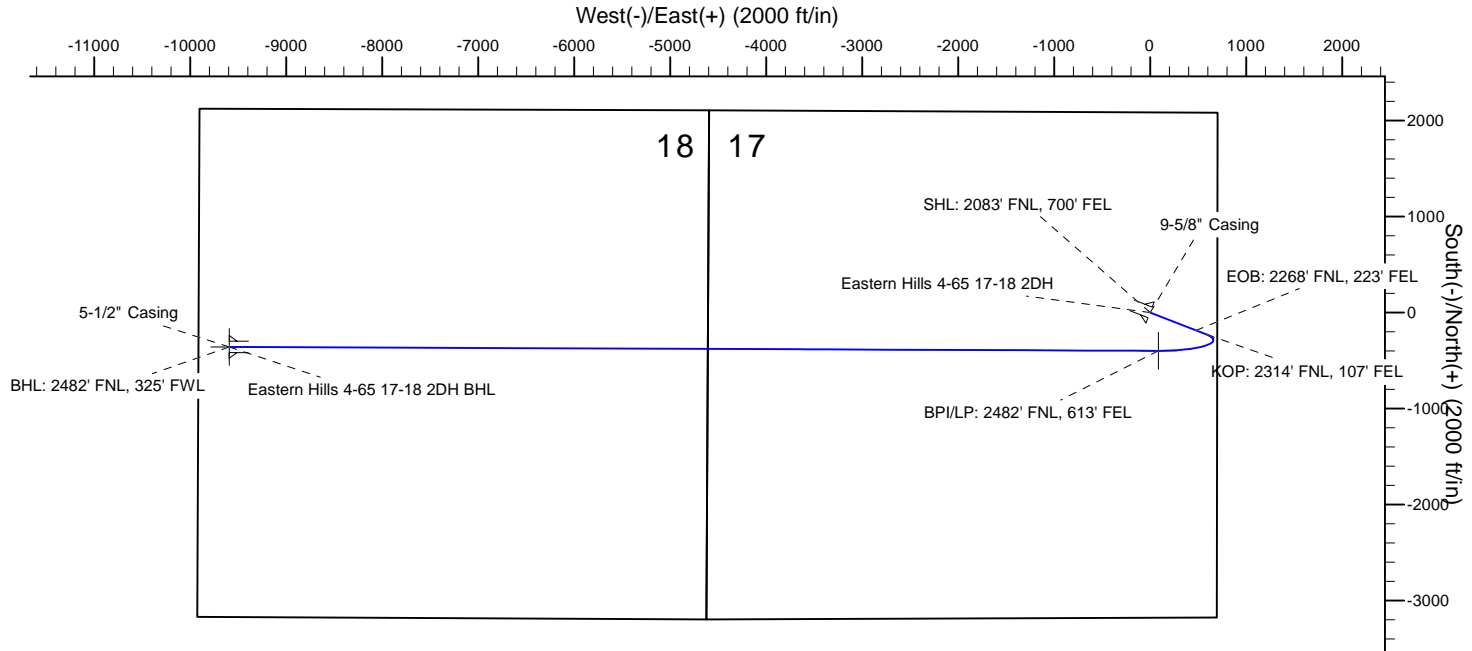
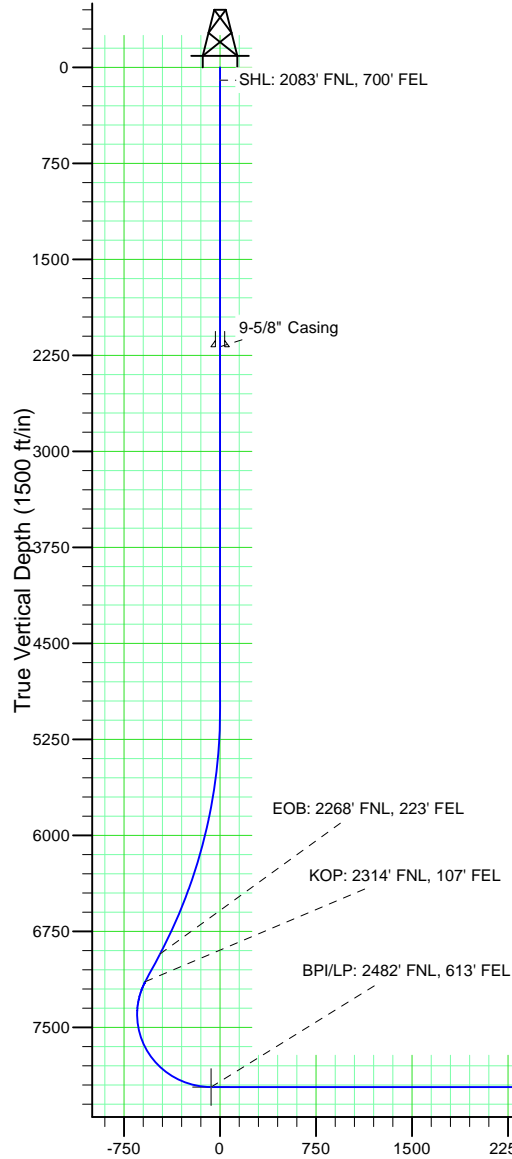
Design C

Ground Level: 5632.30
Surface Location Latitude: 39° 42' 18.980 N
Surface Location Longitude: 104° 40' 51.160 W
North Reference: True
27' RKB @ 5659.30ft (27' 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
5017.00	0.00	0.00	5017.00	0.00	0.00	0.00	0.00
7017.02	30.00	111.23	6926.87	-185.35	477.01	1.50	-469.75
7266.58	30.00	111.23	7143.00	-230.55	593.32	0.00	-584.30
8444.80	89.99	270.24	7966.00	-398.67	85.97	10.00	-71.03
18122.39	89.99	270.24	7967.00	-358.42	-9591.53	0.00	9598.23



Wellbore Targets

Name	TVD	Latitude	Longitude
Eastern Hills 4-65 17-18 2DH BPI	7966.00	39° 42' 15.040 N	104° 40' 50.060 W
Eastern Hills 4-65 17-18 2DH BHL	7967.00	39° 42' 15.420 N	104° 42' 53.880 W

ConocoPhillips RBU Gold Data

Niobrara Central Zone

Eastern Hills

Eastern Hills 4-65 17-18 2DH

Eastern Hills 4-65 17-18 2DH

Plan: Design C

Standard Planning Report

26 April, 2018



Casing Depths

TVD	MD	Name	Size
2183.00	2183.00	9-5/8" Casing	9-5/8
7967.00	18122.39	5-1/2" Casing	5-1/2

ConocoPhillips

Arapahoe County, Colorado

Eastern Hills 4-65 17-18 2DH

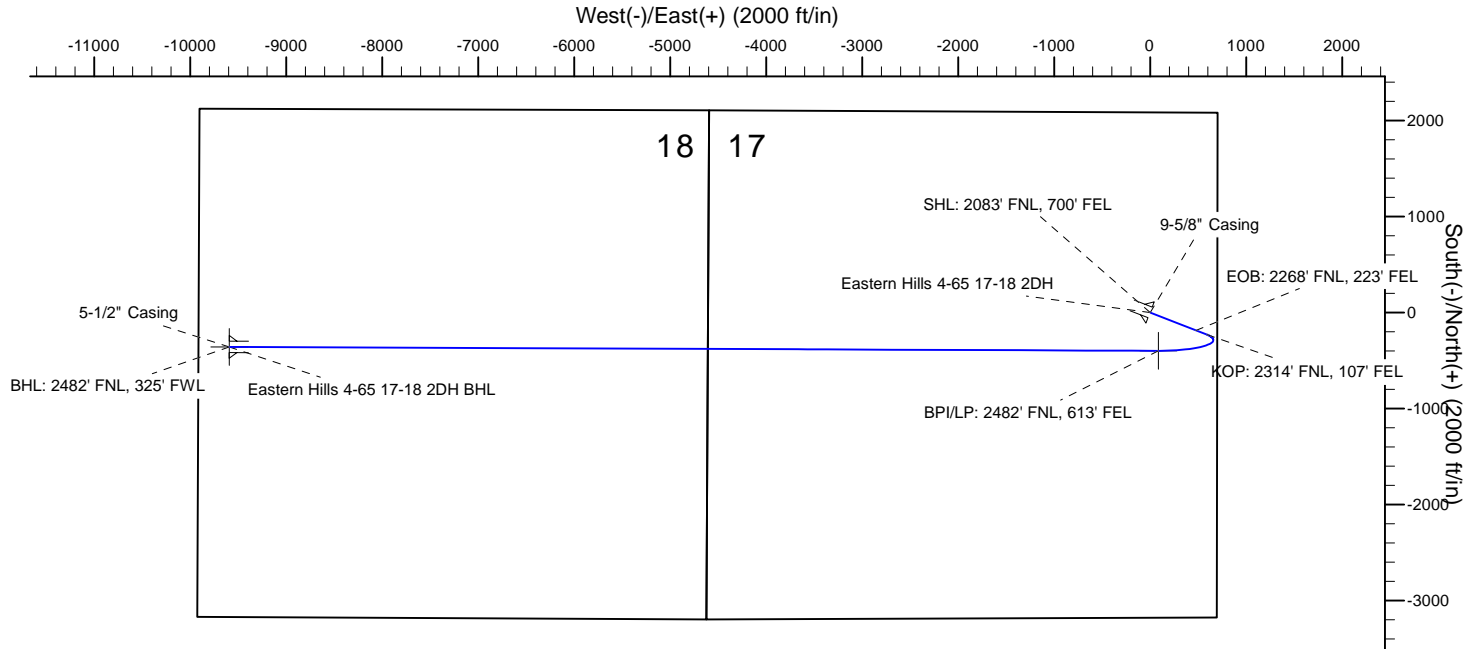
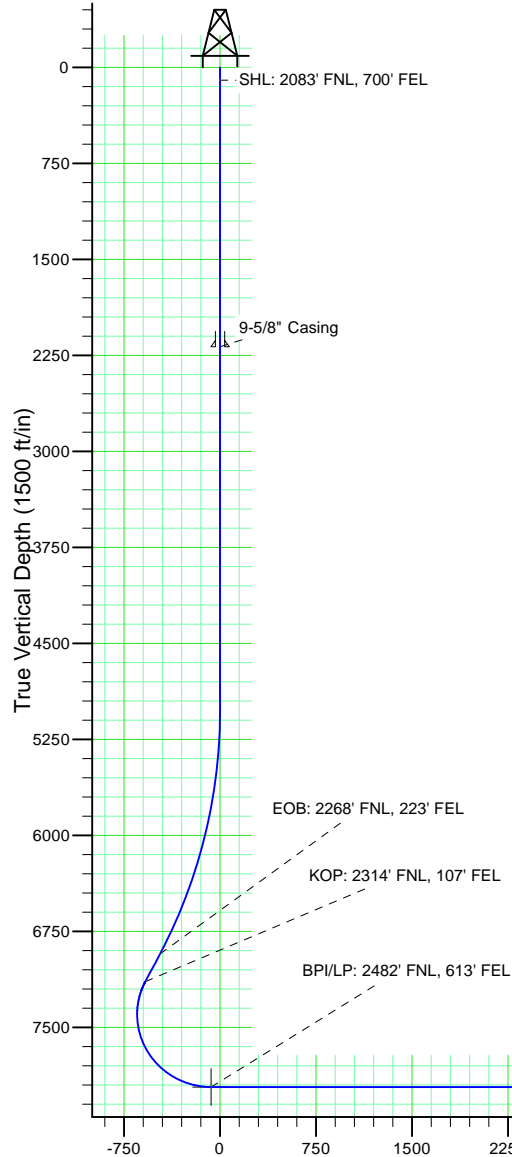
Design C

Ground Level: 5632.30
Surface Location Latitude: 39° 42' 18.980 N
Surface Location Longitude: 104° 40' 51.160 W
North Reference: True
27' RKB @ 5659.30ft (27' 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
5017.00	0.00	0.00	5017.00	0.00	0.00	0.00	0.00
7017.02	30.00	111.23	6926.87	-185.35	477.01	1.50	-469.75
7266.58	30.00	111.23	7143.00	-230.55	593.32	0.00	-584.30
8444.80	89.99	270.24	7966.00	-398.67	85.97	10.00	-71.03
18122.39	89.99	270.24	7967.00	-358.42	-9591.53	0.00	9598.23



Wellbore Targets

Name	TVD	Latitude	Longitude
Eastern Hills 4-65 17-18 2DH BPI	7966.00	39° 42' 15.040 N	104° 40' 50.060 W
Eastern Hills 4-65 17-18 2DH BHL	7967.00	39° 42' 15.420 N	104° 42' 53.880 W

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

Project	Niobrara Central Zone, Colorado Central Zone, FIPS Zone: 0502		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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:	26 "	Grid Convergence:	0.49 °

Well	Eastern Hills 4-65 17-18 2DH					
Well Position	+N-S	-2,119.87 ft	Northing:	1,682,813.602 usft	Latitude:	39° 42' 18.980 N
	+E-W	9,908.02 ft	Easting:	3,230,466.243 usft	Longitude:	104° 40' 51.160 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	5,632.30 ft	Ground Level:	5,632.30 ft

Wellbore	Eastern Hills 4-65 17-18 2DH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2017	12/1/2018	8.17	66.30	51,849.87216758

Design	Design C				
Audit Notes:	JM 8/15/2017 Rev B				
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	267.86	

Plan Survey Tool Program	Date	4/26/2018			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,183.00	Design C (Eastern Hills 4-65 17-1Gyro-BM-MS		
			Gyro - bat/mem drop m/s		
2	2,183.00	5,017.00	Design C (Eastern Hills 4-65 17-1MWD+IFR_No SAG		
			MWD + IFR (No SAG) corre		
3	5,017.00	7,017.02	Design C (Eastern Hills 4-65 17-1MWD+IFR_No SAG		
			MWD + IFR (No SAG) corre		
4	7,017.02	7,266.58	Design C (Eastern Hills 4-65 17-1MWD+IFR_No SAG		
			MWD + IFR (No SAG) corre		
5	7,266.58	8,444.80	Design C (Eastern Hills 4-65 17-1MWD+IFR_No SAG		
			MWD + IFR (No SAG) corre		
6	8,444.80	18,122.39	Design C (Eastern Hills 4-65 17-1MWD+IFR_No SAG		
			MWD + IFR (No SAG) corre		

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

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	
5,017.00	0.00	0.00	5,017.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,017.02	30.00	111.23	6,926.87	-185.35	477.01	1.50	1.50	0.00	111.23	
7,266.58	30.00	111.23	7,143.00	-230.55	593.32	0.00	0.00	0.00	0.00	
8,444.80	89.99	270.24	7,966.00	-398.67	85.97	10.00	5.09	13.50	156.10	Eastern Hills 4-65 1
18,122.39	89.99	270.24	7,967.00	-358.42	-9,591.53	0.00	0.00	0.00	0.00	Eastern Hills 4-65 1

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

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: 2083' FNL, 700' 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
1,748.00	0.00	0.00	1,748.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Top									
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
1,983.00	0.00	0.00	1,983.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Top - Fox Hills Base									
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
2,183.00	0.00	0.00	2,183.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing - 9-5/8" Casing									
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

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

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
5,017.00	0.00	0.00	5,017.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	1.25	111.23	5,099.99	-0.33	0.84	-0.83	1.50	1.50	0.00
5,200.00	2.75	111.23	5,199.93	-1.59	4.09	-4.02	1.50	1.50	0.00
5,300.00	4.25	111.23	5,299.74	-3.80	9.77	-9.62	1.50	1.50	0.00
5,400.00	5.75	111.23	5,399.36	-6.95	17.88	-17.61	1.50	1.50	0.00
5,500.00	7.25	111.23	5,498.71	-11.05	28.43	-27.99	1.50	1.50	0.00
5,600.00	8.75	111.23	5,597.74	-16.08	41.39	-40.76	1.50	1.50	0.00
5,700.00	10.25	111.23	5,696.37	-22.06	56.77	-55.90	1.50	1.50	0.00
5,800.00	11.75	111.23	5,794.53	-28.97	74.54	-73.41	1.50	1.50	0.00
5,900.00	13.25	111.23	5,892.16	-36.80	94.71	-93.27	1.50	1.50	0.00
6,000.00	14.75	111.23	5,989.19	-45.56	117.25	-115.47	1.50	1.50	0.00
6,100.00	16.25	111.23	6,085.55	-55.24	142.15	-139.99	1.50	1.50	0.00
6,200.00	17.75	111.23	6,181.18	-65.82	169.39	-166.82	1.50	1.50	0.00
6,300.00	19.25	111.23	6,276.01	-77.31	198.96	-195.94	1.50	1.50	0.00
6,400.00	20.75	111.23	6,369.98	-89.69	230.83	-227.32	1.50	1.50	0.00
6,500.00	22.25	111.23	6,463.02	-102.97	264.99	-260.96	1.50	1.50	0.00
6,600.00	23.75	111.23	6,555.07	-117.11	301.40	-296.81	1.50	1.50	0.00
6,700.00	25.25	111.23	6,646.07	-132.13	340.04	-334.87	1.50	1.50	0.00
6,800.00	26.75	111.23	6,735.95	-148.00	380.90	-375.10	1.50	1.50	0.00
6,900.00	28.25	111.23	6,824.65	-164.72	423.93	-417.48	1.50	1.50	0.00
7,000.00	29.75	111.23	6,912.12	-182.28	469.11	-461.97	1.50	1.50	0.00
7,017.02	30.00	111.23	6,926.88	-185.35	477.01	-469.76	1.50	1.50	0.00
EOB: 2268' FNL, 223' FEL									
7,100.00	30.00	111.23	6,998.74	-200.38	515.68	-507.84	0.00	0.00	0.00
7,200.00	30.00	111.23	7,085.34	-218.49	562.29	-553.74	0.00	0.00	0.00
7,266.58	30.00	111.23	7,143.00	-230.55	593.32	-584.30	0.00	0.00	0.00
KOP: 2314' FNL, 107' FEL									
7,300.00	26.98	114.22	7,172.37	-236.68	608.02	-598.76	10.00	-9.05	8.93
7,350.00	22.60	120.03	7,217.76	-246.15	626.70	-617.07	10.00	-8.74	11.62
7,400.00	18.53	128.34	7,264.57	-255.89	641.26	-631.26	10.00	-8.14	16.62
7,450.00	15.01	140.72	7,312.45	-265.84	651.60	-641.22	10.00	-7.05	24.77
7,500.00	12.51	159.07	7,361.04	-275.92	657.63	-646.87	10.00	-5.01	36.69
7,550.00	11.70	182.78	7,409.96	-286.04	659.32	-648.18	10.00	-1.62	47.41
7,600.00	12.91	205.72	7,458.84	-296.14	656.65	-645.14	10.00	2.42	45.89
7,650.00	15.67	222.74	7,507.31	-306.14	649.64	-637.76	10.00	5.53	34.03
7,700.00	19.34	234.12	7,555.00	-315.96	638.35	-626.10	10.00	7.33	22.77
7,750.00	23.48	241.81	7,601.55	-325.52	622.85	-610.26	10.00	8.30	15.38
7,800.00	27.90	247.24	7,646.60	-334.76	603.27	-590.35	10.00	8.83	10.87
7,850.00	32.47	251.27	7,689.81	-343.60	579.75	-566.52	10.00	9.15	8.06
7,900.00	37.15	254.39	7,730.86	-351.98	552.48	-538.95	10.00	9.35	6.24
7,938.78	40.82	256.38	7,761.00	-358.12	528.88	-515.13	10.00	9.47	5.13
Niobrara Top									
7,950.00	41.89	256.90	7,769.42	-359.83	521.67	-507.87	10.00	9.52	4.64
8,000.00	46.67	258.99	7,805.21	-367.09	487.54	-473.49	10.00	9.57	4.17
8,050.00	51.49	260.76	7,837.95	-373.71	450.36	-436.09	10.00	9.63	3.56
8,100.00	56.33	262.32	7,867.40	-379.63	410.40	-395.94	10.00	9.68	3.11
8,150.00	61.18	263.71	7,893.33	-384.82	367.99	-353.36	10.00	9.71	2.77
8,200.00	66.05	264.97	7,915.54	-389.22	323.43	-308.67	10.00	9.74	2.53
8,250.00	70.93	266.14	7,933.86	-392.82	277.06	-262.20	10.00	9.76	2.34

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

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)	
8,300.00	75.82	267.24	7,948.16	-395.58	229.25	-214.31	10.00	9.77	2.21	
8,336.52	79.39	268.02	7,956.00	-397.05	193.61	-178.65	10.00	9.78	2.12	
D Chalk Top										
8,350.00	80.71	268.30	7,958.33	-397.48	180.34	-165.38	10.00	9.79	2.09	
8,400.00	85.61	269.33	7,964.28	-398.50	130.73	-115.75	10.00	9.79	2.06	
8,444.80	89.99	270.24	7,966.00	-398.67	85.97	-71.02	10.00	9.79	2.03	
BPI/LP: 2482' FNL, 613' FEL										
8,500.00	89.99	270.24	7,966.01	-398.44	30.77	-15.87	0.00	0.00	0.00	
8,600.00	89.99	270.24	7,966.02	-398.02	-69.23	84.04	0.00	0.00	0.00	
8,700.00	89.99	270.24	7,966.03	-397.61	-169.23	183.96	0.00	0.00	0.00	
8,800.00	89.99	270.24	7,966.04	-397.19	-269.23	283.87	0.00	0.00	0.00	
8,900.00	89.99	270.24	7,966.05	-396.78	-369.23	383.78	0.00	0.00	0.00	
9,000.00	89.99	270.24	7,966.06	-396.36	-469.22	483.70	0.00	0.00	0.00	
9,100.00	89.99	270.24	7,966.07	-395.94	-569.22	583.61	0.00	0.00	0.00	
9,200.00	89.99	270.24	7,966.08	-395.53	-669.22	683.53	0.00	0.00	0.00	
9,300.00	89.99	270.24	7,966.09	-395.11	-769.22	783.44	0.00	0.00	0.00	
9,400.00	89.99	270.24	7,966.10	-394.70	-869.22	883.35	0.00	0.00	0.00	
9,500.00	89.99	270.24	7,966.11	-394.28	-969.22	983.27	0.00	0.00	0.00	
9,600.00	89.99	270.24	7,966.12	-393.87	-1,069.22	1,083.18	0.00	0.00	0.00	
9,700.00	89.99	270.24	7,966.13	-393.45	-1,169.22	1,183.10	0.00	0.00	0.00	
9,800.00	89.99	270.24	7,966.14	-393.03	-1,269.22	1,283.01	0.00	0.00	0.00	
9,900.00	89.99	270.24	7,966.15	-392.62	-1,369.22	1,382.92	0.00	0.00	0.00	
10,000.00	89.99	270.24	7,966.16	-392.20	-1,469.22	1,482.84	0.00	0.00	0.00	
10,100.00	89.99	270.24	7,966.17	-391.79	-1,569.22	1,582.75	0.00	0.00	0.00	
10,200.00	89.99	270.24	7,966.18	-391.37	-1,669.21	1,682.66	0.00	0.00	0.00	
10,300.00	89.99	270.24	7,966.19	-390.95	-1,769.21	1,782.58	0.00	0.00	0.00	
10,400.00	89.99	270.24	7,966.20	-390.54	-1,869.21	1,882.49	0.00	0.00	0.00	
10,500.00	89.99	270.24	7,966.21	-390.12	-1,969.21	1,982.41	0.00	0.00	0.00	
10,600.00	89.99	270.24	7,966.22	-389.71	-2,069.21	2,082.32	0.00	0.00	0.00	
10,700.00	89.99	270.24	7,966.23	-389.29	-2,169.21	2,182.23	0.00	0.00	0.00	
10,800.00	89.99	270.24	7,966.24	-388.87	-2,269.21	2,282.15	0.00	0.00	0.00	
10,900.00	89.99	270.24	7,966.25	-388.46	-2,369.21	2,382.06	0.00	0.00	0.00	
11,000.00	89.99	270.24	7,966.26	-388.04	-2,469.21	2,481.98	0.00	0.00	0.00	
11,100.00	89.99	270.24	7,966.27	-387.63	-2,569.21	2,581.89	0.00	0.00	0.00	
11,200.00	89.99	270.24	7,966.28	-387.21	-2,669.21	2,681.80	0.00	0.00	0.00	
11,300.00	89.99	270.24	7,966.30	-386.79	-2,769.21	2,781.72	0.00	0.00	0.00	
11,400.00	89.99	270.24	7,966.31	-386.38	-2,869.20	2,881.63	0.00	0.00	0.00	
11,500.00	89.99	270.24	7,966.32	-385.96	-2,969.20	2,981.55	0.00	0.00	0.00	
11,600.00	89.99	270.24	7,966.33	-385.55	-3,069.20	3,081.46	0.00	0.00	0.00	
11,700.00	89.99	270.24	7,966.34	-385.13	-3,169.20	3,181.37	0.00	0.00	0.00	
11,800.00	89.99	270.24	7,966.35	-384.71	-3,269.20	3,281.29	0.00	0.00	0.00	
11,900.00	89.99	270.24	7,966.36	-384.30	-3,369.20	3,381.20	0.00	0.00	0.00	
12,000.00	89.99	270.24	7,966.37	-383.88	-3,469.20	3,481.11	0.00	0.00	0.00	
12,100.00	89.99	270.24	7,966.38	-383.47	-3,569.20	3,581.03	0.00	0.00	0.00	
12,200.00	89.99	270.24	7,966.39	-383.05	-3,669.20	3,680.94	0.00	0.00	0.00	
12,300.00	89.99	270.24	7,966.40	-382.63	-3,769.20	3,780.86	0.00	0.00	0.00	
12,400.00	89.99	270.24	7,966.41	-382.22	-3,869.20	3,880.77	0.00	0.00	0.00	
12,500.00	89.99	270.24	7,966.42	-381.80	-3,969.19	3,980.68	0.00	0.00	0.00	
12,600.00	89.99	270.24	7,966.43	-381.39	-4,069.19	4,080.60	0.00	0.00	0.00	
12,700.00	89.99	270.24	7,966.44	-380.97	-4,169.19	4,180.51	0.00	0.00	0.00	
12,800.00	89.99	270.24	7,966.45	-380.56	-4,269.19	4,280.43	0.00	0.00	0.00	
12,900.00	89.99	270.24	7,966.46	-380.14	-4,369.19	4,380.34	0.00	0.00	0.00	
13,000.00	89.99	270.24	7,966.47	-379.72	-4,469.19	4,480.25	0.00	0.00	0.00	
13,100.00	89.99	270.24	7,966.48	-379.31	-4,569.19	4,580.17	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

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	89.99	270.24	7,966.49	-378.89	-4,669.19	4,680.08	0.00	0.00	0.00	
13,300.00	89.99	270.24	7,966.50	-378.48	-4,769.19	4,779.99	0.00	0.00	0.00	
13,400.00	89.99	270.24	7,966.51	-378.06	-4,869.19	4,879.91	0.00	0.00	0.00	
13,500.00	89.99	270.24	7,966.52	-377.64	-4,969.19	4,979.82	0.00	0.00	0.00	
13,600.00	89.99	270.24	7,966.53	-377.23	-5,069.19	5,079.74	0.00	0.00	0.00	
13,700.00	89.99	270.24	7,966.54	-376.81	-5,169.18	5,179.65	0.00	0.00	0.00	
13,800.00	89.99	270.24	7,966.55	-376.40	-5,269.18	5,279.56	0.00	0.00	0.00	
13,900.00	89.99	270.24	7,966.56	-375.98	-5,369.18	5,379.48	0.00	0.00	0.00	
14,000.00	89.99	270.24	7,966.57	-375.56	-5,469.18	5,479.39	0.00	0.00	0.00	
14,100.00	89.99	270.24	7,966.58	-375.15	-5,569.18	5,579.31	0.00	0.00	0.00	
14,200.00	89.99	270.24	7,966.59	-374.73	-5,669.18	5,679.22	0.00	0.00	0.00	
14,300.00	89.99	270.24	7,966.61	-374.32	-5,769.18	5,779.13	0.00	0.00	0.00	
14,400.00	89.99	270.24	7,966.62	-373.90	-5,869.18	5,879.05	0.00	0.00	0.00	
14,500.00	89.99	270.24	7,966.63	-373.48	-5,969.18	5,978.96	0.00	0.00	0.00	
14,600.00	89.99	270.24	7,966.64	-373.07	-6,069.18	6,078.87	0.00	0.00	0.00	
14,700.00	89.99	270.24	7,966.65	-372.65	-6,169.18	6,178.79	0.00	0.00	0.00	
14,800.00	89.99	270.24	7,966.66	-372.24	-6,269.17	6,278.70	0.00	0.00	0.00	
14,900.00	89.99	270.24	7,966.67	-371.82	-6,369.17	6,378.62	0.00	0.00	0.00	
15,000.00	89.99	270.24	7,966.68	-371.40	-6,469.17	6,478.53	0.00	0.00	0.00	
15,100.00	89.99	270.24	7,966.69	-370.99	-6,569.17	6,578.44	0.00	0.00	0.00	
15,200.00	89.99	270.24	7,966.70	-370.57	-6,669.17	6,678.36	0.00	0.00	0.00	
15,300.00	89.99	270.24	7,966.71	-370.16	-6,769.17	6,778.27	0.00	0.00	0.00	
15,400.00	89.99	270.24	7,966.72	-369.74	-6,869.17	6,878.19	0.00	0.00	0.00	
15,500.00	89.99	270.24	7,966.73	-369.32	-6,969.17	6,978.10	0.00	0.00	0.00	
15,600.00	89.99	270.24	7,966.74	-368.91	-7,069.17	7,078.01	0.00	0.00	0.00	
15,700.00	89.99	270.24	7,966.75	-368.49	-7,169.17	7,177.93	0.00	0.00	0.00	
15,800.00	89.99	270.24	7,966.76	-368.08	-7,269.17	7,277.84	0.00	0.00	0.00	
15,900.00	89.99	270.24	7,966.77	-367.66	-7,369.17	7,377.75	0.00	0.00	0.00	
16,000.00	89.99	270.24	7,966.78	-367.24	-7,469.16	7,477.67	0.00	0.00	0.00	
16,100.00	89.99	270.24	7,966.79	-366.83	-7,569.16	7,577.58	0.00	0.00	0.00	
16,200.00	89.99	270.24	7,966.80	-366.41	-7,669.16	7,677.50	0.00	0.00	0.00	
16,300.00	89.99	270.24	7,966.81	-366.00	-7,769.16	7,777.41	0.00	0.00	0.00	
16,400.00	89.99	270.24	7,966.82	-365.58	-7,869.16	7,877.32	0.00	0.00	0.00	
16,500.00	89.99	270.24	7,966.83	-365.17	-7,969.16	7,977.24	0.00	0.00	0.00	
16,600.00	89.99	270.24	7,966.84	-364.75	-8,069.16	8,077.15	0.00	0.00	0.00	
16,700.00	89.99	270.24	7,966.85	-364.33	-8,169.16	8,177.07	0.00	0.00	0.00	
16,800.00	89.99	270.24	7,966.86	-363.92	-8,269.16	8,276.98	0.00	0.00	0.00	
16,900.00	89.99	270.24	7,966.87	-363.50	-8,369.16	8,376.89	0.00	0.00	0.00	
17,000.00	89.99	270.24	7,966.88	-363.09	-8,469.16	8,476.81	0.00	0.00	0.00	
17,100.00	89.99	270.24	7,966.89	-362.67	-8,569.15	8,576.72	0.00	0.00	0.00	
17,200.00	89.99	270.24	7,966.90	-362.25	-8,669.15	8,676.63	0.00	0.00	0.00	
17,300.00	89.99	270.24	7,966.92	-361.84	-8,769.15	8,776.55	0.00	0.00	0.00	
17,400.00	89.99	270.24	7,966.93	-361.42	-8,869.15	8,876.46	0.00	0.00	0.00	
17,500.00	89.99	270.24	7,966.94	-361.01	-8,969.15	8,976.38	0.00	0.00	0.00	
17,600.00	89.99	270.24	7,966.95	-360.59	-9,069.15	9,076.29	0.00	0.00	0.00	
17,700.00	89.99	270.24	7,966.96	-360.17	-9,169.15	9,176.20	0.00	0.00	0.00	
17,800.00	89.99	270.24	7,966.97	-359.76	-9,269.15	9,276.12	0.00	0.00	0.00	
17,900.00	89.99	270.24	7,966.98	-359.34	-9,369.15	9,376.03	0.00	0.00	0.00	
18,000.00	89.99	270.24	7,966.99	-358.93	-9,469.15	9,475.95	0.00	0.00	0.00	
18,100.00	89.99	270.24	7,967.00	-358.51	-9,569.15	9,575.86	0.00	0.00	0.00	
18,122.39	89.99	270.24	7,967.00	-358.42	-9,591.53	9,598.23	0.00	0.00	0.00	
BHL: 2482' FNL, 325' FWL										

ConocoPhillips

Planning Report

Database:	EDT 14 Central Planning	Local Co-ordinate Reference:	Well Eastern Hills 4-65 17-18 2DH
Company:	ConocoPhillips RBU Gold Data	TVD Reference:	27' RKB @ 5659.30ft (27' RKB)
Project:	Niobrara Central Zone	MD Reference:	27' RKB @ 5659.30ft (27' RKB)
Site:	Eastern Hills	North Reference:	True
Well:	Eastern Hills 4-65 17-18 2DH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Eastern Hills 4-65 17-18 2DH		
Design:	Design C		

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
Eastern Hills 4-65 17- - plan hits target center - Point	0.00	0.00	7,966.00	-398.67	85.97	1,682,415.727	3,230,555.807	39° 42' 15.040 N	104° 40' 50.060 W
Eastern Hills 4-65 17- - plan hits target center - Point	0.00	0.00	7,967.00	-358.42	-9,591.53	1,682,368.723	3,220,878.433	39° 42' 15.420 N	104° 42' 53.880 W

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,183.00	2,183.00	9-5/8" Casing	9-5/8	12-1/4
18,122.39	7,967.00	5-1/2" Casing	5-1/2	8-1/2

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,748.00	1,748.00	Fox Hills Top		0.00	
1,983.00	1,983.00	Pierre Top - Fox Hills Base		0.00	
2,183.00	2,183.00	Surface Casing		0.00	
7,938.78	7,761.00	Niobrara Top		0.00	
8,336.52	7,956.00	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: 2083' FNL, 700' FEL
7,017.02	6,926.88	-185.35	477.01	EOB: 2268' FNL, 223' FEL
7,266.58	7,143.00	-230.55	593.32	KOP: 2314' FNL, 107' FEL
8,444.80	7,966.00	-398.67	85.97	BPI/LP: 2482' FNL, 613' FEL
18,122.39	7,967.00	-358.42	-9,591.53	BHL: 2482' FNL, 325' FWL