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## ConocoPhillips

Lea County, New Mexico (NAD 27)

MCA Unit

583

Wellbore #1

Plan: Design #1

## Standard Planning Report

05 June, 2015

|                  |                                 |                                     |                                    |
|------------------|---------------------------------|-------------------------------------|------------------------------------|
| <b>Database:</b> | EDM 5000.1 Conroe DB            | <b>Local Co-ordinate Reference:</b> | Well 583                           |
| <b>Company:</b>  | ConocoPhillips                  | <b>TVD Reference:</b>               | WELL @ 3949.50usft (Precision 194) |
| <b>Project:</b>  | Lea County, New Mexico (NAD 27) | <b>MD Reference:</b>                | WELL @ 3949.50usft (Precision 194) |
| <b>Site:</b>     | MCA Unit                        | <b>North Reference:</b>             | Grid                               |
| <b>Well:</b>     | 583                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Wellbore:</b> | Wellbore #1                     |                                     |                                    |
| <b>Design:</b>   | Design #1                       |                                     |                                    |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County, New Mexico (NAD 27)      |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|                             |              |                 |                            |                   |
|-----------------------------|--------------|-----------------|----------------------------|-------------------|
| <b>Well</b>                 | 583          |                 |                            |                   |
| <b>Well Position</b>        | <b>+N/-S</b> | 659,100.14 usft | <b>Northing:</b>           | 659,100.14 usft   |
|                             | <b>+E/-W</b> | 665,276.23 usft | <b>Easting:</b>            | 665,276.23 usft   |
| <b>Position Uncertainty</b> |              | 0.00 usft       | <b>Wellhead Elevation:</b> | 0.00 usft         |
|                             |              |                 | <b>Latitude:</b>           | 32° 48' 38.876 N  |
|                             |              |                 | <b>Longitude:</b>          | 103° 47' 43.407 W |
|                             |              |                 | <b>Ground Level:</b>       | 3,935.50 usft     |

|                 |             |
|-----------------|-------------|
| <b>Wellbore</b> | Wellbore #1 |
|-----------------|-------------|

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|-----------|------------|-------------|-----------------|---------------|---------------------|
|           | BGGM2015   | 06/04/15    | 7.40            | 60.64         | 48,549              |

|               |           |
|---------------|-----------|
| <b>Design</b> | Design #1 |
|---------------|-----------|

|                     |                                                   |
|---------------------|---------------------------------------------------|
| <b>Audit Notes:</b> |                                                   |
| <b>Version:</b>     | <b>Phase:</b> PROTOTYPE <b>Tie On Depth:</b> 0.00 |

| Vertical Section: | Depth From (TVD)<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Direction<br>(°) |
|-------------------|----------------------------|-----------------|-----------------|------------------|
|                   | 0.00                       | 0.00            | 0.00            | 278.68           |

|                      |  |
|----------------------|--|
| <b>Plan Sections</b> |  |
|----------------------|--|

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) | TFO<br>(°) | Target            |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|-----------------------------|------------|-------------------|
| 0.00                        | 0.00               | 0.00           | 0.00                        | 0.00            | 0.00            | 0.00                          | 0.00                         | 0.00                        | 0.00       |                   |
| 1,851.50                    | 0.00               | 0.00           | 1,851.50                    | 0.00            | 0.00            | 0.00                          | 0.00                         | 0.00                        | 0.00       |                   |
| 2,330.87                    | 9.59               | 278.68         | 2,328.63                    | 6.04            | -39.55          | 2.00                          | 2.00                         | 0.00                        | 278.68     |                   |
| 4,441.21                    | 9.59               | 278.68         | 4,409.50                    | 59.07           | -387.01         | 0.00                          | 0.00                         | 0.00                        | 0.00       | PBHL - MCA Unit 5 |

Database: EDM 5000.1 Conroe DB  
Company: ConocoPhillips  
Project: Lea County, New Mexico (NAD 27)  
Site: MCA Unit  
Well: 583  
Wellbore: Wellbore #1  
Design: Design #1

Local Co-ordinate Reference: Well 583  
TVD Reference: WELL @ 3949.50usft (Precision 194)  
MD Reference: WELL @ 3949.50usft (Precision 194)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

**Planned Survey**

| Measured Depth (usft)                  | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|----------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 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                  |
| 684.50                                 | 0.00            | 0.00        | 684.50                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Rustler</b>                         |                 |             |                       |              |              |                         |                         |                        |                       |
| 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                  |
| 837.50                                 | 0.00            | 0.00        | 837.50                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Salado</b>                          |                 |             |                       |              |              |                         |                         |                        |                       |
| 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                  |
| 1,851.50                               | 0.00            | 0.00        | 1,851.50              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>KOP, 2.00°/100' Build - Tansill</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,900.00                               | 0.97            | 278.68      | 1,900.00              | 0.06         | -0.41        | 0.41                    | 2.00                    | 2.00                   | 0.00                  |
| 2,000.00                               | 2.97            | 278.68      | 1,999.93              | 0.58         | -3.80        | 3.85                    | 2.00                    | 2.00                   | 0.00                  |
| 2,019.60                               | 3.36            | 278.68      | 2,019.50              | 0.74         | -4.87        | 4.93                    | 2.00                    | 2.00                   | 0.00                  |
| <b>Yates</b>                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,100.00                               | 4.97            | 278.68      | 2,099.69              | 1.63         | -10.65       | 10.77                   | 2.00                    | 2.00                   | 0.00                  |
| 2,200.00                               | 6.97            | 278.68      | 2,199.14              | 3.19         | -20.93       | 21.17                   | 2.00                    | 2.00                   | 0.00                  |
| 2,300.00                               | 8.97            | 278.68      | 2,298.17              | 5.29         | -34.63       | 35.04                   | 2.00                    | 2.00                   | 0.00                  |
| 2,330.87                               | 9.59            | 278.68      | 2,328.63              | 6.04         | -39.55       | 40.01                   | 2.00                    | 2.00                   | 0.00                  |
| <b>Begin 9.59° Tangent</b>             |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,377.38                               | 9.59            | 278.68      | 2,374.50              | 7.21         | -47.21       | 47.76                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Seven Rivers</b>                    |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,400.00                               | 9.59            | 278.68      | 2,396.80              | 7.77         | -50.94       | 51.53                   | 0.00                    | 0.00                   | 0.00                  |
| 2,500.00                               | 9.59            | 278.68      | 2,495.40              | 10.29        | -67.40       | 68.18                   | 0.00                    | 0.00                   | 0.00                  |
| 2,600.00                               | 9.59            | 278.68      | 2,594.01              | 12.80        | -83.87       | 84.84                   | 0.00                    | 0.00                   | 0.00                  |
| 2,700.00                               | 9.59            | 278.68      | 2,692.61              | 15.31        | -100.33      | 101.49                  | 0.00                    | 0.00                   | 0.00                  |
| 2,800.00                               | 9.59            | 278.68      | 2,791.21              | 17.83        | -116.79      | 118.15                  | 0.00                    | 0.00                   | 0.00                  |
| 2,900.00                               | 9.59            | 278.68      | 2,889.82              | 20.34        | -133.26      | 134.80                  | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00                               | 9.59            | 278.68      | 2,988.42              | 22.85        | -149.72      | 151.46                  | 0.00                    | 0.00                   | 0.00                  |
| 3,026.45                               | 9.59            | 278.68      | 3,014.50              | 23.52        | -154.08      | 155.86                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Queen</b>                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,100.00                               | 9.59            | 278.68      | 3,087.02              | 25.37        | -166.19      | 168.11                  | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00                               | 9.59            | 278.68      | 3,185.63              | 27.88        | -182.65      | 184.77                  | 0.00                    | 0.00                   | 0.00                  |
| 3,300.00                               | 9.59            | 278.68      | 3,284.23              | 30.39        | -199.12      | 201.42                  | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00                               | 9.59            | 278.68      | 3,382.83              | 32.90        | -215.58      | 218.08                  | 0.00                    | 0.00                   | 0.00                  |
| 3,406.76                               | 9.59            | 278.68      | 3,389.50              | 33.07        | -216.69      | 219.20                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Z3</b>                              |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,492.97                               | 9.59            | 278.68      | 3,474.50              | 35.24        | -230.89      | 233.56                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Z4</b>                              |                 |             |                       |              |              |                         |                         |                        |                       |

|                  |                                 |                                     |                                    |
|------------------|---------------------------------|-------------------------------------|------------------------------------|
| <b>Database:</b> | EDM 5000.1 Conroe DB            | <b>Local Co-ordinate Reference:</b> | Well 583                           |
| <b>Company:</b>  | ConocoPhillips                  | <b>TVD Reference:</b>               | WELL @ 3949.50usft (Precision 194) |
| <b>Project:</b>  | Lea County, New Mexico (NAD 27) | <b>MD Reference:</b>                | WELL @ 3949.50usft (Precision 194) |
| <b>Site:</b>     | MCA Unit                        | <b>North Reference:</b>             | Grid                               |
| <b>Well:</b>     | 583                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Wellbore:</b> | Wellbore #1                     |                                     |                                    |
| <b>Design:</b>   | Design #1                       |                                     |                                    |

#### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 3,500.00              | 9.59            | 278.68      | 3,481.44              | 35.42        | -232.05      | 234.73                  | 0.00                    | 0.00                   | 0.00                  |
| 3,563.96              | 9.59            | 278.68      | 3,544.50              | 37.02        | -242.58      | 245.38                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Z5</b>             |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,600.00              | 9.59            | 278.68      | 3,580.04              | 37.93        | -248.51      | 251.39                  | 0.00                    | 0.00                   | 0.00                  |
| 3,650.16              | 9.59            | 278.68      | 3,629.50              | 39.19        | -256.77      | 259.74                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Z6</b>             |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,700.00              | 9.59            | 278.68      | 3,678.64              | 40.44        | -264.97      | 268.04                  | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00              | 9.59            | 278.68      | 3,777.25              | 42.96        | -281.44      | 284.70                  | 0.00                    | 0.00                   | 0.00                  |
| 3,807.36              | 9.59            | 278.68      | 3,784.50              | 43.14        | -282.65      | 285.92                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Z7</b>             |                 |             |                       |              |              |                         |                         |                        |                       |
| 3,900.00              | 9.59            | 278.68      | 3,875.85              | 45.47        | -297.90      | 301.35                  | 0.00                    | 0.00                   | 0.00                  |
| 3,984.84              | 9.59            | 278.68      | 3,959.50              | 47.60        | -311.87      | 315.48                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Z9</b>             |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,000.00              | 9.59            | 278.68      | 3,974.45              | 47.98        | -314.37      | 318.01                  | 0.00                    | 0.00                   | 0.00                  |
| 4,100.00              | 9.59            | 278.68      | 4,073.06              | 50.50        | -330.83      | 334.66                  | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00              | 9.59            | 278.68      | 4,171.66              | 53.01        | -347.30      | 351.32                  | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00              | 9.59            | 278.68      | 4,270.26              | 55.52        | -363.76      | 367.97                  | 0.00                    | 0.00                   | 0.00                  |
| 4,400.00              | 9.59            | 278.68      | 4,368.87              | 58.03        | -380.23      | 384.63                  | 0.00                    | 0.00                   | 0.00                  |
| 4,441.21              | 9.59            | 278.68      | 4,409.50              | 59.07        | -387.01      | 391.49                  | 0.00                    | 0.00                   | 0.00                  |
| <b>PBHL</b>           |                 |             |                       |              |              |                         |                         |                        |                       |

#### Design Targets

| Target Name<br>- hit/miss target<br>- Shape                 | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude         | Longitude         |
|-------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| PBHL - MCA Unit 583<br>- plan hits target center<br>- Point | 0.00          | 0.00         | 4,409.50   | 59.07        | -387.01      | 659,159.21      | 664,889.22     | 32° 48' 39.480 N | 103° 47' 47.938 W |

#### Casing Points

| Measured Depth (usft) | Vertical Depth (usft) | Name   | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|--------|---------------------|-------------------|
| 4,441.21              | 4,409.50              | 5 1/2" | 5-1/2               | 6                 |

Database: EDM 5000.1 Conroe DB  
Company: ConocoPhillips  
Project: Lea County, New Mexico (NAD 27)  
Site: MCA Unit  
Well: 583  
Wellbore: Wellbore #1  
Design: Design #1

Local Co-ordinate Reference: Well 583  
TVD Reference: WELL @ 3949.50usft (Precision 194)  
MD Reference: WELL @ 3949.50usft (Precision 194)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

#### Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name         | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|--------------|-----------|---------|-------------------|
| 684.50                | 684.50                | Rustler      |           | 0.00    | 278.68            |
| 837.50                | 837.50                | Salado       |           | 0.00    | 278.68            |
| 1,851.50              | 1,851.50              | Tansill      |           | 0.00    | 278.68            |
| 2,019.60              | 2,019.50              | Yates        |           | 0.00    | 278.68            |
| 2,377.38              | 2,374.50              | Seven Rivers |           | 0.00    | 278.68            |
| 3,026.45              | 3,014.50              | Queen        |           | 0.00    | 278.68            |
| 3,406.76              | 3,389.50              | Z3           |           | 0.00    | 278.68            |
| 3,492.97              | 3,474.50              | Z4           |           | 0.00    | 278.68            |
| 3,563.96              | 3,544.50              | Z5           |           | 0.00    | 278.68            |
| 3,650.16              | 3,629.50              | Z6           |           | 0.00    | 278.68            |
| 3,807.36              | 3,784.50              | Z7           |           | 0.00    | 278.68            |
| 3,984.84              | 3,959.50              | Z9           |           | 0.00    | 278.68            |

#### Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment               |
|-----------------------|-----------------------|-------------------|--------------|-----------------------|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                       |
| 1,851.50              | 1,851.50              | 0.00              | 0.00         | KOP, 2.00°/100' Build |
| 2,330.87              | 2,328.63              | 6.04              | -39.55       | Begin 9.59° Tangent   |
| 4,441.21              | 4,409.50              | 59.07             | -387.01      | PBHL                  |