



ANADARKO PETROLEUM CORP.

ANADARKO COLORADO NORTHERN ZONE NAD 83

WELD_SWEETGRASS 14-14

Sweetgrass 33-14

Sweetgrass 33-14

Plan: Sweetgrass 33-14 (wp02)

Standard Planning Report

18 November, 2010





Project: ANADARKO COLORADO NORTHERN ZONE NAD 83
 Site: WELD SWEETGRASS 14-14
 Well: Sweetgrass 33-14
 Wellbore: Sweetgrass 33-14
 Section:
 SHL:
 Design: Sweetgrass 33-14 (wp02)
 Latitude: 40° 2' 59.489 N
 Longitude: 104° 58' 39.007 W
 GL: 5104.0
 KB: WELL @ 5104.0ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 9.01°

Magnetic Field
 Strength: 52979.0snT
 Dip Angle: 66.77°
 Date: 9/28/2010
 Model: BGGM2010

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---------|--------|-----------|
| 3944.0 | 4128.6 | PK |
| 4763.0 | 4960.8 | SX |
| 7469.0 | 7666.8 | NIO |
| 7849.0 | 8046.8 | CD |
| 7925.0 | 8122.8 | GH |
| 8293.0 | 8490.8 | J |

CASING DETAILS

| TVD | MD | Name | Size |
|--------|--------|--------|-------|
| 1160.0 | 1160.0 | 9 5/8" | 9-5/8 |

SECTION DETAILS

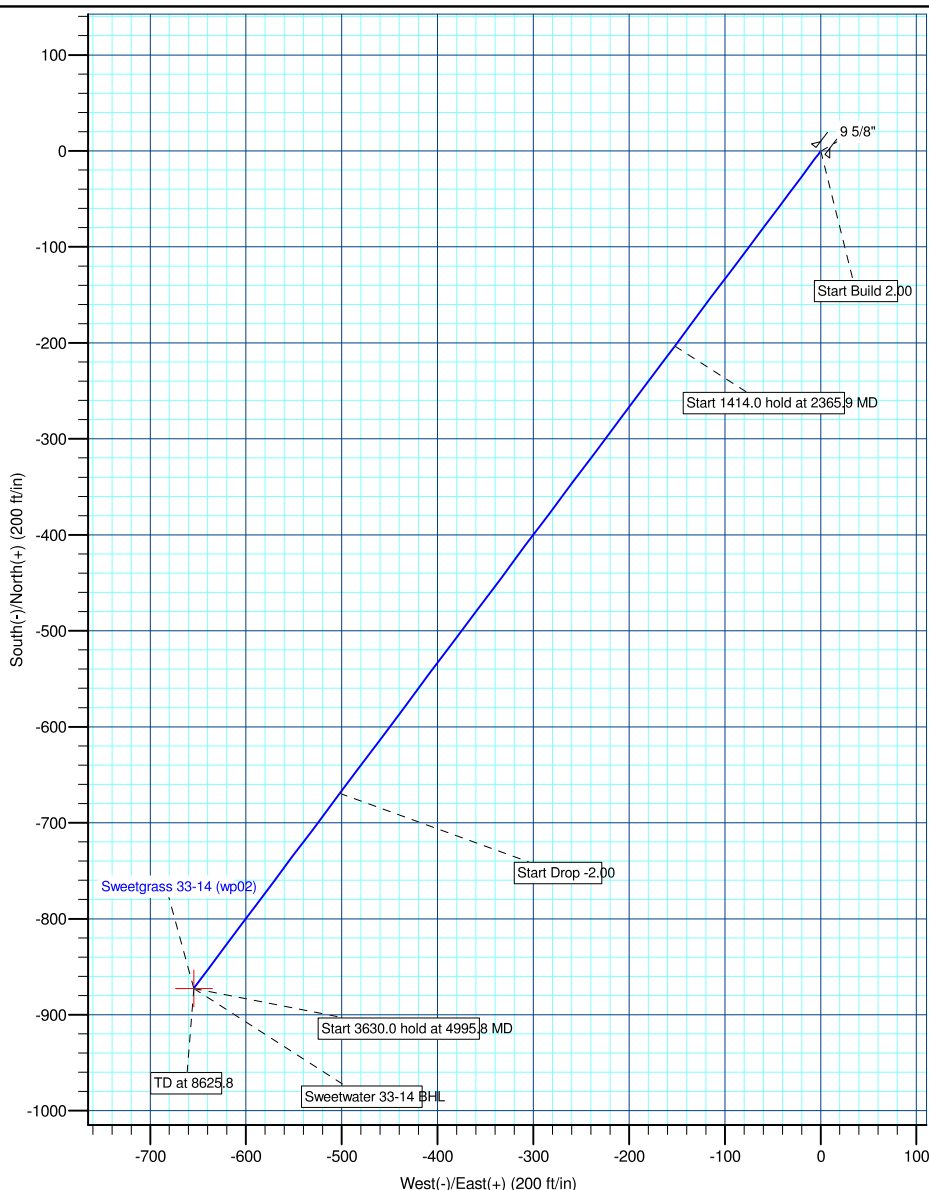
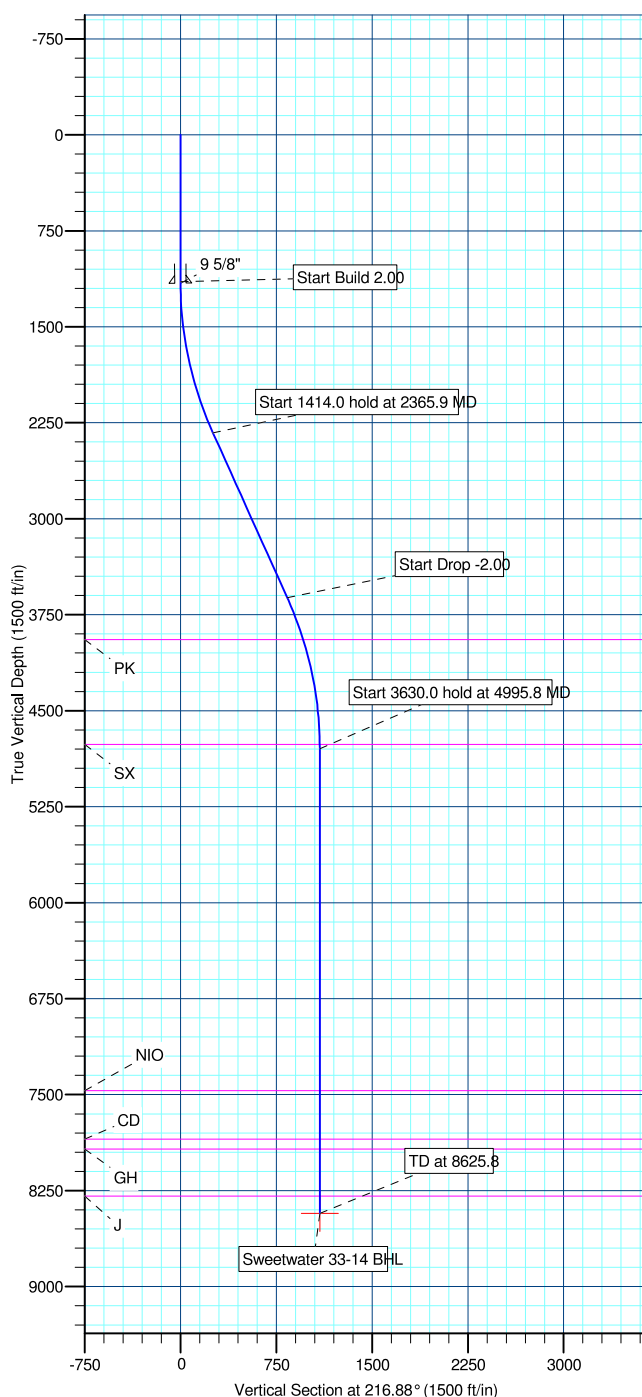
| MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Annotation |
|--------|-------|--------|--------|--------|--------|------|--------|--------|--------------------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 1150.0 | 0.00 | 0.00 | 1150.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | Start Build 2.00 |
| 2365.9 | 24.32 | 216.88 | 2329.7 | -203.3 | -152.5 | 2.00 | 216.88 | 254.2 | Start 1414.0 hold at 2365.9 MD |
| 3779.9 | 24.32 | 216.88 | 3618.3 | -669.1 | -502.0 | 0.00 | 0.00 | 836.5 | Start Drop -2.00 |
| 4995.8 | 0.00 | 0.00 | 4798.0 | -872.4 | -654.5 | 2.00 | 180.00 | 1090.7 | Start 3630.0 hold at 4995.8 MD |
| 8625.8 | 0.00 | 0.00 | 8428.0 | -872.4 | -654.5 | 0.00 | 0.00 | 1090.7 | TD at 8625.8 |

WELL DETAILS: Sweetgrass 33-14

| +N/-S | +E/-W | Northing | Ground Level: | 5104.0 | Latitude | Longitude | Slot |
|-------|-------|------------|---------------|------------|-----------------|-------------------|------|
| 0.0 | 0.0 | 1261439.76 | Easting | 3146271.83 | 40° 2' 59.489 N | 104° 58' 39.007 W | |

WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | Shape |
|----------------------|--------|--------|--------|-----------------|-------------------|-------|
| Sweetwater 33-14 BHL | 8428.0 | -872.4 | -654.5 | 40° 2' 50.867 N | 104° 58' 47.424 W | Point |



Plan: Sweetgrass 33-14 (wp02) (Sweetgrass 33-14/Sweetgrass 33-14)

Created By: Jason Daguitera Date: 8:37, November 18 2010

| | | | |
|------------------|--|-------------------------------------|--------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well Sweetgrass 33-14 |
| Company: | ANADARKO PETROLEUM CORP. | TVD Reference: | WELL @ 5104.0ft (Original Well Elev) |
| Project: | ANADARKO COLORADO NORTHERN ZONE NAD 83 | MD Reference: | WELL @ 5104.0ft (Original Well Elev) |
| Site: | WELD_SWEETGRASS 14-14 | North Reference: | True |
| Well: | Sweetgrass 33-14 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Sweetgrass 33-14 | | |
| Design: | Sweetgrass 33-14 (wp02) | | |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | ANADARKO COLORADO NORTHERN ZONE NAD 83, ROCKIES, ROCKIES | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| | | | | | |
|-----------------------|----------|-----------------------|----------------|-------------------|-------------------|
| Site | | WELD_SWEETGRASS 14-14 | | | |
| Site Position: | | Northing: | 1,261,439.81ft | Latitude: | 40° 2' 59.489 N |
| From: | Lat/Long | Easting: | 3,146,271.81ft | Longitude: | 104° 58' 39.007 W |
| Position Uncertainty: | 0.0 ft | Slot Radius: | " | Grid Convergence: | 0.34 ° |

| | | | | | | |
|----------------------|------------------|--------|---------------------|-----------------|---------------|-------------------|
| Well | Sweetgrass 33-14 | | | | | |
| Well Position | +N-S | 0.0 ft | Northing: | 1,261,439.76 ft | Latitude: | 40° 2' 59.489 N |
| | +E-W | 0.0 ft | Easting: | 3,146,271.83 ft | Longitude: | 104° 58' 39.007 W |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 5,104.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Sweetgrass 33-14 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | BGGM2010 | 9/28/2010 | 9.01 | 66.77 | 52,979 |

| | | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|--|
| Design | Sweetgrass 33-14 (wp02) | | | | |
| Audit Notes: | | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 | |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 216.88 | |

| 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 |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,150.0 | 0.00 | 0.00 | 1,150.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,365.9 | 24.32 | 216.88 | 2,329.7 | -203.3 | -152.5 | 2.00 | 2.00 | 0.00 | 216.88 | |
| 3,779.9 | 24.32 | 216.88 | 3,618.3 | -669.1 | -502.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,995.8 | 0.00 | 0.00 | 4,798.0 | -872.4 | -654.5 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 8,625.8 | 0.00 | 0.00 | 8,428.0 | -872.4 | -654.5 | 0.00 | 0.00 | 0.00 | 0.00 | Sweetwater 33-14 E |

| | | | |
|------------------|---|-------------------------------------|--------------------------------------|
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| Project: | ANADARKO COLORADO NORTHERN ZONE NAD 83 | MD Reference: | WELL @ 5104.0ft (Original Well Elev) |
| Site: | WELD_SWEETGRASS 14-14 | North Reference: | True |
| Well: | Sweetgrass 33-14 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Sweetgrass 33-14 | | |
| Design: | Sweetgrass 33-14 (wp02) | | |

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) |
|---------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,150.0 | 0.00 | 0.00 | 1,150.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| Start Build 2.00 | | | | | | | | | |
| 1,160.0 | 0.20 | 216.88 | 1,160.0 | 0.0 | 0.0 | 0.0 | 2.00 | 2.00 | 0.00 |
| 9 5/8" | | | | | | | | | |
| 1,200.0 | 1.00 | 216.88 | 1,200.0 | -0.3 | -0.3 | 0.4 | 2.00 | 2.00 | 0.00 |
| 1,300.0 | 3.00 | 216.88 | 1,299.9 | -3.1 | -2.4 | 3.9 | 2.00 | 2.00 | 0.00 |
| 1,400.0 | 5.00 | 216.88 | 1,399.7 | -8.7 | -6.5 | 10.9 | 2.00 | 2.00 | 0.00 |
| 1,500.0 | 7.00 | 216.88 | 1,499.1 | -17.1 | -12.8 | 21.4 | 2.00 | 2.00 | 0.00 |
| 1,600.0 | 9.00 | 216.88 | 1,598.2 | -28.2 | -21.2 | 35.3 | 2.00 | 2.00 | 0.00 |
| 1,700.0 | 11.00 | 216.88 | 1,696.6 | -42.1 | -31.6 | 52.6 | 2.00 | 2.00 | 0.00 |
| 1,800.0 | 13.00 | 216.88 | 1,794.4 | -58.7 | -44.1 | 73.4 | 2.00 | 2.00 | 0.00 |
| 1,900.0 | 15.00 | 216.88 | 1,891.5 | -78.1 | -58.6 | 97.6 | 2.00 | 2.00 | 0.00 |
| 2,000.0 | 17.00 | 216.88 | 1,987.6 | -100.1 | -75.1 | 125.2 | 2.00 | 2.00 | 0.00 |
| 2,100.0 | 19.00 | 216.88 | 2,082.7 | -124.8 | -93.7 | 156.1 | 2.00 | 2.00 | 0.00 |
| 2,200.0 | 21.00 | 216.88 | 2,176.6 | -152.2 | -114.2 | 190.3 | 2.00 | 2.00 | 0.00 |
| 2,300.0 | 23.00 | 216.88 | 2,269.4 | -182.2 | -136.7 | 227.7 | 2.00 | 2.00 | 0.00 |
| 2,365.9 | 24.32 | 216.88 | 2,329.7 | -203.3 | -152.5 | 254.2 | 2.00 | 2.00 | 0.00 |
| Start 1414.0 hold at 2365.9 MD | | | | | | | | | |
| 2,400.0 | 24.32 | 216.88 | 2,360.8 | -214.6 | -161.0 | 268.2 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 24.32 | 216.88 | 2,451.9 | -247.5 | -185.7 | 309.4 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 24.32 | 216.88 | 2,543.1 | -280.4 | -210.4 | 350.6 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 24.32 | 216.88 | 2,634.2 | -313.4 | -235.1 | 391.8 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 24.32 | 216.88 | 2,725.3 | -346.3 | -259.8 | 432.9 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 24.32 | 216.88 | 2,816.4 | -379.3 | -284.5 | 474.1 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 24.32 | 216.88 | 2,907.6 | -412.2 | -309.3 | 515.3 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 24.32 | 216.88 | 2,998.7 | -445.1 | -334.0 | 556.5 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 24.32 | 216.88 | 3,089.8 | -478.1 | -358.7 | 597.7 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 24.32 | 216.88 | 3,180.9 | -511.0 | -383.4 | 638.8 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 24.32 | 216.88 | 3,272.1 | -543.9 | -408.1 | 680.0 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 24.32 | 216.88 | 3,363.2 | -576.9 | -432.8 | 721.2 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 24.32 | 216.88 | 3,454.3 | -609.8 | -457.5 | 762.4 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 24.32 | 216.88 | 3,545.5 | -642.8 | -482.3 | 803.6 | 0.00 | 0.00 | 0.00 |
| 3,779.9 | 24.32 | 216.88 | 3,618.3 | -669.1 | -502.0 | 836.5 | 0.00 | 0.00 | 0.00 |
| Start Drop -2.00 | | | | | | | | | |
| 3,800.0 | 23.92 | 216.88 | 3,636.6 | -675.7 | -506.9 | 844.7 | 2.00 | -2.00 | 0.00 |
| 3,900.0 | 21.92 | 216.88 | 3,728.7 | -706.8 | -530.3 | 883.6 | 2.00 | -2.00 | 0.00 |
| 4,000.0 | 19.92 | 216.88 | 3,822.1 | -735.4 | -551.7 | 919.3 | 2.00 | -2.00 | 0.00 |
| 4,100.0 | 17.92 | 216.88 | 3,916.7 | -761.3 | -571.2 | 951.7 | 2.00 | -2.00 | 0.00 |
| 4,128.6 | 17.34 | 216.88 | 3,944.0 | -768.2 | -576.4 | 960.4 | 2.00 | -2.00 | 0.00 |
| PK | | | | | | | | | |
| 4,200.0 | 15.92 | 216.88 | 4,012.4 | -784.6 | -588.6 | 980.8 | 2.00 | -2.00 | 0.00 |

| | | | |
|------------------|---|-------------------------------------|--------------------------------------|
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| Project: | ANADARKO COLORADO NORTHERN ZONE NAD 83 | MD Reference: | WELL @ 5104.0ft (Original Well Elev) |
| Site: | WELD_SWEETGRASS 14-14 | North Reference: | True |
| Well: | Sweetgrass 33-14 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Sweetgrass 33-14 | | |
| Design: | Sweetgrass 33-14 (wp02) | | |

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) |
|---------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 4,300.0 | 13.92 | 216.88 | 4,109.0 | -805.2 | -604.1 | 1,006.6 | 2.00 | -2.00 | 0.00 |
| 4,400.0 | 11.92 | 216.88 | 4,206.5 | -823.0 | -617.5 | 1,028.9 | 2.00 | -2.00 | 0.00 |
| 4,500.0 | 9.92 | 216.88 | 4,304.7 | -838.2 | -628.9 | 1,047.9 | 2.00 | -2.00 | 0.00 |
| 4,600.0 | 7.92 | 216.88 | 4,403.4 | -850.6 | -638.2 | 1,063.4 | 2.00 | -2.00 | 0.00 |
| 4,700.0 | 5.92 | 216.88 | 4,502.7 | -860.2 | -645.4 | 1,075.4 | 2.00 | -2.00 | 0.00 |
| 4,800.0 | 3.92 | 216.88 | 4,602.3 | -867.1 | -650.5 | 1,084.0 | 2.00 | -2.00 | 0.00 |
| 4,900.0 | 1.92 | 216.88 | 4,702.2 | -871.1 | -653.6 | 1,089.1 | 2.00 | -2.00 | 0.00 |
| 4,960.8 | 0.70 | 216.88 | 4,763.0 | -872.2 | -654.4 | 1,090.4 | 2.00 | -2.00 | 0.00 |
| SX | | | | | | | | | |
| 4,995.8 | 0.00 | 0.00 | 4,798.0 | -872.4 | -654.5 | 1,090.7 | 2.00 | -2.00 | 0.00 |
| Start 3630.0 hold at 4995.8 MD | | | | | | | | | |
| 5,000.0 | 0.00 | 0.00 | 4,802.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 4,902.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,002.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,102.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,202.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,302.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,402.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,502.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,602.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,702.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,802.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 5,902.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,002.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,102.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,202.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,302.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,402.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,502.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,602.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,702.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,802.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 6,902.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,002.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,102.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,202.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,302.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,402.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,666.8 | 0.00 | 0.00 | 7,469.0 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| NIO | | | | | | | | | |
| 7,700.0 | 0.00 | 0.00 | 7,502.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,602.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,702.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,802.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,046.8 | 0.00 | 0.00 | 7,849.0 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| CD | | | | | | | | | |
| 8,100.0 | 0.00 | 0.00 | 7,902.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,122.8 | 0.00 | 0.00 | 7,925.0 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| GH | | | | | | | | | |
| 8,200.0 | 0.00 | 0.00 | 8,002.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,102.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,202.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|---|-------------------------------------|--------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well Sweetgrass 33-14 |
| Company: | ANADARKO PETROLEUM CORP. | TVD Reference: | WELL @ 5104.0ft (Original Well Elev) |
| Project: | ANADARKO COLORADO NORTHERN ZONE NAD 83 | MD Reference: | WELL @ 5104.0ft (Original Well Elev) |
| Site: | WELD_SWEETGRASS 14-14 | North Reference: | True |
| Well: | Sweetgrass 33-14 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Sweetgrass 33-14 | | |
| Design: | Sweetgrass 33-14 (wp02) | | |

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) |
|-----------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 8,490.8 | 0.00 | 0.00 | 8,293.0 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| J | | | | | | | | | |
| 8,500.0 | 0.00 | 0.00 | 8,302.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,402.2 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| 8,625.8 | 0.00 | 0.00 | 8,428.0 | -872.4 | -654.5 | 1,090.7 | 0.00 | 0.00 | 0.00 |
| Sweetwater 33-14 BHL | | | | | | | | | |

Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|--------|---------------------|-------------------|
| 1,160.0 | 1,160.0 | 9 5/8" | 9-5/8 | 12-1/4 |

Formations

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---------------------|---------------------|------|-----------|---------|-------------------|
| 8,490.8 | 8,293.0 | J | | 0.00 | |
| 8,046.8 | 7,849.0 | CD | | 0.00 | |
| 7,666.8 | 7,469.0 | NIO | | 0.00 | |
| 8,122.8 | 7,925.0 | GH | | 0.00 | |
| 4,128.6 | 3,944.0 | PK | | 0.00 | |
| 4,960.8 | 4,763.0 | SX | | 0.00 | |

Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|------------|--------------------------------|
| | | +N/-S (ft) | +E/-W (ft) | |
| 1,150.0 | 1,150.0 | 0.0 | 0.0 | Start Build 2.00 |
| 2,365.9 | 2,329.7 | -203.3 | -152.5 | Start 1414.0 hold at 2365.9 MD |
| 3,779.9 | 3,618.3 | -669.1 | -502.0 | Start Drop -2.00 |
| 4,995.8 | 4,798.0 | -872.4 | -654.5 | Start 3630.0 hold at 4995.8 MD |
| 8,625.8 | 8,428.0 | -872.4 | -654.5 | TD at 8625.8 |