



ANADARKO PETROLEUM CORP.

ANADARKO COLORADO NORTHERN ZONE NAD 83

WELD_SWEETGRASS 14-14

Sweetgrass 13-14

Sweetgrass 13-14

Plan: Sweetgrass 13-14 (wp02)

Standard Planning Report

04 November, 2010





Project: ANADARKO COLORADO NORTHERN ZONE NAD 83
 Site: WELD_SWEETGRASS 14-14
 Well: Sweetgrass 13-14
 Wellbore: Sweetgrass 13-14
 Section:
 SHL:
 Design: Sweetgrass 13-14 (wp02)
 Latitude: 40° 2' 59.489 N
 Longitude: 104° 58' 38.752 W
 GL: 5104.0
 KB: WELL @ 5104.0ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 9.01°

Magnetic Field
 Strength: 52979.1snT
 Dip Angle: 66.77°
 Date: 9/28/2010
 Model: BGGM2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3944.0	4221.0	PK
4778.0	5066.0	SX
7484.0	7772.0	NIO
7864.0	8152.0	CD
7940.0	8228.0	GH
8308.0	8596.0	J
8399.0	8687.0	DK

CASING DETAILS

TVD	MD	Name	Size
1160.0	1173.5	9 5/8"	9-5/8

SECTION DETAILS

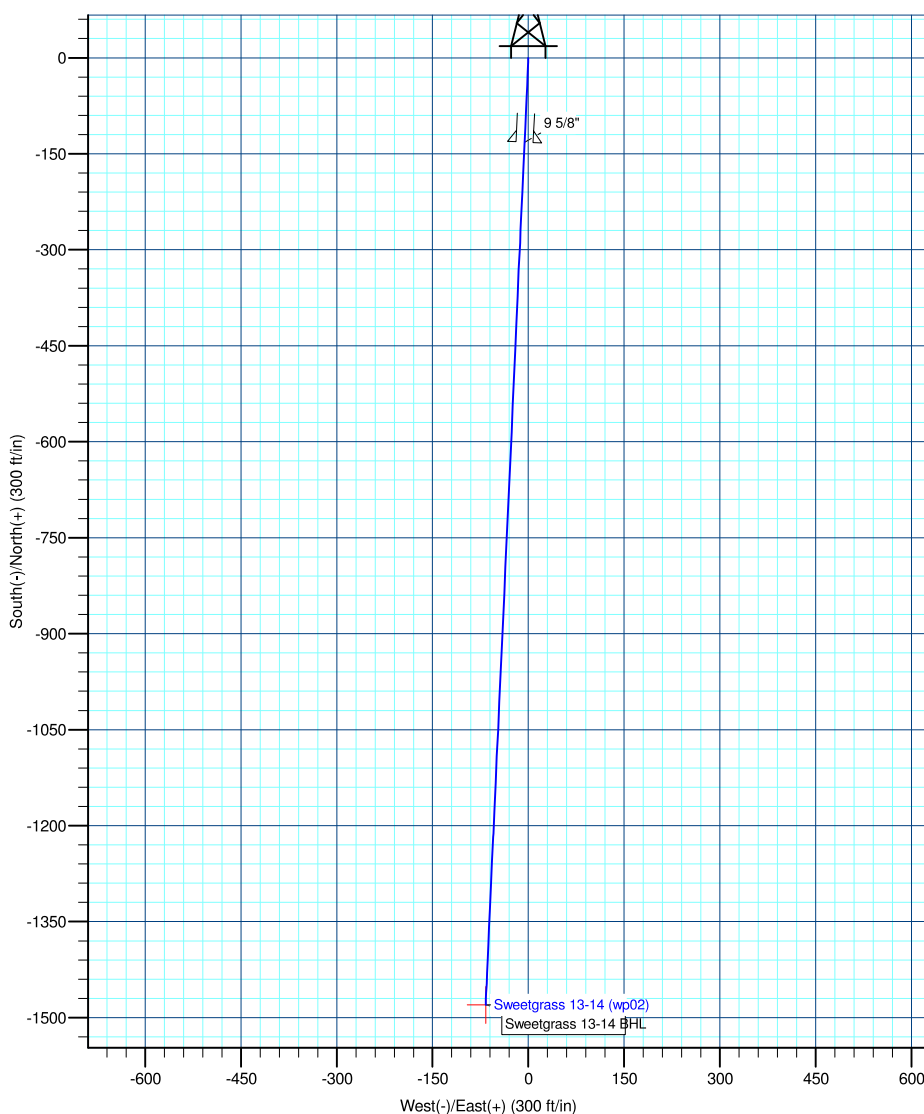
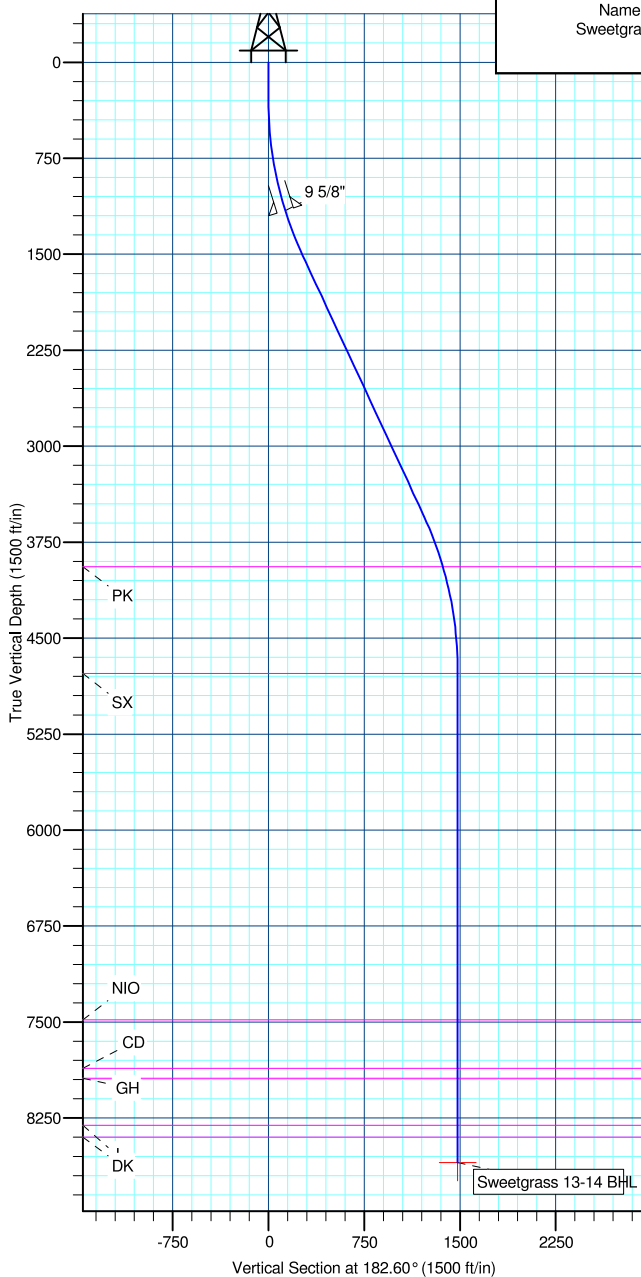
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
1549.6	24.99	182.60	1510.3	-268.0	-12.2	2.00	182.60	268.2	
3787.4	24.99	182.60	3538.7	-1212.5	-55.0	0.00	0.00	1213.7	
5037.0	0.00	0.00	4749.0	-1480.4	-67.2	2.00	180.00	1481.9	
8887.0	0.00	0.00	8599.0	-1480.4	-67.2	0.00	0.00	1481.9	

WELL DETAILS: Sweetgrass 13-14

+N/-S	+E/-W	Northing	Easting	Ground Level:	5104.0	Latitude	Longitude	Slot
0.0	0.0	1261439.89	3146291.71	40° 2' 59.489 N	104° 58' 38.752 W			

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Sweetgrass 13-14 BHL	8599.0	-1480.4	-67.2	1259959.11	3146233.24	40° 2' 44.858 N	104° 58' 39.616 W	Point



Created By: Jason Daguitera Date: 17:22, November 04 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 13-14
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 13-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 13-14		
Design:	Sweetgrass 13-14 (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 13-14					
Well Position	+N/-S	0.0 ft	Northing:	1,261,439.89 ft	Latitude:	40° 2' 59.489 N
	+E/-W	19.9 ft	Easting:	3,146,291.71ft	Longitude:	104° 58' 38.752 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,104.0ft

Wellbore	Sweetgrass 13-14				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/28/2010	9.01	66.77	52,979

Design	Sweetgrass 13-14 (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	182.60

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,549.6	24.99	182.60	1,510.3	-268.0	-12.2	2.00	2.00	0.00	182.60	
3,787.4	24.99	182.60	3,538.7	-1,212.5	-55.0	0.00	0.00	0.00	0.00	
5,037.0	0.00	0.00	4,749.0	-1,480.4	-67.2	2.00	-2.00	0.00	180.00	
8,887.0	0.00	0.00	8,599.0	-1,480.4	-67.2	0.00	0.00	0.00	0.00	Sweetgrass 13-14 f

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 13-14
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 13-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 13-14		
Design:	Sweetgrass 13-14 (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	2.00	182.60	400.0	-1.7	-0.1	1.7	2.00	2.00	0.00
500.0	4.00	182.60	499.8	-7.0	-0.3	7.0	2.00	2.00	0.00
600.0	6.00	182.60	599.5	-15.7	-0.7	15.7	2.00	2.00	0.00
700.0	8.00	182.60	698.7	-27.9	-1.3	27.9	2.00	2.00	0.00
800.0	10.00	182.60	797.5	-43.5	-2.0	43.5	2.00	2.00	0.00
900.0	12.00	182.60	895.6	-62.5	-2.8	62.6	2.00	2.00	0.00
1,000.0	14.00	182.60	993.1	-85.0	-3.9	85.1	2.00	2.00	0.00
1,100.0	16.00	182.60	1,089.6	-110.9	-5.0	111.0	2.00	2.00	0.00
1,173.5	17.47	182.60	1,160.0	-132.0	-6.0	132.1	2.00	2.00	0.00
9 5/8"									
1,200.0	18.00	182.60	1,185.3	-140.1	-6.4	140.2	2.00	2.00	0.00
1,300.0	20.00	182.60	1,279.8	-172.6	-7.8	172.8	2.00	2.00	0.00
1,400.0	22.00	182.60	1,373.2	-208.4	-9.5	208.6	2.00	2.00	0.00
1,500.0	24.00	182.60	1,465.2	-247.4	-11.2	247.7	2.00	2.00	0.00
1,549.6	24.99	182.60	1,510.3	-268.0	-12.2	268.2	2.00	2.00	0.00
1,600.0	24.99	182.60	1,556.0	-289.2	-13.1	289.5	0.00	0.00	0.00
1,700.0	24.99	182.60	1,646.7	-331.4	-15.0	331.8	0.00	0.00	0.00
1,800.0	24.99	182.60	1,737.3	-373.6	-17.0	374.0	0.00	0.00	0.00
1,900.0	24.99	182.60	1,827.9	-415.9	-18.9	416.3	0.00	0.00	0.00
2,000.0	24.99	182.60	1,918.6	-458.1	-20.8	458.5	0.00	0.00	0.00
2,100.0	24.99	182.60	2,009.2	-500.3	-22.7	500.8	0.00	0.00	0.00
2,200.0	24.99	182.60	2,099.9	-542.5	-24.6	543.0	0.00	0.00	0.00
2,300.0	24.99	182.60	2,190.5	-584.7	-26.5	585.3	0.00	0.00	0.00
2,400.0	24.99	182.60	2,281.1	-626.9	-28.5	627.5	0.00	0.00	0.00
2,500.0	24.99	182.60	2,371.8	-669.1	-30.4	669.8	0.00	0.00	0.00
2,600.0	24.99	182.60	2,462.4	-711.3	-32.3	712.0	0.00	0.00	0.00
2,700.0	24.99	182.60	2,553.0	-753.5	-34.2	754.3	0.00	0.00	0.00
2,800.0	24.99	182.60	2,643.7	-795.7	-36.1	796.5	0.00	0.00	0.00
2,900.0	24.99	182.60	2,734.3	-837.9	-38.0	838.8	0.00	0.00	0.00
3,000.0	24.99	182.60	2,824.9	-880.1	-39.9	881.0	0.00	0.00	0.00
3,100.0	24.99	182.60	2,915.6	-922.3	-41.9	923.3	0.00	0.00	0.00
3,200.0	24.99	182.60	3,006.2	-964.5	-43.8	965.5	0.00	0.00	0.00
3,300.0	24.99	182.60	3,096.9	-1,006.7	-45.7	1,007.8	0.00	0.00	0.00
3,400.0	24.99	182.60	3,187.5	-1,048.9	-47.6	1,050.0	0.00	0.00	0.00
3,500.0	24.99	182.60	3,278.1	-1,091.1	-49.5	1,092.3	0.00	0.00	0.00
3,600.0	24.99	182.60	3,368.8	-1,133.3	-51.4	1,134.5	0.00	0.00	0.00
3,700.0	24.99	182.60	3,459.4	-1,175.5	-53.4	1,176.8	0.00	0.00	0.00
3,787.4	24.99	182.60	3,538.7	-1,212.5	-55.0	1,213.7	0.00	0.00	0.00
3,800.0	24.74	182.60	3,550.1	-1,217.7	-55.3	1,219.0	2.00	-2.00	0.00
3,900.0	22.74	182.60	3,641.6	-1,257.9	-57.1	1,259.2	2.00	-2.00	0.00
4,000.0	20.74	182.60	3,734.5	-1,294.9	-58.8	1,296.3	2.00	-2.00	0.00
4,100.0	18.74	182.60	3,828.6	-1,328.7	-60.3	1,330.1	2.00	-2.00	0.00
4,200.0	16.74	182.60	3,923.8	-1,359.1	-61.7	1,360.5	2.00	-2.00	0.00
4,221.0	16.32	182.60	3,944.0	-1,365.1	-62.0	1,366.5	2.00	-2.00	0.00
PK									
4,300.0	14.74	182.60	4,020.1	-1,386.2	-62.9	1,387.6	2.00	-2.00	0.00
4,400.0	12.74	182.60	4,117.2	-1,409.9	-64.0	1,411.4	2.00	-2.00	0.00
4,500.0	10.74	182.60	4,215.1	-1,430.3	-64.9	1,431.7	2.00	-2.00	0.00
4,600.0	8.74	182.60	4,313.7	-1,447.2	-65.7	1,448.7	2.00	-2.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 13-14
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 13-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 13-14		
Design:	Sweetgrass 13-14 (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)
4,700.0	6.74	182.60	4,412.7	-1,460.6	-66.3	1,462.1	2.00	-2.00	0.00
4,800.0	4.74	182.60	4,512.2	-1,470.6	-66.7	1,472.1	2.00	-2.00	0.00
4,900.0	2.74	182.60	4,612.0	-1,477.1	-67.0	1,478.7	2.00	-2.00	0.00
5,000.0	0.74	182.60	4,712.0	-1,480.2	-67.2	1,481.7	2.00	-2.00	0.00
5,037.0	0.00	0.00	4,749.0	-1,480.4	-67.2	1,481.9	2.00	-2.00	0.00
5,066.0	0.00	0.00	4,778.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
SX									
5,100.0	0.00	0.00	4,812.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,200.0	0.00	0.00	4,912.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,012.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,112.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,212.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,312.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,412.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,512.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,612.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,712.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,100.0	0.00	0.00	5,812.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,200.0	0.00	0.00	5,912.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,012.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,112.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,212.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,312.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,412.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,512.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,612.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,712.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,100.0	0.00	0.00	6,812.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,200.0	0.00	0.00	6,912.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,012.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,112.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,212.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,312.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,412.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,772.0	0.00	0.00	7,484.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
NIO									
7,800.0	0.00	0.00	7,512.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,612.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,712.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,100.0	0.00	0.00	7,812.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,152.0	0.00	0.00	7,864.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
CD									
8,200.0	0.00	0.00	7,912.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,228.0	0.00	0.00	7,940.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
GH									
8,300.0	0.00	0.00	8,012.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,400.0	0.00	0.00	8,112.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,212.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,596.0	0.00	0.00	8,308.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
J									
8,600.0	0.00	0.00	8,312.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,687.0	0.00	0.00	8,399.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 13-14
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 13-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 13-14		
Design:	Sweetgrass 13-14 (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)
DK									
8,700.0	0.00	0.00	8,412.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,800.0	0.00	0.00	8,512.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
8,887.0	0.00	0.00	8,599.0	-1,480.4	-67.2	1,481.9	0.00	0.00	0.00
Sweetgrass 13-14 BHL									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,173.5	1,160.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
8,228.0	7,940.0	GH		0.00	
8,152.0	7,864.0	CD		0.00	
8,687.0	8,399.0	DK		0.00	
8,596.0	8,308.0	J		0.00	
4,221.0	3,944.0	PK		0.00	
5,066.0	4,778.0	SX		0.00	
7,772.0	7,484.0	NIO		0.00	