



ANADARKO PETROLEUM CORP.

ANADARKO COLORADO NORTHERN ZONE NAD 83

WELD_SWEETGRASS 14-14

Sweetgrass 12-14a

Sweetgrass 12-14a

Plan: Sweetgrass 12-14a (wp02)

Standard Planning Report

04 November, 2010





Project: ANADARKO COLORADO NORTHERN ZONE NAD 83
 Site: WELD_SWEETGRASS 14-14
 Well: Sweetgrass 12-14a
 Wellbore: Sweetgrass 12-14a
 Section:
 SHL:
 Design: Sweetgrass 12-14a (wp02)
 Latitude: 40° 2' 59.489 N
 Longitude: 104° 58' 38.878 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	3956.5	PK
4763.0	4775.5	SX
7469.0	7481.5	NIO
7849.0	7861.5	CD
7925.0	7937.5	GH
8293.0	8305.5	J

CASING DETAILS

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

SECTION DETAILS

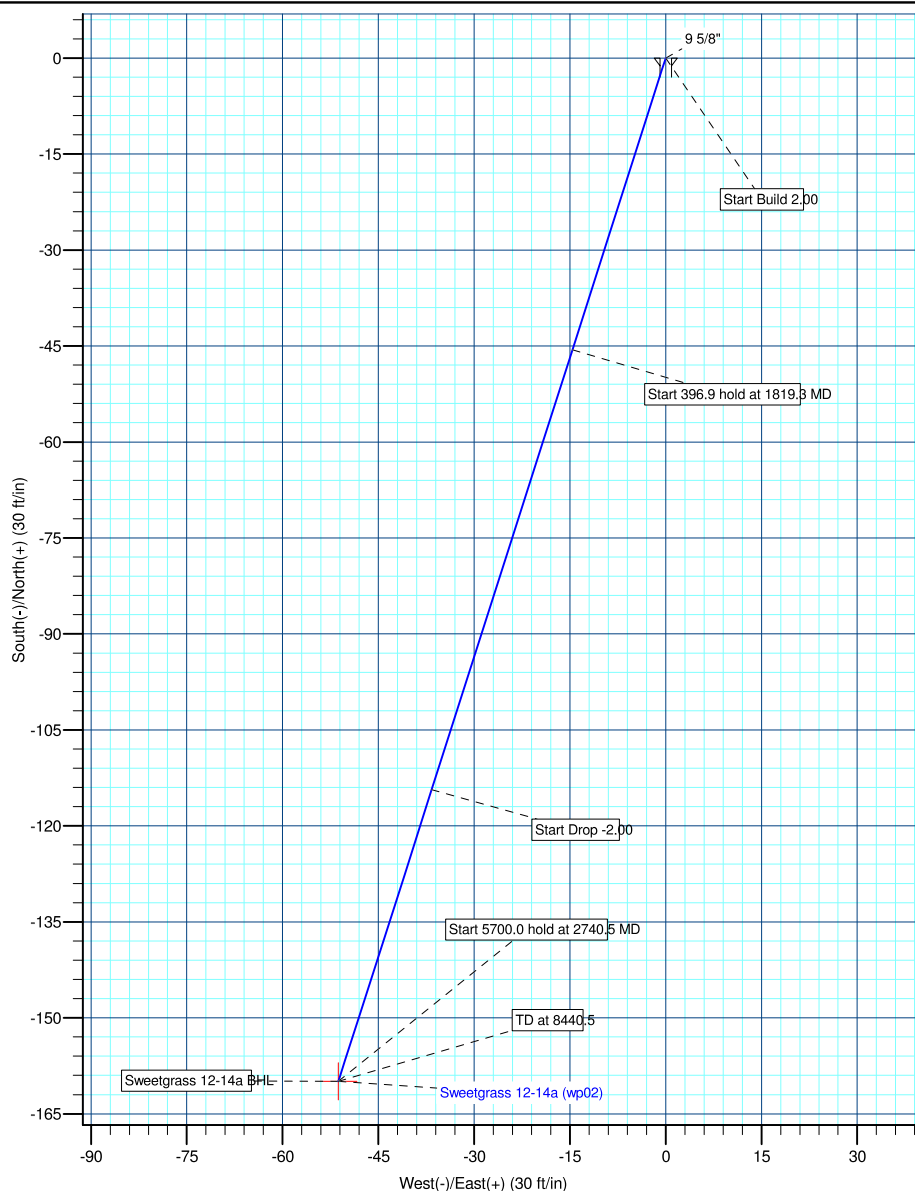
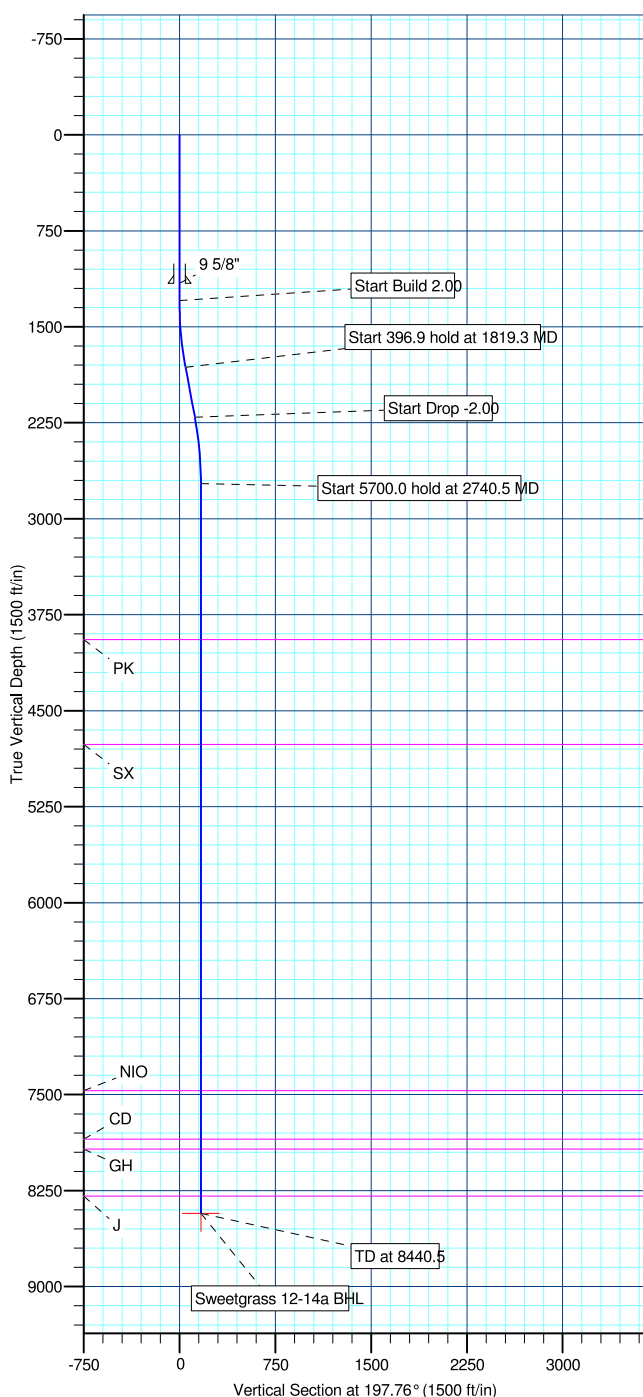
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1295.0	0.00	0.00	1295.0	0.0	0.0	0.00	0.00	0.0	
1819.3	10.49	197.76	1816.4	-45.6	-14.6	2.00	197.76	47.8	
2216.2	10.49	197.76	2206.6	-114.3	-36.6	0.00	0.00	120.1	
2740.5	0.00	0.00	2728.0	-159.9	-51.2	2.00	180.00	167.9	
8440.5	0.00	0.00	8428.0	-159.9	-51.2	0.00	0.00	167.9	

WELL DETAILS: Sweetgrass 12-14a

+N/-S	+E/-W	Northing	Ground Level:	5104.0	Latitude	Longitude	Slot
0.0	0.0	1261439.83	Easting	3146281.91	40° 2' 59.489 N	104° 58' 38.878 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Sweetgrass 12-14a BHL	8428.0	-159.9	-51.2	40° 2' 57.908 N	104° 58' 39.536 W	Point



Plan: Sweetgrass 12-14a (wp02) (Sweetgrass 12-14a/Sweetgrass 12-14a)

Created By: Jason Daguitera Date: 8:20, November 18 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 12-14a
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 12-14a	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 12-14a		
Design:	Sweetgrass 12-14a (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 12-14a					
Well Position	+N-S	0.0 ft	Northing:	1,261,439.83 ft	Latitude:	40° 2' 59.489 N
	+E-W	10.1ft	Easting:	3,146,281.91ft	Longitude:	104° 58' 38.878 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,104.0ft

Wellbore	Sweetgrass 12-14a				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/28/2010	9.01	66.77	52,979

Design	Sweetgrass 12-14a (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	197.76

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	
1,295.0	0.00	0.00	1,295.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,819.3	10.49	197.76	1,816.4	-45.6	-14.6	2.00	2.00	0.00	197.76	
2,216.2	10.49	197.76	2,206.6	-114.3	-36.6	0.00	0.00	0.00	0.00	
2,740.5	0.00	0.00	2,728.0	-159.9	-51.2	2.00	-2.00	0.00	180.00	
8,440.5	0.00	0.00	8,428.0	-159.9	-51.2	0.00	0.00	0.00	0.00	Sweetgrass 12-14a

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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 12-14a	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 12-14a		
Design:	Sweetgrass 12-14a (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
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,295.0	0.00	0.00	1,295.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.10	197.76	1,300.0	0.0	0.0	0.0	2.00	2.00	0.00
1,400.0	2.10	197.76	1,400.0	-1.8	-0.6	1.9	2.00	2.00	0.00
1,500.0	4.10	197.76	1,499.8	-7.0	-2.2	7.3	2.00	2.00	0.00
1,600.0	6.10	197.76	1,599.4	-15.4	-4.9	16.2	2.00	2.00	0.00
1,700.0	8.10	197.76	1,698.7	-27.2	-8.7	28.6	2.00	2.00	0.00
1,800.0	10.10	197.76	1,797.4	-42.3	-13.5	44.4	2.00	2.00	0.00
1,819.3	10.49	197.76	1,816.4	-45.6	-14.6	47.8	2.00	2.00	0.00
1,900.0	10.49	197.76	1,895.7	-59.5	-19.1	62.5	0.00	0.00	0.00
2,000.0	10.49	197.76	1,994.1	-76.9	-24.6	80.7	0.00	0.00	0.00
2,100.0	10.49	197.76	2,092.4	-94.2	-30.2	98.9	0.00	0.00	0.00
2,200.0	10.49	197.76	2,190.7	-111.5	-35.7	117.1	0.00	0.00	0.00
2,216.2	10.49	197.76	2,206.6	-114.3	-36.6	120.1	0.00	0.00	0.00
2,300.0	8.81	197.76	2,289.3	-127.7	-40.9	134.1	2.00	-2.00	0.00
2,400.0	6.81	197.76	2,388.3	-140.7	-45.1	147.7	2.00	-2.00	0.00
2,500.0	4.81	197.76	2,487.8	-150.3	-48.2	157.8	2.00	-2.00	0.00
2,600.0	2.81	197.76	2,587.6	-156.6	-50.2	164.5	2.00	-2.00	0.00
2,700.0	0.81	197.76	2,687.5	-159.6	-51.1	167.6	2.00	-2.00	0.00
2,740.5	0.00	0.00	2,728.0	-159.9	-51.2	167.9	2.00	-2.00	0.00
2,800.0	0.00	0.00	2,787.5	-159.9	-51.2	167.9	0.00	0.00	0.00
2,900.0	0.00	0.00	2,887.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,000.0	0.00	0.00	2,987.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,100.0	0.00	0.00	3,087.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,200.0	0.00	0.00	3,187.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,300.0	0.00	0.00	3,287.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,400.0	0.00	0.00	3,387.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,500.0	0.00	0.00	3,487.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,600.0	0.00	0.00	3,587.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,700.0	0.00	0.00	3,687.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,800.0	0.00	0.00	3,787.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,900.0	0.00	0.00	3,887.5	-159.9	-51.2	167.9	0.00	0.00	0.00
3,956.5	0.00	0.00	3,944.0	-159.9	-51.2	167.9	0.00	0.00	0.00
PK									
4,000.0	0.00	0.00	3,987.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,100.0	0.00	0.00	4,087.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,200.0	0.00	0.00	4,187.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,300.0	0.00	0.00	4,287.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,400.0	0.00	0.00	4,387.5	-159.9	-51.2	167.9	0.00	0.00	0.00

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Well:	Sweetgrass 12-14a	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 12-14a		
Design:	Sweetgrass 12-14a (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)
4,500.0	0.00	0.00	4,487.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,600.0	0.00	0.00	4,587.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,700.0	0.00	0.00	4,687.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,775.5	0.00	0.00	4,763.0	-159.9	-51.2	167.9	0.00	0.00	0.00
SX									
4,800.0	0.00	0.00	4,787.5	-159.9	-51.2	167.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,887.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,000.0	0.00	0.00	4,987.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,100.0	0.00	0.00	5,087.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,187.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,287.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,387.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,487.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,587.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,687.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,787.5	-159.9	-51.2	167.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,887.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,987.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,087.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,187.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,287.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,387.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,487.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,587.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,687.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,787.5	-159.9	-51.2	167.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,887.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,987.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,100.0	0.00	0.00	7,087.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,187.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,287.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,387.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,481.5	0.00	0.00	7,469.0	-159.9	-51.2	167.9	0.00	0.00	0.00
NIO									
7,500.0	0.00	0.00	7,487.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,587.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,687.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,787.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,861.5	0.00	0.00	7,849.0	-159.9	-51.2	167.9	0.00	0.00	0.00
CD									
7,900.0	0.00	0.00	7,887.5	-159.9	-51.2	167.9	0.00	0.00	0.00
7,937.5	0.00	0.00	7,925.0	-159.9	-51.2	167.9	0.00	0.00	0.00
GH									
8,000.0	0.00	0.00	7,987.5	-159.9	-51.2	167.9	0.00	0.00	0.00
8,100.0	0.00	0.00	8,087.5	-159.9	-51.2	167.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,187.5	-159.9	-51.2	167.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,287.5	-159.9	-51.2	167.9	0.00	0.00	0.00
8,305.5	0.00	0.00	8,293.0	-159.9	-51.2	167.9	0.00	0.00	0.00
J									
8,400.0	0.00	0.00	8,387.5	-159.9	-51.2	167.9	0.00	0.00	0.00
8,440.5	0.00	0.00	8,428.0	-159.9	-51.2	167.9	0.00	0.00	0.00
Sweetgrass 12-14a BHL									

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Wellbore:	Sweetgrass 12-14a		
Design:	Sweetgrass 12-14a (wp02)		

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 (°)
8,305.5	8,293.0	J		0.00	
4,775.5	4,763.0	SX		0.00	
7,861.5	7,849.0	CD		0.00	
3,956.5	3,944.0	PK		0.00	
7,481.5	7,469.0	NIO		0.00	
7,937.5	7,925.0	GH		0.00	