



ANADARKO PETROLEUM CORP.

ANADARKO COLORADO NORTHERN ZONE NAD 83

WELD_SWEETGRASS 14-14

Sweetgrass 22-14

Sweetgrass 22-14

Plan: Sweetgrass 22-14 (wp02)

Standard Planning Report

04 November, 2010





Project: ANADARKO COLORADO NORTHERN ZONE NAD 83
 Site: WELD SWEETGRASS 14-14
 Well: Sweetgrass 22-14
 Wellbore: Sweetgrass 22-14
 Section:
 SHL:
 Design: Sweetgrass 22-14 (wp02)
 Latitude: 40° 2' 59.489 N
 Longitude: 104° 58' 38.492 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	4034.3	PK
4763.0	4855.6	SX
7469.0	7561.6	NIO
7849.0	7941.6	CD
7925.0	8017.6	GH
8293.0	8385.6	J

CASING DETAILS

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

SECTION DETAILS

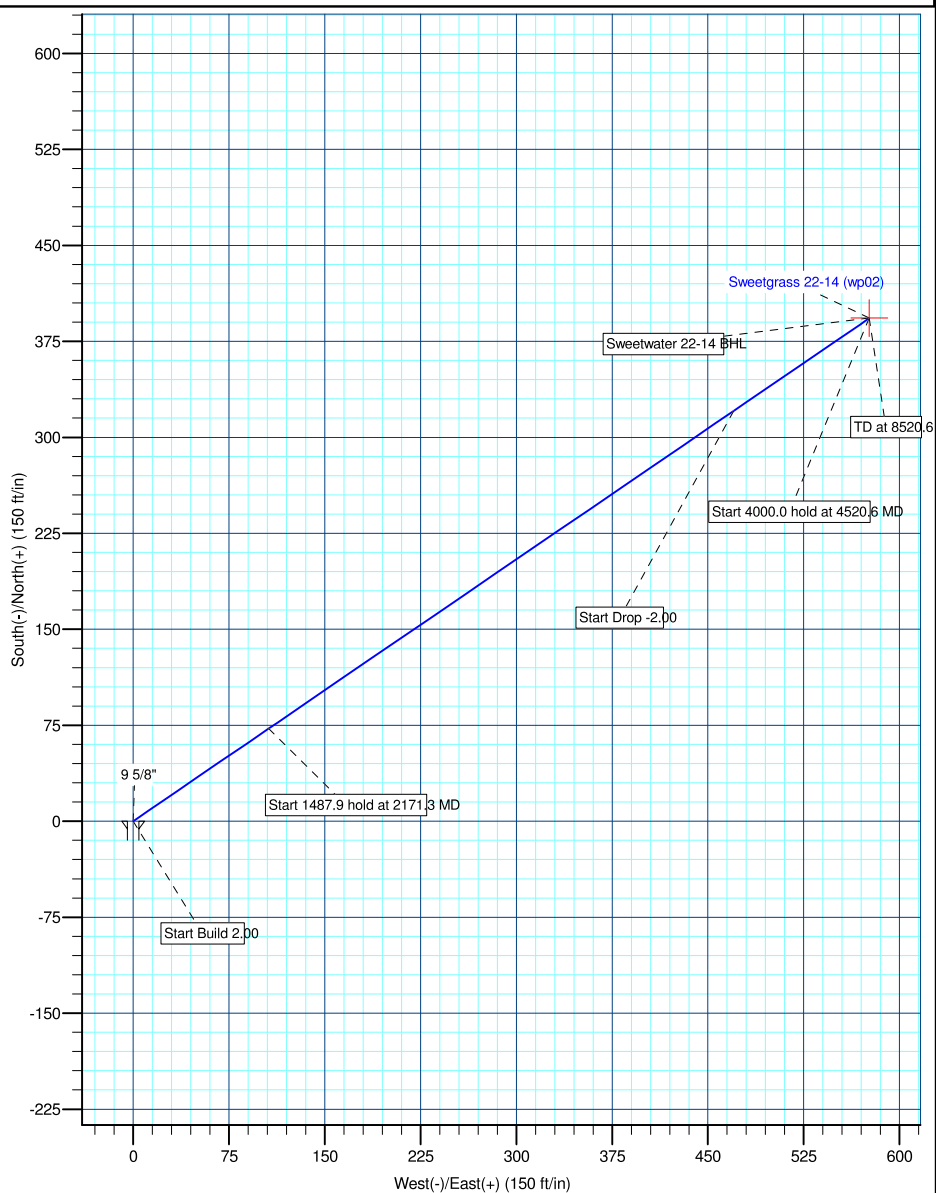
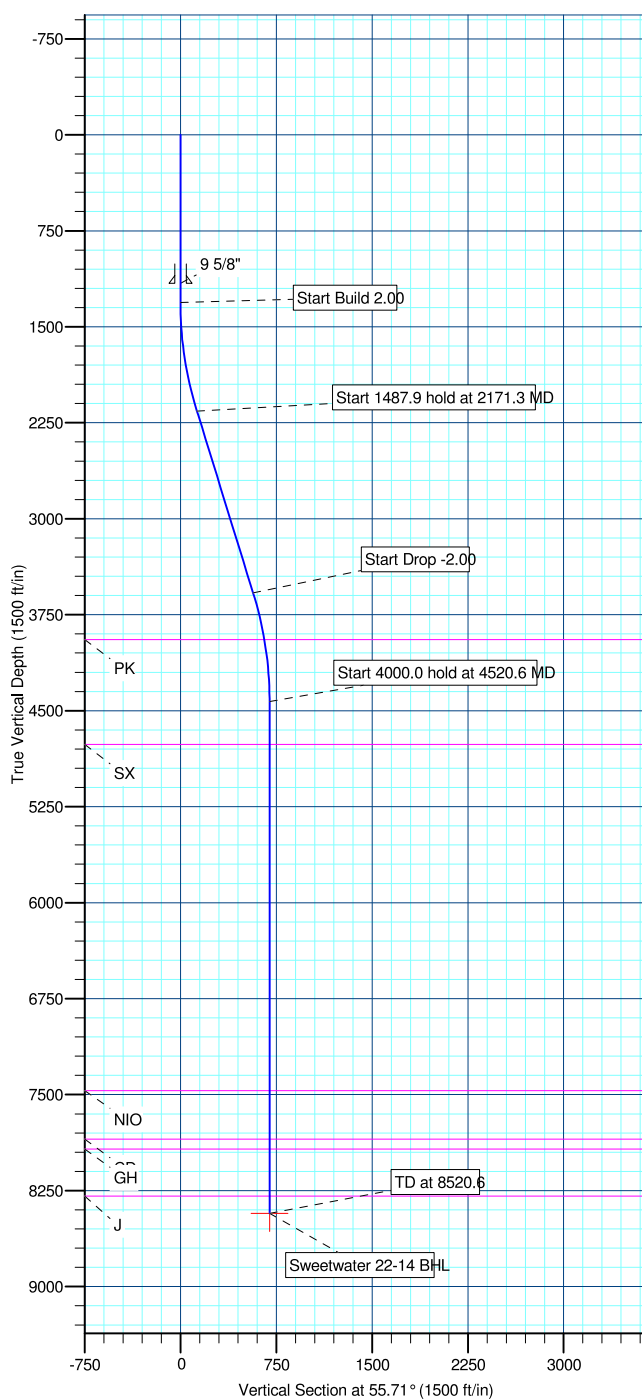
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1310.0	0.00	0.00	1310.0	0.0	0.0	0.00	0.00	0.0	
2171.3	17.23	55.71	2158.4	72.4	106.2	2.00	55.71	128.5	
3659.3	17.23	55.71	3579.6	320.7	470.2	0.00	0.00	569.2	
4520.6	0.00	0.00	4428.0	393.1	576.4	2.00	180.00	697.7	
8520.6	0.00	0.00	8428.0	393.1	576.4	0.00	0.00	697.7	

WELL DETAILS: Sweetgrass 22-14

+N/-S	+E/-W	Northing	Ground Level:	5104.0	Latitude	Longitude	Slot
0.0	0.0	1261440.01	Easting	3146311.86	40° 2' 59.489 N	104° 58' 38.492 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Sweetwater 22-14 BHL	8428.0	393.1	576.4	40° 3' 3.373 N	104° 58' 31.080 W	Point



Plan: Sweetgrass 22-14 (wp02) (Sweetgrass 22-14/Sweetgrass 22-14)

Created By: Jason Daguitera Date: 8:30, November 18 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 22-14
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 22-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 22-14		
Design:	Sweetgrass 22-14 (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 22-14					
Well Position	+N-S	0.0 ft	Northing:	1,261,440.01ft	Latitude:	40° 2' 59.489 N
	+E-W	40.1ft	Easting:	3,146,311.86 ft	Longitude:	104° 58' 38.492 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,104.0ft

Wellbore	Sweetgrass 22-14				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/28/2010	9.01	66.77	52,979

Design	Sweetgrass 22-14 (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	55.71	

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	
1,310.0	0.00	0.00	1,310.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,171.3	17.23	55.71	2,158.4	72.4	106.2	2.00	2.00	0.00	55.71	
3,659.3	17.23	55.71	3,579.6	320.7	470.2	0.00	0.00	0.00	0.00	
4,520.6	0.00	0.00	4,428.0	393.1	576.4	2.00	-2.00	0.00	180.00	
8,520.6	0.00	0.00	8,428.0	393.1	576.4	0.00	0.00	0.00	0.00	Sweetwater 22-14 E

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 22-14
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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 22-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 22-14		
Design:	Sweetgrass 22-14 (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
1,160.0	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
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,310.0	0.00	0.00	1,310.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	1.80	55.71	1,400.0	0.8	1.2	1.4	2.00	2.00	0.00
1,500.0	3.80	55.71	1,499.9	3.5	5.2	6.3	2.00	2.00	0.00
1,600.0	5.80	55.71	1,599.5	8.3	12.1	14.7	2.00	2.00	0.00
1,700.0	7.80	55.71	1,698.8	14.9	21.9	26.5	2.00	2.00	0.00
1,800.0	9.80	55.71	1,797.6	23.6	34.5	41.8	2.00	2.00	0.00
1,900.0	11.80	55.71	1,895.8	34.1	50.0	60.5	2.00	2.00	0.00
2,000.0	13.80	55.71	1,993.3	46.6	68.3	82.7	2.00	2.00	0.00
2,100.0	15.80	55.71	2,090.0	61.0	89.4	108.2	2.00	2.00	0.00
2,171.3	17.23	55.71	2,158.4	72.4	106.2	128.5	2.00	2.00	0.00
2,200.0	17.23	55.71	2,185.8	77.2	113.2	137.0	0.00	0.00	0.00
2,300.0	17.23	55.71	2,281.3	93.9	137.7	166.6	0.00	0.00	0.00
2,400.0	17.23	55.71	2,376.8	110.6	162.1	196.2	0.00	0.00	0.00
2,500.0	17.23	55.71	2,472.3	127.2	186.6	225.8	0.00	0.00	0.00
2,600.0	17.23	55.71	2,567.9	143.9	211.1	255.5	0.00	0.00	0.00
2,700.0	17.23	55.71	2,663.4	160.6	235.5	285.1	0.00	0.00	0.00
2,800.0	17.23	55.71	2,758.9	177.3	260.0	314.7	0.00	0.00	0.00
2,900.0	17.23	55.71	2,854.4	194.0	284.5	344.3	0.00	0.00	0.00
3,000.0	17.23	55.71	2,949.9	210.7	308.9	373.9	0.00	0.00	0.00
3,100.0	17.23	55.71	3,045.4	227.4	333.4	403.5	0.00	0.00	0.00
3,200.0	17.23	55.71	3,140.9	244.0	357.9	433.2	0.00	0.00	0.00
3,300.0	17.23	55.71	3,236.5	260.7	382.3	462.8	0.00	0.00	0.00
3,400.0	17.23	55.71	3,332.0	277.4	406.8	492.4	0.00	0.00	0.00
3,500.0	17.23	55.71	3,427.5	294.1	431.3	522.0	0.00	0.00	0.00
3,600.0	17.23	55.71	3,523.0	310.8	455.7	551.6	0.00	0.00	0.00
3,659.3	17.23	55.71	3,579.6	320.7	470.2	569.2	0.00	0.00	0.00
3,700.0	16.41	55.71	3,618.6	327.3	480.0	581.0	2.00	-2.00	0.00
3,800.0	14.41	55.71	3,715.0	342.3	501.9	607.5	2.00	-2.00	0.00
3,900.0	12.41	55.71	3,812.3	355.3	521.1	630.7	2.00	-2.00	0.00
4,000.0	10.41	55.71	3,910.3	366.5	537.4	650.5	2.00	-2.00	0.00
4,034.3	9.73	55.71	3,944.0	369.9	542.4	656.5	2.00	-2.00	0.00
PK									
4,100.0	8.41	55.71	4,008.9	375.7	550.9	666.9	2.00	-2.00	0.00
4,200.0	6.41	55.71	4,108.1	383.0	561.6	679.8	2.00	-2.00	0.00
4,300.0	4.41	55.71	4,207.6	388.3	569.4	689.2	2.00	-2.00	0.00
4,400.0	2.41	55.71	4,307.5	391.6	574.3	695.1	2.00	-2.00	0.00
4,500.0	0.41	55.71	4,407.4	393.0	576.3	697.6	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 22-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 22-14		
Design:	Sweetgrass 22-14 (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)
4,520.6	0.00	0.00	4,428.0	393.1	576.4	697.7	2.00	-2.00	0.00
4,600.0	0.00	0.00	4,507.4	393.1	576.4	697.7	0.00	0.00	0.00
4,700.0	0.00	0.00	4,607.4	393.1	576.4	697.7	0.00	0.00	0.00
4,800.0	0.00	0.00	4,707.4	393.1	576.4	697.7	0.00	0.00	0.00
4,855.6	0.00	0.00	4,763.0	393.1	576.4	697.7	0.00	0.00	0.00
SX									
4,900.0	0.00	0.00	4,807.4	393.1	576.4	697.7	0.00	0.00	0.00
5,000.0	0.00	0.00	4,907.4	393.1	576.4	697.7	0.00	0.00	0.00
5,100.0	0.00	0.00	5,007.4	393.1	576.4	697.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,107.4	393.1	576.4	697.7	0.00	0.00	0.00
5,300.0	0.00	0.00	5,207.4	393.1	576.4	697.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,307.4	393.1	576.4	697.7	0.00	0.00	0.00
5,500.0	0.00	0.00	5,407.4	393.1	576.4	697.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,507.4	393.1	576.4	697.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,607.4	393.1	576.4	697.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,707.4	393.1	576.4	697.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,807.4	393.1	576.4	697.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,907.4	393.1	576.4	697.7	0.00	0.00	0.00
6,100.0	0.00	0.00	6,007.4	393.1	576.4	697.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,107.4	393.1	576.4	697.7	0.00	0.00	0.00
6,300.0	0.00	0.00	6,207.4	393.1	576.4	697.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,307.4	393.1	576.4	697.7	0.00	0.00	0.00
6,500.0	0.00	0.00	6,407.4	393.1	576.4	697.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,507.4	393.1	576.4	697.7	0.00	0.00	0.00
6,700.0	0.00	0.00	6,607.4	393.1	576.4	697.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,707.4	393.1	576.4	697.7	0.00	0.00	0.00
6,900.0	0.00	0.00	6,807.4	393.1	576.4	697.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,907.4	393.1	576.4	697.7	0.00	0.00	0.00
7,100.0	0.00	0.00	7,007.4	393.1	576.4	697.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,107.4	393.1	576.4	697.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,207.4	393.1	576.4	697.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,307.4	393.1	576.4	697.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,407.4	393.1	576.4	697.7	0.00	0.00	0.00
7,561.6	0.00	0.00	7,469.0	393.1	576.4	697.7	0.00	0.00	0.00
NIO									
7,600.0	0.00	0.00	7,507.4	393.1	576.4	697.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,607.4	393.1	576.4	697.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,707.4	393.1	576.4	697.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,807.4	393.1	576.4	697.7	0.00	0.00	0.00
7,941.6	0.00	0.00	7,849.0	393.1	576.4	697.7	0.00	0.00	0.00
CD									
8,000.0	0.00	0.00	7,907.4	393.1	576.4	697.7	0.00	0.00	0.00
8,017.6	0.00	0.00	7,925.0	393.1	576.4	697.7	0.00	0.00	0.00
GH									
8,100.0	0.00	0.00	8,007.4	393.1	576.4	697.7	0.00	0.00	0.00
8,200.0	0.00	0.00	8,107.4	393.1	576.4	697.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,207.4	393.1	576.4	697.7	0.00	0.00	0.00
8,385.6	0.00	0.00	8,293.0	393.1	576.4	697.7	0.00	0.00	0.00
J									
8,400.0	0.00	0.00	8,307.4	393.1	576.4	697.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,407.4	393.1	576.4	697.7	0.00	0.00	0.00
8,520.6	0.00	0.00	8,428.0	393.1	576.4	697.7	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Sweetgrass 22-14
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 22-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Sweetgrass 22-14		
Design:	Sweetgrass 22-14 (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)
Sweetwater 22-14 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 (°)
8,385.6	8,293.0	J		0.00	
7,941.6	7,849.0	CD		0.00	
4,034.3	3,944.0	PK		0.00	
4,855.6	4,763.0	SX		0.00	
7,561.6	7,469.0	NIO		0.00	
8,017.6	7,925.0	GH		0.00	