

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Saddleback 18-29 pad

Saddleback 30-29

Saddleback 30-29

Plan: Saddleback 30-29 (wp01)

Standard Planning Report

27 July, 2011



Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_Saddleback 18-29 pad
 Well: Saddleback 30-29
 Wellbore: Saddleback 30-29
 Section:
 SHL:
 Design: Saddleback 30-29 (wp01)
 Latitude: 40.113110
 Longitude: -104.919448
 GL: 5015.00
 KB: 15' rkb + 5015' gl @ 5030.00ft

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4165.00	4352.08	PK Depth
4570.00	4780.52	SX Depth
7328.00	7589.87	NIO Depth
7615.00	7876.87	CD Depth
7692.00	7953.87	GH Depth
8041.00	8302.87	J Depth



Azimuths to True North
 Magnetic North: 8.91°

Magnetic Field
 Strength: 52950.1snT
 Dip Angle: 66.79°
 Date: 7/26/2011
 Model: IGRF2010

WELL DETAILS: Saddleback 30-29

+N/-S	+E/-W	Northing	Ground Level: Easting	5015.00 Latitude	Longitude	Slot
0.00	0.00	1284581.62	3162372.81	40.113110	-104.919448	

CASING DETAILS

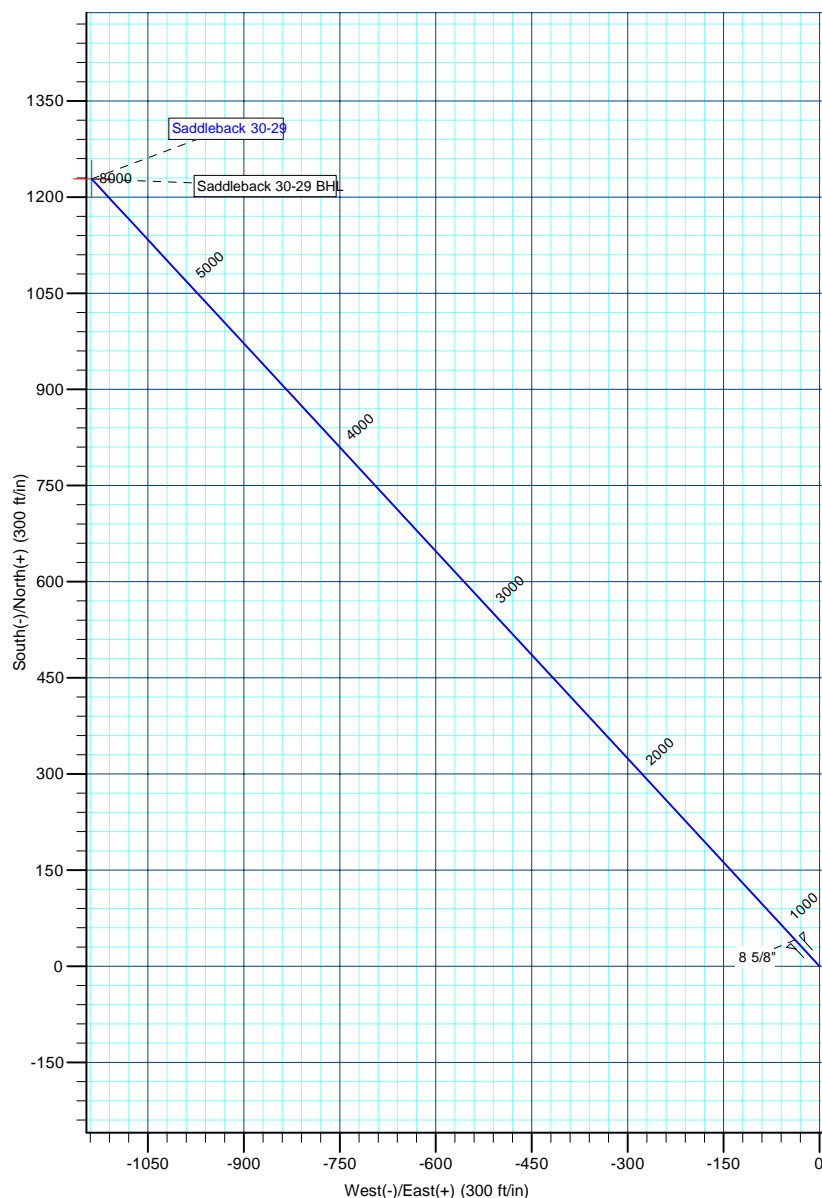
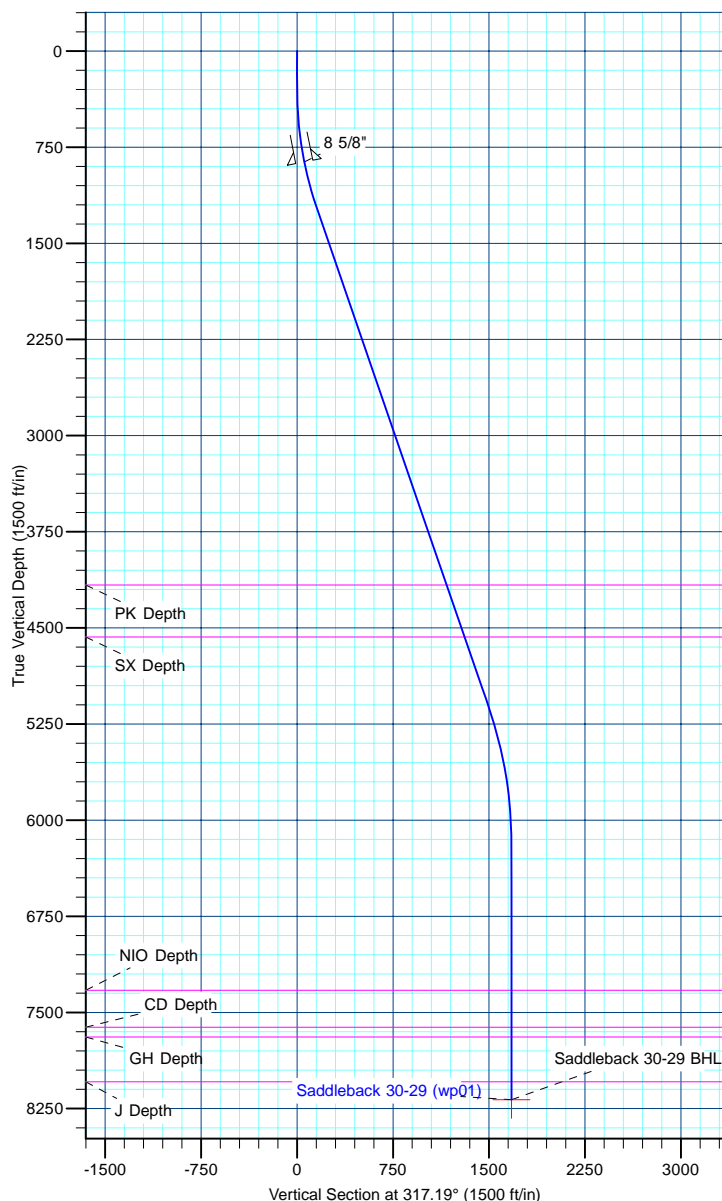
TVD	MD	Name	Size
865.00	868.73	8 5/8"	8-5/8

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Saddleback 30-29 BHL	8181.00	1228.39	-1138.00	1285802.53	3161226.80	40.116482	-104.923517	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	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
1252.14	19.04	317.19	1234.71	115.01	-106.54	2.00	317.19	156.77
5354.71	19.04	317.19	5112.77	1096.95	-1016.23	0.00	0.00	1495.34
6442.87	0.00	0.00	6181.00	1228.39	-1138.00	1.75	180.00	1674.51
8442.87	0.00	0.00	8181.00	1228.39	-1138.00	0.00	0.00	1674.51



Database:	edm5000p	Local Co-ordinate Reference:	Well Saddleback 30-29
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 5015' gl @ 5030.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5015' gl @ 5030.00ft
Site:	WELD_Saddleback 18-29 pad	North Reference:	True
Well:	Saddleback 30-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Saddleback 30-29		
Design:	Saddleback 30-29 (wp01)		

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

Site		WELD_Saddleback 18-29 pad			
Site Position:		Northing:	1,284,591.46 ft	Latitude:	40.113137
From:	Lat/Long	Easting:	3,162,372.75 ft	Longitude:	-104.919448
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.38

Well	Saddleback 30-29					
Well Position	+N-S	-9.85 ft	Northing:	1,284,581.62 ft	Latitude:	40.113110
	+E-W	0.00 ft	Easting:	3,162,372.81 ft	Longitude:	-104.919448
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,015.00 ft

Wellbore	Saddleback 30-29				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/26/2011	8.91	66.79	52,950

Design	Saddleback 30-29 (wp01)				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	317.19	

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
0.00	0.00	0.00	0.00	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	
1,252.14	19.04	317.19	1,234.71	115.01	-106.54	2.00	2.00	0.00	317.19	
5,354.71	19.04	317.19	5,112.77	1,096.95	-1,016.23	0.00	0.00	0.00	0.00	
6,442.87	0.00	0.00	6,181.00	1,228.39	-1,138.00	1.75	-1.75	0.00	180.00	
8,442.87	0.00	0.00	8,181.00	1,228.39	-1,138.00	0.00	0.00	0.00	0.00	Saddleback 30-29 f

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5015' gl @ 5030.00ft
Site:	WELD_Saddleback 18-29 pad	North Reference:	True
Well:	Saddleback 30-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Saddleback 30-29		
Design:	Saddleback 30-29 (wp01)		

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)
0.00	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	2.00	317.19	399.98	1.28	-1.19	1.75	2.00	2.00	0.00
500.00	4.00	317.19	499.84	5.12	-4.74	6.98	2.00	2.00	0.00
600.00	6.00	317.19	599.45	11.51	-10.67	15.69	2.00	2.00	0.00
700.00	8.00	317.19	698.70	20.45	-18.95	27.88	2.00	2.00	0.00
800.00	10.00	317.19	797.47	31.93	-29.58	43.52	2.00	2.00	0.00
868.73	11.37	317.19	865.00	41.28	-38.24	56.27	2.00	2.00	0.00
8 5/8"									
900.00	12.00	317.19	895.62	45.92	-42.54	62.60	2.00	2.00	0.00
1,000.00	14.00	317.19	993.06	62.43	-57.83	85.10	2.00	2.00	0.00
1,100.00	16.00	317.19	1,089.64	81.41	-75.42	110.98	2.00	2.00	0.00
1,200.00	18.00	317.19	1,185.27	102.86	-95.29	140.21	2.00	2.00	0.00
1,252.14	19.04	317.19	1,234.71	115.01	-106.54	156.77	2.00	2.00	0.00
1,300.00	19.04	317.19	1,279.95	126.46	-117.16	172.39	0.00	0.00	0.00
1,400.00	19.04	317.19	1,374.48	150.40	-139.33	205.02	0.00	0.00	0.00
1,500.00	19.04	317.19	1,469.00	174.33	-161.50	237.65	0.00	0.00	0.00
1,600.00	19.04	317.19	1,563.53	198.27	-183.68	270.27	0.00	0.00	0.00
1,700.00	19.04	317.19	1,658.06	222.20	-205.85	302.90	0.00	0.00	0.00
1,800.00	19.04	317.19	1,752.59	246.14	-228.03	335.53	0.00	0.00	0.00
1,900.00	19.04	317.19	1,847.11	270.07	-250.20	368.15	0.00	0.00	0.00
2,000.00	19.04	317.19	1,941.64	294.01	-272.37	400.78	0.00	0.00	0.00
2,100.00	19.04	317.19	2,036.17	317.94	-294.55	433.41	0.00	0.00	0.00
2,200.00	19.04	317.19	2,130.70	341.88	-316.72	466.04	0.00	0.00	0.00
2,300.00	19.04	317.19	2,225.22	365.81	-338.89	498.66	0.00	0.00	0.00
2,400.00	19.04	317.19	2,319.75	389.75	-361.07	531.29	0.00	0.00	0.00
2,500.00	19.04	317.19	2,414.28	413.68	-383.24	563.92	0.00	0.00	0.00
2,600.00	19.04	317.19	2,508.81	437.62	-405.41	596.55	0.00	0.00	0.00
2,700.00	19.04	317.19	2,603.33	461.55	-427.59	629.17	0.00	0.00	0.00
2,800.00	19.04	317.19	2,697.86	485.48	-449.76	661.80	0.00	0.00	0.00
2,900.00	19.04	317.19	2,792.39	509.42	-471.93	694.43	0.00	0.00	0.00
3,000.00	19.04	317.19	2,886.92	533.35	-494.11	727.06	0.00	0.00	0.00
3,100.00	19.04	317.19	2,981.44	557.29	-516.28	759.68	0.00	0.00	0.00
3,200.00	19.04	317.19	3,075.97	581.22	-538.46	792.31	0.00	0.00	0.00
3,300.00	19.04	317.19	3,170.50	605.16	-560.63	824.94	0.00	0.00	0.00
3,400.00	19.04	317.19	3,265.03	629.09	-582.80	857.57	0.00	0.00	0.00
3,500.00	19.04	317.19	3,359.55	653.03	-604.98	890.19	0.00	0.00	0.00
3,600.00	19.04	317.19	3,454.08	676.96	-627.15	922.82	0.00	0.00	0.00
3,700.00	19.04	317.19	3,548.61	700.90	-649.32	955.45	0.00	0.00	0.00
3,800.00	19.04	317.19	3,643.14	724.83	-671.50	988.07	0.00	0.00	0.00
3,900.00	19.04	317.19	3,737.66	748.77	-693.67	1,020.70	0.00	0.00	0.00
4,000.00	19.04	317.19	3,832.19	772.70	-715.84	1,053.33	0.00	0.00	0.00
4,100.00	19.04	317.19	3,926.72	796.64	-738.02	1,085.96	0.00	0.00	0.00
4,200.00	19.04	317.19	4,021.25	820.57	-760.19	1,118.58	0.00	0.00	0.00
4,300.00	19.04	317.19	4,115.77	844.51	-782.37	1,151.21	0.00	0.00	0.00
4,352.08	19.04	317.19	4,165.00	856.97	-793.91	1,168.20	0.00	0.00	0.00
PK Depth									
4,400.00	19.04	317.19	4,210.30	868.44	-804.54	1,183.84	0.00	0.00	0.00
4,500.00	19.04	317.19	4,304.83	892.38	-826.71	1,216.47	0.00	0.00	0.00
4,600.00	19.04	317.19	4,399.36	916.31	-848.89	1,249.09	0.00	0.00	0.00
4,700.00	19.04	317.19	4,493.88	940.25	-871.06	1,281.72	0.00	0.00	0.00
4,780.52	19.04	317.19	4,570.00	959.52	-888.91	1,307.99	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5015' gl @ 5030.00ft
Site:	WELD_Saddleback 18-29 pad	North Reference:	True
Well:	Saddleback 30-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Saddleback 30-29		
Design:	Saddleback 30-29 (wp01)		

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)
SX Depth									
4,800.00	19.04	317.19	4,588.41	964.18	-893.23	1,314.35	0.00	0.00	0.00
4,900.00	19.04	317.19	4,682.94	988.12	-915.41	1,346.98	0.00	0.00	0.00
5,000.00	19.04	317.19	4,777.47	1,012.05	-937.58	1,379.60	0.00	0.00	0.00
5,100.00	19.04	317.19	4,871.99	1,035.99	-959.75	1,412.23	0.00	0.00	0.00
5,200.00	19.04	317.19	4,966.52	1,059.92	-981.93	1,444.86	0.00	0.00	0.00
5,300.00	19.04	317.19	5,061.05	1,083.86	-1,004.10	1,477.49	0.00	0.00	0.00
5,354.71	19.04	317.19	5,112.77	1,096.95	-1,016.23	1,495.34	0.00	0.00	0.00
5,400.00	18.25	317.19	5,155.68	1,107.57	-1,026.07	1,509.82	1.75	-1.75	0.00
5,500.00	16.50	317.19	5,251.11	1,129.48	-1,046.37	1,539.68	1.75	-1.75	0.00
5,600.00	14.75	317.19	5,347.41	1,149.24	-1,064.67	1,566.61	1.75	-1.75	0.00
5,700.00	13.00	317.19	5,444.49	1,166.83	-1,080.97	1,590.59	1.75	-1.75	0.00
5,800.00	11.25	317.19	5,542.26	1,182.24	-1,095.24	1,611.59	1.75	-1.75	0.00
5,900.00	9.50	317.19	5,640.62	1,195.45	-1,107.48	1,629.60	1.75	-1.75	0.00
6,000.00	7.75	317.19	5,739.48	1,206.45	-1,117.67	1,644.60	1.75	-1.75	0.00
6,100.00	6.00	317.19	5,838.76	1,215.23	-1,125.81	1,656.57	1.75	-1.75	0.00
6,200.00	4.25	317.19	5,938.36	1,221.78	-1,131.88	1,665.50	1.75	-1.75	0.00
6,300.00	2.50	317.19	6,038.18	1,226.10	-1,135.88	1,671.39	1.75	-1.75	0.00
6,400.00	0.75	317.19	6,138.13	1,228.18	-1,137.81	1,674.23	1.75	-1.75	0.00
6,442.87	0.00	0.00	6,181.00	1,228.39	-1,138.00	1,674.51	1.75	-1.75	0.00
6,500.00	0.00	0.00	6,238.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
6,600.00	0.00	0.00	6,338.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
6,700.00	0.00	0.00	6,438.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
6,800.00	0.00	0.00	6,538.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
6,900.00	0.00	0.00	6,638.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,000.00	0.00	0.00	6,738.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,100.00	0.00	0.00	6,838.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,200.00	0.00	0.00	6,938.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,300.00	0.00	0.00	7,038.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,400.00	0.00	0.00	7,138.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,500.00	0.00	0.00	7,238.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,589.87	0.00	0.00	7,328.00	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
NIO Depth									
7,600.00	0.00	0.00	7,338.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,700.00	0.00	0.00	7,438.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,800.00	0.00	0.00	7,538.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,876.87	0.00	0.00	7,615.00	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
CD Depth									
7,900.00	0.00	0.00	7,638.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
7,953.87	0.00	0.00	7,692.00	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
GH Depth									
8,000.00	0.00	0.00	7,738.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
8,100.00	0.00	0.00	7,838.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
8,200.00	0.00	0.00	7,938.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
8,300.00	0.00	0.00	8,038.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
8,302.87	0.00	0.00	8,041.00	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
J Depth									
8,400.00	0.00	0.00	8,138.13	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
8,442.87	0.00	0.00	8,181.00	1,228.39	-1,138.00	1,674.51	0.00	0.00	0.00
Saddleback 30-29 BHL									

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5015' gl @ 5030.00ft
Site:	WELD_Saddleback 18-29 pad	North Reference:	True
Well:	Saddleback 30-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Saddleback 30-29		
Design:	Saddleback 30-29 (wp01)		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Saddleback 30-29 BH	0.00	0.00	8,181.00	1,228.39	-1,138.00	1,285,802.52	3,161,226.80	40.116482	-104.923517
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)		Name	(")	(")
868.73	865.00	8 5/8"		8-5/8	11

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)		Name	Lithology	(°)	(°)
4,352.08	4,165.00	PK Depth				
4,780.52	4,570.00	SX Depth				
7,589.87	7,328.00	NIO Depth				
7,876.87	7,615.00	CD Depth				
7,953.87	7,692.00	GH Depth				
8,302.87	8,041.00	J Depth				