

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_BERGER PAD

Berger 28-2

Berger 28-2

Plan: Berger 28-2 (wp01)

Standard Planning Report

06 October, 2011

Project: COLORADO NORTHERN ZONE - 83
Site: WELD_BERGER PAD
Well: Berger 28-2
Wellbore: Berger 28-2
Section:
SHL:
Design: Berger 28-2 (wp01)
Latitude: 40.083952
Longitude: -104.863645
GL: 4959.01
KB: 15' rkb + 4959' gl @ 4974.01ft

FORMATION TOP DETAILS

TVDPath	MDPath	PK Depth	Formation
4059.00	4270.10	SX Depth	
4519.00	4761.71	NIO Depth	
7239.00	7579.61	CD Depth	
7549.00	7889.61	GH Depth	
7637.00	7977.61	J Depth	
7989.00	8329.61		

WELL DETAILS: Berger 28-2

+N/-S	+E/-W	Northing	Ground Level: Easting	4959.01 Latitude	Longitude	Slot
0.00	0.00	1274067.36	3178056.15	40.083952	-104.863645	

CASING DETAILS

No casing data is available



Azimuths to True North
Magnetic North: 8.85°

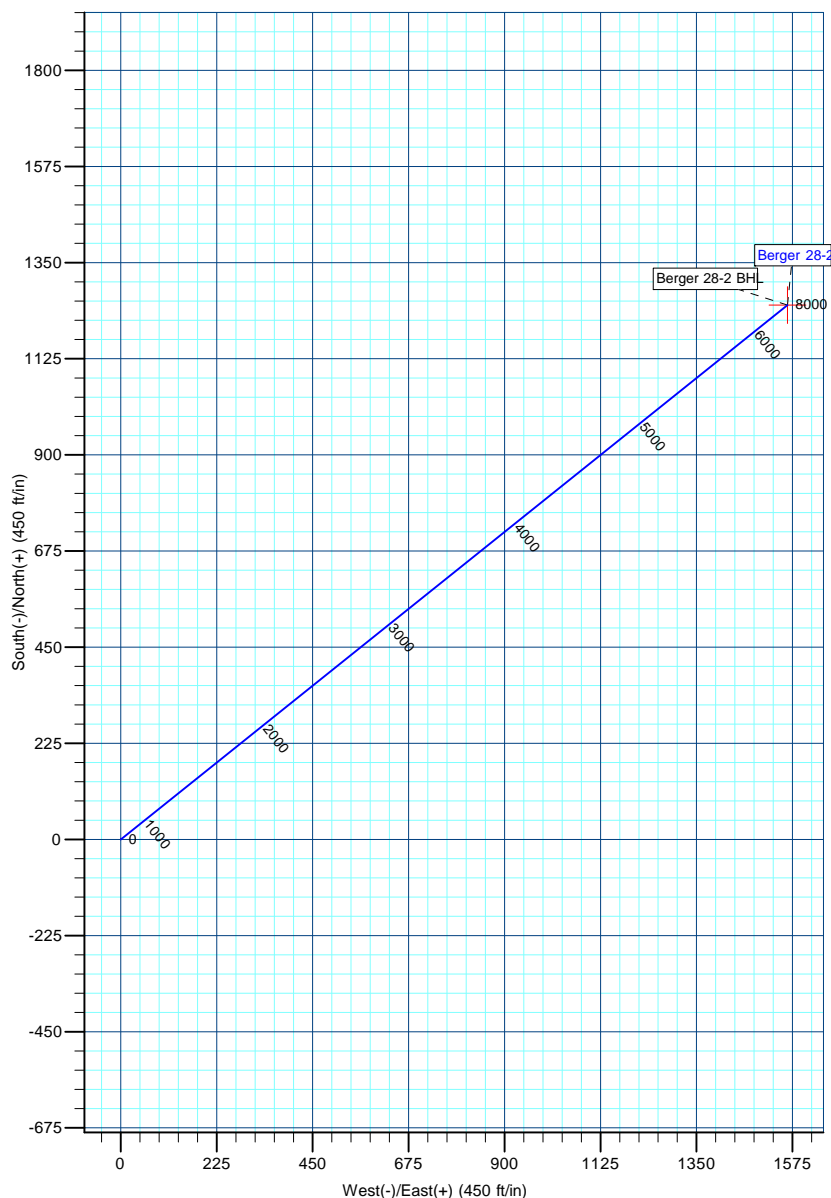
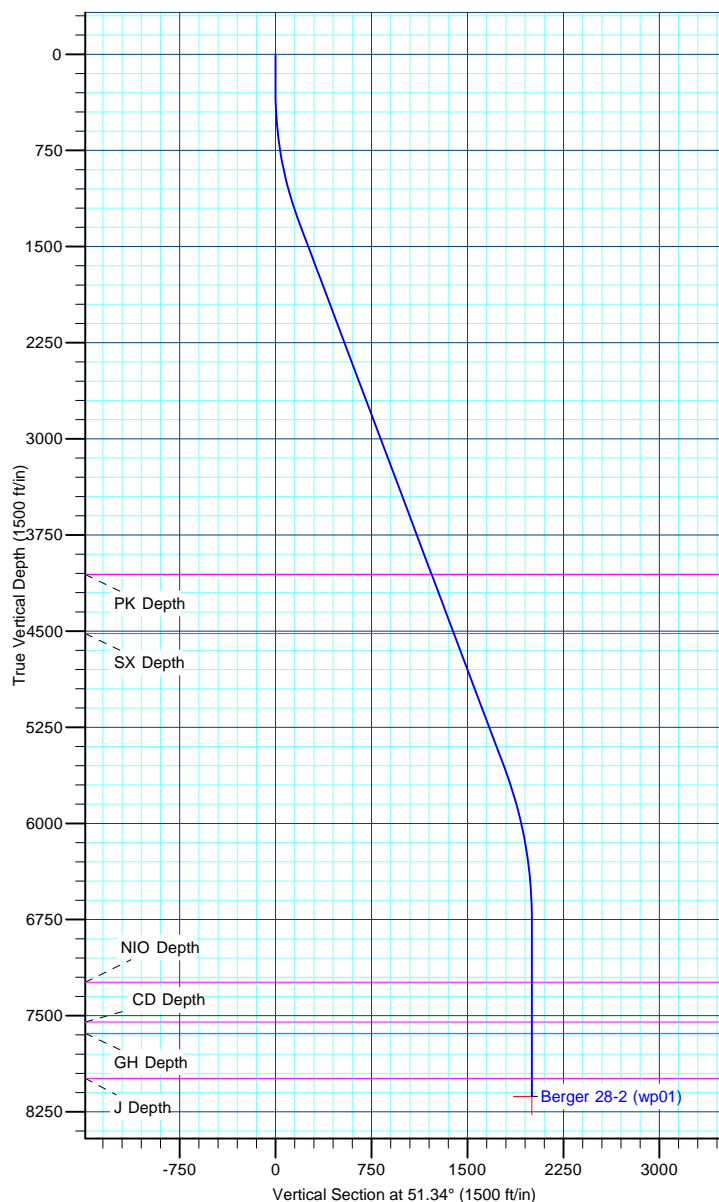
Magnetic Field
Strength: 52920.6snT
Dip Angle: 66.77°
Date: 10/6/2011
Model: IGRF2010

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Berger 28-2 BHL	8129.00	1250.63	1563.50	1275329.18	3179610.63	40.087385	-104.858057	

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
1332.93	20.66	51.34	1310.70	115.06	143.85	2.00	51.34	184.21
5889.12	20.66	51.34	5573.92	1119.13	1399.10	0.00	0.00	1791.63
7069.61	0.00	0.00	6729.00	1250.63	1563.50	1.75	180.00	2002.15
8469.61	0.00	0.00	8129.00	1250.63	1563.50	0.00	0.00	2002.15



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Berger 28-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.01ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.01ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 28-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 28-2		
Design:	Berger 28-2 (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_BERGER PAD			
Site Position:		Northing:	1,274,067.38 usft	Latitude: 40.083952
From:	Lat/Long	Easting:	3,178,056.15 usft	Longitude: -104.863645
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.41 °

Well	Berger 28-2			
Well Position	+N/-S	-0.02 ft	Northing:	1,274,067.36 usft
	+E/-W	0.00 ft	Easting:	3,178,056.15 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 4,959.01 ft

Wellbore	Berger 28-2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/6/2011	8.85	66.77	52,921

Design	Berger 28-2 (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	51.34

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
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	
1,332.93	20.66	51.34	1,310.70	115.06	143.85	2.00	2.00	0.00	51.34	
5,889.12	20.66	51.34	5,573.92	1,119.13	1,399.10	0.00	0.00	0.00	0.00	
7,069.61	0.00	0.00	6,729.00	1,250.63	1,563.50	1.75	-1.75	0.00	180.00	
8,469.61	0.00	0.00	8,129.00	1,250.63	1,563.50	0.00	0.00	0.00	0.00	Berger 28-2 BHL

Anadarko Petroleum Corp

Planning Report

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.01ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.01ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 28-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 28-2		
Design:	Berger 28-2 (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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	51.34	399.98	1.09	1.36	1.75	2.00	2.00	0.00
500.00	4.00	51.34	499.84	4.36	5.45	6.98	2.00	2.00	0.00
600.00	6.00	51.34	599.45	9.80	12.26	15.69	2.00	2.00	0.00
700.00	8.00	51.34	698.70	17.42	21.77	27.88	2.00	2.00	0.00
800.00	10.00	51.34	797.47	27.19	33.99	43.52	2.00	2.00	0.00
900.00	12.00	51.34	895.62	39.10	48.89	62.60	2.00	2.00	0.00
1,000.00	14.00	51.34	993.06	53.15	66.45	85.10	2.00	2.00	0.00
1,100.00	16.00	51.34	1,089.64	69.32	86.66	110.98	2.00	2.00	0.00
1,200.00	18.00	51.34	1,185.27	87.58	109.49	140.21	2.00	2.00	0.00
1,300.00	20.00	51.34	1,279.82	107.92	134.92	172.77	2.00	2.00	0.00
1,332.93	20.66	51.34	1,310.70	115.06	143.85	184.21	2.00	2.00	0.00
1,400.00	20.66	51.34	1,373.45	129.85	162.33	207.87	0.00	0.00	0.00
1,500.00	20.66	51.34	1,467.02	151.88	189.88	243.15	0.00	0.00	0.00
1,600.00	20.66	51.34	1,560.59	173.92	217.43	278.43	0.00	0.00	0.00
1,700.00	20.66	51.34	1,654.16	195.96	244.98	313.71	0.00	0.00	0.00
1,800.00	20.66	51.34	1,747.73	217.99	272.53	348.99	0.00	0.00	0.00
1,900.00	20.66	51.34	1,841.30	240.03	300.08	384.27	0.00	0.00	0.00
2,000.00	20.66	51.34	1,934.87	262.07	327.63	419.55	0.00	0.00	0.00
2,100.00	20.66	51.34	2,028.44	284.11	355.18	454.83	0.00	0.00	0.00
2,200.00	20.66	51.34	2,122.01	306.14	382.73	490.11	0.00	0.00	0.00
2,300.00	20.66	51.34	2,215.58	328.18	410.28	525.39	0.00	0.00	0.00
2,400.00	20.66	51.34	2,309.15	350.22	437.83	560.67	0.00	0.00	0.00
2,500.00	20.66	51.34	2,402.72	372.26	465.38	595.95	0.00	0.00	0.00
2,600.00	20.66	51.34	2,496.29	394.29	492.93	631.23	0.00	0.00	0.00
2,700.00	20.66	51.34	2,589.86	416.33	520.48	666.51	0.00	0.00	0.00
2,800.00	20.66	51.34	2,683.43	438.37	548.03	701.79	0.00	0.00	0.00
2,900.00	20.66	51.34	2,777.00	460.41	575.58	737.07	0.00	0.00	0.00
3,000.00	20.66	51.34	2,870.57	482.44	603.13	772.35	0.00	0.00	0.00
3,100.00	20.66	51.34	2,964.14	504.48	630.68	807.63	0.00	0.00	0.00
3,200.00	20.66	51.34	3,057.71	526.52	658.23	842.91	0.00	0.00	0.00
3,300.00	20.66	51.34	3,151.28	548.56	685.78	878.19	0.00	0.00	0.00
3,400.00	20.66	51.34	3,244.85	570.59	713.33	913.47	0.00	0.00	0.00
3,500.00	20.66	51.34	3,338.42	592.63	740.88	948.75	0.00	0.00	0.00
3,600.00	20.66	51.34	3,431.99	614.67	768.43	984.03	0.00	0.00	0.00
3,700.00	20.66	51.34	3,525.56	636.70	795.99	1,019.31	0.00	0.00	0.00
3,800.00	20.66	51.34	3,619.13	658.74	823.54	1,054.59	0.00	0.00	0.00
3,900.00	20.66	51.34	3,712.70	680.78	851.09	1,089.87	0.00	0.00	0.00
4,000.00	20.66	51.34	3,806.27	702.82	878.64	1,125.15	0.00	0.00	0.00
4,100.00	20.66	51.34	3,899.84	724.85	906.19	1,160.43	0.00	0.00	0.00
4,200.00	20.66	51.34	3,993.41	746.89	933.74	1,195.71	0.00	0.00	0.00
4,270.10	20.66	51.34	4,059.00	762.34	953.05	1,220.44	0.00	0.00	0.00
PK Depth									
4,300.00	20.66	51.34	4,086.98	768.93	961.29	1,230.99	0.00	0.00	0.00
4,400.00	20.66	51.34	4,180.55	790.97	988.84	1,266.27	0.00	0.00	0.00
4,500.00	20.66	51.34	4,274.12	813.00	1,016.39	1,301.55	0.00	0.00	0.00
4,600.00	20.66	51.34	4,367.69	835.04	1,043.94	1,336.83	0.00	0.00	0.00
4,700.00	20.66	51.34	4,461.26	857.08	1,071.49	1,372.10	0.00	0.00	0.00
4,761.71	20.66	51.34	4,519.00	870.68	1,088.49	1,393.88	0.00	0.00	0.00
SX Depth									
4,800.00	20.66	51.34	4,554.83	879.12	1,099.04	1,407.38	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.01ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.01ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 28-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 28-2		
Design:	Berger 28-2 (wp01)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,900.00	20.66	51.34	4,648.40	901.15	1,126.59	1,442.66	0.00	0.00	0.00	
5,000.00	20.66	51.34	4,741.97	923.19	1,154.14	1,477.94	0.00	0.00	0.00	
5,100.00	20.66	51.34	4,835.54	945.23	1,181.69	1,513.22	0.00	0.00	0.00	
5,200.00	20.66	51.34	4,929.11	967.27	1,209.24	1,548.50	0.00	0.00	0.00	
5,300.00	20.66	51.34	5,022.68	989.30	1,236.79	1,583.78	0.00	0.00	0.00	
5,400.00	20.66	51.34	5,116.25	1,011.34	1,264.34	1,619.06	0.00	0.00	0.00	
5,500.00	20.66	51.34	5,209.82	1,033.38	1,291.89	1,654.34	0.00	0.00	0.00	
5,600.00	20.66	51.34	5,303.39	1,055.42	1,319.44	1,689.62	0.00	0.00	0.00	
5,700.00	20.66	51.34	5,396.96	1,077.45	1,346.99	1,724.90	0.00	0.00	0.00	
5,800.00	20.66	51.34	5,490.53	1,099.49	1,374.54	1,760.18	0.00	0.00	0.00	
5,889.12	20.66	51.34	5,573.92	1,119.13	1,399.10	1,791.63	0.00	0.00	0.00	
5,900.00	20.47	51.34	5,584.11	1,121.52	1,402.08	1,795.45	1.75	-1.75	0.00	
6,000.00	18.72	51.34	5,678.31	1,142.46	1,428.27	1,828.98	1.75	-1.75	0.00	
6,100.00	16.97	51.34	5,773.50	1,161.60	1,452.19	1,859.62	1.75	-1.75	0.00	
6,200.00	15.22	51.34	5,869.57	1,178.92	1,473.84	1,887.34	1.75	-1.75	0.00	
6,300.00	13.47	51.34	5,966.45	1,194.39	1,493.18	1,912.11	1.75	-1.75	0.00	
6,400.00	11.72	51.34	6,064.04	1,208.01	1,510.21	1,933.91	1.75	-1.75	0.00	
6,500.00	9.97	51.34	6,162.26	1,219.76	1,524.90	1,952.72	1.75	-1.75	0.00	
6,600.00	8.22	51.34	6,260.99	1,229.63	1,537.24	1,968.53	1.75	-1.75	0.00	
6,700.00	6.47	51.34	6,360.17	1,237.61	1,547.22	1,981.31	1.75	-1.75	0.00	
6,800.00	4.72	51.34	6,459.69	1,243.70	1,554.83	1,991.05	1.75	-1.75	0.00	
6,900.00	2.97	51.34	6,559.46	1,247.89	1,560.07	1,997.76	1.75	-1.75	0.00	
7,000.00	1.22	51.34	6,659.39	1,250.17	1,562.92	2,001.41	1.75	-1.75	0.00	
7,069.61	0.00	0.00	6,729.00	1,250.63	1,563.50	2,002.15	1.75	-1.75	0.00	
7,100.00	0.00	0.00	6,759.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,859.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,300.00	0.00	0.00	6,959.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,059.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,159.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,579.61	0.00	0.00	7,239.00	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
NIO Depth										
7,600.00	0.00	0.00	7,259.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,359.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,459.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,889.61	0.00	0.00	7,549.00	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
CD Depth										
7,900.00	0.00	0.00	7,559.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
7,977.61	0.00	0.00	7,637.00	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
GH Depth										
8,000.00	0.00	0.00	7,659.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,759.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,859.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
8,300.00	0.00	0.00	7,959.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
8,329.61	0.00	0.00	7,989.00	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
J Depth										
8,400.00	0.00	0.00	8,059.39	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
8,469.61	0.00	0.00	8,129.00	1,250.63	1,563.50	2,002.15	0.00	0.00	0.00	
Berger 28-2 BHL										

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.01ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.01ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 28-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 28-2		
Design:	Berger 28-2 (wp01)		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Berger 28-2 BHL	0.00	0.00	8,129.00	1,250.63	1,563.50	1,275,329.18	3,179,610.63	40.087385	-104.858057
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
4,270.10	4,059.00	PK Depth				
4,761.71	4,519.00	SX Depth				
7,579.61	7,239.00	NIO Depth				
7,889.61	7,549.00	CD Depth				
7,977.61	7,637.00	GH Depth				
8,329.61	7,989.00	J Depth				