

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CAMP 35-31HZ PAD

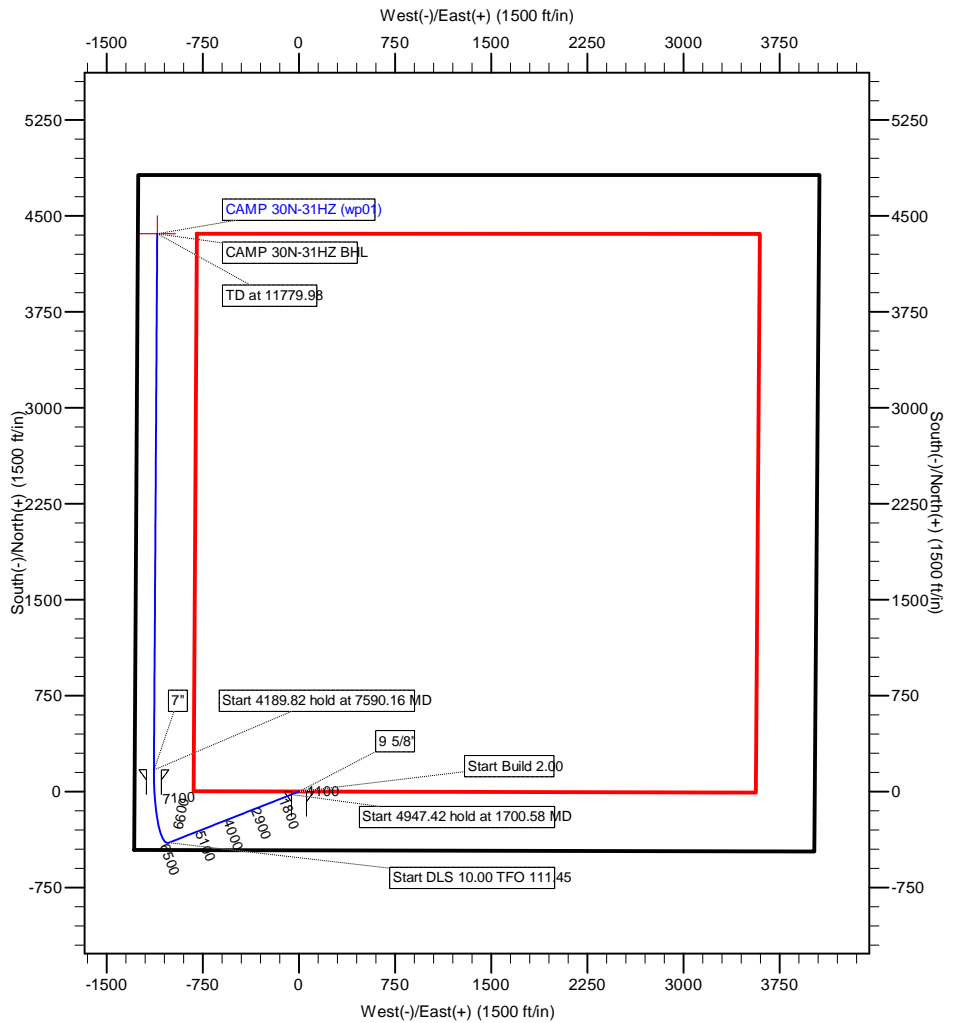
CAMP 30N-31HZ

CAMP 30N-31HZ

Plan: CAMP 30N-31HZ (wp01)

Standard Planning Report

04 January, 2012



Azimuths to True North
 Magnetic North: 8.74°
 Magnetic Field Strength: 52959.8snT
 Dip Angle: 66.86°
 Date: 1/3/2012
 Model: IGRF2010

Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_CAMP 35-31HZ PAD
 Well: CAMP 30N-31HZ
 Wellbore: CAMP 30N-31HZ
 Section:
 SHL:
 Design: CAMP 30N-31HZ (wp01)
 Latitude: 40.175961
 Longitude: -104.711248
 GL: 4971.00
 KB: GL + 25' RKB @ 496.00ft (Original Well Elev)



WELL DETAILS: CAMP 30N-31HZ

+N-S	+E-W	Northing	Ground Level: Easting	4971.00 Latitude	Longitude	Slot
0.00	0.00	1307925.67	3220398.65	40.175961	-104.711248	

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
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	0.00	0.00
1700.58	12.01	248.52	1696.19	-22.97	-58.37	2.00	248.52	-7.91
6648.00	12.01	248.52	6535.29	-400.00	-1016.45	0.00	0.00	-137.68
7589.74	89.73	0.35	7141.00	169.31	-1132.00	10.00	111.45	442.56
7590.16	89.73	0.35	7141.00	169.73	-1132.00	1.00	-146.38	442.97
11779.98	89.73	0.35	7161.00	4359.42	-1106.35	0.00	0.00	4497.62

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

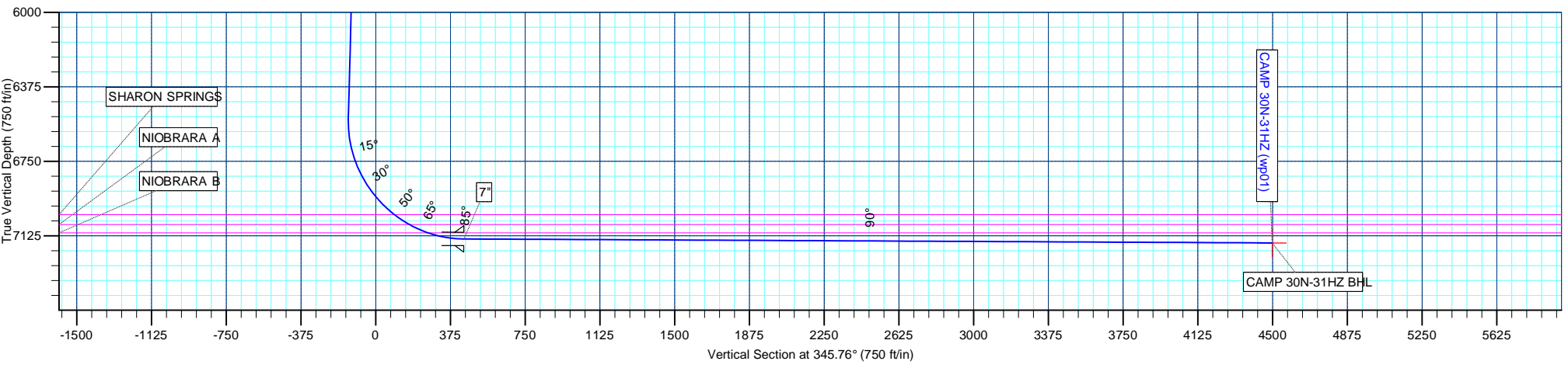
Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape
CAMP 30N-31HZ BHL	7161.00	4359.42	-1106.35	40.187928	-104.715208	Point

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3989.00	4044.71	PARKMAN
4395.00	4459.80	SUSSEX
7019.00	7207.81	SHARON SPRINGS
7068.00	7297.22	NIOBRARA A
7110.00	7401.30	NIOBRARA B

CASING DETAILS

TVD	MD	Name	Size
800.00	800.00	9 5/8"	9-5/8
7141.00	7589.74	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well CAMP 30N-31HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Site:	WELD_CAMP 35-31HZ PAD	North Reference:	True
Well:	CAMP 30N-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CAMP 30N-31HZ		
Design:	CAMP 30N-31HZ (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_CAMP 35-31HZ PAD				
Site Position:		Northing:	1,307,925.69 usft	Latitude:	40.175961
From:	Lat/Long	Easting:	3,220,398.65 usft	Longitude:	-104.711248
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.51 °

Well	CAMP 30N-31HZ					
Well Position	+N/-S	-0.02 ft	Northing:	1,307,925.66 usft	Latitude:	40.175961
	+E/-W	0.00 ft	Easting:	3,220,398.65 usft	Longitude:	-104.711248
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,971.00 ft

Wellbore	CAMP 30N-31HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/3/2012	8.74	66.86	52,960

Design	CAMP 30N-31HZ (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	345.76	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.58	12.01	248.52	1,696.19	-22.97	-58.37	2.00	2.00	0.00	248.52	
6,648.00	12.01	248.52	6,535.29	-400.00	-1,016.45	0.00	0.00	0.00	0.00	
7,589.74	89.73	0.35	7,141.00	169.31	-1,132.00	10.00	8.25	11.88	111.45	
7,590.16	89.73	0.35	7,141.00	169.73	-1,132.00	1.00	-0.83	-0.55	-146.38	
11,779.98	89.73	0.35	7,161.00	4,359.42	-1,106.35	0.00	0.00	0.00	0.00	CAMP 30N-31HZ BHI

Anadarko Petroleum Corp

Planning Report

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Site:	WELD_CAMP 35-31HZ PAD	North Reference:	True
Well:	CAMP 30N-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CAMP 30N-31HZ		
Design:	CAMP 30N-31HZ (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	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
9 5/8"										
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.00										
1,200.00	2.00	248.52	1,199.98	-0.64	-1.62	-0.22	2.00	2.00	0.00	
1,300.00	4.00	248.52	1,299.84	-2.56	-6.49	-0.88	2.00	2.00	0.00	
1,400.00	6.00	248.52	1,399.45	-5.75	-14.60	-1.98	2.00	2.00	0.00	
1,500.00	8.00	248.52	1,498.70	-10.21	-25.94	-3.51	2.00	2.00	0.00	
1,600.00	10.00	248.52	1,597.47	-15.94	-40.50	-5.49	2.00	2.00	0.00	
1,700.00	12.00	248.52	1,695.62	-22.92	-58.25	-7.89	2.00	2.00	0.00	
1,700.58	12.01	248.52	1,696.19	-22.97	-58.37	-7.91	2.00	2.00	0.00	
Start 4947.42 hold at 1700.58 MD										
1,800.00	12.01	248.52	1,793.43	-30.55	-77.62	-10.51	0.00	0.00	0.00	
1,900.00	12.01	248.52	1,891.24	-38.17	-96.98	-13.14	0.00	0.00	0.00	
2,000.00	12.01	248.52	1,989.05	-45.79	-116.35	-15.76	0.00	0.00	0.00	
2,100.00	12.01	248.52	2,086.87	-53.41	-135.72	-18.38	0.00	0.00	0.00	
2,200.00	12.01	248.52	2,184.68	-61.03	-155.08	-21.01	0.00	0.00	0.00	
2,300.00	12.01	248.52	2,282.49	-68.65	-174.45	-23.63	0.00	0.00	0.00	
2,400.00	12.01	248.52	2,380.30	-76.27	-193.81	-26.25	0.00	0.00	0.00	
2,500.00	12.01	248.52	2,478.11	-83.89	-213.18	-28.88	0.00	0.00	0.00	
2,600.00	12.01	248.52	2,575.92	-91.51	-232.54	-31.50	0.00	0.00	0.00	
2,700.00	12.01	248.52	2,673.73	-99.13	-251.91	-34.12	0.00	0.00	0.00	
2,800.00	12.01	248.52	2,771.54	-106.75	-271.27	-36.74	0.00	0.00	0.00	
2,900.00	12.01	248.52	2,869.35	-114.37	-290.64	-39.37	0.00	0.00	0.00	
3,000.00	12.01	248.52	2,967.16	-122.00	-310.00	-41.99	0.00	0.00	0.00	
3,100.00	12.01	248.52	3,064.97	-129.62	-329.37	-44.61	0.00	0.00	0.00	
3,200.00	12.01	248.52	3,162.78	-137.24	-348.73	-47.24	0.00	0.00	0.00	
3,300.00	12.01	248.52	3,260.59	-144.86	-368.10	-49.86	0.00	0.00	0.00	
3,400.00	12.01	248.52	3,358.40	-152.48	-387.46	-52.48	0.00	0.00	0.00	
3,500.00	12.01	248.52	3,456.21	-160.10	-406.83	-55.11	0.00	0.00	0.00	
3,600.00	12.01	248.52	3,554.02	-167.72	-426.19	-57.73	0.00	0.00	0.00	
3,700.00	12.01	248.52	3,651.83	-175.34	-445.56	-60.35	0.00	0.00	0.00	
3,800.00	12.01	248.52	3,749.65	-182.96	-464.93	-62.98	0.00	0.00	0.00	
3,900.00	12.01	248.52	3,847.46	-190.58	-484.29	-65.60	0.00	0.00	0.00	
4,000.00	12.01	248.52	3,945.27	-198.20	-503.66	-68.22	0.00	0.00	0.00	
4,044.71	12.01	248.52	3,989.00	-201.61	-512.31	-69.39	0.00	0.00	0.00	
PARKMAN										
4,100.00	12.01	248.52	4,043.08	-205.82	-523.02	-70.84	0.00	0.00	0.00	
4,200.00	12.01	248.52	4,140.89	-213.45	-542.39	-73.47	0.00	0.00	0.00	
4,300.00	12.01	248.52	4,238.70	-221.07	-561.75	-76.09	0.00	0.00	0.00	
4,400.00	12.01	248.52	4,336.51	-228.69	-581.12	-78.71	0.00	0.00	0.00	
4,459.80	12.01	248.52	4,395.00	-233.24	-592.70	-80.28	0.00	0.00	0.00	

Anadarko Petroleum Corp

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Site:	WELD_CAMP 35-31HZ PAD	North Reference:	True
Well:	CAMP 30N-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CAMP 30N-31HZ		
Design:	CAMP 30N-31HZ (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)
SUSSEX									
4,500.00	12.01	248.52	4,434.32	-236.31	-600.48	-81.34	0.00	0.00	0.00
4,600.00	12.01	248.52	4,532.13	-243.93	-619.85	-83.96	0.00	0.00	0.00
4,700.00	12.01	248.52	4,629.94	-251.55	-639.21	-86.58	0.00	0.00	0.00
4,800.00	12.01	248.52	4,727.75	-259.17	-658.58	-89.21	0.00	0.00	0.00
4,900.00	12.01	248.52	4,825.56	-266.79	-677.94	-91.83	0.00	0.00	0.00
5,000.00	12.01	248.52	4,923.37	-274.41	-697.31	-94.45	0.00	0.00	0.00
5,100.00	12.01	248.52	5,021.18	-282.03	-716.67	-97.08	0.00	0.00	0.00
5,200.00	12.01	248.52	5,118.99	-289.65	-736.04	-99.70	0.00	0.00	0.00
5,300.00	12.01	248.52	5,216.80	-297.27	-755.40	-102.32	0.00	0.00	0.00
5,400.00	12.01	248.52	5,314.61	-304.90	-774.77	-104.94	0.00	0.00	0.00
5,500.00	12.01	248.52	5,412.43	-312.52	-794.14	-107.57	0.00	0.00	0.00
5,600.00	12.01	248.52	5,510.24	-320.14	-813.50	-110.19	0.00	0.00	0.00
5,700.00	12.01	248.52	5,608.05	-327.76	-832.87	-112.81	0.00	0.00	0.00
5,800.00	12.01	248.52	5,705.86	-335.38	-852.23	-115.44	0.00	0.00	0.00
5,900.00	12.01	248.52	5,803.67	-343.00	-871.60	-118.06	0.00	0.00	0.00
6,000.00	12.01	248.52	5,901.48	-350.62	-890.96	-120.68	0.00	0.00	0.00
6,100.00	12.01	248.52	5,999.29	-358.24	-910.33	-123.31	0.00	0.00	0.00
6,200.00	12.01	248.52	6,097.10	-365.86	-929.69	-125.93	0.00	0.00	0.00
6,300.00	12.01	248.52	6,194.91	-373.48	-949.06	-128.55	0.00	0.00	0.00
6,400.00	12.01	248.52	6,292.72	-381.10	-968.42	-131.18	0.00	0.00	0.00
6,500.00	12.01	248.52	6,390.53	-388.72	-987.79	-133.80	0.00	0.00	0.00
6,600.00	12.01	248.52	6,488.34	-396.35	-1,007.15	-136.42	0.00	0.00	0.00
6,648.00	12.01	248.52	6,535.29	-400.00	-1,016.45	-137.68	0.00	0.00	0.00
Start DLS 10.00 TFO 111.45									
6,700.00	11.19	274.28	6,586.26	-401.61	-1,026.52	-136.76	10.00	-1.57	49.53
6,800.00	15.45	314.83	6,683.75	-391.47	-1,045.70	-122.21	10.00	4.26	40.56
6,900.00	23.45	333.33	6,778.05	-364.22	-1,064.13	-91.27	10.00	7.99	18.49
7,000.00	32.53	342.37	6,866.30	-320.71	-1,081.24	-44.89	10.00	9.08	9.04
7,100.00	41.99	347.74	6,945.82	-262.25	-1,096.53	15.54	10.00	9.47	5.36
7,200.00	51.63	351.41	7,014.19	-190.62	-1,109.52	88.17	10.00	9.64	3.68
7,207.81	52.39	351.66	7,019.00	-184.53	-1,110.42	94.29	10.00	9.69	3.12
SHARON SPRINGS									
7,297.22	61.09	354.15	7,068.00	-110.41	-1,119.57	168.38	10.00	9.73	2.78
NIOBRARA A									
7,300.00	61.36	354.22	7,069.34	-107.99	-1,119.82	170.79	10.00	9.75	2.52
7,400.00	71.13	356.54	7,109.58	-16.87	-1,127.12	260.90	10.00	9.77	2.32
7,401.30	71.26	356.56	7,110.00	-15.64	-1,127.19	262.11	10.00	9.79	2.16
NIOBRARA B									
7,500.00	80.93	358.60	7,133.70	79.96	-1,131.19	355.76	10.00	9.80	2.06
7,589.74	89.73	0.35	7,141.00	169.31	-1,132.00	442.56	10.00	9.81	1.95
7"									
7,590.16	89.73	0.35	7,141.00	169.73	-1,132.00	442.97	0.91	-0.74	-0.53
Start 4189.82 hold at 7590.16 MD									
7,600.00	89.73	0.35	7,141.05	179.57	-1,131.94	452.49	0.00	0.00	0.00
7,700.00	89.73	0.35	7,141.53	279.56	-1,131.33	549.26	0.00	0.00	0.00
7,800.00	89.73	0.35	7,142.00	379.56	-1,130.71	646.04	0.00	0.00	0.00
7,900.00	89.73	0.35	7,142.48	479.56	-1,130.10	742.81	0.00	0.00	0.00
8,000.00	89.73	0.35	7,142.96	579.55	-1,129.49	839.58	0.00	0.00	0.00
8,100.00	89.73	0.35	7,143.44	679.55	-1,128.88	936.36	0.00	0.00	0.00
8,200.00	89.73	0.35	7,143.91	779.55	-1,128.26	1,033.13	0.00	0.00	0.00

Anadarko Petroleum Corp

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
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Wellbore:	CAMP 30N-31HZ		
Design:	CAMP 30N-31HZ (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)	
8,300.00	89.73	0.35	7,144.39	879.54	-1,127.65	1,129.91	0.00	0.00	0.00	
8,400.00	89.73	0.35	7,144.87	979.54	-1,127.04	1,226.68	0.00	0.00	0.00	
8,500.00	89.73	0.35	7,145.34	1,079.54	-1,126.43	1,323.45	0.00	0.00	0.00	
8,600.00	89.73	0.35	7,145.82	1,179.54	-1,125.82	1,420.23	0.00	0.00	0.00	
8,700.00	89.73	0.35	7,146.30	1,279.53	-1,125.20	1,517.00	0.00	0.00	0.00	
8,800.00	89.73	0.35	7,146.78	1,379.53	-1,124.59	1,613.78	0.00	0.00	0.00	
8,900.00	89.73	0.35	7,147.25	1,479.53	-1,123.98	1,710.55	0.00	0.00	0.00	
9,000.00	89.73	0.35	7,147.73	1,579.52	-1,123.37	1,807.32	0.00	0.00	0.00	
9,100.00	89.73	0.35	7,148.21	1,679.52	-1,122.76	1,904.10	0.00	0.00	0.00	
9,200.00	89.73	0.35	7,148.69	1,779.52	-1,122.14	2,000.87	0.00	0.00	0.00	
9,300.00	89.73	0.35	7,149.16	1,879.51	-1,121.53	2,097.65	0.00	0.00	0.00	
9,400.00	89.73	0.35	7,149.64	1,979.51	-1,120.92	2,194.42	0.00	0.00	0.00	
9,500.00	89.73	0.35	7,150.12	2,079.51	-1,120.31	2,291.19	0.00	0.00	0.00	
9,600.00	89.73	0.35	7,150.60	2,179.51	-1,119.70	2,387.97	0.00	0.00	0.00	
9,700.00	89.73	0.35	7,151.07	2,279.50	-1,119.08	2,484.74	0.00	0.00	0.00	
9,800.00	89.73	0.35	7,151.55	2,379.50	-1,118.47	2,581.51	0.00	0.00	0.00	
9,900.00	89.73	0.35	7,152.03	2,479.50	-1,117.86	2,678.29	0.00	0.00	0.00	
10,000.00	89.73	0.35	7,152.50	2,579.49	-1,117.25	2,775.06	0.00	0.00	0.00	
10,100.00	89.73	0.35	7,152.98	2,679.49	-1,116.64	2,871.84	0.00	0.00	0.00	
10,200.00	89.73	0.35	7,153.46	2,779.49	-1,116.02	2,968.61	0.00	0.00	0.00	
10,300.00	89.73	0.35	7,153.94	2,879.48	-1,115.41	3,065.38	0.00	0.00	0.00	
10,400.00	89.73	0.35	7,154.41	2,979.48	-1,114.80	3,162.16	0.00	0.00	0.00	
10,500.00	89.73	0.35	7,154.89	3,079.48	-1,114.19	3,258.93	0.00	0.00	0.00	
10,600.00	89.73	0.35	7,155.37	3,179.48	-1,113.58	3,355.71	0.00	0.00	0.00	
10,700.00	89.73	0.35	7,155.85	3,279.47	-1,112.96	3,452.48	0.00	0.00	0.00	
10,800.00	89.73	0.35	7,156.32	3,379.47	-1,112.35	3,549.25	0.00	0.00	0.00	
10,900.00	89.73	0.35	7,156.80	3,479.47	-1,111.74	3,646.03	0.00	0.00	0.00	
11,000.00	89.73	0.35	7,157.28	3,579.46	-1,111.13	3,742.80	0.00	0.00	0.00	
11,100.00	89.73	0.35	7,157.75	3,679.46	-1,110.52	3,839.57	0.00	0.00	0.00	
11,200.00	89.73	0.35	7,158.23	3,779.46	-1,109.90	3,936.35	0.00	0.00	0.00	
11,300.00	89.73	0.35	7,158.71	3,879.45	-1,109.29	4,033.12	0.00	0.00	0.00	
11,400.00	89.73	0.35	7,159.19	3,979.45	-1,108.68	4,129.90	0.00	0.00	0.00	
11,500.00	89.73	0.35	7,159.66	4,079.45	-1,108.07	4,226.67	0.00	0.00	0.00	
11,600.00	89.73	0.35	7,160.14	4,179.45	-1,107.45	4,323.44	0.00	0.00	0.00	
11,700.00	89.73	0.35	7,160.62	4,279.44	-1,106.84	4,420.22	0.00	0.00	0.00	
11,779.98	89.73	0.35	7,161.00	4,359.42	-1,106.35	4,497.62	0.00	0.00	0.00	
TD at 11779.98 - CAMP 30N-31HZ BHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
CAMP 30N-31HZ BHL	0.00	0.00	7,161.00	4,359.42	-1,106.35	1,312,275.07	3,219,253.57	40.187928	-104.715208	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well CAMP 30N-31HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL + 25' RKB @ 4996.00ft (Original Well Elev)
Site:	WELD_CAMP 35-31HZ PAD	North Reference:	True
Well:	CAMP 30N-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CAMP 30N-31HZ		
Design:	CAMP 30N-31HZ (wp01)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
800.00	800.00	9 5/8"	9-5/8	13-1/2	
7,589.74	7,141.00	7"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,044.71	3,989.00	PARKMAN		0.00	
4,459.80	4,395.00	SUSSEX		0.00	
7,207.81	7,019.00	SHARON SPRINGS		0.00	
7,297.22	7,068.00	NIOBRARA A		0.00	
7,401.30	7,110.00	NIOBRARA B		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,100.00	1,100.00	0.00	0.00	Start Build 2.00	
1,700.58	1,696.19	-22.97	-58.37	Start 4947.42 hold at 1700.58 MD	
6,648.00	6,535.29	-400.00	-1,016.45	Start DLS 10.00 TFO 111.45	
7,590.16	7,141.00	169.73	-1,132.00	Start 4189.82 hold at 7590.16 MD	
11,779.98	7,161.00	4,359.42	-1,106.35	TD at 11779.98	