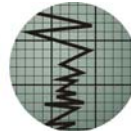




# Weatherford®



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<b>FINAL SURVEYS.....</b>	<b>SEC.1</b>
<b>DAILY ACTIVITY.....</b>	<b>SEC.2</b>
<b>BHA REPORTS.....</b>	<b>SEC.3</b>
<b>MOTOR REPORTS.....</b>	<b>SEC.4</b>
<b>SLIDE REPORT .....</b>	<b>SEC.5</b>



# FINAL SURVEYS

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# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_CAMP 37-31HZ PAD**

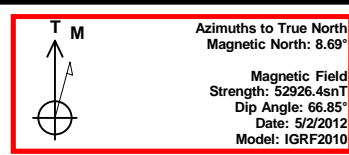
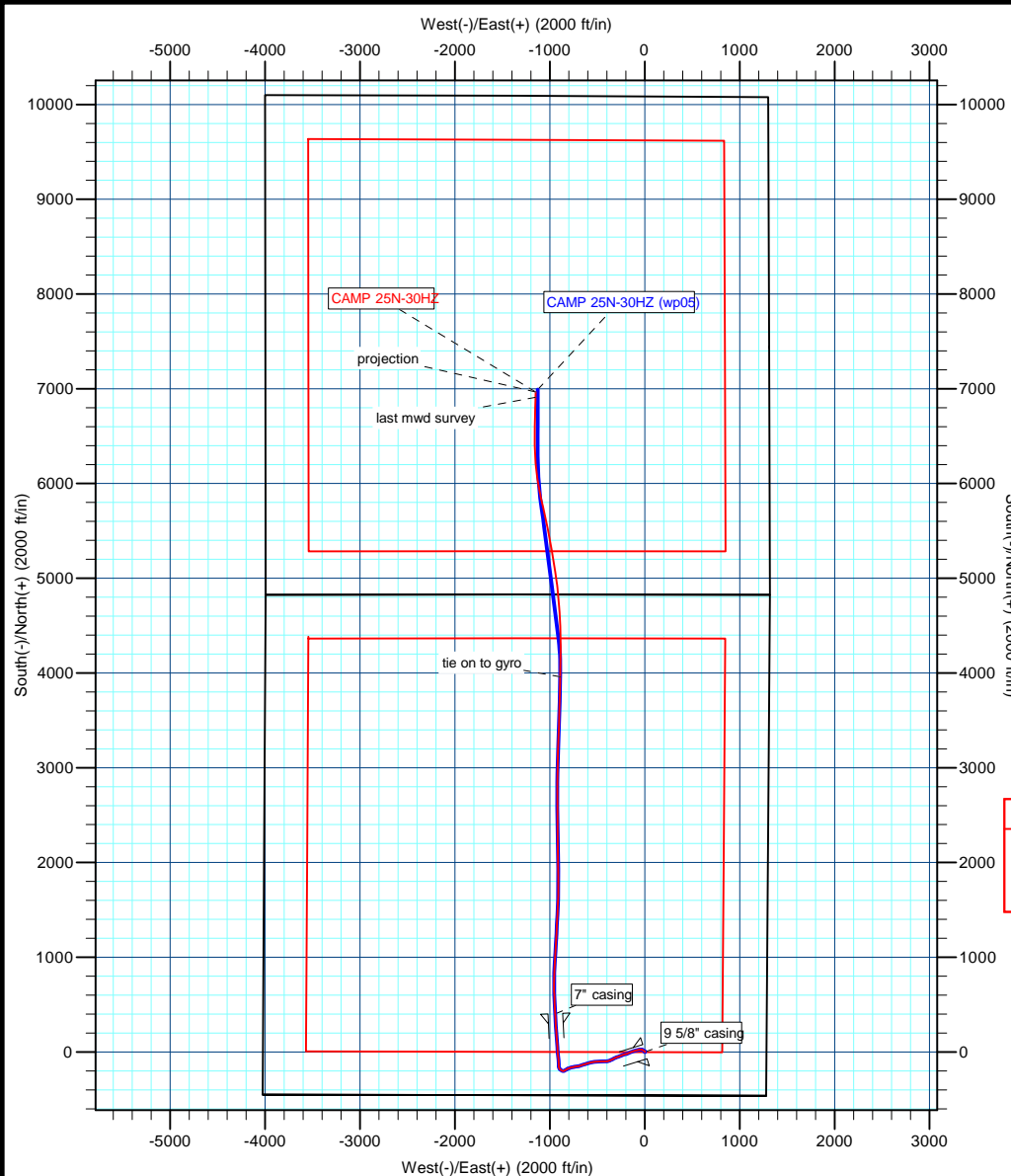
**CAMP 25N-30HZ**

**CAMP 25N-30HZ**

**Design: CAMP 25N-30HZ**

## **Standard Survey Report**

**01 June, 2012**



Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_CAMP 37-31HZ PAD  
Well: CAMP 25N-30HZ  
Wellbore: CAMP 25N-30HZ  
Section:  
SHL:  
Design: CAMP 25N-30HZ  
Latitude: 40.175944  
Longitude: -104.701706  
GL: 4949.00  
KB: 25' RKB + 4949' GL @ 4974.00ft

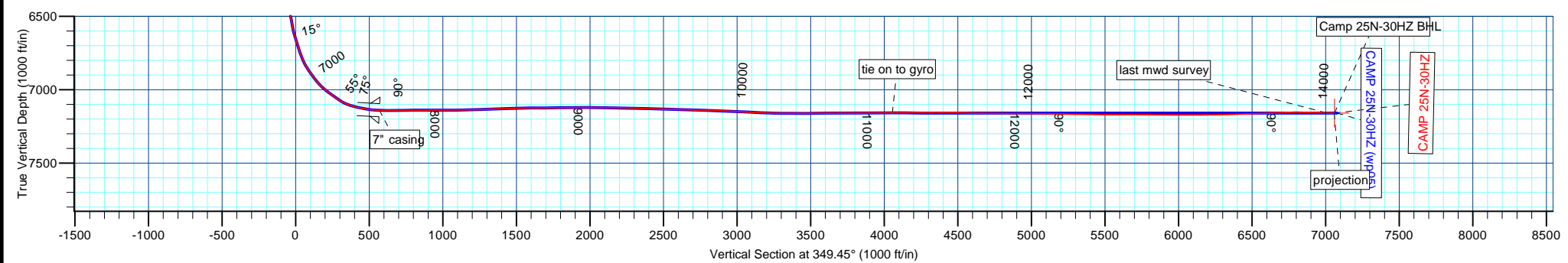
WELL DETAILS: CAMP 25N-30HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4949.00 Latitude	Longitude	Slot
0.00	0.00	1307943.34	3223064.93	40.175944	-104.701706	

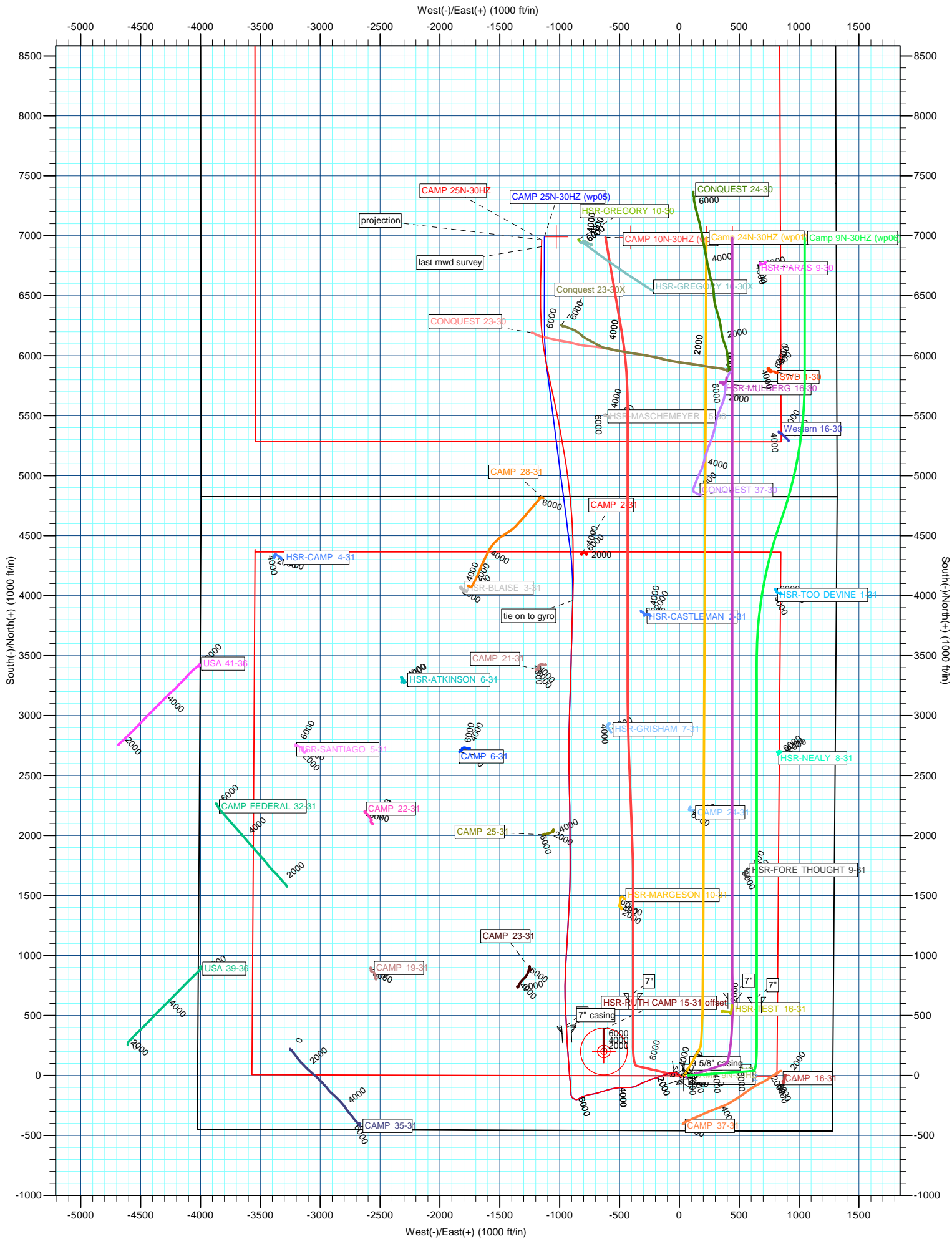
SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
11115.00	89.66	1.53	7158.46	3959.14	-890.71	0.00	0.00	4050.44
11560.25	90.02	352.64	7159.70	4403.37	-913.32	2.00	-87.65	4492.60
13042.62	90.02	352.64	7159.08	5873.52	-1103.28	0.00	0.00	5974.25
13410.75	90.00	0.00	7159.00	6240.63	-1126.90	2.00	90.19	6340.44
14160.75	90.00	0.00	7159.00	6990.63	-1126.90	0.00	0.00	7080.88

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Camp 25N-30HZ BHL	7159.00	6990.63	-1026.90	40.195134	-104.705382	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3948.00	3985.36	PARKMAN
4366.00	4409.71	SUSSEX
7019.00	7179.50	SHARON SPRINGS
7079.00	7284.03	NIOBRARA A
7102.00	7337.09	NIOBRARA B

CASING DETAILS			
TVD	MD	Name	Size
853.30	853.32	9 5/8" casing	9-5/8
7140.74	7555.72	7" casing	7





# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

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

Site		WELD_CAMP 37-31HZ PAD						
Site Position:		Northing:	1,307,943.36	usft	Latitude:	40.175944		
From:	Lat/Long	Easting:	3,223,064.93	usft	Longitude:	-104.701706		
Position Uncertainty:	0.00	ft	Slot Radius:	13-3/16	"	Grid Convergence:	0.52	°

Well	CAMP 25N-30HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,307,943.34 usft	Latitude:	40.175944
	+E/-W	0.00 ft	Easting:	3,223,064.93 usft	Longitude:	-104.701706
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,949.00 ft

<b>Wellbore</b>	CAMP 25N-30HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/2/2012	8.69	66.85	52,926

<b>Design</b>	CAMP 25N-30HZ				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	349.45	

<b>Survey Program</b>	<b>Date</b>	6/1/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	11,115.00	Survey #1 (CAMP 25N-30HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
11,199.00	14,144.00	Survey #2 (CAMP 25N-30HZ)	MWD	MWD - STANDARD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	1.00	53.72	99.99	0.51	0.70	0.38	1.00	1.00	0.00	
200.00	0.26	342.27	199.99	1.24	1.33	0.98	0.95	-0.74	-71.45	
300.00	0.71	122.20	299.99	1.13	1.79	0.78	0.93	0.45	139.93	
400.00	0.27	194.96	399.98	0.57	2.26	0.15	0.68	-0.45	72.76	
500.00	0.74	66.14	499.98	0.61	2.78	0.09	0.93	0.47	-128.82	
600.00	0.34	263.11	599.98	0.83	3.08	0.25	1.06	-0.40	-163.02	
700.00	0.34	346.60	699.98	1.08	2.72	0.57	0.45	0.00	83.49	
800.00	0.54	170.29	799.98	0.91	2.73	0.39	0.87	0.20	-176.31	
853.32	0.05	73.01	853.30	0.67	2.80	0.15	1.02	-0.91	-182.45	

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

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)
9 5/8" casing									
900.00	0.49	1.57	899.98	0.88	2.83	0.35	1.02	0.94	-153.04
1,000.00	0.58	108.55	999.97	1.15	3.32	0.52	0.86	0.09	106.98
1,100.00	0.61	333.83	1,099.97	1.46	3.56	0.79	1.10	0.03	-134.72
1,200.00	4.13	312.67	1,199.87	4.38	0.68	4.18	3.56	3.51	-21.16
1,300.00	7.91	304.67	1,299.30	10.74	-7.63	11.95	3.87	3.79	-8.00
1,400.00	8.93	302.25	1,398.22	18.79	-19.85	22.11	1.08	1.02	-2.42
1,500.00	11.61	272.80	1,496.68	23.43	-36.48	29.71	5.80	2.68	-29.46
1,600.00	12.42	264.09	1,594.50	22.81	-57.22	32.91	1.98	0.81	-8.71
1,700.00	12.28	256.27	1,692.19	19.18	-78.24	33.19	1.68	-0.14	-7.82
1,800.00	11.60	254.73	1,790.03	14.01	-98.27	31.77	0.75	-0.68	-1.54
1,900.00	10.42	253.12	1,888.19	8.74	-116.62	29.95	1.21	-1.17	-1.62
2,000.00	10.01	247.91	1,986.60	2.85	-133.33	27.21	1.01	-0.41	-5.20
2,100.00	8.26	245.87	2,085.33	-3.36	-147.94	23.79	1.78	-1.75	-2.05
2,200.00	7.75	250.61	2,184.36	-8.54	-160.85	21.07	0.83	-0.51	4.74
2,300.00	6.21	252.91	2,283.61	-12.37	-172.39	19.41	1.56	-1.54	2.30
2,400.00	6.60	240.41	2,383.00	-16.79	-182.55	16.93	1.44	0.38	-12.50
2,500.00	8.21	254.51	2,482.17	-21.54	-194.43	14.44	2.42	1.62	14.10
2,600.00	10.77	260.01	2,580.79	-25.06	-210.52	13.91	2.71	2.56	5.50
2,700.00	10.18	249.82	2,679.13	-29.74	-228.02	12.53	1.94	-0.59	-10.19
2,800.00	8.41	245.34	2,777.82	-35.84	-242.97	9.27	1.92	-1.78	-4.48
2,900.00	11.95	248.15	2,876.23	-42.74	-259.22	5.46	3.57	3.54	2.80
3,000.00	11.87	250.44	2,974.08	-50.04	-278.52	1.82	0.48	-0.08	2.29
3,100.00	11.62	249.30	3,071.98	-57.04	-297.63	-1.57	0.34	-0.25	-1.14
3,200.00	11.02	241.93	3,170.04	-65.10	-315.49	-6.22	1.57	-0.61	-7.36
3,300.00	10.06	242.15	3,268.36	-73.67	-331.63	-11.69	0.96	-0.96	0.22
3,400.00	7.53	245.41	3,367.17	-80.48	-345.31	-15.88	2.58	-2.53	3.27
3,500.00	6.90	248.07	3,466.38	-85.44	-356.84	-18.65	0.71	-0.63	2.66
3,600.00	6.97	244.98	3,565.65	-90.25	-367.90	-21.35	0.38	0.07	-3.09
3,700.00	6.96	252.19	3,664.92	-94.67	-379.16	-23.63	0.87	-0.01	7.20
3,800.00	6.30	260.73	3,764.25	-97.40	-390.34	-24.27	1.18	-0.66	8.54
3,900.00	7.88	268.79	3,863.49	-98.43	-402.60	-23.03	1.87	1.59	8.06
4,000.00	8.33	267.42	3,962.49	-98.90	-416.69	-20.92	0.49	0.45	-1.37
4,100.00	10.96	268.52	4,061.06	-99.47	-433.43	-18.41	2.63	2.63	1.10
4,200.00	10.62	269.07	4,159.30	-99.87	-452.15	-15.37	0.35	-0.33	0.55
4,300.00	9.59	267.83	4,257.74	-100.33	-469.68	-12.62	1.06	-1.04	-1.25
4,400.00	9.12	267.94	4,356.42	-100.93	-485.92	-10.24	0.47	-0.47	0.11
4,500.00	9.80	265.80	4,455.06	-101.84	-502.32	-8.12	0.76	0.68	-2.14
4,600.00	8.52	264.17	4,553.78	-103.22	-518.18	-6.57	1.30	-1.27	-1.62
4,700.00	11.21	260.38	4,652.29	-105.60	-535.14	-5.80	2.76	2.69	-3.79
4,800.00	12.28	259.82	4,750.20	-109.10	-555.20	-5.58	1.08	1.07	-0.57
4,900.00	11.87	254.71	4,847.99	-113.69	-575.59	-6.36	1.15	-0.42	-5.11
5,000.00	11.55	253.85	4,945.91	-119.19	-595.12	-8.18	0.37	-0.32	-0.86

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

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)	
5,100.00	13.87	254.92	5,043.45	-125.09	-616.31	-10.10	2.34	2.32	1.06	
5,200.00	12.83	253.12	5,140.75	-131.43	-638.51	-12.27	1.12	-1.04	-1.79	
5,300.00	11.08	251.55	5,238.57	-137.70	-658.25	-14.82	1.79	-1.76	-1.58	
5,400.00	9.51	252.29	5,336.96	-143.25	-675.23	-17.17	1.58	-1.57	0.75	
5,500.00	9.08	254.57	5,435.65	-147.86	-690.70	-18.87	0.57	-0.43	2.28	
5,600.00	9.45	257.51	5,534.35	-151.73	-706.31	-19.81	0.60	0.37	2.94	
5,700.00	10.13	262.92	5,632.89	-154.59	-723.05	-19.56	1.15	0.69	5.41	
5,800.00	9.85	261.74	5,731.38	-156.90	-740.24	-18.68	0.35	-0.29	-1.18	
5,900.00	11.72	256.02	5,829.61	-160.59	-758.56	-18.95	2.15	1.87	-5.72	
6,000.00	10.19	254.19	5,927.79	-165.45	-776.92	-20.36	1.57	-1.53	-1.83	
6,100.00	10.08	250.78	6,026.23	-170.74	-793.69	-22.49	0.61	-0.11	-3.41	
6,200.00	7.05	248.37	6,125.10	-175.88	-807.66	-24.99	3.06	-3.04	-2.41	
6,300.00	12.25	241.16	6,223.66	-183.26	-822.67	-29.50	5.33	5.20	-7.22	
6,400.00	10.93	237.91	6,321.62	-193.42	-839.99	-36.31	1.47	-1.32	-3.25	
6,450.00	10.50	245.62	6,370.75	-197.82	-848.16	-39.14	2.99	-0.86	15.42	
6,480.00	10.31	250.19	6,400.25	-199.86	-853.17	-40.23	2.82	-0.63	15.25	
6,510.00	10.53	261.81	6,429.76	-201.16	-858.41	-40.54	7.02	0.71	38.70	
6,540.00	12.08	284.26	6,459.19	-200.77	-864.17	-39.11	15.43	5.17	74.84	
6,570.00	14.87	295.60	6,488.37	-198.34	-870.69	-35.52	12.78	9.32	37.81	
6,600.00	14.63	298.46	6,517.38	-194.87	-877.49	-30.87	2.55	-0.80	9.52	
6,630.00	14.79	299.51	6,546.40	-191.18	-884.15	-26.02	1.04	0.53	3.51	
6,660.00	14.00	304.30	6,575.46	-187.24	-890.49	-20.99	4.76	-2.62	15.98	
6,690.00	15.03	322.24	6,604.51	-182.12	-895.87	-14.97	15.30	3.41	59.78	
6,720.00	17.11	335.00	6,633.35	-175.04	-900.12	-7.24	13.63	6.95	42.54	
6,750.00	18.26	342.79	6,661.93	-166.55	-903.37	1.71	8.76	3.83	25.97	
6,780.00	18.80	353.95	6,690.39	-157.25	-905.28	11.20	11.94	1.81	37.19	
6,810.00	18.05	358.73	6,718.85	-147.80	-905.89	20.61	5.64	-2.52	15.95	
6,840.00	17.38	358.57	6,747.43	-138.67	-906.10	29.62	2.23	-2.22	-0.54	
6,870.00	20.33	359.67	6,775.82	-128.98	-906.24	39.17	9.91	9.84	3.66	
6,900.00	26.12	359.02	6,803.37	-117.15	-906.39	50.82	19.32	19.30	-2.16	
6,930.00	29.30	357.65	6,829.93	-103.21	-906.80	64.60	10.79	10.58	-4.56	
6,960.00	31.93	356.07	6,855.75	-87.96	-907.65	79.75	9.18	8.78	-5.26	
6,990.00	35.01	354.29	6,880.77	-71.48	-909.05	96.21	10.77	10.26	-5.94	
7,020.00	35.32	352.23	6,905.30	-54.33	-911.07	113.45	4.10	1.06	-6.88	
7,050.00	38.73	351.83	6,929.24	-36.44	-913.58	131.49	11.38	11.35	-1.34	
7,080.00	41.28	355.08	6,952.22	-17.29	-915.77	150.72	11.00	8.51	10.86	
7,110.00	44.20	356.01	6,974.26	3.01	-917.34	170.96	9.96	9.74	3.10	
7,140.00	49.06	355.04	6,994.85	24.75	-919.05	192.64	16.36	16.19	-3.24	
7,170.00	54.27	356.46	7,013.45	48.20	-920.78	216.02	17.75	17.36	4.71	
7,200.00	54.23	356.59	7,030.98	72.51	-922.26	240.18	0.40	-0.14	0.46	
7,230.00	53.92	355.74	7,048.59	96.74	-923.88	264.31	2.51	-1.02	-2.84	
7,260.00	55.13	355.41	7,065.99	121.10	-925.77	288.60	4.15	4.05	-1.10	
7,290.00	60.37	355.39	7,082.00	146.38	-927.80	313.82	17.44	17.44	-0.09	



# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

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)
7,320.00	66.16	356.83	7,095.49	173.10	-929.61	340.42	19.79	19.32	4.81
7,350.00	71.20	355.28	7,106.39	200.97	-931.54	368.18	17.47	16.79	-5.17
7,380.00	76.08	355.18	7,114.84	229.65	-933.93	396.81	16.26	16.26	-0.32
7,410.00	78.14	356.29	7,121.53	258.81	-936.11	425.87	7.76	6.87	3.70
7,440.00	78.75	357.54	7,127.54	288.16	-937.69	455.01	4.57	2.02	4.18
7,470.00	79.73	357.64	7,133.15	317.60	-938.93	484.19	3.28	3.27	0.32
7,500.00	85.23	357.58	7,137.07	347.31	-940.17	513.62	18.35	18.35	-0.21
7,555.72	87.23	357.15	7,140.74	402.85	-942.73	568.68	3.67	3.58	-0.78
7" casing									
7,600.00	88.82	356.80	7,142.26	447.04	-945.06	612.55	3.67	3.58	-0.77
7,700.00	92.19	356.58	7,141.39	546.85	-950.84	711.74	3.38	3.37	-0.23
7,800.00	90.16	358.66	7,139.34	646.73	-954.99	810.69	2.91	-2.02	2.09
7,900.00	89.52	0.95	7,139.62	746.73	-955.33	909.05	2.38	-0.65	2.29
8,000.00	90.28	2.71	7,139.79	846.67	-952.14	1,006.72	1.91	0.77	1.75
8,100.00	90.72	2.81	7,138.92	946.55	-947.33	1,104.03	0.45	0.43	0.10
8,200.00	91.34	3.55	7,137.12	1,046.38	-941.78	1,201.16	0.97	0.62	0.74
8,300.00	91.69	3.36	7,134.47	1,146.16	-935.76	1,298.15	0.40	0.35	-0.20
8,400.00	92.71	3.11	7,130.63	1,245.93	-930.12	1,395.20	1.05	1.02	-0.25
8,500.00	91.65	2.50	7,126.83	1,345.73	-925.24	1,492.42	1.22	-1.06	-0.61
8,600.00	90.96	3.24	7,124.55	1,445.58	-920.24	1,589.66	1.02	-0.69	0.74
8,700.00	89.53	2.80	7,124.12	1,545.44	-914.97	1,686.87	1.49	-1.43	-0.44
8,800.00	90.73	359.79	7,123.89	1,645.40	-912.71	1,784.72	3.24	1.20	-3.01
8,900.00	90.56	0.15	7,122.76	1,745.39	-912.76	1,883.04	0.40	-0.17	0.36
9,000.00	90.56	359.78	7,121.77	1,845.39	-912.82	1,981.35	0.37	0.00	-0.37
9,100.00	89.11	359.83	7,122.06	1,945.38	-913.16	2,079.72	1.46	-1.46	0.05
9,200.00	89.10	359.84	7,123.63	2,045.37	-913.46	2,178.07	0.01	0.00	0.01
9,300.00	88.58	359.34	7,125.65	2,145.35	-914.17	2,276.48	0.72	-0.52	-0.50
9,400.00	87.29	359.16	7,129.26	2,245.27	-915.48	2,374.96	1.30	-1.29	-0.18
9,500.00	89.28	358.71	7,132.25	2,345.21	-917.33	2,473.54	2.04	1.99	-0.45
9,600.00	88.23	358.40	7,134.42	2,445.15	-919.85	2,572.25	1.10	-1.06	-0.31
9,700.00	87.85	359.48	7,137.85	2,545.07	-921.69	2,670.82	1.14	-0.38	1.07
9,800.00	88.99	359.56	7,140.61	2,645.03	-922.53	2,769.24	1.15	1.15	0.09
9,900.00	87.66	0.37	7,143.52	2,744.98	-922.59	2,867.52	1.55	-1.33	0.80
10,000.00	87.14	1.30	7,148.06	2,844.87	-921.14	2,965.45	1.07	-0.53	0.93
10,100.00	87.26	1.22	7,152.95	2,944.72	-918.94	3,063.21	0.14	0.12	-0.08
10,200.00	87.85	1.66	7,157.22	3,044.60	-916.43	3,160.94	0.73	0.59	0.44
10,300.00	88.58	1.77	7,160.35	3,144.51	-913.44	3,258.61	0.74	0.73	0.11
10,400.00	89.75	1.86	7,161.80	3,244.44	-910.28	3,356.28	1.18	1.18	0.09
10,500.00	89.99	1.75	7,162.03	3,344.39	-907.13	3,453.96	0.25	0.23	-0.10
10,600.00	91.25	1.68	7,160.96	3,444.34	-904.13	3,551.67	1.26	1.26	-0.07
10,700.00	90.19	1.66	7,159.71	3,544.29	-901.21	3,649.39	1.06	-1.06	-0.03
10,800.00	89.56	1.27	7,159.92	3,644.25	-898.66	3,747.20	0.73	-0.63	-0.38
10,900.00	90.70	1.46	7,159.69	3,744.22	-896.27	3,845.04	1.15	1.13	0.19
11,000.00	90.61	1.47	7,158.56	3,844.18	-893.71	3,942.84	0.09	-0.09	0.01

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

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)
11,100.00	89.62	1.51	7,158.36	3,944.15	-891.11	4,040.64	0.99	-0.99	0.04
11,115.00	89.66	1.54	7,158.46	3,959.14	-890.71	4,055.31	0.30	0.25	0.17
tie on to gyro									
11,199.00	90.44	2.33	7,158.39	4,043.09	-887.88	4,137.32	1.33	0.93	0.95
11,294.00	90.74	0.07	7,157.41	4,138.06	-885.89	4,230.32	2.40	0.32	-2.38
11,388.00	89.94	359.54	7,156.85	4,232.06	-886.21	4,322.78	1.02	-0.85	-0.56
11,483.00	90.25	359.79	7,156.69	4,327.06	-886.76	4,416.28	0.42	0.33	0.26
11,578.00	88.89	358.45	7,157.40	4,422.04	-888.22	4,509.92	2.01	-1.43	-1.41
11,674.00	88.64	358.22	7,159.47	4,517.98	-891.01	4,604.74	0.35	-0.26	-0.24
11,769.00	89.38	355.91	7,161.12	4,612.83	-895.87	4,698.88	2.55	0.78	-2.43
11,864.00	88.95	355.56	7,162.50	4,707.56	-902.94	4,793.30	0.58	-0.45	-0.37
11,959.00	89.57	354.64	7,163.73	4,802.20	-911.05	4,887.83	1.17	0.65	-0.97
12,054.00	90.31	353.82	7,163.83	4,896.72	-920.60	4,982.50	1.16	0.78	-0.86
12,149.00	89.20	352.05	7,164.23	4,990.99	-932.29	5,077.32	2.20	-1.17	-1.86
12,245.00	89.01	351.71	7,165.73	5,086.02	-945.85	5,173.22	0.41	-0.20	-0.35
12,340.00	89.20	350.34	7,167.22	5,179.84	-960.66	5,268.17	1.46	0.20	-1.44
12,435.00	88.83	349.78	7,168.85	5,273.40	-977.06	5,363.15	0.71	-0.39	-0.59
12,530.00	89.91	349.64	7,169.89	5,366.86	-994.03	5,458.14	1.15	1.14	-0.15
12,626.00	90.31	349.33	7,169.71	5,461.25	-1,011.55	5,554.14	0.53	0.42	-0.32
12,722.00	89.81	348.24	7,169.61	5,555.42	-1,030.22	5,650.13	1.25	-0.52	-1.14
12,817.00	89.47	347.88	7,170.21	5,648.36	-1,049.87	5,745.10	0.52	-0.36	-0.38
12,912.00	89.20	348.21	7,171.31	5,741.29	-1,069.55	5,840.07	0.45	-0.28	0.35
12,935.00	89.12	346.82	7,171.65	5,763.74	-1,074.52	5,863.05	6.05	-0.35	-6.04
13,029.00	89.38	347.84	7,172.88	5,855.45	-1,095.14	5,956.98	1.12	0.28	1.09
13,124.00	90.86	349.59	7,172.68	5,948.60	-1,113.73	6,051.96	2.41	1.56	1.84
13,219.00	90.37	351.30	7,171.66	6,042.28	-1,129.49	6,146.94	1.87	-0.52	1.80
13,313.00	90.74	352.84	7,170.75	6,135.37	-1,142.46	6,240.83	1.68	0.39	1.64
13,408.00	90.80	355.80	7,169.47	6,229.88	-1,151.86	6,335.47	3.12	0.06	3.12
13,503.00	92.10	358.40	7,167.07	6,324.72	-1,156.67	6,429.58	3.06	1.37	2.74
13,598.00	92.28	358.96	7,163.43	6,419.63	-1,158.85	6,523.28	0.62	0.19	0.59
13,693.00	92.84	0.14	7,159.19	6,514.53	-1,159.60	6,616.72	1.37	0.59	1.24
13,788.00	91.98	1.34	7,155.20	6,609.43	-1,158.37	6,709.79	1.55	-0.91	1.26
13,883.00	89.51	1.27	7,153.96	6,704.39	-1,156.21	6,802.75	2.60	-2.60	-0.07
13,978.00	88.09	0.84	7,155.95	6,799.35	-1,154.46	6,895.78	1.56	-1.49	-0.45
14,072.00	89.01	1.90	7,158.33	6,893.29	-1,152.21	6,987.72	1.49	0.98	1.13
14,088.00	88.77	1.72	7,158.64	6,909.28	-1,151.71	7,003.35	1.87	-1.50	-1.13
last mwd survey									
14,144.00	88.77	1.72	7,159.84	6,965.25	-1,150.03	7,058.06	0.00	0.00	0.00
projection									

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
853.32		9 5/8" casing	9-5/8	12-1/4
7,555.72		7" casing	7	8-3/4

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,115.00	7,158.46	3,959.14	-890.71	tie on to gyro
14,088.00	7,158.64	6,909.28	-1,151.71	last mwd survey
14,144.00	7,159.84	6,965.25	-1,150.03	projection

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_CAMP 37-31HZ PAD**

**CAMP 25N-30HZ**

**CAMP 25N-30HZ**

**Design: CAMP 25N-30HZ**

## **Survey Report - Geographic**

**01 June, 2012**

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

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

<b>Site</b>	WELD_CAMP 37-31HZ PAD			
<b>Site Position:</b>		<b>Northing:</b>	1,307,943.36 usft	<b>Latitude:</b> 40.175944
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,223,064.93 usft	<b>Longitude:</b> -104.701706
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.52 °

<b>Well</b>	CAMP 25N-30HZ			
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,307,943.34 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,223,064.93 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 4,949.00 ft

<b>Wellbore</b>	CAMP 25N-30HZ				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/2/2012	8.69	66.85	52,926

<b>Design</b>	CAMP 25N-30HZ			
<b>Audit Notes:</b>				
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b> 0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	349.45

<b>Survey Program</b>	<b>Date</b>	6/1/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
100.00	11,115.00	Survey #1 (CAMP 25N-30HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S
11,199.00	14,144.00	Survey #2 (CAMP 25N-30HZ)	MWD	MWD - STANDARD

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>
0.00	0.00	0.00	0.00	0.00	0.00	1,307,943.34	3,223,064.93	40.175944	-104.701706
100.00	1.00	53.72	99.99	0.51	0.70	1,307,943.86	3,223,065.62	40.175945	-104.701704
200.00	0.26	342.27	199.99	1.24	1.33	1,307,944.59	3,223,066.25	40.175947	-104.701701
300.00	0.71	122.20	299.99	1.13	1.79	1,307,944.48	3,223,066.71	40.175947	-104.701700
400.00	0.27	194.96	399.98	0.57	2.26	1,307,943.93	3,223,067.18	40.175946	-104.701698
500.00	0.74	66.14	499.98	0.61	2.78	1,307,943.97	3,223,067.71	40.175946	-104.701696
600.00	0.34	263.11	599.98	0.83	3.08	1,307,944.20	3,223,068.00	40.175946	-104.701695
700.00	0.34	346.60	699.98	1.08	2.72	1,307,944.45	3,223,067.64	40.175947	-104.701697
800.00	0.54	170.29	799.98	0.91	2.73	1,307,944.27	3,223,067.66	40.175947	-104.701696
853.32	0.05	73.01	853.30	0.67	2.80	1,307,944.03	3,223,067.72	40.175946	-104.701696
9 5/8" casing									

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
900.00	0.49	1.57	899.98	0.88	2.83	1,307,944.24	3,223,067.75	40.175946	-104.701696
1,000.00	0.58	108.55	999.97	1.15	3.32	1,307,944.51	3,223,068.23	40.175947	-104.701694
1,100.00	0.61	333.83	1,099.97	1.46	3.56	1,307,944.83	3,223,068.47	40.175948	-104.701694
1,200.00	4.13	312.67	1,199.87	4.38	0.68	1,307,947.72	3,223,065.57	40.175956	-104.701704
1,300.00	7.91	304.67	1,299.30	10.74	-7.63	1,307,954.00	3,223,057.20	40.175974	-104.701734
1,400.00	8.93	302.25	1,398.22	18.79	-19.85	1,307,961.95	3,223,044.91	40.175996	-104.701777
1,500.00	11.61	272.80	1,496.68	23.43	-36.48	1,307,966.44	3,223,028.24	40.176008	-104.701837
1,600.00	12.42	264.09	1,594.50	22.81	-57.22	1,307,965.63	3,223,007.50	40.176007	-104.701911
1,700.00	12.28	256.27	1,692.19	19.18	-78.24	1,307,961.81	3,222,986.51	40.175997	-104.701986
1,800.00	11.60	254.73	1,790.03	14.01	-98.27	1,307,956.46	3,222,966.54	40.175983	-104.702058
1,900.00	10.42	253.12	1,888.19	8.74	-116.62	1,307,951.03	3,222,948.24	40.175968	-104.702124
2,000.00	10.01	247.91	1,986.60	2.85	-133.33	1,307,944.98	3,222,931.58	40.175952	-104.702183
2,100.00	8.26	245.87	2,085.33	-3.36	-147.94	1,307,938.64	3,222,917.03	40.175935	-104.702236
2,200.00	7.75	250.61	2,184.36	-8.54	-160.85	1,307,933.35	3,222,904.16	40.175921	-104.702282
2,300.00	6.21	252.91	2,283.61	-12.37	-172.39	1,307,929.42	3,222,892.66	40.175910	-104.702323
2,400.00	6.60	240.41	2,383.00	-16.79	-182.55	1,307,924.90	3,222,882.53	40.175898	-104.702360
2,500.00	8.21	254.51	2,482.17	-21.54	-194.43	1,307,920.05	3,222,870.70	40.175885	-104.702402
2,600.00	10.77	260.01	2,580.79	-25.06	-210.52	1,307,916.38	3,222,854.64	40.175875	-104.702460
2,700.00	10.18	249.82	2,679.13	-29.74	-228.02	1,307,911.55	3,222,837.18	40.175862	-104.702522
2,800.00	8.41	245.34	2,777.82	-35.84	-242.97	1,307,905.31	3,222,822.29	40.175846	-104.702576
2,900.00	11.95	248.15	2,876.23	-42.74	-259.22	1,307,898.26	3,222,806.10	40.175827	-104.702634
3,000.00	11.87	250.44	2,974.08	-50.04	-278.52	1,307,890.79	3,222,786.87	40.175807	-104.702703
3,100.00	11.62	249.30	3,071.98	-57.04	-297.63	1,307,883.62	3,222,767.82	40.175787	-104.702771
3,200.00	11.02	241.93	3,170.04	-65.10	-315.49	1,307,875.40	3,222,750.04	40.175765	-104.702835
3,300.00	10.06	242.15	3,268.36	-73.67	-331.63	1,307,866.68	3,222,733.97	40.175742	-104.702893
3,400.00	7.53	245.41	3,367.17	-80.48	-345.31	1,307,859.75	3,222,720.36	40.175723	-104.702942
3,500.00	6.90	248.07	3,466.38	-85.44	-356.84	1,307,854.68	3,222,708.88	40.175709	-104.702983
3,600.00	6.97	244.98	3,565.65	-90.25	-367.90	1,307,849.78	3,222,697.86	40.175696	-104.703023
3,700.00	6.96	252.19	3,664.92	-94.67	-379.16	1,307,845.26	3,222,686.64	40.175684	-104.703063
3,800.00	6.30	260.73	3,764.25	-97.40	-390.34	1,307,842.42	3,222,675.49	40.175677	-104.703103
3,900.00	7.88	268.79	3,863.49	-98.43	-402.60	1,307,841.28	3,222,663.23	40.175674	-104.703147
4,000.00	8.33	267.42	3,962.49	-98.90	-416.69	1,307,840.69	3,222,649.14	40.175673	-104.703197
4,100.00	10.96	268.52	4,061.06	-99.47	-433.43	1,307,839.96	3,222,632.41	40.175671	-104.703257
4,200.00	10.62	269.07	4,159.30	-99.87	-452.15	1,307,839.40	3,222,613.70	40.175670	-104.703324
4,300.00	9.59	267.83	4,257.74	-100.33	-469.68	1,307,838.78	3,222,596.17	40.175669	-104.703387
4,400.00	9.12	267.94	4,356.42	-100.93	-485.92	1,307,838.03	3,222,579.94	40.175667	-104.703445
4,500.00	9.80	265.80	4,455.06	-101.84	-502.32	1,307,836.98	3,222,563.54	40.175664	-104.703504
4,600.00	8.52	264.17	4,553.78	-103.22	-518.18	1,307,835.46	3,222,547.70	40.175661	-104.703561
4,700.00	11.21	260.38	4,652.29	-105.60	-535.14	1,307,832.93	3,222,530.76	40.175654	-104.703621
4,800.00	12.28	259.82	4,750.20	-109.10	-555.20	1,307,829.24	3,222,510.74	40.175645	-104.703693
4,900.00	11.87	254.71	4,847.99	-113.69	-575.59	1,307,824.47	3,222,490.39	40.175632	-104.703766
5,000.00	11.55	253.85	4,945.91	-119.19	-595.12	1,307,818.80	3,222,470.91	40.175617	-104.703836
5,100.00	13.87	254.92	5,043.45	-125.09	-616.31	1,307,812.70	3,222,449.77	40.175601	-104.703912
5,200.00	12.83	253.12	5,140.75	-131.43	-638.51	1,307,806.16	3,222,427.63	40.175583	-104.703991
5,300.00	11.08	251.55	5,238.57	-137.70	-658.25	1,307,799.72	3,222,407.95	40.175566	-104.704062
5,400.00	9.51	252.29	5,336.96	-143.25	-675.23	1,307,794.01	3,222,391.02	40.175551	-104.704123
5,500.00	9.08	254.57	5,435.65	-147.86	-690.70	1,307,789.26	3,222,375.59	40.175538	-104.704178
5,600.00	9.45	257.51	5,534.35	-151.73	-706.31	1,307,785.25	3,222,360.01	40.175527	-104.704234
5,700.00	10.13	262.92	5,632.89	-154.59	-723.05	1,307,782.24	3,222,343.30	40.175520	-104.704294
5,800.00	9.85	261.74	5,731.38	-156.90	-740.24	1,307,779.77	3,222,326.13	40.175513	-104.704355
5,900.00	11.72	256.02	5,829.61	-160.59	-758.56	1,307,775.93	3,222,307.85	40.175503	-104.704421
6,000.00	10.19	254.19	5,927.79	-165.45	-776.92	1,307,770.90	3,222,289.53	40.175490	-104.704487
6,100.00	10.08	250.78	6,026.23	-170.74	-793.69	1,307,765.46	3,222,272.81	40.175475	-104.704547
6,200.00	7.05	248.37	6,125.10	-175.88	-807.66	1,307,760.19	3,222,258.88	40.175461	-104.704597
6,300.00	12.25	241.16	6,223.66	-183.26	-822.67	1,307,752.67	3,222,243.95	40.175441	-104.704650

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,400.00	10.93	237.91	6,321.62	-193.42	-839.99	1,307,742.36	3,222,226.72	40.175413	-104.704712
6,450.00	10.50	245.62	6,370.75	-197.82	-848.16	1,307,737.89	3,222,218.59	40.175401	-104.704742
6,480.00	10.31	250.19	6,400.25	-199.86	-853.17	1,307,735.81	3,222,213.59	40.175395	-104.704759
6,510.00	10.53	261.81	6,429.76	-201.16	-858.41	1,307,734.46	3,222,208.36	40.175392	-104.704778
6,540.00	12.08	284.26	6,459.19	-200.77	-864.17	1,307,734.79	3,222,202.60	40.175393	-104.704799
6,570.00	14.87	295.60	6,488.37	-198.34	-870.69	1,307,737.17	3,222,196.06	40.175400	-104.704822
6,600.00	14.63	298.46	6,517.38	-194.87	-877.49	1,307,740.58	3,222,189.23	40.175409	-104.704847
6,630.00	14.79	299.51	6,546.40	-191.18	-884.15	1,307,744.21	3,222,182.53	40.175419	-104.704870
6,660.00	14.00	304.30	6,575.46	-187.24	-890.49	1,307,748.08	3,222,176.17	40.175430	-104.704893
6,690.00	15.03	322.24	6,604.51	-182.12	-895.87	1,307,753.16	3,222,170.74	40.175444	-104.704912
6,720.00	17.11	335.00	6,633.35	-175.04	-900.12	1,307,760.20	3,222,166.43	40.175463	-104.704927
6,750.00	18.26	342.79	6,661.93	-166.55	-903.37	1,307,768.66	3,222,163.09	40.175487	-104.704939
6,780.00	18.80	353.95	6,690.39	-157.25	-905.28	1,307,777.94	3,222,161.11	40.175512	-104.704946
6,810.00	18.05	358.73	6,718.85	-147.80	-905.89	1,307,787.39	3,222,160.41	40.175538	-104.704948
6,840.00	17.38	358.57	6,747.43	-138.67	-906.10	1,307,796.51	3,222,160.11	40.175563	-104.704949
6,870.00	20.33	359.67	6,775.82	-128.98	-906.24	1,307,806.20	3,222,159.88	40.175590	-104.704949
6,900.00	26.12	359.02	6,803.37	-117.15	-906.39	1,307,818.03	3,222,159.63	40.175622	-104.704950
6,930.00	29.30	357.65	6,829.93	-103.21	-906.80	1,307,831.96	3,222,159.09	40.175661	-104.704951
6,960.00	31.93	356.07	6,855.75	-87.96	-907.65	1,307,847.21	3,222,158.11	40.175703	-104.704954
6,990.00	35.01	354.29	6,880.77	-71.48	-909.05	1,307,863.67	3,222,156.57	40.175748	-104.704959
7,020.00	35.32	352.23	6,905.30	-54.33	-911.07	1,307,880.81	3,222,154.38	40.175795	-104.704967
7,050.00	38.73	351.83	6,929.24	-36.44	-913.58	1,307,898.67	3,222,151.71	40.175844	-104.704976
7,080.00	41.28	355.08	6,952.22	-17.29	-915.77	1,307,917.81	3,222,149.36	40.175897	-104.704984
7,110.00	44.20	356.01	6,974.26	3.01	-917.34	1,307,938.09	3,222,147.60	40.175952	-104.704989
7,140.00	49.06	355.04	6,994.85	24.75	-919.05	1,307,959.81	3,222,145.70	40.176012	-104.704995
7,170.00	54.27	356.46	7,013.45	48.20	-920.78	1,307,983.25	3,222,143.75	40.176076	-104.705001
7,200.00	54.23	356.59	7,030.98	72.51	-922.26	1,308,007.54	3,222,142.06	40.176143	-104.705007
7,230.00	53.92	355.74	7,048.59	96.74	-923.88	1,308,031.76	3,222,140.22	40.176210	-104.705013
7,260.00	55.13	355.41	7,065.99	121.10	-925.77	1,308,056.10	3,222,138.11	40.176276	-104.705019
7,290.00	60.37	355.39	7,082.00	146.38	-927.80	1,308,081.36	3,222,135.85	40.176346	-104.705027
7,320.00	66.16	356.83	7,095.49	173.10	-929.61	1,308,108.06	3,222,133.80	40.176419	-104.705033
7,350.00	71.20	355.28	7,106.39	200.97	-931.54	1,308,135.91	3,222,131.62	40.176496	-104.705040
7,380.00	76.08	355.18	7,114.84	229.65	-933.93	1,308,164.57	3,222,128.97	40.176574	-104.705049
7,410.00	78.14	356.29	7,121.53	258.81	-936.11	1,308,193.71	3,222,126.53	40.176654	-104.705056
7,440.00	78.75	357.54	7,127.54	288.16	-937.69	1,308,223.04	3,222,124.68	40.176735	-104.705062
7,470.00	79.73	357.64	7,133.15	317.60	-938.93	1,308,252.47	3,222,123.18	40.176816	-104.705066
7,500.00	85.23	357.58	7,137.07	347.31	-940.17	1,308,282.17	3,222,121.67	40.176897	-104.705071
7,555.72	87.23	357.15	7,140.74	402.85	-942.73	1,308,337.68	3,222,118.61	40.177050	-104.705080
7" casing									
7,600.00	88.82	356.80	7,142.26	447.04	-945.06	1,308,381.85	3,222,115.88	40.177171	-104.705088
7,700.00	92.19	356.58	7,141.39	546.85	-950.84	1,308,481.60	3,222,109.21	40.177445	-104.705109
7,800.00	90.16	358.66	7,139.34	646.73	-954.99	1,308,581.44	3,222,104.16	40.177719	-104.705124
7,900.00	89.52	0.95	7,139.62	746.73	-955.33	1,308,681.43	3,222,102.92	40.177994	-104.705125
8,000.00	90.28	2.71	7,139.79	846.67	-952.14	1,308,781.40	3,222,105.21	40.178268	-104.705114
8,100.00	90.72	2.81	7,138.92	946.55	-947.33	1,308,881.32	3,222,109.12	40.178542	-104.705097
8,200.00	91.34	3.55	7,137.12	1,046.38	-941.78	1,308,981.19	3,222,113.77	40.178816	-104.705077
8,300.00	91.69	3.36	7,134.47	1,146.16	-935.76	1,309,081.02	3,222,118.89	40.179090	-104.705055
8,400.00	92.71	3.11	7,130.63	1,245.93	-930.12	1,309,180.84	3,222,123.63	40.179364	-104.705035
8,500.00	91.65	2.50	7,126.83	1,345.73	-925.24	1,309,280.68	3,222,127.62	40.179638	-104.705018
8,600.00	90.96	3.24	7,124.55	1,445.58	-920.24	1,309,380.57	3,222,131.72	40.179912	-104.705000
8,700.00	89.53	2.80	7,124.12	1,545.44	-914.97	1,309,480.47	3,222,136.09	40.180186	-104.704981
8,800.00	90.73	359.79	7,123.89	1,645.40	-912.71	1,309,580.45	3,222,137.45	40.180461	-104.704973
8,900.00	90.56	0.15	7,122.76	1,745.39	-912.76	1,309,680.44	3,222,136.50	40.180735	-104.704973
9,000.00	90.56	359.78	7,121.77	1,845.39	-912.82	1,309,780.43	3,222,135.54	40.181010	-104.704973
9,100.00	89.11	359.83	7,122.06	1,945.38	-913.16	1,309,880.42	3,222,134.29	40.181284	-104.704974

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,200.00	89.10	359.84	7,123.63	2,045.37	-913.46	1,309,980.40	3,222,133.10	40.181559	-104.704976
9,300.00	88.58	359.34	7,125.65	2,145.35	-914.17	1,310,080.36	3,222,131.48	40.181833	-104.704978
9,400.00	87.29	359.16	7,129.26	2,245.27	-915.48	1,310,180.27	3,222,129.28	40.182108	-104.704983
9,500.00	89.28	358.71	7,132.25	2,345.21	-917.33	1,310,280.18	3,222,126.53	40.182382	-104.704989
9,600.00	88.23	358.40	7,134.42	2,445.15	-919.85	1,310,380.10	3,222,123.11	40.182656	-104.704998
9,700.00	87.85	359.48	7,137.85	2,545.07	-921.69	1,310,480.00	3,222,120.36	40.182931	-104.705005
9,800.00	88.99	359.56	7,140.61	2,645.03	-922.53	1,310,579.95	3,222,118.62	40.183205	-104.705008
9,900.00	87.66	0.37	7,143.52	2,744.98	-922.59	1,310,679.90	3,222,117.66	40.183479	-104.705008
10,000.00	87.14	1.30	7,148.06	2,844.87	-921.14	1,310,779.79	3,222,118.22	40.183753	-104.705003
10,100.00	87.26	1.22	7,152.95	2,944.72	-918.94	1,310,879.66	3,222,119.52	40.184028	-104.704995
10,200.00	87.85	1.66	7,157.22	3,044.60	-916.43	1,310,979.56	3,222,121.13	40.184302	-104.704986
10,300.00	88.58	1.77	7,160.35	3,144.51	-913.44	1,311,079.48	3,222,123.22	40.184576	-104.704976
10,400.00	89.75	1.86	7,161.80	3,244.44	-910.28	1,311,179.45	3,222,125.48	40.184850	-104.704964
10,500.00	89.99	1.75	7,162.03	3,344.39	-907.13	1,311,279.42	3,222,127.73	40.185125	-104.704953
10,600.00	91.25	1.68	7,160.96	3,444.34	-904.13	1,311,379.39	3,222,129.83	40.185399	-104.704942
10,700.00	90.19	1.66	7,159.71	3,544.29	-901.21	1,311,479.36	3,222,131.85	40.185673	-104.704932
10,800.00	89.56	1.27	7,159.92	3,644.25	-898.66	1,311,579.35	3,222,133.50	40.185948	-104.704923
10,900.00	90.70	1.46	7,159.69	3,744.22	-896.27	1,311,679.33	3,222,134.99	40.186222	-104.704914
11,000.00	90.61	1.47	7,158.56	3,844.18	-893.71	1,311,779.31	3,222,136.65	40.186497	-104.704905
11,100.00	89.62	1.51	7,158.36	3,944.15	-891.11	1,311,879.30	3,222,138.35	40.186771	-104.704896
11,115.00	89.66	1.54	7,158.46	3,959.14	-890.71	1,311,894.29	3,222,138.61	40.186812	-104.704894
tie on to gyro									
11,199.00	90.44	2.33	7,158.39	4,043.09	-887.88	1,311,978.27	3,222,140.69	40.187043	-104.704884
11,294.00	90.74	0.07	7,157.41	4,138.06	-885.89	1,312,073.25	3,222,141.83	40.187303	-104.704877
11,388.00	89.94	359.54	7,156.85	4,232.06	-886.21	1,312,167.24	3,222,140.66	40.187561	-104.704878
11,483.00	90.25	359.79	7,156.69	4,327.06	-886.76	1,312,262.23	3,222,139.25	40.187822	-104.704880
11,578.00	88.89	358.45	7,157.40	4,422.04	-888.22	1,312,357.19	3,222,136.94	40.188083	-104.704886
11,674.00	88.64	358.22	7,159.47	4,517.98	-891.01	1,312,453.10	3,222,133.28	40.188346	-104.704896
11,769.00	89.38	355.91	7,161.12	4,612.83	-895.87	1,312,547.91	3,222,127.57	40.188607	-104.704913
11,864.00	88.95	355.56	7,162.50	4,707.56	-902.94	1,312,642.56	3,222,119.65	40.188867	-104.704938
11,959.00	89.57	354.64	7,163.73	4,802.20	-911.05	1,312,737.13	3,222,110.68	40.189127	-104.704967
12,054.00	90.31	353.82	7,163.83	4,896.72	-920.60	1,312,831.56	3,222,100.28	40.189386	-104.705001
12,149.00	89.20	352.05	7,164.23	4,990.99	-932.29	1,312,925.72	3,222,087.75	40.189645	-104.705043
12,245.00	89.01	351.71	7,165.73	5,086.02	-945.85	1,313,020.62	3,222,073.34	40.189906	-104.705092
12,340.00	89.20	350.34	7,167.22	5,179.84	-960.66	1,313,114.31	3,222,057.68	40.190163	-104.705145
12,435.00	88.83	349.78	7,168.85	5,273.40	-977.06	1,313,207.71	3,222,040.44	40.190420	-104.705204
12,530.00	89.91	349.64	7,169.89	5,366.86	-994.03	1,313,301.02	3,222,022.63	40.190677	-104.705264
12,626.00	90.31	349.33	7,169.71	5,461.25	-1,011.55	1,313,395.25	3,222,004.26	40.190936	-104.705327
12,722.00	89.81	348.24	7,169.61	5,555.42	-1,030.22	1,313,489.24	3,221,984.74	40.191194	-104.705394
12,817.00	89.47	347.88	7,170.21	5,648.36	-1,049.87	1,313,582.00	3,221,964.25	40.191449	-104.705464
12,912.00	89.20	348.21	7,171.31	5,741.29	-1,069.55	1,313,674.76	3,221,943.74	40.191704	-104.705535
12,935.00	89.12	346.82	7,171.65	5,763.74	-1,074.52	1,313,697.16	3,221,938.57	40.191766	-104.705553
13,029.00	89.38	347.84	7,172.88	5,855.45	-1,095.14	1,313,788.67	3,221,917.13	40.192018	-104.705626
13,124.00	90.86	349.59	7,172.68	5,948.60	-1,113.73	1,313,881.66	3,221,897.70	40.192274	-104.705693
13,219.00	90.37	351.30	7,171.66	6,042.28	-1,129.49	1,313,975.19	3,221,881.09	40.192531	-104.705749
13,313.00	90.74	352.84	7,170.75	6,135.37	-1,142.46	1,314,068.16	3,221,867.28	40.192786	-104.705796
13,408.00	90.80	355.80	7,169.47	6,229.88	-1,151.86	1,314,162.59	3,221,857.03	40.193046	-104.705829
13,503.00	92.10	358.40	7,167.07	6,324.72	-1,156.67	1,314,257.38	3,221,851.37	40.193306	-104.705847
13,598.00	92.28	358.96	7,163.43	6,419.63	-1,158.85	1,314,352.26	3,221,848.33	40.193567	-104.705855
13,693.00	92.84	0.14	7,159.19	6,514.53	-1,159.60	1,314,447.15	3,221,846.73	40.193827	-104.705857
13,788.00	91.98	1.34	7,155.20	6,609.43	-1,158.37	1,314,542.06	3,221,847.10	40.194088	-104.705853
13,883.00	89.51	1.27	7,153.96	6,704.39	-1,156.21	1,314,637.04	3,221,848.41	40.194348	-104.705845
13,978.00	88.09	0.84	7,155.95	6,799.35	-1,154.46	1,314,732.01	3,221,849.31	40.194609	-104.705839
14,072.00	89.01	1.90	7,158.33	6,893.29	-1,152.21	1,314,825.96	3,221,850.71	40.194867	-104.705831



# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well CAMP 25N-30HZ
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Site:</b>	WELD_CAMP 37-31HZ PAD	<b>MD Reference:</b>	25' RKB + 4949' GL @ 4974.00ft
<b>Well:</b>	CAMP 25N-30HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	CAMP 25N-30HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	CAMP 25N-30HZ	<b>Database:</b>	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,088.00	88.77	1.72	7,158.64	6,909.28	-1,151.71	1,314,841.96	3,221,851.07	40.194911	-104.705829
last mwd survey									
14,144.00	88.77	1.72	7,159.84	6,965.25	-1,150.03	1,314,897.93	3,221,852.25	40.195064	-104.705823
projection									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
853.32	853.30	9 5/8" casing	9-5/8	12-1/4	
7,555.72	7,140.74	7" casing	7	8-3/4	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
11,115.00	7,158.46	3,959.14	-890.71	tie on to gyro	
14,088.00	7,158.64	6,909.28	-1,151.71	last mwd survey	
14,144.00	7,159.84	6,965.25	-1,150.03	projection	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_