



Weatherford®

Weatherford International Ltd.

2000 Oil Drive

Casper, WY 82604

Survey Certification

Operating Company:	Anadarko Petroleum Corp.
Well Name:	Camp 10N-30HZ
State:	CO
County:	Weld
API Number:	512335255
Datum:	NAD 83
Survey Calculation Method:	Minimum Curvature
North Reference:	True North

I, Jason H. Daguitera, hereby certify the attached directional survey run from the measure depth of 948 feet to the measured depth of 13,758.00 feet as accurate and true to the best of my knowledge.

Signature

15-Jun-12

Date

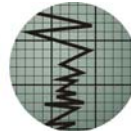
Jason H. Daguitera

Directional Planning

Weatherford International - Rockies District



Weatherford®



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FINAL SURVEYS

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CAMP 37-31HZ PAD

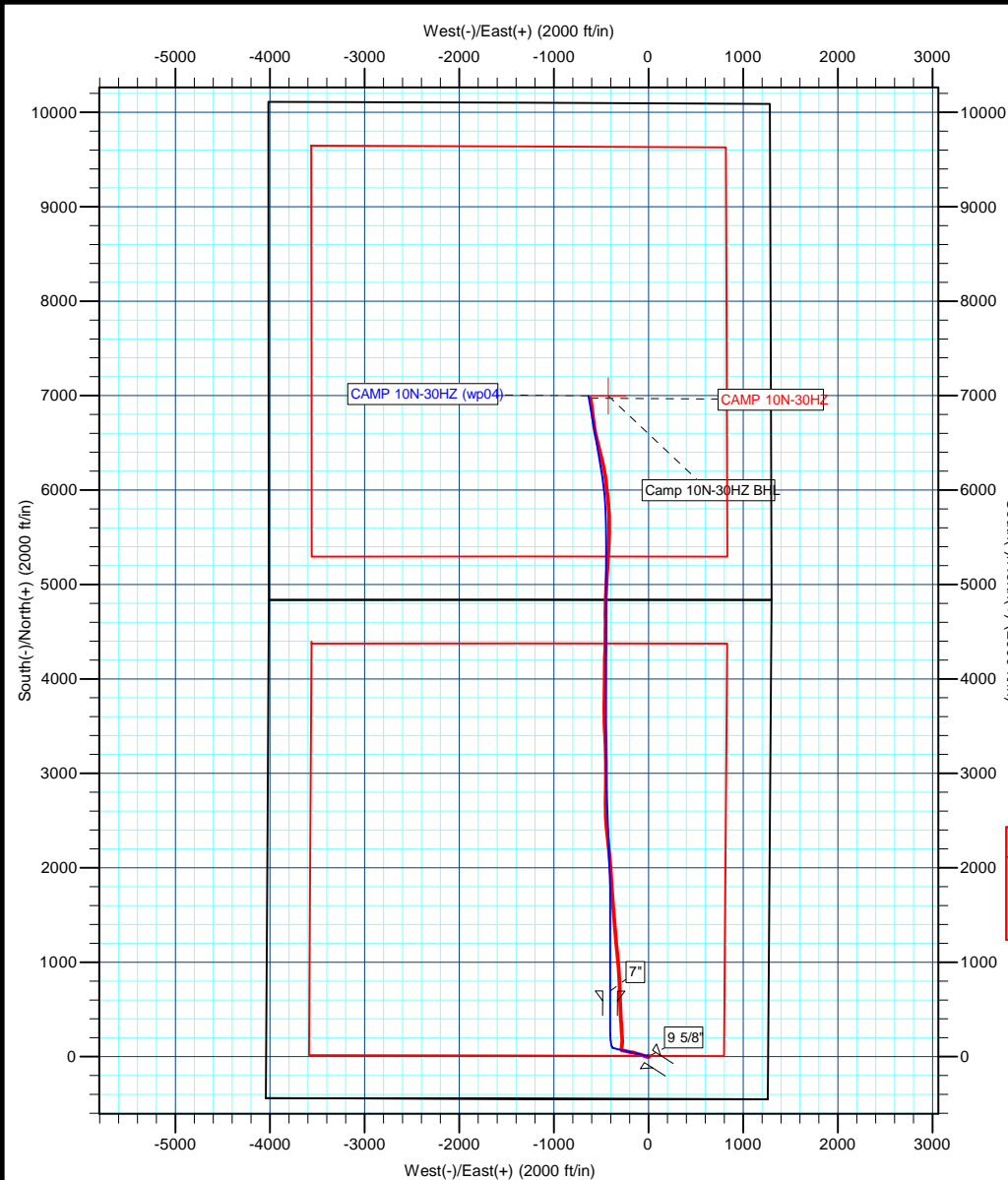
CAMP 10N-30HZ

CAMP 10N-30HZ

Design: CAMP 10N-30HZ

Standard Survey Report

15 June, 2012



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Azimuths to True North

Magnetic North: 8.69°

Magnetic Field

Strength: 52926.4snT

Dip Angle: 66.85°

Date: 5/2/2012

Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83

Site: WELD_CAMP 37-31HZ PAD

Well: CAMP 10N-30HZ

Wellbore: CAMP 10N-30HZ

Section:

SHL:

Design: CAMP 10N-30HZ (wp04)

Latitude: 40.175917

Longitude: -104.701640

GL: 4949.00

KB: 25' RKB +4949' GL @ 4974.00ft

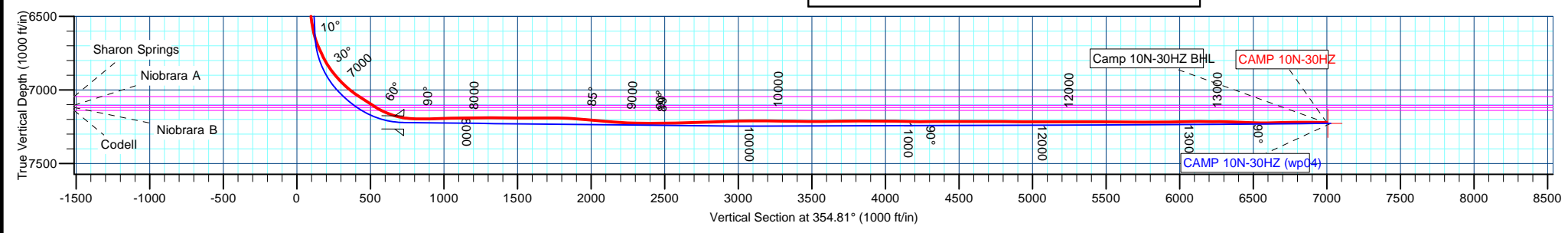
WELL DETAILS: CAMP 10N-30HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4949.00 Latitude	Longitude	Slot
0.00	0.00	1307933.66	3223083.46	40.175917	-104.701640	

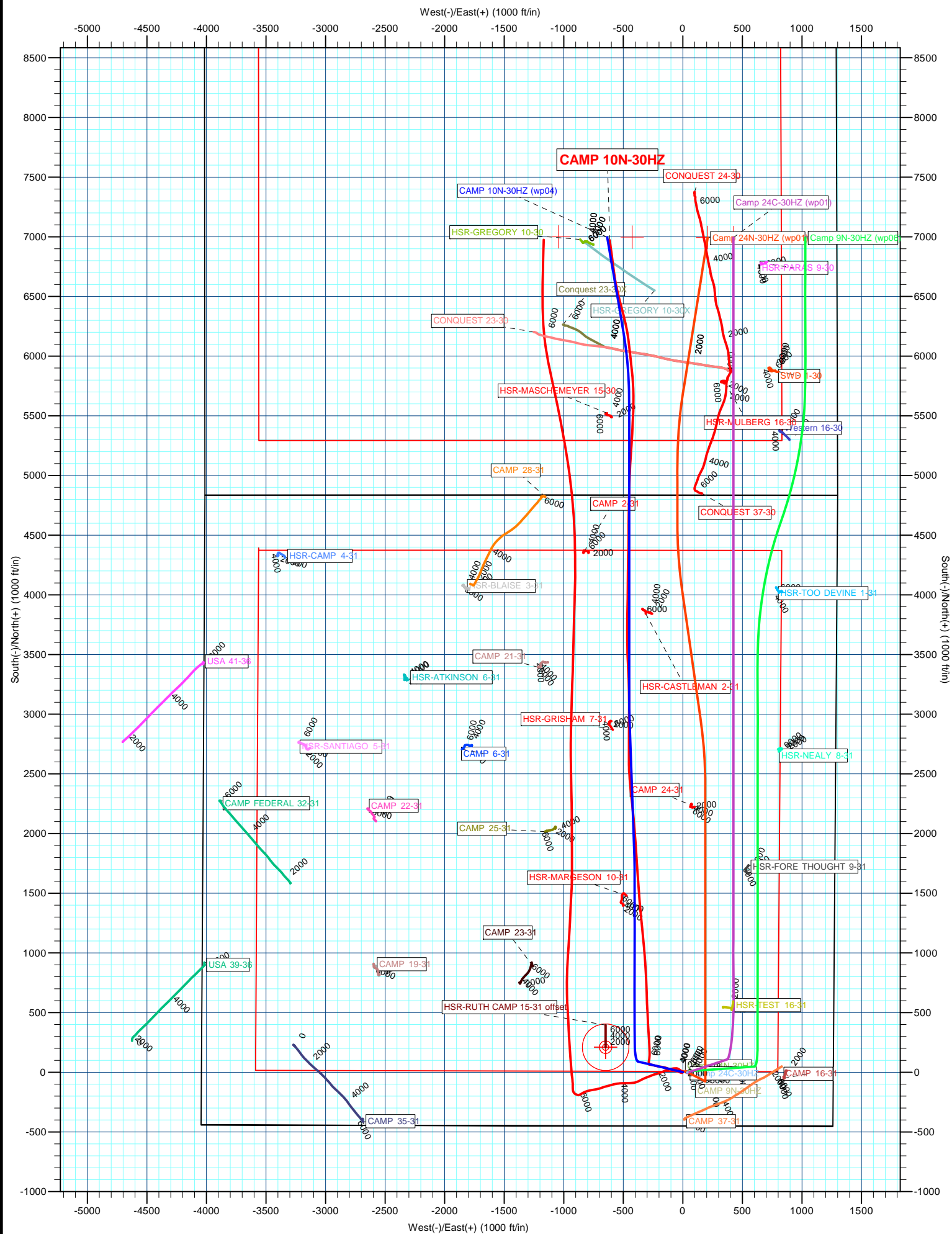
SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
800.00	0.09	302.87	799.99	0.81	0.10	0.00	0.00	0.80
3400.00	0.00	0.00	3399.99	1.92	-1.62	0.00	180.00	2.06
3758.37	7.17	283.23	3757.43	7.04	-23.41	2.00	283.23	9.13
6656.98	7.17	283.23	6633.39	89.83	-375.46	0.00	0.00	123.42
7123.24	47.87	0.00	7044.00	280.00	-405.45	10.00	83.30	315.52
7217.03	52.56	0.00	7104.00	352.05	-405.45	5.00	0.00	387.28
7584.80	89.34	0.00	7222.00	693.74	-405.45	10.00	0.00	727.56
8584.80	89.34	0.00	7233.58	1693.67	-405.45	0.00	0.00	1723.40
8720.96	89.43	357.96	7235.05	1829.80	-407.87	1.50	-87.43	1859.18
9844.08	89.43	357.96	7246.25	2952.15	-447.86	0.00	0.00	2980.55
9989.51	90.20	0.00	7246.73	3097.55	-450.45	1.50	69.29	3125.59
12489.51	90.20	0.00	7238.00	5597.53	-450.45	0.00	0.00	5615.33
13141.89	90.47	350.22	7234.20	6246.74	-506.00	1.50	-88.42	6266.90
13903.79	90.47	350.22	7228.00	6997.53	-635.45	0.00	0.00	7026.32

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Camp 10N-30HZ BHL	7228.00	6997.54	-425.45	40.195126	-104.703163	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3943.00	3945.40	Parkman
4361.00	4366.69	Sussex
7045.00	7124.73	Sharon Springs
7104.00	7217.03	Niobrara A
7119.00	7242.45	Niobrara B
7139.00	7279.11	Codell

CASING DETAILS			
TVD	MD	Name	Size
800.00	800.01	9 5/8"	9-5/8
7222.00	7584.80	7"	7





Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

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 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 10N-30HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,307,933.66 usft	Latitude:	40.175917
	+E/-W	0.00 ft	Easting:	3,223,083.46 usft	Longitude:	-104.701640
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,949.00 ft

Wellbore	CAMP 10N-30HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2012	8.69	66.85	52,926

Design	CAMP 10N-30HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	354.97	

Survey Program	Date	6/15/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	800.00	Survey #1 (CAMP 10N-30HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
948.00	13,812.00	Survey #2 (CAMP 10N-30HZ)	MWD	MWD - STANDARD	

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	0.32	12.22	100.00	0.27	0.06	0.27	0.32	0.32	0.00	
200.00	0.29	19.05	200.00	0.79	0.20	0.76	0.05	-0.03	6.83	
300.00	0.20	197.24	300.00	0.86	0.23	0.83	0.49	-0.09	178.19	
400.00	0.22	179.00	400.00	0.50	0.18	0.48	0.07	0.02	-18.24	
500.00	0.17	157.48	500.00	0.17	0.24	0.15	0.09	-0.05	-21.52	
600.00	0.19	19.17	600.00	0.19	0.35	0.16	0.34	0.02	-138.31	
700.00	0.28	329.78	700.00	0.56	0.29	0.53	0.21	0.09	-49.39	
800.00	0.09	302.87	799.99	0.81	0.10	0.80	0.20	-0.19	-26.91	
Tie On to Gyro										

Anadarko Petroleum Corp

Survey Report

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Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	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)
862.98	0.25	352.71	862.97	0.97	0.04	0.97	0.32	0.25	79.14
9 5/8"									
948.00	0.51	3.20	947.99	1.53	0.04	1.52	0.32	0.31	12.34
1,040.00	0.41	346.29	1,039.99	2.26	-0.02	2.25	0.18	-0.11	-18.38
1,130.00	0.43	341.89	1,129.99	2.89	-0.20	2.90	0.04	0.02	-4.89
1,221.00	0.63	349.67	1,220.98	3.71	-0.40	3.73	0.23	0.22	8.55
1,312.00	0.60	356.61	1,311.98	4.68	-0.51	4.71	0.09	-0.03	7.63
1,403.00	0.59	353.32	1,402.97	5.62	-0.60	5.65	0.04	-0.01	-3.62
1,498.00	0.76	355.76	1,497.97	6.73	-0.70	6.77	0.18	0.18	2.57
1,593.00	0.84	349.60	1,592.96	8.05	-0.87	8.09	0.12	0.08	-6.48
1,687.00	0.70	162.69	1,686.95	8.18	-0.83	8.22	1.64	-0.15	184.14
1,783.00	0.89	174.88	1,782.95	6.87	-0.58	6.90	0.26	0.20	12.70
1,877.00	1.07	181.96	1,876.93	5.27	-0.55	5.30	0.23	0.19	7.53
1,972.00	1.32	179.89	1,971.91	3.29	-0.58	3.33	0.27	0.26	-2.18
2,067.00	0.35	169.97	2,066.90	1.91	-0.53	1.95	1.03	-1.02	-10.44
2,162.00	0.45	9.68	2,161.90	1.99	-0.41	2.02	0.83	0.11	-168.73
2,257.00	1.50	32.63	2,256.88	3.41	0.32	3.36	1.16	1.11	24.16
2,351.00	0.07	189.74	2,350.87	4.39	0.97	4.28	1.66	-1.52	167.14
2,447.00	0.47	210.19	2,446.87	3.99	0.77	3.90	0.42	0.42	21.30
2,542.00	0.70	228.74	2,541.87	3.27	0.13	3.24	0.31	0.24	19.53
2,636.00	1.05	232.42	2,635.86	2.36	-0.98	2.44	0.38	0.37	3.91
2,731.00	0.77	224.45	2,730.84	1.38	-2.12	1.56	0.32	-0.29	-8.39
2,826.00	1.16	203.26	2,825.83	0.04	-2.94	0.30	0.55	0.41	-22.31
2,921.00	1.23	198.87	2,920.81	-1.81	-3.65	-1.48	0.12	0.07	-4.62
3,016.00	0.56	243.23	3,015.80	-2.98	-4.40	-2.59	0.97	-0.71	46.69
3,110.00	0.64	224.27	3,109.79	-3.57	-5.17	-3.10	0.23	0.09	-20.17
3,205.00	0.66	229.98	3,204.79	-4.30	-5.96	-3.76	0.07	0.02	6.01
3,300.00	1.33	270.25	3,299.77	-4.65	-7.48	-3.97	0.98	0.71	42.39
3,395.00	1.95	279.59	3,394.74	-4.37	-10.18	-3.46	0.71	0.65	9.83
3,490.00	2.61	279.32	3,489.66	-3.75	-13.91	-2.52	0.69	0.69	-0.28
3,585.00	4.41	294.59	3,584.48	-1.88	-19.36	-0.17	2.12	1.89	16.07
3,680.00	5.72	292.78	3,679.11	1.47	-27.05	3.84	1.39	1.38	-1.91
3,774.00	5.95	283.62	3,772.62	4.43	-36.11	7.58	1.02	0.24	-9.74
3,869.00	7.47	291.14	3,866.97	7.82	-46.65	11.88	1.84	1.60	7.92
3,964.00	5.97	286.09	3,961.31	11.42	-57.16	16.39	1.70	-1.58	-5.32
4,059.00	7.85	286.19	4,055.62	14.59	-68.14	20.52	1.98	1.98	0.11
4,154.00	6.96	288.43	4,149.83	18.22	-79.83	25.16	0.98	-0.94	2.36
4,249.00	5.36	284.03	4,244.28	21.12	-89.59	28.90	1.75	-1.68	-4.63
4,345.00	7.29	286.18	4,339.69	23.90	-99.79	32.57	2.03	2.01	2.24
4,439.00	6.98	283.37	4,432.96	26.89	-111.08	36.53	0.50	-0.33	-2.99
4,534.00	5.88	283.64	4,527.36	29.37	-121.42	39.91	1.16	-1.16	0.28
4,629.00	7.53	291.36	4,621.71	32.78	-131.95	44.24	1.98	1.74	8.13
4,724.00	7.10	293.85	4,715.94	37.42	-143.12	49.84	0.56	-0.45	2.62

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Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	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)
4,819.00	6.81	287.26	4,810.24	41.47	-153.87	54.81	0.89	-0.31	-6.94
4,914.00	7.78	278.47	4,904.47	44.09	-165.61	58.45	1.55	1.02	-9.25
5,010.00	5.93	272.58	4,999.78	45.27	-176.99	60.63	2.06	-1.93	-6.14
5,104.00	6.61	276.97	5,093.22	46.14	-187.21	62.40	0.88	0.72	4.67
5,200.00	7.44	279.65	5,188.50	47.86	-198.82	65.12	0.93	0.86	2.79
5,294.00	7.87	285.27	5,281.66	50.57	-211.03	68.90	0.92	0.46	5.98
5,388.00	5.47	285.39	5,375.02	53.46	-221.56	72.69	2.55	-2.55	0.13
5,483.00	6.74	281.94	5,469.48	55.81	-231.38	75.90	1.39	1.34	-3.63
5,578.00	5.35	281.02	5,563.95	57.81	-241.18	78.75	1.47	-1.46	-0.97
5,672.00	4.71	282.36	5,657.59	59.47	-249.25	81.12	0.69	-0.68	1.43
5,767.00	4.39	284.01	5,752.29	61.19	-256.59	83.47	0.36	-0.34	1.74
5,862.00	3.08	283.68	5,847.08	62.67	-262.60	85.48	1.38	-1.38	-0.35
5,957.00	3.12	279.12	5,941.94	63.69	-267.63	86.93	0.26	0.04	-4.80
6,052.00	2.31	270.52	6,036.84	64.11	-272.10	87.75	0.95	-0.85	-9.05
6,146.00	1.62	276.03	6,130.78	64.27	-275.31	88.19	0.76	-0.73	5.86
6,241.00	1.40	277.84	6,225.75	64.57	-277.80	88.70	0.24	-0.23	1.91
6,336.00	1.41	279.89	6,320.72	64.93	-280.10	89.26	0.05	0.01	2.16
6,396.00	1.85	288.71	6,380.70	65.37	-281.74	89.84	0.84	0.73	14.70
6,431.00	2.12	289.89	6,415.67	65.77	-282.89	90.34	0.78	0.77	3.37
6,462.00	3.02	332.36	6,446.65	66.69	-283.81	91.34	6.59	2.90	137.00
6,494.00	4.71	348.44	6,478.57	68.72	-284.46	93.42	6.22	5.28	50.25
6,525.00	6.75	354.24	6,509.42	71.78	-284.90	96.51	6.83	6.58	18.71
6,557.00	8.57	355.80	6,541.13	76.03	-285.26	100.77	5.72	5.69	4.88
6,590.00	10.00	358.15	6,573.70	81.35	-285.53	106.09	4.48	4.33	7.12
6,622.00	12.99	359.25	6,605.05	87.72	-285.67	112.45	9.37	9.34	3.44
6,654.00	15.54	8.78	6,636.07	95.56	-285.06	120.21	10.81	7.97	29.78
6,685.00	19.15	11.12	6,665.65	104.65	-283.45	129.12	11.86	11.65	7.55
6,717.00	23.66	6.42	6,695.44	116.19	-281.72	140.47	15.07	14.09	-14.69
6,749.00	25.97	4.49	6,724.48	129.56	-280.45	153.67	7.65	7.22	-6.03
6,781.00	25.22	3.09	6,753.34	143.35	-279.54	167.33	3.01	-2.34	-4.38
6,812.00	25.63	0.73	6,781.34	156.65	-279.09	180.54	3.53	1.32	-7.61
6,844.00	30.30	358.29	6,809.60	171.65	-279.25	195.49	15.02	14.59	-7.63
6,875.00	33.25	357.39	6,835.95	187.96	-279.87	211.79	9.64	9.52	-2.90
6,907.00	35.56	357.96	6,862.35	206.02	-280.60	229.85	7.29	7.22	1.78
6,939.00	38.33	357.04	6,887.92	225.24	-281.44	249.07	8.83	8.66	-2.88
6,970.00	41.22	356.40	6,911.74	245.03	-282.58	268.89	9.42	9.32	-2.06
7,002.00	43.39	356.44	6,935.41	266.53	-283.92	290.42	6.78	6.78	0.13
7,033.00	45.78	355.94	6,957.49	288.24	-285.37	312.17	7.79	7.71	-1.61
7,065.00	48.47	356.26	6,979.26	311.63	-286.97	335.62	8.44	8.41	1.00
7,097.00	50.41	356.34	7,000.06	335.89	-288.53	359.92	6.07	6.06	0.25
7,128.00	53.34	356.30	7,019.20	360.23	-290.10	384.30	9.45	9.45	-0.13
7,160.00	55.74	356.38	7,037.76	386.24	-291.76	410.35	7.50	7.50	0.25
7,191.00	57.00	357.47	7,054.93	412.01	-293.15	436.15	5.01	4.06	3.52
7,223.00	57.32	357.92	7,072.29	438.87	-294.23	463.00	1.55	1.00	1.41

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Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	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)
7,254.00	57.43	357.47	7,089.00	464.96	-295.28	489.08	1.27	0.35	-1.45
7,286.00	57.42	357.58	7,106.23	491.90	-296.44	516.02	0.29	-0.03	0.34
7,318.00	58.55	357.23	7,123.19	519.01	-297.67	543.13	3.65	3.53	-1.09
7,349.00	62.80	356.63	7,138.37	545.99	-299.12	570.13	13.81	13.71	-1.94
7,381.00	66.38	357.18	7,152.10	574.85	-300.68	599.02	11.29	11.19	1.72
7,412.00	69.64	358.16	7,163.71	603.56	-301.84	627.73	10.92	10.52	3.16
7,444.00	72.65	358.42	7,174.05	633.83	-302.75	657.95	9.44	9.41	0.81
7,476.00	76.23	358.07	7,182.63	664.64	-303.69	688.73	11.24	11.19	-1.09
7,507.00	79.88	357.98	7,189.04	694.94	-304.74	719.01	11.78	11.77	-0.29
7,539.00	83.91	357.90	7,193.56	726.60	-305.88	750.64	12.60	12.59	-0.25
7,565.65	85.74	357.63	7,195.96	753.12	-306.91	777.15	6.94	6.87	-1.01
7"									
7,652.00	91.67	356.77	7,197.91	839.30	-311.12	863.37	6.94	6.87	-1.00
7,743.00	91.42	356.04	7,195.46	930.09	-316.83	954.31	0.85	-0.27	-0.80
7,834.00	90.93	354.68	7,193.59	1,020.77	-324.19	1,045.28	1.59	-0.54	-1.49
7,926.00	91.06	354.57	7,191.99	1,112.35	-332.81	1,137.27	0.19	0.14	-0.12
8,017.00	91.05	354.50	7,190.32	1,202.92	-341.47	1,228.25	0.08	-0.01	-0.08
8,108.00	90.12	354.85	7,189.39	1,293.52	-349.92	1,319.24	1.09	-1.02	0.38
8,199.00	88.02	354.29	7,190.86	1,384.10	-358.52	1,410.22	2.39	-2.31	-0.62
8,290.00	90.62	356.33	7,191.94	1,474.77	-365.96	1,501.20	3.63	2.86	2.24
8,381.00	89.63	354.83	7,191.75	1,565.50	-372.98	1,592.19	1.97	-1.09	-1.65
8,473.00	90.74	355.54	7,191.45	1,657.17	-380.70	1,684.19	1.43	1.21	0.77
8,564.00	89.26	356.24	7,191.45	1,747.94	-387.22	1,775.17	1.80	-1.63	0.77
8,656.00	86.61	356.62	7,194.76	1,839.69	-392.94	1,867.08	2.91	-2.88	0.41
8,751.00	84.44	356.73	7,202.18	1,934.23	-398.44	1,961.74	2.29	-2.28	0.12
8,846.00	84.94	355.82	7,210.97	2,028.63	-404.58	2,056.31	1.09	0.53	-0.96
8,941.00	85.95	354.21	7,218.51	2,122.96	-412.81	2,151.00	2.00	1.06	-1.69
9,036.00	87.41	353.53	7,224.01	2,217.26	-422.94	2,245.82	1.69	1.54	-0.72
9,131.00	89.51	354.20	7,226.57	2,311.67	-433.09	2,340.76	2.32	2.21	0.71
9,226.00	90.09	354.92	7,226.90	2,406.24	-442.09	2,435.76	0.97	0.61	0.76
9,320.00	89.94	355.98	7,226.87	2,499.95	-449.55	2,529.75	1.14	-0.16	1.13
9,415.00	91.97	359.77	7,225.29	2,594.85	-453.07	2,624.60	4.53	2.14	3.99
9,510.00	92.22	359.69	7,221.82	2,689.78	-453.52	2,719.20	0.28	0.26	-0.08
9,605.00	91.97	0.87	7,218.34	2,784.71	-453.06	2,813.73	1.27	-0.26	1.24
9,700.00	92.65	0.45	7,214.52	2,879.63	-451.96	2,908.18	0.84	0.72	-0.44
9,795.00	91.23	0.58	7,211.30	2,974.57	-451.11	3,002.68	1.50	-1.49	0.14
9,890.00	89.94	359.85	7,210.33	3,069.56	-450.75	3,097.28	1.56	-1.36	-0.77
9,985.00	89.32	359.14	7,210.94	3,164.55	-451.59	3,191.98	0.99	-0.65	-0.75
10,081.00	88.95	357.38	7,212.39	3,260.50	-454.51	3,287.80	1.87	-0.39	-1.83
10,175.00	89.63	358.14	7,213.56	3,354.42	-458.18	3,381.68	1.08	0.72	0.81
10,271.00	89.03	357.03	7,214.68	3,450.32	-462.22	3,477.57	1.31	-0.63	-1.16
10,366.00	90.68	358.95	7,214.92	3,545.25	-465.56	3,572.43	2.66	1.74	2.02
10,461.00	91.11	358.82	7,213.44	3,640.23	-467.40	3,667.20	0.47	0.45	-0.14

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	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)
10,556.00	90.62	1.12	7,212.00	3,735.21	-467.45	3,761.82	2.48	-0.52	2.42
10,651.00	90.53	0.91	7,211.05	3,830.19	-465.77	3,856.29	0.24	-0.09	-0.22
10,746.00	89.32	0.70	7,211.17	3,925.18	-464.44	3,950.79	1.29	-1.27	-0.22
10,841.00	88.94	0.74	7,212.62	4,020.16	-463.24	4,045.30	0.40	-0.40	0.04
10,937.00	87.84	359.95	7,215.31	4,116.12	-462.66	4,140.84	1.41	-1.15	-0.82
11,032.00	91.32	1.62	7,216.01	4,211.09	-461.36	4,235.33	4.06	3.66	1.76
11,127.00	90.25	1.55	7,214.71	4,306.04	-458.74	4,329.68	1.13	-1.13	-0.07
11,222.00	90.00	1.16	7,214.50	4,401.01	-456.49	4,424.09	0.49	-0.26	-0.41
11,317.00	89.75	0.20	7,214.71	4,496.00	-455.36	4,518.62	1.04	-0.26	-1.01
11,412.00	90.37	0.42	7,214.61	4,591.00	-454.85	4,613.21	0.69	0.65	0.23
11,507.00	89.32	0.00	7,214.87	4,686.00	-454.50	4,707.81	1.19	-1.11	-0.44
11,601.00	89.82	1.63	7,215.57	4,779.98	-453.16	4,801.31	1.81	0.53	1.73
11,697.00	88.58	1.46	7,216.91	4,875.94	-450.57	4,896.67	1.30	-1.29	-0.18
11,792.00	90.53	1.97	7,217.65	4,970.89	-447.73	4,991.00	2.12	2.05	0.54
11,887.00	89.88	2.75	7,217.31	5,065.81	-443.82	5,085.21	1.07	-0.68	0.82
11,983.00	89.94	4.17	7,217.46	5,161.63	-438.03	5,180.15	1.48	0.06	1.48
12,078.00	89.94	4.11	7,217.56	5,256.38	-431.17	5,273.94	0.06	0.00	-0.06
12,173.00	89.82	3.03	7,217.76	5,351.19	-425.25	5,367.87	1.14	-0.13	-1.14
12,269.00	89.51	2.21	7,218.32	5,447.09	-420.86	5,463.01	0.91	-0.32	-0.85
12,363.00	90.00	3.02	7,218.72	5,540.99	-416.58	5,556.17	1.01	0.52	0.86
12,458.00	89.75	358.32	7,218.93	5,635.96	-415.46	5,650.67	4.95	-0.26	-4.95
12,554.00	89.44	358.99	7,219.61	5,731.93	-417.72	5,746.47	0.77	-0.32	0.70
12,650.00	90.55	355.15	7,219.62	5,827.78	-422.62	5,842.39	4.16	1.16	-4.00
12,745.00	90.74	352.49	7,218.55	5,922.22	-432.85	5,937.35	2.81	0.20	-2.80
12,841.00	92.28	354.73	7,216.02	6,017.58	-443.53	6,033.28	2.83	1.60	2.33
12,936.00	89.14	352.99	7,214.84	6,112.01	-453.69	6,128.24	3.78	-3.31	-1.83
13,030.00	89.26	349.77	7,216.15	6,204.93	-467.77	6,222.04	3.43	0.13	-3.43
13,125.00	89.32	346.36	7,217.33	6,297.85	-487.42	6,316.33	3.59	0.06	-3.59
13,219.00	87.16	346.12	7,220.22	6,389.11	-509.76	6,409.19	2.31	-2.30	-0.26
13,314.00	88.41	345.22	7,223.89	6,481.08	-533.26	6,502.87	1.62	1.32	-0.95
13,409.00	90.62	346.76	7,224.69	6,573.24	-556.25	6,596.70	2.84	2.33	1.62
13,504.00	91.67	352.45	7,222.79	6,666.62	-573.38	6,691.22	6.09	1.11	5.99
13,599.00	90.62	352.34	7,220.89	6,760.77	-585.95	6,786.11	1.11	-1.11	-0.12
13,694.00	89.51	352.55	7,220.79	6,854.94	-598.44	6,881.01	1.19	-1.17	0.22
13,758.00	88.71	352.21	7,221.78	6,918.37	-606.93	6,944.94	1.36	-1.25	-0.53
Final MWD Survey									
13,812.00	88.71	352.21	7,223.00	6,971.86	-614.25	6,998.86	0.00	0.00	0.00
Projection to Bit @ TD									

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (")	Hole Diameter (")
862.98	862.97	9 5/8"		9-5/8	12-1/4
7,565.65	7,195.96	7"		7	8-3/4

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
800.00	799.99	0.81	0.10	Tie On to Gyro	
13,758.00	7,221.78	6,918.37	-606.93	Final MWD Survey	
13,812.00	7,223.00	6,971.86	-614.25	Projection to Bit @ TD	

Checked By: _____ Approved By: _____ Date: _____

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CAMP 37-31HZ PAD

CAMP 10N-30HZ

CAMP 10N-30HZ

Design: CAMP 10N-30HZ

Survey Report - Geographic

15 June, 2012

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

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 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 10N-30HZ					
Well Position	+N/-S	0.00 ft	Northing:	1,307,933.66 usft	Latitude:	40.175917
	+E/-W	0.00 ft	Easting:	3,223,083.46 usft	Longitude:	-104.701640
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,949.00 ft

Wellbore	CAMP 10N-30HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2012	8.69	66.85	52,926

Design	CAMP 10N-30HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	354.97	

Survey Program	Date	6/15/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	800.00	Survey #1 (CAMP 10N-30HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
948.00	13,812.00	Survey #2 (CAMP 10N-30HZ)	MWD	MWD - STANDARD	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,307,933.66	3,223,083.46	40.175917	-104.701640
100.00	0.32	12.22	100.00	0.27	0.06	1,307,933.94	3,223,083.52	40.175918	-104.701640
200.00	0.29	19.05	200.00	0.79	0.20	1,307,934.45	3,223,083.65	40.175919	-104.701640
300.00	0.20	197.24	300.00	0.86	0.23	1,307,934.52	3,223,083.68	40.175919	-104.701639
400.00	0.22	179.00	400.00	0.50	0.18	1,307,934.16	3,223,083.64	40.175918	-104.701640
500.00	0.17	157.48	500.00	0.17	0.24	1,307,933.83	3,223,083.70	40.175917	-104.701639
600.00	0.19	19.17	600.00	0.19	0.35	1,307,933.86	3,223,083.81	40.175918	-104.701639
700.00	0.28	329.78	700.00	0.56	0.29	1,307,934.22	3,223,083.74	40.175919	-104.701639
800.00	0.09	302.87	799.99	0.81	0.10	1,307,934.47	3,223,083.55	40.175919	-104.701640
Tie On to Gyro									

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
862.98	0.25	352.71	862.97	0.97	0.04	1,307,934.64	3,223,083.49	40.175920	-104.701640
9 5/8"									
948.00	0.51	3.20	947.99	1.53	0.04	1,307,935.19	3,223,083.48	40.175921	-104.701640
1,040.00	0.41	346.29	1,039.99	2.26	-0.02	1,307,935.92	3,223,083.42	40.175923	-104.701640
1,130.00	0.43	341.89	1,129.99	2.89	-0.20	1,307,936.55	3,223,083.23	40.175925	-104.701641
1,221.00	0.63	349.67	1,220.98	3.71	-0.40	1,307,937.37	3,223,083.03	40.175927	-104.701642
1,312.00	0.60	356.61	1,311.98	4.68	-0.51	1,307,938.34	3,223,082.90	40.175930	-104.701642
1,403.00	0.59	353.32	1,402.97	5.62	-0.60	1,307,939.28	3,223,082.81	40.175932	-104.701642
1,498.00	0.76	355.76	1,497.97	6.73	-0.70	1,307,940.39	3,223,082.70	40.175936	-104.701643
1,593.00	0.84	349.60	1,592.96	8.05	-0.87	1,307,941.70	3,223,082.51	40.175939	-104.701643
1,687.00	0.70	162.69	1,686.95	8.18	-0.83	1,307,941.83	3,223,082.56	40.175939	-104.701643
1,783.00	0.89	174.88	1,782.95	6.87	-0.58	1,307,940.53	3,223,082.81	40.175936	-104.701642
1,877.00	1.07	181.96	1,876.93	5.27	-0.55	1,307,938.93	3,223,082.86	40.175931	-104.701642
1,972.00	1.32	179.89	1,971.91	3.29	-0.58	1,307,936.95	3,223,082.85	40.175926	-104.701642
2,067.00	0.35	169.97	2,066.90	1.91	-0.53	1,307,935.57	3,223,082.92	40.175922	-104.701642
2,162.00	0.45	9.68	2,161.90	1.99	-0.41	1,307,935.65	3,223,083.03	40.175922	-104.701642
2,257.00	1.50	32.63	2,256.88	3.41	0.32	1,307,937.07	3,223,083.75	40.175926	-104.701639
2,351.00	0.07	189.74	2,350.87	4.39	0.97	1,307,938.06	3,223,084.39	40.175929	-104.701637
2,447.00	0.47	210.19	2,446.87	3.99	0.77	1,307,937.66	3,223,084.19	40.175928	-104.701638
2,542.00	0.70	228.74	2,541.87	3.27	0.13	1,307,936.93	3,223,083.56	40.175926	-104.701640
2,636.00	1.05	232.42	2,635.86	2.36	-0.98	1,307,936.02	3,223,082.46	40.175924	-104.701644
2,731.00	0.77	224.45	2,730.84	1.38	-2.12	1,307,935.02	3,223,081.33	40.175921	-104.701648
2,826.00	1.16	203.26	2,825.83	0.04	-2.94	1,307,933.67	3,223,080.52	40.175917	-104.701651
2,921.00	1.23	198.87	2,920.81	-1.81	-3.65	1,307,931.82	3,223,079.82	40.175912	-104.701653
3,016.00	0.56	243.23	3,015.80	-2.98	-4.40	1,307,930.64	3,223,079.09	40.175909	-104.701656
3,110.00	0.64	224.27	3,109.79	-3.57	-5.17	1,307,930.05	3,223,078.32	40.175907	-104.701659
3,205.00	0.66	229.98	3,204.79	-4.30	-5.96	1,307,929.31	3,223,077.54	40.175905	-104.701662
3,300.00	1.33	270.25	3,299.77	-4.65	-7.48	1,307,928.95	3,223,076.02	40.175904	-104.701667
3,395.00	1.95	279.59	3,394.74	-4.37	-10.18	1,307,929.20	3,223,073.32	40.175905	-104.701677
3,490.00	2.61	279.32	3,489.66	-3.75	-13.91	1,307,929.79	3,223,069.58	40.175907	-104.701690
3,585.00	4.41	294.59	3,584.48	-1.88	-19.36	1,307,931.61	3,223,064.11	40.175912	-104.701710
3,680.00	5.72	292.78	3,679.11	1.47	-27.05	1,307,934.89	3,223,056.40	40.175921	-104.701737
3,774.00	5.95	283.62	3,772.62	4.43	-36.11	1,307,937.77	3,223,047.32	40.175929	-104.701769
3,869.00	7.47	291.14	3,866.97	7.82	-46.65	1,307,941.06	3,223,036.74	40.175938	-104.701807
3,964.00	5.97	286.09	3,961.31	11.42	-57.16	1,307,944.56	3,223,026.20	40.175948	-104.701845
4,059.00	7.85	286.19	4,055.62	14.59	-68.14	1,307,947.64	3,223,015.19	40.175957	-104.701884
4,154.00	6.96	288.43	4,149.83	18.22	-79.83	1,307,951.17	3,223,003.47	40.175967	-104.701926
4,249.00	5.36	284.03	4,244.28	21.12	-89.59	1,307,953.97	3,222,993.68	40.175975	-104.701961
4,345.00	7.29	286.18	4,339.69	23.90	-99.79	1,307,956.67	3,222,983.45	40.175983	-104.701997
4,439.00	6.98	283.37	4,432.96	26.89	-111.08	1,307,959.55	3,222,972.14	40.175991	-104.702038
4,534.00	5.88	283.64	4,527.36	29.37	-121.42	1,307,961.94	3,222,961.78	40.175998	-104.702075
4,629.00	7.53	291.36	4,621.71	32.78	-131.95	1,307,965.26	3,222,951.22	40.176007	-104.702112
4,724.00	7.10	293.85	4,715.94	37.42	-143.12	1,307,969.80	3,222,940.01	40.176020	-104.702152
4,819.00	6.81	287.26	4,810.24	41.47	-153.87	1,307,973.75	3,222,929.23	40.176031	-104.702191
4,914.00	7.78	278.47	4,904.47	44.09	-165.61	1,307,976.26	3,222,917.46	40.176038	-104.702233
5,010.00	5.93	272.58	4,999.78	45.27	-176.99	1,307,977.34	3,222,906.07	40.176041	-104.702274
5,104.00	6.61	276.97	5,093.22	46.14	-187.21	1,307,978.12	3,222,895.84	40.176044	-104.702310
5,200.00	7.44	279.65	5,188.50	47.86	-198.82	1,307,979.73	3,222,884.21	40.176048	-104.702352
5,294.00	7.87	285.27	5,281.66	50.57	-211.03	1,307,982.33	3,222,871.98	40.176056	-104.702395
5,388.00	5.47	285.39	5,375.02	53.46	-221.56	1,307,985.12	3,222,861.43	40.176064	-104.702433
5,483.00	6.74	281.94	5,469.48	55.81	-231.38	1,307,987.39	3,222,851.59	40.176070	-104.702468
5,578.00	5.35	281.02	5,563.95	57.81	-241.18	1,307,989.30	3,222,841.77	40.176076	-104.702503
5,672.00	4.71	282.36	5,657.59	59.47	-249.25	1,307,990.89	3,222,833.68	40.176080	-104.702532
5,767.00	4.39	284.01	5,752.29	61.19	-256.59	1,307,992.54	3,222,826.33	40.176085	-104.702559
5,862.00	3.08	283.68	5,847.08	62.67	-262.60	1,307,993.97	3,222,820.31	40.176089	-104.702580

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,957.00	3.12	279.12	5,941.94	63.69	-267.63	1,307,994.94	3,222,815.27	40.176092	-104.702598
6,052.00	2.31	270.52	6,036.84	64.11	-272.10	1,307,995.32	3,222,810.80	40.176093	-104.702614
6,146.00	1.62	276.03	6,130.78	64.27	-275.31	1,307,995.45	3,222,807.58	40.176093	-104.702626
6,241.00	1.40	277.84	6,225.75	64.57	-277.80	1,307,995.73	3,222,805.09	40.176094	-104.702634
6,336.00	1.41	279.89	6,320.72	64.93	-280.10	1,307,996.07	3,222,802.79	40.176095	-104.702643
6,396.00	1.85	288.71	6,380.70	65.37	-281.74	1,307,996.49	3,222,801.14	40.176096	-104.702649
6,431.00	2.12	289.89	6,415.67	65.77	-282.89	1,307,996.88	3,222,799.99	40.176098	-104.702653
6,462.00	3.02	332.36	6,446.65	66.69	-283.81	1,307,997.79	3,222,799.06	40.176100	-104.702656
6,494.00	4.71	348.44	6,478.57	68.72	-284.46	1,307,999.82	3,222,798.39	40.176106	-104.702658
6,525.00	6.75	354.24	6,509.42	71.78	-284.90	1,308,002.88	3,222,797.93	40.176114	-104.702660
6,557.00	8.57	355.80	6,541.13	76.03	-285.26	1,308,007.12	3,222,797.52	40.176126	-104.702661
6,590.00	10.00	358.15	6,573.70	81.35	-285.53	1,308,012.43	3,222,797.20	40.176140	-104.702662
6,622.00	12.99	359.25	6,605.05	87.72	-285.67	1,308,018.81	3,222,797.01	40.176158	-104.702663
6,654.00	15.54	8.78	6,636.07	95.56	-285.06	1,308,026.65	3,222,797.55	40.176179	-104.702660
6,685.00	19.15	11.12	6,665.65	104.65	-283.45	1,308,035.76	3,222,799.08	40.176204	-104.702655
6,717.00	23.66	6.42	6,695.44	116.19	-281.72	1,308,047.31	3,222,800.71	40.176236	-104.702648
6,749.00	25.97	4.49	6,724.48	129.56	-280.45	1,308,060.69	3,222,801.85	40.176273	-104.702644
6,781.00	25.22	3.09	6,753.34	143.35	-279.54	1,308,074.49	3,222,802.65	40.176311	-104.702641
6,812.00	25.63	0.73	6,781.34	156.65	-279.09	1,308,087.79	3,222,802.97	40.176347	-104.702639
6,844.00	30.30	358.29	6,809.60	171.65	-279.25	1,308,102.79	3,222,802.68	40.176388	-104.702640
6,875.00	33.25	357.39	6,835.95	187.96	-279.87	1,308,119.09	3,222,801.91	40.176433	-104.702642
6,907.00	35.56	357.96	6,862.35	206.02	-280.60	1,308,137.15	3,222,801.02	40.176483	-104.702644
6,939.00	38.33	357.04	6,887.92	225.24	-281.44	1,308,156.35	3,222,800.00	40.176535	-104.702647
6,970.00	41.22	356.40	6,911.74	245.03	-282.58	1,308,176.14	3,222,798.69	40.176590	-104.702652
7,002.00	43.39	356.44	6,935.41	266.53	-283.92	1,308,197.62	3,222,797.15	40.176649	-104.702656
7,033.00	45.78	355.94	6,957.49	288.24	-285.37	1,308,219.32	3,222,795.50	40.176708	-104.702662
7,065.00	48.47	356.26	6,979.26	311.63	-286.97	1,308,242.70	3,222,793.70	40.176772	-104.702667
7,097.00	50.41	356.34	7,000.06	335.89	-288.53	1,308,266.94	3,222,791.91	40.176839	-104.702673
7,128.00	53.34	356.30	7,019.20	360.23	-290.10	1,308,291.26	3,222,790.13	40.176906	-104.702678
7,160.00	55.74	356.38	7,037.76	386.24	-291.76	1,308,317.26	3,222,788.23	40.176977	-104.702684
7,191.00	57.00	357.47	7,054.93	412.01	-293.15	1,308,343.02	3,222,786.62	40.177048	-104.702689
7,223.00	57.32	357.92	7,072.29	438.87	-294.23	1,308,369.87	3,222,785.29	40.177122	-104.702693
7,254.00	57.43	357.47	7,089.00	464.96	-295.28	1,308,395.95	3,222,784.01	40.177193	-104.702697
7,286.00	57.42	357.58	7,106.23	491.90	-296.44	1,308,422.88	3,222,782.60	40.177267	-104.702701
7,318.00	58.55	357.23	7,123.19	519.01	-297.67	1,308,449.97	3,222,781.13	40.177342	-104.702706
7,349.00	62.80	356.63	7,138.37	545.99	-299.12	1,308,476.94	3,222,779.44	40.177416	-104.702711
7,381.00	66.38	357.18	7,152.10	574.85	-300.68	1,308,505.78	3,222,777.62	40.177495	-104.702716
7,412.00	69.64	358.16	7,163.71	603.56	-301.84	1,308,534.48	3,222,776.19	40.177574	-104.702720
7,444.00	72.65	358.42	7,174.05	633.83	-302.75	1,308,564.74	3,222,775.02	40.177657	-104.702724
7,476.00	76.23	358.07	7,182.63	664.64	-303.69	1,308,595.54	3,222,773.80	40.177742	-104.702727
7,507.00	79.88	357.98	7,189.04	694.94	-304.74	1,308,625.83	3,222,772.48	40.177825	-104.702731
7,539.00	83.91	357.90	7,193.56	726.60	-305.88	1,308,657.47	3,222,771.05	40.177912	-104.702735
7,565.65	85.74	357.63	7,195.96	753.12	-306.91	1,308,683.98	3,222,769.78	40.177984	-104.702739
7"									
7,652.00	91.67	356.77	7,197.91	839.30	-311.12	1,308,770.13	3,222,764.79	40.178221	-104.702754
7,743.00	91.42	356.04	7,195.46	930.09	-316.83	1,308,860.86	3,222,758.27	40.178470	-104.702774
7,834.00	90.93	354.68	7,193.59	1,020.77	-324.19	1,308,951.47	3,222,750.09	40.178719	-104.702800
7,926.00	91.06	354.57	7,191.99	1,112.35	-332.81	1,309,042.97	3,222,740.65	40.178971	-104.702831
8,017.00	91.05	354.50	7,190.32	1,202.92	-341.47	1,309,133.46	3,222,731.17	40.179219	-104.702862
8,108.00	90.12	354.85	7,189.39	1,293.52	-349.92	1,309,223.98	3,222,721.91	40.179468	-104.702893
8,199.00	88.02	354.29	7,190.86	1,384.10	-358.52	1,309,314.47	3,222,712.49	40.179717	-104.702923
8,290.00	90.62	356.33	7,191.94	1,474.77	-365.96	1,309,405.08	3,222,704.23	40.179965	-104.702950
8,381.00	89.63	354.83	7,191.75	1,565.50	-372.98	1,309,495.74	3,222,696.40	40.180214	-104.702975
8,473.00	90.74	355.54	7,191.45	1,657.17	-380.70	1,309,587.34	3,222,687.86	40.180466	-104.703003
8,564.00	89.26	356.24	7,191.45	1,747.94	-387.22	1,309,678.04	3,222,680.52	40.180715	-104.703026

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,656.00	86.61	356.62	7,194.76	1,839.69	-392.94	1,309,769.74	3,222,673.97	40.180967	-104.703047
8,751.00	84.44	356.73	7,202.18	1,934.23	-398.44	1,309,864.23	3,222,667.62	40.181227	-104.703066
8,846.00	84.94	355.82	7,210.97	2,028.63	-404.58	1,309,958.56	3,222,660.63	40.181486	-104.703088
8,941.00	85.95	354.21	7,218.51	2,122.96	-412.81	1,310,052.82	3,222,651.55	40.181745	-104.703118
9,036.00	87.41	353.53	7,224.01	2,217.26	-422.94	1,310,147.02	3,222,640.57	40.182004	-104.703154
9,131.00	89.51	354.20	7,226.57	2,311.67	-433.09	1,310,241.34	3,222,629.58	40.182263	-104.703190
9,226.00	90.09	354.92	7,226.90	2,406.24	-442.09	1,310,335.82	3,222,619.72	40.182522	-104.703223
9,320.00	89.94	355.98	7,226.87	2,499.95	-449.55	1,310,429.46	3,222,611.42	40.182780	-104.703249
9,415.00	91.97	359.77	7,225.29	2,594.85	-453.07	1,310,524.32	3,222,607.04	40.183040	-104.703262
9,510.00	92.22	359.69	7,221.82	2,689.78	-453.52	1,310,619.25	3,222,605.74	40.183301	-104.703263
9,605.00	91.97	0.87	7,218.34	2,784.71	-453.06	1,310,714.18	3,222,605.35	40.183561	-104.703262
9,700.00	92.65	0.45	7,214.52	2,879.63	-451.96	1,310,809.10	3,222,605.59	40.183822	-104.703258
9,795.00	91.23	0.58	7,211.30	2,974.57	-451.11	1,310,904.04	3,222,605.59	40.184083	-104.703255
9,890.00	89.94	359.85	7,210.33	3,069.56	-450.75	1,310,999.04	3,222,605.09	40.184343	-104.703254
9,985.00	89.32	359.14	7,210.94	3,164.55	-451.59	1,311,094.02	3,222,603.40	40.184604	-104.703257
10,081.00	88.95	357.38	7,212.39	3,260.50	-454.51	1,311,189.93	3,222,599.62	40.184867	-104.703267
10,175.00	89.63	358.14	7,213.56	3,354.42	-458.18	1,311,283.81	3,222,595.10	40.185125	-104.703280
10,271.00	89.03	357.03	7,214.68	3,450.32	-462.22	1,311,379.68	3,222,590.19	40.185389	-104.703295
10,366.00	90.68	358.95	7,214.92	3,545.25	-465.56	1,311,474.58	3,222,586.00	40.185649	-104.703307
10,461.00	91.11	358.82	7,213.44	3,640.23	-467.40	1,311,569.52	3,222,583.30	40.185910	-104.703313
10,556.00	90.62	1.12	7,212.00	3,735.21	-467.45	1,311,664.50	3,222,582.40	40.186171	-104.703313
10,651.00	90.53	0.91	7,211.05	3,830.19	-465.77	1,311,759.49	3,222,583.22	40.186431	-104.703307
10,746.00	89.32	0.70	7,211.17	3,925.18	-464.44	1,311,854.49	3,222,583.70	40.186692	-104.703303
10,841.00	88.94	0.74	7,212.62	4,020.16	-463.24	1,311,949.48	3,222,584.04	40.186953	-104.703298
10,937.00	87.84	359.95	7,215.31	4,116.12	-462.66	1,312,045.44	3,222,583.76	40.187216	-104.703296
11,032.00	91.32	1.62	7,216.01	4,211.09	-461.36	1,312,140.42	3,222,584.20	40.187477	-104.703292
11,127.00	90.25	1.55	7,214.71	4,306.04	-458.74	1,312,235.39	3,222,585.98	40.187738	-104.703282
11,222.00	90.00	1.16	7,214.50	4,401.01	-456.49	1,312,330.38	3,222,587.37	40.187998	-104.703274
11,317.00	89.75	0.20	7,214.71	4,496.00	-455.36	1,312,425.38	3,222,587.64	40.188259	-104.703270
11,412.00	90.37	0.42	7,214.61	4,591.00	-454.85	1,312,520.38	3,222,587.30	40.188520	-104.703268
11,507.00	89.32	0.00	7,214.87	4,686.00	-454.50	1,312,615.37	3,222,586.79	40.188781	-104.703267
11,601.00	89.82	1.63	7,215.57	4,779.98	-453.16	1,312,709.36	3,222,587.28	40.189039	-104.703262
11,697.00	88.58	1.46	7,216.91	4,875.94	-450.57	1,312,805.34	3,222,589.01	40.189302	-104.703253
11,792.00	90.53	1.97	7,217.65	4,970.89	-447.73	1,312,900.31	3,222,590.99	40.189563	-104.703243
11,887.00	89.88	2.75	7,217.31	5,065.81	-443.82	1,312,995.26	3,222,594.05	40.189823	-104.703229
11,983.00	89.94	4.17	7,217.46	5,161.63	-438.03	1,313,091.13	3,222,598.98	40.190086	-104.703208
12,078.00	89.94	4.11	7,217.56	5,256.38	-431.17	1,313,185.94	3,222,604.99	40.190346	-104.703184
12,173.00	89.82	3.03	7,217.76	5,351.19	-425.25	1,313,280.80	3,222,610.05	40.190607	-104.703162
12,269.00	89.51	2.21	7,218.32	5,447.09	-420.86	1,313,376.73	3,222,613.57	40.190870	-104.703147
12,363.00	90.00	3.02	7,218.72	5,540.99	-416.58	1,313,470.67	3,222,617.02	40.191128	-104.703131
12,458.00	89.75	358.32	7,218.93	5,635.96	-415.46	1,313,565.64	3,222,617.27	40.191388	-104.703127
12,554.00	89.44	358.99	7,219.61	5,731.93	-417.72	1,313,661.59	3,222,614.15	40.191652	-104.703135
12,650.00	90.55	355.15	7,219.62	5,827.78	-422.62	1,313,757.39	3,222,608.38	40.191915	-104.703153
12,745.00	90.74	352.49	7,218.55	5,922.22	-432.85	1,313,851.73	3,222,597.31	40.192174	-104.703190
12,841.00	92.28	354.73	7,216.02	6,017.58	-443.53	1,313,946.99	3,222,585.77	40.192436	-104.703228
12,936.00	89.14	352.99	7,214.84	6,112.01	-453.69	1,314,041.33	3,222,574.76	40.192695	-104.703264
13,030.00	89.26	349.77	7,216.15	6,204.93	-467.77	1,314,134.12	3,222,559.84	40.192950	-104.703315
13,125.00	89.32	346.36	7,217.33	6,297.85	-487.42	1,314,226.86	3,222,539.36	40.193205	-104.703385
13,219.00	87.16	346.12	7,220.22	6,389.11	-509.76	1,314,317.91	3,222,516.20	40.193456	-104.703465
13,314.00	88.41	345.22	7,223.89	6,481.08	-533.26	1,314,409.67	3,222,491.87	40.193708	-104.703549
13,409.00	90.62	346.76	7,224.69	6,573.24	-556.25	1,314,501.62	3,222,468.05	40.193961	-104.703631
13,504.00	91.67	352.45	7,222.79	6,666.62	-573.38	1,314,594.84	3,222,450.08	40.194218	-104.703693
13,599.00	90.62	352.34	7,220.89	6,760.77	-585.95	1,314,688.87	3,222,436.66	40.194476	-104.703738
13,694.00	89.51	352.55	7,220.79	6,854.94	-598.44	1,314,782.93	3,222,423.32	40.194735	-104.703783

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well CAMP 10N-30HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	25' RKB +4949' GL @ 4974.00ft
Site:	WELD_CAMP 37-31HZ PAD	MD Reference:	25' RKB +4949' GL @ 4974.00ft
Well:	CAMP 10N-30HZ	North Reference:	True
Wellbore:	CAMP 10N-30HZ	Survey Calculation Method:	Minimum Curvature
Design:	CAMP 10N-30HZ	Database:	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,758.00	88.71	352.21	7,221.78	6,918.37	-606.93	1,314,846.27	3,222,414.27	40.194909	-104.703813
Final MWD Survey									
13,812.00	88.71	352.21	7,223.00	6,971.86	-614.25	1,314,899.69	3,222,406.47	40.195056	-104.703839
Projection to Bit @ TD									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
862.98	862.97	9 5/8"	9-5/8	12-1/4	
7,565.65	7,195.96	7"	7	8-3/4	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
800.00	799.99	0.81	0.10	Tie On to Gyro	
13,758.00	7,221.78	6,918.37	-606.93	Final MWD Survey	
13,812.00	7,223.00	6,971.86	-614.25	Projection to Bit @ TD	

Checked By: _____ Approved By: _____ Date: _____



DAILY ACTIVITY



Weatherford®

Daily Activity Report

Drilling Services
v4.2.2674

Day 1 - 2012/06/03

FILE #: 4026334 **WELL NAME:** Camp 10N-30HZ **SERVICE CO.:** Weatherford Drilling Services
JOB TYPE: Horizontal **COMPANY:** Anadarko Petroleum Corporation **SURVEY TYPE:** Positive Pulse MWD
RIG & NO: Helmerich & Payne 307 **SURFACE LOCATION:** Weld County **FIELD / LOCATION:** CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca
MWD Supervisor: Jon Ieger, Stephen Gray

GROUND ELEV: 4949 ft **START DEPTH:** 0.0 ft **PROGRESS:** 905.0 ft **DAILY COST:** USD\$16180.00
KB ELEV: 4974 ft **END DEPTH:** 905.0 ft **AVG. ROP.:** 3620.0 ft/hr **PREVIOUS COST:** USD\$0.00
TOTAL COST: USD\$16180.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPH	BHA	TIME	DAILY ACTIVITY	HRS	DPH	BHA
00:00-18:45	Standby	18.75	800	n/a	22:00-23:05	Drill Out Flt, Shoe & Cmmt	1.08	857	1
18:45-20:15	PU Directional Tools	1.50	800	1	23:05-23:20	Rotating With Motor	0.25	905	1
20:15-20:30	RIH	0.25	800	1	23:20-24:00	Rig Repair - Shakers	0.67	905	1
20:30-22:00	Slip And Cut	1.50	800	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.25 **ORIENTING HRS:** 0.00 **ROTARY DRILL:** 0.00
TIME DRILL: 0.00 **ROTATING HRS:** 0.25 **MOTOR HRS:** 1.33
MOTOR REAM: 0.00 **TRIP:** 0.25
CIRC: 1.08 **ROTARY DRILL:** 0.00 **OTHER:** 22.42
MOTOR HRS: 1.33 **DRILL HRS:** 0.25 **TOTAL HRS:** 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 2500 ft-lb **STRING WEIGHT:** 0 lbs
WOB SLIDING (HI): 0 lbf **WOB ROTATE (HI):** 1000 lbf
WOB SLIDING (LO): 0 lbf **WOB ROTATE (LO):** 8000 lbf
RPM (ROTARY): 45 rpm **DRAG UP:** 0 lbf
RPM (MOTOR): 168 rpm **DRAG DN:** 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1 **HOLE SIZE:** 8.75 in **SECTION TYPE:** Build & Hold **SURVEY TYPE:** Positive Pulse MWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 675-43585 **MODEL:** LN7850 **LOBE CFG.:** 7/8
SETTING: 1.81 ° **KICKPAD:** No **SIZE:** 6 3/4" (171mm) **MTR HRS THIS DAY:** 1.3333333333333333 **MTR HRS TO DATE:** 1.3333333333333333
MANFCT: Security **BIT TYPE:** Security Bit **TYPE:** Fx54D **NOZZLES:** 1.011 in² TFA
IADC BIT GRADE: 4 / 3 / BT / A / X / I / BT / BHA

PUMP PARAMETERS

PRESSURE ON BTM: 1100 **PRESSURE OFF BTM:** 600 **TOTAL FLOW RATE:** 569.66 gal/min
PUMP 1: TYPE: PZ-11 **EFF.:** 95.0% **SPM:** 78.00 **LINER:** 6.00 in **STROKE VOL.:** 3.8438 gal/stk
PUMP 2: TYPE: PZ-11 **EFF.:** 95.0% **SPM:** 78.00 **LINER:** 6.00 in **STROKE VOL.:** 3.8438 gal/stk
PUMP 3: TYPE: **EFF.:** 100.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: Gelchem **VISC:** 28 sec/qt **WTR LOSS:** 0 cc/30min **PV:** 0 cP **YP:** 0 lb/100 ft² **pH:** 0
DENSITY: 8.8 lb/gal **GEL 0/10:** 0.00 lb/100 ft² **SAND:** 0 **SOLIDS:** 0 **OIL:** 0 **TEMP:** 0 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min

COMMENTS:

Standby / Skid Rig / Wait On Orders
 P/U Directional Tools, RIH Cut & Slip Drill Line
 Drill Out Flt, Shoe & CMT.
 Drill Ahead F/ 800' - 905'

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 2 - 2012/06/04****FILE #:** 4026334**WELL NAME:** Camp 10N-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** Positive Pulse MWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** CAMP. / CO / USA**DIR Supervisor:** Josh Monroe, Charles Apodaca**MWD Supervisor:** Jon Ieger, Stephen Gray**GROUND ELEV:** 4949 ft**START DEPTH:** 905.0 ft**PROGRESS:** 3709.0 ft**DAILY COST:** USD\$11450.00**KB ELEV:** 4974 ft**END DEPTH:** 4614.0 ft**AVG. ROP.:** 204.1 ft/hr**PREVIOUS COST:** USD\$16180.00**TOTAL COST:** USD\$27630.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Rig Repair - Shakers	0.25	905	1	10:55-11:05	Circ & Accumulate Surveys	0.17	2981	1
00:15-00:20	Rotating With Motor	0.08	916	1	11:05-11:20	Orienting With Motor	0.25	2988	1
00:20-00:30	Circ & Accumulate Surveys - Check Shot	0.17	916	1	11:20-11:30	Rotating With Motor	0.17	3076	1
00:30-00:55	Rotating With Motor	0.42	1008	1	11:30-11:40	Circ & Accumulate Surveys	0.17	3076	1
00:55-01:00	Circ & Accumulate Surveys	0.08	1008	1	11:40-12:00	Rotating With Motor	0.33	3170	1
01:00-01:15	Rotating With Motor	0.25	1100	1	12:00-12:05	Circ & Accumulate Surveys	0.08	3170	1
01:15-01:30	Circ & Accumulate Surveys	0.25	1100	1	12:05-12:30	Rotating With Motor	0.42	3265	1
01:30-01:40	Rotating With Motor	0.17	1190	1	12:30-12:35	Circ & Accumulate Surveys	0.08	3265	1
01:40-01:55	Circ & Accumulate Surveys	0.25	1190	1	12:35-12:45	Orienting With Motor	0.17	3270	1
01:55-02:15	Rotating With Motor	0.33	1281	1	12:45-13:15	Rotating With Motor	0.50	3360	1
02:15-02:40	Rotating With Motor	0.42	1372	1	13:15-13:25	Circ & Accumulate Surveys	0.17	3360	1
02:40-02:50	Circ & Accumulate Surveys	0.17	1372	1	13:25-13:40	Orienting With Motor	0.25	3365	1
02:50-03:15	Rotating With Motor	0.42	1463	1	13:40-14:05	Rotating With Motor	0.42	3455	1
03:15-03:20	Circ & Accumulate Surveys	0.08	1463	1	14:05-14:15	Circ & Accumulate Surveys	0.17	3455	1
03:20-03:40	Rotating With Motor	0.33	1558	1	14:15-14:25	Orienting With Motor	0.17	3463	1
03:40-03:50	Circ & Accumulate Surveys	0.17	1558	1	14:25-14:50	Rotating With Motor	0.42	3550	1
03:50-04:15	Rotating With Motor	0.42	1653	1	14:50-15:00	Circ & Accumulate Surveys	0.17	3550	1
04:15-04:20	Circ & Accumulate Surveys	0.08	1653	1	15:00-15:15	Orienting With Motor	0.25	3565	1
04:20-04:25	Orienting With Motor	0.08	1659	1	15:15-15:40	Rotating With Motor	0.42	3645	1
04:25-04:45	Rotating With Motor	0.33	1747	1	15:40-15:50	Circ & Accumulate Surveys	0.17	3645	1
04:45-04:50	Circ & Accumulate Surveys	0.08	1747	1	15:50-16:05	Orienting With Motor	0.25	3656	1
04:50-05:15	Rotating With Motor	0.42	1843	1	16:05-16:25	Rotating With Motor	0.33	3740	1
05:15-05:25	Circ & Accumulate Surveys	0.17	1843	1	16:25-16:35	Circ & Accumulate Surveys	0.17	3740	1
05:25-05:50	Rotating With Motor	0.42	1937	1	16:35-16:55	Orienting With Motor	0.33	3751	1
05:50-06:00	Circ & Accumulate Surveys	0.17	1937	1	16:55-17:25	Rotating With Motor	0.50	3834	1
06:00-06:20	Rotating With Motor	0.33	2032	1	17:25-17:35	Circ & Accumulate Surveys	0.17	3834	1
06:20-06:30	Circ & Accumulate Surveys	0.17	2032	1	17:35-17:50	Orienting With Motor	0.25	3854	1
06:30-06:35	Orienting With Motor	0.08	2038	1	17:50-18:10	Rotating With Motor	0.33	3929	1
06:35-06:50	Rotating With Motor	0.25	2127	1	18:10-18:20	Circ & Accumulate Surveys	0.17	3929	1
06:50-06:55	Circ & Accumulate Surveys	0.08	2127	1	18:20-18:50	Rotating With Motor	0.50	4024	1
06:55-07:15	Rotating With Motor	0.33	2222	1	18:50-19:00	Circ & Accumulate Surveys	0.17	4024	1
07:15-07:20	Circ & Accumulate Surveys	0.08	2222	1	19:00-19:20	Orienting With Motor	0.33	4039	1
07:20-07:55	Rotating With Motor	0.58	2317	1	19:20-19:45	Rotating With Motor	0.42	4119	1
07:55-08:00	Circ & Accumulate Surveys	0.08	2317	1	19:45-19:55	Circ & Accumulate Surveys	0.17	4119	1
08:00-08:10	Orienting With Motor	0.17	2325	1	19:55-20:20	Rotating With Motor	0.42	4214	1
08:10-08:25	Rotating With Motor	0.25	2411	1	20:20-20:25	Circ & Accumulate Surveys	0.08	4214	1
08:25-08:30	Circ & Accumulate Surveys	0.08	2411	1	20:25-20:55	Rotating With Motor	0.50	4309	1
08:30-08:50	Rotating With Motor	0.33	2507	1	20:55-21:05	Circ & Accumulate Surveys	0.17	4309	1
08:50-08:55	Circ & Accumulate Surveys	0.08	2507	1	21:05-21:20	Orienting With Motor	0.25	4329	1
08:55-09:15	Rotating With Motor	0.33	2602	1	21:20-22:00	Rotating With Motor	0.67	4405	1
09:15-09:20	Circ & Accumulate Surveys	0.08	2602	1	22:00-22:05	Circ & Accumulate Surveys	0.08	4405	1

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.2674

Day 2 - 2012/06/04

09:20-09:35	Rotating With Motor	0.25	2696	1	22:05-22:50	Rotating With Motor	0.75	4499	1
09:35-09:45	Circ & Accumulate Surveys	0.17	2696	1	22:50-22:55	Circ & Accumulate Surveys	0.08	4499	1
09:45-10:05	Rotating With Motor	0.33	2791	1	22:55-23:25	Rotating With Motor	0.50	4594	1
10:05-10:15	Circ & Accumulate Surveys	0.17	2791	1	23:25-23:40	Rig Service	0.25	4594	1
10:15-10:30	Rotating With Motor	0.25	2886	1	23:40-23:45	Circ & Accumulate Surveys	0.08	4594	1
10:30-10:40	Circ & Accumulate Surveys	0.17	2886	1	23:45-24:00	Orienting With Motor	0.25	4614	1
10:40-10:55	Rotating With Motor	0.25	2981	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 18.17
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 5.33
MOTOR HRS: 23.50

ORIENTING HRS: 3.08
ROTATING HRS: 15.08
ROTARY DRILL: 0.00
TRIP: 0.00
OTHER: 0.50
DRILL HRS: 18.17

ROTARY DRILL: 0.00
MOTOR HRS: 23.50
TRIP: 0.00
OTHER: 0.50
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 4000 ft-lb
WOB SLIDING (HI): 15000 lbf
WOB SLIDING (LO): 5000 lbf
RPM (ROTARY): 50 rpm
RPM (MOTOR): 168 rpm
STRING WEIGHT: 0 lbs
WOB ROTATE (HI): 40000 lbf
WOB ROTATE (LO): 30000 lbf
DRAG UP: 0 lbf
DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1
MANFCT.: Weatherford
SETTING: 1.81 °
MANFCT: Security
IADC BIT GRADE: 4 / 3 / BT / A / X / I / BT / BHA

HOLE SIZE: 8.75 in
STABILIZER: No
KICKPAD: No
BIT TYPE: Security Bit

SECTION TYPE: Build & Hold
SERIAL#: 675-43585
SIZE: 6 3/4" (171mm)
TYPE: Fx54D

SURVEY TYPE: Positive Pulse MWD
MODEL: LN7850
MTR HRS THIS DAY: 23.5
NOZZLES: 1.011 in² TFA

LOBE CFG.: 7/8
MTR HRS TO DATE: 24.833333333333

PUMP PARAMETERS

PRESSURE ON BTM: 2900
PUMP 1: TYPE: PZ-11
PUMP 2: TYPE: PZ-11
PUMP 3: TYPE:

PRESSURE OFF BTM: 2800
EFF.: 95.0%
EFF.: 95.0%
EFF.: 100.0%

SPM: 78.00
SPM: 78.00
SPM: 0.00

LINER: 6.00 in
LINER: 6.00 in
LINER: 0.00 in

TOTAL FLOW RATE: 569.66 gal/min
STROKE VOL.: 3.8438 gal/stk
STROKE VOL.: 3.8438 gal/stk
STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Gelchem
DENSITY: 8.8 lb/gal
LIQUID BASE: Water

VISC: 28 sec/qt
GEL 0/10: 0.00 lb/100 ft²

WTR LOSS: 30 cc/30min
SAND: 0.01
LIQUID RATE: 0 gal/min

PV: 2 cP
SOLIDS: 1.9
GAS TYPE:

YP: 3 lb/100 ft²
OIL: 0
GAS RATE: 0 cu ft/min

pH: 9
TEMP: 150 °F

COMMENTS:

Drill Ahead F/ 905' - 4687'

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 3 - 2012/06/05

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Stephen Gray

GROUND ELEV: 4949 ft
KB ELEV: 4974 ftSTART DEPTH: 4614.0 ft
END DEPTH: 6345.0 ftPROGRESS: 1731.0 ft
AVG. ROP.: 77.2 ft/hrDAILY COST: USD\$11450.00
PREVIOUS COST: USD\$27630.00
TOTAL COST: USD\$39080.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:35	Rotating With Motor	0.58	4689	1	11:15-12:00	Rotating With Motor	0.75	5543	1
00:35-00:40	Circ & Accumulate Surveys	0.08	4689	1	12:00-12:05	Circ & Accumulate Surveys	0.08	5543	1
00:40-01:10	Rotating With Motor	0.50	4784	1	12:05-12:25	Orienting With Motor	0.33	5551	1
01:10-01:15	Circ & Accumulate Surveys	0.08	4784	1	12:25-12:40	Rotating With Motor	0.25	5556	1
01:15-02:00	Orienting With Motor	0.75	4799	1	12:40-13:00	Orienting With Motor	0.33	5568	1
02:00-02:40	Rotating With Motor	0.67	4879	1	13:00-14:00	Rotating With Motor	1.00	5638	1
02:40-02:45	Circ & Accumulate Surveys	0.08	4879	1	14:00-14:05	Circ & Accumulate Surveys	0.08	5638	1
02:45-03:10	Orienting With Motor	0.42	4899	1	14:05-14:30	Rotating With Motor	0.42	5647	1
03:10-03:45	Rotating With Motor	0.58	4974	1	14:30-15:30	Orienting With Motor	1.00	5672	1
03:45-03:50	Circ & Accumulate Surveys	0.08	4974	1	15:30-16:05	Rotating With Motor	0.58	5701	1
03:50-04:45	Rotating With Motor	0.92	5070	1	16:05-16:30	Orienting With Motor	0.42	5711	1
04:45-04:50	Circ & Accumulate Surveys	0.08	5070	1	16:30-16:55	Rotating With Motor	0.42	5732	1
04:50-05:25	Orienting With Motor	0.58	5090	1	16:55-17:05	Circ & Accumulate Surveys	0.17	5732	1
05:25-06:00	Rotating With Motor	0.58	5164	1	17:05-18:50	Orienting With Motor	1.75	5757	1
06:00-06:05	Circ & Accumulate Surveys	0.08	5164	1	18:50-19:20	Rotating With Motor	0.50	5827	1
06:05-07:15	Orienting With Motor	1.17	5177	1	19:20-19:25	Circ & Accumulate Surveys	0.08	5827	1
07:15-07:25	Rotating With Motor	0.17	5182	1	19:25-20:10	Rotating With Motor	0.75	5922	1
07:25-07:35	Orienting With Motor	0.17	5192	1	20:10-20:15	Circ & Accumulate Surveys	0.08	5922	1
07:35-08:15	Rotating With Motor	0.67	5260	1	20:15-20:55	Rotating With Motor	0.67	6017	1
08:15-08:20	Circ & Accumulate Surveys	0.08	5260	1	20:55-21:00	Circ & Accumulate Surveys	0.08	6017	1
08:20-09:00	Orienting With Motor	0.67	5272	1	21:00-21:35	Rotating With Motor	0.58	6112	1
09:00-09:10	Rotating With Motor	0.17	5277	1	21:35-21:40	Circ & Accumulate Surveys	0.08	6112	1
09:10-09:15	Orienting With Motor	0.08	5285	1	21:40-22:30	Rotating With Motor	0.83	6206	1
09:15-09:55	Rotating With Motor	0.67	5354	1	22:30-22:35	Circ & Accumulate Surveys	0.08	6206	1
09:55-10:00	Circ & Accumulate Surveys	0.08	5354	1	22:35-23:30	Rotating With Motor	0.92	6301	1
10:00-10:45	Rotating With Motor	0.75	5448	1	23:30-23:35	Circ & Accumulate Surveys	0.08	6301	1
10:45-10:50	Circ & Accumulate Surveys	0.08	5448	1	23:35-24:00	Rotating With Motor	0.42	6345	1
10:50-11:15	Orienting With Motor	0.42	5469	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	22.42	ORIENTING HRS:	8.08
TIME DRILL:	0.00	ROTATING HRS:	14.33
MOTOR REAM:	0.00		
CIRC:	1.58	ROTARY DRILL:	0.00
MOTOR HRS:	24.00	DRILL HRS:	22.42

ROTARY DRILL:	0.00
MOTOR HRS:	24.00
TRIP:	0.00
OTHER:	0.00
TOTAL HRS:	24.00

DRILLING PARAMETERS:

ROTARY TORQUE:	4000 ft-lb	STRING WEIGHT	117000 lbs
WOB SLIDING (HI):	8000 lbf	WOB ROTATE (HI):	40000 lbf
WOB SLIDING (LO):	4000 lbf	WOB ROTATE (LO):	25000 lbf
RPM (ROTARY):	55 rpm	DRAG UP:	132000 lbf
RPM (MOTOR):	168 rpm	DRAG DN:	102000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	1	HOLE SIZE:	8.75 in
MANFCT.:	Weatherford	STABILIZER:	No
SETTING:	1.81 °	KICKPAD:	No
MANFCT:	Security	BIT TYPE:	Security Bit
IADC BIT GRADE:	4 / 3 / BT / A / X / I / BT / BHA		

SECTION TYPE:	Build & Hold
SERIAL#:	675-43585
SIZE:	6 3/4" (171mm)
TYPE:	Fx54D

SURVEY TYPE: Positive Pulse MWD

MODEL:	LN7850
MTR HRS THIS DAY:	24
NOZZLES:	1.011 in² TFA

LOBE CFG.:7/8

MTR HRS TO DATE:48.833333333333



Weatherford®

Daily Activity Report

Drilling Services

v4.2.2674

Day 3 - 2012/06/05

PUMP PARAMETERS

PRESSURE ON BTM: 3200

PRESSURE OFF BTM: 600

TOTAL FLOW RATE: 569.66 gal/min

PUMP 1: TYPE: PZ-11

EFF.: 95.0%

SPM: 78.00

LINER: 6.00 in

STROKE VOL.: 3.8438 gal/stk

PUMP 2: TYPE: PZ-11

EFF.: 95.0%

SPM: 78.00

LINER: 6.00 in

STROKE VOL.: 3.8438 gal/stk

PUMP 3: TYPE:

EFF.: 100.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water

VISC: 32 sec/qt

WTR LOSS: 35 cc/30min

PV: 1 cP

YP: 4 lb/100 ft²

pH: 9

DENSITY: 8.8 lb/gal

GEL 0/10: 4.00 lb/100 ft²

SAND: 0.01

SOLIDS: 0.04

OIL: 0

TEMP: 160 °F

LIQUID BASE: Water

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 4687 to 6354

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 4 - 2012/06/06

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Stephen Gray

GROUND ELEV: 4949 ft
KB ELEV: 4974 ftSTART DEPTH: 6345.0 ft
END DEPTH: 6617.0 ftPROGRESS: 272.0 ft
AVG. ROP.: 17.9 ft/hrDAILY COST: USD\$17750.00
PREVIOUS COST: USD\$39080.00
TOTAL COST: USD\$56830.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:15	Rotating With Motor	0.25	6396	1	06:00-09:10	Orienting With Motor	3.17	6554	1
00:15-00:20	Circ & Accumulate Surveys	0.08	6396	1	09:10-09:30	Circ & Accumulate Surveys	0.33	6554	1
00:20-00:55	Rotating With Motor	0.58	6456	1	09:30-12:55	Orienting With Motor	3.42	6585	1
00:55-01:00	Circ & Accumulate Surveys	0.08	6456	1	12:55-13:15	Circ & Accumulate Surveys	0.33	6585	1
01:00-01:55	Orienting With Motor	0.92	6491	1	13:15-17:00	Orienting With Motor	3.75	6617	1
01:55-02:00	Circ & Accumulate Surveys	0.08	6491	1	17:00-17:25	Circ & Accumulate Surveys	0.42	6617	1
02:00-02:40	Orienting With Motor	0.67	6496	1	17:25-19:20	Circ & Condition Hole	1.92	6617	1
02:40-03:15	Circulating - See Comments - SWEEP HOLE	0.58	6496	1	19:20-22:30	POOH For Motor	3.17	6617	1
03:15-05:40	Orienting With Motor	2.42	6522	1	22:30-23:30	Handle Directional Tools	1.00	6617	1
05:40-06:00	Circ & Accumulate Surveys	0.33	6522	1	23:30-24:00	Handle Directional Tools	0.50	6617	1

TIME SUMMARY (hrs):

MOTOR DRILL: 15.17
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 4.17

ORIENTING HRS: 14.33
ROTATING HRS: 0.83
ROTARY DRILL: 0.00
DRILL HRS: 15.17

ROTARY DRILL: 0.00
MOTOR HRS: 19.33
TRIP: 3.17
OTHER: 1.50
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 5000 ft-lb
WOB SLIDING (HI): 15000 lbf
WOB SLIDING (LO): 5000 lbf
RPM (ROTARY): 55 rpm
RPM (MOTOR): 168 rpm

STRING WEIGHT: 134000 lbs
WOB ROTATE (HI): 35000 lbf
WOB ROTATE (LO): 15000 lbf
DRAG UP: 156000 lbf
DRAG DN: 119000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 1
MANFCT.: Weatherford
SETTING: 1.81 °
MANFCT: Security
IADC BIT GRADE: 4 / 3 / BT / A / X / I / BT / BHA

HOLE SIZE: 8.75 in
STABILIZER: No
KICKPAD: No
BIT TYPE: Security Bit

SECTION TYPE: Build & Hold
SERIAL#: 675-43585
SIZE: 6 3/4" (171mm)
TYPE: Fx54D

SURVEY TYPE: Positive Pulse MWD
MODEL: LN7850
LOBE CFG.: 7/8
MTR HRS THIS DAY: 19.33333333
NOZZLES: 1.011 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 2600
PUMP 1: TYPE: PZ-11
PUMP 2: TYPE: PZ-11
PUMP 3: TYPE:

PRESSURE OFF BTM: 3200
EFF.: 95.0%
EFF.: 95.0%
EFF.: 100.0%

SPM: 78.00
SPM: 78.00
SPM: 0.00

TOTAL FLOW RATE: 569.66 gal/min
LINER: 6.00 in
LINER: 6.00 in
LINER: 0.00 in

STROKE VOL.: 3.8438 gal/stk
STROKE VOL.: 3.8438 gal/stk
STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water
DENSITY: 9 lb/gal
LIQUID BASE: Water

VISC: 34 sec/qt
GEL 0/10: 2.00 lb/100 ft²

WTR LOSS: 8.8 cc/30min
SAND: 0
LIQUID RATE: 0 gal/min

PV: 7 cP
SOLIDS: 4
GAS TYPE:

YP: 6 lb/100 ft²
OIL: 0
GAS RATE: 0 cu ft/min

pH: 9
TEMP: 125 °F

COMMENTS:

Drill F/ 6354'

Let angle drop out of hole and kick off early per drilling engineers request do to slow ROP while sliding.

We had very slow ROP while sliding in Sussex formation. Also it was very hard to slide due to hanging up and stalling the motor out. The motor acted normal in rotation. Also build rates produced were half of what we should have been getting.

POOH due to slow ROP. P/U 2.38 fixed housing motor.

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.2674

Day 5 - 2012/06/07

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

2012/06/07

No personnel have been recorded for this date.

GROUND ELEV: 4949 ft

START DEPTH: 6617.0 ft

PROGRESS: 520.0 ft

DAILY COST: USD\$15250.00

KB ELEV: 4974 ft

END DEPTH: 7137.0 ft

AVG. ROP.: 34.3 ft/hr

PREVIOUS COST: USD\$56830.00

WORK STATUS: Operating

(All units are imperial.)

TOTAL COST: USD\$72080.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	Handle Directional Tools	0.50	6617	2	15:45-16:00	Circ & Accumulate Surveys	0.25	6904	2
00:30-04:45	RIH	4.25	6617	2	16:00-16:20	Rotating With Motor	0.33	6922	2
04:45-05:25	Orienting With Motor	0.67	6650	2	16:20-16:45	Orienting With Motor	0.42	6935	2
05:25-05:35	Circ & Accumulate Surveys	0.17	6650	2	16:45-17:00	Circ & Accumulate Surveys	0.25	6935	2
05:35-07:35	Orienting With Motor	2.00	6682	2	17:00-17:15	Rotating With Motor	0.25	6946	2
07:35-07:50	Circ & Accumulate Surveys	0.25	6682	2	17:15-17:30	Orienting With Motor	0.25	6967	2
07:50-08:50	Orienting With Motor	1.00	6714	2	17:30-17:50	Circ & Accumulate Surveys	0.33	6967	2
08:50-09:05	Circ & Accumulate Surveys	0.25	6714	2	17:50-18:05	Rotating With Motor	0.25	6986	2
09:05-10:40	Orienting With Motor	1.58	6745	2	18:05-18:45	Orienting With Motor	0.67	6999	2
10:40-10:55	Circ & Accumulate Surveys	0.25	6745	2	18:45-18:50	Circ & Accumulate Surveys	0.08	6999	2
10:55-11:25	Rotating With Motor	0.50	6777	2	18:50-19:20	Rotating With Motor	0.50	7030	2
11:25-11:35	Circ & Accumulate Surveys	0.17	6777	2	19:20-19:25	Circ & Accumulate Surveys	0.08	7030	2
11:35-11:45	Rotating With Motor	0.17	6809	2	19:25-19:40	Work on Pumps	0.25	7030	2
11:45-12:00	Gamma Rerun	0.25	6809	2	19:40-21:55	Orienting With Motor	2.25	7062	2
12:00-12:10	Circ & Accumulate Surveys	0.17	6809	2	21:55-22:00	Circ & Accumulate Surveys	0.08	7062	2
12:10-12:45	Work on Pumps	0.58	6809	2	22:00-22:25	Rotating With Motor	0.42	7084	2
12:45-14:00	Orienting With Motor	1.25	6841	2	22:25-22:45	Orienting With Motor	0.33	7093	2
14:00-14:15	Circ & Accumulate Surveys	0.25	6841	2	22:45-22:50	Circ & Accumulate Surveys	0.08	7093	2
14:15-14:55	Orienting With Motor	0.67	6872	2	22:50-23:15	Rotating With Motor	0.42	7113	2
14:55-15:10	Circ & Accumulate Surveys	0.25	6872	2	23:15-23:35	Orienting With Motor	0.33	7125	2
15:10-15:25	Rotating With Motor	0.25	6889	2	23:35-23:40	Circ & Accumulate Surveys	0.08	7125	2
15:25-15:45	Orienting With Motor	0.33	6904	2	23:40-24:00	Rotating With Motor	0.33	7137	2

TIME SUMMARY (hrs):

MOTOR DRILL: 15.17	ORIENTING HRS: 11.75	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 3.42	MOTOR HRS: 18.17
MOTOR REAM: 0.00		TRIP: 4.25
CIRC: 3.00	ROTARY DRILL: 0.00	OTHER: 1.58
MOTOR HRS: 18.17	DRILL HRS: 15.17	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 7000 ft-lb	STRING WEIGHT: 134000 lbs
WOB SLIDING (HI): 10000 lbf	WOB ROTATE (HI): 15000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 7000 lbf
RPM (ROTARY): 25 rpm	DRAG UP: 156000 lbf
RPM (MOTOR): 168 rpm	DRAG DN: 119000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-3596	MODEL: LN7850
SETTING: 2.38 °	KICKPAD: No	SIZE: 6.75	LOBE CFG.: 7/8
MANFCT: Security	BIT TYPE: Security	TYPE: FX54D	MTR HRS THIS DAY: 18.166666666666666
IADC BIT GRADE: 1 / 1 / ? / ? / ? / ? / ? / TD			NOZZLES: 1.011 in² TFA



Weatherford®

Daily Activity Report

Drilling Services

v4.2.2674

Day 5 - 2012/06/07

PUMP PARAMETERS

PRESSURE ON BTM: 0

PRESSURE OFF BTM: 0

TOTAL FLOW RATE: 0.00 gal/min

PUMP 1: TYPE: PZ-11

EFF.: 95.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

PUMP 2: TYPE: PZ-11

EFF.: 95.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

PUMP 3: TYPE:

EFF.: 100.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:

VISC: 0 sec/qt

WTR LOSS: 0 cc/30min

PV: 0 cP

YP: 0 lb/100 ft²

pH: 0

DENSITY: 0 lb/gal

GEL 0/10: 0.00 lb/100 ft²

SAND: 0

SOLIDS: 0

OIL: 0

TEMP: 0 °F

LIQUID BASE:

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.2674

Day 6 - 2012/06/08

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jett Hunter, Jon leger

GROUND ELEV: 4949 ft
KB ELEV: 4974 ft

START DEPTH: 7137.0 ft
END DEPTH: 7599.0 ft

PROGRESS: 462.0 ft
AVG. ROP.: 35.3 ft/hr

DAILY COST: USD\$13950.00
PREVIOUS COST: USD\$72080.00
TOTAL COST: USD\$86030.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:20	Orienting With Motor	0.33	7157	2	06:40-06:50	Circ & Accumulate Surveys	0.17	7409	2
00:20-00:25	Circ & Accumulate Surveys	0.08	7157	2	06:50-07:15	Rotating With Motor	0.42	7429	2
00:25-00:40	Rotating With Motor	0.25	7180	2	07:15-08:20	Orienting With Motor	1.08	7441	2
00:40-01:00	Orienting With Motor	0.33	7188	2	08:20-09:00	Circ & Accumulate Surveys	0.67	7441	2
01:00-01:05	Circ & Accumulate Surveys	0.08	7188	2	09:00-09:15	Rotating With Motor	0.25	7450	2
01:05-01:25	Rotating With Motor	0.33	7220	2	09:15-10:20	Orienting With Motor	1.08	7472	2
01:25-01:30	Circ & Accumulate Surveys	0.08	7220	2	10:20-10:40	Circ & Accumulate Surveys	0.33	7472	2
01:30-01:55	Rotating With Motor	0.42	7251	2	10:40-11:00	Rotating With Motor	0.33	7485	2
01:55-02:10	Rig Service	0.25	7251	2	11:00-12:05	Orienting With Motor	1.08	7504	2
02:10-02:15	Circ & Accumulate Surveys	0.08	7251	2	12:05-12:20	Circ & Accumulate Surveys	0.25	7504	2
02:15-02:40	Rotating With Motor	0.42	7283	2	12:20-12:35	Rotating With Motor	0.25	7516	2
02:40-02:45	Circ & Accumulate Surveys	0.08	7283	2	12:35-13:35	Orienting With Motor	1.00	7536	2
02:45-02:50	Circ & Accumulate Surveys	0.08	7314	2	13:35-14:00	Circ & Accumulate Surveys	0.42	7536	2
02:50-03:15	Rotating With Motor	0.42	7314	2	14:00-14:15	Rotating With Motor	0.25	7548	2
03:15-03:30	Rotating With Motor	0.25	7321	2	14:15-15:00	Orienting With Motor	0.75	7567	2
03:30-04:30	Orienting With Motor	1.00	7346	2	15:00-15:10	Circ & Accumulate Surveys	0.17	7567	2
04:30-04:35	Circ & Accumulate Surveys	0.08	7346	2	15:10-15:25	Rotating With Motor	0.25	7577	2
04:35-04:45	Rotating With Motor	0.17	7353	2	15:25-16:00	Orienting With Motor - TD Curve	0.58	7599	2
04:45-05:30	Orienting With Motor	0.75	7378	2	16:00-16:10	Circ & Accumulate Surveys	0.17	7599	2
05:30-05:35	Circ & Accumulate Surveys	0.08	7378	2	16:10-19:00	Circ & Condition Hole	2.83	7599	2
05:35-05:50	Rotating With Motor	0.25	7389	2	19:00-21:00	POOH - See Comments - Short Trip	2.00	7599	2
05:50-06:40	Orienting With Motor	0.83	7409	2	21:00-24:00	Circ & Condition Hole	3.00	7599	2

TIME SUMMARY (hrs):

MOTOR DRILL: 13.08	ORIENTING HRS: 8.83	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 4.25	MOTOR HRS: 21.75
MOTOR REAM: 0.00		TRIP: 2.00
CIRC: 8.67	ROTARY DRILL: 0.00	OTHER: 0.25
MOTOR HRS: 21.75	DRILL HRS: 13.08	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 7000 ft-lb	STRING WEIGHT: 136000 lbs
WOB SLIDING (HI): 15000 lbf	WOB ROTATE (HI): 35000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 10000 lbf
RPM (ROTARY): 25 rpm	DRAG UP: 171000 lbf
RPM (MOTOR): 167 rpm	DRAG DN: 120000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-3596	MODEL: LN7850
SETTING: 2.38 °	KICKPAD: No	SIZE: 6.75	LOBE CFG.: 7/8
MANFCT: Security	BIT TYPE: Security	TYPE: FX54D	MTR HRS THIS DAY: 21.75
IADC BIT GRADE: 1 / 1 / ? / ? / ? / ? / ? / TD			MTR HRS TO DATE: 39.91666666666666
			NOZZLES: 1.011 in² TFA



Weatherford®

Daily Activity Report

Drilling Services

v4.2.2674

Day 6 - 2012/06/08

PUMP PARAMETERS

PRESSURE ON BTM: 2700

PRESSURE OFF BTM: 3500

TOTAL FLOW RATE: 598.00 gal/min

PUMP 1: TYPE: PZ-11

EFF.: 95.0%

SPM: 78.00

LINER: 6.00 in

STROKE VOL.: 3.8438 gal/stk

PUMP 2: TYPE: PZ-11

EFF.: 95.0%

SPM: 78.00

LINER: 6.00 in

STROKE VOL.: 3.8438 gal/stk

PUMP 3: TYPE:

EFF.: 100.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water

VISC: 39 sec/qt

WTR LOSS: 6.5 cc/30min

PV: 13 cP

YP: 11 lb/100 ft² pH: 9.3

DENSITY: 9.7 lb/gal

GEL 0/10: 3.00 lb/100 ft²

SAND: 0.06

SOLIDS: 6.5

OIL: 2

TEMP: 140 °F

LIQUID BASE: Water

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 7125 to

At a MD of 7441' with 71 degrees in the hole we hit a fault. Anadarko wants us to project with 10 degree build / 100'. to land higher.

New Target TVD 7199'

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 7 - 2012/06/09

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Jett Hunter

GROUND ELEV: 4949 ft

START DEPTH: 7599.0 ft

PROGRESS: 0.0 ft

DAILY COST: USD\$17750.00

KB ELEV: 4974 ft

END DEPTH: 7599.0 ft

AVG. ROP.: 0.0 ft/hr

PREVIOUS COST: USD\$86030.00

WORK STATUS: Operating

(All units are imperial.)

TOTAL COST: USD\$103780.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:30	POOH To Run Casing	3.50	7599	2	04:30-24:00	Wait On Orders	19.50	7599	n/a
03:30-04:30	Lay Down Directional Tools	1.00	7599	2			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 3.50
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 20.50
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 7000 ft-lb	STRING WEIGHT: 136000 lbs
WOB SLIDING (HI): 20000 lbf	WOB ROTATE (HI): 35000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 15000 lbf
RPM (ROTARY): 25 rpm	DRAG UP: 171000 lbf
RPM (MOTOR): 167 rpm	DRAG DN: 120000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-3596	MODEL: LN7850
SETTING: 2.38 °	KICKPAD: No	SIZE: 6.75	LOBE CFG.: 7/8
MANFCT: Security	BIT TYPE: Security	TYPE: FX54D	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 1 / ? / ? / ? / ? / ? / TD			MTR HRS TO DATE: 39.91666666666666

PUMP PARAMETERS

PRESSURE ON BTM: 3500	PRESSURE OFF BTM: 2700	TOTAL FLOW RATE: 598.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 78.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
		LINER: 6.00 in
		LINER: 6.00 in
		LINER: 0.00 in
		STROKE VOL.: 3.8438 gal/stk
		STROKE VOL.: 3.8438 gal/stk
		STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 40 sec/qt	WTR LOSS: 6 cc/30min	PV: 13 cP	YP: 11 lb/100 ft²	pH: 9.3
DENSITY: 9.7 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.06	SOLIDS: 6.5	OIL: 2	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

BHA Looked good when pulled.

Pre. Pair BHA #3. Wait on orders.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674

Day 8 - 2012/06/10

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Jett Hunter

DIR Trainee: Stephen Schear

GROUND ELEV: 4949 ft

START DEPTH: 7599.0 ft

PROGRESS: 0.0 ft

DAILY COST: USD\$28980.00

KB ELEV: 4974 ft

END DEPTH: 7599.0 ft

AVG. ROP.: 0.0 ft/hr

PREVIOUS COST: USD\$103780.00

WORK STATUS: Operating

(All units are imperial.)

TOTAL COST: USD\$132760.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-16:00	Wait On Orders	16.00	7599	n/a	18:40-19:35	Work On MWD - Program LWD	0.92	7599	3
16:00-17:10	PU Directional Tools	1.17	7599	3	19:35-19:45	Handle Directional Tools	0.17	7599	3
17:10-17:40	Work On MWD - Program LWD tools	0.50	7599	3	19:45-24:00	RIH With New BHA	4.25	7599	3
17:40-18:40	Handle Directional Tools - Laydown SAG	1.00	7599	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 0.00
MOTOR HRS: 0.00

ORIENTING HRS: 0.00
ROTATING HRS: 0.00
ROTARY DRILL: 0.00
ROTARY HRS: 0.00
TRIP: 4.25
OTHER: 19.75
DRILL HRS: 0.00

ROTARY DRILL: 0.00
MOTOR HRS: 0.00
TRIP: 4.25
OTHER: 19.75
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 5000 ft-lb
WOB SLIDING (HI): 15000 lbf
WOB SLIDING (LO): 5000 lbf
RPM (ROTARY): 30 rpm
RPM (MOTOR): 167 rpm

STRING WEIGHT: 136000 lbs
WOB ROTATE (HI): 40000 lbf
WOB ROTATE (LO): 10000 lbf
DRAG UP: 171000 lbf
DRAG DN: 12000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3

HOLE SIZE: 6.125 in

SECTION TYPE: Lateral 1

SURVEY TYPE: HEL LWD

MANFCT.: Weatherford

STABILIZER: No

SERIAL#: 475-41078

MODEL: ME6770

LOBE CFG.: 6/7

SETTING: 1.5 °

KICKPAD: No

SIZE: 4 3/4" (121mm)

MTR HRS THIS DAY: 0

MTR HRS TO DATE: 0

MANFCT: Security

BIT TYPE: Security

TYPE: FX54D

NOZZLES: 0.591 in² TFA

IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 3500

PRESSURE OFF BTM: 2800

TOTAL FLOW RATE: 598.00 gal/min

PUMP 1: TYPE: PZ-11

EFF.: 95.0%

SPM: 78.00

LINER: 6.00 in

STROKE VOL.: 783.8438 gal/stk

PUMP 2: TYPE: PZ-11

EFF.: 95.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

PUMP 3: TYPE:

EFF.: 100.0%

SPM: 0.00

LINER: 0.00 in

STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water

VISC: 39 sec/qt

WTR LOSS: 6 cc/30min

PV: 13 cP

YP: 11 lb/100 ft² pH: 9

DENSITY: 9.7 lb/gal

GEL 0/10: 3.00 lb/100 ft²

SAND: 0.6

SOLIDS: 6.5

OIL: 2

TEMP: 167 °F

LIQUID BASE: Water

LIQUID RATE: 0 gal/min

GAS TYPE:

GAS RATE: 0 cu ft/min

COMMENTS:

Pick up BHA #3 Run in hole, drill out float shoe and cement.

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services
v4.2.2674**Day 9 - 2012/06/11****FILE #:** 4026334**WELL NAME:** Camp 10N-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** Positive Pulse MWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** CAMP. / CO / USA**DIR Supervisor:** Josh Monroe, Charles Apodaca**DIR Trainee:** Stephen Schear**MWD Supervisor:** Jett Hunter, Jon leger**GROUND ELEV:** 4949 ft**START DEPTH:** 7599.0 ft**PROGRESS:** 2321.0 ft**DAILY COST:** USD\$22750.00**KB ELEV:** 4974 ft**END DEPTH:** 9920.0 ft**AVG. ROP.:** 132.6 ft/hr**PREVIOUS COST:** USD\$132760.00**TOTAL COST:** USD\$155510.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:45	Drill Out Flt, Shoe & Cmmt	0.75	7599	3	13:40-13:55	Orienting With Motor	0.25	8820	3
00:45-01:15	Rig Service	0.50	7599	3	13:55-14:25	Rotating With Motor	0.50	8900	3
01:15-03:30	Rig Repair	2.25	7599	3	14:25-14:30	Circ & Accumulate Surveys	0.08	8900	3
03:30-04:10	Rotating With Motor	0.67	7653	3	14:30-14:40	Orienting With Motor	0.17	8920	3
04:10-04:15	Circ & Accumulate Surveys - CHECK SHOT	0.08	7653	3	14:40-15:05	Rotating With Motor	0.42	8995	3
04:15-04:20	Gamma Rerun	0.08	7653	3	15:05-15:10	Circ & Accumulate Surveys	0.08	8995	3
04:20-04:50	Rotating With Motor	0.50	7706	3	15:10-15:30	Orienting With Motor	0.33	9015	3
04:50-04:55	Circ & Accumulate Surveys	0.08	7706	3	15:30-15:40	Rotating With Motor	0.17	9036	3
04:55-05:00	Rotating With Motor	0.08	7716	3	15:40-16:20	Rig Repair - MUD LINE REPAIR	0.67	9036	3
05:00-05:15	Orienting With Motor	0.25	7726	3	16:20-16:35	Rotating With Motor	0.25	9090	3
05:15-05:35	Rotating With Motor	0.33	7797	3	16:35-16:40	Circ & Accumulate Surveys	0.08	9090	3
05:35-05:45	Gamma Rerun - LWD	0.17	7797	3	16:40-17:05	Orienting With Motor	0.42	9115	3
05:45-05:50	Circ & Accumulate Surveys	0.08	7797	3	17:05-17:40	Rotating With Motor	0.58	9185	3
05:50-06:00	Rotating With Motor	0.17	7807	3	17:40-17:45	Circ & Accumulate Surveys	0.08	9185	3
06:00-06:10	Orienting With Motor	0.17	7817	3	17:45-18:00	Orienting With Motor	0.25	9200	3
06:10-06:40	Rotating With Motor	0.50	7888	3	18:00-18:20	Rotating With Motor	0.33	9280	3
06:40-06:45	Circ & Accumulate Surveys	0.08	7888	3	18:20-18:25	Circ & Accumulate Surveys	0.08	9280	3
06:45-07:15	Rotating With Motor	0.50	7980	3	18:25-18:30	Rotating With Motor	0.08	9290	3
07:15-07:20	Circ & Accumulate Surveys	0.08	7980	3	18:30-18:50	Orienting With Motor	0.33	9300	3
07:20-07:50	Rotating With Motor	0.50	8071	3	18:50-19:05	Rotating With Motor	0.25	9343	3
07:50-07:55	Circ & Accumulate Surveys	0.08	8071	3	19:05-19:20	Orienting With Motor	0.25	9353	3
07:55-08:10	Orienting With Motor	0.25	8079	3	19:20-19:30	Rotating With Motor	0.17	9374	3
08:10-08:35	Rotating With Motor	0.42	8162	3	19:30-19:35	Circ & Accumulate Surveys	0.08	9374	3
08:35-08:40	Circ & Accumulate Surveys	0.08	8162	3	19:35-19:40	Rotating With Motor	0.08	9384	3
08:40-09:00	Orienting With Motor	0.33	8172	3	19:40-20:10	Orienting With Motor	0.50	9414	3
09:00-09:40	Rotating With Motor	0.67	8253	3	20:10-20:30	Rotating With Motor	0.33	9469	3
09:40-09:45	Circ & Accumulate Surveys	0.08	8253	3	20:30-20:35	Circ & Accumulate Surveys	0.08	9469	3
09:45-10:05	Rotating With Motor	0.33	8344	3	20:35-21:00	Rotating With Motor	0.42	9564	3
10:05-10:10	Circ & Accumulate Surveys	0.08	8344	3	21:00-21:05	Circ & Accumulate Surveys	0.08	9564	3
10:10-10:30	Orienting With Motor	0.33	8352	3	21:05-21:15	Rotating With Motor	0.17	9574	3
10:30-10:55	Rotating With Motor	0.42	8435	3	21:15-21:30	Orienting With Motor	0.25	9589	3
10:55-11:00	Circ & Accumulate Surveys	0.08	8435	3	21:30-21:50	Rotating With Motor	0.33	9659	3
11:00-11:10	Orienting With Motor	0.17	8443	3	21:50-21:55	Circ & Accumulate Surveys	0.08	9659	3
11:10-11:45	Rotating With Motor	0.58	8527	3	21:55-22:25	Rotating With Motor	0.50	9754	3
11:45-11:50	Circ & Accumulate Surveys	0.08	8527	3	22:25-22:30	Circ & Accumulate Surveys	0.08	9754	3
11:50-12:00	Orienting With Motor	0.17	8538	3	22:30-22:35	Rotating With Motor	0.08	9764	3
12:00-12:25	Rotating With Motor	0.42	8618	3	22:35-22:45	Orienting With Motor	0.17	9774	3
12:25-12:30	Circ & Accumulate Surveys	0.08	8618	3	22:45-23:10	Rotating With Motor	0.42	9849	3
12:30-12:40	Orienting With Motor	0.17	8626	3	23:10-23:15	Circ & Accumulate Surveys	0.08	9849	3
12:40-13:05	Rotating With Motor	0.42	8710	3	23:15-23:20	Rotating With Motor	0.08	9859	3

**Weatherford®**

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13:05-13:10	Circ & Accumulate Surveys	0.08	8710	3	23:20-23:45	Orienting With Motor	0.42	9874	3
13:10-13:35	Rotating With Motor	0.42	8805	3	23:45-24:00	Rotating With Motor	0.25	9920	3
13:35-13:40	Circ & Accumulate Surveys	0.08	8805	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 17.50
TIME DRILL: 0.00
MOTOR REAM: 0.00
CIRC: 2.83
MOTOR HRS: 20.33

ORIENTING HRS: 5.17
ROTATING HRS: 12.33
ROTARY DRILL: 0.00
ROTARY DRILL: 0.00
DRILL HRS: 17.50

ROTARY DRILL: 0.00
MOTOR HRS: 20.33
TRIP: 0.00
OTHER: 3.67
TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 5200 ft-lb
WOB SLIDING (HI): 15000 lbf
WOB SLIDING (LO): 5000 lbf
RPM (ROTARY): 55 rpm
RPM (MOTOR): 257 rpm
STRING WEIGHT 138000 lbs
WOB ROTATE (HI): 25000 lbf
WOB ROTATE (LO): 10000 lbf
DRAG UP: 157000 lbf
DRAG DN: 128000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3 **HOLE SIZE:** 6.125 in **SECTION TYPE:** Lateral 1 **SURVEY TYPE:** HEL LWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 475-41078 **MODEL:** ME6770 **LOBE CFG.:** 6/7
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 4 3/4" (121mm) **MTR HRS THIS DAY:** 20.33333333 **MTR HRS TO DATE:** 20.3333333333
MANFCT: Security **BIT TYPE:** Security **TYPE:** FX54D **NOZZLES:** 0.591 in² TFA
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?

PUMP PARAMETERS

PRESSURE ON BTM: 3800 **PRESSURE OFF BTM:** 3000 **TOTAL FLOW RATE:** 314.00 gal/min
PUMP 1: TYPE: PZ-11 **EFF.:** 95.0% **SPM:** 82.00 **LINER:** 6.00 in **STROKE VOL.:** 3.8438 gal/stk
PUMP 2: TYPE: PZ-11 **EFF.:** 95.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk
PUMP 3: TYPE: **EFF.:** 100.0% **SPM:** 0.00 **LINER:** 0.00 in **STROKE VOL.:** 0.0000 gal/stk

MUD RECORD

MUD TYPE: Gelchem **VISC:** 38 sec/qt **WTR LOSS:** 5.6 cc/30min **PV:** 12 cP **YP:** 7 lb/100 ft² **pH:** 0.9
DENSITY: 9.7 lb/gal **GEL 0/10:** 3.00 lb/100 ft² **SAND:** 0.05 **SOLIDS:** 6.7 **OIL:** 0 **TEMP:** 201 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min

COMMENTS:

Drill F/ 7599 to 9920

TARGET CHANGE @ 16:00
 TVD 7215' @ 90.0DEG

CUSTOMER SIGNATURE:

**Weatherford**

Daily Activity Report

Drilling Services
v4.2.2674**Day 10 - 2012/06/12****FILE #:** 4026334**WELL NAME:** Camp 10N-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** Positive Pulse MWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** CAMP. / CO / USA**DIR Supervisor:** Josh Monroe, Charles Apodaca**DIR Trainee:** Stephen Schear**MWD Supervisor:** Jett Hunter, Jon leger**GROUND ELEV:** 4949 ft**START DEPTH:** 9920.0 ft**PROGRESS:** 4527.0 ft**DAILY COST:** USD\$23450.00**KB ELEV:** 4974 ft**END DEPTH:** 13030.0 ft**AVG. ROP.:** 217.3 ft/hr**PREVIOUS COST:** USD\$155510.00**TOTAL COST:** USD\$178960.00**WORK STATUS:** Operating*(All units are imperial.)*

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:10	Rotating With Motor	0.17	9944	3	12:00-12:05	Circ & Accumulate Surveys	0.08	11751	3
00:10-00:15	Circulating - See Comments - SPR	0.08	9944	3	12:05-12:20	Orienting With Motor	0.25	11761	3
00:15-00:20	Circ & Accumulate Surveys	0.08	9944	3	12:20-12:40	Rotating With Motor	0.33	11846	3
00:20-00:50	Rotating With Motor	0.50	10039	3	12:40-12:45	Circ & Accumulate Surveys	0.08	11846	3
00:50-00:55	Circ & Accumulate Surveys	0.08	10039	3	12:45-13:10	Rotating With Motor	0.42	11941	3
00:55-01:20	Rotating With Motor	0.42	10135	3	13:10-13:15	Circ & Accumulate Surveys	0.08	11941	3
01:20-01:25	Circ & Accumulate Surveys	0.08	10135	3	13:15-13:40	Rotating With Motor	0.42	12037	3
01:25-01:30	Rotating With Motor	0.08	10145	3	13:40-13:45	Circ & Accumulate Surveys	0.08	12037	3
01:30-01:50	Orienting With Motor	0.33	10165	3	13:45-14:10	Orienting With Motor	0.42	12052	3
01:50-02:10	Rotating With Motor	0.33	10229	3	14:10-14:35	Rotating With Motor	0.42	12132	3
02:10-02:15	Circ & Accumulate Surveys	0.08	10229	3	14:35-14:40	Circ & Accumulate Surveys	0.08	12132	3
02:15-02:45	Rotating With Motor	0.50	10325	3	14:40-14:55	Orienting With Motor	0.25	12147	3
02:45-02:50	Circ & Accumulate Surveys	0.08	10325	3	14:55-15:10	Rotating With Motor	0.25	12227	3
02:50-02:55	Rotating With Motor	0.08	10335	3	15:10-15:15	Circ & Accumulate Surveys	0.08	12227	3
02:55-03:15	Orienting With Motor	0.33	10365	3	15:15-15:40	Orienting With Motor	0.42	12262	3
03:15-03:35	Rotating With Motor	0.33	10420	3	15:40-16:05	Rotating With Motor	0.42	12323	3
03:35-03:40	Circ & Accumulate Surveys	0.08	10420	3	16:05-16:20	Circ & Accumulate Surveys	0.25	12323	3
03:40-04:10	Rotating With Motor	0.50	10515	3	16:20-16:30	Rotating With Motor	0.17	12333	3
04:10-04:15	Circ & Accumulate Surveys	0.08	10515	3	16:30-16:50	Orienting With Motor	0.33	12348	3
04:15-04:20	Rotating With Motor	0.08	10525	3	16:50-17:05	Rotating With Motor	0.25	12386	3
04:20-04:40	Orienting With Motor	0.33	10545	3	17:05-17:15	Orienting With Motor	0.17	12396	3
04:40-05:05	Rotating With Motor	0.42	10610	3	17:15-17:35	Rotating With Motor	0.33	12417	3
05:05-05:10	Circ & Accumulate Surveys	0.08	10610	3	17:35-17:40	Circ & Accumulate Surveys	0.08	12417	3
05:10-05:30	Rotating With Motor	0.33	10705	3	17:40-18:05	Orienting With Motor	0.42	14447	3
05:30-05:35	Circ & Accumulate Surveys	0.08	10705	3	18:05-18:15	Rotating With Motor	0.17	12481	3
05:35-06:00	Rotating With Motor	0.42	10800	3	18:15-18:20	Circ & Accumulate Surveys - Check shot	0.08	12481	3
06:00-06:05	Circ & Accumulate Surveys	0.08	10800	3	18:20-18:45	Orienting With Motor	0.42	12501	3
06:05-06:30	Rotating With Motor	0.42	10895	3	18:45-18:55	Rotating With Motor	0.17	12512	3
06:30-06:35	Circ & Accumulate Surveys	0.08	10895	3	18:55-19:00	Circ & Accumulate Surveys	0.08	12512	3
06:35-07:00	Rotating With Motor	0.42	10991	3	19:00-19:30	Rotating With Motor	0.50	12608	3
07:00-07:10	Circ & Accumulate Surveys	0.17	10991	3	19:30-19:35	Circ & Accumulate Surveys	0.08	12608	3
07:10-07:30	Orienting With Motor	0.33	11015	3	19:35-19:40	Rotating With Motor	0.08	12618	3
07:30-07:55	Rotating With Motor	0.42	11086	3	19:40-20:10	Orienting With Motor	0.50	12653	3
07:55-08:00	Circ & Accumulate Surveys	0.08	11086	3	20:10-20:30	Rotating With Motor	0.33	12704	3
08:00-08:20	Rotating With Motor	0.33	11181	3	20:30-20:35	Circ & Accumulate Surveys	0.08	12704	3
08:20-08:25	Circ & Accumulate Surveys	0.08	11181	3	20:35-20:40	Rotating With Motor	0.08	12714	3
08:25-08:55	Rotating With Motor	0.50	11276	3	20:40-21:05	Orienting With Motor	0.42	12739	3
08:55-09:00	Circ & Accumulate Surveys	0.08	11276	3	21:05-21:20	Rotating With Motor	0.25	12799	3
09:00-09:25	Rotating With Motor	0.42	11371	3	21:20-21:25	Circ & Accumulate Surveys	0.08	12799	3
09:25-09:30	Circ & Accumulate Surveys	0.08	11371	3	21:25-21:50	Rotating With Motor	0.42	12895	3

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Day 10 - 2012/06/12

09:30-10:10	Rotating With Motor	0.67	11412	3	21:50-21:55	Circ & Accumulate Surveys	0.08	12895	3
10:10-10:15	Circ & Accumulate Surveys	0.08	11412	3	21:55-22:00	Rotating With Motor	0.08	12905	3
10:15-10:40	Rotating With Motor	0.42	11561	3	22:00-22:50	Orienting With Motor	0.83	12935	3
10:40-10:45	Circ & Accumulate Surveys	0.08	11561	3	22:50-23:10	Rotating With Motor	0.33	12990	3
10:45-11:05	Orienting With Motor	0.33	11579	3	23:10-23:15	Circ & Accumulate Surveys	0.08	12990	3
11:05-11:30	Rotating With Motor	0.42	11655	3	23:15-23:25	Rotating With Motor	0.17	13000	3
11:30-11:35	Circ & Accumulate Surveys	0.08	11655	3	23:25-24:00	Orienting With Motor	0.58	13030	3
11:35-12:00	Rotating With Motor	0.42	11751	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 20.83	ORIENTING HRS: 6.67	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 14.17	MOTOR HRS: 24.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 3.17	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 24.00	DRILL HRS: 20.83	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 8000 ft-lb	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 15000 lbf	WOB ROTATE (HI): 25000 lbf
WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 15000 lbf
RPM (ROTARY): 55 rpm	DRAG UP: 0 lbf
RPM (MOTOR): 258 rpm	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41078	MODEL: ME6770
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security	TYPE: FX54D	MTR HRS THIS DAY: 24
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?			MTR HRS TO DATE: 44.333333333333
NOZZLES: 0.591 in ² TFA			

PUMP PARAMETERS

PRESSURE ON BTM: 4500	PRESSURE OFF BTM: 3200	TOTAL FLOW RATE: 314.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 82.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 39 sec/qt	WTR LOSS: 5.6 cc/30min	PV: 12 cP	YP: 8 lb/100 ft ²	pH: 9.1
DENSITY: 9.7 lb/gal	GEL 0/10: 3.00 lb/100 ft ²	SAND: 0.05	SOLIDS: 6.7	OIL: 0	TEMP: 225 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 9920 to 13030

CUSTOMER SIGNATURE:



Weatherford®

Daily Activity Report

Drilling Services
v4.2.2674

Day 11 - 2012/06/13

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jett Hunter, Jon Ieger

DIR Trainee: Stephen Schear

GROUND ELEV: 4949 ft

START DEPTH: 13030.0 ft

PROGRESS: 433.0 ft

DAILY COST: USD\$0.00

KB ELEV: 4974 ft

END DEPTH: 13463.0 ft

AVG. ROP.: 121.0 ft/hr

PREVIOUS COST: USD\$178960.00

TOTAL COST: USD\$178960.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:10	Rotating With Motor	0.17	13084	3	02:15-02:30	Orienting With Motor	0.25	13298	3
00:10-00:15	Circ & Accumulate Surveys	0.08	13084	3	02:30-02:50	Rotating With Motor	0.33	13368	3
00:15-00:45	Rig Service	0.50	13084	3	02:50-02:55	Circ & Accumulate Surveys	0.08	13368	3
00:45-00:50	Rotating With Motor	0.08	13094	3	02:55-03:00	Rotating With Motor	0.08	13378	3
00:50-01:10	Orienting With Motor	0.33	13124	3	03:00-03:30	Orienting With Motor	0.50	13413	3
01:10-01:30	Rotating With Motor	0.33	13179	3	03:30-03:40	Rotating With Motor	0.17	13431	3
01:30-01:35	Circ & Accumulate Surveys	0.08	13179	3	03:40-03:45	Circ & Accumulate Surveys - CHECK SHOT	0.08	13431	3
01:35-02:05	Rotating With Motor	0.50	13273	3	03:45-04:15	Orienting With Motor	0.50	13451	3
02:05-02:10	Circ & Accumulate Surveys	0.08	13273	3	04:15-04:30	Rotating With Motor	0.25	13463	3
02:10-02:15	Rotating With Motor	0.08	13283	3	04:30-04:35	Circ & Accumulate Surveys	0.08	13463	3

TIME SUMMARY (hrs):

MOTOR DRILL: 3.58	ORIENTING HRS: 1.58	ROTARY DRILL: 0.00	ROTARY TORQUE: 9800 ft-lb	STRING WEIGHT: 149000 lbs
TIME DRILL: 0.00	ROTATING HRS: 2.00	MOTOR HRS: 4.08	WOB SLIDING (HI): 40000 lbf	WOB ROTATE (HI): 20000 lbf
MOTOR REAM: 0.00		TRIP: 0.00	WOB SLIDING (LO): 20000 lbf	WOB ROTATE (LO): 14000 lbf
CIRC: 0.50	ROTARY DRILL: 0.00	OTHER: 0.50	RPM (ROTARY): 55 rpm	DRAG UP: 199000 lbf
MOTOR HRS: 4.08	DRILL HRS: 3.58	TOTAL HRS: 4.58	RPM (MOTOR): 250 rpm	DRAG DN: 107000 lbf

DRILLING PARAMETERS:

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 475-41078	MODEL: ME6770
SETTING: 1.5 °	KICKPAD: No	SIZE: 4 3/4" (121mm)	LOBE CFG.: 6/7
MANFCT: Security	BIT TYPE: Security	TYPE: FX54D	MTR HRS THIS DAY: 4.0833333333333333
IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?			MTR HRS TO DATE: 48.4166666666666666
			NOZZLES: 0.591 in² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 4600	PRESSURE OFF BTM: 3700	TOTAL FLOW RATE: 273.87 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0%	SPM: 75.00
PUMP 2: TYPE: PZ-11	EFF.: 95.0%	SPM: 0.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 3.8438 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Water	VISC: 40 sec/qt	WTR LOSS: 5.6 cc/30min	PV: 12 cP	YP: 8 lb/100 ft²	pH: 9.1
DENSITY: 9.7 lb/gal	GEL 0/10: 3.00 lb/100 ft²	SAND: 0.05	SOLIDS: 6.7	OIL: 0	TEMP: 246 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill F/ 13000 to

CUSTOMER SIGNATURE:

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.2674

Day 12 - 2012/06/14

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

2012/06/14

No personnel have been recorded for this date.

GROUND ELEV: 4949 ft

START DEPTH: 13463.0 ft

PROGRESS: 0.0 ft

DAILY COST: USD\$0.00

KB ELEV: 4974 ft

END DEPTH: 13463.0 ft

AVG. ROP.: 0.0 ft/hr

PREVIOUS COST: USD\$178960.00

WORK STATUS:

(All units are imperial.)

TOTAL COST: USD\$178960.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
		0.00					0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 0.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT: 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

CUSTOMER SIGNATURE: _____

**Weatherford®**

Daily Activity Report

Drilling Services

v4.2.2674

Day 13 - 2012/06/15**FILE #:** 4026334**WELL NAME:** Camp 10N-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** Positive Pulse MWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** CAMP. / CO / USA**2012/06/15**

No personnel have been recorded for this date.

GROUND ELEV: 4949 ft**START DEPTH:** 13463.0 ft**PROGRESS:** 0.0 ft**DAILY COST:** USD\$0.00**KB ELEV:** 4974 ft**END DEPTH:** 13463.0 ft**AVG. ROP.:** 0.0 ft/hr**PREVIOUS COST:** USD\$178960.00**WORK STATUS:**

(All units are imperial.)

TOTAL COST: USD\$178960.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
		0.00					0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 0.00	ORIENTING HRS: 0.00	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.00	MOTOR HRS: 0.00
MOTOR REAM: 0.00		TRIP: 0.00
CIRC: 0.00	ROTARY DRILL: 0.00	OTHER: 0.00
MOTOR HRS: 0.00	DRILL HRS: 0.00	TOTAL HRS: 0.00

DRILLING PARAMETERS:

ROTARY TORQUE:	STRING WEIGHT 0 lbs
WOB SLIDING (HI): 0 lbf	WOB ROTATE (HI): 0 lbf
WOB SLIDING (LO): 0 lbf	WOB ROTATE (LO): 0 lbf
RPM (ROTARY):	DRAG UP: 0 lbf
RPM (MOTOR):	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA:	HOLE SIZE:	SECTION TYPE:	SURVEY TYPE:
MANFCT.:	STABILIZER:	SERIAL#:	MODEL:
SETTING:	KICKPAD:	SIZE:	MTR HRS THIS DAY:
MANFCT:	BIT TYPE:	TYPE:	NOZZLES:
IADC BIT GRADE:			LOBE CFG.:
			MTR HRS TO DATE:

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: PZ-11	EFF.: 95.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 3: TYPE:	EFF.: 100.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE:	VISC: 0 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 0 °F
LIQUID BASE:		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:**CUSTOMER SIGNATURE:**



BHA REPORTS

**Weatherford**

BHA Report

Drilling Services
v4.2.2674

BHA 1 - Build & Hold Section

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon leger, Stephen Gray

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security Bit	Security	10219816	Fx54D	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	675-43585	LN7850	7.75	0	3.35	4 1/2" REG Box	4 1/2" IF Box	25.90 ft	26.90 ft
1	Muleshoe	Weatherford	AES 675-33454	MUD PULSE	6.75	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.25 ft	30.15 ft
1	NMDC	PES	43165	NMDC	6.79	2.815	0	4 1/2" IF Pin	4 1/2" IF Box	31.05 ft	61.20 ft
1	Flex NMDC	Weatherford	DR5117	NMDC	6.72	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	27.83 ft	89.03 ft
1	X/O Sub	Weatherford	DR 5731	NMDC	6.79	2.75	1.35	4 1/2" IF Pin	XT39 Box	3.19 ft	92.22 ft
45	4" HWDP	Rig	Rig	25 STDS	4	2.75	0	XT-39 Pin	XT-39 Box	1370.48	1462.70 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/06/03 TO 2012/06/06
DEPTH IN: 800.00 ft **ANGLE IN:** 0.84 °
DEPTH OUT: 6617.00 ft **ANGLE OUT:** 6.75 °
DRILL HRS: 56.00 **BUILD:** 5.91 °
ORIENTING HRS: 25.50 **HOLE MADE:** 5817.00 ft
ROTATING HRS: 30.50 **AVG R.O.P.:** 103.88 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford
SERIAL #: 675-43585
MODEL: LN7850
LOBE CFG: 7/8
BIT TO BEND: 3.87
SETTING: 1.81 °
KICK PAD: No
STABILIZER: No
MOTOR HRS: 68.17

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	78	78	0
STROKE VOLUME:	3.8438 gal/stk	3.8438 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	569.65637 gal/min		
PUMP PRESSURE:	OFF BTM: 3200 psi	ON BTM: 2600 psi	

MUD INFORMATION

MUD TYPE: Water
DENSITY: 9 lb/gal
VISCOSITY: 34 sec/qt
WTR LOSS: 8.8 cc/30min
PLAST VISC: 7 cP
YIELD PT: 6 lb/100 ft²
LIQUID BASE: Water
TEMP: 125 °F
pH: 9
SAND: 0
SOLIDS: 4
OIL: 0
LIQUID RATE: 0 gal/min
GAS TYPE:
GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security **TYPE:** Fx54D **IADC BIT GRADE:** 4 / 3 / BT / A / X / I / BT / BHA
NOZZLES: 1.011 in² TFA

REASON FOR BHA CHANGE

ROP & Motor & Bit.

FORMATION CHARACTERISTICS

We had very slow ROP while sliding in Sussex formation. Also it was very hard to slide due to hanging up and stalling the motor out. The motor acted normal in rotation. Also build rates produced were half of what we should have been getting.

MWD COMMENTS

MWD tool performed as expected downhole temp was 168 degrees and battery consumption was 39%. a 60 degree orifice was ran with a 6 3/4" pulser. No formation related problems encountered.

SIDETRACKING PROCEDURE COMMENTS

NA



RUN SUMMARY

Average build rates experienced were 5-6 degrees per 100'. Condition of BHA looked good when pulled.

**Weatherford®**

BHA Report

BHA 2 - Curve Section

Drilling Services
v4.2.2674**FILE #:** 4026334**WELL NAME:** Camp 10N-30HZ**SERVICE CO.:** Weatherford Drilling Services**JOB TYPE:** Horizontal**COMPANY:** Anadarko Petroleum Corporation**SURVEY TYPE:** Positive Pulse MWD**RIG & NO:** Helmerich & Payne 307**SURFACE LOCATION:** Weld County**FIELD / LOCATION:** CAMP. / CO / USA**2012/06/07**

No personnel have been recorded for this date.

BHA SURVEY TYPE: Positive Pulse MWD**HOLE SIZE:** 8.75 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security	Security	12019814	FX54D	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	675-3596	LN7850	8.11	0	0	4 1/2" REG Box	4 1/2" IF Box	27.88 ft	28.88 ft
1	Muleshoe	Weatherford	AES 675-33454	MUD PULSE	6.75	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.25 ft	32.13 ft
1	NMDC	PES	43165	NMDC	6.79	2.815	0	4 1/2" IF Pin	4 1/2" IF Box	31.05 ft	63.18 ft
1	Flex NMDC	Weatherford	DR5117	NMDC	6.72	2.75	0	4 1/2" IF Pin	4 1/2" IF Box	27.83 ft	91.01 ft
1	X/O Sub	Weatherford	DR 5731	NMDC	6.79	2.75	1.35	4 1/2" IF Pin	XT39 Box	3.19 ft	94.20 ft
45	4" HWDP	Rig	Rig	25 STDS	4	2.75	0	XT-39 Pin	XT-39 Box	1370.48	1464.68 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/06/07 TO 2012/06/09
DEPTH IN: 6617.00 ft **ANGLE IN:** 8.57 °
DEPTH OUT: 7599.00 ft **ANGLE OUT:** 79.88 °
DRILL HRS: 28.25 **BUILD:** 71.31 °
ORIENTING HRS: 20.58 **HOLE MADE:** 982.00 ft
ROTATING HRS: 7.67 **AVG R.O.P.:** 34.76 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford
SERIAL #: 675-3596
MODEL: LN7850
LOBE CFG: 7/8
BIT TO BEND: 6.2
SETTING: 2.38 °
KICK PAD: No
STABILIZER: No
MOTOR HRS: 39.92

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	78	78	0
STROKE VOLUME:	3.8438 gal/stk	3.8438 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	598 gal/min		
PUMP PRESSURE:	OFF BTM: 2700 psi	ON BTM: 3500 psi	

MUD INFORMATION

MUD TYPE: Water
DENSITY: 9.7 lb/gal
VISCOSITY: 40 sec/qt
WTR LOSS: 6 cc/30min
PLAST VISC: 13 cP
YIELD PT: 11 lb/100 ft²
LIQUID BASE: Water
TEMP: 0 °F
pH: 9.3
SAND: 0.06
SOLIDS: 6.5
OIL: 2
LIQUID RATE: 0 gal/min
GAS TYPE:
GAS RATE: 0 cu ft/min

BIT INFORMATION

MANFCT: Security **TYPE:** FX54D **IADC BIT GRADE:** 1 / 1 / ? / ? / ? / ? / ? / TD
NOZZLES: 1.011 in² TFA

REASON FOR BHA CHANGE

TD Curve

FORMATION CHARACTERISTICS

All formations drilled as expected. We had a hard time sliding through the Sussex when Formation Changed over to the Sharon Springs which came in 75' earlier than expected. No problems encountered landing the curve.

MWD COMMENTS

MWD tool performed as expected downhole temp was 175 degrees and battery consumption was 62%. a 60 degree orifice was ran with a 6 3/4" pulser. No formation related problems encountered.

SIDETRACKING PROCEDURE COMMENTS

NA



RUN SUMMARY

Average build rates experienced were 14-16 degrees per 100'. Condition of BHA looked good when pulled. No problems encountered.

**Weatherford®**

BHA Report

Drilling Services
v4.2.2674

BHA 3 - Lateral 1 Section

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307

SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Jett Hunter

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

QTY	COMPONENT	MANFCT.	SERIAL #	MODEL	O.D.	I.D.	F.N.	BOT. CONN.	TOP CONN.	LEN.	C.LEN.
1	Security	Security	12019814	FX54D	6.125	0	0		3 1/2" REG Pin	1.00 ft	1.00 ft
1	Weatherford Motor	Weatherford	475-41078	ME6770	5.5	0	1.97	3 1/2" REG Box	3 1/2" IF Box	28.26 ft	29.26 ft
1	NM DuraDril Slide	Anadarko	DDSR580007	Stabilizer	4.8	2.25	1.74	3 1/2" IF Pin	3 1/2" IF Box	4.68 ft	33.94 ft
1	SAGR	Weatherford	NW20801	LWD	4.75	2.5	7.59	3 1/2" IF Pin	3 1/2" IF Box	13.90 ft	47.84 ft
1	Split IDS	Weatherford	NW20800	LWD	4.75	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	12.07 ft	59.91 ft
1	MFR	Weatherford	NW20799	LWD	4.75	2.5	0	3 1/2" IF Pin	3 1/2" IF Box	29.19 ft	89.10 ft
1	HEL LWD	WEATHERFORD	NW20802	LWD	4.75	2.5	0	3 1/2" IF Pin	3 1/2" IF Box	14.58 ft	103.68 ft
1	NM IB Stabilizer	Stabadrill	SD 20817	Non Mag	4.8	3.5	2.09	3 1/2" IF Pin	3 1/2" IF Box	5.73 ft	109.41 ft
1	NMDC	Weatherford	43546	NMDC	4.84	2.75	0	3 1/2" IF Pin	3 1/2" IF Box	30.99 ft	140.40 ft
1	X/O Sub	Weatherford	44887	X/O Sub	5.04	2.625	0	3 1/2" IF Pin	XT-39 Box	2.68 ft	143.08 ft
63	4" Drill Pipe	Rig	Rig	21 STDS	4	0	0	XT-39 Pin	XT-39 Box	1992.49	2135.57 ft
1	Aggitator	NOV	Rig	Aggitator	4.96	0	0	XT-39 Pin	XT-39 Box	22.45 ft	2158.02 ft
135	4" Drill Pipe	Rig	RIG	45 STDS	4	3.5	0	3 1/2 XT39 Pin	3 1/2 XT39 Box	4267.92	6425.94 ft
75	4" HWDP	Rig	Rig	25 STDS	4	2.75	0	XT-39 Pin	XT-39 Box	2284.13	8710.07 ft

(O.D. units are in; I.D. units are in; FNeck units are ft)

GENERAL INFORMATION

DATES RUN: 2012/06/10 TO 2012/06/13
DEPTH IN: 7599.00 ft **ANGLE IN:** 91.67 °
DEPTH OUT: 13463.00 ft **ANGLE OUT:** 88.77 °
DRILL HRS: 41.92 **BUILD:** -2.90 °
ORIENTING HRS: 13.42 **HOLE MADE:** 7281.00 ft
ROTATING HRS: 28.50 **AVG R.O.P.:** 173.69 ft/hr

MOTOR INFORMATION

MANFCT. Weatherford **SETTING:** 1.50 °
SERIAL #: 475-41078 **KICK PAD:** No
MODEL: ME6770 **STABILIZER:** No
LOBE CFG: 6/7 **MOTOR HRS:** 48.42
BIT TO BEND: 5.75

PUMP INFORMATION

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	95.0%	95.0%	100.0%
S.P.M.:	75	0	0
STROKE VOLUME:	3.8438 gal/stk	0.0 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	273.87326 gal/min		
PUMP PRESSURE:	OFF BTM: 3700 psi	ON BTM: 4600 psi	

MUD INFORMATION

MUD TYPE: Water **LIQUID BASE:** Water
DENSITY: 9.7 lb/gal **TEMP:** 246 °F
VISCOSITY: 40 sec/qt **pH:** 9.1
WTR LOSS: 5.6 cc/30min **SAND:** 0.05 **LIQUID RATE:** 0 gal/min
PLAST VISC: 12 cP **SOLIDS:** 6.7 **GAS TYPE:**
YIELD PT: 8 lb/100 ft² **OIL:** 0 **GAS RATE:** 0 cu ft/min

BIT INFORMATION

MANFCT: Security **TYPE:** FX54D **IADC BIT GRADE:** ?/?/?/?/?/?/?/?
NOZZLES: 0.591 in² TFA

REASON FOR BHA CHANGE

FORMATION CHARACTERISTICS



—MWD COMMENTS—

—SIDETRACKING PROCEDURE COMMENTS—

—RUN SUMMARY—



SLIDE REPORT



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 1 - 2012/06/03 TO 2012/06/06

FILE #: 4026334

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 10N-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Stephen Gray

BHA NO: 1	DATES RUN: 2012/06/03 TO 2012/06/06	SECTION: Build & Ho	TOOLFACE OFFSET: 202.5 °	SURVEY OFFSET: 60 ft
MOTOR SETTING: 1.81 °	KICKPAD: No	STABILIZER: No	MODEL: LN7850	SERIAL NO: 675-43585
			BHA SURVEY TYPE: Positive Pulse MWD	

(Distances are shown in feet.)

BIT		SURVEY					----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF		FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
1653.00	379.00	1593.00	0.84	349.60	170M		1653.00	1659.00	6.00	1659.00	2032.00	373.00	0.00	0.00	0.00	
2032.00	285.00	1972.00	1.32	179.89	360 M		2032.00	2038.00	6.00	2038.00	2317.00	279.00	6.00	0.08	0.13	
2317.00	664.00	2257.00	1.50	32.63	212 M		2317.00	2325.00	8.00	2325.00	2981.00	656.00	6.00	0.03	0.06	
2981.00	284.00	2921.00	1.23	198.87	20 M		2981.00	2988.00	7.00	2988.00	3265.00	277.00	8.00	-0.03	-0.04	
3265.00	95.00	3205.00	0.66	229.98	320 M		3265.00	3270.00	5.00	3270.00	3360.00	90.00	7.00	-0.08	-0.20	
3360.00	95.00	3300.00	1.33	270.25	310 M		3360.00	3365.00	5.00	3365.00	3455.00	90.00	5.00	0.13	0.71	
3455.00	95.00	3395.00	1.95	279.59	310 M		3455.00	3463.00	8.00	3463.00	3550.00	87.00	5.00	0.12	0.65	
3550.00	95.00	3490.00	2.61	279.32	320 M		3550.00	3565.00	15.00	3565.00	3645.00	80.00	8.00	0.08	0.69	
3645.00	95.00	3585.00	4.41	294.59	290 M		3645.00	3656.00	11.00	3656.00	3740.00	84.00	15.00	0.12	1.89	
3740.00	94.00	3680.00	5.72	292.78	10L		3740.00	3752.00	12.00	3752.00	3834.00	82.00	11.00	0.12	1.38	
3834.00	190.00	3774.00	5.95	283.62	20R		3834.00	3854.00	20.00	3854.00	4024.00	170.00	12.00	0.02	0.24	
4024.00	285.00	3964.00	5.97	286.09	20 R		4024.00	4039.00	15.00	4039.00	4309.00	270.00	20.00	0.00	0.01	
4309.00	285.00	4249.00	5.36	284.03	10 R		4309.00	4329.00	20.00	4329.00	4594.00	265.00	15.00	-0.04	-0.21	
4594.00	190.00	4534.00	5.88	283.64	10 R		4594.00	4614.00	20.00	4614.00	4784.00	170.00	20.00	0.03	0.18	
4784.00	95.00	4724.00	7.10	293.85	45 L		4784.00	4799.00	15.00	4799.00	4879.00	80.00	20.00	0.06	0.64	
4879.00	191.00	4819.00	6.81	287.26	45 L		4879.00	4899.00	20.00	4899.00	5070.00	171.00	15.00	-0.02	-0.31	
5070.00	94.00	5010.00	5.93	272.58	45 R		5070.00	5090.00	20.00	5090.00	5164.00	74.00	20.00	-0.04	-0.46	
5164.00	96.00	5104.00	6.61	276.97	20R		5164.00	5187.00	23.00	5187.00	5260.00	73.00	20.00	0.03	0.72	
5260.00	188.00	5200.00	7.44	279.65	45R		5260.00	5280.00	20.00	5280.00	5448.00	168.00	23.00	0.04	0.86	
5448.00	95.00	5388.00	5.47	285.39	HS		5448.00	5469.00	21.00	5469.00	5543.00	74.00	20.00	-0.10	-1.05	
5543.00	104.00	5483.00	6.74	281.94	20R		5543.00	5563.00	20.00	5563.00	5647.00	84.00	21.00	0.06	1.34	
5647.00	85.00	5587.00	5.35	281.20	20 R		5647.00	5682.00	35.00	5682.00	5732.00	50.00	20.00	-0.07	-1.34	
5732.00	724.00	5672.00	4.71	282.36	HS		5732.00	5757.00	25.00	5757.00	6456.00	699.00	25.00	-0.03	-0.75	
6456.00	40.00	6396.00	1.85	288.71	360		6456.00	6491.00	35.00	6491.00	6496.00	5.00	35.00	-0.08	-0.40	
6496.00	26.00	6436.00	0.00	0.00	360 M		6496.00	6522.00	26.00	6522.00	6522.00	0.00	0.00	0.00	-4.63	

(Distances are shown in feet.)

Slide Sheet Report

Drilling Services

v4.2.2674

BHA 1 - 2012/06/03 TO 2012/06/06

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
6522.00	32.00	6462.00	3.02	332.36	360M	6522.00	6554.00	32.00	6554.00	6554.00	0.00	6.00	0.50	11.62	
6554.00	31.00	6494.00	4.71	348.44	HS	6554.00	6585.00	31.00	6585.00	6585.00	0.00	29.00	0.06	5.28	
6585.00	33.00	6525.00	6.75	354.24	HS	6585.00	6617.00	32.00	6617.00	6618.00	1.00	29.00	0.07	6.58	

Totals:	513.00 ft	4452.00 ft
Percentages:	10.3%	89.7%
Time:	25.50 hrs	30.50 hrs
Percentages:	45.5%	54.5%



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 2 - 2012/06/07 TO 2012/06/09

FILE #: 4026334

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 10N-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: CAMP. / CO / USA

2012/06/07 No personnel have been recorded for this date.

BHA NO: 2	DATES RUN: 2012/06/07 TO 2012/06/09	SECTION: Curve	TOOLFACE OFFSET: 110.7 °	SURVEY OFFSET: 60 ft
MOTOR SETTING: 2.38 °	KICKPAD: No	STABILIZER: No	MODEL: LN7850	SERIAL NO: 675-3596
BHA SURVEY TYPE: Positive Pulse MWD				

(Distances are shown in feet.)

BIT DEPTH DRILLED	SURVEY					----- ORIENTING -----			----- ROTATING -----			SLIDE SEEN	BUR /ft	BUR /100ft	COMMENTS
	DEPTH	INC	AZM	TF		FROM	TO	FEET	FROM	TO	FEET				
6617.00	33.00	6557.00	8.57	355.80	10R	6617.00	6649.00	32.00	6649.00	6650.00	1.00	0.00	0.00	0.00	
6650.00	32.00	6590.00	10.00	358.15	HS	6650.00	6682.00	32.00	6682.00	6682.00	0.00	0.00	0.00	4.33	
6682.00	32.00	6622.00	12.99	359.25	HS	6682.00	6714.00	32.00	6714.00	6714.00	0.00	5.00	0.60	9.34	
6714.00	95.00	6654.00	15.54	8.78	45L	6714.00	6745.00	31.00	6745.00	6809.00	64.00	31.00	0.08	7.97	
6809.00	32.00	6749.00	25.97	4.49	20L	6809.00	6841.00	32.00	6841.00	6841.00	0.00	91.00	0.11	10.98	
6841.00	48.00	6781.00	25.22	3.09	HS	6841.00	6872.00	31.00	6872.00	6889.00	17.00	0.00	0.00	-2.34	
6889.00	33.00	6829.00	25.69	0.73	HS	6889.00	6904.00	15.00	6904.00	6922.00	18.00	20.00	0.02	0.98	
6922.00	24.00	6862.00	30.30	358.29	HS	6922.00	6935.00	13.00	6935.00	6946.00	11.00	33.00	0.14	13.97	
6946.00	40.00	6886.00	33.25	357.39	HS	6946.00	6967.00	21.00	6967.00	6986.00	19.00	10.00	0.29	12.29	
6986.00	44.00	6926.00	35.56	357.96	HS	6986.00	6999.00	13.00	6999.00	7030.00	31.00	19.00	0.12	5.78	
7030.00	54.00	6970.00	40.22	356.40	HS	7030.00	7062.00	32.00	7062.00	7084.00	22.00	30.00	0.16	10.59	
7084.00	29.00	7024.00	45.39	356.44	HS	7084.00	7093.00	9.00	7093.00	7113.00	20.00	13.00	0.40	9.57	
7113.00	24.00	7053.00	45.78	355.94	15 L	7113.00	7125.00	12.00	7125.00	7137.00	12.00	23.00	0.02	1.34	
7137.00	43.00	7077.00	48.47	356.26	HS	7137.00	7157.00	20.00	7157.00	7180.00	23.00	9.00	0.30	11.21	
7180.00	141.00	7120.00	50.41	356.34	HS	7180.00	7188.00	8.00	7188.00	7321.00	133.00	16.00	0.12	4.51	
7321.00	32.00	7261.00	57.43	357.47	HS	7321.00	7346.00	25.00	7346.00	7353.00	7.00	33.00	0.21	4.98	
7353.00	36.00	7293.00	57.42	357.58	HS	7353.00	7378.00	25.00	7378.00	7389.00	11.00	0.00	0.00	-0.03	
7389.00	40.00	7329.00	58.55	357.23	HS	7389.00	7409.00	20.00	7409.00	7429.00	20.00	8.00	0.14	3.14	
7429.00	21.00	7369.00	62.80	356.63	HS	7429.00	7441.00	12.00	7441.00	7450.00	9.00	33.00	0.13	10.63	
7450.00	35.00	7390.00	66.38	357.18	HS	7450.00	7472.00	22.00	7472.00	7485.00	13.00	10.00	0.36	17.05	
7485.00	31.00	7425.00	69.64	358.16	HS	7485.00	7504.00	19.00	7504.00	7516.00	12.00	19.00	0.17	9.31	
7516.00	32.00	7456.00	7444.00	72.65	HS	7516.00	7536.00	20.00	7536.00	7548.00	12.00	18.00	409.69	23788.2	
7548.00	29.00	7488.00	76.23	358.07	HS	7548.00	7567.00	19.00	7567.00	7577.00	10.00	19.00	-387.78	-	
7577.00	22.00	7517.00	79.88	357.98	HS	7577.00	7599.00	22.00	7599.00	7599.00	0.00	17.00	0.21	12.59	



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 2 - 2012/06/07 TO 2012/06/09

Totals:	517.00 ft	465.00 ft
Percentages:	52.6%	47.4%
<hr/>		
Time:	20.58 hrs	7.67 hrs
Percentages:	72.9%	27.1%



Slide Sheet Report

Drilling Services

v4.2.2674

BHA 3 - 2012/06/10 TO 2012/06/13

FILE #: 4026334

JOB TYPE: Horizontal

RIG & NO: Helmerich & Payne 307

WELL NAME: Camp 10N-30HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld County

SERVICE CO.: Weatherford Drilling Services

SURVEY TYPE: Positive Pulse MWD

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Jett Hunter

BHA NO: 3	DATES RUN: 2012/06/10 TO 2012/06/13	SECTION: Lateral 1	TOOLFACE OFFSET: 168.0 °	SURVEY OFFSET: 54 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: ME6770	SERIAL NO: 475-41078
				BHA SURVEY TYPE: HEL LWD

(Distances are shown in feet.)

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
7716.00	91.00	7662.00	91.67	356.77	90 L	7716.00	7726.00	10.00	7726.00	7807.00	81.00	0.00	0.00	0.00	
7807.00	264.00	7753.00	91.42	356.04	90L	7807.00	7817.00	10.00	7817.00	8071.00	254.00	10.00	-0.03	-0.27	
8071.00	91.00	8017.00	91.06	354.57	180	8071.00	8079.00	8.00	8079.00	8162.00	83.00	10.00	-0.04	-0.14	
8162.00	182.00	8108.00	90.12	354.85	180	8162.00	8172.00	10.00	8172.00	8344.00	172.00	8.00	-0.12	-1.03	
8344.00	91.00	8290.00	90.62	356.53	160L	8344.00	8352.00	8.00	8352.00	8435.00	83.00	10.00	0.05	0.27	
8435.00	92.00	8381.00	89.63	354.83	180	8435.00	8443.00	8.00	8443.00	8527.00	84.00	8.00	-0.12	-1.09	
8527.00	91.00	8473.00	90.74	355.54	160	8527.00	8538.00	11.00	8538.00	8618.00	80.00	8.00	0.14	1.21	
8618.00	187.00	8564.00	89.26	356.24	160L	8618.00	8626.00	8.00	8626.00	8805.00	179.00	11.00	-0.13	-1.63	
8805.00	95.00	8751.00	84.44	356.73	HS	8805.00	8820.00	15.00	8820.00	8900.00	80.00	8.00	-0.60	-2.58	
8900.00	95.00	8846.00	84.94	355.82	HS	8900.00	8920.00	20.00	8920.00	8995.00	75.00	15.00	0.03	0.53	
8995.00	95.00	8941.00	85.95	354.21	10R	8995.00	9015.00	20.00	9015.00	9090.00	75.00	20.00	0.05	1.06	
9090.00	95.00	9036.00	87.41	353.53	40R	9090.00	9115.00	25.00	9115.00	9185.00	70.00	20.00	0.07	1.54	
9185.00	199.00	9131.00	90.09	354.92	90 R	9185.00	9205.00	20.00	9205.00	9384.00	179.00	25.00	0.11	2.82	
9384.00	190.00	9330.00	89.94	355.98	60R	9384.00	9414.00	30.00	9414.00	9574.00	160.00	20.00	-0.01	-0.08	
9574.00	190.00	9520.00	92.22	359.69	120R	9574.00	9589.00	15.00	9589.00	9764.00	175.00	30.00	0.08	1.20	
9764.00	95.00	9710.00	92.65	0.45	LS	9764.00	9774.00	10.00	9774.00	9859.00	85.00	15.00	0.03	0.23	
9859.00	286.00	9805.00	91.23	0.58	130L	9859.00	9874.00	15.00	9874.00	10145.00	271.00	10.00	-0.14	-1.49	
10145.00	190.00	10091.00	88.95	357.38	60 R	10145.00	10165.00	20.00	10165.00	10335.00	170.00	15.00	-0.15	-0.80	
10335.00	190.00	10281.00	89.03	357.03	60 R	10335.00	10365.00	30.00	10365.00	10525.00	160.00	20.00	0.00	0.04	
10525.00	466.00	10471.00	91.11	358.82	130 R	10525.00	10545.00	20.00	10545.00	10991.00	446.00	30.00	0.07	1.09	
10991.00	570.00	10937.00	87.84	359.95	45R	10991.00	11015.00	24.00	11015.00	11561.00	546.00	20.00	-0.16	-0.70	
11561.00	190.00	11507.00	89.32	0.00	70R	11561.00	11579.00	18.00	11579.00	11751.00	172.00	24.00	0.06	0.26	
11751.00	286.00	11697.00	88.58	1.46	20R	11751.00	11761.00	10.00	11761.00	12037.00	276.00	18.00	-0.04	-0.39	
12037.00	95.00	11983.00	89.94	4.17	90L	12037.00	12052.00	15.00	12052.00	12132.00	80.00	10.00	0.14	0.48	
12132.00	95.00	12078.00	89.94	4.11	90L	12132.00	12147.00	15.00	12147.00	12227.00	80.00	15.00	0.00	0.00	

Slide Sheet Report

BHA 3 - 2012/06/10 TO 2012/06/13

BIT		SURVEY				----- ORIENTING -----			----- ROTATING -----			SLIDE	BUR	BUR	COMMENTS
DEPTH	DRILLED	DEPTH	INC	AZM	TF	FROM	TO	FEET	FROM	TO	FEET	SEEN	/ft	/100ft	
12227.00	96.00	12173.00	89.82	3.03	70L	12227.00	12262.00	35.00	12262.00	12323.00	61.00	15.00	-0.01	-0.13	
12323.00	94.00	12269.00	89.51	2.21	90I	12323.00	12348.00	25.00	12348.00	12417.00	69.00	35.00	-0.01	-0.32	
12417.00	201.00	12363.00	90.00	3.02	60L	12417.00	12437.00	20.00	12437.00	12618.00	181.00	25.00	0.02	0.52	
12618.00	96.00	12564.00	89.44	358.99	60 L	12618.00	12653.00	35.00	12653.00	12714.00	61.00	20.00	-0.03	-0.28	
12714.00	191.00	12660.00	90.55	355.15	90 L	12714.00	12739.00	25.00	12739.00	12905.00	166.00	35.00	0.03	1.16	
12905.00	95.00	12851.00	92.28	354.73	130 L	12905.00	12935.00	30.00	12935.00	13000.00	65.00	25.00	0.07	0.91	
13000.00	94.00	12946.00	89.14	352.99	60 L	13000.00	13030.00	30.00	13030.00	13094.00	64.00	30.00	-0.10	-3.31	
13094.00	189.00	13040.00	89.26	349.77	65 L	13094.00	13124.00	30.00	13124.00	13283.00	159.00	30.00	0.00	0.13	
13283.00	95.00	13229.00	87.16	346.12	HS	13283.00	13298.00	15.00	13298.00	13378.00	80.00	30.00	-0.07	-1.11	
13378.00	53.00	13324.00	88.41	345.22	60 R	13378.00	13413.00	35.00	13413.00	13431.00	18.00	15.00	0.08	1.32	
13431.00	0.00	13377.00	88.77	345.29	90 R	13431.00	13451.00	20.00	13451.00	13431.00	-20.00	0.00	0.00	0.68	

Totals:	695.00 ft	5020.00 ft
Percentages:	12.2%	87.8%
Time:	13.42 hrs	28.50 hrs
Percentages:	32.0%	68.0%



MOTOR REPORTS

**Weatherford®**

Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 1 - Build & Hold Section, Motor #675-43585

FILE #: 4026334

WELL NAME: Camp 10N-30HZ

SERVICE CO.: Weatherford Drilling Services

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: Positive Pulse MWD

RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County

FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca

MWD Supervisor: Jon Ieger, Stephen Gray

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 1
DATE IN: 2012/06/03
DATE OUT: 2012/06/06
ANGLE IN: 0.84 °
ANGLE OUT: 6.75 °
ORIENTING HRS: 25.50
START DEPTH: 800.00 ft
END DEPTH: 6617.00 ft
HOLE MADE: 5817.00 ft
AVG ROP: 103.88 ft/hr
ROTATING HRS: 30.50

MOTOR INFORMATION:

MANFCT: Weatherford
SERIAL #: 675-43585
MODEL: LN7850
LOBE: 7/8
SETTING: 1.81 °
BIT TO BEND: 3.87 ft
KICKPAD: No
STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: Fx54D
BIT PRESS DROP: 0.00 psi
MTR PRESS DROP: 0.00 psi
IADC BIT GRADE: 4 / 3 / BT / A / X / I / BT / BHA
TOTAL FLOW RATE: 569.66 gal/min
NOZZLES: 1.011 in² TFA
PUMP PRESS: (OFF) 3200.00 psi
(ON) 2600.00 psi

MUD INFORMATION:

MUD TYPE: Water
DENSITY: 9 lb/gal
SAND: 0.000
SOLIDS: 4.000
OIL: 0.000
TEMP: 125 °F
LIQUID BASE: Water
VISCOSITY: 34 sec/qt
WATER LOSS: 8.80 cc/30min
PLASTIC VISC: 7.0 cP
YIELD POINT: 6.0 lb/100 ft²
pH: 9.0
LIQUID RATE: 0.00 gal/min
GAS TYPE:
GAS RATE: 0.00 cu ft/min
 (All units are imperial.)

TIME INFORMATION:

CIRCULATING HOURS: 12.17
REAMING HOURS: 0.00
TIME DRILL HOURS: 0.00
MOTOR DRILL HOURS: 56.00
MOTOR HOURS THIS RUN: 68.17
PREVIOUS HOURS: 0.00
TOTAL MOTOR HOURS: 68.17
TOTAL BRT HOURS: 68.17

MOTOR EVALUATION COMMENTS:

WFT Motor SN (675-43585) This Motor when pulled had a 1 1/2" of play in the bit housing & 1/4" of squat when doing a squat test. Motor had 56 drill hrs and total of 68 run hrs on it, the 56 drill hrs were hard hrs this motor was ran to the max and then some do to company mans request we ran as much as 40k on bit and 1250 diff in rotation. 598 gpm @ 167 RPM. Note this motors Max Weight limit is only 35k. The Motor was spiking when Trying to slide with less than 5k Weight on Bit.

REASON FOR BHA CHANGE:

ROP & Motor & Bit.

COMMENTS FROM LAST DAY RAN:

Drill F/ 6354'

Let angle drop out of hole and kick off early per drilling engineers request do to slow ROP while sliding.



Weatherford®

Motor / RSS Evaluation Report

Drilling Services
v4.2.2674

BHA 1 - Build & Hold Section, Motor #675-43585

We had very slow ROP while sliding in Sussex formation. Also it was very hard to slide due to hanging up and stalling the motor out. The motor acted normal in rotation. Also build rates produced were half of what we should have been getting.

POOH due to slow ROP. P/U 2.38 fixed housing motor.

**Weatherford®**

Motor / RSS Evaluation Report

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BHA 2 - Curve Section, Motor #675-3596

FILE #: 4026334 WELL NAME: Camp 10N-30HZ SERVICE CO.: Weatherford Drilling Services
 JOB TYPE: Horizontal COMPANY: Anadarko Petroleum Corporation SURVEY TYPE: Positive Pulse MWD
 RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County FIELD / LOCATION: CAMP. / CO / USA

2012/06/07 No personnel have been recorded for this date.

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #: 2 START DEPTH: 6617.00 ft
 DATE IN: 2012/06/07 END DEPTH: 7599.00 ft
 DATE OUT: 2012/06/09 HOLE MADE: 982.00 ft
 ANGLE IN: 8.57 ° AVG ROP: 34.76 ft/hr
 ANGLE OUT: 79.88 °
 ORIENTING HRS: 20.58 ROTATING HRS: 7.67

MOTOR INFORMATION:

MANFCT: Weatherford
 SERIAL #: 675-3596
 MODEL: LN7850
 LOBE: 7/8 BIT TO BEND: 6.2 ft
 SETTING: 2.38 ° KICKPAD: No
 STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: FX54D IADC BIT GRADE: 1 / 1 / ? / ? / ? / ? / ? / TD
 BIT PRESS DROP: 0.00 psi TOTAL FLOW RATE: 598.00 gal/min PUMP PRESS: (OFF) 2700.00 psi
 MTR PRESS DROP: 0.00 psi NOZZLES: 1.011 in² TFA (ON) 3500.00 psi

MUD INFORMATION:

MUD TYPE: Water LIQUID BASE: Water (All units are imperial.)
 DENSITY: 10 lb/gal VISCOSITY: 40 sec/qt
 SAND: 0.060 WATER LOSS: 6.00 cc/30min LIQUID RATE: 0.00 gal/min
 SOLIDS: 6.500 PLASTIC VISC: 13.0 cP GAS TYPE:
 OIL: 2.000 YIELD POINT: 11.0 lb/100 ft² GAS RATE: 0.00 cu ft/min
 TEMP: 0 °F pH: 9.3

TIME INFORMATION:

CIRCULATING HOURS: 11.67
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 28.25
 MOTOR HOURS THIS RUN: 39.92
 PREVIOUS HOURS: 0.00
 TOTAL MOTOR HOURS: 39.92
 TOTAL BRT HOURS: 39.92

MOTOR EVALUATION COMMENTS:

Weatherford Hyper line Motor SN (675-3596) 7850. Performed as expected. Total Motor hours were 39 run hrs & 28 Drill hrs. The motor looked good when pulled and passed squat test when tested motor didn't have any play. Motor did see some spiking do to sticky formations grabbing the BHA and then letting it fall free causing some spiking other than that motor ran great and did a good job drilling this Curve.

REASON FOR BHA CHANGE:

TD Curve

COMMENTS FROM LAST DAY RAN:

BHA Looked good when pulled.

Pre. Pair BHA #3. Wait on orders.

**Weatherford**

Motor / RSS Evaluation Report

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BHA 3 - Lateral 1 Section, Motor #475-41078

FILE #: 4026334 WELL NAME: Camp 10N-30HZ SERVICE CO.: Weatherford Drilling Services
 JOB TYPE: Horizontal COMPANY: Anadarko Petroleum Corporation SURVEY TYPE: Positive Pulse MWD
 RIG & NO: Helmerich & Payne 307 SURFACE LOCATION: Weld County FIELD / LOCATION: CAMP. / CO / USA

DIR Supervisor: Josh Monroe, Charles Apodaca
 MWD Supervisor: Jon leger, Jett Hunter

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #: 3 START DEPTH: 7599.00 ft
 DATE IN: 2012/06/10 END DEPTH: 13463.00 ft
 DATE OUT: 2012/06/13 HOLE MADE: 7281.00 ft
 ANGLE IN: 91.67 ° AVG ROP: 173.69 ft/hr
 ANGLE OUT: 88.77 °
 ORIENTING HRS: 13.42 ROTATING HRS: 28.50

MOTOR INFORMATION:

MANFCT: Weatherford
 SERIAL #: 475-41078
 MODEL: ME6770
 LOBE: 6/7 BIT TO BEND: 5.75 ft
 SETTING: 1.50 ° KICKPAD: No
 STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: FX54D IADC BIT GRADE: ? / ? / ? / ? / ? / ? / ? / ?
 BIT PRESS DROP: 0.00 psi TOTAL FLOW RATE: 273.87 gal/min PUMP PRESS: (OFF) 3700.00 psi
 MTR PRESS DROP: 0.00 psi NOZZLES: 0.591 in² TFA (ON) 4600.00 psi

MUD INFORMATION:

MUD TYPE: Water LIQUID BASE: Water (All units are imperial.)
 DENSITY: 10 lb/gal VISCOSITY: 40 sec/qt
 SAND: 0.050 WATER LOSS: 5.60 cc/30min LIQUID RATE: 0.00 gal/min
 SOLIDS: 6.700 PLASTIC VISC: 12.0 cP GAS TYPE:
 OIL: 0.000 YIELD POINT: 8.0 lb/100 ft² GAS RATE: 0.00 cu ft/min
 TEMP: 246 °F pH: 9.1

TIME INFORMATION:

CIRCULATING HOURS: 6.50
 REAMING HOURS: 0.00
 TIME DRILL HOURS: 0.00
 MOTOR DRILL HOURS: 41.92
 MOTOR HOURS THIS RUN: 48.42
 PREVIOUS HOURS: 0.00
 TOTAL MOTOR HOURS: 48.42
 TOTAL BRT HOURS: 48.42

MOTOR EVALUATION COMMENTS:**REASON FOR BHA CHANGE:****COMMENTS FROM LAST DAY RAN:**

Drill F/ 13000 to