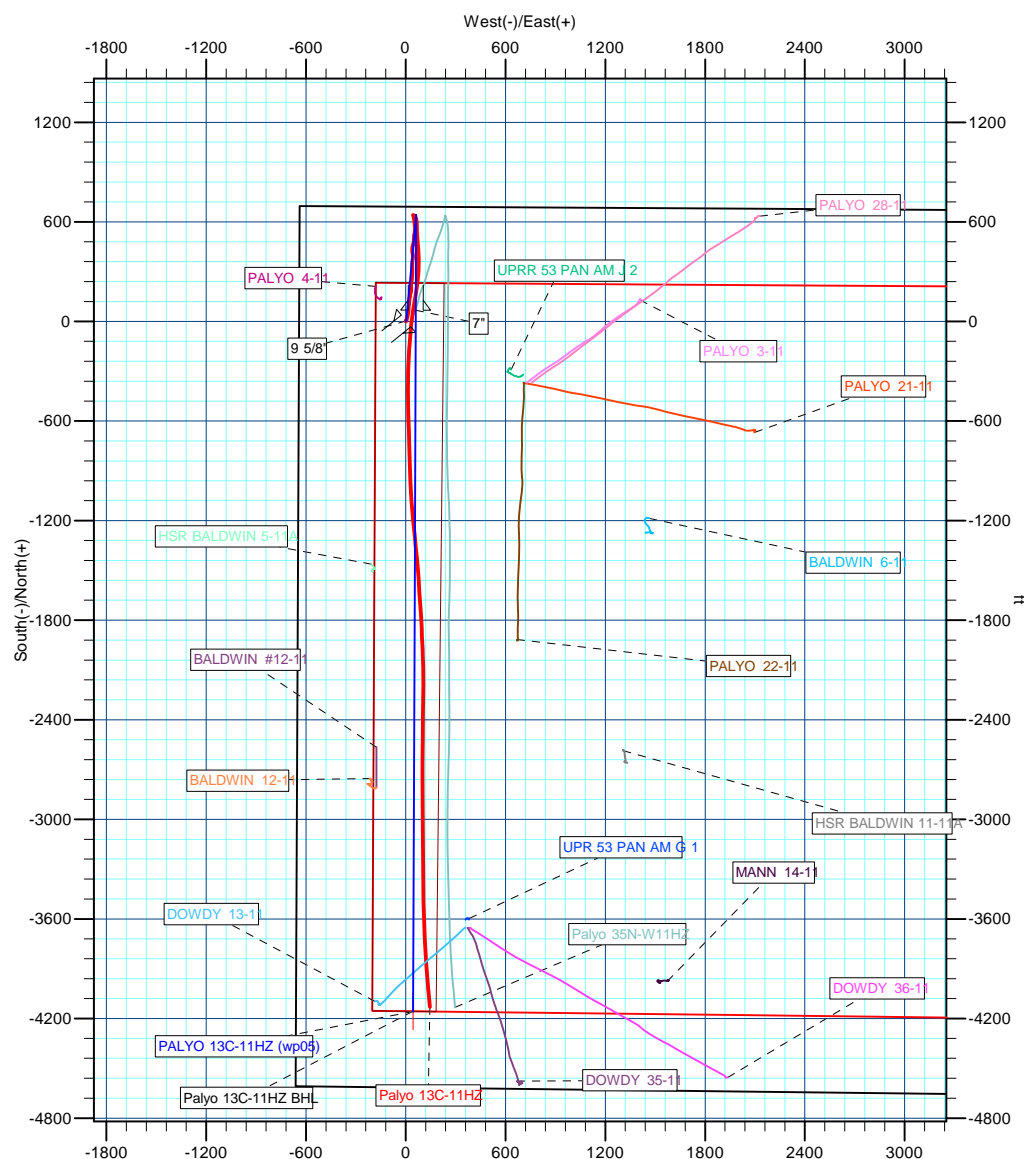




Weatherford®



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



Azimuths to True North
 Magnetic North: 8.69°
 Magnetic Field
 Strength: 52946.8snT
 Dip Angle: 66.85°
 Date: 2/16/2012
 Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_PALYO 4-11HZ Pad
Well: Palyo 13C-11HZ
Wellbore: Palyo 13C-11HZ
Section:
SHL:
Design: PALYO 13C-11HZ (wp05)
Latitude: 40.158587
Longitude: -104.638166
GL: 4856.00
KB: 16' RKB + 4856' GL @ 4872.00ft (XTREME 23)

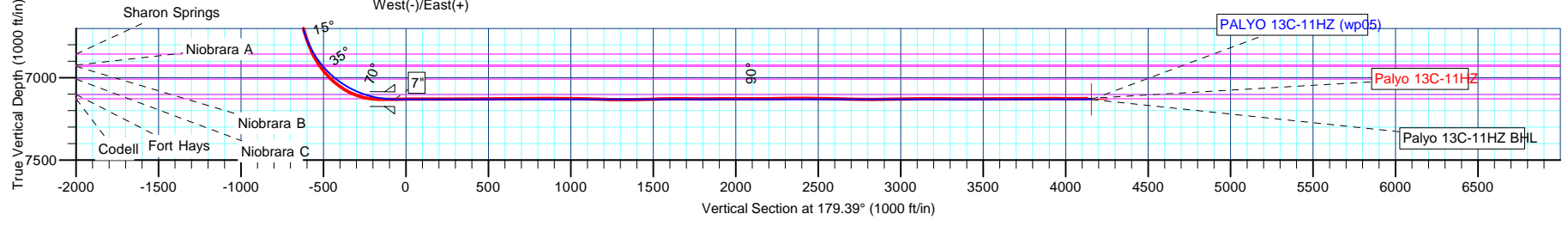
WELL DETAILS: Palyo 13C-11HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4856.00 Latitude	Longitude	Slot
0.00	0.00	1301787.01	3240880.63	40.158587	-104.638166	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
851.00	0.18	50.54	850.98	3.30	2.54	0.00	0.00	-3.27
1100.00	0.18	50.54	1099.98	3.80	3.14	0.00	0.00	-3.76
1450.82	7.14	5.33	1449.87	25.89	5.60	2.00	-46.25	-25.83
6240.97	7.14	5.33	6202.86	618.87	60.93	0.00	0.00	-618.18
6598.07	0.00	0.00	6559.04	641.00	63.00	2.00	180.00	-640.29
7498.08	90.00	180.22	7132.00	68.05	60.78	10.00	180.22	-67.39
1722.59	90.00	180.22	7132.00	-4156.44	44.45	0.00	0.00	4156.67

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Palyo 13C-11HZ BHL	7132.00	-4156.44	44.45	40.147177	-104.638007	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3950.00	3970.49	Parkman
4433.00	4457.27	Sussex
6857.00	6911.42	Sharon Springs
6924.00	6993.74	Niobrara A
6931.00	7002.88	Niobrara B
7009.00	7115.59	Niobrara C
7102.00	7311.85	Fort Hays
7128.00	7430.34	Codell

CASING DETAILS			
TVD	MD	Name	Size
894.30	894.32	9 5/8"	9-5/8
7132.00	7498.08	7"	7





FINAL SURVEYS

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_PALYO 4-11HZ Pad

Palyo 13C-11HZ

Palyo 13C-11HZ

Design: Palyo 13C-11HZ

Standard Survey Report

22 October, 2012

Andarko Petroleum Corporation

Survey Report

Company: US ROCKIES REGION PLANNING	Local Co-ordinate Reference: Well Palyo 13C-11HZ
Project: COLORADO NORTHERN ZONE - 83	TVD Reference: 16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site: WELD_PALYO 4-11HZ Pad	MD Reference: 16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well: Palyo 13C-11HZ	North Reference: True
Wellbore: Palyo 13C-11HZ	Survey Calculation Method: Minimum Curvature
Design: Palyo 13C-11HZ	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_PALYO 4-11HZ Pad			
Site Position:	Northing: 1,301,786.95 usft	Latitude: 40.158586	
From: Lat/Long	Easting: 3,240,910.54 usft	Longitude: -104.638059	
Position Uncertainty: 0.00 ft	Slot Radius: 13-3/16 "	Grid Convergence: 0.56 °	

Well Palyo 13C-11HZ			
Well Position	Northing: 1,301,787.01 usft	Latitude: 40.158587	
+N/-S 0.00 ft	Easting: 3,240,880.64 usft	Longitude: -104.638166	
+E/-W 0.00 ft	Wellhead Elevation: ft	Ground Level: 4,856.00 ft	
Position Uncertainty 0.00 ft			

Wellbore Palyo 13C-11HZ					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2012	8.68	66.85	52,947

Design Palyo 13C-11HZ				
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	179.35

Survey Program		Date 10/22/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
116.00	851.00	Survey #1 (Palyo 13C-11HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S
1,005.00	11,725.00	Survey #2 (Palyo 13C-11HZ)	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	0.00
116.00	0.42	357.20	116.00	0.42	-0.02	-0.42	0.36	0.36	0.00	
216.00	0.39	338.83	216.00	1.11	-0.16	-1.11	0.13	-0.03	-18.37	
316.00	0.47	354.51	315.99	1.83	-0.32	-1.84	0.14	0.08	15.68	
416.00	0.48	57.49	415.99	2.47	-0.01	-2.47	0.50	0.01	62.98	
516.00	0.52	54.23	515.99	2.96	0.71	-2.95	0.05	0.04	-3.26	
616.00	0.31	96.21	615.98	3.19	1.35	-3.18	0.36	-0.21	41.98	
716.00	0.26	94.43	715.98	3.15	1.84	-3.13	0.05	-0.05	-1.78	
816.00	0.38	72.27	815.98	3.23	2.39	-3.20	0.17	0.12	-22.16	
851.00	0.18	50.54	850.98	3.30	2.54	-3.27	0.64	-0.57	-62.09	

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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)	
TIE ON										
1,005.00	0.40	238.43	1,004.98	3.17	2.27	-3.15	0.38	0.14	-111.76	
FIRST MWD SURVEY										
1,099.00	1.00	39.00	1,098.98	3.64	2.50	-3.61	1.47	0.64	170.82	
1,192.00	2.26	18.02	1,191.94	6.01	3.58	-5.97	1.48	1.35	-22.56	
1,286.00	4.04	21.66	1,285.79	10.85	5.38	-10.79	1.90	1.89	3.87	
1,442.00	5.36	10.43	1,441.27	23.13	8.73	-23.03	1.03	0.85	-7.20	
1,527.00	7.68	10.87	1,525.71	32.61	10.52	-32.49	2.73	2.73	0.52	
1,612.00	8.10	10.43	1,609.91	44.08	12.67	-43.93	0.50	0.49	-0.52	
1,698.00	7.88	8.70	1,695.07	55.86	14.66	-55.69	0.38	-0.26	-2.01	
1,783.00	7.02	7.47	1,779.35	66.77	16.22	-66.58	1.03	-1.01	-1.45	
1,868.00	6.22	2.23	1,863.79	76.53	17.07	-76.33	1.18	-0.94	-6.16	
1,954.00	7.68	5.52	1,949.15	86.90	17.80	-86.69	1.76	1.70	3.83	
2,039.00	7.36	6.05	2,033.42	97.97	18.92	-97.75	0.39	-0.38	0.62	
2,124.00	7.05	359.19	2,117.75	108.60	19.43	-108.37	1.08	-0.36	-8.07	
2,210.00	6.24	6.58	2,203.18	118.52	19.89	-118.28	1.37	-0.94	8.59	
2,295.00	7.33	13.20	2,287.58	128.39	21.65	-128.13	1.58	1.28	7.79	
2,381.00	7.69	8.45	2,372.84	139.42	23.75	-139.14	0.83	0.42	-5.52	
2,466.00	7.29	7.39	2,457.12	150.39	25.28	-150.10	0.50	-0.47	-1.25	
2,552.00	6.32	10.01	2,542.51	160.47	26.81	-160.15	1.18	-1.13	3.05	
2,637.00	7.11	14.36	2,626.93	170.17	28.92	-169.83	1.10	0.93	5.12	
2,723.00	6.35	8.72	2,712.34	180.03	30.96	-179.66	1.17	-0.88	-6.56	
2,807.00	6.98	4.12	2,795.77	189.71	32.04	-189.33	0.98	0.75	-5.48	
2,892.00	6.81	1.08	2,880.15	199.90	32.50	-199.52	0.47	-0.20	-3.58	
2,978.00	6.47	0.82	2,965.58	209.84	32.67	-209.46	0.40	-0.40	-0.30	
3,063.00	6.01	0.59	3,050.07	219.08	32.78	-218.69	0.54	-0.54	-0.27	
3,148.00	6.59	1.88	3,134.56	228.41	32.99	-228.01	0.70	0.68	1.52	
3,233.00	7.32	8.79	3,218.94	238.63	33.98	-238.23	1.30	0.86	8.13	
3,318.00	7.84	7.32	3,303.19	249.73	35.54	-249.31	0.65	0.61	-1.73	
3,404.00	7.12	4.18	3,388.46	260.87	36.68	-260.43	0.96	-0.84	-3.65	
3,489.00	6.60	5.17	3,472.85	270.99	37.50	-270.54	0.63	-0.61	1.16	
3,575.00	6.43	2.09	3,558.30	280.72	38.12	-280.27	0.45	-0.20	-3.58	
3,660.00	6.52	7.65	3,642.75	290.26	38.94	-289.80	0.74	0.11	6.54	
3,745.00	6.69	3.27	3,727.19	299.99	39.86	-299.51	0.63	0.20	-5.15	
3,831.00	7.61	358.40	3,812.52	310.68	39.99	-310.20	1.28	1.07	-5.66	
3,916.00	6.73	356.28	3,896.86	321.28	39.51	-320.80	1.08	-1.04	-2.49	
4,002.00	7.08	356.85	3,982.23	331.60	38.89	-331.13	0.41	0.41	0.66	
4,088.00	7.73	2.63	4,067.52	342.67	38.87	-342.20	1.15	0.76	6.72	
4,173.00	6.47	3.59	4,151.86	353.16	39.43	-352.68	1.49	-1.48	1.13	
4,258.00	6.77	7.98	4,236.30	362.90	40.42	-362.41	0.69	0.35	5.16	
4,344.00	7.80	5.31	4,321.60	373.73	41.67	-373.23	1.26	1.20	-3.10	
4,429.00	6.90	4.84	4,405.90	384.56	42.63	-384.05	1.06	-1.06	-0.55	
4,515.00	7.15	357.38	4,491.26	395.05	42.82	-394.54	1.10	0.29	-8.67	

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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)	
4,600.00	7.33	353.25	4,575.58	405.72	41.94	-405.22	0.65	0.21	-4.86	
4,686.00	6.68	353.93	4,660.94	416.15	40.77	-415.65	0.76	-0.76	0.79	
4,771.00	6.02	351.94	4,745.42	425.48	39.62	-425.00	0.82	-0.78	-2.34	
4,856.00	6.29	0.20	4,829.93	434.55	39.01	-434.07	1.09	0.32	9.72	
4,942.00	7.23	10.17	4,915.33	444.58	39.99	-444.10	1.74	1.09	11.59	
5,027.00	7.89	14.18	4,999.59	455.50	42.36	-454.99	0.99	0.78	4.72	
5,113.00	8.57	10.76	5,084.71	467.52	45.00	-466.98	0.97	0.79	-3.98	
5,198.00	7.99	9.55	5,168.82	479.57	47.16	-479.00	0.71	-0.68	-1.42	
5,283.00	7.55	5.16	5,253.04	490.96	48.65	-490.37	0.87	-0.52	-5.16	
5,369.00	6.39	3.59	5,338.41	501.36	49.45	-500.76	1.37	-1.35	-1.83	
5,454.00	6.70	2.84	5,422.85	511.03	50.00	-510.43	0.38	0.36	-0.88	
5,539.00	7.77	8.94	5,507.17	521.66	51.13	-521.05	1.55	1.26	7.18	
5,625.00	6.53	10.71	5,592.50	532.21	52.95	-531.57	1.46	-1.44	2.06	
5,710.00	6.54	8.73	5,676.95	541.75	54.58	-541.09	0.27	0.01	-2.33	
5,796.00	7.68	8.72	5,762.29	552.27	56.19	-551.59	1.33	1.33	-0.01	
5,881.00	7.28	352.96	5,846.57	563.23	56.40	-562.55	2.45	-0.47	-18.54	
5,966.00	8.35	350.28	5,930.78	574.66	54.69	-573.99	1.33	1.26	-3.15	
6,052.00	8.33	356.60	6,015.88	587.03	53.27	-586.38	1.07	-0.02	7.35	
6,137.00	8.88	354.14	6,099.92	599.70	52.23	-599.07	0.78	0.65	-2.89	
6,223.00	7.02	352.61	6,185.09	611.52	50.88	-610.90	2.18	-2.16	-1.78	
6,307.00	6.40	349.13	6,268.51	621.21	49.34	-620.60	0.88	-0.74	-4.14	
6,392.00	5.57	344.03	6,353.05	629.82	47.31	-629.24	1.16	-0.98	-6.00	
6,477.00	3.99	337.93	6,437.75	636.53	45.06	-635.97	1.95	-1.86	-7.18	
6,520.00	3.37	340.20	6,480.66	639.11	44.07	-638.56	1.48	-1.44	5.28	
6,563.00	2.99	62.25	6,523.62	640.82	44.64	-640.27	9.73	-0.88	190.81	
6,606.00	5.69	121.16	6,566.51	640.24	47.46	-639.65	11.33	6.28	137.00	
6,648.00	9.16	130.97	6,608.15	636.97	51.76	-636.33	8.77	8.26	23.36	
6,691.00	11.38	140.31	6,650.46	631.46	57.06	-630.76	6.44	5.16	21.72	
6,734.00	13.92	159.25	6,692.43	623.35	61.60	-622.61	11.23	5.91	44.05	
6,776.00	16.36	173.13	6,732.99	612.75	64.10	-611.98	10.37	5.81	33.05	
6,819.00	19.02	175.51	6,773.95	599.75	65.37	-598.96	6.41	6.19	5.53	
6,862.00	22.20	177.21	6,814.19	584.65	66.32	-583.85	7.52	7.40	3.95	
6,905.00	26.08	177.83	6,853.42	567.08	67.07	-566.28	9.04	9.02	1.44	
6,947.00	30.05	178.74	6,890.48	547.33	67.65	-546.53	9.51	9.45	2.17	
6,990.00	34.36	179.07	6,926.85	524.43	68.09	-523.61	10.03	10.02	0.77	
7,033.00	39.19	176.02	6,961.29	498.72	69.23	-497.90	12.01	11.23	-7.09	
7,075.00	43.77	173.94	6,992.75	471.02	71.68	-470.17	11.39	10.90	-4.95	
7,118.00	48.12	174.86	7,022.64	440.27	74.69	-439.39	10.23	10.12	2.14	
7,161.00	53.35	176.75	7,049.85	407.09	77.10	-406.18	12.63	12.16	4.40	
7,203.00	59.68	179.97	7,073.01	372.09	78.07	-371.18	16.37	15.07	7.67	
7,246.00	64.70	181.90	7,093.07	334.08	77.43	-333.17	12.33	11.67	4.49	
7,289.00	70.01	183.22	7,109.62	294.45	75.65	-293.57	12.67	12.35	3.07	
7,331.00	76.80	185.46	7,121.61	254.34	72.59	-253.50	16.95	16.17	5.33	
7,374.00	83.90	188.04	7,128.81	212.28	67.61	-211.49	17.54	16.51	6.00	

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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)
7,416.00	88.32	189.86	7,131.66	170.90	61.09	-170.19	11.38	10.52	4.33
7,455.91	89.52	189.39	7,132.42	131.56	54.41	-130.93	3.23	3.01	-1.17
7" CASING SET									
7,523.00	91.54	188.61	7,131.79	65.30	43.92	-64.79	3.23	3.01	-1.17
7,609.00	89.75	186.26	7,130.83	-19.96	32.79	20.34	3.43	-2.08	-2.73
7,694.00	90.12	183.96	7,130.92	-104.62	25.22	104.90	2.74	0.44	-2.71
7,779.00	90.56	182.96	7,130.42	-189.46	20.09	189.68	1.29	0.52	-1.18
7,865.00	90.31	183.18	7,129.77	-275.33	15.49	275.49	0.39	-0.29	0.26
7,950.00	89.94	180.63	7,129.58	-360.28	12.66	360.40	3.03	-0.44	-3.00
8,035.00	90.68	178.97	7,129.12	-445.28	12.96	445.39	2.14	0.87	-1.95
8,120.00	90.00	178.52	7,128.62	-530.25	14.82	530.39	0.96	-0.80	-0.53
8,206.00	90.19	177.88	7,128.47	-616.21	17.52	616.37	0.78	0.22	-0.74
8,291.00	90.93	179.11	7,127.64	-701.17	19.75	701.35	1.69	0.87	1.45
8,376.00	90.31	178.13	7,126.72	-786.14	21.80	786.34	1.36	-0.73	-1.15
8,462.00	90.25	177.99	7,126.30	-872.09	24.71	872.32	0.18	-0.07	-0.16
8,547.00	89.75	177.72	7,126.30	-957.03	27.89	957.29	0.67	-0.59	-0.32
8,633.00	89.08	177.06	7,127.18	-1,042.94	31.81	1,043.23	1.09	-0.78	-0.77
8,718.00	87.78	174.73	7,129.51	-1,127.68	37.89	1,128.04	3.14	-1.53	-2.74
8,804.00	88.21	173.90	7,132.52	-1,213.20	46.40	1,213.65	1.09	0.50	-0.97
8,889.00	90.31	174.71	7,133.62	-1,297.77	54.84	1,298.31	2.65	2.47	0.95
8,975.00	90.31	174.16	7,133.15	-1,383.37	63.18	1,384.00	0.64	0.00	-0.64
9,060.00	91.54	175.47	7,131.78	-1,468.00	70.86	1,468.72	2.11	1.45	1.54
9,146.00	91.73	176.23	7,129.32	-1,553.74	77.08	1,554.52	0.91	0.22	0.88
9,231.00	90.09	176.31	7,127.97	-1,638.55	82.61	1,639.38	1.93	-1.93	0.09
9,316.00	88.89	175.58	7,128.73	-1,723.33	88.62	1,724.23	1.65	-1.41	-0.86
9,402.00	90.68	177.74	7,129.05	-1,809.17	93.63	1,810.13	3.26	2.08	2.51
9,487.00	90.25	177.16	7,128.36	-1,894.09	97.41	1,895.08	0.85	-0.51	-0.68
9,573.00	89.32	177.21	7,128.69	-1,979.98	101.63	1,981.01	1.08	-1.08	0.06
9,658.00	90.62	178.60	7,128.73	-2,064.92	104.74	2,065.98	2.24	1.53	1.64
9,744.00	90.49	180.29	7,127.90	-2,150.91	105.57	2,151.98	1.97	-0.15	1.97
9,829.00	90.56	180.36	7,127.12	-2,235.90	105.09	2,236.96	0.12	0.08	0.08
9,914.00	90.49	180.55	7,126.34	-2,320.90	104.41	2,321.94	0.24	-0.08	0.22
10,000.00	90.31	180.47	7,125.74	-2,406.89	103.65	2,407.92	0.23	-0.21	-0.09
10,085.00	89.14	180.96	7,126.15	-2,491.88	102.59	2,492.89	1.49	-1.38	0.58
10,171.00	88.40	180.46	7,127.99	-2,577.86	101.52	2,578.85	1.04	-0.86	-0.58
10,256.00	88.89	180.06	7,130.00	-2,662.83	101.14	2,663.81	0.74	0.58	-0.47
10,341.00	89.20	180.19	7,131.42	-2,747.82	100.95	2,748.79	0.40	0.36	0.15
10,426.00	89.82	179.11	7,132.15	-2,832.81	101.47	2,833.79	1.47	0.73	-1.27
10,512.00	91.29	179.28	7,131.31	-2,918.80	102.68	2,919.78	1.72	1.71	0.20
10,597.00	90.80	179.73	7,129.76	-3,003.78	103.41	3,004.77	0.78	-0.58	0.53
10,683.00	90.86	180.24	7,128.52	-3,089.77	103.44	3,090.75	0.60	0.07	0.59
10,768.00	89.69	180.08	7,128.11	-3,174.77	103.20	3,175.74	1.39	-1.38	-0.19
10,853.00	89.29	179.48	7,128.87	-3,259.76	103.53	3,260.73	0.85	-0.47	-0.71

Andarko Petroleum Corporation

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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)	
10,939.00	90.06	179.58	7,129.36	-3,345.76	104.23	3,346.73	0.90	0.90	0.12	
11,024.00	90.25	178.95	7,129.13	-3,430.75	105.32	3,431.73	0.77	0.22	-0.74	
11,110.00	90.49	178.30	7,128.57	-3,516.72	107.38	3,517.72	0.81	0.28	-0.76	
11,195.00	89.57	178.58	7,128.53	-3,601.69	109.70	3,602.71	1.13	-1.08	0.33	
11,280.00	89.81	177.46	7,128.99	-3,686.64	112.64	3,687.68	1.35	0.28	-1.32	
11,365.00	91.23	176.84	7,128.21	-3,771.53	116.86	3,772.62	1.82	1.67	-0.73	
11,451.00	91.11	176.08	7,126.46	-3,857.34	122.17	3,858.49	0.89	-0.14	-0.88	
11,536.00	88.64	175.07	7,126.64	-3,942.08	128.73	3,943.30	3.14	-2.91	-1.19	
11,621.00	90.25	175.07	7,127.47	-4,026.76	136.03	4,028.05	1.89	1.89	0.00	
11,670.00	90.74	175.15	7,127.04	-4,075.58	140.21	4,076.92	1.01	1.00	0.16	
LAST MWD SURVEY										
11,725.00	90.70	175.20	7,126.35	-4,130.38	144.83	4,131.77	0.12	-0.07	0.09	
PROJECTION TO TD										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
851.00	850.98	3.30	2.54	TIE ON	
1,005.00	1,004.98	3.17	2.27	FIRST MWD SURVEY	
7,455.91	7,132.42	131.56	54.41	7" CASING SET	
11,670.00	7,127.04	-4,075.58	140.21	LAST MWD SURVEY	
11,725.00	7,126.35	-4,130.38	144.83	PROJECTION TO TD	

Checked By: _____ Approved By: _____ Date: _____

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_PALYO 4-11HZ Pad

Palyo 13C-11HZ

Palyo 13C-11HZ

Design: Palyo 13C-11HZ

Survey Report - Geographic

22 October, 2012

Andarko Petroleum Corporation

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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_PALYO 4-11HZ Pad			
Site Position:		Northing:	1,301,786.95 usft
From:	Lat/Long	Easting:	3,240,910.54 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	40.158586
		Longitude:	-104.638059
		Grid Convergence:	0.56 °

Well Palyo 13C-11HZ			
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	1,301,787.01 usft
			Latitude:
			40.158587
			Longitude:
			-104.638166
Position Uncertainty		0.00 ft	Wellhead Elevation:
			ft
			Ground Level:
			4,856.00 ft

Wellbore Palyo 13C-11HZ					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2012	8.68	66.85	52,947

Design Palyo 13C-11HZ					
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	179.35	

Survey Program		Date	10/22/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
116.00	851.00	Survey #1 (Palyo 13C-11HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
1,005.00	11,725.00	Survey #2 (Palyo 13C-11HZ)	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	1,301,787.01	3,240,880.64	40.158587	-104.638166	
116.00	0.42	357.20	116.00	0.42	-0.02	1,301,787.43	3,240,880.61	40.158588	-104.638166	
216.00	0.39	338.83	216.00	1.11	-0.16	1,301,788.11	3,240,880.46	40.158590	-104.638167	
316.00	0.47	354.51	315.99	1.83	-0.32	1,301,788.84	3,240,880.29	40.158592	-104.638167	
416.00	0.48	57.49	415.99	2.47	-0.01	1,301,789.47	3,240,880.60	40.158594	-104.638166	
516.00	0.52	54.23	515.99	2.96	0.71	1,301,789.97	3,240,881.32	40.158595	-104.638164	
616.00	0.31	96.21	615.98	3.19	1.35	1,301,790.21	3,240,881.95	40.158596	-104.638161	
716.00	0.26	94.43	715.98	3.15	1.84	1,301,790.17	3,240,882.45	40.158596	-104.638160	
816.00	0.38	72.27	815.98	3.23	2.39	1,301,790.26	3,240,882.99	40.158596	-104.638158	
851.00	0.18	50.54	850.98	3.30	2.54	1,301,790.33	3,240,883.14	40.158596	-104.638157	
TIE ON										

Andarko Petroleum Corporation

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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	
1,005.00	0.40	238.43	1,004.98	3.17	2.27	1,301,790.20	3,240,882.87	40.158596	-104.638158	
FIRST MWD SURVEY										
1,099.00	1.00	39.00	1,098.98	3.64	2.50	1,301,790.67	3,240,883.10	40.158597	-104.638157	
1,192.00	2.26	18.02	1,191.94	6.01	3.58	1,301,793.05	3,240,884.16	40.158604	-104.638153	
1,286.00	4.04	21.66	1,285.79	10.85	5.38	1,301,797.91	3,240,885.91	40.158617	-104.638147	
1,442.00	5.36	10.43	1,441.27	23.13	8.73	1,301,810.22	3,240,889.14	40.158651	-104.638135	
1,527.00	7.68	10.87	1,525.71	32.61	10.52	1,301,819.72	3,240,890.83	40.158677	-104.638129	
1,612.00	8.10	10.43	1,609.91	44.08	12.67	1,301,831.20	3,240,892.88	40.158708	-104.638121	
1,698.00	7.88	8.70	1,695.07	55.86	14.66	1,301,843.01	3,240,894.75	40.158740	-104.638114	
1,783.00	7.02	7.47	1,779.35	66.77	16.22	1,301,853.93	3,240,896.20	40.158770	-104.638108	
1,868.00	6.22	2.23	1,863.79	76.53	17.07	1,301,863.69	3,240,896.96	40.158797	-104.638105	
1,954.00	7.68	5.52	1,949.15	86.90	17.80	1,301,874.08	3,240,897.59	40.158826	-104.638103	
2,039.00	7.36	6.05	2,033.42	97.97	18.92	1,301,885.15	3,240,898.61	40.158856	-104.638099	
2,124.00	7.05	359.19	2,117.75	108.60	19.43	1,301,895.79	3,240,899.00	40.158885	-104.638097	
2,210.00	6.24	6.58	2,203.18	118.52	19.89	1,301,905.71	3,240,899.37	40.158912	-104.638095	
2,295.00	7.33	13.20	2,287.58	128.39	21.65	1,301,915.60	3,240,901.04	40.158939	-104.638089	
2,381.00	7.69	8.45	2,372.84	139.42	23.75	1,301,926.65	3,240,903.03	40.158970	-104.638081	
2,466.00	7.29	7.39	2,457.12	150.39	25.28	1,301,937.64	3,240,904.45	40.159000	-104.638076	
2,552.00	6.32	10.01	2,542.51	160.47	26.81	1,301,947.73	3,240,905.88	40.159028	-104.638070	
2,637.00	7.11	14.36	2,626.93	170.17	28.92	1,301,957.45	3,240,907.90	40.159054	-104.638063	
2,723.00	6.35	8.72	2,712.34	180.03	30.96	1,301,967.33	3,240,909.85	40.159081	-104.638055	
2,807.00	6.98	4.12	2,795.77	189.71	32.04	1,301,977.02	3,240,910.83	40.159108	-104.638052	
2,892.00	6.81	1.08	2,880.15	199.90	32.50	1,301,987.21	3,240,911.19	40.159136	-104.638050	
2,978.00	6.47	0.82	2,965.58	209.84	32.67	1,301,997.16	3,240,911.26	40.159163	-104.638049	
3,063.00	6.01	0.59	3,050.07	219.08	32.78	1,302,006.39	3,240,911.29	40.159188	-104.638049	
3,148.00	6.59	1.88	3,134.56	228.41	32.99	1,302,015.72	3,240,911.40	40.159214	-104.638048	
3,233.00	7.32	8.79	3,218.94	238.63	33.98	1,302,025.96	3,240,912.29	40.159242	-104.638045	
3,318.00	7.84	7.32	3,303.19	249.73	35.54	1,302,037.07	3,240,913.75	40.159273	-104.638039	
3,404.00	7.12	4.18	3,388.46	260.87	36.68	1,302,048.22	3,240,914.78	40.159303	-104.638035	
3,489.00	6.60	5.17	3,472.85	270.99	37.50	1,302,058.34	3,240,915.50	40.159331	-104.638032	
3,575.00	6.43	2.09	3,558.30	280.72	38.12	1,302,068.08	3,240,916.03	40.159358	-104.638030	
3,660.00	6.52	7.65	3,642.75	290.26	38.94	1,302,077.63	3,240,916.75	40.159384	-104.638027	
3,745.00	6.69	3.27	3,727.19	299.99	39.86	1,302,087.36	3,240,917.58	40.159411	-104.638024	
3,831.00	7.61	358.40	3,812.52	310.68	39.99	1,302,098.06	3,240,917.60	40.159440	-104.638023	
3,916.00	6.73	356.28	3,896.86	321.28	39.51	1,302,108.65	3,240,917.02	40.159469	-104.638025	
4,002.00	7.08	356.85	3,982.23	331.60	38.89	1,302,118.96	3,240,916.30	40.159497	-104.638027	
4,088.00	7.73	2.63	4,067.52	342.67	38.87	1,302,130.03	3,240,916.17	40.159528	-104.638027	
4,173.00	6.47	3.59	4,151.86	353.16	39.43	1,302,140.53	3,240,916.63	40.159557	-104.638025	
4,258.00	6.77	7.98	4,236.30	362.90	40.42	1,302,150.28	3,240,917.53	40.159583	-104.638022	
4,344.00	7.80	5.31	4,321.60	373.73	41.67	1,302,161.12	3,240,918.67	40.159613	-104.638017	
4,429.00	6.90	4.84	4,405.90	384.56	42.63	1,302,171.96	3,240,919.53	40.159643	-104.638014	
4,515.00	7.15	357.38	4,491.26	395.05	42.82	1,302,182.46	3,240,919.62	40.159672	-104.638013	
4,600.00	7.33	353.25	4,575.58	405.72	41.94	1,302,193.12	3,240,918.63	40.159701	-104.638016	
4,686.00	6.68	353.93	4,660.94	416.15	40.77	1,302,203.53	3,240,917.36	40.159729	-104.638020	
4,771.00	6.02	351.94	4,745.42	425.48	39.62	1,302,212.85	3,240,916.12	40.159755	-104.638025	
4,856.00	6.29	0.20	4,829.93	434.55	39.01	1,302,221.91	3,240,915.42	40.159780	-104.638027	
4,942.00	7.23	10.17	4,915.33	444.58	39.99	1,302,231.96	3,240,916.30	40.159807	-104.638023	
5,027.00	7.89	14.18	4,999.59	455.50	42.36	1,302,242.90	3,240,918.57	40.159837	-104.638015	
5,113.00	8.57	10.76	5,084.71	467.52	45.00	1,302,254.94	3,240,921.09	40.159870	-104.638005	
5,198.00	7.99	9.55	5,168.82	479.57	47.16	1,302,267.01	3,240,923.14	40.159904	-104.637998	
5,283.00	7.55	5.16	5,253.04	490.96	48.65	1,302,278.41	3,240,924.51	40.159935	-104.637992	
5,369.00	6.39	3.59	5,338.41	501.36	49.45	1,302,288.82	3,240,925.21	40.159963	-104.637989	
5,454.00	6.70	2.84	5,422.85	511.03	50.00	1,302,298.50	3,240,925.66	40.159990	-104.637987	
5,539.00	7.77	8.94	5,507.17	521.66	51.13	1,302,309.14	3,240,926.70	40.160019	-104.637983	
5,625.00	6.53	10.71	5,592.50	532.21	52.95	1,302,319.71	3,240,928.41	40.160048	-104.637977	

Andarko Petroleum Corporation

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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	
5,710.00	6.54	8.73	5,676.95	541.75	54.58	1,302,329.25	3,240,929.95	40.160074	-104.637971	
5,796.00	7.68	8.72	5,762.29	552.27	56.19	1,302,339.79	3,240,931.46	40.160103	-104.637965	
5,881.00	7.28	352.96	5,846.57	563.23	56.40	1,302,350.75	3,240,931.55	40.160133	-104.637964	
5,966.00	8.35	350.28	5,930.78	574.66	54.69	1,302,362.16	3,240,929.74	40.160165	-104.637971	
6,052.00	8.33	356.60	6,015.88	587.03	53.27	1,302,374.52	3,240,928.20	40.160199	-104.637976	
6,137.00	8.88	354.14	6,099.92	599.70	52.23	1,302,387.19	3,240,927.04	40.160233	-104.637979	
6,223.00	7.02	352.61	6,185.09	611.52	50.88	1,302,398.99	3,240,925.57	40.160266	-104.637984	
6,307.00	6.40	349.13	6,268.51	621.21	49.34	1,302,408.66	3,240,923.93	40.160292	-104.637990	
6,392.00	5.57	344.03	6,353.05	629.82	47.31	1,302,417.26	3,240,921.82	40.160316	-104.637997	
6,477.00	3.99	337.93	6,437.75	636.53	45.06	1,302,423.94	3,240,919.51	40.160334	-104.638005	
6,520.00	3.37	340.20	6,480.66	639.11	44.07	1,302,426.51	3,240,918.49	40.160341	-104.638009	
6,563.00	2.99	62.25	6,523.62	640.82	44.64	1,302,428.23	3,240,919.04	40.160346	-104.638007	
6,606.00	5.69	121.16	6,566.51	640.24	47.46	1,302,427.67	3,240,921.87	40.160345	-104.637996	
6,648.00	9.16	130.97	6,608.15	636.97	51.76	1,302,424.44	3,240,926.21	40.160336	-104.637981	
6,691.00	11.38	140.31	6,650.46	631.46	57.06	1,302,418.99	3,240,931.55	40.160320	-104.637962	
6,734.00	13.92	159.25	6,692.43	623.35	61.60	1,302,410.93	3,240,936.18	40.160298	-104.637946	
6,776.00	16.36	173.13	6,732.99	612.75	64.10	1,302,400.35	3,240,938.78	40.160269	-104.637937	
6,819.00	19.02	175.51	6,773.95	599.75	65.37	1,302,387.36	3,240,940.18	40.160233	-104.637932	
6,862.00	22.20	177.21	6,814.19	584.65	66.32	1,302,372.27	3,240,941.27	40.160192	-104.637929	
6,905.00	26.08	177.83	6,853.42	567.08	67.07	1,302,354.71	3,240,942.19	40.160144	-104.637926	
6,947.00	30.05	178.74	6,890.48	547.33	67.65	1,302,334.97	3,240,942.97	40.160090	-104.637924	
6,990.00	34.36	179.07	6,926.85	524.43	68.09	1,302,312.07	3,240,943.62	40.160027	-104.637923	
7,033.00	39.19	176.02	6,961.29	498.72	69.23	1,302,286.38	3,240,945.01	40.159956	-104.637919	
7,075.00	43.77	173.94	6,992.75	471.02	71.68	1,302,258.70	3,240,947.74	40.159880	-104.637910	
7,118.00	48.12	174.86	7,022.64	440.27	74.69	1,302,227.98	3,240,951.04	40.159796	-104.637899	
7,161.00	53.35	176.75	7,049.85	407.09	77.10	1,302,194.82	3,240,953.78	40.159705	-104.637890	
7,203.00	59.68	179.97	7,073.01	372.09	78.07	1,302,159.84	3,240,955.08	40.159608	-104.637887	
7,246.00	64.70	181.90	7,093.07	334.08	77.43	1,302,121.82	3,240,954.82	40.159504	-104.637889	
7,289.00	70.01	183.22	7,109.62	294.45	75.65	1,302,082.18	3,240,953.42	40.159395	-104.637896	
7,331.00	76.80	185.46	7,121.61	254.34	72.59	1,302,042.04	3,240,950.75	40.159285	-104.637907	
7,374.00	83.90	188.04	7,128.81	212.28	67.61	1,301,999.93	3,240,946.17	40.159170	-104.637924	
7,416.00	88.32	189.86	7,131.66	170.90	61.09	1,301,958.49	3,240,940.06	40.159056	-104.637948	
7,455.91	89.52	189.39	7,132.42	131.56	54.41	1,301,919.08	3,240,933.77	40.158948	-104.637972	
7" CASING SET										
7,523.00	91.54	188.61	7,131.79	65.30	43.92	1,301,852.73	3,240,923.92	40.158766	-104.638009	
7,609.00	89.75	186.26	7,130.83	-19.96	32.79	1,301,767.36	3,240,913.62	40.158532	-104.638049	
7,694.00	90.12	183.96	7,130.92	-104.62	25.22	1,301,682.64	3,240,906.87	40.158300	-104.638076	
7,779.00	90.56	182.96	7,130.42	-189.46	20.09	1,301,597.75	3,240,902.57	40.158067	-104.638094	
7,865.00	90.31	183.18	7,129.77	-275.33	15.49	1,301,511.83	3,240,898.80	40.157831	-104.638111	
7,950.00	89.94	180.63	7,129.58	-360.28	12.66	1,301,426.87	3,240,896.80	40.157598	-104.638121	
8,035.00	90.68	178.97	7,129.12	-445.28	12.96	1,301,341.88	3,240,897.92	40.157365	-104.638120	
8,120.00	90.00	178.52	7,128.62	-530.25	14.82	1,301,256.92	3,240,900.61	40.157131	-104.638113	
8,206.00	90.19	177.88	7,128.47	-616.21	17.52	1,301,171.00	3,240,904.14	40.156895	-104.638104	
8,291.00	90.93	179.11	7,127.64	-701.17	19.75	1,301,086.06	3,240,907.20	40.156662	-104.638096	
8,376.00	90.31	178.13	7,126.72	-786.14	21.80	1,301,001.11	3,240,910.07	40.156429	-104.638088	
8,462.00	90.25	177.99	7,126.30	-872.09	24.71	1,300,915.20	3,240,913.82	40.156193	-104.638078	
8,547.00	89.75	177.72	7,126.30	-957.03	27.89	1,300,830.29	3,240,917.83	40.155960	-104.638066	
8,633.00	89.08	177.06	7,127.18	-1,042.94	31.81	1,300,744.43	3,240,922.58	40.155724	-104.638052	
8,718.00	87.78	174.73	7,129.51	-1,127.68	37.89	1,300,659.75	3,240,929.48	40.155491	-104.638031	
8,804.00	88.21	173.90	7,132.52	-1,213.20	46.40	1,300,574.31	3,240,938.83	40.155257	-104.638000	
8,889.00	90.31	174.71	7,133.62	-1,297.77	54.84	1,300,489.83	3,240,948.08	40.155024	-104.637970	
8,975.00	90.31	174.16	7,133.15	-1,383.37	63.18	1,300,404.32	3,240,957.25	40.154790	-104.637940	
9,060.00	91.54	175.47	7,131.78	-1,468.00	70.86	1,300,319.76	3,240,965.76	40.154557	-104.637913	
9,146.00	91.73	176.23	7,129.32	-1,553.74	77.08	1,300,234.09	3,240,972.81	40.154322	-104.637891	
9,231.00	90.09	176.31	7,127.97	-1,638.55	82.61	1,300,149.34	3,240,979.16	40.154089	-104.637871	

Andarko Petroleum Corporation

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 13C-11HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Site:	WELD_PALYO 4-11HZ Pad	MD Reference:	16' RKB + 4856' GL @ 4872.00ft (XTREME 23)
Well:	Palyo 13C-11HZ	North Reference:	True
Wellbore:	Palyo 13C-11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 13C-11HZ	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	
9,316.00	88.89	175.58	7,128.73	-1,723.33	88.62	1,300,064.62	3,240,986.00	40.153856	-104.637849	
9,402.00	90.68	177.74	7,129.05	-1,809.17	93.63	1,299,978.83	3,240,991.84	40.153621	-104.637831	
9,487.00	90.25	177.16	7,128.36	-1,894.09	97.41	1,299,893.96	3,240,996.45	40.153388	-104.637818	
9,573.00	89.32	177.21	7,128.69	-1,979.98	101.63	1,299,808.11	3,241,001.51	40.153152	-104.637803	
9,658.00	90.62	178.60	7,128.73	-2,064.92	104.74	1,299,723.20	3,241,005.44	40.152919	-104.637792	
9,744.00	90.49	180.29	7,127.90	-2,150.91	105.57	1,299,637.23	3,241,007.11	40.152683	-104.637789	
9,829.00	90.56	180.36	7,127.12	-2,235.90	105.09	1,299,552.23	3,241,007.45	40.152449	-104.637790	
9,914.00	90.49	180.55	7,126.34	-2,320.90	104.41	1,299,467.24	3,241,007.60	40.152216	-104.637793	
10,000.00	90.31	180.47	7,125.74	-2,406.89	103.65	1,299,381.24	3,241,007.67	40.151980	-104.637795	
10,085.00	89.14	180.96	7,126.15	-2,491.88	102.59	1,299,296.24	3,241,007.44	40.151746	-104.637799	
10,171.00	88.40	180.46	7,127.99	-2,577.86	101.52	1,299,210.26	3,241,007.21	40.151510	-104.637803	
10,256.00	88.89	180.06	7,130.00	-2,662.83	101.14	1,299,125.29	3,241,007.65	40.151277	-104.637804	
10,341.00	89.20	180.19	7,131.42	-2,747.82	100.95	1,299,040.30	3,241,008.29	40.151044	-104.637805	
10,426.00	89.82	179.11	7,132.15	-2,832.81	101.47	1,298,955.32	3,241,009.63	40.150811	-104.637803	
10,512.00	91.29	179.28	7,131.31	-2,918.80	102.68	1,298,869.35	3,241,011.68	40.150575	-104.637799	
10,597.00	90.80	179.73	7,129.76	-3,003.78	103.41	1,298,784.38	3,241,013.24	40.150341	-104.637796	
10,683.00	90.86	180.24	7,128.52	-3,089.77	103.44	1,298,698.39	3,241,014.10	40.150105	-104.637796	
10,768.00	89.69	180.08	7,128.11	-3,174.77	103.20	1,298,613.40	3,241,014.68	40.149872	-104.637797	
10,853.00	89.29	179.48	7,128.87	-3,259.76	103.53	1,298,528.41	3,241,015.84	40.149639	-104.637796	
10,939.00	90.06	179.58	7,129.36	-3,345.76	104.23	1,298,442.42	3,241,017.38	40.149402	-104.637793	
11,024.00	90.25	178.95	7,129.13	-3,430.75	105.32	1,298,357.45	3,241,019.29	40.149169	-104.637789	
11,110.00	90.49	178.30	7,128.57	-3,516.72	107.38	1,298,271.50	3,241,022.19	40.148933	-104.637782	
11,195.00	89.57	178.58	7,128.53	-3,601.69	109.70	1,298,186.56	3,241,025.33	40.148700	-104.637774	
11,280.00	89.81	177.46	7,128.99	-3,686.64	112.64	1,298,101.64	3,241,029.10	40.148467	-104.637763	
11,365.00	91.23	176.84	7,128.21	-3,771.53	116.86	1,298,016.80	3,241,034.15	40.148234	-104.637748	
11,451.00	91.11	176.08	7,126.46	-3,857.34	122.17	1,297,931.04	3,241,040.29	40.147998	-104.637729	
11,536.00	88.64	175.07	7,126.64	-3,942.08	128.73	1,297,846.37	3,241,047.67	40.147766	-104.637706	
11,621.00	90.25	175.07	7,127.47	-4,026.76	136.03	1,297,761.76	3,241,055.80	40.147533	-104.637680	
11,670.00	90.74	175.15	7,127.04	-4,075.58	140.21	1,297,712.99	3,241,060.45	40.147399	-104.637665	
LAST MWD SURVEY										
11,725.00	90.70	175.20	7,126.35	-4,130.38	144.83	1,297,658.23	3,241,065.61	40.147249	-104.637648	
PROJECTION TO TD										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
851.00	850.98	3.30	2.54	TIE ON	
1,005.00	1,004.98	3.17	2.27	FIRST MWD SURVEY	
7,455.91	7,132.42	131.56	54.41	7" CASING SET	
11,670.00	7,127.04	-4,075.58	140.21	LAST MWD SURVEY	
11,725.00	7,126.35	-4,130.38	144.83	PROJECTION TO TD	

Checked By: _____ Approved By: _____ Date: _____



DAILY ACTIVITY



Weatherford

Daily Activity Report

Drilling Services

v4.2.2674

Day 1 - 2012/10/07

FILE #: 4027384

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins
MWD Supervisor: Rusty Komrs, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee
Coordinator: Tyler Cluff

GROUND ELEV: 4856 ft START DEPTH: 920.0 ft PROGRESS: 237.0 ft DAILY COST: USD\$14680.00
KB ELEV: 4872 ft END DEPTH: 1157.0 ft AVG. ROP.: 316.0 ft/hr PREVIOUS COST: USD\$0.00
WORK STATUS: Operating (All units are imperial.) TOTAL COST: USD\$14680.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-06:00	Wait On Orders	6.00	920	n/a	20:30-23:05	Drill Out Flt, Shoe & Cmmt	2.58	920	1
06:00-08:30	Other - See Comments - Skid Rig	2.50	920	n/a	23:05-23:20	Rotating With Motor	0.25	970	1
08:30-10:30	Rig Up	2.00	920	n/a	23:20-23:25	Circ & Accumulate Surveys	0.08	970	1
10:30-17:30	Pressure Test	7.00	920	n/a	23:25-23:40	Rotating With Motor	0.25	1063	1
17:30-18:00	Other - See Comments - Install Wear Bushing	0.50	920	n/a	23:40-23:45	Circ & Accumulate Surveys	0.08	1063	1
18:00-18:30	Rig Service	0.50	920	n/a	23:45-23:50	Orienting With Motor	0.08	1073	1
18:30-20:00	Handle Directional Tools	1.50	920	1	23:50-24:00	Rotating With Motor	0.17	1157	1
20:00-20:30	Shallow Test Tools	0.50	920	1			0.00		

TIME SUMMARY (hrs):				DRILLING PARAMETERS:					
MOTOR DRILL:	0.75	ORIENTING HRS:	0.08	ROTARY DRILL:	0.00	ROTARY TORQUE:	2300 ft-lb	STRING WEIGHT:	92000 lbs
TIME DRILL:	0.00	ROTATING HRS:	0.67	MOTOR HRS:	3.50	WOB SLIDING (HI):	5000 lbf	WOB ROTATE (HI):	23000 lbf
MOTOR REAM:	0.00	TRIP:	0.00	WOB SLIDING (LO):	2000 lbf	WOB ROTATE (LO):	15000 lbf	DRAG UP:	96000 lbf
CIRC:	2.75	ROTARY DRILL:	0.00	OTHER:	20.50	RPM (ROTARY):	45 rpm	DRAG DN:	87000 lbf
MOTOR HRS:	3.50	DRILL HRS:	0.75	TOTAL HRS:	24.00	RPM (MOTOR):	167 rpm		

— 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#: 675-41018 MODEL: 7/8 5.0 Stg LOBE CFG.:7/8
SETTING: 1.5 ° KICKPAD:No SIZE: 1.50 @ 6.19' MTR HRS THIS DAY: 3.5 MTR HRS TO DATE:3.5
MANFCT: Varel BIT TYPE:PDC Bit TYPE: VM513/5x18's NOZZLES:1.242 in² TFA
IADC BIT GRADE: 1 / 1 / WT / A / X / I / RG / BHA

— PUMP PARAMETERS —

PRESSURE ON BTM: 1650 PRESSURE OFF BTM: 1100 TOTAL FLOW RATE: 581.44 gal/min
PUMP 1: TYPE: 1600 EFF.: 97.0% SPM: 70.00 LINER: 6.00 in STROKE VOL.: 4.2816 gal/stk
PUMP 2: TYPE: 1600 EFF.: 97.0% SPM: 70.00 LINER: 6.00 in STROKE VOL.: 4.2816 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: Polymer VISC: 28 sec/qt WTR LOSS: 0 cc/30min PV: 0 cP YP: 0 lb/100 ft² pH: 8.5
DENSITY: 8.4 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: —

Skid rig to Palyo 13C-11HZ. Rig up, Pressure test BOP. Pick up tools. RIH

Drill ahead in hold section F/ 920' - T/ 1157'

CUSTOMER SIGNATURE: _____



Weatherford®

Daily Activity Report

Drilling Services

v4.2.2674

Day 2 - 2012/10/08

FILE #: 4027384

WELL NAME: Palyo 13C-11HZ

SERVICE CO.: Weatherford Directional

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Xtreme 23

SURFACE LOCATION: Weld

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins
Coordinator: Tyler Cluff
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

GROUND ELEV: 4856 ft **START DEPTH:** 1157.0 ft **PROGRESS:** 3782.0 ft **DAILY COST:** USD\$12100.00
KB ELEV: 4872 ft **END DEPTH:** 4939.0 ft **AVG. ROP.:** 218.2 ft/hr **PREVIOUS COST:** USD\$14680.00
WORK STATUS: Operating (All units are imperial.) **TOTAL COST:** USD\$26780.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:05	Circ & Accumulate Surveys	0.08	1157	1	12:15-12:20	Orienting With Motor	0.08	3216	1
00:05-00:15	Orienting With Motor	0.17	1167	1	12:20-12:35	Rotating With Motor	0.25	3291	1
00:15-00:25	Rotating With Motor	0.17	1250	1	12:35-12:40	Circ & Accumulate Surveys	0.08	3291	1
00:25-00:30	Circ & Accumulate Surveys	0.08	1250	1	12:40-12:45	Orienting With Motor	0.08	3301	1
00:30-00:40	Orienting With Motor	0.17	1265	1	12:45-13:00	Rotating With Motor	0.25	3376	1
00:40-00:50	Rotating With Motor	0.17	1344	1	13:00-13:05	Circ & Accumulate Surveys	0.08	3376	1
00:50-00:55	Circ & Accumulate Surveys	0.08	1344	1	13:05-13:10	Orienting With Motor	0.08	3386	1
00:55-01:05	Orienting With Motor	0.17	1361	1	13:10-13:25	Rotating With Motor	0.25	3462	1
01:05-01:30	Rotating With Motor	0.42	1500	1	13:25-13:30	Circ & Accumulate Surveys	0.08	3462	1
01:30-01:35	Circ & Accumulate Surveys	0.08	1500	1	13:30-13:55	Rotating With Motor	0.42	3547	1
01:35-01:50	Orienting With Motor	0.25	1520	1	13:55-14:00	Circ & Accumulate Surveys	0.08	3547	1
01:50-02:00	Rotating With Motor	0.17	1585	1	14:00-14:05	Orienting With Motor	0.08	3559	1
02:00-02:05	Circ & Accumulate Surveys	0.08	1585	1	14:05-14:20	Rotating With Motor	0.25	3633	1
02:05-02:20	Rotating With Motor	0.25	1670	1	14:20-14:25	Circ & Accumulate Surveys	0.08	3633	1
02:20-02:25	Circ & Accumulate Surveys	0.08	1670	1	14:25-14:30	Orienting With Motor	0.08	3645	1
02:25-02:45	Rotating With Motor	0.33	1756	1	14:30-14:45	Rotating With Motor	0.25	3718	1
02:45-02:50	Circ & Accumulate Surveys	0.08	1756	1	14:45-15:40	Rig Service	0.92	3718	1
02:50-03:05	Rotating With Motor	0.25	1841	1	15:40-15:45	Circ & Accumulate Surveys	0.08	3718	1
03:05-03:10	Circ & Accumulate Surveys	0.08	1841	1	15:45-15:50	Orienting With Motor	0.08	3733	1
03:10-03:35	Rotating With Motor	0.42	1926	1	15:50-16:05	Rotating With Motor	0.25	3803	1
03:35-03:40	Circ & Accumulate Surveys	0.08	1926	1	16:05-16:10	Circ & Accumulate Surveys	0.08	3803	1
03:40-03:50	Orienting With Motor	0.17	1941	1	16:10-16:30	Rig Repair - Troubleshoot PLC	0.33	3803	1
03:50-04:15	Rotating With Motor	0.42	2012	1	16:30-16:45	Orienting With Motor	0.25	3817	1
04:15-04:20	Circ & Accumulate Surveys	0.08	2012	1	16:45-17:05	Rotating With Motor	0.33	3889	1
04:20-04:50	Rotating With Motor	0.50	2097	1	17:05-17:10	Circ & Accumulate Surveys	0.08	3889	1
04:50-05:10	Circulating - See Comments - SPR's	0.33	2097	1	17:10-17:30	Rotating With Motor	0.33	3974	1
05:10-05:15	Circ & Accumulate Surveys	0.08	2097	1	17:30-17:35	Circ & Accumulate Surveys	0.08	3974	1
05:15-05:50	Rotating With Motor	0.58	2182	1	17:35-17:45	Orienting With Motor	0.17	3989	1
05:50-06:00	Circ & Accumulate Surveys	0.17	2182	1	17:45-18:00	Rotating With Motor	0.25	4060	1
06:00-06:05	Orienting With Motor	0.08	2194	1	18:00-18:05	Circ & Accumulate Surveys	0.08	4060	1
06:05-06:35	Rotating With Motor	0.50	2268	1	18:05-18:15	Orienting With Motor	0.17	4075	1
06:35-06:40	Circ & Accumulate Surveys	0.08	2268	1	18:15-18:40	Rotating With Motor	0.42	4146	1
06:40-06:45	Orienting With Motor	0.08	2278	1	18:40-18:50	Circ & Accumulate Surveys	0.17	4146	1
06:45-07:10	Rotating With Motor	0.42	2353	1	18:50-19:00	Rotating With Motor	0.17	4231	1
07:10-07:25	Circ & Accumulate Surveys	0.25	2353	1	19:00-19:05	Circ & Accumulate Surveys	0.08	4231	1
07:25-07:30	Orienting With Motor	0.08	2363	1	19:05-19:15	Orienting With Motor	0.17	4246	1
07:30-07:55	Rotating With Motor	0.42	2439	1	19:15-19:30	Rotating With Motor	0.25	4316	1
07:55-08:00	Circ & Accumulate Surveys	0.08	2439	1	19:30-19:35	Circ & Accumulate Surveys	0.08	4316	1
08:00-08:25	Rotating With Motor	0.42	2524	1	19:35-19:50	Orienting With Motor	0.25	4336	1



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Day 2 - 2012/10/08

08:25-08:35	Circ & Accumulate Surveys	0.17	2524	1	19:50-20:00	Rotating With Motor	0.17	4402	1
08:35-08:50	Rotating With Motor	0.25	2610	1	20:00-20:30	Rig Service	0.50	4402	1
08:50-09:00	Circ & Accumulate Surveys	0.17	2610	1	20:30-20:35	Circ & Accumulate Surveys	0.08	4402	1
09:00-09:05	Orienting With Motor	0.08	2620	1	20:35-20:50	Rotating With Motor	0.25	4487	1
09:05-09:25	Rotating With Motor	0.33	2695	1	20:50-20:55	Circ & Accumulate Surveys	0.08	4487	1
09:25-09:35	Circ & Accumulate Surveys	0.17	2695	1	20:55-21:10	Orienting With Motor	0.25	4507	1
09:35-09:40	Orienting With Motor	0.08	2705	1	21:10-21:20	Rotating With Motor	0.17	4573	1
09:40-10:00	Rotating With Motor	0.33	2781	1	21:20-21:25	Circ & Accumulate Surveys	0.08	4573	1
10:00-10:05	Circ & Accumulate Surveys	0.08	2781	1	21:25-21:35	Orienting With Motor	0.17	4583	1
10:05-10:10	Orienting With Motor	0.08	2791	1	21:35-21:50	Rotating With Motor	0.25	4658	1
10:10-10:25	Rotating With Motor	0.25	2865	1	21:50-21:55	Circ & Accumulate Surveys	0.08	4658	1
10:25-10:35	Circ & Accumulate Surveys	0.17	2865	1	21:55-22:10	Rotating With Motor	0.25	4744	1
10:35-10:50	Rotating With Motor	0.25	2950	1	22:10-22:15	Circ & Accumulate Surveys	0.08	4744	1
10:50-11:00	Circ & Accumulate Surveys	0.17	2950	1	22:15-22:35	Orienting With Motor	0.33	4754	1
11:00-11:20	Rotating With Motor	0.33	3036	1	22:35-22:50	Rotating With Motor	0.25	4829	1
11:20-11:25	Circ & Accumulate Surveys	0.08	3036	1	22:50-22:55	Circ & Accumulate Surveys	0.08	4829	1
11:25-11:40	Rotating With Motor	0.25	3121	1	22:55-23:10	Orienting With Motor	0.25	4849	1
11:40-11:50	Circ & Accumulate Surveys	0.17	3121	1	23:10-23:30	Rotating With Motor	0.33	4914	1
11:50-11:55	Orienting With Motor	0.08	3131	1	23:30-23:35	Circ & Accumulate Surveys	0.08	4914	1
11:55-12:05	Rotating With Motor	0.17	3206	1	23:35-24:00	Orienting With Motor	0.42	4939	1
12:05-12:15	Circ & Accumulate Surveys	0.17	3206	1			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL:	17.33	ORIENTING HRS:	4.42
TIME DRILL:	0.00	ROTATING HRS:	12.92
MOTOR REAM:	0.00	ROTARY DRILL:	0.00
CIRC:	4.92	OTHER:	1.75
MOTOR HRS:	22.25	DRILL HRS:	17.33

DRILLING PARAMETERS:

ROTARY DRILL:	0.00	ROTARY TORQUE:	2800 ft-lb	STRING WEIGHT:	97000 lbs
MOTOR HRS:	22.25	WOB SLIDING (HI):	20000 lbf	WOB ROTATE (HI):	25000 lbf
TRIP:	0.00	WOB SLIDING (LO):	10000 lbf	WOB ROTATE (LO):	15000 lbf
OTHER:	1.75	RPM (ROTARY):	45 rpm	DRAG UP:	102000 lbf
TOTAL HRS:	24.00	RPM (MOTOR):	167 rpm	DRAG DN:	95000 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#:	675-41018	MODEL:	7/8 5.0 Stg	LOBE CFG.:	7/8
SETTING:	1.5 °	KICKPAD:	No	SIZE:	1.50 @ 6.19'	MTR HRS THIS DAY:	22.25	MTR HRS TO DATE:	25.75
MANFCT.:	Varel	BIT TYPE:	PDC Bit	TYPE:	VM513/5x18's	NOZZLES:	1.242 in ² TFA		
IADC BIT GRADE:	1 / 1 / WT / A / X / I / RG / BHA								

PUMP PARAMETERS

PRESSURE ON BTM:	1650	PRESSURE OFF BTM:	1100	TOTAL FLOW RATE:	598.05 gal/min				
PUMP 1:	TYPE: 1600	EFF.:	97.0%	SPM:	72.00	LINER:	6.00 in	STROKE VOL.:	4.2816 gal/stk
PUMP 2:	TYPE: 1600	EFF.:	97.0%	SPM:	72.00	LINER:	6.00 in	STROKE VOL.:	4.2816 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:	28 sec/qt	WTR LOSS:	14 cc/30min	PV:	2 cP	YP:	12 lb/100 ft ²	pH:	8.5
DENSITY:	8.4 lb/gal	GEL 0/10:	6.00 lb/100 ft ²	SAND:	0.2	SOLIDS:	1.2	OIL:	0	TEMP:	135 °F
LIQUID BASE:	Water	LIQUID RATE:	0 gal/min	GAS TYPE:		GAS RATE:	0 cu ft/min				

COMMENTS:

Drill F/ 1157 - T/4939

From 1800MD to aprox. 2700' MD top drive and drillstring would jump/hop violently if running more than 500 diff / 200 ROP / 18 WOB. We tried varying rotary from 40 RPM to 70 RPM and varying pumps from 400 to 600 GPM and lower WOB, 5k to 10k and that seemed to help the most. After 2700' we were able to run the normal 40-60 RPM, 600 GPM and 20k to 25k WOB.

CUSTOMER SIGNATURE: _____



Weatherford

Daily Activity Report

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Day 3 - 2012/10/09

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

GROUND ELEV: 4856 ft **START DEPTH:** 4939.0 ft **PROGRESS:** 1351.0 ft **DAILY COST:** USD\$16180.00
KB ELEV: 4872 ft **END DEPTH:** 6290.0 ft **AVG. ROP.:** 160.4 ft/hr **PREVIOUS COST:** USD\$26780.00
TOTAL COST: USD\$42960.00

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	5000	1	05:30-05:45	Orienting With Motor	0.25	5794	1
00:10-00:15	Circ & Accumulate Surveys	0.08	5000	1	05:45-06:05	Rotating With Motor	0.33	5854	1
00:15-00:15	Orienting With Motor	0.00	5025	1	06:05-06:10	Circ & Accumulate Surveys	0.08	5854	1
00:15-00:40	Rotating With Motor	0.42	5085	1	06:10-06:25	Orienting With Motor	0.25	5869	1
00:40-00:45	Circ & Accumulate Surveys	0.08	5085	1	06:25-06:40	Rotating With Motor	0.25	5939	1
00:45-01:00	Orienting With Motor	0.25	5110	1	06:40-06:45	Circ & Accumulate Surveys	0.08	5939	1
01:00-01:10	Rotating With Motor	0.17	5171	1	06:45-07:15	Work on Pumps	0.50	5939	1
01:10-01:15	Circ & Accumulate Surveys	0.08	5171	1	07:15-07:35	Orienting With Motor	0.33	5964	1
01:15-01:40	Rotating With Motor	0.42	5256	1	07:35-07:50	Rotating With Motor	0.25	6024	1
01:40-01:45	Circ & Accumulate Surveys	0.08	5256	1	07:50-07:55	Circ & Accumulate Surveys	0.08	6024	1
01:45-02:00	Orienting With Motor	0.25	5276	1	07:55-08:20	Orienting With Motor	0.42	6040	1
02:00-02:10	Rotating With Motor	0.17	5341	1	08:20-08:45	Rotating With Motor	0.42	6110	1
02:10-02:15	Circ & Accumulate Surveys	0.08	5341	1	08:45-08:50	Circ & Accumulate Surveys	0.08	6110	1
02:15-02:40	Orienting With Motor	0.42	5356	1	08:50-09:05	Orienting With Motor	0.25	6125	1
02:40-03:00	Rotating With Motor	0.33	5427	1	09:05-09:20	Rotating With Motor	0.25	6195	1
03:00-03:05	Circ & Accumulate Surveys	0.08	5427	1	09:20-09:50	Rig Service	0.50	6195	1
03:05-03:20	Orienting With Motor	0.25	5452	1	09:50-10:05	Circulating - SPR's	0.25	6195	1
03:20-03:40	Rotating With Motor	0.33	5512	1	10:05-10:10	Circ & Accumulate Surveys	0.08	6195	1
03:40-03:45	Circ & Accumulate Surveys	0.08	5512	1	10:10-10:45	Rotating With Motor	0.58	6281	1
03:45-04:00	Orienting With Motor	0.25	5537	1	10:45-10:50	Circ & Accumulate Surveys	0.08	6281	1
04:00-04:20	Rotating With Motor	0.33	5597	1	10:50-11:00	Rotating With Motor	0.17	6290	1
04:20-04:25	Circ & Accumulate Surveys	0.08	5597	1	11:00-12:15	Circ Bottoms Up	1.25	6290	1
04:25-04:40	Rotating With Motor	0.25	5683	1	12:15-15:30	POOH For Motor - Possible failure	3.25	6290	1
04:40-04:45	Circ & Accumulate Surveys	0.08	5683	1	15:30-16:30	Handle Directional Tools	1.00	6290	1
04:45-05:10	Orienting With Motor	0.42	5708	1	16:30-19:00	Slip And Cut	2.50	6290	n/a
05:10-05:25	Rotating With Motor	0.25	5768	1	19:00-21:00	Handle Directional Tools	2.00	6290	2
05:25-05:30	Circ & Accumulate Surveys	0.08	5768	1	21:00-24:00	RIH	3.00	6290	2

TIME SUMMARY (hrs):

MOTOR DRILL: 8.42	ORIENTING HRS: 3.33
TIME DRILL: 0.00	ROTATING HRS: 5.08
MOTOR REAM: 0.00	
CIRC: 2.83	ROTARY DRILL: 0.00
MOTOR HRS: 11.25	DRILL HRS: 8.42

DRILLING PARAMETERS:

ROTARY DRILL: 0.00	ROTARY TORQUE: 10200 ft-lb	STRING WEIGHT: 135000 lbs
MOTOR HRS: 11.25	WOB SLIDING (HI): 20000 lbf	WOB ROTATE (HI): 30000 lbf
TRIP: 6.25	WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 15000 lbf
OTHER: 6.50	RPM (ROTARY): 40/60 rpm	DRAG UP: 160000 lbf
TOTAL HRS: 24.00	RPM (MOTOR): 167 rpm	DRAG DN: 115000 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#: 675-41018	MODEL: 7/8 5.0 Stg
SETTING: 1.5 °	KICKPAD: No	SIZE: 1.50 @ 6.19'	LOBE CFG.: 7/8
MANFCT: Varel	BIT TYPE: PDC Bit	TYPE: VM513/5x18's	MTR HRS THIS DAY: 11.25
IADC BIT GRADE: 1 / 1 / WT / A / X / I / RG / BHA			MTR HRS TO DATE: 37
			NOZZLES: 1.242 in ² TFA



Weatherford

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Day 3 - 2012/10/09

BHA: 2	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-1742	MODEL: 7/8 5.0 Stg
SETTING: 2.38 °	KICKPAD: No	SIZE: 2.38°@6.23'	MTR HRS THIS DAY: 0
MANFCT: Security	BIT TYPE: PDC Bit	TYPE: FXD55M/5x18's	NOZZLES: 1.249 in ² TFA
IADC BIT GRADE: 2 / 2 / CT / S / X / I / NO / BHA			

— **PUMP PARAMETERS** —

PRESSURE ON BTM: 3000	PRESSURE OFF BTM: 2100	TOTAL FLOW RATE: 598.05 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 72.00	LINER: 6.00 in STROKE VOL.: 4.2816 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% SPM: 72.00	LINER: 6.00 in STROKE VOL.: 4.2816 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: Polymer	VISC: 34 sec/qt	WTR LOSS: 0 cc/30min	PV: 0 cP	YP: 0 lb/100 ft ²	pH: 0
DENSITY: 9 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	SAND: 0	SOLIDS: 0	OIL: 0	TEMP: 146 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

— **COMMENTS:** —

Drill ahead in the hold section.

Drill F/ 4939 - T/ 6290'.

POOH for possible motor failure. Lay down tools. Slip and Cut/change MWD battery.

From 5700' to 6200' we started seeing diff spikes while sliding and a few while rotating. From 6200' to 6290' we saw diff spikes of up to 1500 psi and stalled the motor a few times. About that time we noticed some rubber coming over the shaker and decided to POOH for possible motor failure. We were running 20k-30k WOB the entire run and 800 psi diff until 5500' then raised the diff to 1000 psi. We were 260' shy of the KOP. We will pick up the curve assembly to drill to KOP and drill curve.

CUSTOMER SIGNATURE: _____



Daily Activity Report

Drilling Services
v4.2.2674

Day 4 - 2012/10/10

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

GROUND ELEV: 4856 ft START DEPTH: 6290.0 ft PROGRESS: 843.0 ft DAILY COST: USD\$18830.00
KB ELEV: 4872 ft END DEPTH: 7133.0 ft AVG. ROP.: 63.2 ft/hr PREVIOUS COST: USD\$42960.00
TOTAL COST: USD\$61790.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:30	RIH	0.50	6290	2	07:45-08:05	Orienting With Motor	0.33	6834	2
00:30-01:05	Rotating With Motor	0.58	6365	2	08:05-08:10	Circ & Accumulate Surveys	0.08	6834	2
01:05-01:10	Circ & Accumulate Surveys	0.08	6365	2	08:10-08:45	Orienting With Motor	0.58	6877	2
01:10-01:25	Orienting With Motor	0.25	6371	2	08:45-08:50	Circ & Accumulate Surveys	0.08	6877	2
01:25-02:00	Rotating With Motor	0.58	6450	2	08:50-10:05	Rig Service	1.25	6877	2
02:00-02:05	Circ & Accumulate Surveys	0.08	6450	2	10:05-10:55	Orienting With Motor	0.83	6920	2
02:05-02:15	Orienting With Motor	0.17	6458	2	10:55-11:05	Circ & Accumulate Surveys	0.17	6920	2
02:15-02:45	Rotating With Motor	0.50	6535	2	11:05-12:10	Orienting With Motor	1.08	6963	2
02:45-03:20	Rig Service	0.58	6535	2	12:10-12:20	Circ & Accumulate Surveys	0.17	6963	2
03:20-03:25	Circ & Accumulate Surveys	0.08	6535	2	12:20-13:30	Orienting With Motor	1.17	7005	2
03:25-04:10	Orienting With Motor	0.75	6578	2	13:30-13:40	Circ & Accumulate Surveys	0.17	7005	2
04:10-04:15	Circ & Accumulate Surveys	0.08	6578	2	13:40-14:45	Orienting With Motor	1.08	7048	2
04:15-04:45	Orienting With Motor	0.50	6621	2	14:45-14:55	Circ & Accumulate Surveys	0.17	7048	2
04:45-04:50	Circ & Accumulate Surveys	0.08	6621	2	14:55-16:00	Orienting With Motor	1.08	7091	2
04:50-05:20	Orienting With Motor	0.50	6656	2	16:00-16:05	Circ & Accumulate Surveys	0.08	7091	2
05:20-05:25	Rotating With Motor	0.08	6664	2	16:05-17:20	Orienting With Motor	1.25	7123	2
05:25-05:30	Circ & Accumulate Surveys	0.08	6664	2	17:20-17:35	Rotating With Motor	0.25	7133	2
05:30-06:10	Orienting With Motor	0.67	6706	2	17:35-17:40	Circ & Accumulate Surveys	0.08	7133	2
06:10-06:20	Circ & Accumulate Surveys	0.17	6706	2	17:40-19:15	Circ Bottoms Up	1.58	7133	2
06:20-06:55	Orienting With Motor	0.58	6749	2	19:15-22:30	POOH - See Comments - Change bit/motor	3.25	7133	2
06:55-07:05	Circ & Accumulate Surveys	0.17	6749	2	22:30-23:00	Handle Directional Tools	0.50	7133	2
07:05-07:35	Orienting With Motor	0.50	6792	2	23:00-23:30	Change Bit And Motor	0.50	7133	2
07:35-07:45	Circ & Accumulate Surveys	0.17	6792	2	23:30-24:00	Rig Service	0.50	7133	2

TIME SUMMARY (hrs):			DRILLING PARAMETERS:						
MOTOR DRILL:	13.33	ORIENTING HRS:	11.33	ROTARY DRILL:	0.00	ROTARY TORQUE:	7600 ft-lb	STRING WEIGHT:	148000 lbs
TIME DRILL:	0.00	ROTATING HRS:	2.00	MOTOR HRS:	16.92	WOB SLIDING (HI):	24000 lbf	WOB ROTATE (HI):	26000 lbf
MOTOR REAM:	0.00	TRIP:	3.75	OTHER:	3.33	WOB SLIDING (LO):	5000 lbf	WOB ROTATE (LO):	12000 lbf
CIRC:	3.58	ROTARY DRILL:	0.00	RPM (ROTARY):	20 rpm	DRAG UP:	157000 lbf		
MOTOR HRS:	16.92	DRILL HRS:	13.33	TOTAL HRS:	24.00	RPM (MOTOR):	167 rpm	DRAG DN:	135000 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#: 675-1742 MODEL: 7/8 5.0 Stg LOBE CFG.: 7/8
SETTING: 2.38 ° KICKPAD: No SIZE: 2.38" @ 6.23' MTR HRS THIS DAY: 16.916666666666667 MTR HRS TO DATE: 16.916666666666667
MANFCT: Security BIT TYPE: PDC Bit TYPE: FXD55M/5x18's NOZZLES: 1.249 in² TFA
IADC BIT GRADE: 2 / 2 / CT / S / X / I / NO / BHA



— PUMP PARAMETERS —

PRESSURE ON BTM: 2750		PRESSURE OFF BTM: 2100		TOTAL FLOW RATE: 581.44 gal/min	
PUMP 1:	TYPE: 1600	EFF.: 97.0%	SPM: 70.00	LINER: 6.00 in	STROKE VOL.: 4.2816 gal/stk
PUMP 2:	TYPE: 1600	EFF.: 97.0%	SPM: 70.00	LINER: 6.00 in	STROKE VOL.: 4.2816 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: Polymer	VISC: 32 sec/qt	WTR LOSS: 0 cc/30min	PV: 5 cP	YP: 5 lb/100 ft ²	pH: 0.1
DENSITY: 8.9 lb/gal	GEL 0/10: 1.00 lb/100 ft ²	SAND: 0.2	SOLIDS: 3.7	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

— COMMENTS: —

RIH. Drill down to KOP. Begin Build section.

Drill F/6290 - T/7133

POOH due to lack of build rates. We recommended that we POOH when projections were calling for 12° build to land but Anadarko wanted to keep going. We drilled ahead another 125' taking surveys every 42'-43' with build rates getting higher every time. Kept company man informed every survey and even had the engineer on the call and they wanted us to continue. They made the decision to POOH when build rate needed got up to 14°. POOH to pick up 2.60 motor and tricone bit.

CUSTOMER SIGNATURE: _____



Weatherford

Daily Activity Report

Drilling Services

v4.2.2674

Day 5 - 2012/10/11

FILE #: 4027384

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner

MWD Supervisor: Denny Palmer, Corey Jacobs

Company Man: Duaine Bell, James Tettleton

GROUND ELEV: 4856 ft

START DEPTH: 7133.0 ft

PROGRESS: 256.0 ft

DAILY COST: USD\$12450.00

KB ELEV: 4872 ft

END DEPTH: 7389.0 ft

AVG. ROP.: 14.8 ft/hr

PREVIOUS COST: USD\$61790.00

TOTAL COST: USD\$74240.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-01:00	Change Bit And Motor	1.00	7133	3	12:35-13:05	Rotating With Motor	0.50	7271	3
01:00-04:15	RIH	3.25	7133	3	13:05-14:55	Orienting With Motor	1.83	7304	3
04:15-04:20	Circ & Accumulate Surveys	0.08	7133	3	14:55-15:00	Circ & Accumulate Surveys	0.08	7304	3
04:20-06:45	Orienting With Motor	2.42	7176	3	15:00-15:45	Rig Service	0.75	7304	3
06:45-06:50	Circ & Accumulate Surveys	0.08	7176	3	15:45-18:55	Orienting With Motor	3.17	7347	3
06:50-09:10	Orienting With Motor	2.33	7219	3	18:55-19:00	Circ & Accumulate Surveys	0.08	7347	3
09:10-09:20	Circ & Accumulate Surveys	0.17	7219	3	19:00-20:55	Orienting With Motor	1.92	7370	3
09:20-09:45	Rotating With Motor	0.42	7229	3	20:55-22:00	Wiper Trip - to 6535	1.08	7370	3
09:45-12:30	Orienting With Motor	2.75	7261	3	22:00-24:00	Orienting With Motor	2.00	7389	3
12:30-12:35	Circ & Accumulate Surveys	0.08	7261	3			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 17.33	ORIENTING HRS: 16.42	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 0.92	MOTOR HRS: 17.92
MOTOR REAM: 0.00		TRIP: 4.33
CIRC: 0.58	ROTARY DRILL: 0.00	OTHER: 1.75
MOTOR HRS: 17.92	DRILL HRS: 17.33	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 8500 ft-lb	STRING WEIGHT: 145000 lbs
WOB SLIDING (HI): 50000 lbf	WOB ROTATE (HI): 30000 lbf
WOB SLIDING (LO): 40000 lbf	WOB ROTATE (LO): 20000 lbf
RPM (ROTARY): 20 rpm	DRAG UP: 0 lbf
RPM (MOTOR): 162 rpm	DRAG DN: 0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-3617	MODEL: 7/8 5.0 Stg
SETTING: 2.6 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: Ticone	TYPE: GX-03	MTR HRS THIS DAY: 17.916666666666666
IADC BIT GRADE: 1 / 1 / NO / A / N / I / NO / TD			MTR HRS TO DATE: 17.916666666666666
			NOZZLES: 0.745 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 2800	PRESSURE OFF BTM: 2700	TOTAL FLOW RATE: 581.44 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 70.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 70.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 4.2816 gal/stk
	LINER: 6.00 in	STROKE VOL.: 4.2816 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Polymer	VISC: 38 sec/qt	WTR LOSS: 0 cc/30min	PV: 12 cP	YP: 12 lb/100 ft ²	pH: 0.2
DENSITY: 9.8 lb/gal	GEL 0/10: 2.00 lb/100 ft ²	SAND: 0.25	SOLIDS: 6.7	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Change out Bit and motor. RIH

Drill ahead in curve. Drill F/ 7133 - T/ 7389

CUSTOMER SIGNATURE: _____



Daily Activity Report

Drilling Services
v4.2.2674

Day 6 - 2012/10/12

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Tettleton

GROUND ELEV: 4856 ft **START DEPTH:** 7389.0 ft **PROGRESS:** 85.0 ft **DAILY COST:** USD\$16250.00
KB ELEV: 4872 ft **END DEPTH:** 7474.0 ft **AVG. ROP.:** 12.7 ft/hr **PREVIOUS COST:** USD\$74240.00
TOTAL COST: USD\$90490.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:10	Circ & Accumulate Surveys	0.17	7389	3	07:00-07:10	Circ & Accumulate Surveys	0.17	7474	3
00:10-02:50	Orienting With Motor	2.67	7413	3	07:10-07:45	Rig Service	0.58	7474	3
02:50-03:40	Rotating With Motor	0.83	7432	3	07:45-10:15	Circ & Condition Hole	2.50	7474	3
03:40-03:45	Circ & Accumulate Surveys	0.08	7432	3	10:15-15:00	POOH To Run Casing	4.75	7474	3
03:45-04:30	Rotating With Motor	0.75	7458	3	15:00-16:15	Lay Down Directional Tools	1.25	7474	n/a
04:30-04:35	Circ & Accumulate Surveys - Check shot	0.08	7458	3	16:15-24:00	Run Casing - 7"	7.75	7474	n/a
04:35-07:00	Orienting With Motor	2.42	7474	3			0.00		

TIME SUMMARY (hrs):				DRILLING PARAMETERS:			
MOTOR DRILL: 6.67	ORIENTING HRS: 5.08	ROTARY DRILL: 0.00	ROTARY TORQUE: 3200 ft-lb	STRING WEIGHT: 152000 lbs			
TIME DRILL: 0.00	ROTATING HRS: 1.58	MOTOR HRS: 9.67	WOB SLIDING (HI): 38000 lbf	WOB ROTATE (HI): 28000 lbf			
MOTOR REAM: 0.00		TRIP: 4.75	WOB SLIDING (LO): 25000 lbf	WOB ROTATE (LO): 12000 lbf			
CIRC: 3.00	ROTARY DRILL: 0.00	OTHER: 9.58	RPM (ROTARY): 20 rpm	DRAG UP: 161000 lbf			
MOTOR HRS: 9.67	DRILL HRS: 6.67	TOTAL HRS: 24.00	RPM (MOTOR): 167 rpm	DRAG DN: 137000 lbf			

BHA / MOTOR / BIT INFORMATION:

BHA: 3	HOLE SIZE: 8.75 in	SECTION TYPE: Curve	SURVEY TYPE: Positive Pulse MWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 675-3617	MODEL: 7/8 5.0 Stg
SETTING: 2.6 °	KICKPAD: No	SIZE: 6 3/4" (171mm)	LOBE CFG.: 7/8
MANFCT: Hughes	BIT TYPE: Ticone	TYPE: GX-03	MTR HRS THIS DAY: 9.666666666666667
IADC BIT GRADE: 1 / 1 / NO / A / N / I / NO / TD			TOTAL HRS TO DATE: 27.58333333333333
			NOZZLES: 0.745 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 3330	PRESSURE OFF BTM: 3100	TOTAL FLOW RATE: 581.44 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0%	SPM: 70.00
PUMP 2: TYPE: 1600	EFF.: 97.0%	SPM: 70.00
PUMP 3: TYPE:	EFF.: 100.0%	SPM: 0.00
	LINER: 6.00 in	STROKE VOL.: 4.2816 gal/stk
	LINER: 6.00 in	STROKE VOL.: 4.2816 gal/stk
	LINER: 0.00 in	STROKE VOL.: 0.0000 gal/stk

MUD RECORD

MUD TYPE: Polymer	VISC: 38 sec/qt	WTR LOSS: 0 cc/30min	PV: 10 cP	YP: 15 lb/100 ft ²	pH: 1.1
DENSITY: 9.8 lb/gal	GEL 0/10: 3.00 lb/100 ft ²	SAND: 0.9	SOLIDS: 8.2	OIL: 0	TEMP: 0 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

COMMENTS:

Drill ahead in the build section.
Drill F/7,389' - T/7,474' TD. Circulate & Condition, POOH, L/D Directional tools. Run 7" Casing.

CUSTOMER SIGNATURE: _____



Daily Activity Report

Drilling Services
v4.2.2674

Day 7 - 2012/10/13

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Corey Jacobs
Other: Stephen Gray, Eric Dearmen
Company Man: Duaine Bell, James Tettleton

GROUND ELEV: 4856 ft START DEPTH: 7474.0 ft PROGRESS: 0.0 ft DAILY COST: USD\$36930.00
KB ELEV: 4872 ft END DEPTH: 7474.0 ft AVG. ROP.: 0.0 ft/hr PREVIOUS COST: USD\$90490.00
TOTAL COST: USD\$127420.00

WORK STATUS: Operating (All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-08:00	Run Casing	8.00	7474	n/a	19:30-20:30	Handle Directional Tools	1.00	7474	4
08:00-18:00	Cement Casing	10.00	7474	n/a	20:30-22:00	Work On MWD - Program LWD	1.50	7474	4
18:00-19:30	Rig Repair - Draw works.	1.50	7474	n/a	22:00-24:00	RIH	2.00	7474	4

TIME SUMMARY (hrs):				DRILLING PARAMETERS:					
MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:		STRING WEIGHT:	0 lbs
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00	WOB SLIDING (HI):	0 lbf	WOB ROTATE (HI):	0 lbf
MOTOR REAM:	0.00			TRIP:	2.00	WOB SLIDING (LO):	0 lbf	WOB ROTATE (LO):	0 lbf
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	22.00	RPM (ROTARY):		DRAG UP:	0 lbf
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00	RPM (MOTOR):		DRAG DN:	0 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 500-3767	MODEL: 6/7 7.0 Stg
SETTING: 1.5 °	KICKPAD: No	SIZE: 5" (127mm)	LOBE CFG.: 6/7
MANFCT: Smith	BIT TYPE: Smith 5x16s	TYPE: SDi513	MTR HRS THIS DAY: 0
IADC BIT GRADE: 1 / 4 / BT / M / X / I / CT / TD			MTR HRS TO DATE: 0
			NOZZLES: 0.982 in ² TFA

PUMP PARAMETERS

PRESSURE ON BTM: 0	PRESSURE OFF BTM: 0	TOTAL FLOW RATE: 0.00 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% 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 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	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:

Run casing. Cement. Pick up BHA#4 and trip in the hole.

CUSTOMER SIGNATURE: _____



Weatherford®

Daily Activity Report

Drilling Services

v4.2.2674

Day 8 - 2012/10/14

FILE #: 4027384

WELL NAME: Palyo 13C-11HZ

SERVICE CO.: Weatherford Directional

JOB TYPE: Horizontal

COMPANY: Anadarko Petroleum Corporation

SURVEY TYPE: HEL LWD

RIG & NO: Xtreme 23

SURFACE LOCATION: Weld

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner

MWD Supervisor: Corey Jacobs

Other: Stephen Gray, Eric Dearmen

Company Man: Duaine Bell, James Tettleton

GROUND ELEV: 4856 ft

START DEPTH: 7474.0 ft

PROGRESS: 1410.0 ft

DAILY COST: USD\$20550.00

KB ELEV: 4872 ft

END DEPTH: 8884.0 ft

AVG. ROP.: 124.5 ft/hr

PREVIOUS COST: USD\$127420.00

TOTAL COST: USD\$147970.00

WORK STATUS: Operating

(All units are imperial.)

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:10	RIH	3.17	7474	4	16:35-16:45	Orienting With Motor	0.17	8025	4
03:10-04:00	Drill Out Flt, Shoe & Cmnt	0.83	7474	4	16:45-17:00	Rotating With Motor	0.25	8090	4
04:00-04:15	Rotating With Motor	0.25	7480	4	17:00-17:05	Circ & Accumulate Surveys	0.08	8090	4
04:15-04:30	Orienting With Motor	0.25	7493	4	17:05-17:15	Orienting With Motor	0.17	8100	4
04:30-04:35	Circ & Accumulate Surveys	0.08	7493	4	17:15-18:00	Rotating With Motor	0.75	8175	4
04:35-04:55	Orienting With Motor	0.33	7500	4	18:00-18:05	Circ & Accumulate Surveys	0.08	8175	4
04:55-05:10	Rotating With Motor	0.25	7535	4	18:05-18:15	Orienting With Motor	0.17	8185	4
05:10-05:15	Circ & Accumulate Surveys - Check shot	0.08	7535	4	18:15-18:40	Rotating With Motor	0.42	8261	4
05:15-05:20	Orienting With Motor	0.08	7547	4	18:40-18:45	Circ & Accumulate Surveys	0.08	8261	4
05:20-05:40	Rotating With Motor	0.33	7578	4	18:45-19:00	Rotating With Motor	0.25	8346	4
05:40-05:45	Circ & Accumulate Surveys	0.08	7578	4	19:00-19:05	Circ & Accumulate Surveys	0.08	8346	4
05:45-06:05	Orienting With Motor	0.33	7596	4	19:05-19:30	Rig Service	0.42	8346	4
06:05-06:30	Rotating With Motor	0.42	7664	4	19:30-19:45	Orienting With Motor	0.25	8354	4
06:30-06:35	Circ & Accumulate Surveys	0.08	7664	4	19:45-20:10	Rotating With Motor	0.42	8431	4
06:35-06:55	Orienting With Motor	0.33	7684	4	20:10-20:15	Circ & Accumulate Surveys	0.08	8431	4
06:55-07:15	Rotating With Motor	0.33	7749	4	20:15-20:25	Orienting With Motor	0.17	8437	4
07:15-07:20	Circ & Accumulate Surveys	0.08	7749	4	20:25-20:45	Rotating With Motor	0.33	8517	4
07:20-07:30	Orienting With Motor	0.17	7764	4	20:45-20:50	Circ & Accumulate Surveys	0.08	8517	4
07:30-08:00	Rotating With Motor	0.50	7769	4	20:50-21:00	Orienting With Motor	0.17	8525	4
08:00-09:00	POOH - See Comments - 10 stands rig repair	1.00	7769	4	21:00-21:15	Rotating With Motor	0.25	8602	4
09:00-13:15	Rig Repair - Generator fuel leaks	4.25	7769	4	21:15-21:20	Circ & Accumulate Surveys	0.08	8602	4
13:15-14:45	RIH	1.50	7769	4	21:20-22:10	Rotating With Motor	0.83	8688	4
14:45-15:05	Rotating With Motor	0.33	7834	4	22:10-22:15	Circ & Accumulate Surveys	0.08	8688	4
15:05-15:10	Circ & Accumulate Surveys	0.08	7834	4	22:15-22:30	Rotating With Motor	0.25	8773	4
15:10-15:25	Orienting With Motor	0.25	7852	4	22:30-22:35	Circ & Accumulate Surveys	0.08	8773	4
15:25-15:45	Rotating With Motor	0.33	7920	4	22:35-23:15	Orienting With Motor	0.67	8793	4
15:45-15:50	Circ & Accumulate Surveys	0.08	7920	4	23:15-23:30	Rotating With Motor	0.25	8859	4
15:50-16:05	Orienting With Motor	0.25	7945	4	23:30-23:35	Circ & Accumulate Surveys	0.08	8859	4
16:05-16:30	Rotating With Motor	0.42	8005	4	23:35-24:00	Orienting With Motor	0.42	8884	4
16:30-16:35	Circ & Accumulate Surveys	0.08	8005	4			0.00		

TIME SUMMARY (hrs):

MOTOR DRILL: 11.33	ORIENTING HRS: 4.17	ROTARY DRILL: 0.00
TIME DRILL: 0.00	ROTATING HRS: 7.17	MOTOR HRS: 13.67
MOTOR REAM: 0.00		TRIP: 5.67
CIRC: 2.33	ROTARY DRILL: 0.00	OTHER: 4.67
MOTOR HRS: 13.67	DRILL HRS: 11.33	TOTAL HRS: 24.00

DRILLING PARAMETERS:

ROTARY TORQUE: 3500 ft-lb	STRING WEIGHT: 150000 lbs
WOB SLIDING (HI): 15000 lbf	WOB ROTATE (HI): 20000 lbf
WOB SLIDING (LO): 2000 lbf	WOB ROTATE (LO): 5000 lbf
RPM (ROTARY): 45 rpm	DRAG UP: 162000 lbf
RPM (MOTOR): 245 rpm	DRAG DN: 137000 lbf

— BHA / MOTOR / BIT INFORMATION: —



Weatherford

Daily Activity Report

Drilling Services

v4.2.2674

Day 8 - 2012/10/14

BHA: 4 **HOLE SIZE:** 6.125 in **SECTION TYPE:** Lateral 1 **SURVEY TYPE:** HEL LWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 500-3767 **MODEL:** 6/7 7.0 Stg **LOBE CFG.:** 6/7
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 5" (127mm) **MTR HRS THIS DAY:** 13.666666666666667 **MTR HRS TO DATE:** 13.666666666666667
MANFCT: Smith **BIT TYPE:** Smith 5x16s **TYPE:** SDi513 **NOZZLES:** 0.982 in² TFA
IADC BIT GRADE: 1 / 4 / BT / M / X / I / CT / TD

— **PUMP PARAMETERS** —

PRESSURE ON BTM: 1560	PRESSURE OFF BTM: 2150	TOTAL FLOW RATE: 290.72 gal/min
PUMP 1: TYPE: 1600	EFF.: 97.0% SPM: 70.00	LINER: 6.00 in STROKE VOL.: 4.2816 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% 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: Polymer	VISC: 42 sec/qt	WTR LOSS: 5 cc/30min	PV: 15 cP	YP: 16 lb/100 ft ²	pH: 8.6
DENSITY: 10.1 lb/gal	GEL 0/10: 4.00 lb/100 ft ²	SAND: 0.5	SOLIDS: 6	OIL: 0	TEMP: 170 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

— **COMMENTS:** —

RIH with BHA 4. Drill out float, shoe and cement.

Float @ 7369' Shoe @ 7451'.

Drilling ahead in the lateral section.
fuel leaks causing a minor fire on a Generator motor.

Rig was down for 6.5 hours due to

Drill F/ 7474 - T/ 8884

CUSTOMER SIGNATURE: _____



Daily Activity Report

Drilling Services
v4.2.2674

Day 9 - 2012/10/15

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Corey Jacobs
Other: Stephen Gray, Eric Dearmen
Company Man: Duaine Bell, James Tettleton

GROUND ELEV: 4856 ft **START DEPTH:** 8884.0 ft **PROGRESS:** 2295.0 ft **DAILY COST:** USD\$20550.00
KB ELEV: 4872 ft **END DEPTH:** 11179.0 ft **AVG. ROP.:** 113.3 ft/hr **PREVIOUS COST:** USD\$147970.00
TOTAL COST: USD\$168520.00

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	8944	4	11:55-12:05	Circ & Accumulate Surveys - Change Frequency	0.17	9969	4
00:35-00:40	Circ & Accumulate Surveys	0.08	8944	4	12:05-12:10	Orienting With Motor	0.08	9974	4
00:40-01:10	Rotating With Motor	0.50	9030	4	12:10-12:55	Rotating With Motor	0.75	10055	4
01:10-01:15	Circ & Accumulate Surveys	0.08	9030	4	12:55-13:00	Circ & Accumulate Surveys	0.08	10055	4
01:15-01:45	Orienting With Motor	0.50	9045	4	13:00-13:10	Orienting With Motor	0.17	10063	4
01:45-02:05	Rotating With Motor	0.33	9072	4	13:10-13:40	Rotating With Motor	0.50	10140	4
02:05-02:20	Orienting With Motor	0.25	9082	4	13:40-13:45	Circ & Accumulate Surveys	0.08	10140	4
02:20-02:30	Rotating With Motor	0.17	9115	4	13:45-14:15	Rotating With Motor	0.50	10226	4
02:30-02:35	Circ & Accumulate Surveys	0.08	9115	4	14:15-14:20	Circ & Accumulate Surveys	0.08	10226	4
02:35-03:00	Orienting With Motor	0.42	9130	4	14:20-15:20	Orienting With Motor	1.00	10246	4
03:00-03:30	Rotating With Motor	0.50	9201	4	15:20-15:45	Rotating With Motor	0.42	10311	4
03:30-03:35	Circ & Accumulate Surveys	0.08	9201	4	15:45-15:50	Circ & Accumulate Surveys	0.08	10311	4
03:35-03:55	Orienting With Motor	0.33	9213	4	15:50-16:15	Rotating With Motor	0.42	10396	4
03:55-04:20	Rotating With Motor	0.42	9286	4	16:15-16:20	Circ & Accumulate Surveys	0.08	10396	4
04:20-04:25	Circ & Accumulate Surveys	0.08	9286	4	16:20-17:00	Orienting With Motor	0.67	10411	4
04:25-04:40	Rotating With Motor	0.25	9332	4	17:00-17:25	Rotating With Motor	0.42	10481	4
04:40-04:45	Circ & Accumulate Surveys	0.08	9332	4	17:25-17:30	Circ & Accumulate Surveys	0.08	10481	4
04:45-05:00	Orienting With Motor	0.25	9347	4	17:30-18:00	Orienting With Motor	0.50	10496	4
05:00-05:25	Rotating With Motor	0.42	9371	4	18:00-18:25	Rotating With Motor	0.42	10567	4
05:25-05:30	Circ & Accumulate Surveys	0.08	9371	4	18:25-18:30	Circ & Accumulate Surveys	0.08	10567	4
05:30-06:00	Orienting With Motor	0.50	9386	4	18:30-18:50	Orienting With Motor	0.33	10577	4
06:00-06:35	Rotating With Motor	0.58	9457	4	18:50-19:10	Rotating With Motor	0.33	10652	4
06:35-06:40	Circ & Accumulate Surveys	0.08	9457	4	19:10-19:15	Circ & Accumulate Surveys	0.08	10652	4
06:40-07:05	Orienting With Motor	0.42	9477	4	19:15-19:45	Rotating With Motor	0.50	10738	4
07:05-07:30	Rotating With Motor	0.42	9542	4	19:45-19:50	Circ & Accumulate Surveys	0.08	10738	4
07:30-07:35	Circ & Accumulate Surveys	0.08	9542	4	19:50-20:15	Rig Service	0.42	10738	4
07:35-08:00	Orienting With Motor	0.42	9562	4	20:15-20:30	Orienting With Motor	0.25	10743	4
08:00-08:30	Rotating With Motor	0.50	9628	4	20:30-20:55	Rotating With Motor	0.42	10823	4
08:30-08:35	Circ & Accumulate Surveys	0.08	9628	4	20:55-21:00	Circ & Accumulate Surveys	0.08	10823	4
08:35-08:50	Orienting With Motor	0.25	9658	4	21:00-21:15	Rotating With Motor	0.25	10908	4
08:50-09:15	Rotating With Motor	0.42	9713	4	21:15-21:20	Circ & Accumulate Surveys	0.08	10908	4
09:15-09:20	Circ & Accumulate Surveys	0.08	9713	4	21:20-21:30	Orienting With Motor	0.17	10920	4
09:20-09:45	Orienting With Motor	0.42	9738	4	21:30-21:45	Rotating With Motor	0.25	10994	4
09:45-10:00	Rotating With Motor	0.25	9799	4	21:45-21:50	Circ & Accumulate Surveys	0.08	10994	4
10:00-10:50	Rig Service	0.83	9799	4	21:50-22:35	Rotating With Motor	0.75	11079	4
10:50-11:00	Circ & Accumulate Surveys	0.17	9799	4	22:35-22:40	Circ & Accumulate Surveys	0.08	11079	4
11:00-11:25	Rotating With Motor	0.42	9884	4	22:40-23:25	Rotating With Motor	0.75	11165	4
11:25-11:30	Circ & Accumulate Surveys	0.08	9884	4	23:25-23:30	Circ & Accumulate Surveys	0.08	11165	4
11:30-11:55	Rotating With Motor	0.42	9969	4	23:30-24:00	Rotating With Motor	0.50	11179	4



Day 9 - 2012/10/15

TIME SUMMARY (hrs):			DRILLING PARAMETERS:						
MOTOR DRILL:	20.25	ORIENTING HRS:	6.92	ROTARY DRILL:	0.00	ROTARY TORQUE:	7800 ft-lb	STRING WEIGHT	150000 lbs
TIME DRILL:	0.00	ROTATING HRS:	13.33	MOTOR HRS:	22.75	WOB SLIDING (HI):	21000 lbf	WOB ROTATE (HI):	18000 lbf
MOTOR REAM:	0.00			TRIP:	0.00	WOB SLIDING (LO):	5000 lbf	WOB ROTATE (LO):	7000 lbf
CIRC:	2.50	ROTARY DRILL:	0.00	OTHER:	1.25	RPM (ROTARY):	50 rpm	DRAG UP:	162000 lbf
MOTOR HRS:	22.75	DRILL HRS:	20.25	TOTAL HRS:	24.00	RPM (MOTOR):	265 rpm	DRAG DN:	142000 lbf

— BHA / MOTOR / BIT INFORMATION: —

BHA: 4	HOLE SIZE: 6.125 in	SECTION TYPE: Lateral 1	SURVEY TYPE: HEL LWD
MANFCT.: Weatherford	STABILIZER: No	SERIAL#: 500-3767	MODEL: 6/7 7.0 Stg
SETTING: 1.5 °	KICKPAD: No	SIZE: 5" (127mm)	LOBE CFG.: 6/7
MANFCT: Smith	BIT TYPE: Smith 5x16s	TYPE: SDi513	MTR HRS THIS DAY: 22.75
IADC BIT GRADE: 1 / 4 / BT / M / X / I / CT / TD			MTR HRS TO DATE: 36.41666666666666
			NOZZLES: 0.982 in ² TFA

— PUMP PARAMETERS —

PRESSURE ON BTM: 2750		PRESSURE OFF BTM: 2100		TOTAL FLOW RATE: 290.72 gal/min	
PUMP 1:	TYPE: 1600	EFF.: 97.0%	SPM: 70.00	LINER: 6.00 in	STROKE VOL.: 4.2816 gal/stk
PUMP 2:	TYPE: 1600	EFF.: 97.0%	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: Polymer	VISC: 37 sec/qt	WTR LOSS: 0 cc/30min	PV: 10 cP	YP: 10 lb/100 ft ²	pH: 1.4
DENSITY: 9.9 lb/gal	GEL 0/10: 2.00 lb/100 ft ²	SAND: 0.5	SOLIDS: 8.7	OIL: 0	TEMP: 176 °F
LIQUID BASE: Water		LIQUID RATE: 0 gal/min	GAS TYPE:		GAS RATE: 0 cu ft/min

— COMMENTS: —

Drilling ahead in the lateral. Well drifted left in azimuth @ 1° per 100' and we were having trouble getting the slide we needed to correct this issue

Drill F/ 8884 - T/11179

While drilling ahead the @ 21:30 hrs company man called with a target change from Geologist. Target changed from 7132TVD to 7124TVD.

NOTE: Target Change Requested - 2012/10/15 2130

CUSTOMER SIGNATURE: _____



Weatherford

Daily Activity Report

Drilling Services
v4.2.2674

Day 10 - 2012/10/16

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Corey Jacobs
Other: Stephen Gray, Eric Dearmen
Company Man: James Tettleton, Duaine Bell

GROUND ELEV: 4856 ft **START DEPTH:** 11179.0 ft **PROGRESS:** 546.0 ft **DAILY COST:** USD\$20550.00
KB ELEV: 4872 ft **END DEPTH:** 11725.0 ft **AVG. ROP.:** 64.8 ft/hr **PREVIOUS COST:** USD\$168520.00
WORK STATUS: Operating (All units are imperial.) **TOTAL COST:** USD\$189070.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-00:40	Rotating With Motor	0.67	11250	4	07:20-07:25	Circ & Accumulate Surveys	0.08	11591	4
00:40-00:45	Circ & Accumulate Surveys	0.08	11250	4	07:25-09:00	Orienting With Motor	1.58	11605	4
00:45-01:30	Orienting With Motor	0.75	11260	4	09:00-11:20	POOH - See Comments - 25 STAND WIPER TRIP	2.33	11605	4
01:30-01:50	Rotating With Motor	0.33	11335	4	11:20-12:00	Rig Service	0.67	11605	4
01:50-01:55	Circ & Accumulate Surveys	0.08	11335	4	12:00-14:30	RIH	2.50	11605	4
01:55-03:05	Orienting With Motor	1.17	11345	4	14:30-14:50	Circ & Condition Hole	0.33	11605	4
03:05-03:20	Rotating With Motor	0.25	11420	4	14:50-15:00	Rotating With Motor	0.17	11609	4
03:20-03:25	Circ & Accumulate Surveys	0.08	11420	4	15:00-15:35	Orienting With Motor	0.58	11623	4
03:25-04:00	Orienting With Motor	0.58	11430	4	15:35-15:55	Rotating With Motor	0.33	11676	4
04:00-04:20	Rotating With Motor	0.33	11506	4	15:55-16:00	Circ & Accumulate Surveys	0.08	11676	4
04:20-04:25	Circ & Accumulate Surveys	0.08	11506	4	16:00-16:15	Rotating With Motor - 11,725' TD	0.25	11725	4
04:25-05:25	Orienting With Motor	1.00	11510	4	16:15-16:20	Circ & Accumulate Surveys	0.08	11725	4
05:25-05:50	Wait On Orders - from Anadarko	0.42	11510	4	16:20-18:00	Circ & Condition Hole	1.67	11725	4
05:50-06:15	Rotating With Motor	0.42	11591	4	18:00-24:00	POOH To Run Casing	6.00	11725	4
06:15-07:20	Rig Service - Change out saver sub	1.08	11591	4			0.00		

TIME SUMMARY (hrs):			DRILLING PARAMETERS:		
MOTOR DRILL: 8.42	ORIENTING HRS: 5.67	ROTARY DRILL: 0.00	ROTARY TORQUE: 10050 ft-lb	STRING WEIGHT: 153000 lbs	
TIME DRILL: 0.00	ROTATING HRS: 2.75	MOTOR HRS: 11.00	WOB SLIDING (HI): 35000 lbf	WOB ROTATE (HI): 18000 lbf	
MOTOR REAM: 0.00		TRIP: 10.83	WOB SLIDING (LO): 5000 lbf	WOB ROTATE (LO): 10000 lbf	
CIRC: 2.58	ROTARY DRILL: 0.00	OTHER: 2.17	RPM (ROTARY): 45 rpm	DRAG UP: 190000 lbf	
MOTOR HRS: 11.00	DRILL HRS: 8.42	TOTAL HRS: 24.00	RPM (MOTOR): 267 rpm	DRAG DN: 100000 lbf	

BHA / MOTOR / BIT INFORMATION:

BHA: 4 **HOLE SIZE:** 6.125 in **SECTION TYPE:** Lateral 1 **SURVEY TYPE:** HEL LWD
MANFCT.: Weatherford **STABILIZER:** No **SERIAL#:** 500-3767 **MODEL:** 6/7 7.0 Stg **LOBE CFG.:** 6/7
SETTING: 1.5 ° **KICKPAD:** No **SIZE:** 5" (127mm) **MTR HRS THIS DAY:** 11 **MTR HRS TO DATE:** 47.41666666666666
MANFCT: Smith **BIT TYPE:** Smith 5x16s **TYPE:** SDi513 **NOZZLES:** 0.982 in² TFA
IADC BIT GRADE: 1 / 4 / BT / M / X / I / CT / TD

PUMP PARAMETERS

PRESSURE ON BTM: 3650 **PRESSURE OFF BTM:** 3100 **TOTAL FLOW RATE:** 290.72 gal/min
PUMP 1: TYPE: 1600 **EFF.:** 97.0% **SPM:** 70.00 **LINER:** 6.00 in **STROKE VOL.:** 4.2816 gal/stk
PUMP 2: TYPE: 1600 **EFF.:** 97.0% **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: Polymer **VISC:** 37 sec/qt **WTR LOSS:** 0 cc/30min **PV:** 10 cP **YP:** 10 lb/100 ft² **pH:** 1.4
DENSITY: 9.9 lb/gal **GEL 0/10:** 2.00 lb/100 ft² **SAND:** 0.5 **SOLIDS:** 8.7 **OIL:** 0 **TEMP:** 0 °F
LIQUID BASE: Water **LIQUID RATE:** 0 gal/min **GAS TYPE:** **GAS RATE:** 0 cu ft/min



Daily Activity Report

Drilling Services

v4.2.2674

Day 10 - 2012/10/16

— **COMMENTS:** _____

Drilling ahead in the lateral section. Well drifted left in azimuth @ 1° per 100' and we were having trouble getting the slide we needed to correct this issue.

Sliding became very difficult towards the end of the lateral. Getting back to bottom after back reaming was very difficult as well.

Drill F/ 11,179 - T/ 11,725' TD

Made a 25 stand wiper trip @ 11,605' because we were not able to slide. The wiper trip was very effective and we were able to slide with good results when we got back to bottom.

Circulate & Condition, POOH, L/D BHA.

CUSTOMER SIGNATURE:



Daily Activity Report

Drilling Services
v4.2.2674

Day 11 - 2012/10/17

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Steven Bumgarner
Other: Eric Dearmen, Stephen Gray
MWD Supervisor: Corey Jacobs
Company Man: James Tettleton, Duaine Bell

GROUND ELEV: 4856 ft START DEPTH: 11725.0 ft PROGRESS: 0.0 ft DAILY COST: USD\$24350.00
KB ELEV: 4872 ft END DEPTH: 11725.0 ft AVG. ROP.: 0.0 ft/hr PREVIOUS COST: USD\$189070.00
WORK STATUS: Operating (All units are imperial.) TOTAL COST: USD\$213420.00

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-03:15	POOH To Run Casing	3.25	11725	4	04:30-24:00	Wiper Trip	19.50	11725	4
03:15-04:30	Lay Down Directional Tools	1.25	11725	4			0.00		

TIME SUMMARY (hrs):				DRILLING PARAMETERS:					
MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	10050 ft-lb	STRING WEIGHT:	153000 lbs
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00	WOB SLIDING (HI):	35000 lbf	WOB ROTATE (HI):	18000 lbf
MOTOR REAM:	0.00	TRIP:	22.75	WOB SLIDING (LO):	5000 lbf	WOB ROTATE (LO):	10000 lbf		
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	1.25	RPM (ROTARY):	45 rpm	DRAG UP:	37000 lbf
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00	RPM (MOTOR):	260 rpm	DRAG DN:	53000 lbf

BHA / MOTOR / BIT INFORMATION:

BHA: 4 HOLE SIZE: 6.125 in SECTION TYPE: Lateral 1 SURVEY TYPE: HEL LWD
MANFCT.: Weatherford STABILIZER: No SERIAL#: 500-3767 MODEL: 6/7 7.0 Stg LOBE CFG.:6/7
SETTING: 1.5 ° KICKPAD:No SIZE: 5" (127mm) MTR HRS THIS DAY: 0 MTR HRS TO DATE:47.41666666666666
MANFCT: Smith BIT TYPE:Smith 5x16s TYPE: SDi513 NOZZLES:0.982 in² TFA
IADC BIT GRADE: 1 / 4 / BT / M / X / I / CT / TD

PUMP PARAMETERS

PRESSURE ON BTM: 3650 PRESSURE OFF BTM:3100 TOTAL FLOW RATE: 290.72 gal/min
PUMP 1: TYPE: 1600 EFF.: 97.0% SPM: 70.00 LINER: 6.00 in STROKE VOL.: 4.2816 gal/stk
PUMP 2: TYPE: 1600 EFF.: 97.0% 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: Polymer VISC: 37 sec/qt WTR LOSS: 0 cc/30min PV: 10 cP YP: 10 lb/100 ft² pH: 1.4
DENSITY: 9.9 lb/gal GEL 0/10: 2.00 lb/100 ft² SAND: 0.5 SOLIDS: 8.7 OIL: 0 TEMP: 0 °F
LIQUID BASE: Water LIQUID RATE: 0 gal/min GAS TYPE: GAS RATE: 0 cu ft/min

COMMENTS:

POOH. Lay down BHA. Wiper Trip.

CUSTOMER SIGNATURE: _____



Daily Activity Report

Drilling Services
v4.2.2674

Day 12 - 2012/10/18

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Steven Bumgarner
Other: Eric Dearmen, Stephen Gray
MWD Supervisor: Corey Jacobs
Company Man: James Tettleton, Duaine Bell

GROUND ELEV: 4856 ft START DEPTH: 11725.0 ft PROGRESS: 0.0 ft DAILY COST: USD\$13172.50
KB ELEV: 4872 ft END DEPTH: 11725.0 ft AVG. ROP.: 0.0 ft/hr PREVIOUS COST: USD\$213420.00
WORK STATUS: Operating (All units are imperial.) TOTAL COST: USD\$226592.50

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-24:00	Standby	24.00	11725	n/a			0.00		

TIME SUMMARY (hrs):				DRILLING PARAMETERS:			
MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00	WOB SLIDING (HI):	0 lbf
MOTOR REAM:	0.00	TRIP:	0.00	WOB SLIDING (LO):	0 lbf	WOB ROTATE (HI):	0 lbf
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00	WOB ROTATE (LO):	0 lbf
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00	RPM (ROTARY):	
						RPM (MOTOR):	
						DRAG UP:	0 lbf
						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: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% 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 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	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:

Wiper trip, Run Casing/Liner.

Resistivity / MFR tool backhauled Oct 18th.

CUSTOMER SIGNATURE: _____



Daily Activity Report

Drilling Services
v4.2.2674

Day 13 - 2012/10/19

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Steven Bumgarner
Other: Eric Dearmen, Stephen Gray
MWD Supervisor: Corey Jacobs
Company Man: James Tettleton, Duaine Bell

GROUND ELEV: 4856 ft START DEPTH: 11725.0 ft PROGRESS: 0.0 ft DAILY COST: USD\$11710.00
KB ELEV: 4872 ft END DEPTH: 11725.0 ft AVG. ROP.: 0.0 ft/hr PREVIOUS COST: USD\$226592.50
WORK STATUS: Operating (All units are imperial.) TOTAL COST: USD\$238302.50

TIME	DAILY ACTIVITY	HRS	DPTH	BHA	TIME	DAILY ACTIVITY	HRS	DPTH	BHA
00:00-24:00	Standby	24.00	11725	n/a			0.00		

TIME SUMMARY (hrs):				DRILLING PARAMETERS:			
MOTOR DRILL:	0.00	ORIENTING HRS:	0.00	ROTARY DRILL:	0.00	ROTARY TORQUE:	
TIME DRILL:	0.00	ROTATING HRS:	0.00	MOTOR HRS:	0.00	WOB SLIDING (HI):	0 lbf
MOTOR REAM:	0.00	TRIP:	0.00	WOB SLIDING (LO):	0 lbf	WOB ROTATE (HI):	0 lbf
CIRC:	0.00	ROTARY DRILL:	0.00	OTHER:	24.00	WOB ROTATE (LO):	0 lbf
MOTOR HRS:	0.00	DRILL HRS:	0.00	TOTAL HRS:	24.00	RPM (ROTARY):	
						RPM (MOTOR):	
						DRAG UP:	0 lbf
						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: 1600	EFF.: 97.0% SPM: 0.00	LINER: 0.00 in STROKE VOL.: 0.0000 gal/stk
PUMP 2: TYPE: 1600	EFF.: 97.0% 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 ft ²	pH: 0
DENSITY: 0 lb/gal	GEL 0/10: 0.00 lb/100 ft ²	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



BHA 1 - Build & Hold Section

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins
MWD Supervisor: Rusty Komrs, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

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	PDC Bit	Varel	4004352	VM513/5x18's	8.75	0	0		4 1/2" REG Pin	1.00 ft	1.00 ft
1	Drilling Motor	Weatherford	675-41018	7/8 5.0 Stg	7.76	0	0	4 1/2" REG Box	4 1/2" IF Box	27.90 ft	28.90 ft
1	UBHO Sub	Weatherford	33444	UBHO	6.75	3.125	0	4 1/2" IF Pin	4 1/2" IF Box	3.56 ft	32.46 ft
1	6 3/4 Slick NMDC	Weatherford	675-21847	Slick Collar	6.78	3.25	0	4 1/2" IF Pin	4 1/2" IF Box	30.18 ft	62.64 ft
1	6-3/4 Flex NMDC	Weatherford	43230	Flex Collar	6.85	2.875	0	4 1/2" IF Pin	4 1/2" IF Box	31.14 ft	93.78 ft
1	4-1/2IFpin,4XT39bd	Weatherford	51026	Crossover	6.9	2.25	0	4 1/2" IF Pin	4" XT39 Box	3.99 ft	97.77 ft
45	4" HWDP	Rig	Rig	HeavyWeight DP4	2.75	0		XT-39 Pin	XT-39 Box	1402.30	1500.07 ft

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

— GENERAL INFORMATION —

DATES RUN:	2012/10/07 TO 2012/10/09
DEPTH IN:	920.00 ft
DEPTH OUT:	6290.00 ft
DRILL HRS:	26.50
ORIENTING HRS:	7.83
ROTATING HRS:	18.67
ANGLE IN:	0.00 °
ANGLE OUT:	7.02 °
BUILD:	7.02 °
HOLE MADE:	5370.00 ft
AVG R.O.P.:	202.64 ft/hr

— MOTOR INFORMATION —

MANFCT.	Weatherford	SETTING:	1.50 °
SERIAL #:	675-41018	KICK PAD:	No
MODEL:	7/8 5.0 Stg	STABILIZER:	No
LOBE CFG:	7/8	MOTOR HRS:	37.00
BIT TO BEND:	6.19		

— PUMP INFORMATION —

PUMPS	PUMP 1	PUMP 2	PUMP 3
EFFICIENCY:	97.0%	97.0%	100.0%
S.P.M.:	72	72	0
STROKE VOLUME:	4.2816 gal/stk	4.2816 gal/stk	0.0 gal/stk
TOTAL FLOW RATE:	598.04749 gal/min		
PUMP PRESSURE:	OFF BTM: 2100 psi	ON BTM: 3000 psi	

— MUD INFORMATION —

MUD TYPE:	Polymer	LIQUID BASE:	Water
DENSITY:	9 lb/gal	TEMP:	146 °F
VISCOSITY:	34 sec/qt	pH:	0
WTR LOSS:	0 cc/30min	SAND:	0
PLAST VISC:	0 cP	SOLIDS:	0
YIELD PT:	0 lb/100 ft ²	OIL:	0
		LIQUID RATE:	0 gal/min
		GAS TYPE:	
		GAS RATE:	0 cu ft/min

— BIT INFORMATION —

MANFCT: Varel	TYPE: VM513/5x18' PDC BIT	GRADE: 1 / 1 / WT / A / X / I / RG / BHA
	NOZZLES: 1.242 in ² TFA	

— REASON FOR BHA CHANGE —

Possible motor failure. 3 nozzels were plugged with rubber.

— FORMATION CHARACTERISTICS —

While drilling in top hole section. MD 1500 TVD 1498. Stick slip was observed on surface. Took precautions to protect the motor. Increased the Top drive rpm, as well as the motor rpm. Backed off WOB. Stick slip stopped until 1800' MD. From 1800MD to aprox. 2700' MD top drive and drillstring would jump/hop violently if running more than 500 diff / 200 ROP / 18 WOB. We tried varying rotary from 40 RPM to 70 RPM and varying pumps from 400 to 600 GPM and lower WOB, 5k to 10k and that seemed to help the most. After 2700' we were able to run the normal 40-60 RPM, 600 GPM and 20k to 25k WOB.

— MWD COMMENTS —

Had trouble getting tool to seat in UBHO when picking up tools. Used 6.3 Ahr/15%. Downhole temp of 146°F. Worked well. Had some problems having to recycle pumps that got traced back to pump problems. Overall good run. Will change battery as per

Anadarko.

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

While drilling in top hole section. MD 1500 TVD 1498. Stick slip was observed on surface. Took precautions to protect the motor. Increased the Top drive rpm, as well as the motor rpm. Backed off WOB. Stick slip stopped until 1700' MD. From 1700MD to aprox. 2700' MD top drive and drillstring would jump/hop violently if running more than 500 diff / 200 ROP / 18 WOB. We tried varying rotary from 40 RPM to 70 RPM and varying pumps from 450 to 600 GPM and lower WOB, 5k to 10k and that seemed to help the most. After 2700' we were able to run the normal 40-60 RPM, 600 GPM and 20k to 25k WOB. From 5700' to 6200' we started seeing diff spikes while sliding and a few while rotating. From 6200' to 6290' we saw diff spikes of up to 1500 psi and stalled the motor a few times. About that time we noticed some rubber coming over the shaker and decided to POOH for possible motor failure. We were running 20k-30k WOB the entire run and 800 psi diff until 5500' then raised the diff to 1000 psi. We were 260' shy of the KOP. We will pick up the curve assembly to drill to KOP and drill curve.



BHA Report

BHA 2 - Curve Section

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other issues. Used 6 Ahr/13%. Downhole temp of 157°F.

SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

POOH due to lack of build rates. We recommended that we POOH when projections were calling for 12° build to land but Anadarko wanted to keep going. We drilled ahead another 125' taking surveys every 42'-43' with build rates getting higher every time. Kept company man informed every survey and even had the engineer on the call and they wanted us to continue. They made the decision to POOH when build rate needed got up to 14°. POOH to pick up 2.60 motor and tricone bit. BHA looked good, no visible problems.



SIDETRACKING PROCEDURE COMMENTS

N/A

RUN SUMMARY

12°-17°/100' build rates, BHA looked good when layed down, Motor drained well, 1/8" squat.



—MWD COMMENTS

Final temp 212°F. Battery consumption = 21.24ahr, 16.15%. Maintained good detection throughout the job. No other problems to report.

—SIDETRACKING PROCEDURE COMMENTS

N/A

—RUN SUMMARY

Average build rate was 10°/100'. All of the BHA appeared to be in good condition. The mud motor drained well and had 1/8"-1/4" slack. Overall successful run.



MOTOR REPORTS



BHA 1 - Build & Hold Section, Motor #675-41018

FILE #: 4027384	WELL NAME: Palyo 13C-11HZ	SERVICE CO.: Weatherford Directional
JOB TYPE: Horizontal	COMPANY: Anadarko Petroleum Corporation	SURVEY TYPE: HEL LWD
RIG & NO: Xtreme 23	SURFACE LOCATION: Weld	FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins
MWD Supervisor: Rusty Komrs, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

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

GENERAL INFORMATION:			MOTOR INFORMATION:		
BHA #:	1	START DEPTH:	920.00 ft	MANFCT:	Weatherford
DATE IN:	2012/10/07	END DEPTH:	6290.00 ft	SERIAL #:	675-41018
DATE OUT:	2012/10/09	HOLE MADE:	5370.00 ft	MODEL:	7/8 5.0 Stg
ANGLE IN:	0.00 °	AVG ROP:	202.64 ft/hr	LOBE:	7/8 BIT TO BEND: 6.19 ft
ANGLE OUT:	7.02 °	ROTATING HRS:	18.67	SETTING:	1.50 ° KICKPAD: No
ORIENTING HRS:	7.83				STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: VM513/5x18's	IADC BIT GRADE: 1 / 1 / WT / A / X / I / RG / BHA	
BIT PRESS DROP: 0.00 psi	TOTAL FLOW RATE: 598.05 gal/min	PUMP PRESS: (OFF) 2100.00 psi
MTR PRESS DROP: 0.00 psi	NOZZLES: 1.242 in ² TFA	(ON) 3000.00 psi

MUD INFORMATION:

MUD TYPE: Polymer	LIQUID BASE: Water	(All units are imperial.)
DENSITY: 9 lb/gal	VISCOSITY: 34 sec/qt	
SAND: 0.000	WATER LOSS: 0.00 cc/30min	LIQUID RATE: 0.00 gal/min
SOLIDS: 0.000	PLASTIC VISC: 0.0 cP	GAS TYPE:
OIL: 0.000	YIELD POINT: 0.0 lb/100 ft ²	GAS RATE: 0.00 cu ft/min
TEMP: 146 °F	pH: 0.0	

TIME INFORMATION:

CIRCULATING HOURS:	10.50
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	26.50
MOTOR HOURS THIS RUN:	37.00
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	37.00
TOTAL BRT HOURS:	37.00

MOTOR EVALUATION COMMENTS:

675-41018 - 7/8 lobe 5.0stage. From 5700' to 6200' we started seeing diff spikes while sliding and a few while rotating. From 6200' to 6290' we saw diff spikes of up to 1500 psi and stalled the motor a few times. About that time we noticed some rubber coming over the shaker and decided to POOH for possible motor failure. We were running 20k-30k WOB the entire run and 800 psi diff until 5500' then raised the diff to 1000 psi. We were 260' shy of the KOP. We will pick up the curve assembly to drill to KOP and drill curve.

REASON FOR BHA CHANGE:

Possible motor failure. 3 nozzels were plugged with rubber.

COMMENTS FROM LAST DAY RAN:

Drill ahead in the hold section.



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Motor / RSS Evaluation Report

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BHA 1 - Build & Hold Section, Motor #675-41018

Drill F/ 4939 - T/ 6290'.

POOH for possible motor failure. Lay down tools. Slip and Cut/change MWD battery.

From 5700' to 6200' we started seeing diff spikes while sliding and a few while rotating. From 6200' to 6290' we saw diff spikes of up to 1500 psi and stalled the motor a few times. About that time we noticed some rubber coming over the shaker and decided to POOH for possible motor failure. We were running 20k-30k WOB the entire run and 800 psi diff until 5500' then raised the diff to 1000 psi. We were 260' shy of the KOP. We will pick up the curve assembly to drill to KOP and drill curve.



BHA 2 - Curve Section, Motor #675-1742

FILE #: 4027384

JOB TYPE: Horizontal

RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ

COMPANY: Anadarko Petroleum Corporation

SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional

SURVEY TYPE: HEL LWD

FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner

MWD Supervisor: Denny Palmer, Corey Jacobs

Company Man: Duaine Bell, James Nunnelee

BHA SURVEY TYPE: Positive Pulse MWD

HOLE SIZE: 8.75 in

GENERAL INFORMATION:

BHA #:	2	START DEPTH:	6290.00 ft
DATE IN:	2012/10/09	END DEPTH:	7133.00 ft
DATE OUT:	2012/10/10	HOLE MADE:	843.00 ft
ANGLE IN:	7.02 °	AVG ROP:	63.24 ft/hr
ANGLE OUT:	39.19 °		
ORIENTING HRS:	11.33	ROTATING HRS:	2.00

MOTOR INFORMATION:

MANFCT:	Weatherford		
SERIAL #:	675-1742		
MODEL:	7/8 5.0 Stg		
LOBE:	7/8	BIT TO BEND:	6.23 ft
SETTING:	2.38 °	KICKPAD:	No
		STABILIZER:	No

DRILLING INFORMATION:

BIT TYPE:	FXD55M/5x18's	IADC BIT GRADE:	2 / 2 / CT / S / X / I / NO / BHA		
BIT PRESS DROP:	0.00 psi	TOTAL FLOW RATE:	581.44 gal/min	PUMP PRESS:	(OFF) 2100.00 psi
MTR PRESS DROP:	0.00 psi	NOZZLES:	1.249 in ² TFA		(ON) 2750.00 psi

MUD INFORMATION:

MUD TYPE:	Polymer	LIQUID BASE:	Water	(All units are imperial.)	
DENSITY:	9 lb/gal	VISCOSITY:	32 sec/qt		
SAND:	0.200	WATER LOSS:	0.00 cc/30min	LIQUID RATE:	0.00 gal/min
SOLIDS:	3.700	PLASTIC VISC:	5.0 cP	GAS TYPE:	
OIL:	0.000	YIELD POINT:	5.0 lb/100 ft ²	GAS RATE:	0.00 cu ft/min
TEMP:	0 °F	pH:	0.1		

TIME INFORMATION:

CIRCULATING HOURS:	3.58
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	13.33
MOTOR HOURS THIS RUN:	16.92
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	16.92
TOTAL BRT HOURS:	16.92

MOTOR EVALUATION COMMENTS:

675-1742 7/8 5.0 @ 2.38° fixed housing.
 MAX Operating parameters.
 WOB: 30K - Diff: 950psi - RPM surface:20rpm - RPM Downhole: 167 -

Motor performed well as far as drilling. We had lack of build rates shortly after KOP. This caused a premature trip due to build rates becoming higher than what could be obtained by the motor.

REASON FOR BHA CHANGE:

POOH due to lack of build rates. POOH for a larger bend in the motor.



BHA 2 - Curve Section, Motor #675-1742

— **COMMENTS FROM LAST DAY RAN:**

RIH. Drill down to KOP. Begin Build section.

Drill F/6290 - T/7133

POOH due to lack of build rates. We recommended that we POOH when projections were calling for 12° build to land but Anadarko wanted to keep going. We drilled ahead another 125' taking surveys every 42'-43' with build rates getting higher every time. Kept company man informed every survey and even had the engineer on the call and they wanted us to continue. They made the decision to POOH when build rate needed got up to 14°. POOH to pick up 2.60 motor and tricone bit.



BHA 3 - Curve Section, Motor #675-3617

FILE #: 4027384	WELL NAME: Palyo 13C-11HZ	SERVICE CO.: Weatherford Directional
JOB TYPE: Horizontal	COMPANY: Anadarko Petroleum Corporation	SURVEY TYPE: HEL LWD
RIG & NO: Xtreme 23	SURFACE LOCATION: Weld	FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Tettleton

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

GENERAL INFORMATION:		MOTOR INFORMATION:	
BHA #: 3	START DEPTH: 7133.00 ft	MANFCT: Weatherford	
DATE IN: 2012/10/11	END DEPTH: 7474.00 ft	SERIAL #: 675-3617	
DATE OUT: 2012/10/12	HOLE MADE: 341.00 ft	MODEL: 7/8 5.0 Stg	
ANGLE IN: 43.77 °	AVG ROP: 14.21 ft/hr	LOBE: 7/8	BIT TO BEND: 6.23 ft
ANGLE OUT: 87.55 °		SETTING: 2.60 °	KICKPAD: No
ORIENTING HRS: 21.50	ROTATING HRS: 2.50		STABILIZER: No

DRILLING INFORMATION:

BIT TYPE: GX-03	IADC BIT GRADE: 1 / 1 / NO / A / N / I / NO / TD	
BIT PRESS DROP: 0.00 psi	TOTAL FLOW RATE: 581.44 gal/min	PUMP PRESS: (OFF) 3100.00 psi
MTR PRESS DROP: 0.00 psi	NOZZLES: 0.745 in ² TFA	(ON) 3330.00 psi

MUD INFORMATION:

MUD TYPE: Polymer	LIQUID BASE: Water	(All units are imperial.)
DENSITY: 10 lb/gal	VISCOSITY: 38 sec/qt	
SAND: 0.900	WATER LOSS: 0.00 cc/30min	LIQUID RATE: 0.00 gal/min
SOLIDS: 8.200	PLASTIC VISC: 10.0 cP	GAS TYPE:
OIL: 0.000	YIELD POINT: 15.0 lb/100 ft ²	GAS RATE: 0.00 cu ft/min
TEMP: 0 °F	pH: 1.1	

TIME INFORMATION:

CIRCULATING HOURS:	3.58
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	24.00
MOTOR HOURS THIS RUN:	27.58
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	27.58
TOTAL BRT HOURS:	27.58

MOTOR EVALUATION COMMENTS:
675-3617 7/8 5.0 @ 2.60° Adjustable housing. Motor drained well, no problems. 1/8" squat.

REASON FOR BHA CHANGE:
TD/Casing depth

COMMENTS FROM LAST DAY RAN:
Drill ahead in the build section. Circulate & Condition, POOH, L/D Directional tools. Run 7" Casing.
Drill F/7,389' - T/7,474' TD.



BHA 4 - Lateral 1 Section, Motor #500-3767

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Corey Jacobs
Company Man: Duaine Bell, James Tettleton

BHA SURVEY TYPE: HEL LWD

HOLE SIZE: 6.125 in

GENERAL INFORMATION:

BHA #:	4	START DEPTH:	7474.00 ft
DATE IN:	2012/10/13	END DEPTH:	11725.00 ft
DATE OUT:	2012/10/17	HOLE MADE:	4251.00 ft
ANGLE IN:	88.32 °	AVG ROP:	106.28 ft/hr
ANGLE OUT:	90.00 °		
ORIENTING HRS:	16.75	ROTATING HRS:	23.25

MOTOR INFORMATION:

MANFCT:	Weatherford		
SERIAL #:	500-3767		
MODEL:	6/7 7.0 Stg		
LOBE:	6/7	BIT TO BEND:	6.13 ft
SETTING:	1.50 °	KICKPAD:	No
		STABILIZER:	No

DRILLING INFORMATION:

BIT TYPE:	SDi513	IADC BIT GRADE:	1 / 4 / BT / M / X / I / CT / TD		
BIT PRESS DROP:	0.00 psi	TOTAL FLOW RATE:	290.72 gal/min	PUMP PRESS:	(OFF) 3100.00 psi
MTR PRESS DROP:	0.00 psi	NOZZLES:	0.982 in ² TFA		(ON) 3650.00 psi

MUD INFORMATION:

MUD TYPE:	Polymer	LIQUID BASE:	Water	(All units are imperial.)	
DENSITY:	10 lb/gal	VISCOSITY:	37 sec/qt		
SAND:	0.500	WATER LOSS:	0.00 cc/30min	LIQUID RATE:	0.00 gal/min
SOLIDS:	8.700	PLASTIC VISC:	10.0 cP	GAS TYPE:	
OIL:	0.000	YIELD POINT:	10.0 lb/100 ft ²	GAS RATE:	0.00 cu ft/min
TEMP:	0 °F	pH:	1.4		

TIME INFORMATION:

CIRCULATING HOURS:	7.42
REAMING HOURS:	0.00
TIME DRILL HOURS:	0.00
MOTOR DRILL HOURS:	40.00
MOTOR HOURS THIS RUN:	47.42
PREVIOUS HOURS:	0.00
TOTAL MOTOR HOURS:	47.42
TOTAL BRT HOURS:	47.42

MOTOR EVALUATION COMMENTS:

REASON FOR BHA CHANGE:

Casing Depth.

COMMENTS FROM LAST DAY RAN:

POOH. Lay down BHA. Wiper Trip.



SLIDE REPORT



Slide Sheet Report

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BHA 1 - 2012/10/07 TO 2012/10/09

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins
MWD Supervisor: Rusty Komrs, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

BHA NO: 1	DATES RUN: 2012/10/07 TO 2012/10/09	SECTION: Build & Ho	TOOLFACE OFFSET: 89.33 °	SURVEY OFFSET: 58 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: 7/8 5.0 Stg	SERIAL NO: 675-41018
			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					
920.00	143.00	862.00	0.00	0.00	920.00	920.00	0.00	920.00	1063.00	143.00	0.00	0.00	0.00		
1063.00	94.00	1005.00	0.40	238.43	20M	1063.00	1073.00	10.00	1073.00	1157.00	84.00	0.00	0.00	0.28	
1157.00	93.00	1099.00	1.00	39.00	355M	1157.00	1167.00	10.00	1167.00	1250.00	83.00	10.00	0.06	0.64	
1250.00	94.00	1192.00	2.26	18.02	350M	1250.00	1265.00	15.00	1265.00	1344.00	79.00	10.00	0.13	1.35	
1344.00	156.00	1286.00	4.04	21.66	315M	1344.00	1361.00	17.00	1361.00	1500.00	139.00	15.00	0.12	1.89	
1500.00	426.00	1442.00	5.36	10.43	10L	1500.00	1520.00	20.00	1520.00	1926.00	406.00	17.00	0.08	0.85	
1926.00	256.00	1868.00	6.22	2.23	45R	1926.00	1941.00	15.00	1941.00	2182.00	241.00	20.00	0.04	0.20	
2182.00	86.00	2124.00	7.05	359.19	60R	2182.00	2194.00	12.00	2194.00	2268.00	74.00	15.00	0.06	0.32	
2268.00	85.00	2210.00	6.24	6.58	HS	2268.00	2278.00	10.00	2278.00	2353.00	75.00	12.00	-0.07	-0.94	
2353.00	257.00	2295.00	7.33	13.20	60L	2353.00	2363.00	10.00	2363.00	2610.00	247.00	10.00	0.11	1.28	
2610.00	85.00	2552.00	6.32	10.01	25L	2610.00	2620.00	10.00	2620.00	2695.00	75.00	10.00	-0.10	-0.39	
2695.00	86.00	2637.00	7.11	14.36	70L	2695.00	2705.00	10.00	2705.00	2781.00	76.00	10.00	0.08	0.93	
2781.00	340.00	2723.00	6.35	8.72	40L	2781.00	2791.00	10.00	2791.00	3121.00	330.00	10.00	-0.08	-0.88	
3121.00	85.00	3063.00	6.01	0.59	HSR	3121.00	3131.00	10.00	3131.00	3206.00	75.00	10.00	-0.03	-0.10	
3206.00	85.00	3148.00	6.59	1.88	HS	3206.00	3216.00	10.00	3216.00	3291.00	75.00	10.00	0.06	0.68	
3291.00	85.00	3233.00	7.32	8.79	HSL	3291.00	3301.00	10.00	3301.00	3376.00	75.00	10.00	0.07	0.86	
3376.00	171.00	3318.00	7.84	7.32	60L	3376.00	3386.00	10.00	3386.00	3547.00	161.00	10.00	0.05	0.61	
3547.00	86.00	3489.00	6.60	5.17	30L	3547.00	3559.00	12.00	3559.00	3633.00	74.00	10.00	-0.12	-0.73	
3633.00	85.00	3575.00	6.43	2.09	HS	3633.00	3645.00	12.00	3645.00	3718.00	73.00	12.00	-0.01	-0.20	
3718.00	85.00	3660.00	6.52	7.65	20L	3718.00	3733.00	15.00	3733.00	3803.00	70.00	12.00	0.01	0.11	
3803.00	171.00	3745.00	6.69	3.27	HSL	3803.00	3817.00	14.00	3817.00	3974.00	157.00	15.00	0.01	0.20	
3974.00	86.00	3916.00	6.73	356.28	15R	3974.00	3989.00	15.00	3989.00	4060.00	71.00	14.00	0.00	0.02	
4060.00	171.00	4002.00	7.08	356.88	10R	4060.00	4075.00	15.00	4075.00	4231.00	156.00	15.00	0.02	0.41	
4231.00	85.00	4173.00	6.47	3.59	HS	4231.00	4246.00	15.00	4246.00	4316.00	70.00	15.00	-0.04	-0.36	



Slide Sheet Report

BHA 1 - 2012/10/07 TO 2012/10/09

(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	
4316.00	171.00	4258.00	6.77	7.98	10L	4316.00	4336.00	20.00	4336.00	4487.00	151.00	15.00	0.02	0.35	
4487.00	86.00	4429.00	6.90	4.84	HS	4487.00	4507.00	20.00	4507.00	4573.00	66.00	20.00	0.01	0.08	
4573.00	171.00	4515.00	7.15	357.38	HS	4573.00	4583.00	10.00	4583.00	4744.00	161.00	20.00	0.01	0.29	
4744.00	85.00	4686.00	6.68	353.93	25L	4744.00	4754.00	10.00	4754.00	4829.00	75.00	10.00	-0.05	-0.27	
4829.00	85.00	4771.00	6.02	351.94	25R	4829.00	4849.00	20.00	4849.00	4914.00	65.00	10.00	-0.07	-0.78	
4914.00	86.00	4856.00	6.29	0.20	10R	4914.00	4939.00	25.00	4939.00	5000.00	61.00	20.00	0.01	0.32	
5000.00	85.00	4942.00	7.23	10.17	10L	5000.00	5025.00	25.00	5025.00	5085.00	60.00	25.00	0.04	1.09	
5085.00	171.00	5027.00	7.89	14.18	20L	5085.00	5110.00	25.00	5110.00	5256.00	146.00	25.00	0.03	0.78	
5256.00	85.00	5198.00	7.99	9.55	20L	5256.00	5276.00	20.00	5276.00	5341.00	65.00	25.00	0.00	0.06	
5341.00	86.00	5283.00	7.55	5.16	20L	5341.00	5356.00	15.00	5356.00	5427.00	71.00	20.00	-0.02	-0.52	
5427.00	85.00	5369.00	6.39	3.59	10L	5427.00	5452.00	25.00	5452.00	5512.00	60.00	15.00	-0.08	-1.35	
5512.00	171.00	5454.00	6.70	2.84	25R	5512.00	5537.00	25.00	5537.00	5683.00	146.00	25.00	0.01	0.36	
5683.00	85.00	5625.00	6.53	10.71	HSL	5683.00	5708.00	25.00	5708.00	5768.00	60.00	25.00	-0.01	-0.10	
5768.00	86.00	5710.00	6.54	8.73	20L	5768.00	5794.00	26.00	5794.00	5854.00	60.00	25.00	0.00	0.01	
5854.00	85.00	5796.00	7.68	8.72	60L	5854.00	5869.00	15.00	5869.00	5939.00	70.00	26.00	0.04	1.33	
5939.00	85.00	5881.00	7.28	352.96	HSR	5939.00	5964.00	25.00	5964.00	6024.00	60.00	15.00	-0.03	-0.47	
6024.00	86.00	5966.00	8.35	350.28	30R	6024.00	6040.00	16.00	6040.00	6110.00	70.00	25.00	0.04	1.26	
6110.00	180.00	6052.00	8.33	350.28	HS	6110.00	6125.00	15.00	6125.00	6290.00	165.00	16.00	0.00	-0.02	
6290.00	0.00	6232.00	7.02	352.61		6290.00	6290.00	0.00	6290.00	6290.00	0.00	15.00	-0.09	-0.73	

Totals:	649.00 ft	4721.00 ft
Percentages:	12.1%	87.9%
Time:	7.83 hrs	18.67 hrs
Percentages:	29.6%	70.4%



Slide Sheet Report

Drilling Services
v4.2.2674

BHA 2 - 2012/10/09 TO 2012/10/10

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Nunnelee

BHA NO: 2	DATES RUN: 2012/10/09 TO 2012/10/10	SECTION: Curve	TOOLFACE OFFSET: 208.3 °	SURVEY OFFSET: 58 ft
MOTOR SETTING: 2.38 °	KICKPAD: No	STABILIZER: No	MODEL: 7/8 5.0 Stg	SERIAL NO: 675-1742
			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					
6290.00	75.00	6232.00	7.02	352.61	ROT	6290.00	6290.00	0.00	6290.00	6365.00	75.00	0.00	0.00	0.00	
6365.00	85.00	6307.00	6.40	349.15	110R	6365.00	6371.00	6.00	6371.00	6450.00	79.00	0.00	0.00	-0.83	
6450.00	85.00	6392.00	5.57	344.00	110R	6450.00	6458.00	8.00	6458.00	6535.00	77.00	6.00	-0.14	-0.98	
6535.00	43.00	6477.00	3.99	337.95	150R	6535.00	6578.00	43.00	6578.00	6578.00	0.00	8.00	-0.20	-1.86	
6578.00	43.00	6520.00	3.37	340.22	160M	6578.00	6621.00	43.00	6621.00	6621.00	0.00	0.00	0.00	-1.44	
6621.00	43.00	6563.00	2.99	62.27	170M	6621.00	6656.00	35.00	6656.00	6664.00	8.00	28.00	-0.01	-0.88	
6664.00	42.00	6606.00	5.69	121.18	60R	6664.00	6706.00	42.00	6706.00	6706.00	0.00	43.00	0.06	6.28	
6706.00	43.00	6648.00	9.16	130.99	90R	6706.00	6749.00	43.00	6749.00	6749.00	0.00	42.00	0.08	8.26	
6749.00	43.00	6691.00	11.38	140.33	70R	6749.00	6792.00	43.00	6792.00	6792.00	0.00	35.00	0.06	5.16	
6792.00	42.00	6734.00	13.92	159.27	HS	6792.00	6834.00	42.00	6834.00	6834.00	0.00	43.00	0.06	5.91	
6834.00	43.00	6776.00	16.36	173.15	HS	6834.00	6877.00	43.00	6877.00	6877.00	0.00	42.00	0.06	5.81	
6877.00	43.00	6819.00	19.02	175.53	20R	6877.00	6920.00	43.00	6920.00	6920.00	0.00	43.00	0.06	6.19	
6920.00	43.00	6862.00	22.20	177.23	HS	6920.00	6963.00	43.00	6963.00	6963.00	0.00	43.00	0.07	7.40	
6963.00	42.00	6905.00	26.08	177.85	HS	6963.00	7005.00	42.00	7005.00	7005.00	0.00	43.00	0.09	9.02	
7005.00	43.00	6947.00	30.05	178.76	HS	7005.00	7048.00	43.00	7048.00	7048.00	0.00	42.00	0.09	9.45	
7048.00	43.00	6990.00	34.36	179.09	HS	7048.00	7091.00	43.00	7091.00	7091.00	0.00	43.00	0.10	10.02	
7091.00	42.00	7033.00	39.19	176.04	20R	7091.00	7123.00	32.00	7123.00	7133.00	10.00	43.00	0.11	11.23	

Totals:	594.00 ft	249.00 ft
Percentages:	70.5%	29.5%
Time:	11.33 hrs	2.00 hrs
Percentages:	85.0%	15.0%



Slide Sheet Report

Drilling Services
v4.2.2674

BHA 3 - 2012/10/11 TO 2012/10/12

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Denny Palmer, Corey Jacobs
Company Man: Duaine Bell, James Tettleton

BHA NO: 3	DATES RUN: 2012/10/11 TO 2012/10/12	SECTION: Curve	TOOLFACE OFFSET: 68 °	SURVEY OFFSET: 58 ft
MOTOR SETTING: 2.60 °	KICKPAD: No	STABILIZER: No	MODEL: 7/8 5.0 Stg	SERIAL NO: 675-3617
				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					
7133.00	43.00	7075.00	43.77	173.96	HS	7133.00	7176.00	43.00	7176.00	7176.00	0.00	0.00	0.00	0.00	
7176.00	53.00	7118.00	48.12	174.88	HS	7176.00	7219.00	43.00	7219.00	7229.00	10.00	0.00	0.00	10.12	
7229.00	42.00	7171.00	53.35	176.77	HS	7229.00	7261.00	32.00	7261.00	7271.00	10.00	38.00	0.14	9.87	
7271.00	33.00	7213.00	59.68	179.99	HS	7271.00	7304.00	33.00	7304.00	7304.00	0.00	42.00	0.15	15.07	
7304.00	43.00	7246.00	64.70	181.92	HS	7304.00	7347.00	43.00	7347.00	7347.00	0.00	23.00	0.22	15.21	
7347.00	43.00	7289.00	70.01	183.24	HS	7347.00	7390.00	43.00	7390.00	7390.00	0.00	33.00	0.16	12.35	
7390.00	69.00	7332.00	76.80	185.48	30L	7390.00	7414.00	24.00	7414.00	7459.00	45.00	43.00	0.16	15.79	
7459.00	15.00	7401.00	87.55	189.59	90L	7459.00	7474.00	15.00	7474.00	7474.00	0.00	69.00	0.16	15.58	

Totals:	276.00 ft	65.00 ft
Percentages:	80.9%	19.1%
Time:	21.50 hrs	2.50 hrs
Percentages:	89.6%	10.4%



Slide Sheet Report

Drilling Services
v4.2.2674

BHA 4 - 2012/10/13 TO 2012/10/17

FILE #: 4027384
JOB TYPE: Horizontal
RIG & NO: Xtreme 23

WELL NAME: Palyo 13C-11HZ
COMPANY: Anadarko Petroleum Corporation
SURFACE LOCATION: Weld

SERVICE CO.: Weatherford Directional
SURVEY TYPE: HEL LWD
FIELD / LOCATION: Wattenburg / CO / USA

DIR Supervisor: Jacob Hofer, Leo Jenkins, Steven Bumgarner
MWD Supervisor: Corey Jacobs
Company Man: Duaine Bell, James Tettleton

BHA NO: 4	DATES RUN: 2012/10/13 TO 2012/10/17	SECTION: Lateral 1	TOOLFACE OFFSET: 308 °	SURVEY OFFSET: 55 ft
MOTOR SETTING: 1.50 °	KICKPAD: No	STABILIZER: No	MODEL: 6/7 7.0 Stg	SERIAL NO: 500-3767
				BHA SURVEY TYPE: HEL LWD

(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					
7474.00	6.00	7419.00	88.32	189.88	ROT	7474.00	7474.00	0.00	7474.00	7480.00	6.00	0.00	0.00	0.00	
7480.00	55.00	7425.00	88.32	189.88	60L	7480.00	7500.00	20.00	7500.00	7535.00	35.00	0.00	0.00	0.00	
7535.00	43.00	7480.00	91.42	189.28	120L	7535.00	7547.00	12.00	7547.00	7578.00	31.00	0.00	0.00	5.64	
7578.00	86.00	7523.00	91.54	188.61	120L	7578.00	7596.00	18.00	7596.00	7664.00	68.00	20.00	0.01	0.28	
7664.00	85.00	7609.00	89.75	186.26	60L	7664.00	7684.00	20.00	7684.00	7749.00	65.00	30.00	-0.06	-2.08	
7749.00	85.00	7694.00	90.12	183.96	90L	7749.00	7764.00	15.00	7764.00	7834.00	70.00	20.00	0.02	0.44	
7834.00	86.00	7779.00	90.56	182.96	90L	7834.00	7852.00	18.00	7852.00	7920.00	68.00	15.00	0.03	0.52	
7920.00	85.00	7865.00	90.31	183.18	90L	7920.00	7945.00	25.00	7945.00	8005.00	60.00	18.00	-0.01	-0.29	
8005.00	85.00	7950.00	89.94	180.63	60L	8005.00	8025.00	20.00	8025.00	8090.00	65.00	25.00	-0.01	-0.44	
8090.00	85.00	8035.00	90.68	178.97	90L	8090.00	8100.00	10.00	8100.00	8175.00	75.00	20.00	0.04	0.87	
8175.00	171.00	8120.00	90.00	178.52	70L	8175.00	8185.00	10.00	8185.00	8346.00	161.00	10.00	-0.07	-0.80	
8346.00	85.00	8291.00	90.93	179.11	105L	8346.00	8354.00	8.00	8354.00	8431.00	77.00	10.00	0.09	0.54	
8431.00	86.00	8376.00	90.31	178.13	105L	8431.00	8437.00	6.00	8437.00	8517.00	80.00	8.00	-0.08	-0.73	
8517.00	256.00	8462.00	90.25	177.99	135L	8517.00	8525.00	8.00	8525.00	8773.00	248.00	6.00	-0.01	-0.07	
8773.00	86.00	8718.00	87.78	174.73	20R	8773.00	8793.00	20.00	8793.00	8859.00	66.00	8.00	-0.31	-0.96	
8859.00	171.00	8804.00	88.21	173.90	30R	8859.00	8884.00	25.00	8884.00	9030.00	146.00	20.00	0.02	0.50	
9030.00	42.00	8975.00	90.31	174.16	90R	9030.00	9045.00	15.00	9045.00	9072.00	27.00	25.00	0.08	1.23	
9072.00	43.00	9017.00	90.31	174.16	90R	9072.00	9082.00	10.00	9082.00	9115.00	33.00	0.00	0.00	0.00	
9115.00	86.00	9060.00	91.54	175.47	110R	9115.00	9130.00	15.00	9130.00	9201.00	71.00	15.00	0.08	2.86	
9201.00	131.00	9146.00	91.73	176.23	135R	9201.00	9213.00	12.00	9213.00	9332.00	119.00	25.00	0.01	0.22	
9332.00	39.00	9277.00	89.50	176.01	60R	9332.00	9347.00	15.00	9347.00	9371.00	24.00	12.00	-0.19	-1.70	
9371.00	86.00	9316.00	88.89	175.58	60R	9371.00	9386.00	15.00	9386.00	9457.00	71.00	0.00	0.00	-1.56	
9457.00	85.00	9402.00	90.68	177.74	90R	9457.00	9477.00	20.00	9477.00	9542.00	65.00	30.00	0.06	2.08	
9542.00	86.00	9487.00	90.25	177.16	90R	9542.00	9562.00	20.00	9562.00	9628.00	66.00	20.00	-0.02	-0.51	



Slide Sheet Report

BHA 4 - 2012/10/13 TO 2012/10/17

(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	
9628.00	85.00	9573.00	89.32	177.21	90R	9628.00	9658.00	30.00	9658.00	9713.00	55.00	20.00	-0.05	-1.08	
9713.00	256.00	9658.00	90.62	178.60	90R	9713.00	9738.00	25.00	9738.00	9969.00	231.00	30.00	0.04	1.53	
9969.00	86.00	9914.00	90.49	180.55	135R	9969.00	9974.00	5.00	9974.00	10055.00	81.00	25.00	-0.01	-0.05	
10055.00	171.00	10000.00	90.31	180.47	135R	10055.00	10063.00	8.00	10063.00	10226.00	163.00	5.00	-0.04	-0.21	
10226.00	170.00	10171.00	88.40	180.46	30R	10226.00	10246.00	20.00	10246.00	10396.00	150.00	8.00	-0.24	-1.12	
10396.00	85.00	10341.00	89.20	180.19	20R	10396.00	10411.00	15.00	10411.00	10481.00	70.00	20.00	0.04	0.47	
10481.00	86.00	10426.00	89.82	179.11	50R	10481.00	10496.00	15.00	10496.00	10567.00	71.00	15.00	0.04	0.73	
10567.00	171.00	10512.00	91.29	179.28	135R	10567.00	10577.00	10.00	10577.00	10738.00	161.00	15.00	0.10	1.71	
10738.00	170.00	10683.00	90.86	180.24	LS	10738.00	10743.00	5.00	10743.00	10908.00	165.00	10.00	-0.04	-0.25	
10908.00	342.00	10853.00	89.29	180.08	20R	10908.00	10920.00	12.00	10920.00	11250.00	330.00	5.00	-0.31	-0.92	
11250.00	85.00	11195.00	89.57	178.58	20R	11250.00	11260.00	10.00	11260.00	11335.00	75.00	12.00	0.02	0.08	
11335.00	85.00	11280.00	89.81	177.46	45R	11335.00	11345.00	10.00	11345.00	11420.00	75.00	10.00	0.02	0.28	
11420.00	85.00	11365.00	91.23	176.84	90L	11420.00	11430.00	10.00	11430.00	11505.00	75.00	10.00	0.14	1.67	
11505.00	86.00	11450.00	91.11	176.08	60R	11505.00	11510.00	5.00	11510.00	11591.00	81.00	10.00	-0.01	-0.14	
11591.00	18.00	11536.00	88.64	175.06	HS	11591.00	11605.00	14.00	11605.00	11609.00	4.00	5.00	-0.49	-2.87	
11609.00	116.00	11554.00	90.00	175.00	45R	11609.00	11623.00	14.00	11623.00	11725.00	102.00	0.00	0.00	7.56	

Totals:	565.00 ft	3686.00 ft
Percentages:	13.3%	86.7%
Time:	16.75 hrs	23.25 hrs
Percentages:	41.9%	58.1%