



Weatherford®

Weatherford International Ltd.

2000 Oil Drive

Casper, WY 82604

Survey Certification

Operating Company:	Anadarko Petroleum Corp.
Well Name:	PALYO 35N-W11HZ
State:	COLORADO
County:	Weld
API Number:	512335454
Datum:	NAD 83
Survey Calculation Method:	Minimum Curvature
North Reference:	True North

I, John R. Morgan, hereby certify the attached directional survey run from the measure depth of 973.00 feet to the measured depth of 11,452.00 feet as accurate and true to the best of my knowledge.

Signature

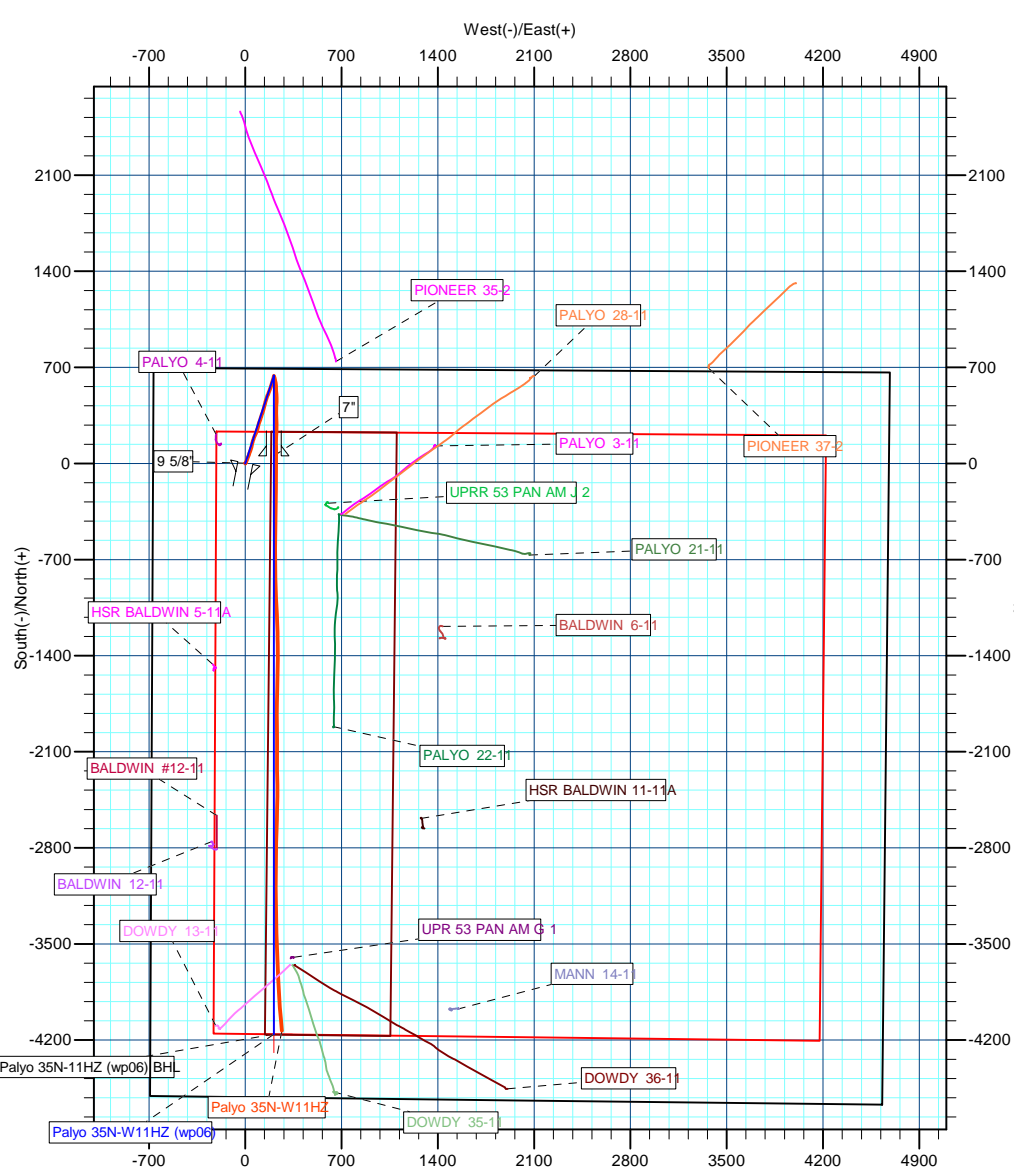
8-Oct-12

Date

John Morgan

Directional Planning

Weatherford International - Rockies District



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M

A

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 35N-W11HZ

Wellbore: Palyo 35N-W11HZ

Section:

SHL:

Design: Palyo 35N-W11HZ (wp06)

Latitude: 40.158586

Longitude: -104.638059

GL: 4856.00

KB: 16' RKB + 4856' GL @ 4872.00ft (XTREME 23)

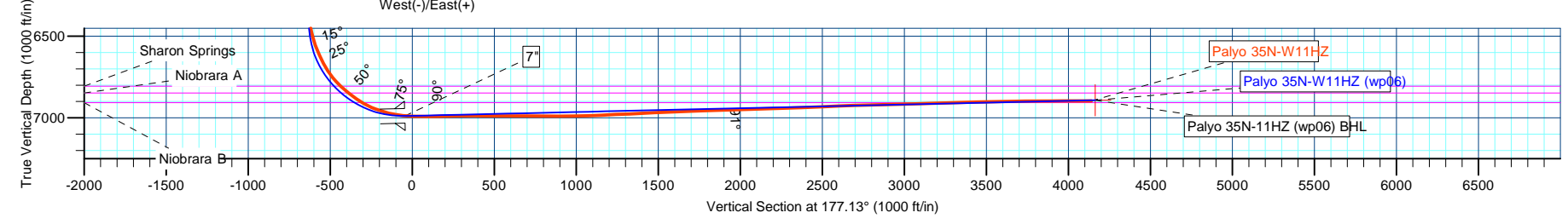
WELL DETAILS: Palyo 35N-W11HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4856.00 Latitude 40.158586	Longitude -104.638059	Slot
0.00	0.00	1301786.93	3240910.54			

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
841.00	0.24	11.27	841.00	2.26	0.53	0.00	0.00	-2.23
1100.00	0.24	11.27	1099.99	3.33	0.74	0.00	0.00	-3.29
1502.18	8.28	18.02	1500.73	31.74	9.88	2.00	6.95	-31.21
5745.70	8.28	18.02	5700.00	613.00	199.00	0.00	0.00	-602.27
6159.79	0.00	0.00	6112.65	641.41	208.24	2.00	-180.00	-630.18
6463.33	0.00	0.00	6416.19	641.41	208.24	0.00	0.00	-630.18
7376.54	91.32	180.00	6989.00	55.25	208.24	10.00	180.00	-44.76
7407.45	91.32	180.00	6988.29	24.35	208.24	0.01	-119.93	-13.89
1591.16	91.32	180.00	6892.00	-4158.25	208.40	0.00	0.00	4163.47

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Palyo 35N-11HZ (wp06) BHL	6892.00	-4158.25	208.40	40.147171	-104.637314	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4898.00	4935.25	Sussex
6806.00	6892.04	Sharon Springs
6848.00	6952.41	Niobrara A
6907.00	7052.73	Niobrara B

CASING DETAILS			
TVD	MD	Name	Size
850.00	850.00	9 5/8"	9-5/8
6989.00	7376.54	7"	7



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_PALYO 4-11HZ Pad

Palyo 35N-W11HZ

Palyo 35N-W11HZ

Design: Palyo 35N-W11HZ

Standard Survey Report

08 October, 2012

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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 35N-W11HZ				
Well Position	+N/-S	0.00 ft	Northing:	1,301,786.93 usft	Latitude:	40.158586
	+E/-W	0.00 ft	Easting:	3,240,910.54 usft	Longitude:	-104.638059
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,856.00 ft

Wellbore	Palyo 35N-W11HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	2/16/2012	8.68	66.85	52,947

Design	Palyo 35N-W11HZ				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	16.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	16.00	0.00	0.00	13.08	

Survey Program	Date	10/8/2012			
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
116.00	841.00	Survey #1 (Palyo 35N-W11HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S	
973.00	11,537.00	Survey #2 (Palyo 35N-W11HZ)	MWD	MWD - STANDARD	

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate	
(ft)			(ft)			(ft)	(°/100usft)	(°/100usft)	(°/100usft)	
16.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	
116.00	0.11	12.76	116.00	0.09	0.02	0.10	0.11	0.11	0.00	
216.00	0.13	334.21	216.00	0.29	-0.01	0.28	0.08	0.02	-38.55	
316.00	0.16	301.05	316.00	0.46	-0.18	0.41	0.09	0.03	-33.16	
416.00	0.23	23.25	416.00	0.72	-0.22	0.65	0.26	0.07	82.20	
516.00	0.34	53.92	516.00	1.08	0.10	1.07	0.18	0.11	30.67	
616.00	0.24	16.87	616.00	1.45	0.40	1.51	0.21	-0.10	-37.05	
716.00	0.19	3.53	716.00	1.82	0.47	1.88	0.07	-0.05	-13.34	
816.00	0.21	7.83	816.00	2.17	0.51	2.23	0.02	0.02	4.30	
841.00	0.24	11.27	841.00	2.26	0.53	2.32	0.13	0.12	13.76	

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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									
973.00	0.64	73.47	972.99	2.74	1.29	2.96	0.43	0.30	47.12
FIRST MWD SURVEY									
1,066.00	1.41	34.03	1,065.98	3.84	2.42	4.29	1.08	0.83	-42.41
1,160.00	2.87	22.84	1,159.91	6.97	3.99	7.69	1.61	1.55	-11.90
1,253.00	4.11	22.85	1,252.73	12.19	6.18	13.27	1.33	1.33	0.01
1,347.00	4.97	20.32	1,346.44	19.11	8.91	20.63	0.94	0.91	-2.69
1,439.00	6.32	18.39	1,437.99	27.65	11.89	29.62	1.48	1.47	-2.10
1,524.00	7.81	24.85	1,522.34	37.33	15.79	39.94	1.98	1.75	7.60
1,610.00	9.35	24.22	1,607.38	49.01	21.11	52.51	1.79	1.79	-0.73
1,695.00	9.72	19.04	1,691.21	62.09	26.29	66.42	1.10	0.44	-6.09
1,780.00	9.78	17.99	1,774.98	75.73	30.86	80.75	0.22	0.07	-1.24
1,866.00	9.69	18.05	1,859.74	89.56	35.36	95.24	0.11	-0.10	0.07
1,951.00	9.38	18.82	1,943.57	102.92	39.81	109.26	0.39	-0.36	0.91
2,036.00	9.71	12.62	2,027.39	116.47	43.61	123.32	1.27	0.39	-7.29
2,121.00	9.09	12.60	2,111.25	130.02	46.64	137.20	0.73	-0.73	-0.02
2,207.00	8.65	10.51	2,196.22	143.01	49.30	150.46	0.63	-0.51	-2.43
2,292.00	8.07	18.61	2,280.32	154.95	52.37	162.78	1.54	-0.68	9.53
2,378.00	7.75	17.86	2,365.50	166.19	56.07	174.57	0.39	-0.37	-0.87
2,463.00	7.73	18.12	2,449.73	177.08	59.61	185.97	0.05	-0.02	0.31
2,548.00	6.76	18.21	2,534.05	187.26	62.95	196.65	1.14	-1.14	0.11
2,633.00	5.85	22.33	2,618.53	196.02	66.16	205.91	1.19	-1.07	4.85
2,719.00	6.16	30.02	2,704.06	204.07	70.13	214.65	1.00	0.36	8.94
2,804.00	7.40	23.99	2,788.47	213.02	74.64	224.39	1.68	1.46	-7.09
2,890.00	8.72	21.41	2,873.62	224.15	79.27	236.27	1.59	1.53	-3.00
2,975.00	8.78	16.44	2,957.63	236.37	83.46	249.13	0.89	0.07	-5.85
3,060.00	9.09	15.92	3,041.60	249.05	87.14	262.31	0.38	0.36	-0.61
3,146.00	8.92	16.92	3,126.54	261.96	90.94	275.75	0.27	-0.20	1.16
3,231.00	8.44	15.13	3,210.56	274.29	94.49	288.55	0.65	-0.56	-2.11
3,317.00	7.67	14.57	3,295.71	285.94	97.58	300.60	0.90	-0.90	-0.65
3,402.00	7.57	15.63	3,379.96	296.82	100.52	311.86	0.20	-0.12	1.25
3,488.00	7.65	21.37	3,465.21	307.60	104.13	323.19	0.89	0.09	6.67
3,573.00	7.96	21.17	3,549.42	318.36	108.31	334.61	0.37	0.36	-0.24
3,659.00	7.90	14.13	3,634.60	329.64	111.91	346.42	1.13	-0.07	-8.19
3,744.00	8.23	18.76	3,718.76	341.07	115.29	358.31	0.86	0.39	5.45
3,829.00	7.25	18.35	3,802.98	351.92	118.94	369.71	1.15	-1.15	-0.48
3,915.00	8.08	20.61	3,888.22	362.73	122.77	381.10	1.03	0.97	2.63
4,000.00	9.07	16.75	3,972.27	374.74	126.81	393.71	1.35	1.16	-4.54
4,086.00	8.41	16.34	4,057.27	387.26	130.53	406.75	0.77	-0.77	-0.48
4,171.00	8.94	13.86	4,141.29	399.64	133.86	419.56	0.76	0.62	-2.92
4,257.00	8.65	12.86	4,226.28	412.43	136.90	432.71	0.38	-0.34	-1.16
4,342.00	8.44	16.68	4,310.34	424.64	140.11	445.33	0.71	-0.25	4.49
4,427.00	8.12	16.19	4,394.45	436.38	143.58	457.55	0.39	-0.38	-0.58

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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)
4,513.00	8.06	14.70	4,479.60	448.04	146.80	469.64	0.25	-0.07	-1.73
4,598.00	8.07	15.22	4,563.76	459.57	149.88	481.56	0.09	0.01	0.61
4,684.00	7.72	16.16	4,648.94	470.94	153.07	493.36	0.43	-0.41	1.09
4,769.00	6.71	17.27	4,733.27	481.16	156.13	504.01	1.20	-1.19	1.31
4,855.00	6.80	23.35	4,818.67	490.64	159.64	514.03	0.84	0.10	7.07
4,940.00	7.86	27.12	4,902.98	500.43	164.29	524.62	1.37	1.25	4.44
5,026.00	8.28	20.17	4,988.13	511.48	169.10	536.47	1.23	0.49	-8.08
5,111.00	8.45	18.75	5,072.22	523.14	173.22	548.76	0.31	0.20	-1.67
5,197.00	7.80	19.60	5,157.36	534.62	177.21	560.85	0.77	-0.76	0.99
5,282.00	7.67	17.95	5,241.59	545.45	180.89	572.23	0.30	-0.15	-1.94
5,368.00	8.29	18.12	5,326.75	556.80	184.59	584.13	0.72	0.72	0.20
5,453.00	8.58	21.91	5,410.83	568.51	188.86	596.49	0.74	0.34	4.46
5,539.00	8.24	15.81	5,495.91	580.39	192.93	608.99	1.11	-0.40	-7.09
5,624.00	6.91	13.57	5,580.17	591.22	195.79	620.19	1.60	-1.56	-2.64
5,710.00	6.66	17.34	5,665.56	601.01	198.49	630.33	0.59	-0.29	4.38
5,795.00	5.96	18.76	5,750.05	609.89	201.38	639.64	0.84	-0.82	1.67
5,880.00	4.64	15.98	5,834.68	617.38	203.75	647.47	1.58	-1.55	-3.27
5,966.00	3.91	13.63	5,920.44	623.57	205.40	653.87	0.87	-0.85	-2.73
6,051.00	3.13	10.59	6,005.28	628.67	206.51	659.09	0.94	-0.92	-3.58
6,137.00	2.77	4.89	6,091.17	633.05	207.12	663.49	0.54	-0.42	-6.63
6,222.00	1.92	20.53	6,176.10	636.43	207.79	666.94	1.24	-1.00	18.40
6,308.00	0.44	346.63	6,262.08	638.10	208.22	668.66	1.83	-1.72	-39.42
6,350.00	0.36	311.40	6,304.08	638.34	208.08	668.87	0.60	-0.19	-83.88
6,392.00	0.50	326.07	6,346.08	638.58	207.88	669.05	0.42	0.33	34.93
6,478.00	8.37	159.92	6,431.79	633.00	209.82	664.06	10.30	9.15	-193.20
6,520.00	12.90	161.88	6,473.06	625.67	212.33	657.49	10.82	10.79	4.67
6,563.00	16.05	167.09	6,514.69	615.31	215.16	648.04	7.92	7.33	12.12
6,606.00	20.01	168.35	6,555.57	602.31	217.97	636.01	9.25	9.21	2.93
6,648.00	22.99	171.14	6,594.64	587.16	220.68	621.87	7.50	7.10	6.64
6,691.00	25.68	173.96	6,633.82	569.59	222.96	605.27	6.81	6.26	6.56
6,734.00	28.88	177.26	6,672.03	549.95	224.44	586.47	8.23	7.44	7.67
6,777.00	32.19	178.14	6,709.07	528.13	225.30	565.41	7.77	7.70	2.05
6,819.00	36.61	178.16	6,743.71	504.42	226.07	542.49	10.52	10.52	0.05
6,862.00	42.09	178.76	6,776.95	477.17	226.79	516.11	12.77	12.74	1.40
6,905.00	46.76	180.77	6,807.65	447.08	226.90	486.83	11.34	10.86	4.67
6,947.00	50.56	182.90	6,835.39	415.58	225.87	455.91	9.82	9.05	5.07
6,990.00	53.10	180.51	6,861.97	381.79	224.88	422.77	7.35	5.91	-5.56
7,033.00	54.58	178.60	6,887.34	347.08	225.15	389.02	4.97	3.44	-4.44
7,076.00	59.50	178.24	6,910.73	311.03	226.15	354.13	11.46	11.44	-0.84
7,118.00	65.41	179.84	6,930.14	273.81	226.76	318.02	14.47	14.07	3.81
7,161.00	70.56	182.10	6,946.26	233.97	226.07	279.05	12.93	11.98	5.26
7,204.00	71.64	182.22	6,960.18	193.32	224.54	239.11	2.53	2.51	0.28
7,246.00	75.66	179.93	6,972.01	153.03	223.79	199.70	10.91	9.57	-5.45
7,289.00	81.16	178.67	6,980.64	110.93	224.31	158.81	13.11	12.79	-2.93

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Well:	Palyo 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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)
7,332.00	84.40	179.57	6,986.05	68.28	224.96	117.41	7.82	7.53	2.09
7,391.01	87.25	180.97	6,990.34	9.44	224.68	60.03	5.38	4.83	2.37
7" CASING SET									
7,435.00	89.38	182.01	6,991.63	-34.52	223.54	16.96	5.38	4.84	2.36
7,521.00	90.31	179.81	6,991.87	-120.50	222.17	-67.10	2.78	1.08	-2.56
7,606.00	91.60	179.67	6,990.45	-205.49	222.56	-149.80	1.53	1.52	-0.16
7,692.00	91.54	181.46	6,988.09	-291.45	221.71	-233.72	2.08	-0.07	2.08
7,777.00	88.95	181.25	6,987.73	-376.41	219.70	-316.94	3.06	-3.05	-0.25
7,863.00	90.25	180.87	6,988.33	-462.39	218.11	-401.05	1.57	1.51	-0.44
7,948.00	89.63	180.13	6,988.42	-547.39	217.37	-484.01	1.14	-0.73	-0.87
8,034.00	89.82	179.72	6,988.83	-633.39	217.48	-567.75	0.53	0.22	-0.48
8,119.00	89.63	179.55	6,989.24	-718.39	218.02	-650.42	0.30	-0.22	-0.20
8,205.00	89.14	179.91	6,990.16	-804.38	218.43	-734.09	0.71	-0.57	0.42
8,290.00	90.99	179.02	6,990.07	-889.37	219.22	-816.70	2.42	2.18	-1.05
8,375.00	89.69	176.34	6,989.56	-974.29	222.66	-898.64	3.50	-1.53	-3.15
8,461.00	92.41	176.62	6,987.99	-1,060.11	227.94	-981.04	3.18	3.16	0.33
8,546.00	92.96	178.46	6,984.00	-1,144.93	231.59	-1,062.84	2.26	0.65	2.16
8,632.00	92.53	178.33	6,979.88	-1,230.80	233.99	-1,145.93	0.52	-0.50	-0.15
8,717.00	92.10	179.70	6,976.45	-1,315.71	235.45	-1,228.31	1.69	-0.51	1.61
8,803.00	91.79	180.23	6,973.53	-1,401.66	235.50	-1,312.02	0.71	-0.36	0.62
8,888.00	93.08	179.61	6,969.92	-1,486.58	235.62	-1,394.71	1.68	1.52	-0.73
8,974.00	92.83	181.64	6,965.49	-1,572.46	234.68	-1,478.58	2.38	-0.29	2.36
9,059.00	93.39	181.72	6,960.88	-1,657.30	232.20	-1,561.78	0.67	0.66	0.09
9,145.00	92.59	181.80	6,956.39	-1,743.14	229.56	-1,645.99	0.93	-0.93	0.09
9,230.00	91.23	179.50	6,953.56	-1,828.08	228.60	-1,728.94	3.14	-1.60	-2.71
9,316.00	91.42	179.20	6,951.57	-1,914.05	229.57	-1,812.46	0.41	0.22	-0.35
9,401.00	91.60	179.40	6,949.33	-1,999.02	230.61	-1,894.99	0.32	0.21	0.24
9,487.00	91.30	179.15	6,947.15	-2,084.98	231.70	-1,978.48	0.45	-0.35	-0.29
9,572.00	91.91	180.70	6,944.77	-2,169.94	231.81	-2,061.21	1.96	0.72	1.82
9,657.00	91.48	179.78	6,942.26	-2,254.91	231.45	-2,144.05	1.19	-0.51	-1.08
9,743.00	92.35	178.60	6,939.38	-2,340.85	232.67	-2,227.49	1.70	1.01	-1.37
9,828.00	92.90	180.81	6,935.49	-2,425.75	233.11	-2,310.09	2.68	0.65	2.60
9,914.00	92.59	180.89	6,931.37	-2,511.64	231.83	-2,394.04	0.37	-0.36	0.09
9,999.00	92.22	182.10	6,927.80	-2,596.54	229.62	-2,477.24	1.49	-0.44	1.42
10,085.00	91.85	181.53	6,924.75	-2,682.44	226.89	-2,561.53	0.79	-0.43	-0.66
10,170.00	91.85	181.44	6,922.01	-2,767.37	224.69	-2,644.75	0.11	0.00	-0.11
10,256.00	91.60	181.34	6,919.42	-2,853.30	222.61	-2,728.93	0.31	-0.29	-0.12
10,341.00	90.56	180.32	6,917.81	-2,938.28	221.38	-2,811.98	1.71	-1.22	-1.20
10,426.00	91.85	180.24	6,916.03	-3,023.25	220.96	-2,894.85	1.52	1.52	-0.09
10,512.00	91.85	179.59	6,913.25	-3,109.21	221.09	-2,978.54	0.76	0.00	-0.76
10,597.00	92.03	179.38	6,910.37	-3,194.16	221.85	-3,061.12	0.33	0.21	-0.25
10,683.00	92.47	178.54	6,907.00	-3,280.07	223.41	-3,144.45	1.10	0.51	-0.98
10,768.00	91.11	178.31	6,904.34	-3,365.00	225.75	-3,226.65	1.62	-1.60	-0.27

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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)
10,854.00	91.15	178.44	6,902.65	-3,450.95	228.18	-3,309.81	0.16	0.05	0.15
10,939.00	90.74	178.28	6,901.24	-3,535.90	230.62	-3,392.01	0.52	-0.48	-0.19
11,024.00	90.43	177.87	6,900.38	-3,620.85	233.47	-3,474.11	0.60	-0.36	-0.48
11,110.00	90.99	178.04	6,899.31	-3,706.79	236.54	-3,557.13	0.68	0.65	0.20
11,195.00	90.84	177.15	6,897.95	-3,791.70	240.11	-3,639.03	1.06	-0.18	-1.05
11,281.00	90.39	176.19	6,897.03	-3,877.55	245.10	-3,721.52	1.23	-0.52	-1.12
11,366.00	90.23	175.01	6,896.57	-3,962.30	251.62	-3,802.60	1.40	-0.19	-1.39
11,452.00	90.12	175.06	6,896.31	-4,047.97	259.07	-3,884.37	0.14	-0.13	0.06
LAST MWD SURVEY									
11,537.00	90.12	175.06	6,896.13	-4,132.66	266.39	-3,965.20	0.00	0.00	0.00
PROJECTION TO TD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
841.00	841.00	2.26	0.53	TIE ON
973.00	972.99	2.74	1.29	FIRST MWD SURVEY
7,391.01	6,990.34	9.44	224.68	7" CASING SET
11,452.00	6,896.31	-4,047.97	259.07	LAST MWD SURVEY
11,537.00	6,896.13	-4,132.66	266.39	PROJECTION TO TD

Checked By: _____ Approved By: _____ Date: _____

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_PALYO 4-11HZ Pad

Palyo 35N-W11HZ

Palyo 35N-W11HZ

Design: Palyo 35N-W11HZ

Survey Report - Geographic

08 October, 2012

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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 35N-W11HZ			
Well Position	+N/-S	0.00 ft	Northing:	1,301,786.93 usft
	+E/-W	0.00 ft	Easting:	3,240,910.54 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level: 4,856.00 ft

Wellbore	Palyo 35N-W11HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2012	8.68	66.85	52,947

Design	Palyo 35N-W11HZ			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 16.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	16.00	0.00	0.00	13.08

Survey Program	Date	10/8/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
116.00	841.00	Survey #1 (Palyo 35N-W11HZ)	NS-GYRO-MS	NORTH SENSING GYROCOMPASSING M/S
973.00	11,537.00	Survey #2 (Palyo 35N-W11HZ)	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
16.00	0.00	0.00	16.00	0.00	0.00	1,301,786.93	3,240,910.54	40.158586	-104.638059
116.00	0.11	12.76	116.00	0.09	0.02	1,301,787.03	3,240,910.56	40.158586	-104.638059
216.00	0.13	334.21	216.00	0.29	-0.01	1,301,787.22	3,240,910.53	40.158587	-104.638059
316.00	0.16	301.05	316.00	0.46	-0.18	1,301,787.39	3,240,910.36	40.158587	-104.638060
416.00	0.23	23.25	416.00	0.72	-0.22	1,301,787.65	3,240,910.32	40.158588	-104.638060
516.00	0.34	53.92	516.00	1.08	0.10	1,301,788.01	3,240,910.64	40.158589	-104.638059
616.00	0.24	16.87	616.00	1.45	0.40	1,301,788.39	3,240,910.93	40.158590	-104.638058
716.00	0.19	3.53	716.00	1.82	0.47	1,301,788.76	3,240,911.00	40.158591	-104.638058
816.00	0.21	7.83	816.00	2.17	0.51	1,301,789.10	3,240,911.03	40.158592	-104.638057
841.00	0.24	11.27	841.00	2.26	0.53	1,301,789.20	3,240,911.05	40.158592	-104.638057
TIE ON									

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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
973.00	0.64	73.47	972.99	2.74	1.29	1,301,789.69	3,240,911.80	40.158594	-104.638055
FIRST MWD SURVEY									
1,066.00	1.41	34.03	1,065.98	3.84	2.42	1,301,790.80	3,240,912.93	40.158597	-104.638051
1,160.00	2.87	22.84	1,159.91	6.97	3.99	1,301,793.94	3,240,914.46	40.158605	-104.638045
1,253.00	4.11	22.85	1,252.73	12.19	6.18	1,301,799.18	3,240,916.61	40.158619	-104.638037
1,347.00	4.97	20.32	1,346.44	19.11	8.91	1,301,806.13	3,240,919.26	40.158638	-104.638027
1,439.00	6.32	18.39	1,437.99	27.65	11.89	1,301,814.70	3,240,922.16	40.158662	-104.638017
1,524.00	7.81	24.85	1,522.34	37.33	15.79	1,301,824.42	3,240,925.97	40.158689	-104.638003
1,610.00	9.35	24.22	1,607.38	49.01	21.11	1,301,836.14	3,240,931.18	40.158721	-104.637984
1,695.00	9.72	19.04	1,691.21	62.09	26.29	1,301,849.27	3,240,936.23	40.158756	-104.637965
1,780.00	9.78	17.99	1,774.98	75.73	30.86	1,301,862.96	3,240,940.66	40.158794	-104.637949
1,866.00	9.69	18.05	1,859.74	89.56	35.36	1,301,876.83	3,240,945.03	40.158832	-104.637933
1,951.00	9.38	18.82	1,943.57	102.92	39.81	1,301,890.24	3,240,949.35	40.158869	-104.637917
2,036.00	9.71	12.62	2,027.39	116.47	43.61	1,301,903.82	3,240,953.02	40.158906	-104.637903
2,121.00	9.09	12.60	2,111.25	130.02	46.64	1,301,917.40	3,240,955.92	40.158943	-104.637892
2,207.00	8.65	10.51	2,196.22	143.01	49.30	1,301,930.41	3,240,958.45	40.158979	-104.637883
2,292.00	8.07	18.61	2,280.32	154.95	52.37	1,301,942.38	3,240,961.40	40.159011	-104.637872
2,378.00	7.75	17.86	2,365.50	166.19	56.07	1,301,953.66	3,240,965.00	40.159042	-104.637859
2,463.00	7.73	18.12	2,449.73	177.08	59.61	1,301,964.58	3,240,968.43	40.159072	-104.637846
2,548.00	6.76	18.21	2,534.05	187.26	62.95	1,301,974.80	3,240,971.67	40.159100	-104.637834
2,633.00	5.85	22.33	2,618.53	196.02	66.16	1,301,983.59	3,240,974.80	40.159124	-104.637823
2,719.00	6.16	30.02	2,704.06	204.07	70.13	1,301,991.67	3,240,978.69	40.159146	-104.637808
2,804.00	7.40	23.99	2,788.47	213.02	74.64	1,302,000.67	3,240,983.11	40.159171	-104.637792
2,890.00	8.72	21.41	2,873.62	224.15	79.27	1,302,011.84	3,240,987.63	40.159201	-104.637776
2,975.00	8.78	16.44	2,957.63	236.37	83.46	1,302,024.10	3,240,991.70	40.159235	-104.637761
3,060.00	9.09	15.92	3,041.60	249.05	87.14	1,302,036.82	3,240,995.26	40.159270	-104.637747
3,146.00	8.92	16.92	3,126.54	261.96	90.94	1,302,049.76	3,240,998.94	40.159305	-104.637734
3,231.00	8.44	15.13	3,210.56	274.29	94.49	1,302,062.13	3,241,002.36	40.159339	-104.637721
3,317.00	7.67	14.57	3,295.71	285.94	97.58	1,302,073.80	3,241,005.34	40.159371	-104.637710
3,402.00	7.57	15.63	3,379.96	296.82	100.52	1,302,084.71	3,241,008.17	40.159401	-104.637700
3,488.00	7.65	21.37	3,465.21	307.60	104.13	1,302,095.53	3,241,011.68	40.159430	-104.637687
3,573.00	7.96	21.17	3,549.42	318.36	108.31	1,302,106.33	3,241,015.76	40.159460	-104.637672
3,659.00	7.90	14.13	3,634.60	329.64	111.91	1,302,117.65	3,241,019.24	40.159491	-104.637659
3,744.00	8.23	18.76	3,718.76	341.07	115.29	1,302,129.11	3,241,022.51	40.159522	-104.637647
3,829.00	7.25	18.35	3,802.98	351.92	118.94	1,302,139.99	3,241,026.05	40.159552	-104.637634
3,915.00	8.08	20.61	3,888.22	362.73	122.77	1,302,150.84	3,241,029.78	40.159582	-104.637620
4,000.00	9.07	16.75	3,972.27	374.74	126.81	1,302,162.88	3,241,033.70	40.159615	-104.637606
4,086.00	8.41	16.34	4,057.27	387.26	130.53	1,302,175.44	3,241,037.30	40.159649	-104.637592
4,171.00	8.94	13.86	4,141.29	399.64	133.86	1,302,187.85	3,241,040.51	40.159683	-104.637580
4,257.00	8.65	12.86	4,226.28	412.43	136.90	1,302,200.67	3,241,043.43	40.159718	-104.637569
4,342.00	8.44	16.68	4,310.34	424.64	140.11	1,302,212.91	3,241,046.52	40.159752	-104.637558
4,427.00	8.12	16.19	4,394.45	436.38	143.58	1,302,224.69	3,241,049.87	40.159784	-104.637546
4,513.00	8.06	14.70	4,479.60	448.04	146.80	1,302,236.38	3,241,052.98	40.159816	-104.637534
4,598.00	8.07	15.22	4,563.76	459.57	149.88	1,302,247.93	3,241,055.95	40.159848	-104.637523
4,684.00	7.72	16.16	4,648.94	470.94	153.07	1,302,259.33	3,241,059.03	40.159879	-104.637512
4,769.00	6.71	17.27	4,733.27	481.16	156.13	1,302,269.59	3,241,061.99	40.159907	-104.637501
4,855.00	6.80	23.35	4,818.67	490.64	159.64	1,302,279.10	3,241,065.41	40.159933	-104.637488
4,940.00	7.86	27.12	4,902.98	500.43	164.29	1,302,288.93	3,241,069.96	40.159960	-104.637471
5,026.00	8.28	20.17	4,988.13	511.48	169.10	1,302,300.03	3,241,074.67	40.159990	-104.637454
5,111.00	8.45	18.75	5,072.22	523.14	173.22	1,302,311.73	3,241,078.67	40.160022	-104.637440
5,197.00	7.80	19.60	5,157.36	534.62	177.21	1,302,323.24	3,241,082.55	40.160054	-104.637425
5,282.00	7.67	17.95	5,241.59	545.45	180.89	1,302,334.11	3,241,086.13	40.160083	-104.637412
5,368.00	8.29	18.12	5,326.75	556.80	184.59	1,302,345.50	3,241,089.71	40.160115	-104.637399
5,453.00	8.58	21.91	5,410.83	568.51	188.86	1,302,357.25	3,241,093.87	40.160147	-104.637384
5,539.00	8.24	15.81	5,495.91	580.39	192.93	1,302,369.17	3,241,097.83	40.160179	-104.637369

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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
5,624.00	6.91	13.57	5,580.17	591.22	195.79	1,302,380.02	3,241,100.58	40.160209	-104.637359
5,710.00	6.66	17.34	5,665.56	601.01	198.49	1,302,389.84	3,241,103.19	40.160236	-104.637349
5,795.00	5.96	18.76	5,750.05	609.89	201.38	1,302,398.75	3,241,105.99	40.160260	-104.637339
5,880.00	4.64	15.98	5,834.68	617.38	203.75	1,302,406.26	3,241,108.28	40.160281	-104.637330
5,966.00	3.91	13.63	5,920.44	623.57	205.40	1,302,412.47	3,241,109.87	40.160298	-104.637324
6,051.00	3.13	10.59	6,005.28	628.67	206.51	1,302,417.58	3,241,110.93	40.160312	-104.637320
6,137.00	2.77	4.89	6,091.17	633.05	207.12	1,302,421.96	3,241,111.50	40.160324	-104.637318
6,222.00	1.92	20.53	6,176.10	636.43	207.79	1,302,425.35	3,241,112.14	40.160333	-104.637316
6,308.00	0.44	346.63	6,262.08	638.10	208.22	1,302,427.02	3,241,112.55	40.160338	-104.637314
6,350.00	0.36	311.40	6,304.08	638.34	208.08	1,302,427.26	3,241,112.41	40.160338	-104.637315
6,392.00	0.50	326.07	6,346.08	638.58	207.88	1,302,427.50	3,241,112.21	40.160339	-104.637315
6,478.00	8.37	159.92	6,431.79	633.00	209.82	1,302,421.94	3,241,114.21	40.160324	-104.637309
6,520.00	12.90	161.88	6,473.06	625.67	212.33	1,302,414.64	3,241,116.79	40.160304	-104.637300
6,563.00	16.05	167.09	6,514.69	615.31	215.16	1,302,404.30	3,241,119.71	40.160275	-104.637289
6,606.00	20.01	168.35	6,555.57	602.31	217.97	1,302,391.33	3,241,122.65	40.160239	-104.637279
6,648.00	22.99	171.14	6,594.64	587.16	220.68	1,302,376.21	3,241,125.51	40.160198	-104.637270
6,691.00	25.68	173.96	6,633.82	569.59	222.96	1,302,358.67	3,241,127.96	40.160150	-104.637262
6,734.00	28.88	177.26	6,672.03	549.95	224.44	1,302,339.04	3,241,129.62	40.160096	-104.637256
6,777.00	32.19	178.14	6,709.07	528.13	225.30	1,302,317.22	3,241,130.70	40.160036	-104.637253
6,819.00	36.61	178.16	6,743.71	504.42	226.07	1,302,293.52	3,241,131.70	40.159971	-104.637250
6,862.00	42.09	178.76	6,776.95	477.17	226.79	1,302,266.28	3,241,132.69	40.159896	-104.637248
6,905.00	46.76	180.77	6,807.65	447.08	226.90	1,302,236.20	3,241,133.08	40.159813	-104.637247
6,947.00	50.56	182.90	6,835.39	415.58	225.87	1,302,204.68	3,241,132.36	40.159727	-104.637251
6,990.00	53.10	180.51	6,861.97	381.79	224.88	1,302,170.89	3,241,131.70	40.159634	-104.637255
7,033.00	54.58	178.60	6,887.34	347.08	225.15	1,302,136.18	3,241,132.31	40.159539	-104.637254
7,076.00	59.50	178.24	6,910.73	311.03	226.15	1,302,100.14	3,241,133.66	40.159440	-104.637250
7,118.00	65.41	179.84	6,930.14	273.81	226.76	1,302,062.93	3,241,134.63	40.159338	-104.637248
7,161.00	70.56	182.10	6,946.26	233.97	226.07	1,302,023.09	3,241,134.33	40.159228	-104.637250
7,204.00	71.64	182.22	6,960.18	193.32	224.54	1,301,982.42	3,241,133.19	40.159117	-104.637256
7,246.00	75.66	179.93	6,972.01	153.03	223.79	1,301,942.13	3,241,132.83	40.159006	-104.637259
7,289.00	81.16	178.67	6,980.64	110.93	224.31	1,301,900.04	3,241,133.76	40.158891	-104.637257
7,332.00	84.40	179.57	6,986.05	68.28	224.96	1,301,857.40	3,241,134.83	40.158773	-104.637254
7,391.01	87.25	180.97	6,990.34	9.44	224.68	1,301,798.55	3,241,135.12	40.158612	-104.637255
7" CASING SET									
7,435.00	89.38	182.01	6,991.63	-34.52	223.54	1,301,754.59	3,241,134.41	40.158491	-104.637259
7,521.00	90.31	179.81	6,991.87	-120.50	222.17	1,301,668.60	3,241,133.88	40.158255	-104.637264
7,606.00	91.60	179.67	6,990.45	-205.49	222.56	1,301,583.62	3,241,135.09	40.158022	-104.637263
7,692.00	91.54	181.46	6,988.09	-291.45	221.71	1,301,497.66	3,241,135.08	40.157786	-104.637266
7,777.00	88.95	181.25	6,987.73	-376.41	219.70	1,301,412.67	3,241,133.89	40.157553	-104.637273
7,863.00	90.25	180.87	6,988.33	-462.39	218.11	1,301,326.68	3,241,133.14	40.157317	-104.637279
7,948.00	89.63	180.13	6,988.42	-547.39	217.37	1,301,241.68	3,241,133.22	40.157083	-104.637282
8,034.00	89.82	179.72	6,988.83	-633.39	217.48	1,301,155.69	3,241,134.17	40.156847	-104.637281
8,119.00	89.63	179.55	6,989.24	-718.39	218.02	1,301,070.70	3,241,135.54	40.156614	-104.637279
8,205.00	89.14	179.91	6,990.16	-804.38	218.43	1,300,984.71	3,241,136.78	40.156378	-104.637278
8,290.00	90.99	179.02	6,990.07	-889.37	219.22	1,300,899.73	3,241,138.40	40.156145	-104.637275
8,375.00	89.69	176.34	6,989.56	-974.29	222.66	1,300,814.85	3,241,142.67	40.155911	-104.637263
8,461.00	92.41	176.62	6,987.99	-1,060.11	227.94	1,300,729.09	3,241,148.78	40.155676	-104.637244
8,546.00	92.96	178.46	6,984.00	-1,144.93	231.59	1,300,644.31	3,241,153.25	40.155443	-104.637231
8,632.00	92.53	178.33	6,979.88	-1,230.80	233.99	1,300,558.47	3,241,156.49	40.155207	-104.637222
8,717.00	92.10	179.70	6,976.45	-1,315.71	235.45	1,300,473.57	3,241,158.77	40.154974	-104.637217
8,803.00	91.79	180.23	6,973.53	-1,401.66	235.50	1,300,387.63	3,241,159.66	40.154738	-104.637217
8,888.00	93.08	179.61	6,969.92	-1,486.58	235.62	1,300,302.71	3,241,160.60	40.154505	-104.637216
8,974.00	92.83	181.64	6,965.49	-1,572.46	234.68	1,300,216.83	3,241,160.50	40.154269	-104.637220
9,059.00	93.39	181.72	6,960.88	-1,657.30	232.20	1,300,131.97	3,241,158.84	40.154037	-104.637229
9,145.00	92.59	181.80	6,956.39	-1,743.14	229.56	1,300,046.11	3,241,157.04	40.153801	-104.637238

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well Palyo 35N-W11HZ
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 35N-W11HZ	North Reference:	True
Wellbore:	Palyo 35N-W11HZ	Survey Calculation Method:	Minimum Curvature
Design:	Palyo 35N-W11HZ	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
9,230.00	91.23	179.50	6,953.56	-1,828.08	228.60	1,299,961.16	3,241,156.90	40.153568	-104.637241
9,316.00	91.42	179.20	6,951.57	-1,914.05	229.57	1,299,875.21	3,241,158.71	40.153332	-104.637238
9,401.00	91.60	179.40	6,949.33	-1,999.02	230.61	1,299,790.26	3,241,160.57	40.153098	-104.637234
9,487.00	91.30	179.15	6,947.15	-2,084.98	231.70	1,299,704.31	3,241,162.50	40.152862	-104.637230
9,572.00	91.91	180.70	6,944.77	-2,169.94	231.81	1,299,619.35	3,241,163.43	40.152629	-104.637230
9,657.00	91.48	179.78	6,942.26	-2,254.91	231.45	1,299,534.39	3,241,163.90	40.152396	-104.637231
9,743.00	92.35	178.60	6,939.38	-2,340.85	232.67	1,299,448.46	3,241,165.95	40.152160	-104.637227
9,828.00	92.90	180.81	6,935.49	-2,425.75	233.11	1,299,363.57	3,241,167.22	40.151927	-104.637225
9,914.00	92.59	180.89	6,931.37	-2,511.64	231.83	1,299,277.67	3,241,166.78	40.151691	-104.637230
9,999.00	92.22	182.10	6,927.80	-2,596.54	229.62	1,299,192.75	3,241,165.39	40.151458	-104.637238
10,085.00	91.85	181.53	6,924.75	-2,682.44	226.89	1,299,106.83	3,241,163.50	40.151222	-104.637248
10,170.00	91.85	181.44	6,922.01	-2,767.37	224.69	1,299,021.89	3,241,162.12	40.150989	-104.637255
10,256.00	91.60	181.34	6,919.42	-2,853.30	222.61	1,298,935.93	3,241,160.87	40.150753	-104.637263
10,341.00	90.56	180.32	6,917.81	-2,938.28	221.38	1,298,850.95	3,241,160.47	40.150520	-104.637267
10,426.00	91.85	180.24	6,916.03	-3,023.25	220.96	1,298,765.97	3,241,160.88	40.150287	-104.637269
10,512.00	91.85	179.59	6,913.25	-3,109.21	221.09	1,298,680.03	3,241,161.84	40.150051	-104.637268
10,597.00	92.03	179.38	6,910.37	-3,194.16	221.85	1,298,595.09	3,241,163.43	40.149818	-104.637266
10,683.00	92.47	178.54	6,907.00	-3,280.07	223.41	1,298,509.19	3,241,165.83	40.149582	-104.637260
10,768.00	91.11	178.31	6,904.34	-3,365.00	225.75	1,298,424.29	3,241,168.99	40.149349	-104.637252
10,854.00	91.15	178.44	6,902.65	-3,450.95	228.18	1,298,338.37	3,241,172.26	40.149113	-104.637243
10,939.00	90.74	178.28	6,901.24	-3,535.90	230.62	1,298,253.45	3,241,175.52	40.148880	-104.637234
11,024.00	90.43	177.87	6,900.38	-3,620.85	233.47	1,298,168.53	3,241,179.20	40.148646	-104.637224
11,110.00	90.99	178.04	6,899.31	-3,706.79	236.54	1,298,082.63	3,241,183.10	40.148410	-104.637213
11,195.00	90.84	177.15	6,897.95	-3,791.70	240.11	1,297,997.75	3,241,187.49	40.148177	-104.637200
11,281.00	90.39	176.19	6,897.03	-3,877.55	245.10	1,297,911.96	3,241,193.32	40.147942	-104.637182
11,366.00	90.23	175.01	6,896.57	-3,962.30	251.62	1,297,827.28	3,241,200.67	40.147709	-104.637159
11,452.00	90.12	175.06	6,896.31	-4,047.97	259.07	1,297,741.68	3,241,208.94	40.147474	-104.637133
LAST MWD SURVEY									
11,537.00	90.12	175.06	6,896.13	-4,132.66	266.39	1,297,657.07	3,241,217.09	40.147241	-104.637106
PROJECTION TO TD									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
841.00	841.00	2.26	0.53	TIE ON	
973.00	972.99	2.74	1.29	FIRST MWD SURVEY	
7,391.01	6,990.34	9.44	224.68	7" CASING SET	
11,452.00	6,896.31	-4,047.97	259.07	LAST MWD SURVEY	
11,537.00	6,896.13	-4,132.66	266.39	PROJECTION TO TD	

Checked By: _____ Approved By: _____ Date: _____