

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_PALYO 29-11HZ Pad

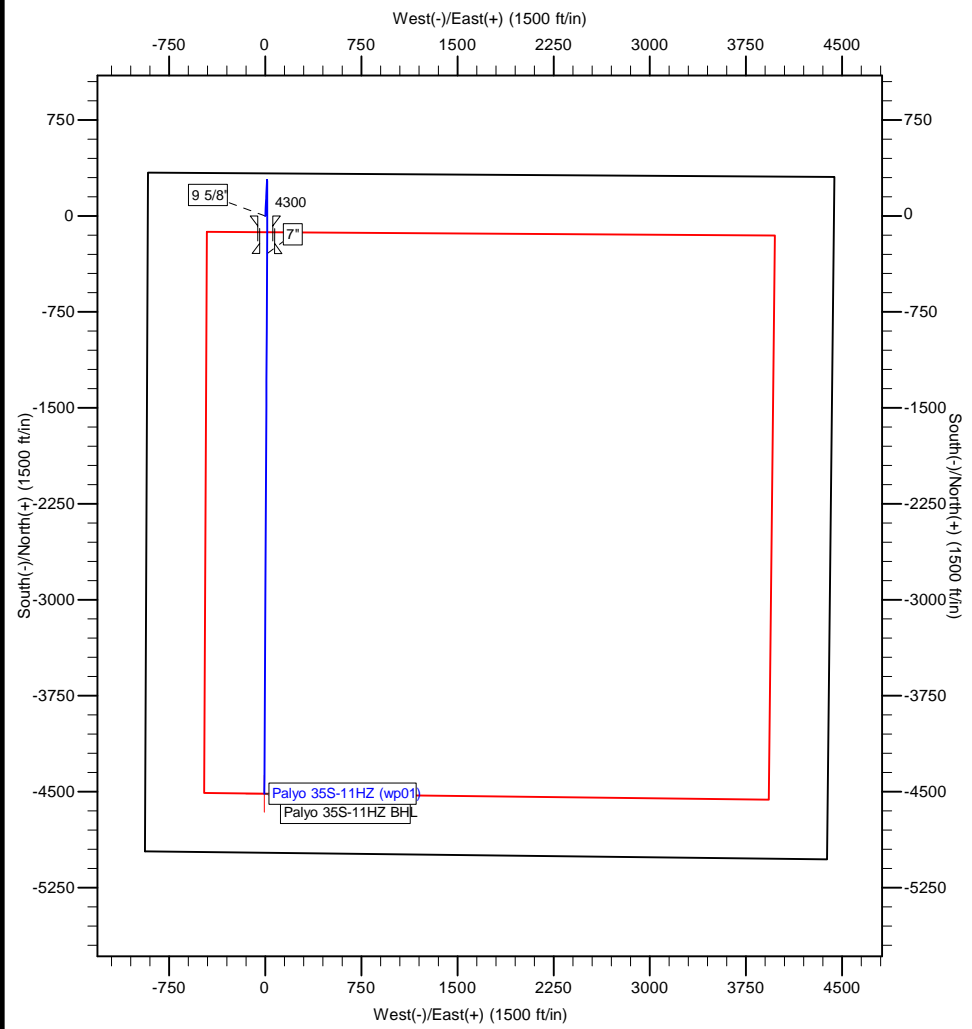
Palyo 35S-11HZ

Palyo 35S-11HZ

Plan: Palyo 35S-11HZ (wp01)

Standard Planning Report

21 February, 2012



T M
 Azimuths to True North
 Magnetic North: 8.68°
 Magnetic Field
 Strength: 52947.5snT
 Dip Angle: 66.85°
 Date: 2/16/2012
 Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_PALYO 29-11HZ Pad
Well: Palyo 35S-11HZ
Wellbore: Palyo 35S-11HZ
Section:
SHL:
Design: Palyo 35S-11HZ (wp01)
Latitude: 40.159567
Longitude: -104.637175
GL: 4850.00
KB: rkb + gl @ 4866.00ft

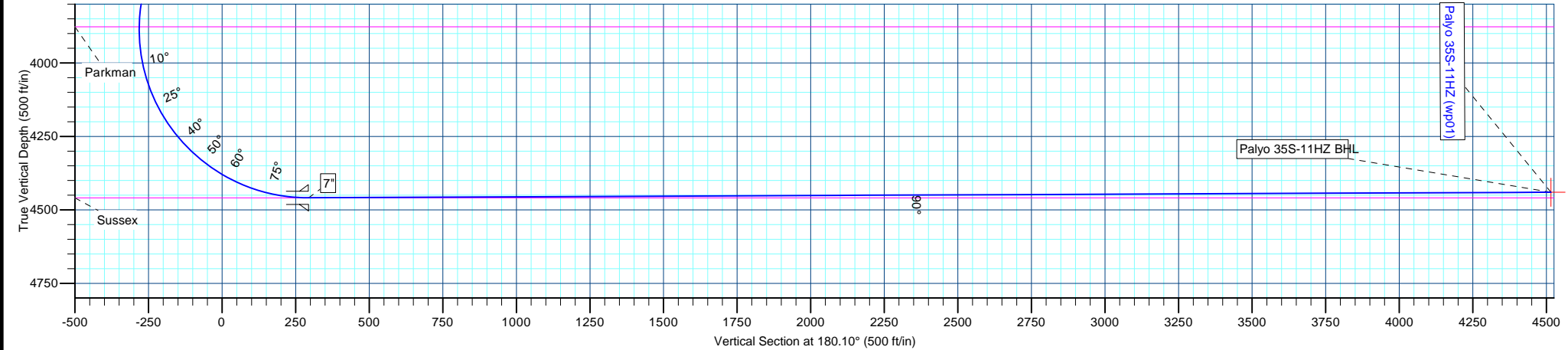
WELL DETAILS: Palyo 35S-11HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4850.00 Latitude	Longitude	Slot
0.00	0.00	1302146.68	3241154.13	40.159567	-104.637175	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	0.00
1991.25	7.82	2.69	1990.03	26.65	1.25	2.00	2.69	-26.65
3826.42	7.82	2.69	3808.12	276.22	13.00	0.00	0.00	-276.24
4807.18	90.26	180.28	4459.00	-294.00	14.00	10.00	177.56	293.98
4808.43	90.26	180.29	4458.99	-295.24	13.99	1.00	90.00	295.22
9029.26	90.26	180.29	4440.00	-4515.98	-7.55	0.00	0.00	4515.99

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Palyo 35S-11HZ BHL	4440.00	-4515.98	-7.55	40.147170	-104.637202	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3877.00	3895.55	Parkman
4459.00	4807.18	Sussex

CASING DETAILS			
TVD	MD	Name	Size
850.00	850.00	9 5/8"	9-5/8
4459.00	4807.18	7"	7



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Palyo 35S-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4866.00ft
Site:	WELD_PALYO 29-11HZ Pad	North Reference:	True
Well:	Palyo 35S-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Palyo 35S-11HZ		
Design:	Palyo 35S-11HZ (wp01)		

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

Site	WELD_PALYO 29-11HZ Pad				
Site Position:		Northing:	1,302,146.62 usft	Latitude:	40.159566
From:	Lat/Long	Easting:	3,241,184.04 usft	Longitude:	-104.637068
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.56 °

Well	Palyo 35S-11HZ					
Well Position	+N/-S	0.35 ft	Northing:	1,302,146.68 usft	Latitude:	40.159567
	+E/-W	-29.91 ft	Easting:	3,241,154.14 usft	Longitude:	-104.637175
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,850.00 ft

Wellbore	Palyo 35S-11HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2012	8.68	66.85	52,948

Design	Palyo 35S-11HZ (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.10

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,991.25	7.82	2.69	1,990.03	26.65	1.25	2.00	2.00	0.00	2.69	
3,826.42	7.82	2.69	3,808.12	276.22	13.00	0.00	0.00	0.00	0.00	
4,807.18	90.26	180.28	4,459.00	-294.00	14.00	10.00	8.41	18.11	177.56	
4,808.43	90.26	180.29	4,458.99	-295.24	13.99	1.00	0.00	1.00	90.00	
9,029.26	90.26	180.29	4,440.00	-4,515.98	-7.55	0.00	0.00	0.00	0.00	Palyo 35S-11HZ BHL

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Palyo 35S-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4866.00ft
Site:	WELD_PALYO 29-11HZ Pad	North Reference:	True
Well:	Palyo 35S-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Palyo 35S-11HZ		
Design:	Palyo 35S-11HZ (wp01)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	2.00	2.69	1,699.98	1.74	0.08	-1.74	2.00	2.00	2.00	0.00
1,800.00	4.00	2.69	1,799.84	6.97	0.33	-6.97	2.00	2.00	2.00	0.00
1,900.00	6.00	2.69	1,899.45	15.68	0.74	-15.68	2.00	2.00	2.00	0.00
1,991.25	7.82	2.69	1,990.03	26.65	1.25	-26.65	2.00	2.00	2.00	0.00
2,000.00	7.82	2.69	1,998.70	27.84	1.31	-27.84	0.00	0.00	0.00	0.00
2,100.00	7.82	2.69	2,097.77	41.44	1.95	-41.44	0.00	0.00	0.00	0.00
2,200.00	7.82	2.69	2,196.84	55.04	2.59	-55.04	0.00	0.00	0.00	0.00
2,300.00	7.82	2.69	2,295.91	68.63	3.23	-68.64	0.00	0.00	0.00	0.00
2,400.00	7.82	2.69	2,394.98	82.23	3.87	-82.24	0.00	0.00	0.00	0.00
2,500.00	7.82	2.69	2,494.05	95.83	4.51	-95.84	0.00	0.00	0.00	0.00
2,600.00	7.82	2.69	2,593.12	109.43	5.15	-109.44	0.00	0.00	0.00	0.00
2,700.00	7.82	2.69	2,692.19	123.03	5.79	-123.04	0.00	0.00	0.00	0.00
2,800.00	7.82	2.69	2,791.25	136.63	6.43	-136.64	0.00	0.00	0.00	0.00
2,900.00	7.82	2.69	2,890.32	150.23	7.07	-150.24	0.00	0.00	0.00	0.00
3,000.00	7.82	2.69	2,989.39	163.83	7.71	-163.85	0.00	0.00	0.00	0.00
3,100.00	7.82	2.69	3,088.46	177.43	8.35	-177.45	0.00	0.00	0.00	0.00
3,200.00	7.82	2.69	3,187.53	191.03	8.99	-191.05	0.00	0.00	0.00	0.00
3,300.00	7.82	2.69	3,286.60	204.63	9.63	-204.65	0.00	0.00	0.00	0.00
3,400.00	7.82	2.69	3,385.67	218.23	10.27	-218.25	0.00	0.00	0.00	0.00
3,500.00	7.82	2.69	3,484.74	231.83	10.91	-231.85	0.00	0.00	0.00	0.00
3,600.00	7.82	2.69	3,583.81	245.43	11.55	-245.45	0.00	0.00	0.00	0.00
3,700.00	7.82	2.69	3,682.87	259.03	12.19	-259.05	0.00	0.00	0.00	0.00
3,800.00	7.82	2.69	3,781.94	272.63	12.83	-272.65	0.00	0.00	0.00	0.00
3,826.42	7.82	2.69	3,808.12	276.22	13.00	-276.24	0.00	0.00	0.00	0.00
3,895.55	0.96	20.41	3,877.00	281.48	13.43	-281.50	10.00	-9.92	25.62	
Parkman										
3,900.00	0.57	36.07	3,881.45	281.53	13.45	-281.55	10.00	-8.92	351.80	
4,000.00	9.55	178.30	3,981.01	273.62	13.99	-273.64	10.00	8.98	142.23	
4,100.00	19.54	179.34	4,077.68	248.55	14.43	-248.57	10.00	10.00	1.04	
4,200.00	29.54	179.69	4,168.53	207.06	14.75	-207.09	10.00	10.00	0.35	
4,300.00	39.54	179.88	4,250.80	150.44	14.95	-150.46	10.00	10.00	0.18	
4,400.00	49.54	180.00	4,321.99	80.38	15.03	-80.41	10.00	10.00	0.12	
4,500.00	59.54	180.08	4,379.93	-0.96	14.97	0.94	10.00	10.00	0.09	
4,600.00	69.54	180.15	4,422.86	-91.14	14.78	91.11	10.00	10.00	0.07	
4,700.00	79.54	180.22	4,449.48	-187.40	14.46	187.37	10.00	10.00	0.06	

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Palyo 35S-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4866.00ft
Site:	WELD_PALYO 29-11HZ Pad	North Reference:	True
Well:	Palyo 35S-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Palyo 35S-11HZ		
Design:	Palyo 35S-11HZ (wp01)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,800.00	89.54	180.28	4,458.99	-286.82	14.03	286.79	10.00	10.00	0.06	
4,807.18	90.26	180.28	4,459.00	-294.00	14.00	293.97	10.00	10.00	0.06	
Sussex - 7"										
4,808.43	90.26	180.29	4,458.99	-295.24	13.99	295.22	1.00	0.03	1.00	
4,900.00	90.26	180.29	4,458.58	-386.81	13.53	386.79	0.00	0.00	0.00	
5,000.00	90.26	180.29	4,458.13	-486.81	13.02	486.79	0.00	0.00	0.00	
5,100.00	90.26	180.29	4,457.68	-586.81	12.51	586.79	0.00	0.00	0.00	
5,200.00	90.26	180.29	4,457.23	-686.81	12.00	686.79	0.00	0.00	0.00	
5,300.00	90.26	180.29	4,456.78	-786.81	11.48	786.78	0.00	0.00	0.00	
5,400.00	90.26	180.29	4,456.33	-886.80	10.97	886.78	0.00	0.00	0.00	
5,500.00	90.26	180.29	4,455.88	-986.80	10.46	986.78	0.00	0.00	0.00	
5,600.00	90.26	180.29	4,455.43	-1,086.80	9.95	1,086.78	0.00	0.00	0.00	
5,700.00	90.26	180.29	4,454.98	-1,186.80	9.44	1,186.78	0.00	0.00	0.00	
5,800.00	90.26	180.29	4,454.53	-1,286.79	8.93	1,286.78	0.00	0.00	0.00	
5,900.00	90.26	180.29	4,454.08	-1,386.79	8.42	1,386.78	0.00	0.00	0.00	
6,000.00	90.26	180.29	4,453.63	-1,486.79	7.91	1,486.77	0.00	0.00	0.00	
6,100.00	90.26	180.29	4,453.18	-1,586.79	7.40	1,586.77	0.00	0.00	0.00	
6,200.00	90.26	180.29	4,452.73	-1,686.78	6.89	1,686.77	0.00	0.00	0.00	
6,300.00	90.26	180.29	4,452.28	-1,786.78	6.38	1,786.77	0.00	0.00	0.00	
6,400.00	90.26	180.29	4,451.83	-1,886.78	5.87	1,886.77	0.00	0.00	0.00	
6,500.00	90.26	180.29	4,451.38	-1,986.78	5.36	1,986.77	0.00	0.00	0.00	
6,600.00	90.26	180.29	4,450.93	-2,086.77	4.85	2,086.76	0.00	0.00	0.00	
6,700.00	90.26	180.29	4,450.48	-2,186.77	4.34	2,186.76	0.00	0.00	0.00	
6,800.00	90.26	180.29	4,450.03	-2,286.77	3.83	2,286.76	0.00	0.00	0.00	
6,900.00	90.26	180.29	4,449.58	-2,386.77	3.32	2,386.76	0.00	0.00	0.00	
7,000.00	90.26	180.29	4,449.13	-2,486.77	2.81	2,486.76	0.00	0.00	0.00	
7,100.00	90.26	180.29	4,448.68	-2,586.76	2.30	2,586.76	0.00	0.00	0.00	
7,200.00	90.26	180.29	4,448.23	-2,686.76	1.79	2,686.75	0.00	0.00	0.00	
7,300.00	90.26	180.29	4,447.78	-2,786.76	1.28	2,786.75	0.00	0.00	0.00	
7,400.00	90.26	180.29	4,447.33	-2,886.76	0.77	2,886.75	0.00	0.00	0.00	
7,500.00	90.26	180.29	4,446.88	-2,986.75	0.26	2,986.75	0.00	0.00	0.00	
7,600.00	90.26	180.29	4,446.43	-3,086.75	-0.25	3,086.75	0.00	0.00	0.00	
7,700.00	90.26	180.29	4,445.98	-3,186.75	-0.76	3,186.75	0.00	0.00	0.00	
7,800.00	90.26	180.29	4,445.53	-3,286.75	-1.27	3,286.74	0.00	0.00	0.00	
7,900.00	90.26	180.29	4,445.08	-3,386.74	-1.78	3,386.74	0.00	0.00	0.00	
8,000.00	90.26	180.29	4,444.63	-3,486.74	-2.29	3,486.74	0.00	0.00	0.00	
8,100.00	90.26	180.29	4,444.18	-3,586.74	-2.81	3,586.74	0.00	0.00	0.00	
8,200.00	90.26	180.29	4,443.73	-3,686.74	-3.32	3,686.74	0.00	0.00	0.00	
8,300.00	90.26	180.29	4,443.28	-3,786.74	-3.83	3,786.74	0.00	0.00	0.00	
8,400.00	90.26	180.29	4,442.83	-3,886.73	-4.34	3,886.74	0.00	0.00	0.00	
8,500.00	90.26	180.29	4,442.38	-3,986.73	-4.85	3,986.73	0.00	0.00	0.00	
8,600.00	90.26	180.29	4,441.93	-4,086.73	-5.36	4,086.73	0.00	0.00	0.00	
8,700.00	90.26	180.29	4,441.48	-4,186.73	-5.87	4,186.73	0.00	0.00	0.00	
8,800.00	90.26	180.29	4,441.03	-4,286.72	-6.38	4,286.73	0.00	0.00	0.00	
8,900.00	90.26	180.29	4,440.58	-4,386.72	-6.89	4,386.73	0.00	0.00	0.00	
9,000.00	90.26	180.29	4,440.13	-4,486.72	-7.40	4,486.73	0.00	0.00	0.00	
9,029.26	90.26	180.29	4,440.00	-4,515.98	-7.55	4,515.99	0.00	0.00	0.00	
Palyo 35S-11HZ BHL										

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Palyo 35S-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	rkb + gl @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	rkb + gl @ 4866.00ft
Site:	WELD_PALYO 29-11HZ Pad	North Reference:	True
Well:	Palyo 35S-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Palyo 35S-11HZ		
Design:	Palyo 35S-11HZ (wp01)		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Palyo 35S-11HZ BHL	0.00	0.00	4,440.00	-4,515.98	-7.55	1,297,630.85	3,241,190.53	40.147170	-104.637202
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(")	(")	
850.00	850.00	9 5/8"	9-5/8	12-1/4	
4,807.18	4,459.00	7"	7	8-3/4	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
3,895.55	3,877.00	Parkman				
4,807.18	4,459.00	Sussex				