

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_FARLEY 4 PAD SWSE

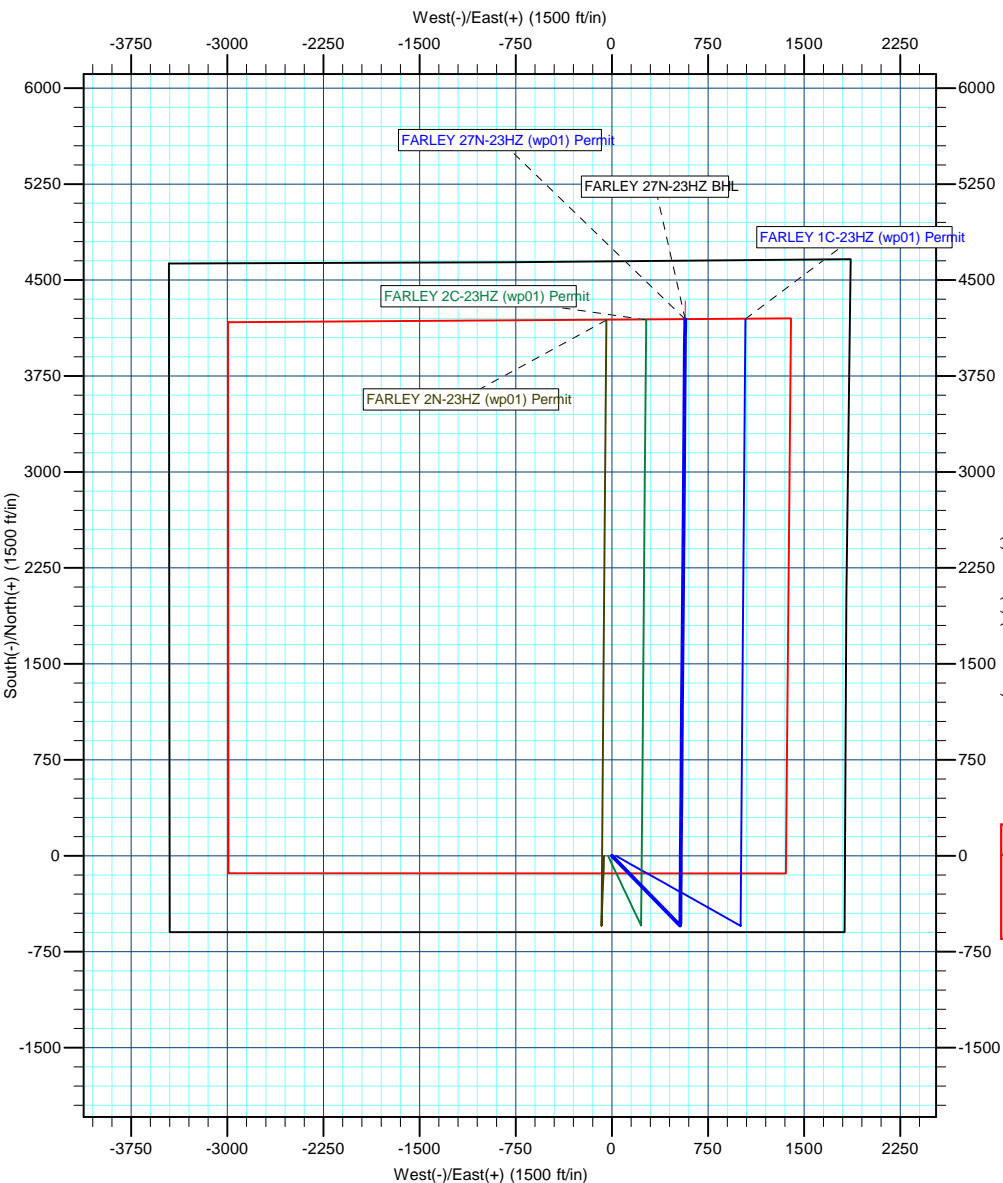
FARLEY 27N-23HZ

FARLEY 27N-23HZ

Plan: FARLEY 27N-23HZ (wp01) Permit

Standard Planning Report

11 September, 2012



Azimuths to True North
 Magnetic North: 8.67°
 Magnetic Field
 Strength: 52899.6snT
 Dip Angle: 66.85°
 Date: 9/10/2012
 Model: IGRF2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_FARLEY 4 PAD SWSE
Well: FARLEY 27N-23HZ
Wellbore: FARLEY 27N-23HZ
Section:
SHL:
Design: FARLEY 27N-23HZ (wp01) Permit
Latitude: 40.205100
Longitude: -104.741430
GL: 4979.00
KB: 17' RKB + 4979' GL @ 4996.00ft

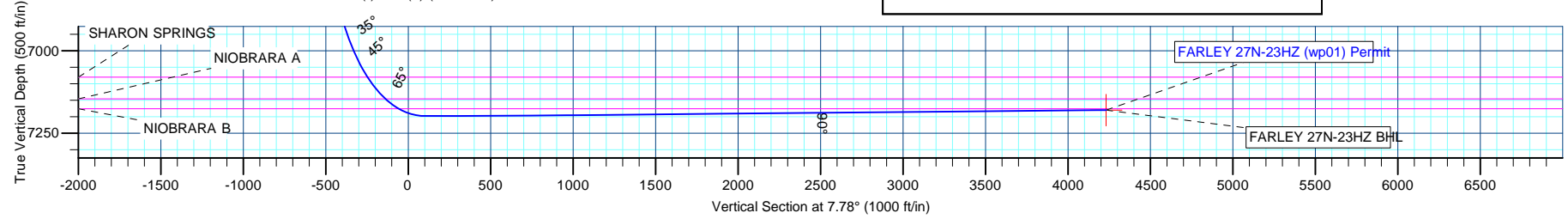
WELL DETAILS: FARLEY 27N-23HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4979.00 Latitude	Longitude	Slot
0.00	0.00	1318466.52	3211874.39	40.205100	-104.741430	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00
1679.49	9.59	135.69	1677.26	-28.65	27.97	2.00	135.69	-24.60
5784.61	9.59	135.69	5725.01	-518.00	505.70	0.00	0.00	-444.82
6264.10	0.00	0.00	6202.27	-546.65	533.67	2.00	180.00	-469.42
6686.87	0.00	0.00	6625.04	-546.65	533.67	0.00	0.00	-469.42
7586.88	90.00	0.45	7198.00	26.29	538.17	10.00	0.45	98.86
8459.24	90.28	0.47	7195.89	898.63	545.21	0.03	5.09	964.13
11753.36	90.28	0.47	7180.00	4192.59	572.49	0.00	0.00	4231.50

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
FARLEY 27N-23HZ BHL	7180.00	4192.59	572.49	40.216609	-104.739380	Point

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
787.00	787.00	FOX HILLS
3980.00	4014.87	PARKMAN
4513.00	4555.42	SUSSEX
7080.00	7212.54	SHARON SPRINGS
7146.00	7340.89	NIOBRARA A
7176.00	7427.60	NIOBRARA B

CASING DETAILS				
TVD	MD	Name	Size	
937.00	937.00	9 5/8"	9-5/8	
7198.00	7586.88	7"	7	



Andarko Petroleum Corporation

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well FARLEY 27N-23HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4979' GL @ 4996.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4979' GL @ 4996.00ft
Site:	WELD_FARLEY 4 PAD SWSE	North Reference:	True
Well:	FARLEY 27N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	FARLEY 27N-23HZ		
Design:	FARLEY 27N-23HZ (wp01) Permit		

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_FARLEY 4 PAD SWSE				
Site Position:		Northing:	1,318,466.04 usft	Latitude:	40.205100
From:	Lat/Long	Easting:	3,211,814.34 usft	Longitude:	-104.741645
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.49 °

Well	FARLEY 27N-23HZ					
Well Position	+N/-S	-0.03 ft	Northing:	1,318,466.52 usft	Latitude:	40.205100
	+E/-W	60.05 ft	Easting:	3,211,874.39 usft	Longitude:	-104.741430
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,979.00 ft

Wellbore	FARLEY 27N-23HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/10/2012	8.67	66.85	52,900

Design	FARLEY 27N-23HZ (wp01) Permit			
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	7.78

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	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,679.49	9.59	135.69	1,677.26	-28.65	27.97	2.00	2.00	28.30	135.69	
5,784.61	9.59	135.69	5,725.01	-518.00	505.70	0.00	0.00	0.00	0.00	
6,264.10	0.00	0.00	6,202.27	-546.65	533.67	2.00	-2.00	0.00	180.00	
6,686.87	0.00	0.00	6,625.04	-546.65	533.67	0.00	0.00	0.00	0.00	
7,586.88	90.00	0.45	7,198.00	26.29	538.17	10.00	10.00	0.00	0.45	
8,459.24	90.28	0.47	7,195.89	898.63	545.21	0.03	0.03	0.00	5.09	
11,753.36	90.28	0.47	7,180.00	4,192.59	572.49	0.00	0.00	0.00	0.00	FARLEY 27N-23HZ B

Andarko Petroleum Corporation

Planning Report

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4979' GL @ 4996.00ft
Site:	WELD_FARLEY 4 PAD SWSE	North Reference:	True
Well:	FARLEY 27N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	FARLEY 27N-23HZ		
Design:	FARLEY 27N-23HZ (wp01) Permit		

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
787.00	0.00	0.00	787.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FOX HILLS										
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
937.00	0.00	0.00	937.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
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
Start DLS 2.00 TFO 135.69										
1,300.00	2.00	135.69	1,299.98	-1.25	1.22	-1.07	2.00	2.00	0.00	0.00
1,400.00	4.00	135.69	1,399.84	-4.99	4.87	-4.29	2.00	2.00	0.00	0.00
1,500.00	6.00	135.69	1,499.45	-11.23	10.96	-9.64	2.00	2.00	0.00	0.00
1,600.00	8.00	135.69	1,598.70	-19.95	19.48	-17.13	2.00	2.00	0.00	0.00
1,679.49	9.59	135.69	1,677.26	-28.65	27.97	-24.60	2.00	2.00	0.00	0.00
Start 4105.12 hold at 1679.49 MD										
1,700.00	9.59	135.69	1,697.48	-31.09	30.35	-26.70	0.00	0.00	0.00	0.00
1,800.00	9.59	135.69	1,796.08	-43.01	41.99	-36.93	0.00	0.00	0.00	0.00
1,900.00	9.59	135.69	1,894.68	-54.93	53.63	-47.17	0.00	0.00	0.00	0.00
2,000.00	9.59	135.69	1,993.29	-66.85	65.26	-57.41	0.00	0.00	0.00	0.00
2,100.00	9.59	135.69	2,091.89	-78.77	76.90	-67.64	0.00	0.00	0.00	0.00
2,200.00	9.59	135.69	2,190.49	-90.69	88.54	-77.88	0.00	0.00	0.00	0.00
2,300.00	9.59	135.69	2,289.09	-102.61	100.18	-88.12	0.00	0.00	0.00	0.00
2,400.00	9.59	135.69	2,387.70	-114.53	111.82	-98.35	0.00	0.00	0.00	0.00
2,500.00	9.59	135.69	2,486.30	-126.46	123.45	-108.59	0.00	0.00	0.00	0.00
2,600.00	9.59	135.69	2,584.90	-138.38	135.09	-118.83	0.00	0.00	0.00	0.00
2,700.00	9.59	135.69	2,683.50	-150.30	146.73	-129.06	0.00	0.00	0.00	0.00
2,800.00	9.59	135.69	2,782.11	-162.22	158.37	-139.30	0.00	0.00	0.00	0.00
2,900.00	9.59	135.69	2,880.71	-174.14	170.00	-149.54	0.00	0.00	0.00	0.00
3,000.00	9.59	135.69	2,979.31	-186.06	181.64	-159.77	0.00	0.00	0.00	0.00
3,100.00	9.59	135.69	3,077.91	-197.98	193.28	-170.01	0.00	0.00	0.00	0.00
3,200.00	9.59	135.69	3,176.52	-209.90	204.92	-180.25	0.00	0.00	0.00	0.00
3,300.00	9.59	135.69	3,275.12	-221.82	216.55	-190.48	0.00	0.00	0.00	0.00
3,400.00	9.59	135.69	3,373.72	-233.74	228.19	-200.72	0.00	0.00	0.00	0.00
3,500.00	9.59	135.69	3,472.32	-245.66	239.83	-210.96	0.00	0.00	0.00	0.00
3,600.00	9.59	135.69	3,570.93	-257.58	251.47	-221.19	0.00	0.00	0.00	0.00
3,700.00	9.59	135.69	3,669.53	-269.50	263.10	-231.43	0.00	0.00	0.00	0.00
3,800.00	9.59	135.69	3,768.13	-281.42	274.74	-241.67	0.00	0.00	0.00	0.00
3,900.00	9.59	135.69	3,866.73	-293.34	286.38	-251.90	0.00	0.00	0.00	0.00
4,000.00	9.59	135.69	3,965.34	-305.26	298.02	-262.14	0.00	0.00	0.00	0.00
4,014.87	9.59	135.69	3,980.00	-307.04	299.75	-263.66	0.00	0.00	0.00	0.00
PARKMAN										
4,100.00	9.59	135.69	4,063.94	-317.18	309.65	-272.37	0.00	0.00	0.00	0.00
4,200.00	9.59	135.69	4,162.54	-329.11	321.29	-282.61	0.00	0.00	0.00	0.00
4,300.00	9.59	135.69	4,261.14	-341.03	332.93	-292.85	0.00	0.00	0.00	0.00
4,400.00	9.59	135.69	4,359.75	-352.95	344.57	-303.08	0.00	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4979' GL @ 4996.00ft
Site:	WELD_FARLEY 4 PAD SWSE	North Reference:	True
Well:	FARLEY 27N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	FARLEY 27N-23HZ		
Design:	FARLEY 27N-23HZ (wp01) Permit		

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)
4,500.00	9.59	135.69	4,458.35	-364.87	356.20	-313.32	0.00	0.00	0.00
4,555.42	9.59	135.69	4,513.00	-371.47	362.65	-318.99	0.00	0.00	0.00
SUSSEX									
4,600.00	9.59	135.69	4,556.95	-376.79	367.84	-323.56	0.00	0.00	0.00
4,700.00	9.59	135.69	4,655.56	-388.71	379.48	-333.79	0.00	0.00	0.00
4,800.00	9.59	135.69	4,754.16	-400.63	391.12	-344.03	0.00	0.00	0.00
4,900.00	9.59	135.69	4,852.76	-412.55	402.75	-354.27	0.00	0.00	0.00
5,000.00	9.59	135.69	4,951.36	-424.47	414.39	-364.50	0.00	0.00	0.00
5,100.00	9.59	135.69	5,049.97	-436.39	426.03	-374.74	0.00	0.00	0.00
5,200.00	9.59	135.69	5,148.57	-448.31	437.67	-384.98	0.00	0.00	0.00
5,300.00	9.59	135.69	5,247.17	-460.23	449.30	-395.21	0.00	0.00	0.00
5,400.00	9.59	135.69	5,345.77	-472.15	460.94	-405.45	0.00	0.00	0.00
5,500.00	9.59	135.69	5,444.38	-484.07	472.58	-415.69	0.00	0.00	0.00
5,600.00	9.59	135.69	5,542.98	-495.99	484.22	-425.92	0.00	0.00	0.00
5,700.00	9.59	135.69	5,641.58	-507.91	495.85	-436.16	0.00	0.00	0.00
5,784.61	9.59	135.69	5,725.01	-518.00	505.70	-444.82	0.00	0.00	0.00
Start Drop -2.00									
5,800.00	9.28	135.69	5,740.19	-519.81	507.46	-446.37	2.00	-2.00	0.00
5,900.00	7.28	135.69	5,839.14	-530.11	517.53	-455.22	2.00	-2.00	0.00
6,000.00	5.28	135.69	5,938.54	-537.94	525.17	-461.94	2.00	-2.00	0.00
6,100.00	3.28	135.69	6,038.25	-543.28	530.38	-466.53	2.00	-2.00	0.00
6,200.00	1.28	135.69	6,138.17	-546.13	533.17	-468.98	2.00	-2.00	0.00
6,264.10	0.00	0.00	6,202.27	-546.65	533.67	-469.42	2.00	-2.00	0.00
Start 422.77 hold at 6264.10 MD									
6,300.00	0.00	0.00	6,238.16	-546.65	533.67	-469.42	0.00	0.00	0.00
6,400.00	0.00	0.00	6,338.16	-546.65	533.67	-469.42	0.00	0.00	0.00
6,500.00	0.00	0.00	6,438.16	-546.65	533.67	-469.42	0.00	0.00	0.00
6,600.00	0.00	0.00	6,538.16	-546.65	533.67	-469.42	0.00	0.00	0.00
6,686.87	0.00	0.00	6,625.04	-546.65	533.67	-469.42	0.00	0.00	0.00
Start Build 10.00									
6,700.00	1.31	0.45	6,638.16	-546.50	533.67	-469.27	10.00	10.00	0.00
6,750.00	6.31	0.45	6,688.04	-543.17	533.69	-465.97	10.00	10.00	0.00
6,800.00	11.31	0.45	6,737.43	-535.52	533.75	-458.38	10.00	10.00	0.00
6,850.00	16.31	0.45	6,785.97	-523.58	533.85	-446.54	10.00	10.00	0.00
6,900.00	21.31	0.45	6,833.28	-507.46	533.97	-430.56	10.00	10.00	0.00
6,950.00	26.31	0.45	6,879.01	-487.28	534.13	-410.54	10.00	10.00	0.00
7,000.00	31.31	0.45	6,922.81	-463.20	534.32	-386.65	10.00	10.00	0.00
7,050.00	36.31	0.45	6,964.34	-435.38	534.54	-359.06	10.00	10.00	0.00
7,100.00	41.31	0.45	7,003.28	-404.05	534.79	-327.99	10.00	10.00	0.00
7,150.00	46.31	0.45	7,039.35	-369.45	535.06	-293.66	10.00	10.00	0.00
7,200.00	51.31	0.45	7,072.27	-331.84	535.35	-256.36	10.00	10.00	0.00
7,212.54	52.57	0.45	7,080.00	-321.96	535.43	-246.56	10.00	10.00	0.00
SHARON SPRINGS									
7,250.00	56.31	0.45	7,101.78	-291.50	535.67	-216.34	10.00	10.00	0.00
7,300.00	61.31	0.45	7,127.67	-248.74	536.01	-173.93	10.00	10.00	0.00
7,340.90	65.40	0.45	7,146.00	-212.19	536.29	-137.68	10.00	10.00	0.00
NIOBARRA A									
7,350.00	66.31	0.45	7,149.72	-203.88	536.36	-129.44	10.00	10.00	0.00
7,400.00	71.31	0.45	7,167.79	-157.28	536.72	-83.22	10.00	10.00	0.00
7,427.60	74.07	0.45	7,176.00	-130.93	536.93	-57.09	10.00	10.00	0.00
NIOBARRA B									
7,450.00	76.31	0.45	7,181.72	-109.28	537.10	-35.61	10.00	10.00	0.00
7,500.00	81.31	0.45	7,191.42	-60.25	537.49	13.03	10.00	10.00	0.00

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Wellbore:	FARLEY 27N-23HZ		
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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)	
7,550.00	86.31	0.45	7,196.81	-10.56	537.88	62.31	10.00	10.00	0.00	
7,586.88	90.00	0.45	7,198.00	26.30	538.17	98.87	10.00	10.00	0.00	
Start DLS 0.03 TFO 5.09 - 7"										
7,600.00	90.00	0.45	7,198.00	39.42	538.27	111.88	0.03	0.03	0.00	
7,700.00	90.04	0.45	7,197.96	139.41	539.06	211.06	0.03	0.03	0.00	
7,800.00	90.07	0.46	7,197.87	239.41	539.85	310.25	0.03	0.03	0.00	
7,900.00	90.10	0.46	7,197.73	339.41	540.65	409.43	0.03	0.03	0.00	
8,000.00	90.13	0.46	7,197.52	439.40	541.45	508.62	0.03	0.03	0.00	
8,100.00	90.16	0.46	7,197.27	539.40	542.26	607.81	0.03	0.03	0.00	
8,200.00	90.19	0.47	7,196.96	639.40	543.07	706.99	0.03	0.03	0.00	
8,300.00	90.23	0.47	7,196.59	739.39	543.89	806.18	0.03	0.03	0.00	
8,400.00	90.26	0.47	7,196.17	839.39	544.72	905.37	0.03	0.03	0.00	
8,459.24	90.28	0.47	7,195.89	898.63	545.21	964.13	0.03	0.03	0.00	
Start 3294.12 hold at 8459.24 MD										
8,500.00	90.28	0.47	7,195.70	939.38	545.54	1,004.56	0.00	0.00	0.00	
8,600.00	90.28	0.47	7,195.21	1,039.38	546.37	1,103.74	0.00	0.00	0.00	
8,700.00	90.28	0.47	7,194.73	1,139.38	547.20	1,202.93	0.00	0.00	0.00	
8,800.00	90.28	0.47	7,194.25	1,239.37	548.03	1,302.12	0.00	0.00	0.00	
8,900.00	90.28	0.47	7,193.77	1,339.37	548.86	1,401.31	0.00	0.00	0.00	
9,000.00	90.28	0.47	7,193.28	1,439.36	549.68	1,500.50	0.00	0.00	0.00	
9,100.00	90.28	0.47	7,192.80	1,539.36	550.51	1,599.68	0.00	0.00	0.00	
9,200.00	90.28	0.47	7,192.32	1,639.35	551.34	1,698.87	0.00	0.00	0.00	
9,300.00	90.28	0.47	7,191.84	1,739.35	552.17	1,798.06	0.00	0.00	0.00	
9,400.00	90.28	0.47	7,191.35	1,839.34	553.00	1,897.25	0.00	0.00	0.00	
9,500.00	90.28	0.47	7,190.87	1,939.34	553.83	1,996.44	0.00	0.00	0.00	
9,600.00	90.28	0.47	7,190.39	2,039.33	554.65	2,095.62	0.00	0.00	0.00	
9,700.00	90.28	0.47	7,189.91	2,139.33	555.48	2,194.81	0.00	0.00	0.00	
9,800.00	90.28	0.47	7,189.42	2,239.32	556.31	2,294.00	0.00	0.00	0.00	
9,900.00	90.28	0.47	7,188.94	2,339.32	557.14	2,393.19	0.00	0.00	0.00	
10,000.00	90.28	0.47	7,188.46	2,439.32	557.97	2,492.38	0.00	0.00	0.00	
10,100.00	90.28	0.47	7,187.98	2,539.31	558.80	2,591.56	0.00	0.00	0.00	
10,200.00	90.28	0.47	7,187.49	2,639.31	559.62	2,690.75	0.00	0.00	0.00	
10,300.00	90.28	0.47	7,187.01	2,739.30	560.45	2,789.94	0.00	0.00	0.00	
10,400.00	90.28	0.47	7,186.53	2,839.30	561.28	2,889.13	0.00	0.00	0.00	
10,500.00	90.28	0.47	7,186.05	2,939.29	562.11	2,988.32	0.00	0.00	0.00	
10,600.00	90.28	0.47	7,185.56	3,039.29	562.94	3,087.51	0.00	0.00	0.00	
10,700.00	90.28	0.47	7,185.08	3,139.28	563.77	3,186.69	0.00	0.00	0.00	
10,800.00	90.28	0.47	7,184.60	3,239.28	564.59	3,285.88	0.00	0.00	0.00	
10,900.00	90.28	0.47	7,184.12	3,339.27	565.42	3,385.07	0.00	0.00	0.00	
11,000.00	90.28	0.47	7,183.63	3,439.27	566.25	3,484.26	0.00	0.00	0.00	
11,100.00	90.28	0.47	7,183.15	3,539.26	567.08	3,583.45	0.00	0.00	0.00	
11,200.00	90.28	0.47	7,182.67	3,639.26	567.91	3,682.63	0.00	0.00	0.00	
11,300.00	90.28	0.47	7,182.19	3,739.26	568.74	3,781.82	0.00	0.00	0.00	
11,400.00	90.28	0.47	7,181.70	3,839.25	569.56	3,881.01	0.00	0.00	0.00	
11,500.00	90.28	0.47	7,181.22	3,939.25	570.39	3,980.20	0.00	0.00	0.00	
11,600.00	90.28	0.47	7,180.74	4,039.24	571.22	4,079.39	0.00	0.00	0.00	
11,700.00	90.28	0.47	7,180.26	4,139.24	572.05	4,178.57	0.00	0.00	0.00	
11,753.36	90.28	0.47	7,180.00	4,192.59	572.49	4,231.50	0.00	0.00	0.00	
TD at 11753.36 - FARLEY 27N-23HZ BHL										

Andarko Petroleum Corporation

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well FARLEY 27N-23HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4979' GL @ 4996.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4979' GL @ 4996.00ft
Site:	WELD_FARLEY 4 PAD SWSE	North Reference:	True
Well:	FARLEY 27N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	FARLEY 27N-23HZ		
Design:	FARLEY 27N-23HZ (wp01) Permit		

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									
FARLEY 27N-23HZ BHL	0.00	0.00	7,180.00	4,192.59	572.49	1,322,663.84	3,212,411.00	40.216609	-104.739380
- plan hits target center									
- Point									

Casing Points						
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter	
(ft)	(ft)			(")	(")	
937.00	937.00	9 5/8"		9-5/8	12-1/4	
7,586.88	7,198.00	7"		7	7-1/2	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
787.00	787.00	FOX HILLS		0.00		
4,014.87	3,980.00	PARKMAN		0.00		
4,555.42	4,513.00	SUSSEX		0.00		
7,212.54	7,080.00	SHARON SPRINGS		0.00		
7,340.90	7,146.00	NIOBRARA A		0.00		
7,427.60	7,176.00	NIOBRARA B		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
1,200.00	1,200.00	0.00	0.00	Start DLS 2.00 TFO 135.69	
1,679.49	1,677.26	-28.65	27.97	Start 4105.12 hold at 1679.49 MD	
5,784.61	5,725.01	-518.00	505.70	Start Drop -2.00	
6,264.10	6,202.27	-546.65	533.67	Start 422.77 hold at 6264.10 MD	
6,686.87	6,625.04	-546.65	533.67	Start Build 10.00	
7,586.88	7,198.00	26.29	538.17	Start DLS 0.03 TFO 5.09	
8,459.24	7,195.89	898.63	545.21	Start 3294.12 hold at 8459.24 MD	
11,753.36	7,180.00	4,192.59	572.49	TD at 11753.36	