

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
1N-67W-23 Puma 13-23HZ Pad
PUMA FED 5S-35HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

05 August, 2015

Project: WELD-NAD83-UTMFT13N

Site: 1N-67W-23 Puma 13-23HZ Pad

Well: PUMA FED 5S-35HZ

Wellbore: Plan A

Design: Permit Rev-1

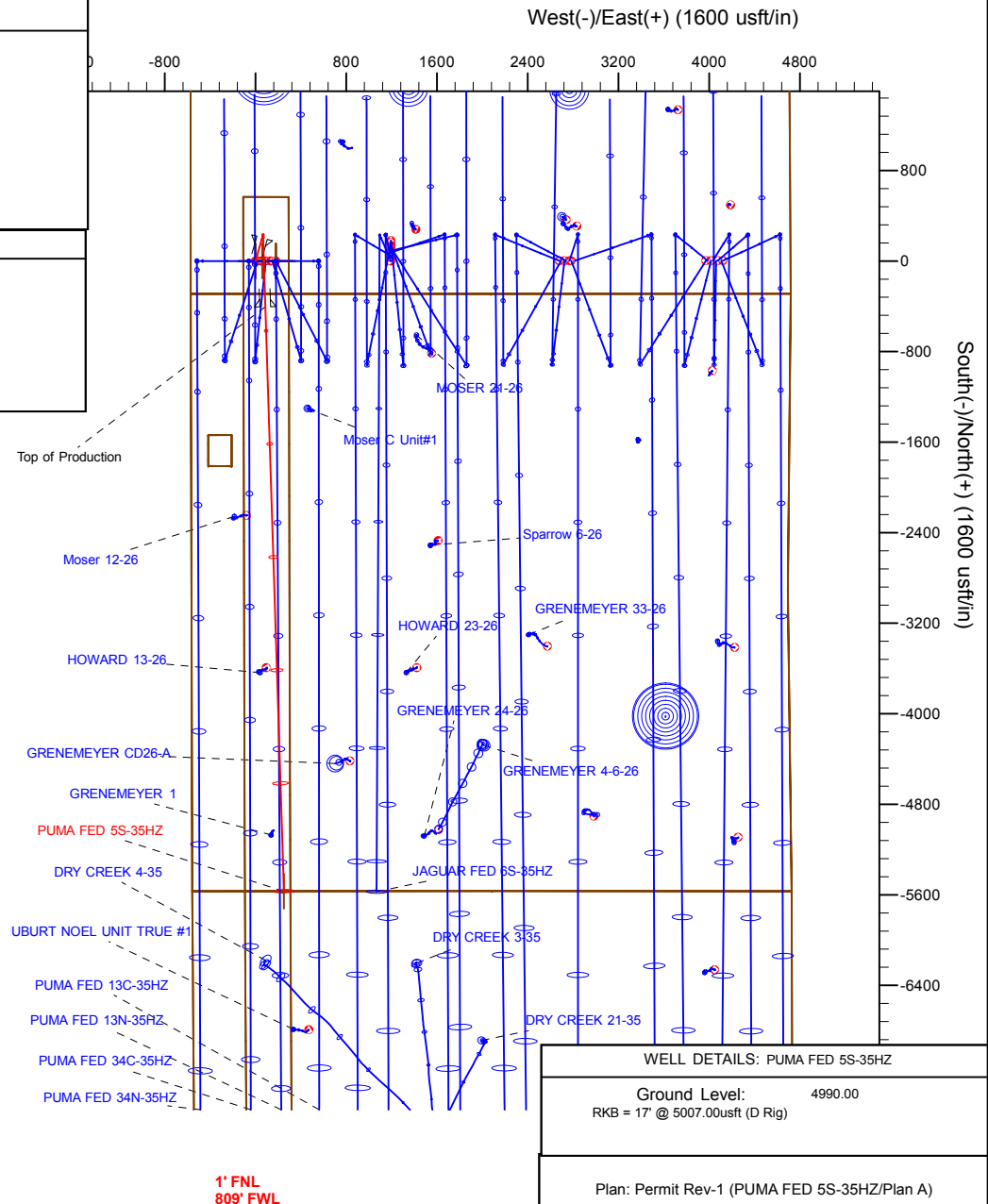
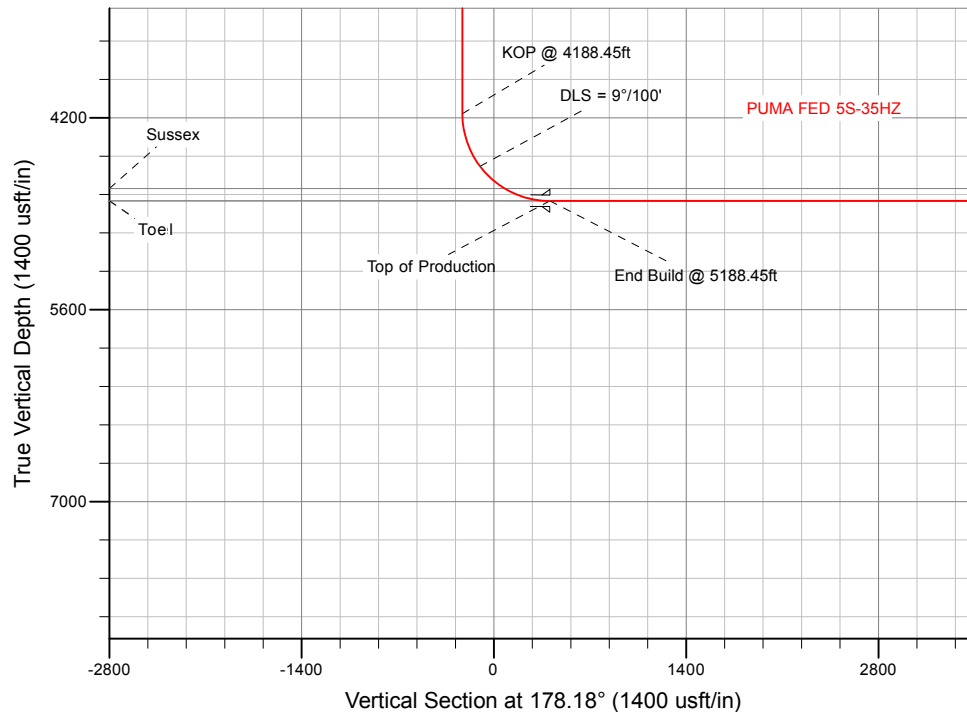
US ROCKIES WATTENBERG PLANNING

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	916.67	10.00	16.00	913.29	55.78	16.00	1.50	16.00	-55.25	
4	1716.67	10.00	16.00	1701.13	189.32	54.29	0.00	0.00	-187.50	
5	2216.67	0.00	0.00	2198.60	231.16	66.28	2.00	180.00	-228.93	
6	4188.45	0.00	0.00	4170.38	231.16	66.28	0.00	0.00	-228.93	
7	5188.45	90.00	178.18	4807.00	-405.14	86.46	9.00	178.18	407.69	
8	10354.00	90.00	178.18	4807.00	-5568.10	250.20	0.00	0.00	5573.24	PUMA FED 5S-35HZ_Toe

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PUMA FED 5S-35HZ_SHL	0.00	0.00	0.00	40.030156	-104.865231	Point
PUMA FED 5S-35HZ_Toe	4807.00	-5568.10	250.20	40.014865	-104.864337	Point



Created By: Clint Eshelman Date: 7/30/2015
Reviewed: Date:

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		1N-67W-23 Puma 13-23HZ Pad			
Site Position:		Northing:	14,537,743.06 usft	Latitude:	40.030156
From:	Lat/Long	Easting:	1,678,142.25 usft	Longitude:	-104.865231
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.09 °

Well	PUMA FED 5S-35HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,537,743.06 usft	Latitude:	40.030156
	+E/-W	0.00 usft	Easting:	1,678,142.25 usft	Longitude:	-104.865231
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,990.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/3/2015	8.33	66.59	52,490

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	178.18

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
916.67	10.00	16.00	913.29	55.78	16.00	1.50	1.50	0.00	16.00	
1,716.67	10.00	16.00	1,701.13	189.32	54.29	0.00	0.00	0.00	0.00	
2,216.67	0.00	0.00	2,198.60	231.16	66.28	2.00	-2.00	0.00	180.00	
4,188.45	0.00	0.00	4,170.38	231.16	66.28	0.00	0.00	0.00	0.00	
5,188.45	90.00	178.18	4,807.00	-405.14	86.46	9.00	9.00	17.82	178.18	
10,354.00	90.00	178.18	4,807.00	-5,568.10	250.20	0.00	0.00	0.00	0.00	PUMA FED 5S-35HZ_

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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
Puma Federal Lease Parcel - PUMA FED 5S-35HZ_SHL - PUMA FED 5S-35HZ_Drilling Window - 1N-R67W-Sec. 14_Section lines - 1N-R67W									
100.00	0.00	0.00	100.00	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft									
300.00	0.75	16.00	300.00	0.31	0.09	-0.31	1.50	1.50	0.00
400.00	2.25	16.00	399.96	2.83	0.81	-2.80	1.50	1.50	0.00
500.00	3.75	16.00	499.82	7.86	2.25	-7.79	1.50	1.50	0.00
600.00	5.25	16.00	599.51	15.40	4.42	-15.26	1.50	1.50	0.00
700.00	6.75	16.00	698.96	25.45	7.30	-25.21	1.50	1.50	0.00
800.00	8.25	16.00	798.10	38.00	10.90	-37.63	1.50	1.50	0.00
900.00	9.75	16.00	896.87	53.03	15.21	-52.52	1.50	1.50	0.00
916.67	10.00	16.00	913.29	55.78	16.00	-55.25	1.50	1.50	0.00
End Nudge @ 916.67ft									
1,000.00	10.00	16.00	995.35	69.69	19.98	-69.02	0.00	0.00	0.00
1,100.00	10.00	16.00	1,093.84	86.38	24.77	-85.55	0.00	0.00	0.00
1,200.00	10.00	16.00	1,192.32	103.08	29.56	-102.09	0.00	0.00	0.00
1,300.00	10.00	16.00	1,290.80	119.77	34.34	-118.62	0.00	0.00	0.00
1,400.00	10.00	16.00	1,389.28	136.46	39.13	-135.15	0.00	0.00	0.00
1,454.55	10.00	16.00	1,443.00	145.57	41.74	-144.17	0.00	0.00	0.00
Fox Hills									
1,500.00	10.00	16.00	1,487.76	153.15	43.92	-151.68	0.00	0.00	0.00
1,600.00	10.00	16.00	1,586.24	169.85	48.70	-168.21	0.00	0.00	0.00
1,700.00	10.00	16.00	1,684.72	186.54	53.49	-184.74	0.00	0.00	0.00
1,716.67	10.00	16.00	1,701.14	189.32	54.29	-187.50	0.00	0.00	0.00
Begin Drop @ 1716.67ft									
1,800.00	8.33	16.00	1,783.40	202.08	57.95	-200.14	2.00	-2.00	0.00
1,816.77	8.00	16.00	1,800.00	204.37	58.60	-202.41	2.00	-2.00	0.00
9 5/8"									
1,900.00	6.33	16.00	1,882.58	214.35	61.46	-212.29	2.00	-2.00	0.00
2,000.00	4.33	16.00	1,982.14	223.28	64.03	-221.14	2.00	-2.00	0.00
2,100.00	2.33	16.00	2,081.96	228.87	65.63	-226.67	2.00	-2.00	0.00
2,200.00	0.33	16.00	2,181.93	231.11	66.27	-228.89	2.00	-2.00	0.00
2,216.67	0.00	0.00	2,198.60	231.16	66.28	-228.93	2.00	-2.00	0.00
End Drop @ 2216.67ft									
2,300.00	0.00	0.00	2,281.93	231.16	66.28	-228.93	0.00	0.00	0.00
2,400.00	0.00	0.00	2,381.93	231.16	66.28	-228.93	0.00	0.00	0.00
2,500.00	0.00	0.00	2,481.93	231.16	66.28	-228.93	0.00	0.00	0.00
2,600.00	0.00	0.00	2,581.93	231.16	66.28	-228.93	0.00	0.00	0.00
2,700.00	0.00	0.00	2,681.93	231.16	66.28	-228.93	0.00	0.00	0.00
2,800.00	0.00	0.00	2,781.93	231.16	66.28	-228.93	0.00	0.00	0.00
2,900.00	0.00	0.00	2,881.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,000.00	0.00	0.00	2,981.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,100.00	0.00	0.00	3,081.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,200.00	0.00	0.00	3,181.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,300.00	0.00	0.00	3,281.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,400.00	0.00	0.00	3,381.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,500.00	0.00	0.00	3,481.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,600.00	0.00	0.00	3,581.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,700.00	0.00	0.00	3,681.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,800.00	0.00	0.00	3,781.93	231.16	66.28	-228.93	0.00	0.00	0.00
3,900.00	0.00	0.00	3,881.93	231.16	66.28	-228.93	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,000.00	0.00	0.00	3,981.93	231.16	66.28	-228.93	0.00	0.00	0.00
4,100.00	0.00	0.00	4,081.93	231.16	66.28	-228.93	0.00	0.00	0.00
4,188.45	0.00	0.00	4,170.38	231.16	66.28	-228.93	0.00	0.00	0.00
KOP @ 4188.45ft									
4,200.00	1.04	178.18	4,181.93	231.05	66.29	-228.83	9.00	9.00	0.00
4,300.00	10.04	178.18	4,281.36	221.41	66.59	-219.19	9.00	9.00	0.00
4,400.00	19.04	178.18	4,378.06	196.35	67.39	-194.11	9.00	9.00	0.00
4,500.00	28.04	178.18	4,469.64	156.47	68.65	-154.21	9.00	9.00	0.00
4,600.00	37.04	178.18	4,553.86	102.76	70.35	-100.48	9.00	9.00	0.00
DLS = 9°/100'									
4,700.00	46.04	178.18	4,628.63	36.55	72.45	-34.23	9.00	9.00	0.00
4,800.00	55.04	178.18	4,692.12	-40.54	74.90	42.90	9.00	9.00	0.00
4,843.87	58.99	178.18	4,716.00	-77.31	76.07	79.69	9.00	9.00	0.00
Sussex									
4,900.00	64.04	178.18	4,742.76	-126.61	77.63	129.01	9.00	9.00	0.00
5,000.00	73.04	178.18	4,779.31	-219.53	80.58	221.98	9.00	9.00	0.00
5,100.00	82.04	178.18	4,800.86	-317.03	83.67	319.52	9.00	9.00	0.00
5,188.45	90.00	178.18	4,807.00	-405.15	86.46	407.69	9.00	9.00	0.00
End Build @ 5188.45ft - Heel - Top of Production									
5,200.00	90.00	178.18	4,807.00	-416.69	86.83	419.24	0.00	0.00	0.00
5,300.00	90.00	178.18	4,807.00	-516.64	90.00	519.24	0.00	0.00	0.00
5,400.00	90.00	178.18	4,807.00	-616.59	93.17	619.24	0.00	0.00	0.00
5,500.00	90.00	178.18	4,807.00	-716.54	96.34	719.24	0.00	0.00	0.00
5,600.00	90.00	178.18	4,807.00	-816.49	99.51	819.24	0.00	0.00	0.00
5,700.00	90.00	178.18	4,807.00	-916.44	102.68	919.24	0.00	0.00	0.00
5,800.00	90.00	178.18	4,807.00	-1,016.39	105.85	1,019.24	0.00	0.00	0.00
5,900.00	90.00	178.18	4,807.00	-1,116.34	109.02	1,119.24	0.00	0.00	0.00
6,000.00	90.00	178.18	4,807.00	-1,216.29	112.19	1,219.24	0.00	0.00	0.00
6,100.00	90.00	178.18	4,807.00	-1,316.24	115.36	1,319.24	0.00	0.00	0.00
6,200.00	90.00	178.18	4,807.00	-1,416.19	118.53	1,419.24	0.00	0.00	0.00
6,300.00	90.00	178.18	4,807.00	-1,516.14	121.70	1,519.24	0.00	0.00	0.00
6,400.00	90.00	178.18	4,807.00	-1,616.09	124.87	1,619.24	0.00	0.00	0.00
6,500.00	90.00	178.18	4,807.00	-1,716.04	128.04	1,719.24	0.00	0.00	0.00
6,600.00	90.00	178.18	4,807.00	-1,815.99	131.21	1,819.24	0.00	0.00	0.00
6,700.00	90.00	178.18	4,807.00	-1,915.94	134.38	1,919.24	0.00	0.00	0.00
6,800.00	90.00	178.18	4,807.00	-2,015.89	137.55	2,019.24	0.00	0.00	0.00
6,900.00	90.00	178.18	4,807.00	-2,115.84	140.72	2,119.24	0.00	0.00	0.00
7,000.00	90.00	178.18	4,807.00	-2,215.79	143.89	2,219.24	0.00	0.00	0.00
7,100.00	90.00	178.18	4,807.00	-2,315.74	147.05	2,319.24	0.00	0.00	0.00
7,200.00	90.00	178.18	4,807.00	-2,415.69	150.22	2,419.24	0.00	0.00	0.00
7,300.00	90.00	178.18	4,807.00	-2,515.64	153.39	2,519.24	0.00	0.00	0.00
7,400.00	90.00	178.18	4,807.00	-2,615.59	156.56	2,619.24	0.00	0.00	0.00
7,500.00	90.00	178.18	4,807.00	-2,715.54	159.73	2,719.24	0.00	0.00	0.00
7,600.00	90.00	178.18	4,807.00	-2,815.49	162.90	2,819.24	0.00	0.00	0.00
7,700.00	90.00	178.18	4,807.00	-2,915.44	166.07	2,919.24	0.00	0.00	0.00
7,800.00	90.00	178.18	4,807.00	-3,015.39	169.24	3,019.24	0.00	0.00	0.00
7,900.00	90.00	178.18	4,807.00	-3,115.33	172.41	3,119.24	0.00	0.00	0.00
8,000.00	90.00	178.18	4,807.00	-3,215.28	175.58	3,219.24	0.00	0.00	0.00
8,100.00	90.00	178.18	4,807.00	-3,315.23	178.75	3,319.24	0.00	0.00	0.00
8,200.00	90.00	178.18	4,807.00	-3,415.18	181.92	3,419.24	0.00	0.00	0.00
8,300.00	90.00	178.18	4,807.00	-3,515.13	185.09	3,519.24	0.00	0.00	0.00
8,400.00	90.00	178.18	4,807.00	-3,615.08	188.26	3,619.24	0.00	0.00	0.00
8,500.00	90.00	178.18	4,807.00	-3,715.03	191.43	3,719.24	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,600.00	90.00	178.18	4,807.00	-3,814.98	194.60	3,819.24	0.00	0.00	0.00	
8,700.00	90.00	178.18	4,807.00	-3,914.93	197.77	3,919.24	0.00	0.00	0.00	
8,800.00	90.00	178.18	4,807.00	-4,014.88	200.94	4,019.24	0.00	0.00	0.00	
8,900.00	90.00	178.18	4,807.00	-4,114.83	204.11	4,119.24	0.00	0.00	0.00	
9,000.00	90.00	178.18	4,807.00	-4,214.78	207.28	4,219.24	0.00	0.00	0.00	
9,100.00	90.00	178.18	4,807.00	-4,314.73	210.45	4,319.24	0.00	0.00	0.00	
9,200.00	90.00	178.18	4,807.00	-4,414.68	213.62	4,419.24	0.00	0.00	0.00	
9,300.00	90.00	178.18	4,807.00	-4,514.63	216.79	4,519.24	0.00	0.00	0.00	
9,400.00	90.00	178.18	4,807.00	-4,614.58	219.96	4,619.24	0.00	0.00	0.00	
9,500.00	90.00	178.18	4,807.00	-4,714.53	223.13	4,719.24	0.00	0.00	0.00	
9,600.00	90.00	178.18	4,807.00	-4,814.48	226.30	4,819.24	0.00	0.00	0.00	
9,700.00	90.00	178.18	4,807.00	-4,914.43	229.47	4,919.24	0.00	0.00	0.00	
9,800.00	90.00	178.18	4,807.00	-5,014.38	232.64	5,019.24	0.00	0.00	0.00	
9,900.00	90.00	178.18	4,807.00	-5,114.33	235.81	5,119.24	0.00	0.00	0.00	
10,000.00	90.00	178.18	4,807.00	-5,214.28	238.98	5,219.24	0.00	0.00	0.00	
10,100.00	90.00	178.18	4,807.00	-5,314.23	242.15	5,319.24	0.00	0.00	0.00	
10,200.00	90.00	178.18	4,807.00	-5,414.18	245.32	5,419.24	0.00	0.00	0.00	
10,300.00	90.00	178.18	4,807.00	-5,514.13	248.49	5,519.24	0.00	0.00	0.00	
10,353.99	90.00	178.18	4,807.00	-5,568.09	250.20	5,573.23	0.00	0.00	0.00	
Toe										
10,354.00	90.00	178.18	4,807.00	-5,568.10	250.20	5,573.24	0.00	0.00	0.00	
TD Wel @ 10354.00ft - PUMA FED 5S-35HZ_Toe										

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Puma Federal Lease Pa	0.00	0.00	0.00	0.36	59.90	14,537,743.52	1,678,202.15	40.030157	-104.865017
- plan misses target center by 59.91usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			0.00	-1,813.62	-270.93	14,535,929.49	1,677,933.97		
Point 2			0.00	-1,811.17	-477.32	14,535,931.63	1,677,727.57		
Point 3			0.00	-1,748.80	-477.53	14,535,994.00	1,677,727.27		
Point 4			0.00	-1,610.43	-477.97	14,536,132.37	1,677,726.62		
Point 5			0.00	-1,542.39	-478.17	14,536,200.41	1,677,726.32		
Point 6			0.00	-1,539.92	-478.19	14,536,202.88	1,677,726.29		
Point 7			0.00	-1,537.25	-270.79	14,536,205.86	1,677,933.69		
Point 8			0.00	-1,813.62	-270.93	14,535,929.49	1,677,933.97		
1N-R67W-Sec. 35_Secti	0.00	0.00	0.00	0.36	179.71	14,537,743.70	1,678,321.96	40.030157	-104.864589
- plan misses target center by 179.71usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			0.00	-5,567.60	-737.69	14,532,174.99	1,677,592.70		
Point 2			0.00	-5,567.35	1,905.22	14,532,179.24	1,680,235.60		
Point 3			0.00	-5,567.85	4,548.01	14,532,182.74	1,682,878.39		
Point 4			0.00	-10,841.76	4,559.90	14,526,908.85	1,682,898.26		
Point 5			0.00	-10,843.80	1,928.43	14,526,902.83	1,680,266.80		
Point 6			0.00	-10,844.86	-702.65	14,526,897.79	1,677,635.72		
Point 7			0.00	-8,206.73	-719.46	14,529,535.89	1,677,614.92		
PUMA FED 5S-35HZ_SI	0.00	0.00	0.00	0.00	0.00	14,537,743.06	1,678,142.25	40.030156	-104.865231
- plan hits target center									
- Point									
1N-R67W-Sec. 23_Secti	0.00	0.00	0.00	0.36	179.71	14,537,743.70	1,678,321.96	40.030157	-104.864589
- plan misses target center by 179.71usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			0.00	4,981.70	-753.18	14,542,724.25	1,677,561.25		
Point 2			0.00	4,948.86	1,873.61	14,542,695.38	1,680,188.08		
Point 3			0.00	4,901.92	4,512.15	14,542,652.43	1,682,826.69		
Point 4			0.00	-288.13	4,540.16	14,537,462.44	1,682,862.55		
Point 5			0.00	-289.24	1,894.92	14,537,457.33	1,680,217.32		
Point 6			0.00	-290.30	-750.41	14,537,452.27	1,677,571.99		
Point 7			0.00	2,345.83	-751.96	14,540,088.39	1,677,566.45		
PUMA FED 5S-35HZ_DI	0.00	0.00	0.00	0.00	0.00	14,537,743.06	1,678,142.25	40.030156	-104.865231
- plan hits target center									
- Polygon									
Point 1			0.00	565.88	-109.26	14,538,308.78	1,678,032.13		
Point 2			0.00	564.93	290.97	14,538,308.43	1,678,432.36		
Point 3			0.00	168.90	292.10	14,537,912.41	1,678,434.09		
Point 4			0.00	-291.09	293.43	14,537,452.42	1,678,436.12		
Point 5			0.00	-751.10	294.44	14,536,992.41	1,678,437.82		
Point 6			0.00	-1,151.62	295.32	14,536,591.89	1,678,439.31		
Point 7			0.00	-1,611.62	296.33	14,536,131.89	1,678,441.02		
Point 8			0.00	-2,071.62	297.35	14,535,671.90	1,678,442.73		
Point 9			0.00	-2,472.14	298.23	14,535,271.38	1,678,444.22		
Point 10			0.00	-2,932.14	299.24	14,534,811.38	1,678,445.92		
Point 11			0.00	-3,392.14	300.27	14,534,351.38	1,678,447.65		
Point 12			0.00	-3,790.59	301.15	14,533,952.93	1,678,449.13		
Point 13			0.00	-4,250.58	302.18	14,533,492.95	1,678,450.86		
Point 14			0.00	-4,710.58	303.67	14,533,032.95	1,678,453.05		
Point 15			0.00	-5,109.77	304.97	14,532,633.76	1,678,454.95		
Point 16			0.00	-5,569.76	306.46	14,532,173.77	1,678,457.13		
Point 17			0.00	-6,029.76	309.05	14,531,713.78	1,678,460.42		
Point 18			0.00	-6,429.26	311.30	14,531,314.28	1,678,463.28		
Point 19			0.00	-6,889.26	313.90	14,530,854.29	1,678,466.57		

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 20				0.00	-7,349.27	316.49	14,530,394.28	1,678,469.86		
Point 21				0.00	-7,748.76	318.74	14,529,994.79	1,678,472.71		
Point 22				0.00	-8,208.76	321.33	14,529,534.80	1,678,476.00		
Point 23				0.00	-8,668.76	323.82	14,529,074.80	1,678,479.18		
Point 24				0.00	-9,067.34	325.98	14,528,676.23	1,678,481.95		
Point 25				0.00	-9,067.55	-71.37	14,528,675.42	1,678,084.60		
Point 26				0.00	-8,668.76	-73.93	14,529,074.20	1,678,081.43		
Point 27				0.00	-8,208.76	-76.88	14,529,534.20	1,678,077.79		
Point 28				0.00	-7,748.76	-80.00	14,529,994.19	1,678,073.97		
Point 29				0.00	-7,349.31	-82.72	14,530,393.64	1,678,070.65		
Point 30				0.00	-6,889.31	-85.85	14,530,853.63	1,678,066.82		
Point 31				0.00	-6,429.31	-88.98	14,531,313.63	1,678,063.00		
Point 32				0.00	-6,029.87	-91.69	14,531,713.06	1,678,059.68		
Point 33				0.00	-5,569.86	-94.82	14,532,173.07	1,678,055.86		
Point 34				0.00	-5,109.87	-95.96	14,532,633.05	1,678,054.02		
Point 35				0.00	-4,710.70	-96.94	14,533,032.22	1,678,052.44		
Point 36				0.00	-4,250.70	-98.07	14,533,492.22	1,678,050.61		
Point 37				0.00	-3,790.70	-99.23	14,533,952.22	1,678,048.75		
Point 38				0.00	-3,391.92	-100.22	14,534,351.00	1,678,047.16		
Point 39				0.00	-2,931.92	-101.38	14,534,810.99	1,678,045.30		
Point 40				0.00	-2,471.92	-102.50	14,535,270.99	1,678,043.49		
Point 41				0.00	-2,071.76	-103.49	14,535,671.15	1,678,041.89		
Point 42				0.00	-1,611.77	-104.61	14,536,131.14	1,678,040.08		
Point 43				0.00	-1,169.81	-105.55	14,536,573.10	1,678,038.47		
Point 44				0.00	-751.62	-106.72	14,536,991.28	1,678,036.67		
Point 45				0.00	-270.63	-107.48	14,537,472.27	1,678,035.18		
Point 46				0.00	-291.62	-107.84	14,537,451.28	1,678,034.85		
Point 47				0.00	154.62	-108.59	14,537,897.52	1,678,033.42		
Point 48				0.00	565.88	-109.26	14,538,308.78	1,678,032.13		
1N-R67W-Sec. 26_Secti	0.00	0.00	0.00	0.36	179.71	14,537,743.70	1,678,321.96	40.030157	-104.864589	
- plan misses target center by 179.71usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Polygon										
Point 1				0.00	-290.30	-750.41	14,537,452.27	1,677,571.99		
Point 2				0.00	-289.24	1,894.92	14,537,457.33	1,680,217.32		
Point 3				0.00	-288.13	4,540.16	14,537,462.44	1,682,862.55		
Point 4				0.00	-2,913.10	4,515.39	14,534,837.44	1,682,841.75		
Point 5				0.00	-5,567.85	4,548.01	14,532,182.74	1,682,878.39		
Point 6				0.00	-5,567.35	1,905.22	14,532,179.24	1,680,235.60		
Point 7				0.00	-5,567.60	-737.69	14,532,174.99	1,677,592.70		
Point 8				0.00	-2,929.65	-743.92	14,534,812.93	1,677,582.47		
1N-R67W-Sec. 14_Secti	0.00	0.00	0.00	0.36	179.71	14,537,743.70	1,678,321.96	40.030157	-104.864589	
- plan misses target center by 179.71usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Polygon										
Point 1				0.00	10,240.97	-771.13	14,547,983.48	1,677,535.34		
Point 2				0.00	10,241.68	1,854.89	14,547,988.17	1,680,161.35		
Point 3				0.00	10,251.55	4,492.80	14,548,002.03	1,682,799.25		
Point 4				0.00	4,901.92	4,512.15	14,542,652.43	1,682,826.69		
Point 5				0.00	4,948.86	1,873.61	14,542,695.38	1,680,188.08		
Point 6				0.00	4,981.70	-753.18	14,542,724.25	1,677,561.25		
Point 7				0.00	7,611.26	-762.09	14,545,353.79	1,677,548.36		
PUMA FED 5S-35HZ_Tc	0.00	0.00	4,807.00	-5,568.10	250.20	14,532,175.35	1,678,400.87	40.014865	-104.864338	
- plan hits target center										
- Point										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,816.77	1,800.00	9 5/8"		9-5/8	13-1/2
5,188.45	4,807.00	Top of Production		5-1/2	7-7/8

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well PUMA FED 5S-35HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 5007.00usft (D Rig)
Site:	1N-67W-23 Puma 13-23HZ Pad	North Reference:	True
Well:	PUMA FED 5S-35HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,454.55	1,443.00	Fox Hills		0.00		
4,843.87	4,716.00	Sussex		0.00		
5,188.45	4,807.00	Heel		0.00		
10,353.99	4,807.00	Toe		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
916.67	913.29	55.78	16.00	End Nudge @ 916.67ft	
1,716.67	1,701.14	189.32	54.29	Begin Drop @ 1716.67ft	
2,216.67	2,198.60	231.16	66.28	End Drop @ 2216.67ft	
4,188.45	4,170.38	231.16	66.28	KOP @ 4188.45ft	
4,600.00	4,553.86	102.76	70.35	DLS = 9°/100'	
5,188.45	4,807.00	-405.15	86.46	End Build @ 5188.45ft	
10,354.00	4,807.00	-5,568.10	250.20	TD Wel @ 10354.00ft	