

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
2N-65W-13 Swartz No2 Pad
SWARTZ 1N-25HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

30 July, 2015

Project: WELD-NAD83-UTMFT13N

Site: 2N-65W-13 Swartz No2 Pad

Well: SWARTZ 1N-25HZ

Wellbore: Plan A

Design: Permit Rev-1

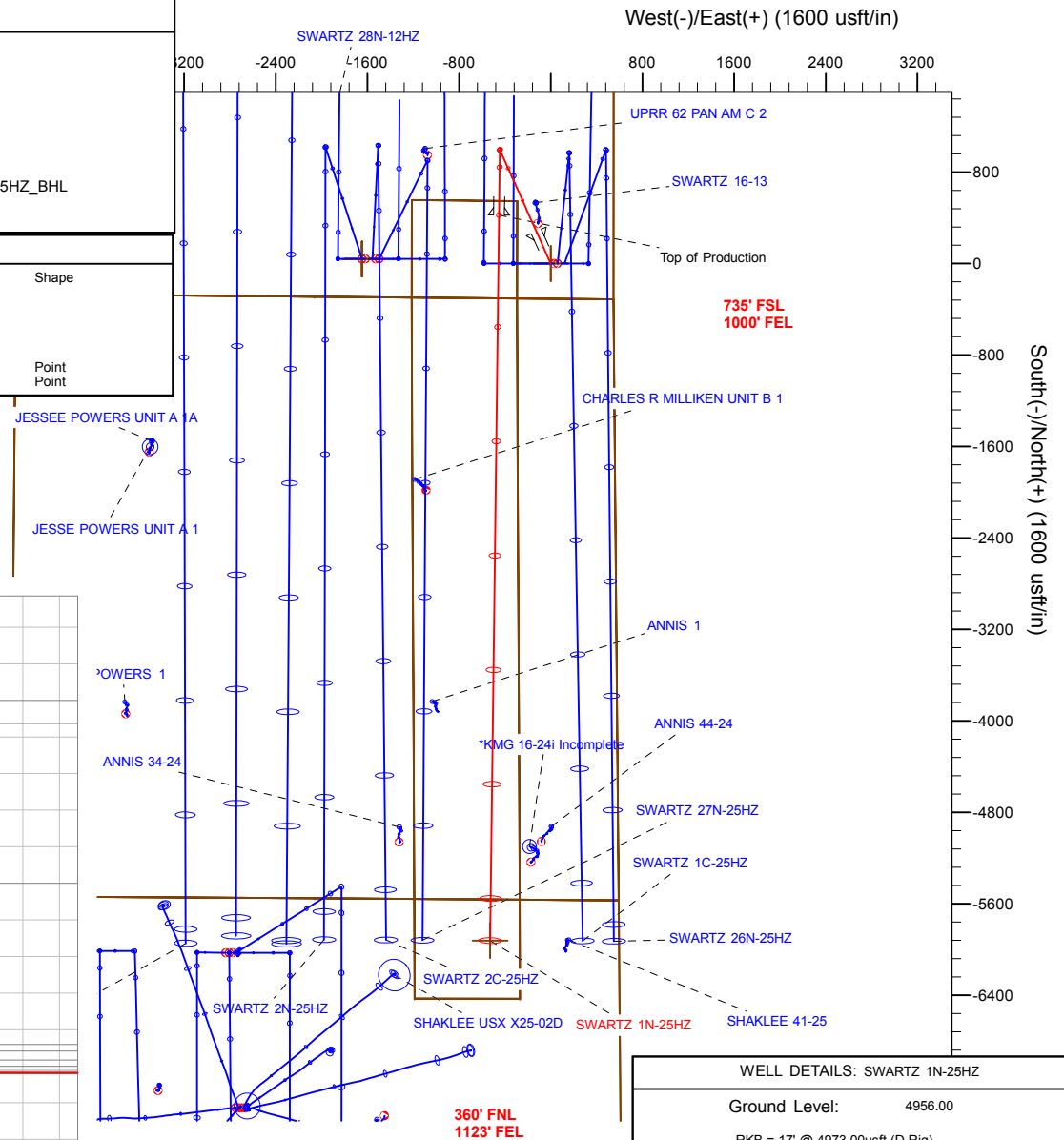
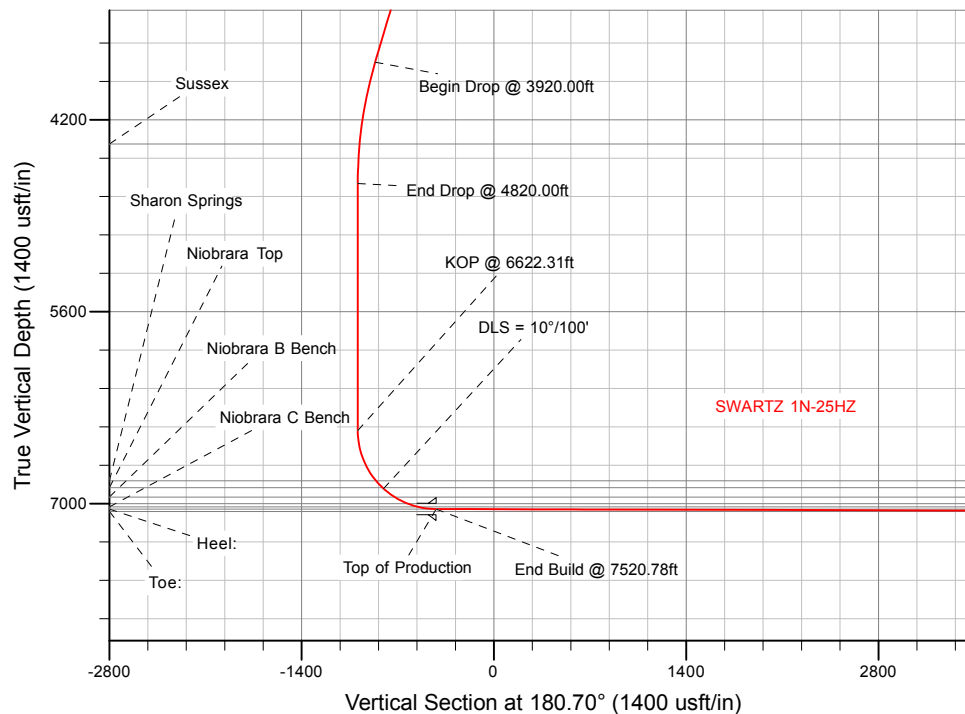
US ROCKIES WATTENBERG PLANNING

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	1450.00	18.00	336.00	1430.36	170.79	-76.04	1.50	336.00	-169.85	
4	3920.00	18.00	336.00	3779.47	868.07	-386.49	0.00	0.00	-863.28	
5	4820.00	0.00	0.00	4664.74	996.16	-443.52	2.00	180.00	-990.67	
6	6622.31	0.00	0.00	6467.05	996.16	-443.52	0.00	0.00	-990.67	
7	7520.78	89.85	180.70	7040.00	424.78	-450.51	10.00	180.70	-419.25	
8	13867.91	89.85	180.70	7057.00	-5921.85	-528.14	0.00	0.00	5927.86	SWARTZ 1N-25HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
SWARTZ 1N-25HZ_SHL	0.00	0.00	0.00	40.131977	-104.604903	Point
SWARTZ 1N-25HZ_BHL	7057.00	-5921.85	-528.14	40.115715	-104.606792	Point



WELL DETAILS: SWARTZ 1N-25HZ

Ground Level: 4956.00

RKB = 17' @ 4973.00usft (D Rig)

Plan: Permit Rev-1 (SWARTZ 1N-25HZ/Plan A)

Created By: Clint Eshelman

Date: 7/30/2015

Reviewed: _____

Date: _____

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	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	2N-65W-13 Swartz No2 Pad			
Site Position:		Northing:	14,575,037.83 usft	Latitude: 40.131978
From:	Lat/Long	Easting:	1,750,820.88 usft	Longitude: -104.605010
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.25 °

Well	SWARTZ 1N-25HZ			
Well Position	+N/-S	-0.36 usft	Northing:	14,575,037.60 usft
	+E/-W	29.91 usft	Easting:	1,750,850.79 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	4,956.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/29/2015	8.20	66.72	52,572

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	180.70

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	
1,450.00	18.00	336.00	1,430.36	170.79	-76.04	1.50	1.50	0.00	336.00	
3,920.00	18.00	336.00	3,779.47	868.07	-386.49	0.00	0.00	0.00	0.00	
4,820.00	0.00	0.00	4,664.74	996.16	-443.52	2.00	-2.00	0.00	180.00	
6,622.31	0.00	0.00	6,467.05	996.16	-443.52	0.00	0.00	0.00	0.00	
7,520.78	89.85	180.70	7,040.00	424.78	-450.51	10.00	10.00	-19.96	180.70	
13,867.91	89.85	180.70	7,057.00	-5,921.85	-528.14	0.00	0.00	0.00	0.00	SWARTZ 1N-25HZ_B

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	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
2N-R65W-Sec. 25_Section lines - 2N-R65W-Sec. 13_Section lines - SWARTZ 1N-25HZ_SHL - 2N-R65W-Sec. 12_Section lines - SWARTZ 1I									
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	336.00	300.00	0.30	-0.13	-0.30	1.50	1.50	0.00
400.00	2.25	336.00	399.96	2.69	-1.20	-2.68	1.50	1.50	0.00
500.00	3.75	336.00	499.82	7.47	-3.33	-7.43	1.50	1.50	0.00
600.00	5.25	336.00	599.51	14.64	-6.52	-14.56	1.50	1.50	0.00
700.00	6.75	336.00	698.96	24.19	-10.77	-24.05	1.50	1.50	0.00
800.00	8.25	336.00	798.10	36.11	-16.08	-35.91	1.50	1.50	0.00
900.00	9.75	336.00	896.87	50.40	-22.44	-50.12	1.50	1.50	0.00
1,000.00	11.25	336.00	995.19	67.05	-29.85	-66.68	1.50	1.50	0.00
1,100.00	12.75	336.00	1,093.00	86.04	-38.31	-85.57	1.50	1.50	0.00
1,200.00	14.25	336.00	1,190.24	107.37	-47.80	-106.78	1.50	1.50	0.00
1,300.00	15.75	336.00	1,286.83	131.01	-58.33	-130.29	1.50	1.50	0.00
1,388.80	17.08	336.00	1,372.00	153.94	-68.54	-153.09	1.50	1.50	0.00
Fox Hills									
1,400.00	17.25	336.00	1,382.71	156.96	-69.88	-156.09	1.50	1.50	0.00
1,450.00	18.00	336.00	1,430.36	170.79	-76.04	-169.85	1.50	1.50	0.00
End Nudge @ 1450.00ft									
1,500.00	18.00	336.00	1,477.91	184.90	-82.32	-183.88	0.00	0.00	0.00
1,600.00	18.00	336.00	1,573.02	213.13	-94.89	-211.96	0.00	0.00	0.00
1,700.00	18.00	336.00	1,668.12	241.36	-107.46	-240.03	0.00	0.00	0.00
1,800.00	18.00	336.00	1,763.23	269.59	-120.03	-268.11	0.00	0.00	0.00
1,838.66	18.00	336.00	1,800.00	280.51	-124.89	-278.96	0.00	0.00	0.00
9 5/8"									
1,900.00	18.00	336.00	1,858.33	297.82	-132.60	-296.18	0.00	0.00	0.00
2,000.00	18.00	336.00	1,953.44	326.05	-145.17	-324.26	0.00	0.00	0.00
2,100.00	18.00	336.00	2,048.54	354.28	-157.74	-352.33	0.00	0.00	0.00
2,200.00	18.00	336.00	2,143.65	382.51	-170.31	-380.40	0.00	0.00	0.00
2,300.00	18.00	336.00	2,238.76	410.74	-182.87	-408.48	0.00	0.00	0.00
2,400.00	18.00	336.00	2,333.86	438.97	-195.44	-436.55	0.00	0.00	0.00
2,500.00	18.00	336.00	2,428.97	467.20	-208.01	-464.63	0.00	0.00	0.00
2,600.00	18.00	336.00	2,524.07	495.43	-220.58	-492.70	0.00	0.00	0.00
2,700.00	18.00	336.00	2,619.18	523.66	-233.15	-520.78	0.00	0.00	0.00
2,800.00	18.00	336.00	2,714.28	551.89	-245.72	-548.85	0.00	0.00	0.00
2,900.00	18.00	336.00	2,809.39	580.12	-258.29	-576.93	0.00	0.00	0.00
3,000.00	18.00	336.00	2,904.50	608.35	-270.86	-605.00	0.00	0.00	0.00
3,100.00	18.00	336.00	2,999.60	636.58	-283.43	-633.07	0.00	0.00	0.00
3,200.00	18.00	336.00	3,094.71	664.81	-295.99	-661.15	0.00	0.00	0.00
3,300.00	18.00	336.00	3,189.81	693.04	-308.56	-689.22	0.00	0.00	0.00
3,400.00	18.00	336.00	3,284.92	721.27	-321.13	-717.30	0.00	0.00	0.00
3,500.00	18.00	336.00	3,380.02	749.50	-333.70	-745.37	0.00	0.00	0.00
3,600.00	18.00	336.00	3,475.13	777.73	-346.27	-773.45	0.00	0.00	0.00
3,700.00	18.00	336.00	3,570.24	805.97	-358.84	-801.52	0.00	0.00	0.00
3,800.00	18.00	336.00	3,665.34	834.20	-371.41	-829.60	0.00	0.00	0.00
3,900.00	18.00	336.00	3,760.45	862.43	-383.98	-857.67	0.00	0.00	0.00
3,920.00	18.00	336.00	3,779.47	868.07	-386.49	-863.28	0.00	0.00	0.00
Begin Drop @ 3920.00ft									
4,000.00	16.40	336.00	3,855.89	889.68	-396.11	-884.78	2.00	-2.00	0.00
4,100.00	14.40	336.00	3,952.29	913.94	-406.91	-908.90	2.00	-2.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	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)
4,200.00	12.40	336.00	4,049.56	935.11	-416.34	-929.95	2.00	-2.00	0.00
4,300.00	10.40	336.00	4,147.59	953.17	-424.38	-947.91	2.00	-2.00	0.00
4,400.00	8.40	336.00	4,246.24	968.09	-431.02	-962.75	2.00	-2.00	0.00
4,500.00	6.40	336.00	4,345.40	979.85	-436.26	-974.45	2.00	-2.00	0.00
4,530.77	5.78	336.00	4,376.00	982.84	-437.59	-977.42	2.00	-2.00	0.00
Sussex									
4,600.00	4.40	336.00	4,444.95	988.45	-440.09	-983.00	2.00	-2.00	0.00
4,700.00	2.40	336.00	4,544.77	993.87	-442.50	-988.39	2.00	-2.00	0.00
4,800.00	0.40	336.00	4,644.74	996.10	-443.49	-990.61	2.00	-2.00	0.00
4,820.00	0.00	0.00	4,664.74	996.16	-443.52	-990.67	2.00	-2.00	0.00
End Drop @ 4820.00ft									
4,900.00	0.00	0.00	4,744.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,000.00	0.00	0.00	4,844.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,100.00	0.00	0.00	4,944.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,200.00	0.00	0.00	5,044.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,300.00	0.00	0.00	5,144.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,400.00	0.00	0.00	5,244.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,500.00	0.00	0.00	5,344.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,600.00	0.00	0.00	5,444.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,700.00	0.00	0.00	5,544.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,800.00	0.00	0.00	5,644.74	996.16	-443.52	-990.67	0.00	0.00	0.00
5,900.00	0.00	0.00	5,744.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,000.00	0.00	0.00	5,844.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,100.00	0.00	0.00	5,944.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,200.00	0.00	0.00	6,044.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,300.00	0.00	0.00	6,144.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,400.00	0.00	0.00	6,244.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,500.00	0.00	0.00	6,344.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,600.00	0.00	0.00	6,444.74	996.16	-443.52	-990.67	0.00	0.00	0.00
6,622.31	0.00	0.00	6,467.05	996.16	-443.52	-990.67	0.00	0.00	0.00
KOP @ 6622.31ft									
6,700.00	7.77	180.70	6,544.50	990.90	-443.58	-985.41	10.00	10.00	0.00
6,800.00	17.77	180.70	6,641.90	968.83	-443.85	-963.34	10.00	10.00	0.00
6,900.00	27.77	180.70	6,733.99	930.18	-444.33	-924.68	10.00	10.00	0.00
7,000.00	37.77	180.70	6,817.97	876.13	-444.99	-870.63	10.00	10.00	0.00
7,020.36	39.80	180.70	6,833.84	863.38	-445.14	-857.88	10.00	10.00	0.00
Sharon Springs									
7,089.03	46.67	180.70	6,883.84	816.37	-445.72	-810.86	10.00	10.00	0.00
Niobrara Top									
7,100.00	47.77	180.70	6,891.29	808.32	-445.82	-802.81	10.00	10.00	0.00
DLS = 10°/100'									
7,200.00	57.77	180.70	6,951.71	728.80	-446.79	-723.29	10.00	10.00	0.00
7,200.73	57.84	180.70	6,952.10	728.18	-446.80	-722.67	10.00	10.00	0.00
Niobrara B Bench									
7,300.00	67.77	180.70	6,997.41	640.00	-447.88	-634.49	10.00	10.00	0.00
7,385.90	76.36	180.70	7,023.84	558.36	-448.87	-552.83	10.00	10.00	0.00
Niobrara C Bench									
7,400.00	77.77	180.70	7,027.00	544.62	-449.04	-539.09	10.00	10.00	0.00
7,500.00	87.77	180.70	7,039.57	445.55	-450.25	-440.02	10.00	10.00	0.00
7,520.78	89.85	180.70	7,040.00	424.78	-450.51	-419.24	10.00	10.00	0.00
End Build @ 7520.78ft - Heel: - Top of Production									
7,600.00	89.85	180.70	7,040.21	345.56	-451.48	-340.02	0.00	0.00	0.00
7,700.00	89.85	180.70	7,040.48	245.57	-452.70	-240.02	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	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)
7,800.00	89.85	180.70	7,040.75	145.58	-453.92	-140.02	0.00	0.00	0.00
7,900.00	89.85	180.70	7,041.02	45.59	-455.15	-40.02	0.00	0.00	0.00
8,000.00	89.85	180.70	7,041.29	-54.41	-456.37	59.98	0.00	0.00	0.00
8,100.00	89.85	180.70	7,041.55	-154.40	-457.59	159.98	0.00	0.00	0.00
8,200.00	89.85	180.70	7,041.82	-254.39	-458.82	259.98	0.00	0.00	0.00
8,300.00	89.85	180.70	7,042.09	-354.38	-460.04	359.98	0.00	0.00	0.00
8,400.00	89.85	180.70	7,042.36	-454.37	-461.26	459.98	0.00	0.00	0.00
8,500.00	89.85	180.70	7,042.62	-554.37	-462.48	559.98	0.00	0.00	0.00
8,600.00	89.85	180.70	7,042.89	-654.36	-463.71	659.97	0.00	0.00	0.00
8,700.00	89.85	180.70	7,043.16	-754.35	-464.93	759.97	0.00	0.00	0.00
8,800.00	89.85	180.70	7,043.43	-854.34	-466.15	859.97	0.00	0.00	0.00
8,900.00	89.85	180.70	7,043.70	-954.33	-467.38	959.97	0.00	0.00	0.00
9,000.00	89.85	180.70	7,043.96	-1,054.33	-468.60	1,059.97	0.00	0.00	0.00
9,100.00	89.85	180.70	7,044.23	-1,154.32	-469.82	1,159.97	0.00	0.00	0.00
9,200.00	89.85	180.70	7,044.50	-1,254.31	-471.05	1,259.97	0.00	0.00	0.00
9,300.00	89.85	180.70	7,044.77	-1,354.30	-472.27	1,359.97	0.00	0.00	0.00
9,400.00	89.85	180.70	7,045.03	-1,454.30	-473.49	1,459.97	0.00	0.00	0.00
9,500.00	89.85	180.70	7,045.30	-1,554.29	-474.71	1,559.97	0.00	0.00	0.00
9,600.00	89.85	180.70	7,045.57	-1,654.28	-475.94	1,659.97	0.00	0.00	0.00
9,700.00	89.85	180.70	7,045.84	-1,754.27	-477.16	1,759.97	0.00	0.00	0.00
9,800.00	89.85	180.70	7,046.11	-1,854.26	-478.38	1,859.97	0.00	0.00	0.00
9,900.00	89.85	180.70	7,046.37	-1,954.26	-479.61	1,959.97	0.00	0.00	0.00
10,000.00	89.85	180.70	7,046.64	-2,054.25	-480.83	2,059.97	0.00	0.00	0.00
10,100.00	89.85	180.70	7,046.91	-2,154.24	-482.05	2,159.97	0.00	0.00	0.00
10,200.00	89.85	180.70	7,047.18	-2,254.23	-483.28	2,259.97	0.00	0.00	0.00
10,300.00	89.85	180.70	7,047.44	-2,354.23	-484.50	2,359.97	0.00	0.00	0.00
10,400.00	89.85	180.70	7,047.71	-2,454.22	-485.72	2,459.97	0.00	0.00	0.00
10,500.00	89.85	180.70	7,047.98	-2,554.21	-486.95	2,559.97	0.00	0.00	0.00
10,600.00	89.85	180.70	7,048.25	-2,654.20	-488.17	2,659.97	0.00	0.00	0.00
10,700.00	89.85	180.70	7,048.52	-2,754.19	-489.39	2,759.97	0.00	0.00	0.00
10,800.00	89.85	180.70	7,048.78	-2,854.19	-490.61	2,859.97	0.00	0.00	0.00
10,900.00	89.85	180.70	7,049.05	-2,954.18	-491.84	2,959.97	0.00	0.00	0.00
11,000.00	89.85	180.70	7,049.32	-3,054.17	-493.06	3,059.97	0.00	0.00	0.00
11,100.00	89.85	180.70	7,049.59	-3,154.16	-494.28	3,159.97	0.00	0.00	0.00
11,200.00	89.85	180.70	7,049.86	-3,254.15	-495.51	3,259.97	0.00	0.00	0.00
11,300.00	89.85	180.70	7,050.12	-3,354.15	-496.73	3,359.97	0.00	0.00	0.00
11,400.00	89.85	180.70	7,050.39	-3,454.14	-497.95	3,459.96	0.00	0.00	0.00
11,500.00	89.85	180.70	7,050.66	-3,554.13	-499.18	3,559.96	0.00	0.00	0.00
11,600.00	89.85	180.70	7,050.93	-3,654.12	-500.40	3,659.96	0.00	0.00	0.00
11,700.00	89.85	180.70	7,051.19	-3,754.12	-501.62	3,759.96	0.00	0.00	0.00
11,800.00	89.85	180.70	7,051.46	-3,854.11	-502.84	3,859.96	0.00	0.00	0.00
11,900.00	89.85	180.70	7,051.73	-3,954.10	-504.07	3,959.96	0.00	0.00	0.00
12,000.00	89.85	180.70	7,052.00	-4,054.09	-505.29	4,059.96	0.00	0.00	0.00
12,100.00	89.85	180.70	7,052.27	-4,154.08	-506.51	4,159.96	0.00	0.00	0.00
12,200.00	89.85	180.70	7,052.53	-4,254.08	-507.74	4,259.96	0.00	0.00	0.00
12,300.00	89.85	180.70	7,052.80	-4,354.07	-508.96	4,359.96	0.00	0.00	0.00
12,400.00	89.85	180.70	7,053.07	-4,454.06	-510.18	4,459.96	0.00	0.00	0.00
12,500.00	89.85	180.70	7,053.34	-4,554.05	-511.41	4,559.96	0.00	0.00	0.00
12,600.00	89.85	180.70	7,053.60	-4,654.05	-512.63	4,659.96	0.00	0.00	0.00
12,700.00	89.85	180.70	7,053.87	-4,754.04	-513.85	4,759.96	0.00	0.00	0.00
12,800.00	89.85	180.70	7,054.14	-4,854.03	-515.07	4,859.96	0.00	0.00	0.00
12,900.00	89.85	180.70	7,054.41	-4,954.02	-516.30	4,959.96	0.00	0.00	0.00
13,000.00	89.85	180.70	7,054.68	-5,054.01	-517.52	5,059.96	0.00	0.00	0.00
13,100.00	89.85	180.70	7,054.94	-5,154.01	-518.74	5,159.96	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	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)
13,200.00	89.85	180.70	7,055.21	-5,254.00	-519.97	5,259.96	0.00	0.00	0.00
13,300.00	89.85	180.70	7,055.48	-5,353.99	-521.19	5,359.96	0.00	0.00	0.00
13,400.00	89.85	180.70	7,055.75	-5,453.98	-522.41	5,459.96	0.00	0.00	0.00
13,500.00	89.85	180.70	7,056.01	-5,553.97	-523.64	5,559.96	0.00	0.00	0.00
13,600.00	89.85	180.70	7,056.28	-5,653.97	-524.86	5,659.96	0.00	0.00	0.00
13,700.00	89.85	180.70	7,056.55	-5,753.96	-526.08	5,759.96	0.00	0.00	0.00
13,800.00	89.85	180.70	7,056.82	-5,853.95	-527.30	5,859.96	0.00	0.00	0.00
13,867.90	89.85	180.70	7,057.00	-5,921.85	-528.14	5,927.86	0.00	0.00	0.00
Toe:									
13,867.91	89.85	180.70	7,057.00	-5,921.85	-528.14	5,927.86	0.01	0.00	0.00
TD Well @ 13867.91ft - SWARTZ 1N-25HZ_BHL									

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	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)		
2N-R65W-Sec. 25_Secti	0.00	0.00	0.00	40.11	-1,646.62	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 1647.11usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			0.00	-5,575.96	-3,064.67	14,569,480.87	1,746,164.16		
Point 2			0.00	-5,592.14	-413.46	14,569,476.47	1,748,815.41		
Point 3			0.00	-5,609.35	2,238.63	14,569,471.05	1,751,467.55		
Point 4			0.00	-8,247.40	2,259.94	14,566,833.12	1,751,500.59		
Point 5			0.00	-10,884.05	2,281.32	14,564,196.59	1,751,533.69		
Point 6			0.00	-10,912.19	-413.54	14,564,156.47	1,748,838.98		
Point 7			0.00	-11,002.15	-3,033.15	14,564,054.87	1,746,219.79		
Point 8			0.00	-8,271.55	-3,044.64	14,566,785.39	1,746,196.17		
2N-R65W-Sec. 13_Secti	0.00	0.00	0.00	40.11	-1,646.62	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 1647.11usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			0.00	4,980.35	-2,990.78	14,580,037.40	1,746,191.12		
Point 2			0.00	4,936.75	-397.15	14,580,005.33	1,748,784.92		
Point 3			0.00	4,893.27	2,196.04	14,579,973.38	1,751,378.28		
Point 4			0.00	2,269.18	2,195.68	14,577,349.31	1,751,389.58		
Point 5			0.00	-354.07	2,193.83	14,574,726.08	1,751,399.39		
Point 6			0.00	-330.09	-414.94	14,574,738.46	1,748,790.54		
Point 7			0.00	-306.12	-3,023.71	14,574,750.84	1,746,181.69		
Point 8			0.00	2,332.94	-3,010.80	14,577,389.93	1,746,182.87		
SWARTZ 1N-25HZ_SHL	0.00	0.00	0.00	0.00	0.00	14,575,037.60	1,750,850.79	40.131977	-104.604903
- plan hits target center									
- Point									
2N-R65W-Sec. 12_Secti	0.00	0.00	0.00	40.11	-1,646.62	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 1647.11usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1			0.00	10,311.40	-2,932.44	14,585,368.66	1,746,225.77		
Point 2			0.00	10,213.49	-365.25	14,585,282.16	1,748,793.37		
Point 3			0.00	10,115.80	2,202.09	14,585,195.88	1,751,361.11		
Point 4			0.00	7,504.68	2,199.03	14,582,584.77	1,751,369.66		
Point 5			0.00	4,893.27	2,196.04	14,579,973.38	1,751,378.28		
Point 6			0.00	4,936.75	-397.15	14,580,005.33	1,748,784.92		
Point 7			0.00	4,980.35	-2,990.78	14,580,037.40	1,746,191.12		
Point 8			0.00	7,645.87	-2,961.54	14,582,703.02	1,746,208.51		
SWARTZ 1N-25HZ_Drill	0.00	0.00	0.00	0.00	0.00	14,575,037.60	1,750,850.79	40.131977	-104.604903
- plan hits target center									
- Polygon									
Point 1			0.00	544.81	-292.18	14,575,581.11	1,750,556.19		
Point 2			0.00	-303.16	-293.77	14,574,733.14	1,750,558.37		
Point 3			0.00	-1,622.57	-288.42	14,573,413.77	1,750,569.59		
Point 4			0.00	-4,251.36	-276.46	14,570,785.05	1,750,593.23		
Point 5			0.00	-5,565.61	-271.72	14,569,470.84	1,750,603.81		
Point 6			0.00	-6,429.68	-268.29	14,568,606.79	1,750,611.08		
Point 7			0.00	-6,428.78	-1,188.29	14,568,603.60	1,749,691.09		
Point 8			0.00	-5,559.57	-1,191.76	14,569,472.79	1,749,683.76		
Point 9			0.00	-4,244.82	-1,196.49	14,570,787.50	1,749,673.18		
Point 10			0.00	-1,614.38	-1,208.46	14,573,417.87	1,749,649.52		
Point 11			0.00	-298.84	-1,213.76	14,574,733.37	1,749,638.37		
Point 12			0.00	555.55	-1,212.17	14,575,587.76	1,749,636.17		
Point 13			0.00	544.81	-292.18	14,575,581.11	1,750,556.19		
2N-R65W-Sec. 24_Secti	0.00	0.00	0.00	40.11	-1,646.62	14,575,070.39	1,749,204.01	40.132087	-104.610794
- plan misses target center by 1647.11usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well SWARTZ 1N-25HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4973.00usft (D Rig)
Site:	2N-65W-13 Swartz No2 Pad	North Reference:	True
Well:	SWARTZ 1N-25HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Point 1	0.00	-306.12	-3,023.71	14,574,750.84	1,746,181.69				
Point 2	0.00	-330.09	-414.94	14,574,738.46	1,748,790.54				
Point 3	0.00	-354.07	2,193.83	14,574,726.08	1,751,399.39				
Point 4	0.00	-2,981.13	2,216.36	14,572,099.14	1,751,433.60				
Point 5	0.00	-5,609.35	2,238.63	14,569,471.05	1,751,467.55				
Point 6	0.00	-5,592.14	-413.46	14,569,476.47	1,748,815.41				
Point 7	0.00	-5,575.96	-3,064.67	14,569,480.87	1,746,164.16				
Point 8	0.00	-2,941.37	-3,043.57	14,572,115.52	1,746,173.55				
SWARTZ 1N-25HZ_BHL	0.00	0.00	7,057.00	-5,921.85	-528.14	14,569,113.46	1,750,348.98	40.115715	-104.606792
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,838.66	1,800.00	9 5/8"		9-5/8	13-1/2
7,520.78	7,040.00	Top of Production		5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,388.80	1,372.00	Fox Hills		0.00	
4,530.77	4,376.00	Sussex		0.00	
7,020.36	6,833.84	Sharon Springs		0.00	
7,089.03	6,883.84	Niobrara Top		0.00	
7,200.73	6,952.10	Niobrara B Bench		0.00	
7,385.90	7,023.84	Niobrara C Bench		0.00	
7,520.78	7,040.00	Heel:		0.00	
13,867.90	7,057.00	Toe:		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft
1,450.00	1,430.36	170.79	-76.04	End Nudge @ 1450.00ft
3,920.00	3,779.47	868.07	-386.49	Begin Drop @ 3920.00ft
4,820.00	4,664.74	996.16	-443.52	End Drop @ 4820.00ft
6,622.31	6,467.05	996.16	-443.52	KOP @ 6622.31ft
7,100.00	6,891.29	808.32	-445.82	DLS = 10°/100'
7,520.78	7,040.00	424.78	-450.51	End Build @ 7520.78ft
13,867.91	7,057.00	-5,921.85	-528.14	TD Well @ 13867.91ft