

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-67W-08 BERRY FARMS 8-8HZ PAD

BERRY FARMS 8-1HZ

Plan A

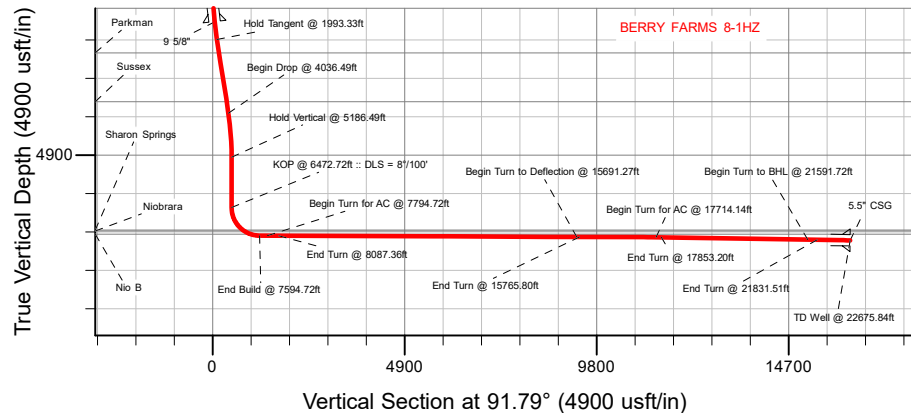
Plan: Permit Rev-2

Standard Planning Report

17 November, 2021

US ROCKIES WATTENBERG PLANNING

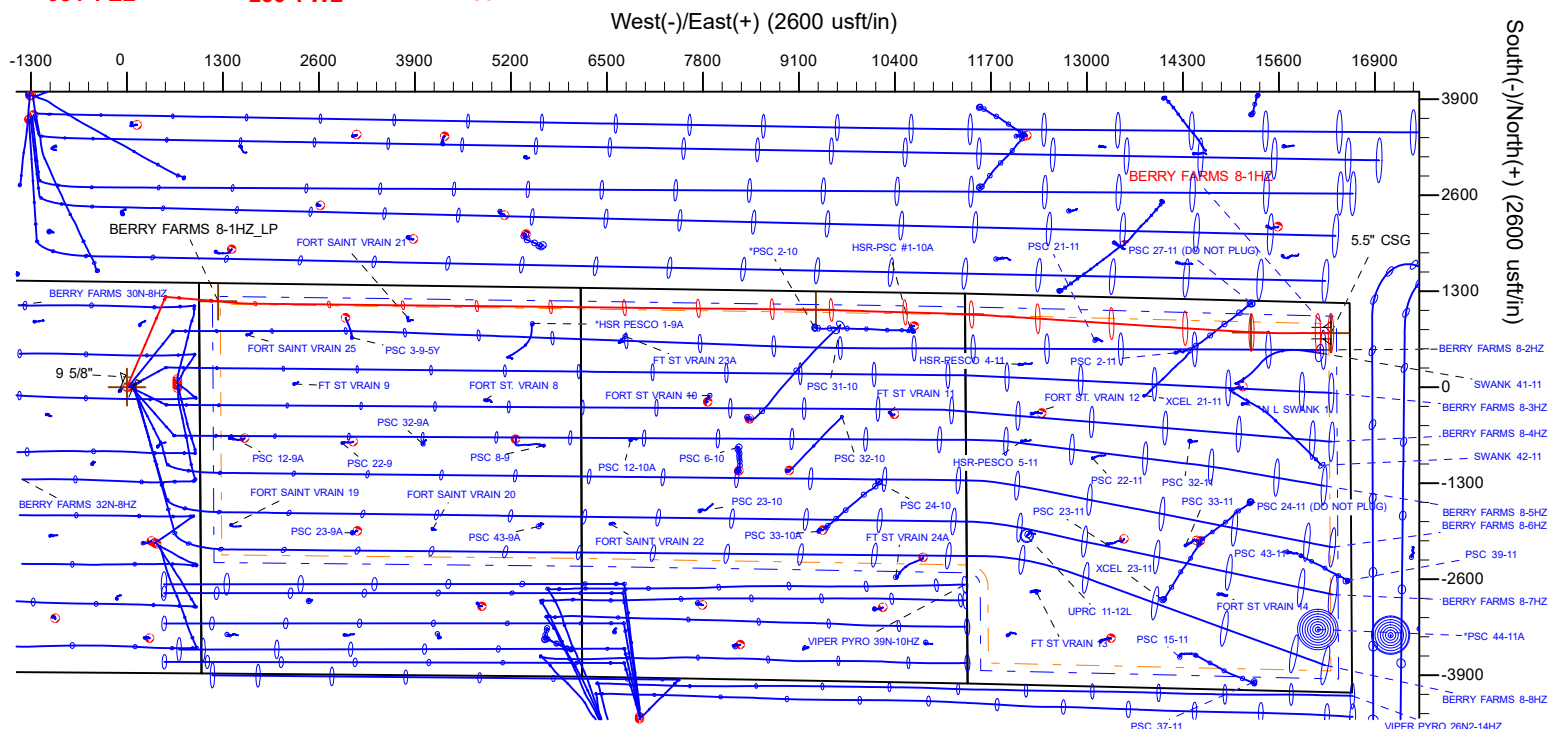
CASING DETAILS			
TVD	MD	Name	Size
1500.00	1513.30	9 5/8"	9-5/8
7076.00	22675.84	5.5" CSG	5-1/2



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
460.00	0.00	0.00	460.00	0.00	0.00	0.00	0.00	0.00	
1993.33	23.00	23.12	1952.48	279.26	119.23	1.50	23.12	110.45	
4036.49	23.00	23.12	3833.22	1013.47	432.70	0.00	0.00	400.83	
5186.49	0.00	0.00	4952.58	1222.91	522.12	2.00	-180.00	483.67	
6472.72	0.00	0.00	6238.81	1222.91	522.12	0.00	0.00	483.67	
7594.72	89.76	95.00	6955.00	1160.76	1232.61	8.00	95.00	1195.75	
7794.72	89.76	95.00	6955.84	1143.32	1431.84	0.00	0.00	1395.43	
8087.36	89.76	90.61	6957.06	1129.01	1724.06	1.50	-89.98	1687.95	
15691.27	89.76	90.61	6988.61	1048.00	9327.47	0.00	0.00	9290.18	BERRY FARMS 8-1HZ_AC Target
15765.80	89.76	91.73	6988.92	1046.48	9401.98	1.50	90.00	9364.70	
17714.14	89.76	91.73	6997.00	987.72	11349.42	0.00	0.00	11313.03	BERRY FARMS 8-1HZ_Deflection
17853.20	89.08	93.70	6998.41	981.14	11488.31	1.50	109.18	11452.06	
21591.72	89.08	93.70	7058.61	740.00	15218.56	0.00	0.00	15188.02	BERRY FARMS 8-1HZ_AC Target 2
21831.51	89.08	90.10	7062.46	732.05	15458.15	1.50	-89.96	15427.74	
22675.84	89.08	90.10	7076.00	730.56	16302.37	0.00	0.00	16271.59	BERRY FARMS 8-1HZ BHL

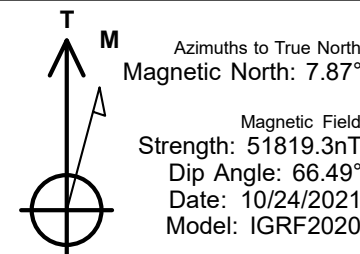
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	Northing	Easting	Latitude	Longitude
BERRY FARMS 8-1HZ_SHL	0.00	14615497.59	1665993.53	40.243722	-104.908344
BERRY FARMS 8-1HZ_LP	6955.00	14616659.63	1667224.94	40.246909	-104.903927
BERRY FARMS 8-1HZ_BHL	7076.00	14616245.00	1682295.13	40.245713	-104.849922

SHL	LP	BHL
1423' FNL	246' FNL	410' FNL
984' FEL	256' FWL	255' FEL



WELL DETAILS: BERRY FARMS 8-1HZ
GL = 4817'
RKB = 17' @ 4834.00usft (RIG)
Plan: Permit Rev-2 (BERRY FARMS 8-1HZ/Plan A)
Date: 11/17/2021

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
694.00	694.15	Fox Hills
2292.00	2362.17	Parkman
3538.00	3715.78	Sussex
6810.00	7133.91	Sharon Springs
6837.00	7180.72	Niobrara
6922.00	7379.44	Nio B



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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		3N-67W-08 BERRY FARMS 8-8HZ PAD			
Site Position:		Northing:	14,615,497.59 usft	Latitude:	40.243722
From:	Lat/Long	Easting:	1,665,993.52 usft	Longitude:	-104.908344
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well		BERRY FARMS 8-1HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,615,497.59 usft	Latitude:	40.243722
	+E/-W	0.00 usft	Easting:	1,665,993.52 usft	Longitude:	-104.908344
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,817.00 usft
Grid Convergence:		0.06 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	10/24/2021	7.87	66.49	51,819.33331371

Design	Permit Rev-2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	91.79	

Plan Survey Tool Program	Date	11/16/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,000.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	2,000.00	22,675.84	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	
460.00	0.00	0.00	460.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,993.33	23.00	23.12	1,952.48	279.26	119.23	1.50	1.50	0.00	23.12	
4,036.49	23.00	23.12	3,833.22	1,013.47	432.70	0.00	0.00	0.00	0.00	
5,186.49	0.00	0.00	4,952.58	1,222.91	522.12	2.00	-2.00	-2.01	-180.00	
6,472.72	0.00	0.00	6,238.81	1,222.91	522.12	0.00	0.00	0.00	0.00	
7,594.72	89.76	95.00	6,955.00	1,160.76	1,232.61	8.00	8.00	0.00	95.00	
7,794.72	89.76	95.00	6,955.84	1,143.32	1,431.84	0.00	0.00	0.00	0.00	
8,087.36	89.76	90.61	6,957.06	1,129.01	1,724.06	1.50	0.00	-1.50	-89.98	
15,691.27	89.76	90.61	6,988.61	1,048.00	9,327.47	0.00	0.00	0.00	0.00	BERRY FARMS 8-1H
15,765.80	89.76	91.73	6,988.92	1,046.48	9,401.98	1.50	0.00	1.50	90.00	
17,714.14	89.76	91.73	6,997.00	987.72	11,349.42	0.00	0.00	0.00	0.00	BERRY FARMS 8-1H
17,853.20	89.08	93.70	6,998.41	981.14	11,488.31	1.50	-0.49	1.42	109.18	
21,591.72	89.08	93.70	7,058.61	740.00	15,218.56	0.00	0.00	0.00	0.00	BERRY FARMS 8-1H
21,831.52	89.08	90.10	7,062.46	732.05	15,458.15	1.50	0.00	-1.50	-89.96	
22,675.84	89.08	90.10	7,076.00	730.56	16,302.37	0.00	0.00	0.00	0.00	BERRY FARMS 8-1H

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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
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
300.00	0.00	0.00	300.00	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
460.00	0.00	0.00	460.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 460.00ft									
500.00	0.60	23.12	500.00	0.19	0.08	0.08	1.50	1.50	0.00
600.00	2.10	23.12	599.97	2.36	1.01	0.93	1.50	1.50	0.00
694.15	3.51	23.12	694.00	6.60	2.82	2.61	1.50	1.50	0.00
Fox Hills									
700.00	3.60	23.12	699.84	6.93	2.96	2.74	1.50	1.50	0.00
800.00	5.10	23.12	799.55	13.91	5.94	5.50	1.50	1.50	0.00
900.00	6.60	23.12	899.03	23.28	9.94	9.21	1.50	1.50	0.00
1,000.00	8.10	23.12	998.20	35.05	14.96	13.86	1.50	1.50	0.00
1,100.00	9.60	23.12	1,097.01	49.20	21.00	19.46	1.50	1.50	0.00
1,200.00	11.10	23.12	1,195.38	65.72	28.06	25.99	1.50	1.50	0.00
1,300.00	12.60	23.12	1,293.25	84.60	36.12	33.46	1.50	1.50	0.00
1,400.00	14.10	23.12	1,390.54	105.84	45.19	41.86	1.50	1.50	0.00
1,500.00	15.60	23.12	1,487.20	129.41	55.25	51.18	1.50	1.50	0.00
1,513.30	15.80	23.12	1,500.00	132.72	56.66	52.49	1.50	1.50	0.00
9 5/8"									
1,600.00	17.10	23.12	1,583.15	155.30	66.30	61.42	1.50	1.50	0.00
1,700.00	18.60	23.12	1,678.33	183.49	78.34	72.57	1.50	1.50	0.00
1,800.00	20.10	23.12	1,772.68	213.96	91.35	84.62	1.50	1.50	0.00
1,900.00	21.60	23.12	1,866.13	246.69	105.32	97.57	1.50	1.50	0.00
1,993.33	23.00	23.12	1,952.48	279.26	119.23	110.45	1.50	1.50	0.00
Hold Tangent @ 1993.33ft									
2,000.00	23.00	23.12	1,958.62	281.66	120.25	111.40	0.00	0.00	0.00
2,100.00	23.00	23.12	2,050.67	317.59	135.60	125.61	0.00	0.00	0.00
2,200.00	23.00	23.12	2,142.72	353.53	150.94	139.82	0.00	0.00	0.00
2,300.00	23.00	23.12	2,234.77	389.46	166.28	154.03	0.00	0.00	0.00
2,362.17	23.00	23.12	2,292.00	411.80	175.82	162.87	0.00	0.00	0.00
Parkman									
2,400.00	23.00	23.12	2,326.82	425.40	181.62	168.25	0.00	0.00	0.00
2,500.00	23.00	23.12	2,418.87	461.33	196.97	182.46	0.00	0.00	0.00
2,600.00	23.00	23.12	2,510.92	497.27	212.31	196.67	0.00	0.00	0.00
2,700.00	23.00	23.12	2,602.97	533.20	227.65	210.88	0.00	0.00	0.00
2,800.00	23.00	23.12	2,695.02	569.14	242.99	225.10	0.00	0.00	0.00
2,900.00	23.00	23.12	2,787.07	605.07	258.33	239.31	0.00	0.00	0.00
3,000.00	23.00	23.12	2,879.12	641.01	273.68	253.52	0.00	0.00	0.00
3,100.00	23.00	23.12	2,971.18	676.94	289.02	267.73	0.00	0.00	0.00
3,200.00	23.00	23.12	3,063.23	712.88	304.36	281.95	0.00	0.00	0.00
3,300.00	23.00	23.12	3,155.28	748.81	319.70	296.16	0.00	0.00	0.00
3,400.00	23.00	23.12	3,247.33	784.75	335.05	310.37	0.00	0.00	0.00
3,500.00	23.00	23.12	3,339.38	820.68	350.39	324.58	0.00	0.00	0.00
3,600.00	23.00	23.12	3,431.43	856.62	365.73	338.80	0.00	0.00	0.00
3,700.00	23.00	23.12	3,523.48	892.55	381.07	353.01	0.00	0.00	0.00
3,715.78	23.00	23.12	3,538.00	898.22	383.49	355.25	0.00	0.00	0.00
Sussex									
3,800.00	23.00	23.12	3,615.53	928.49	396.42	367.22	0.00	0.00	0.00
3,900.00	23.00	23.12	3,707.58	964.42	411.76	381.43	0.00	0.00	0.00
4,000.00	23.00	23.12	3,799.63	1,000.36	427.10	395.64	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
4,036.49	23.00	23.12	3,833.22	1,013.47	432.70	400.83	0.00	0.00	0.00
Begin Drop @ 4036.49ft									
4,100.00	21.73	23.12	3,891.95	1,035.69	442.19	409.62	2.00	-2.00	0.00
4,200.00	19.73	23.12	3,985.47	1,068.24	456.09	422.50	2.00	-2.00	0.00
4,300.00	17.73	23.12	4,080.17	1,097.77	468.69	434.17	2.00	-2.00	0.00
4,400.00	15.73	23.12	4,175.93	1,124.25	480.00	444.64	2.00	-2.00	0.00
4,500.00	13.73	23.12	4,272.64	1,147.63	489.98	453.89	2.00	-2.00	0.00
4,600.00	11.73	23.12	4,370.18	1,167.89	498.63	461.91	2.00	-2.00	0.00
4,700.00	9.73	23.12	4,468.43	1,185.02	505.94	468.68	2.00	-2.00	0.00
4,800.00	7.73	23.12	4,567.26	1,198.97	511.90	474.20	2.00	-2.00	0.00
4,900.00	5.73	23.12	4,666.57	1,209.75	516.50	478.46	2.00	-2.00	0.00
5,000.00	3.73	23.12	4,766.22	1,217.33	519.74	481.46	2.00	-2.00	0.00
5,100.00	1.73	23.12	4,866.10	1,221.71	521.61	483.19	2.00	-2.00	0.00
5,186.49	0.00	0.00	4,952.58	1,222.91	522.12	483.67	2.00	-2.00	-26.73
Hold Vertical @ 5186.49ft									
5,200.00	0.00	0.00	4,966.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,300.00	0.00	0.00	5,066.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,400.00	0.00	0.00	5,166.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,500.00	0.00	0.00	5,266.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,600.00	0.00	0.00	5,366.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,700.00	0.00	0.00	5,466.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,800.00	0.00	0.00	5,566.09	1,222.91	522.12	483.67	0.00	0.00	0.00
5,900.00	0.00	0.00	5,666.09	1,222.91	522.12	483.67	0.00	0.00	0.00
6,000.00	0.00	0.00	5,766.09	1,222.91	522.12	483.67	0.00	0.00	0.00
6,100.00	0.00	0.00	5,866.09	1,222.91	522.12	483.67	0.00	0.00	0.00
6,200.00	0.00	0.00	5,966.09	1,222.91	522.12	483.67	0.00	0.00	0.00
6,300.00	0.00	0.00	6,066.09	1,222.91	522.12	483.67	0.00	0.00	0.00
6,400.00	0.00	0.00	6,166.09	1,222.91	522.12	483.67	0.00	0.00	0.00
6,472.72	0.00	0.00	6,238.81	1,222.91	522.12	483.67	0.00	0.00	0.00
KOP @ 6472.72ft :: DLS = 8°/100'									
6,500.00	2.18	95.00	6,266.08	1,222.87	522.64	484.19	8.00	8.00	348.24
6,550.00	6.18	95.00	6,315.94	1,222.55	526.27	487.83	8.00	8.00	0.00
6,600.00	10.18	95.00	6,365.42	1,221.93	533.36	494.93	8.00	8.00	0.00
6,650.00	14.18	95.00	6,414.29	1,221.01	543.87	505.46	8.00	8.00	0.00
6,700.00	18.18	95.00	6,462.30	1,219.80	557.75	519.37	8.00	8.00	0.00
6,750.00	22.18	95.00	6,509.22	1,218.29	574.93	536.59	8.00	8.00	0.00
6,800.00	26.18	95.00	6,554.82	1,216.51	595.33	557.04	8.00	8.00	0.00
6,850.00	30.18	95.00	6,598.88	1,214.45	618.85	580.61	8.00	8.00	0.00
6,900.00	34.18	95.00	6,641.19	1,212.13	645.37	607.19	8.00	8.00	0.00
6,950.00	38.18	95.00	6,681.54	1,209.56	674.77	636.66	8.00	8.00	0.00
7,000.00	42.18	95.00	6,719.73	1,206.75	706.90	668.86	8.00	8.00	0.00
7,050.00	46.18	95.00	6,755.58	1,203.71	741.61	703.65	8.00	8.00	0.00
7,100.00	50.18	95.00	6,788.91	1,200.46	778.73	740.85	8.00	8.00	0.00
7,133.91	52.89	95.00	6,810.00	1,198.15	805.17	767.35	8.00	8.00	0.00
Sharon Springs									
7,150.00	54.18	95.00	6,819.56	1,197.02	818.07	780.28	8.00	8.00	0.00
7,180.72	56.64	95.00	6,837.00	1,194.82	843.25	805.52	8.00	8.00	0.00
Niobrara									
7,200.00	58.18	95.00	6,847.39	1,193.40	859.44	821.74	8.00	8.00	0.00
7,250.00	62.18	95.00	6,872.24	1,189.62	902.65	865.05	8.00	8.00	0.00
7,300.00	66.18	95.00	6,894.01	1,185.70	947.47	909.98	8.00	8.00	0.00
7,350.00	70.18	95.00	6,912.59	1,181.66	993.71	956.31	8.00	8.00	0.00
7,379.44	72.54	95.00	6,922.00	1,179.23	1,021.49	984.16	8.00	8.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
Nio B									
7,400.00	74.18	95.00	6,927.89	1,177.51	1,041.12	1,003.83	8.00	8.00	0.00
7,450.00	78.18	95.00	6,939.83	1,173.28	1,089.48	1,052.30	8.00	8.00	0.00
7,500.00	82.18	95.00	6,948.35	1,168.98	1,138.55	1,101.48	8.00	8.00	0.00
7,550.00	86.18	95.00	6,953.42	1,164.65	1,188.09	1,151.13	8.00	8.00	0.00
7,594.72	89.76	95.00	6,955.00	1,160.76	1,232.61	1,195.75	8.00	8.00	0.00
End Build @ 7594.72ft									
7,600.00	89.76	95.00	6,955.02	1,160.30	1,237.87	1,201.02	0.00	0.00	0.00
7,700.00	89.76	95.00	6,955.44	1,151.58	1,337.48	1,300.86	0.00	0.00	0.00
7,794.72	89.76	95.00	6,955.84	1,143.32	1,431.84	1,395.43	0.00	0.00	0.00
Begin Turn for AC @ 7794.72ft									
7,800.00	89.76	94.92	6,955.86	1,142.87	1,437.10	1,400.70	1.50	0.00	-1.50
7,900.00	89.76	93.42	6,956.28	1,135.59	1,536.83	1,500.61	1.50	0.00	-1.50
8,000.00	89.76	91.92	6,956.70	1,130.94	1,636.72	1,600.60	1.50	0.00	-1.50
8,087.36	89.76	90.61	6,957.06	1,129.01	1,724.06	1,687.95	1.50	0.00	-1.50
End Turn @ 8087.36ft									
8,100.00	89.76	90.61	6,957.11	1,128.87	1,736.70	1,700.59	0.00	0.00	0.00
8,200.00	89.76	90.61	6,957.53	1,127.81	1,836.69	1,800.57	0.00	0.00	0.00
8,300.00	89.76	90.61	6,957.94	1,126.74	1,936.68	1,900.54	0.00	0.00	0.00
8,400.00	89.76	90.61	6,958.36	1,125.68	2,036.68	2,000.52	0.00	0.00	0.00
8,500.00	89.76	90.61	6,958.77	1,124.61	2,136.67	2,100.50	0.00	0.00	0.00
8,600.00	89.76	90.61	6,959.19	1,123.54	2,236.66	2,200.48	0.00	0.00	0.00
8,700.00	89.76	90.61	6,959.60	1,122.48	2,336.66	2,300.46	0.00	0.00	0.00
8,800.00	89.76	90.61	6,960.02	1,121.41	2,436.65	2,400.43	0.00	0.00	0.00
8,900.00	89.76	90.61	6,960.43	1,120.35	2,536.64	2,500.41	0.00	0.00	0.00
9,000.00	89.76	90.61	6,960.85	1,119.28	2,636.64	2,600.39	0.00	0.00	0.00
9,100.00	89.76	90.61	6,961.26	1,118.22	2,736.63	2,700.37	0.00	0.00	0.00
9,200.00	89.76	90.61	6,961.68	1,117.15	2,836.62	2,800.35	0.00	0.00	0.00
9,300.00	89.76	90.61	6,962.09	1,116.09	2,936.62	2,900.32	0.00	0.00	0.00
9,400.00	89.76	90.61	6,962.51	1,115.02	3,036.61	3,000.30	0.00	0.00	0.00
9,500.00	89.76	90.61	6,962.92	1,113.96	3,136.61	3,100.28	0.00	0.00	0.00
9,600.00	89.76	90.61	6,963.34	1,112.89	3,236.60	3,200.26	0.00	0.00	0.00
9,700.00	89.76	90.61	6,963.75	1,111.83	3,336.59	3,300.23	0.00	0.00	0.00
9,800.00	89.76	90.61	6,964.17	1,110.76	3,436.59	3,400.21	0.00	0.00	0.00
9,900.00	89.76	90.61	6,964.58	1,109.70	3,536.58	3,500.19	0.00	0.00	0.00
10,000.00	89.76	90.61	6,965.00	1,108.63	3,636.57	3,600.17	0.00	0.00	0.00
10,100.00	89.76	90.61	6,965.41	1,107.56	3,736.57	3,700.15	0.00	0.00	0.00
10,200.00	89.76	90.61	6,965.83	1,106.50	3,836.56	3,800.12	0.00	0.00	0.00
10,300.00	89.76	90.61	6,966.24	1,105.43	3,936.55	3,900.10	0.00	0.00	0.00
10,400.00	89.76	90.61	6,966.66	1,104.37	4,036.55	4,000.08	0.00	0.00	0.00
10,500.00	89.76	90.61	6,967.07	1,103.30	4,136.54	4,100.06	0.00	0.00	0.00
10,600.00	89.76	90.61	6,967.49	1,102.24	4,236.53	4,200.04	0.00	0.00	0.00
10,700.00	89.76	90.61	6,967.90	1,101.17	4,336.53	4,300.01	0.00	0.00	0.00
10,800.00	89.76	90.61	6,968.32	1,100.11	4,436.52	4,399.99	0.00	0.00	0.00
10,900.00	89.76	90.61	6,968.73	1,099.04	4,536.51	4,499.97	0.00	0.00	0.00
11,000.00	89.76	90.61	6,969.14	1,097.98	4,636.51	4,599.95	0.00	0.00	0.00
11,100.00	89.76	90.61	6,969.56	1,096.91	4,736.50	4,699.93	0.00	0.00	0.00
11,200.00	89.76	90.61	6,969.97	1,095.85	4,836.49	4,799.90	0.00	0.00	0.00
11,300.00	89.76	90.61	6,970.39	1,094.78	4,936.49	4,899.88	0.00	0.00	0.00
11,400.00	89.76	90.61	6,970.80	1,093.72	5,036.48	4,999.86	0.00	0.00	0.00
11,500.00	89.76	90.61	6,971.22	1,092.65	5,136.47	5,099.84	0.00	0.00	0.00
11,600.00	89.76	90.61	6,971.63	1,091.59	5,236.47	5,199.82	0.00	0.00	0.00
11,700.00	89.76	90.61	6,972.05	1,090.52	5,336.46	5,299.79	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
11,800.00	89.76	90.61	6,972.46	1,089.45	5,436.46	5,399.77	0.00	0.00	0.00
11,900.00	89.76	90.61	6,972.88	1,088.39	5,536.45	5,499.75	0.00	0.00	0.00
12,000.00	89.76	90.61	6,973.29	1,087.32	5,636.44	5,599.73	0.00	0.00	0.00
12,100.00	89.76	90.61	6,973.71	1,086.26	5,736.44	5,699.71	0.00	0.00	0.00
12,200.00	89.76	90.61	6,974.12	1,085.19	5,836.43	5,799.68	0.00	0.00	0.00
12,300.00	89.76	90.61	6,974.54	1,084.13	5,936.42	5,899.66	0.00	0.00	0.00
12,400.00	89.76	90.61	6,974.95	1,083.06	6,036.42	5,999.64	0.00	0.00	0.00
12,500.00	89.76	90.61	6,975.37	1,082.00	6,136.41	6,099.62	0.00	0.00	0.00
12,600.00	89.76	90.61	6,975.78	1,080.93	6,236.40	6,199.60	0.00	0.00	0.00
12,700.00	89.76	90.61	6,976.20	1,079.87	6,336.40	6,299.57	0.00	0.00	0.00
12,800.00	89.76	90.61	6,976.61	1,078.80	6,436.39	6,399.55	0.00	0.00	0.00
12,900.00	89.76	90.61	6,977.03	1,077.74	6,536.38	6,499.53	0.00	0.00	0.00
13,000.00	89.76	90.61	6,977.44	1,076.67	6,636.38	6,599.51	0.00	0.00	0.00
13,100.00	89.76	90.61	6,977.86	1,075.61	6,736.37	6,699.49	0.00	0.00	0.00
13,200.00	89.76	90.61	6,978.27	1,074.54	6,836.36	6,799.46	0.00	0.00	0.00
13,300.00	89.76	90.61	6,978.69	1,073.47	6,936.36	6,899.44	0.00	0.00	0.00
13,400.00	89.76	90.61	6,979.10	1,072.41	7,036.35	6,999.42	0.00	0.00	0.00
13,500.00	89.76	90.61	6,979.52	1,071.34	7,136.34	7,099.40	0.00	0.00	0.00
13,600.00	89.76	90.61	6,979.93	1,070.28	7,236.34	7,199.37	0.00	0.00	0.00
13,700.00	89.76	90.61	6,980.35	1,069.21	7,336.33	7,299.35	0.00	0.00	0.00
13,800.00	89.76	90.61	6,980.76	1,068.15	7,436.32	7,399.33	0.00	0.00	0.00
13,900.00	89.76	90.61	6,981.18	1,067.08	7,536.32	7,499.31	0.00	0.00	0.00
14,000.00	89.76	90.61	6,981.59	1,066.02	7,636.31	7,599.29	0.00	0.00	0.00
14,100.00	89.76	90.61	6,982.01	1,064.95	7,736.30	7,699.26	0.00	0.00	0.00
14,200.00	89.76	90.61	6,982.42	1,063.89	7,836.30	7,799.24	0.00	0.00	0.00
14,300.00	89.76	90.61	6,982.84	1,062.82	7,936.29	7,899.22	0.00	0.00	0.00
14,400.00	89.76	90.61	6,983.25	1,061.76	8,036.29	7,999.20	0.00	0.00	0.00
14,500.00	89.76	90.61	6,983.67	1,060.69	8,136.28	8,099.18	0.00	0.00	0.00
14,600.00	89.76	90.61	6,984.08	1,059.63	8,236.27	8,199.15	0.00	0.00	0.00
14,700.00	89.76	90.61	6,984.50	1,058.56	8,336.27	8,299.13	0.00	0.00	0.00
14,800.00	89.76	90.61	6,984.91	1,057.49	8,436.26	8,399.11	0.00	0.00	0.00
14,900.00	89.76	90.61	6,985.33	1,056.43	8,536.25	8,499.09	0.00	0.00	0.00
15,000.00	89.76	90.61	6,985.74	1,055.36	8,636.25	8,599.07	0.00	0.00	0.00
15,100.00	89.76	90.61	6,986.16	1,054.30	8,736.24	8,699.04	0.00	0.00	0.00
15,200.00	89.76	90.61	6,986.57	1,053.23	8,836.23	8,799.02	0.00	0.00	0.00
15,300.00	89.76	90.61	6,986.99	1,052.17	8,936.23	8,899.00	0.00	0.00	0.00
15,400.00	89.76	90.61	6,987.40	1,051.10	9,036.22	8,998.98	0.00	0.00	0.00
15,500.00	89.76	90.61	6,987.82	1,050.04	9,136.21	9,098.96	0.00	0.00	0.00
15,600.00	89.76	90.61	6,988.23	1,048.97	9,236.21	9,198.93	0.00	0.00	0.00
15,691.27	89.76	90.61	6,988.61	1,048.00	9,327.47	9,290.18	0.00	0.00	0.00
Begin Turn to Deflection @ 15691.27ft									
15,700.00	89.76	90.74	6,988.65	1,047.90	9,336.20	9,298.91	1.50	0.00	1.50
15,765.80	89.76	91.73	6,988.92	1,046.48	9,401.98	9,364.70	1.50	0.00	1.50
End Turn @ 15765.80ft									
15,800.00	89.76	91.73	6,989.06	1,045.45	9,436.17	9,398.91	0.00	0.00	0.00
15,900.00	89.76	91.73	6,989.48	1,042.43	9,536.12	9,498.91	0.00	0.00	0.00
16,000.00	89.76	91.73	6,989.89	1,039.42	9,636.07	9,598.91	0.00	0.00	0.00
16,100.00	89.76	91.73	6,990.31	1,036.40	9,736.03	9,698.90	0.00	0.00	0.00
16,200.00	89.76	91.73	6,990.72	1,033.38	9,835.98	9,798.90	0.00	0.00	0.00
16,300.00	89.76	91.73	6,991.13	1,030.37	9,935.94	9,898.90	0.00	0.00	0.00
16,400.00	89.76	91.73	6,991.55	1,027.35	10,035.89	9,998.90	0.00	0.00	0.00
16,500.00	89.76	91.73	6,991.96	1,024.34	10,135.84	10,098.90	0.00	0.00	0.00
16,600.00	89.76	91.73	6,992.38	1,021.32	10,235.80	10,198.90	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
16,700.00	89.76	91.73	6,992.79	1,018.30	10,335.75	10,298.90	0.00	0.00	0.00
16,800.00	89.76	91.73	6,993.21	1,015.29	10,435.70	10,398.90	0.00	0.00	0.00
16,900.00	89.76	91.73	6,993.62	1,012.27	10,535.66	10,498.90	0.00	0.00	0.00
17,000.00	89.76	91.73	6,994.04	1,009.26	10,635.61	10,598.90	0.00	0.00	0.00
17,100.00	89.76	91.73	6,994.45	1,006.24	10,735.57	10,698.90	0.00	0.00	0.00
17,200.00	89.76	91.73	6,994.87	1,003.22	10,835.52	10,798.89	0.00	0.00	0.00
17,300.00	89.76	91.73	6,995.28	1,000.21	10,935.47	10,898.89	0.00	0.00	0.00
17,400.00	89.76	91.73	6,995.70	997.19	11,035.43	10,998.89	0.00	0.00	0.00
17,500.00	89.76	91.73	6,996.11	994.18	11,135.38	11,098.89	0.00	0.00	0.00
17,600.00	89.76	91.73	6,996.53	991.16	11,235.33	11,198.89	0.00	0.00	0.00
17,700.00	89.76	91.73	6,996.94	988.14	11,335.29	11,298.89	0.00	0.00	0.00
17,714.14	89.76	91.73	6,997.00	987.72	11,349.42	11,313.03	0.00	0.00	0.00
Begin Turn for AC @ 17714.14ft									
17,800.00	89.34	92.94	6,997.67	984.22	11,435.20	11,398.88	1.50	-0.49	1.42
17,853.20	89.08	93.70	6,998.41	981.14	11,488.31	11,452.06	1.50	-0.49	1.42
End Turn @ 17853.20ft									
17,900.00	89.08	93.70	6,999.16	978.12	11,535.01	11,498.82	0.00	0.00	0.00
18,000.00	89.08	93.70	7,000.77	971.67	11,634.79	11,598.76	0.00	0.00	0.00
18,100.00	89.08	93.70	7,002.38	965.22	11,734.56	11,698.69	0.00	0.00	0.00
18,200.00	89.08	93.70	7,003.99	958.77	11,834.34	11,798.62	0.00	0.00	0.00
18,300.00	89.08	93.70	7,005.60	952.32	11,934.12	11,898.55	0.00	0.00	0.00
18,400.00	89.08	93.70	7,007.21	945.87	12,033.90	11,998.48	0.00	0.00	0.00
18,500.00	89.08	93.70	7,008.82	939.42	12,133.68	12,098.41	0.00	0.00	0.00
18,600.00	89.08	93.70	7,010.43	932.97	12,233.46	12,198.35	0.00	0.00	0.00
18,700.00	89.08	93.70	7,012.04	926.52	12,333.24	12,298.28	0.00	0.00	0.00
18,800.00	89.08	93.70	7,013.65	920.07	12,433.02	12,398.21	0.00	0.00	0.00
18,900.00	89.08	93.70	7,015.27	913.62	12,532.79	12,498.14	0.00	0.00	0.00
19,000.00	89.08	93.70	7,016.88	907.17	12,632.57	12,598.07	0.00	0.00	0.00
19,100.00	89.08	93.70	7,018.49	900.72	12,732.35	12,698.00	0.00	0.00	0.00
19,200.00	89.08	93.70	7,020.10	894.27	12,832.13	12,797.94	0.00	0.00	0.00
19,300.00	89.08	93.70	7,021.71	887.82	12,931.91	12,897.87	0.00	0.00	0.00
19,400.00	89.08	93.70	7,023.32	881.37	13,031.69	12,997.80	0.00	0.00	0.00
19,500.00	89.08	93.70	7,024.93	874.92	13,131.47	13,097.73	0.00	0.00	0.00
19,600.00	89.08	93.70	7,026.54	868.47	13,231.25	13,197.66	0.00	0.00	0.00
19,700.00	89.08	93.70	7,028.15	862.02	13,331.02	13,297.59	0.00	0.00	0.00
19,800.00	89.08	93.70	7,029.76	855.57	13,430.80	13,397.52	0.00	0.00	0.00
19,900.00	89.08	93.70	7,031.37	849.12	13,530.58	13,497.46	0.00	0.00	0.00
20,000.00	89.08	93.70	7,032.98	842.67	13,630.36	13,597.39	0.00	0.00	0.00
20,100.00	89.08	93.70	7,034.59	836.22	13,730.14	13,697.32	0.00	0.00	0.00
20,200.00	89.08	93.70	7,036.20	829.77	13,829.92	13,797.25	0.00	0.00	0.00
20,300.00	89.08	93.70	7,037.81	823.32	13,929.70	13,897.18	0.00	0.00	0.00
20,400.00	89.08	93.70	7,039.42	816.87	14,029.48	13,997.11	0.00	0.00	0.00
20,500.00	89.08	93.70	7,041.03	810.42	14,129.25	14,097.05	0.00	0.00	0.00
20,600.00	89.08	93.70	7,042.64	803.97	14,229.03	14,196.98	0.00	0.00	0.00
20,700.00	89.08	93.70	7,044.25	797.52	14,328.81	14,296.91	0.00	0.00	0.00
20,800.00	89.08	93.70	7,045.86	791.07	14,428.59	14,396.84	0.00	0.00	0.00
20,900.00	89.08	93.70	7,047.47	784.62	14,528.37	14,496.77	0.00	0.00	0.00
21,000.00	89.08	93.70	7,049.08	778.17	14,628.15	14,596.70	0.00	0.00	0.00
21,100.00	89.08	93.70	7,050.69	771.72	14,727.93	14,696.63	0.00	0.00	0.00
21,200.00	89.08	93.70	7,052.30	765.27	14,827.71	14,796.57	0.00	0.00	0.00
21,300.00	89.08	93.70	7,053.91	758.82	14,927.48	14,896.50	0.00	0.00	0.00
21,400.00	89.08	93.70	7,055.52	752.37	15,027.26	14,996.43	0.00	0.00	0.00
21,500.00	89.08	93.70	7,057.13	745.92	15,127.04	15,096.36	0.00	0.00	0.00
21,591.72	89.08	93.70	7,058.61	740.00	15,218.56	15,188.02	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)	
Begin Turn to BHL @ 21591.72ft										
21,600.00	89.08	93.57	7,058.74	739.47	15,226.82	15,196.29	1.50	0.00	-1.50	
21,700.00	89.08	92.07	7,060.35	734.55	15,326.68	15,296.26	1.50	0.00	-1.50	
21,800.00	89.08	90.57	7,061.96	732.24	15,426.64	15,396.24	1.50	0.00	-1.50	
21,831.51	89.08	90.10	7,062.46	732.05	15,458.15	15,427.74	1.50	0.00	-1.50	
End Turn @ 21831.51ft										
21,900.00	89.08	90.10	7,063.56	731.93	15,526.63	15,496.19	0.00	0.00	0.00	
22,000.00	89.08	90.10	7,065.17	731.75	15,626.62	15,596.13	0.00	0.00	0.00	
22,100.00	89.08	90.10	7,066.77	731.58	15,726.60	15,696.08	0.00	0.00	0.00	
22,200.00	89.08	90.10	7,068.37	731.40	15,826.59	15,796.02	0.00	0.00	0.00	
22,300.00	89.08	90.10	7,069.97	731.22	15,926.58	15,895.96	0.00	0.00	0.00	
22,400.00	89.08	90.10	7,071.58	731.05	16,026.56	15,995.91	0.00	0.00	0.00	
22,500.00	89.08	90.10	7,073.18	730.87	16,126.55	16,095.85	0.00	0.00	0.00	
22,600.00	89.08	90.10	7,074.78	730.69	16,226.54	16,195.80	0.00	0.00	0.00	
22,675.84	89.08	90.10	7,076.00	730.56	16,302.37	16,271.59	0.00	0.00	0.00	
TD Well @ 22675.84ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,513.30	1,500.00	9 5/8"	9-5/8	13-1/2	
22,675.84	7,076.00	5.5" CSG	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
694.15	694.00	Fox Hills				
2,362.17	2,292.00	Parkman				
3,715.78	3,538.00	Sussex				
7,133.91	6,810.00	Sharon Springs				
7,180.72	6,837.00	Niobrara				
7,379.44	6,922.00	Nio B				

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-1HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4834.00usft (RIG)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4834.00usft (RIG)
Site:	3N-67W-08 BERRY FARMS 8-8HZ PAD	North Reference:	True
Well:	BERRY FARMS 8-1HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
460.00	460.00	0.00	0.00	Begin Nudge @ 460.00ft
1,993.33	1,952.48	279.26	119.23	Hold Tangent @ 1993.33ft
4,036.49	3,833.22	1,013.47	432.70	Begin Drop @ 4036.49ft
5,186.49	4,952.58	1,222.91	522.12	Hold Vertical @ 5186.49ft
6,472.72	6,238.81	1,222.91	522.12	KOP @ 6472.72ft :: DLS = 8"/100'
7,594.72	6,955.00	1,160.76	1,232.61	End Build @ 7594.72ft
7,794.72	6,955.84	1,143.32	1,431.84	Begin Turn for AC @ 7794.72ft
8,087.36	6,957.06	1,129.01	1,724.06	End Turn @ 8087.36ft
15,691.27	6,988.61	1,048.00	9,327.47	Begin Turn to Deflection @ 15691.27ft
15,765.80	6,988.92	1,046.48	9,401.98	End Turn @ 15765.80ft
17,714.14	6,997.00	987.72	11,349.42	Begin Turn for AC @ 17714.14ft
17,853.20	6,998.41	981.14	11,488.31	End Turn @ 17853.20ft
21,591.72	7,058.61	740.00	15,218.56	Begin Turn to BHL @ 21591.72ft
21,831.51	7,062.46	732.05	15,458.15	End Turn @ 21831.51ft
22,675.84	7,076.00	730.56	16,302.37	TD Well @ 22675.84ft