

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

BERRY FARMS 8-6HZ

Plan A

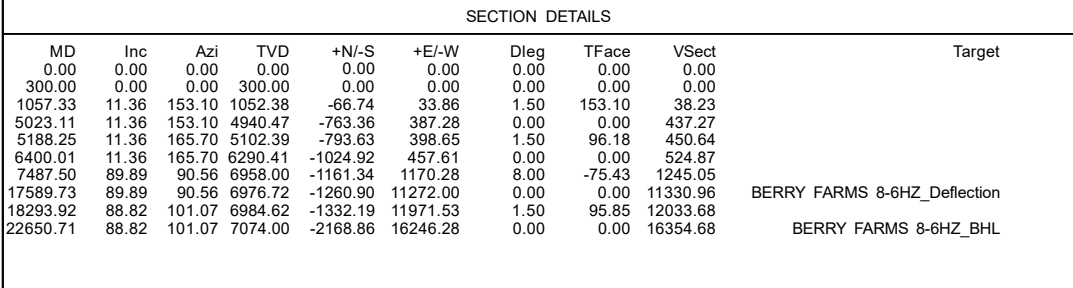
Plan: Permit Rev-2

Standard Planning Report

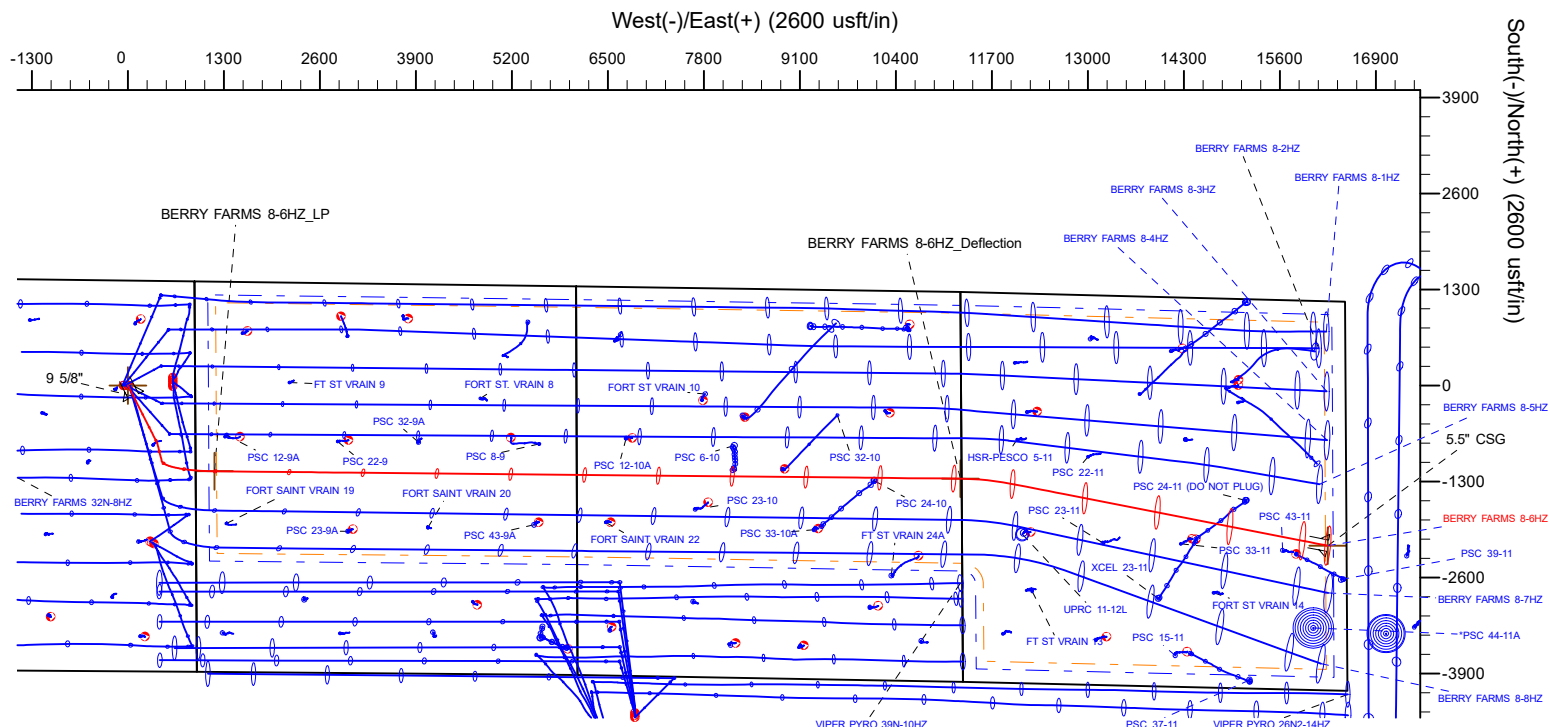
17 November, 2021

US ROCKIES WATTENBERG PLANNING

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1513.90	9 5/8"	9-5/8
7074.00	22650.71	5.5" CSG	5-1/2

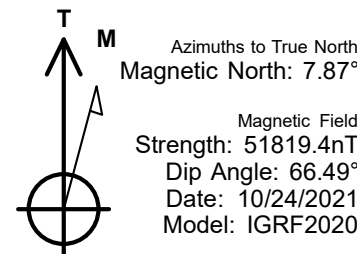


WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	Northing	Easting	Latitude	Longitude
BERRY FARMS 8-6HZ_SHL	0.00	14615497.02	1666068.60	40.243720	-104.908075
BERRY FARMS 8-6HZ_LP	6958.00	14614336.89	1667240.08	40.240531	-104.903881
BERRY FARMS 8-6HZ_BHL	7074.00	14613345.00	1682317.12	40.237750	-104.849861



WELL DETAILS: BERRY FARMS 8-6HZ
GL = 4817'
RKB = 17' @ 4834.00usft (RIG)
Plan: Permit Rev-2 (BERRY FARMS 8-6HZ/Plan A)
Date: 11/17/2021

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
694.00	694.70	Fox Hills
2292.00	2321.72	Parkman
3538.00	3592.62	Sussex
6810.00	7015.58	Sharon Springs
6837.00	7062.40	Niobrara
6922.00	7258.68	Nio B



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-6HZ
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 8-6HZ	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 8-6HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,615,497.02 usft	Latitude:	40.243720
	+E/-W	0.00 usft	Easting:	1,666,068.60 usft	Longitude:	-104.908075
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	51,819.36062738

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	93.82	

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	22,650.71	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +	

Planning Report

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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 8-6HZ	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,057.33	11.36	153.10	1,052.38	-66.74	33.86	1.50	1.50	0.00	153.10	
5,023.11	11.36	153.10	4,940.47	-763.36	387.28	0.00	0.00	0.00	0.00	
5,188.25	11.36	165.70	5,102.39	-793.63	398.65	1.50	0.00	7.63	96.18	
6,400.01	11.36	165.70	6,290.41	-1,024.92	457.61	0.00	0.00	0.00	0.00	
7,487.50	89.89	90.56	6,958.00	-1,161.34	1,170.28	8.00	7.22	-6.91	-75.43	
17,589.73	89.89	90.56	6,976.72	-1,260.90	11,272.00	0.00	0.00	0.00	0.00	BERRY FARMS 8-6H
18,293.92	88.82	101.07	6,984.62	-1,332.19	11,971.53	1.50	-0.15	1.49	95.85	
22,650.71	88.82	101.07	7,074.00	-2,168.86	16,246.29	0.00	0.00	0.00	0.00	BERRY FARMS 8-6H

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-6HZ
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 8-6HZ	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
Begin Nudge @ 300.00ft									
400.00	1.50	153.10	399.99	-1.17	0.59	0.67	1.50	1.50	0.00
500.00	3.00	153.10	499.91	-4.67	2.37	2.67	1.50	1.50	0.00
600.00	4.50	153.10	599.69	-10.50	5.33	6.02	1.50	1.50	0.00
694.70	5.92	153.10	694.00	-18.17	9.22	10.41	1.50	1.50	0.00
Fox Hills									
700.00	6.00	153.10	699.27	-18.66	9.47	10.69	1.50	1.50	0.00
800.00	7.50	153.10	798.57	-29.14	14.78	16.69	1.50	1.50	0.00
900.00	9.00	153.10	897.54	-41.94	21.28	24.02	1.50	1.50	0.00
1,000.00	10.50	153.10	996.09	-57.04	28.94	32.67	1.50	1.50	0.00
1,057.33	11.36	153.10	1,052.38	-66.74	33.86	38.23	1.50	1.50	0.00
Hold Tangent @ 1057.33ft									
1,100.00	11.36	153.10	1,094.21	-74.23	37.66	42.52	0.00	0.00	0.00
1,200.00	11.36	153.10	1,192.25	-91.80	46.57	52.58	0.00	0.00	0.00
1,300.00	11.36	153.10	1,290.29	-109.36	55.48	62.65	0.00	0.00	0.00
1,400.00	11.36	153.10	1,388.33	-126.93	64.39	72.71	0.00	0.00	0.00
1,500.00	11.36	153.10	1,486.38	-144.49	73.31	82.77	0.00	0.00	0.00
1,513.90	11.36	153.10	1,500.00	-146.94	74.54	84.17	0.00	0.00	0.00
9 5/8"									
1,600.00	11.36	153.10	1,584.42	-162.06	82.22	92.83	0.00	0.00	0.00
1,700.00	11.36	153.10	1,682.46	-179.63	91.13	102.89	0.00	0.00	0.00
1,800.00	11.36	153.10	1,780.50	-197.19	100.04	112.96	0.00	0.00	0.00
1,900.00	11.36	153.10	1,878.54	-214.76	108.95	123.02	0.00	0.00	0.00
2,000.00	11.36	153.10	1,976.58	-232.32	117.86	133.08	0.00	0.00	0.00
2,100.00	11.36	153.10	2,074.62	-249.89	126.78	143.14	0.00	0.00	0.00
2,200.00	11.36	153.10	2,172.66	-267.46	135.69	153.21	0.00	0.00	0.00
2,300.00	11.36	153.10	2,270.70	-285.02	144.60	163.27	0.00	0.00	0.00
2,321.72	11.36	153.10	2,292.00	-288.84	146.54	165.45	0.00	0.00	0.00
Parkman									
2,400.00	11.36	153.10	2,368.74	-302.59	153.51	173.33	0.00	0.00	0.00
2,500.00	11.36	153.10	2,466.78	-320.15	162.42	183.39	0.00	0.00	0.00
2,600.00	11.36	153.10	2,564.83	-337.72	171.34	193.45	0.00	0.00	0.00
2,700.00	11.36	153.10	2,662.87	-355.29	180.25	203.52	0.00	0.00	0.00
2,800.00	11.36	153.10	2,760.91	-372.85	189.16	213.58	0.00	0.00	0.00
2,900.00	11.36	153.10	2,858.95	-390.42	198.07	223.64	0.00	0.00	0.00
3,000.00	11.36	153.10	2,956.99	-407.98	206.98	233.70	0.00	0.00	0.00
3,100.00	11.36	153.10	3,055.03	-425.55	215.89	243.77	0.00	0.00	0.00
3,200.00	11.36	153.10	3,153.07	-443.12	224.81	253.83	0.00	0.00	0.00
3,300.00	11.36	153.10	3,251.11	-460.68	233.72	263.89	0.00	0.00	0.00
3,400.00	11.36	153.10	3,349.15	-478.25	242.63	273.95	0.00	0.00	0.00
3,500.00	11.36	153.10	3,447.19	-495.81	251.54	284.01	0.00	0.00	0.00
3,592.62	11.36	153.10	3,538.00	-512.08	259.80	293.33	0.00	0.00	0.00
Sussex									
3,600.00	11.36	153.10	3,545.23	-513.38	260.45	294.08	0.00	0.00	0.00
3,700.00	11.36	153.10	3,643.28	-530.95	269.36	304.14	0.00	0.00	0.00
3,800.00	11.36	153.10	3,741.32	-548.51	278.28	314.20	0.00	0.00	0.00
3,900.00	11.36	153.10	3,839.36	-566.08	287.19	324.26	0.00	0.00	0.00
4,000.00	11.36	153.10	3,937.40	-583.64	296.10	334.33	0.00	0.00	0.00
4,100.00	11.36	153.10	4,035.44	-601.21	305.01	344.39	0.00	0.00	0.00

Planning Report

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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 8-6HZ	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)	
4,200.00	11.36	153.10	4,133.48	-618.78	313.92	354.45	0.00	0.00	0.00	
4,300.00	11.36	153.10	4,231.52	-636.34	322.83	364.51	0.00	0.00	0.00	
4,400.00	11.36	153.10	4,329.56	-653.91	331.75	374.57	0.00	0.00	0.00	
4,500.00	11.36	153.10	4,427.60	-671.47	340.66	384.64	0.00	0.00	0.00	
4,600.00	11.36	153.10	4,525.64	-689.04	349.57	394.70	0.00	0.00	0.00	
4,700.00	11.36	153.10	4,623.68	-706.61	358.48	404.76	0.00	0.00	0.00	
4,800.00	11.36	153.10	4,721.73	-724.17	367.39	414.82	0.00	0.00	0.00	
4,900.00	11.36	153.10	4,819.77	-741.74	376.31	424.89	0.00	0.00	0.00	
5,000.00	11.36	153.10	4,917.81	-759.30	385.22	434.95	0.00	0.00	0.00	
5,023.11	11.36	153.10	4,940.47	-763.36	387.28	437.27	0.00	0.00	0.00	
Change Tangent Direction @ 5023.11ft										
5,100.00	11.29	158.96	5,015.86	-777.14	393.41	444.31	1.50	-0.09	7.63	
5,188.25	11.36	165.70	5,102.39	-793.63	398.65	450.64	1.50	0.08	7.63	
Hold Tangent @ 5188.25ft										
5,200.00	11.36	165.70	5,113.91	-795.88	399.23	451.36	0.00	0.00	0.00	
5,300.00	11.36	165.70	5,211.95	-814.96	404.09	457.49	0.00	0.00	0.00	
5,400.00	11.36	165.70	5,310.00	-834.05	408.96	463.61	0.00	0.00	0.00	
5,500.00	11.36	165.70	5,408.04	-853.14	413.82	469.74	0.00	0.00	0.00	
5,600.00	11.36	165.70	5,506.08	-872.22	418.69	475.87	0.00	0.00	0.00	
5,700.00	11.36	165.70	5,604.12	-891.31	423.55	481.99	0.00	0.00	0.00	
5,800.00	11.36	165.70	5,702.16	-910.40	428.42	488.12	0.00	0.00	0.00	
5,900.00	11.36	165.70	5,800.20	-929.48	433.28	494.24	0.00	0.00	0.00	
6,000.00	11.36	165.70	5,898.24	-948.57	438.15	500.37	0.00	0.00	0.00	
6,100.00	11.36	165.70	5,996.28	-967.66	443.01	506.50	0.00	0.00	0.00	
6,200.00	11.36	165.70	6,094.32	-986.75	447.88	512.62	0.00	0.00	0.00	
6,300.00	11.36	165.70	6,192.36	-1,005.83	452.74	518.75	0.00	0.00	0.00	
6,400.01	11.36	165.70	6,290.41	-1,024.92	457.61	524.87	0.00	0.00	0.00	
KOP @ 6400.01ft :: DLS = 8°/100'										
6,450.00	12.95	148.17	6,339.30	-1,034.45	461.78	529.67	8.00	3.18	-35.07	
6,500.00	15.43	135.28	6,387.78	-1,043.94	469.42	537.92	8.00	4.95	-25.78	
6,550.00	18.43	126.18	6,435.62	-1,053.34	480.48	549.59	8.00	6.02	-18.19	
6,600.00	21.75	119.67	6,482.57	-1,062.60	494.92	564.61	8.00	6.64	-13.03	
6,650.00	25.26	114.84	6,528.42	-1,071.67	512.66	582.92	8.00	7.02	-9.64	
6,700.00	28.90	111.15	6,572.94	-1,080.51	533.62	604.42	8.00	7.26	-7.39	
6,750.00	32.61	108.22	6,615.90	-1,089.09	557.69	629.01	8.00	7.42	-5.86	
6,800.00	36.37	105.83	6,657.11	-1,097.34	584.76	656.57	8.00	7.53	-4.77	
6,850.00	40.18	103.84	6,696.35	-1,105.25	614.70	686.97	8.00	7.61	-3.98	
6,900.00	44.01	102.14	6,733.45	-1,112.77	647.35	720.05	8.00	7.67	-3.40	
6,950.00	47.87	100.66	6,768.22	-1,119.85	682.57	755.66	8.00	7.71	-2.96	
7,000.00	51.74	99.35	6,800.48	-1,126.48	720.17	793.62	8.00	7.75	-2.62	
7,015.58	52.95	98.97	6,810.00	-1,128.44	732.35	805.90	8.00	7.76	-2.43	
Sharon Springs										
7,050.00	55.63	98.18	6,830.09	-1,132.60	759.98	833.75	8.00	7.78	-2.31	
7,062.40	56.59	97.90	6,837.00	-1,134.04	770.17	844.01	8.00	7.79	-2.21	
Niobrara										
7,100.00	59.52	97.11	6,856.89	-1,138.21	801.80	875.85	8.00	7.80	-2.12	
7,150.00	63.43	96.12	6,880.76	-1,143.26	845.43	919.72	8.00	7.81	-1.98	
7,200.00	67.34	95.19	6,901.59	-1,147.73	890.66	965.15	8.00	7.82	-1.85	
7,250.00	71.26	94.32	6,919.26	-1,151.61	937.26	1,011.90	8.00	7.83	-1.74	
7,258.68	71.94	94.18	6,922.00	-1,152.22	945.47	1,020.13	8.00	7.84	-1.69	
Nio B										
7,300.00	75.18	93.49	6,933.70	-1,154.86	985.01	1,059.76	8.00	7.84	-1.66	
7,350.00	79.10	92.69	6,944.83	-1,157.49	1,033.68	1,108.49	8.00	7.85	-1.61	

Planning Report

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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 8-6HZ	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)
7,400.00	83.02	91.91	6,952.59	-1,159.46	1,083.02	1,157.86	8.00	7.85	-1.56
7,450.00	86.95	91.14	6,956.96	-1,160.79	1,132.80	1,207.62	8.00	7.85	-1.54
7,487.50	89.89	90.56	6,958.00	-1,161.34	1,170.28	1,245.05	8.00	7.85	-1.53
End Build @ 7487.50ft									
7,500.00	89.89	90.56	6,958.02	-1,161.46	1,182.78	1,257.53	0.00	0.00	0.00
7,600.00	89.89	90.56	6,958.21	-1,162.45	1,282.77	1,357.37	0.00	0.00	0.00
7,700.00	89.89	90.56	6,958.39	-1,163.44	1,382.77	1,457.20	0.00	0.00	0.00
7,800.00	89.89	90.56	6,958.58	-1,164.42	1,482.76	1,557.04	0.00	0.00	0.00
7,900.00	89.89	90.56	6,958.76	-1,165.41	1,582.76	1,656.88	0.00	0.00	0.00
8,000.00	89.89	90.56	6,958.95	-1,166.39	1,682.75	1,756.72	0.00	0.00	0.00
8,100.00	89.89	90.56	6,959.13	-1,167.38	1,782.75	1,856.56	0.00	0.00	0.00
8,200.00	89.89	90.56	6,959.32	-1,168.36	1,882.74	1,956.40	0.00	0.00	0.00
8,300.00	89.89	90.56	6,959.50	-1,169.35	1,982.74	2,056.24	0.00	0.00	0.00
8,400.00	89.89	90.56	6,959.69	-1,170.33	2,082.73	2,156.07	0.00	0.00	0.00
8,500.00	89.89	90.56	6,959.87	-1,171.32	2,182.73	2,255.91	0.00	0.00	0.00
8,600.00	89.89	90.56	6,960.06	-1,172.31	2,282.72	2,355.75	0.00	0.00	0.00
8,700.00	89.89	90.56	6,960.24	-1,173.29	2,382.72	2,455.59	0.00	0.00	0.00
8,800.00	89.89	90.56	6,960.43	-1,174.28	2,482.71	2,555.43	0.00	0.00	0.00
8,900.00	89.89	90.56	6,960.61	-1,175.26	2,582.71	2,655.27	0.00	0.00	0.00
9,000.00	89.89	90.56	6,960.80	-1,176.25	2,682.70	2,755.10	0.00	0.00	0.00
9,100.00	89.89	90.56	6,960.99	-1,177.23	2,782.70	2,854.94	0.00	0.00	0.00
9,200.00	89.89	90.56	6,961.17	-1,178.22	2,882.69	2,954.78	0.00	0.00	0.00
9,300.00	89.89	90.56	6,961.36	-1,179.20	2,982.69	3,054.62	0.00	0.00	0.00
9,400.00	89.89	90.56	6,961.54	-1,180.19	3,082.68	3,154.46	0.00	0.00	0.00
9,500.00	89.89	90.56	6,961.73	-1,181.18	3,182.68	3,254.30	0.00	0.00	0.00
9,600.00	89.89	90.56	6,961.91	-1,182.16	3,282.67	3,354.14	0.00	0.00	0.00
9,700.00	89.89	90.56	6,962.10	-1,183.15	3,382.67	3,453.97	0.00	0.00	0.00
9,800.00	89.89	90.56	6,962.28	-1,184.13	3,482.66	3,553.81	0.00	0.00	0.00
9,900.00	89.89	90.56	6,962.47	-1,185.12	3,582.66	3,653.65	0.00	0.00	0.00
10,000.00	89.89	90.56	6,962.65	-1,186.10	3,682.65	3,753.49	0.00	0.00	0.00
10,100.00	89.89	90.56	6,962.84	-1,187.09	3,782.65	3,853.33	0.00	0.00	0.00
10,200.00	89.89	90.56	6,963.02	-1,188.07	3,882.64	3,953.17	0.00	0.00	0.00
10,300.00	89.89	90.56	6,963.21	-1,189.06	3,982.64	4,053.00	0.00	0.00	0.00
10,400.00	89.89	90.56	6,963.39	-1,190.05	4,082.63	4,152.84	0.00	0.00	0.00
10,500.00	89.89	90.56	6,963.58	-1,191.03	4,182.63	4,252.68	0.00	0.00	0.00
10,600.00	89.89	90.56	6,963.76	-1,192.02	4,282.62	4,352.52	0.00	0.00	0.00
10,700.00	89.89	90.56	6,963.95	-1,193.00	4,382.62	4,452.36	0.00	0.00	0.00
10,800.00	89.89	90.56	6,964.14	-1,193.99	4,482.61	4,552.20	0.00	0.00	0.00
10,900.00	89.89	90.56	6,964.32	-1,194.97	4,582.60	4,652.04	0.00	0.00	0.00
11,000.00	89.89	90.56	6,964.51	-1,195.96	4,682.60	4,751.87	0.00	0.00	0.00
11,100.00	89.89	90.56	6,964.69	-1,196.94	4,782.59	4,851.71	0.00	0.00	0.00
11,200.00	89.89	90.56	6,964.88	-1,197.93	4,882.59	4,951.55	0.00	0.00	0.00
11,300.00	89.89	90.56	6,965.06	-1,198.92	4,982.58	5,051.39	0.00	0.00	0.00
11,400.00	89.89	90.56	6,965.25	-1,199.90	5,082.58	5,151.23	0.00	0.00	0.00
11,500.00	89.89	90.56	6,965.43	-1,200.89	5,182.57	5,251.07	0.00	0.00	0.00
11,600.00	89.89	90.56	6,965.62	-1,201.87	5,282.57	5,350.90	0.00	0.00	0.00
11,700.00	89.89	90.56	6,965.80	-1,202.86	5,382.56	5,450.74	0.00	0.00	0.00
11,800.00	89.89	90.56	6,965.99	-1,203.84	5,482.56	5,550.58	0.00	0.00	0.00
11,900.00	89.89	90.56	6,966.17	-1,204.83	5,582.55	5,650.42	0.00	0.00	0.00
12,000.00	89.89	90.56	6,966.36	-1,205.81	5,682.55	5,750.26	0.00	0.00	0.00
12,100.00	89.89	90.56	6,966.54	-1,206.80	5,782.54	5,850.10	0.00	0.00	0.00
12,200.00	89.89	90.56	6,966.73	-1,207.79	5,882.54	5,949.94	0.00	0.00	0.00
12,300.00	89.89	90.56	6,966.91	-1,208.77	5,982.53	6,049.77	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-6HZ
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 8-6HZ	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)
12,400.00	89.89	90.56	6,967.10	-1,209.76	6,082.53	6,149.61	0.00	0.00	0.00
12,500.00	89.89	90.56	6,967.29	-1,210.74	6,182.52	6,249.45	0.00	0.00	0.00
12,600.00	89.89	90.56	6,967.47	-1,211.73	6,282.52	6,349.29	0.00	0.00	0.00
12,700.00	89.89	90.56	6,967.66	-1,212.71	6,382.51	6,449.13	0.00	0.00	0.00
12,800.00	89.89	90.56	6,967.84	-1,213.70	6,482.51	6,548.97	0.00	0.00	0.00
12,900.00	89.89	90.56	6,968.03	-1,214.68	6,582.50	6,648.80	0.00	0.00	0.00
13,000.00	89.89	90.56	6,968.21	-1,215.67	6,682.50	6,748.64	0.00	0.00	0.00
13,100.00	89.89	90.56	6,968.40	-1,216.66	6,782.49	6,848.48	0.00	0.00	0.00
13,200.00	89.89	90.56	6,968.58	-1,217.64	6,882.49	6,948.32	0.00	0.00	0.00
13,300.00	89.89	90.56	6,968.77	-1,218.63	6,982.48	7,048.16	0.00	0.00	0.00
13,400.00	89.89	90.56	6,968.95	-1,219.61	7,082.48	7,148.00	0.00	0.00	0.00
13,500.00	89.89	90.56	6,969.14	-1,220.60	7,182.47	7,247.84	0.00	0.00	0.00
13,600.00	89.89	90.56	6,969.32	-1,221.58	7,282.47	7,347.67	0.00	0.00	0.00
13,700.00	89.89	90.56	6,969.51	-1,222.57	7,382.46	7,447.51	0.00	0.00	0.00
13,800.00	89.89	90.56	6,969.69	-1,223.55	7,482.46	7,547.35	0.00	0.00	0.00
13,900.00	89.89	90.56	6,969.88	-1,224.54	7,582.45	7,647.19	0.00	0.00	0.00
14,000.00	89.89	90.56	6,970.07	-1,225.53	7,682.45	7,747.03	0.00	0.00	0.00
14,100.00	89.89	90.56	6,970.25	-1,226.51	7,782.44	7,846.87	0.00	0.00	0.00
14,200.00	89.89	90.56	6,970.44	-1,227.50	7,882.44	7,946.71	0.00	0.00	0.00
14,300.00	89.89	90.56	6,970.62	-1,228.48	7,982.43	8,046.54	0.00	0.00	0.00
14,400.00	89.89	90.56	6,970.81	-1,229.47	8,082.43	8,146.38	0.00	0.00	0.00
14,500.00	89.89	90.56	6,970.99	-1,230.45	8,182.42	8,246.22	0.00	0.00	0.00
14,600.00	89.89	90.56	6,971.18	-1,231.44	8,282.42	8,346.06	0.00	0.00	0.00
14,700.00	89.89	90.56	6,971.36	-1,232.42	8,382.41	8,445.90	0.00	0.00	0.00
14,800.00	89.89	90.56	6,971.55	-1,233.41	8,482.41	8,545.74	0.00	0.00	0.00
14,900.00	89.89	90.56	6,971.73	-1,234.40	8,582.40	8,645.57	0.00	0.00	0.00
15,000.00	89.89	90.56	6,971.92	-1,235.38	8,682.40	8,745.41	0.00	0.00	0.00
15,100.00	89.89	90.56	6,972.10	-1,236.37	8,782.39	8,845.25	0.00	0.00	0.00
15,200.00	89.89	90.56	6,972.29	-1,237.35	8,882.39	8,945.09	0.00	0.00	0.00
15,300.00	89.89	90.56	6,972.47	-1,238.34	8,982.38	9,044.93	0.00	0.00	0.00
15,400.00	89.89	90.56	6,972.66	-1,239.32	9,082.38	9,144.77	0.00	0.00	0.00
15,500.00	89.89	90.56	6,972.84	-1,240.31	9,182.37	9,244.61	0.00	0.00	0.00
15,600.00	89.89	90.56	6,973.03	-1,241.29	9,282.37	9,344.44	0.00	0.00	0.00
15,700.00	89.89	90.56	6,973.22	-1,242.28	9,382.36	9,444.28	0.00	0.00	0.00
15,800.00	89.89	90.56	6,973.40	-1,243.27	9,482.36	9,544.12	0.00	0.00	0.00
15,900.00	89.89	90.56	6,973.59	-1,244.25	9,582.35	9,643.96	0.00	0.00	0.00
16,000.00	89.89	90.56	6,973.77	-1,245.24	9,682.35	9,743.80	0.00	0.00	0.00
16,100.00	89.89	90.56	6,973.96	-1,246.22	9,782.34	9,843.64	0.00	0.00	0.00
16,200.00	89.89	90.56	6,974.14	-1,247.21	9,882.34	9,943.47	0.00	0.00	0.00
16,300.00	89.89	90.56	6,974.33	-1,248.19	9,982.33	10,043.31	0.00	0.00	0.00
16,400.00	89.89	90.56	6,974.51	-1,249.18	10,082.33	10,143.15	0.00	0.00	0.00
16,500.00	89.89	90.56	6,974.70	-1,250.16	10,182.32	10,242.99	0.00	0.00	0.00
16,600.00	89.89	90.56	6,974.88	-1,251.15	10,282.32	10,342.83	0.00	0.00	0.00
16,700.00	89.89	90.56	6,975.07	-1,252.14	10,382.31	10,442.67	0.00	0.00	0.00
16,800.00	89.89	90.56	6,975.25	-1,253.12	10,482.31	10,542.51	0.00	0.00	0.00
16,900.00	89.89	90.56	6,975.44	-1,254.11	10,582.30	10,642.34	0.00	0.00	0.00
17,000.00	89.89	90.56	6,975.62	-1,255.09	10,682.30	10,742.18	0.00	0.00	0.00
17,100.00	89.89	90.56	6,975.81	-1,256.08	10,782.29	10,842.02	0.00	0.00	0.00
17,200.00	89.89	90.56	6,975.99	-1,257.06	10,882.29	10,941.86	0.00	0.00	0.00
17,300.00	89.89	90.56	6,976.18	-1,258.05	10,982.28	11,041.70	0.00	0.00	0.00
17,400.00	89.89	90.56	6,976.37	-1,259.03	11,082.28	11,141.54	0.00	0.00	0.00
17,500.00	89.89	90.56	6,976.55	-1,260.02	11,182.27	11,241.37	0.00	0.00	0.00
17,589.73	89.89	90.56	6,976.72	-1,260.90	11,272.00	11,330.96	0.00	0.00	0.00
Begin Turn to BHL @ 17589.73ft									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-6HZ
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 8-6HZ	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)
17,600.00	89.88	90.72	6,976.74	-1,261.02	11,282.27	11,341.21	1.50	-0.15	1.49
17,700.00	89.73	92.21	6,977.08	-1,263.57	11,382.23	11,441.13	1.50	-0.15	1.49
17,800.00	89.57	93.70	6,977.70	-1,268.73	11,482.09	11,541.11	1.50	-0.15	1.49
17,900.00	89.42	95.19	6,978.58	-1,276.49	11,581.79	11,641.10	1.50	-0.15	1.49
18,000.00	89.27	96.69	6,979.72	-1,286.84	11,681.24	11,741.02	1.50	-0.15	1.49
18,100.00	89.12	98.18	6,981.13	-1,299.77	11,780.39	11,840.81	1.50	-0.15	1.49
18,200.00	88.97	99.67	6,982.80	-1,315.28	11,879.16	11,940.39	1.50	-0.15	1.49
18,293.92	88.82	101.07	6,984.62	-1,332.19	11,971.53	12,033.68	1.50	-0.15	1.49
End Turn @ 18293.92ft									
18,300.00	88.82	101.07	6,984.74	-1,333.36	11,977.49	12,039.71	0.00	0.00	0.00
18,400.00	88.82	101.07	6,986.79	-1,352.56	12,075.61	12,138.89	0.00	0.00	0.00
18,500.00	88.82	101.07	6,988.84	-1,371.77	12,173.72	12,238.07	0.00	0.00	0.00
18,600.00	88.82	101.07	6,990.90	-1,390.97	12,271.84	12,337.25	0.00	0.00	0.00
18,700.00	88.82	101.07	6,992.95	-1,410.18	12,369.96	12,436.43	0.00	0.00	0.00
18,800.00	88.82	101.07	6,995.00	-1,429.38	12,468.08	12,535.60	0.00	0.00	0.00
18,900.00	88.82	101.07	6,997.05	-1,448.58	12,566.19	12,634.78	0.00	0.00	0.00
19,000.00	88.82	101.07	6,999.10	-1,467.79	12,664.31	12,733.96	0.00	0.00	0.00
19,100.00	88.82	101.07	7,001.15	-1,486.99	12,762.43	12,833.14	0.00	0.00	0.00
19,200.00	88.82	101.07	7,003.20	-1,506.19	12,860.55	12,932.32	0.00	0.00	0.00
19,300.00	88.82	101.07	7,005.26	-1,525.40	12,958.66	13,031.50	0.00	0.00	0.00
19,400.00	88.82	101.07	7,007.31	-1,544.60	13,056.78	13,130.68	0.00	0.00	0.00
19,500.00	88.82	101.07	7,009.36	-1,563.81	13,154.90	13,229.86	0.00	0.00	0.00
19,600.00	88.82	101.07	7,011.41	-1,583.01	13,253.02	13,329.03	0.00	0.00	0.00
19,700.00	88.82	101.07	7,013.46	-1,602.21	13,351.13	13,428.21	0.00	0.00	0.00
19,800.00	88.82	101.07	7,015.51	-1,621.42	13,449.25	13,527.39	0.00	0.00	0.00
19,900.00	88.82	101.07	7,017.57	-1,640.62	13,547.37	13,626.57	0.00	0.00	0.00
20,000.00	88.82	101.07	7,019.62	-1,659.82	13,645.48	13,725.75	0.00	0.00	0.00
20,100.00	88.82	101.07	7,021.67	-1,679.03	13,743.60	13,824.93	0.00	0.00	0.00
20,200.00	88.82	101.07	7,023.72	-1,698.23	13,841.72	13,924.11	0.00	0.00	0.00
20,300.00	88.82	101.07	7,025.77	-1,717.44	13,939.84	14,023.29	0.00	0.00	0.00
20,400.00	88.82	101.07	7,027.82	-1,736.64	14,037.95	14,122.46	0.00	0.00	0.00
20,500.00	88.82	101.07	7,029.88	-1,755.84	14,136.07	14,221.64	0.00	0.00	0.00
20,600.00	88.82	101.07	7,031.93	-1,775.05	14,234.19	14,320.82	0.00	0.00	0.00
20,700.00	88.82	101.07	7,033.98	-1,794.25	14,332.31	14,420.00	0.00	0.00	0.00
20,800.00	88.82	101.07	7,036.03	-1,813.45	14,430.42	14,519.18	0.00	0.00	0.00
20,900.00	88.82	101.07	7,038.08	-1,832.66	14,528.54	14,618.36	0.00	0.00	0.00
21,000.00	88.82	101.07	7,040.13	-1,851.86	14,626.66	14,717.54	0.00	0.00	0.00
21,100.00	88.82	101.07	7,042.19	-1,871.07	14,724.77	14,816.71	0.00	0.00	0.00
21,200.00	88.82	101.07	7,044.24	-1,890.27	14,822.89	14,915.89	0.00	0.00	0.00
21,300.00	88.82	101.07	7,046.29	-1,909.47	14,921.01	15,015.07	0.00	0.00	0.00
21,400.00	88.82	101.07	7,048.34	-1,928.68	15,019.13	15,114.25	0.00	0.00	0.00
21,500.00	88.82	101.07	7,050.39	-1,947.88	15,117.24	15,213.43	0.00	0.00	0.00
21,600.00	88.82	101.07	7,052.44	-1,967.08	15,215.36	15,312.61	0.00	0.00	0.00
21,700.00	88.82	101.07	7,054.50	-1,986.29	15,313.48	15,411.79	0.00	0.00	0.00
21,800.00	88.82	101.07	7,056.55	-2,005.49	15,411.60	15,510.97	0.00	0.00	0.00
21,900.00	88.82	101.07	7,058.60	-2,024.70	15,509.71	15,610.14	0.00	0.00	0.00
22,000.00	88.82	101.07	7,060.65	-2,043.90	15,607.83	15,709.32	0.00	0.00	0.00
22,100.00	88.82	101.07	7,062.70	-2,063.10	15,705.95	15,808.50	0.00	0.00	0.00
22,200.00	88.82	101.07	7,064.75	-2,082.31	15,804.07	15,907.68	0.00	0.00	0.00
22,300.00	88.82	101.07	7,066.81	-2,101.51	15,902.18	16,006.86	0.00	0.00	0.00
22,400.00	88.82	101.07	7,068.86	-2,120.72	16,000.30	16,106.04	0.00	0.00	0.00
22,500.00	88.82	101.07	7,070.91	-2,139.92	16,098.42	16,205.22	0.00	0.00	0.00
22,600.00	88.82	101.07	7,072.96	-2,159.12	16,196.53	16,304.40	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BERRY FARMS 8-6HZ
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 8-6HZ	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)
22,650.71	88.82	101.07	7,074.00	-2,168.86	16,246.29	16,354.68	0.00	0.00	0.00
TD Well @ 22650.71ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,513.90	1,500.00	9 5/8"	9-5/8	13-1/2	
22,650.71	7,074.00	5.5" CSG	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
694.70	694.00	Fox Hills				
2,321.72	2,292.00	Parkman				
3,592.62	3,538.00	Sussex				
7,015.58	6,810.00	Sharon Springs				
7,062.40	6,837.00	Niobrara				
7,258.68	6,922.00	Nio B				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
300.00	300.00	0.00	0.00	Begin Nudge @ 300.00ft
1,057.33	1,052.38	-66.74	33.86	Hold Tangent @ 1057.33ft
5,023.11	4,940.47	-763.36	387.28	Change Tangent Direction @ 5023.11ft
5,188.25	5,102.39	-793.63	398.65	Hold Tangent @ 5188.25ft
6,400.01	6,290.41	-1,024.92	457.61	KOP @ 6400.01ft :: DLS = 8°/100'
7,487.50	6,958.00	-1,161.34	1,170.28	End Build @ 7487.50ft
17,589.73	6,976.72	-1,260.90	11,272.00	Begin Turn to BHL @ 17589.73ft
18,293.92	6,984.62	-1,332.19	11,971.53	End Turn @ 18293.92ft
22,650.71	7,074.00	-2,168.86	16,246.29	TD Well @ 22650.71ft