



US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N

Site: Wilson Ranch 9-26HZ Pad 4N-68W-21

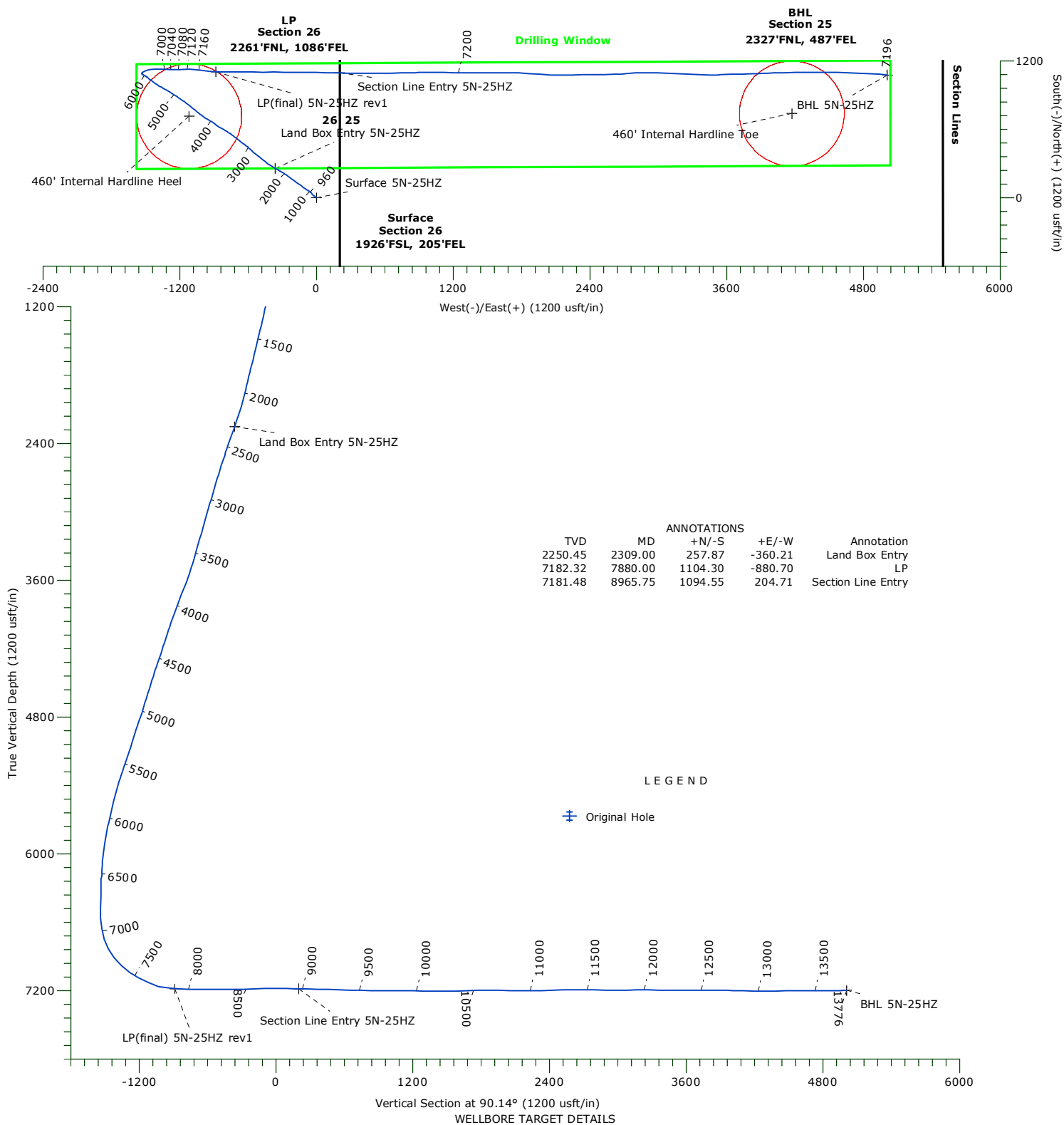
Well: Whisper Rock 5N-25HZ

Wellbore: Original Hole

Design: Original Hole



Precision
Directional Services



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
460' Internal Hardline Heel	-1.00	714.44	-1116.59	14630382.40	1650050.25	40.284628°N	104.965457°W	Circle (Radius: 460.00)
460' Internal Hardline Toe	-1.00	738.24	4173.53	14630408.50	1655340.36	40.284692°N	104.946488°W	Circle (Radius: 460.00)
Surface 5N-25HZ	0.00	0.00	0.00	14629668.45	1651167.15	40.282666°N	104.961453°W	Point
Land Box Entry 5N-25HZ	2250.45	257.87	-360.21	14629926.16	1650806.83	40.283374°N	104.962745°W	Point
Section Line Entry 5N-25HZ	7181.48	1094.55	204.71	14630763.09	1651371.38	40.285672°N	104.960719°W	Point
LP(final) 5N-25HZ rev1	7182.32	1104.30	-880.70	14630772.36	1650285.97	40.285698°N	104.964611°W	Point
BHL 5N-25HZ	7195.95	1077.45	5011.59	14630748.07	1656178.26	40.285623°N	104.943483°W	Point

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Whisper Rock 5N-25HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Site:	Wilson Ranch 9-26HZ Pad 4N-68W-26	MD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Well:	Whisper Rock 5N-25HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Single User

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	Wilson Ranch 9-26HZ Pad 4N-68W-26				
Site Position:		Northing:	14,629,668.44 usft	Latitude:	40.282666°N
From:	Lat/Long	Easting:	1,651,167.14 usft	Longitude:	104.961453°W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.02 °

Well	Whisper Rock 5N-25HZ					
Well Position	+N-S	0.00 usft	Northing:	14,629,668.44 usft	Latitude:	40.282666°N
	+E-W	0.00 usft	Easting:	1,651,167.14 usft	Longitude:	104.961453°W
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,041.00 usft

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/02/15	8.36	66.77	52,577

Design	Original Hole				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	90.14

Survey Program		Date	01/04/16	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
13.00	1,803.00	Survey #1 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:standard declination	
1,933.00	13,711.00	Survey #2 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:crustal field declination	
13,776.00	13,776.00	Survey #3 (Original Hole)	APC_BLIND	OWSG BLIND

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
460' Internal Hardline Toe - Surface 5N-25HZ - 460' Internal Hardline Heel										
	13.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00
	99.00	0.31	85.59	99.00	0.02	0.23	0.23	0.36	0.36	0.00
	189.00	0.88	309.00	189.00	0.47	-0.06	-0.06	1.25	0.63	-151.77
	278.00	2.00	299.20	277.97	1.66	-1.95	-1.95	1.28	1.26	-11.01
	383.00	2.55	305.66	382.88	3.91	-5.45	-5.46	0.58	0.52	6.15
	473.00	3.28	309.25	472.77	6.71	-9.07	-9.08	0.84	0.81	3.99
	563.00	4.63	308.17	562.55	10.59	-13.92	-13.94	1.50	1.50	-1.20

Precision Drilling Corporation

Survey Report

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Site:	Wilson Ranch 9-26HZ Pad 4N-68W-26	MD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Well:	Whisper Rock 5N-25HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Single User

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)
702.00	7.23	317.26	700.80	20.48	-24.27	-24.32	1.98	1.87	6.54
788.00	8.30	313.49	786.01	28.73	-32.44	-32.51	1.38	1.24	-4.38
878.00	9.46	310.74	874.93	38.02	-42.76	-42.85	1.37	1.29	-3.06
968.00	10.38	306.98	963.58	47.73	-54.84	-54.96	1.25	1.02	-4.18
1,058.00	11.04	305.57	1,052.02	57.62	-68.33	-68.47	0.79	0.73	-1.57
1,148.00	11.94	305.45	1,140.21	68.03	-82.92	-83.09	1.00	1.00	-0.13
1,238.00	12.89	305.07	1,228.11	79.20	-98.72	-98.91	1.06	1.06	-0.42
1,334.00	14.78	305.56	1,321.32	92.47	-117.45	-117.67	1.97	1.97	0.51
1,418.00	16.14	306.44	1,402.27	105.64	-135.56	-135.82	1.64	1.62	1.05
1,508.00	16.40	305.84	1,488.67	120.51	-155.92	-156.22	0.34	0.29	-0.67
1,598.00	16.76	306.07	1,574.93	135.59	-176.71	-177.04	0.41	0.40	0.26
1,688.00	17.88	307.41	1,660.85	151.62	-198.17	-198.54	1.32	1.24	1.49
1,779.00	17.55	306.88	1,747.53	168.34	-220.24	-220.66	0.40	-0.36	-0.58
1,803.00	17.75	306.39	1,770.40	172.69	-226.08	-226.50	1.04	0.83	-2.04
1,933.00	15.48	306.38	1,894.97	194.74	-256.01	-256.48	1.75	-1.75	-0.01
2,025.00	17.41	304.27	1,983.20	209.77	-277.27	-277.78	2.20	2.10	-2.29
2,119.00	19.35	299.70	2,072.40	225.41	-302.42	-302.97	2.57	2.06	-4.86
2,212.00	20.14	298.82	2,159.94	240.76	-329.83	-330.42	0.91	0.85	-0.95
2,304.00	21.90	299.88	2,245.81	256.94	-358.59	-359.21	1.96	1.91	1.15
2,309.00	21.95	299.86	2,250.45	257.87	-360.21	-360.83	0.96	0.95	-0.41
Land Box Entry 5N-25HZ									
2,396.00	22.77	299.52	2,330.91	274.26	-388.96	-389.63	0.96	0.95	-0.39
2,490.00	22.07	302.86	2,417.81	292.81	-419.62	-420.34	1.55	-0.74	3.55
2,582.00	23.13	309.02	2,502.75	313.57	-448.18	-448.95	2.82	1.15	6.70
2,675.00	23.13	310.07	2,588.28	336.82	-476.35	-477.18	0.44	0.00	1.13
2,768.00	22.16	309.54	2,674.11	359.75	-503.86	-504.74	1.07	-1.04	-0.57
2,860.00	19.79	306.73	2,760.01	380.11	-529.73	-530.65	2.80	-2.58	-3.05
2,953.00	20.75	313.41	2,847.26	400.85	-554.32	-555.29	2.69	1.03	7.18
3,045.00	22.51	311.30	2,932.78	423.68	-579.39	-580.42	2.09	1.91	-2.29
3,138.00	20.31	309.37	3,019.35	445.67	-605.24	-606.33	2.48	-2.37	-2.08
3,230.00	17.94	306.91	3,106.27	464.31	-628.92	-630.05	2.72	-2.58	-2.67
3,323.00	20.40	307.96	3,194.11	482.88	-653.16	-654.33	2.67	2.65	1.13
3,416.00	21.54	309.72	3,280.95	503.76	-679.07	-680.30	1.40	1.23	1.89
3,510.00	18.99	307.08	3,369.12	524.02	-704.55	-705.82	2.88	-2.71	-2.81
3,603.00	20.20	304.80	3,456.74	542.30	-729.80	-731.13	1.54	1.30	-2.45
3,696.00	22.77	307.08	3,543.27	562.32	-757.35	-758.72	2.91	2.76	2.45
3,791.00	24.62	300.93	3,630.27	583.58	-789.00	-790.42	3.25	1.95	-6.47
3,885.00	23.74	299.88	3,716.02	603.07	-822.20	-823.67	1.04	-0.94	-1.12
3,978.00	23.21	299.70	3,801.33	621.48	-854.35	-855.87	0.58	-0.57	-0.19
4,074.00	24.01	305.15	3,889.30	642.10	-886.76	-888.33	2.42	0.83	5.68
4,169.00	23.57	304.62	3,976.23	664.02	-918.19	-919.81	0.51	-0.46	-0.56
4,263.00	20.75	302.16	4,063.28	683.56	-947.76	-949.43	3.16	-3.00	-2.62
4,357.00	21.54	301.11	4,150.95	701.34	-976.63	-978.35	0.93	0.84	-1.12

Precision Drilling Corporation

Survey Report

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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Single User

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)
4,451.00	23.13	307.26	4,237.91	721.44	-1,006.11	-1,007.87	3.01	1.69	6.54
4,546.00	21.90	305.68	4,325.66	743.07	-1,035.35	-1,037.16	1.44	-1.29	-1.66
4,640.00	23.48	311.83	4,412.40	765.79	-1,063.55	-1,065.42	3.03	1.68	6.54
4,734.00	21.37	310.95	4,499.28	789.51	-1,090.44	-1,092.37	2.27	-2.24	-0.94
4,828.00	22.77	307.61	4,586.40	811.83	-1,117.79	-1,119.77	2.00	1.49	-3.55
4,922.00	20.49	306.91	4,673.77	832.82	-1,145.36	-1,147.39	2.44	-2.43	-0.74
5,016.00	22.16	304.45	4,761.34	852.73	-1,173.14	-1,175.22	2.02	1.78	-2.62
5,109.00	22.77	303.92	4,847.28	872.70	-1,202.53	-1,204.66	0.69	0.66	-0.57
5,203.00	20.05	302.86	4,934.78	891.59	-1,231.17	-1,233.34	2.92	-2.89	-1.13
5,297.00	19.79	302.51	5,023.16	908.89	-1,258.12	-1,260.34	0.30	-0.28	-0.37
5,389.00	21.63	301.63	5,109.21	926.15	-1,285.70	-1,287.96	2.03	2.00	-0.96
5,481.00	22.42	300.40	5,194.50	943.92	-1,315.27	-1,317.57	0.99	0.86	-1.34
5,574.00	21.10	299.17	5,280.87	961.06	-1,345.18	-1,347.53	1.50	-1.42	-1.32
5,668.00	18.38	297.94	5,369.34	976.25	-1,373.05	-1,375.44	2.93	-2.89	-1.31
5,762.00	17.59	303.92	5,458.75	991.12	-1,397.94	-1,400.35	2.14	-0.84	6.36
5,855.00	17.15	304.62	5,547.51	1,006.75	-1,420.88	-1,423.34	0.52	-0.47	0.75
5,949.00	16.62	305.68	5,637.46	1,022.47	-1,443.21	-1,445.70	0.65	-0.56	1.13
6,043.00	16.71	310.07	5,727.51	1,039.01	-1,464.47	-1,467.00	1.34	0.10	4.67
6,137.00	13.37	306.38	5,818.28	1,054.16	-1,483.57	-1,486.14	3.69	-3.55	-3.93
6,231.00	9.94	302.86	5,910.33	1,065.01	-1,499.14	-1,501.73	3.72	-3.65	-3.74
6,325.00	7.65	297.77	6,003.22	1,072.33	-1,511.49	-1,514.10	2.57	-2.44	-5.41
6,417.00	5.80	309.54	6,094.59	1,078.14	-1,520.49	-1,523.12	2.50	-2.01	12.79
6,512.00	4.31	302.16	6,189.22	1,083.10	-1,527.22	-1,529.86	1.71	-1.57	-7.77
6,606.00	1.76	331.87	6,283.08	1,086.25	-1,530.89	-1,533.54	3.10	-2.71	31.61
6,700.00	1.58	320.27	6,377.04	1,088.52	-1,532.40	-1,535.05	0.41	-0.19	-12.34
6,792.00	0.97	302.34	6,469.02	1,089.91	-1,533.87	-1,536.52	0.78	-0.66	-19.49
6,886.00	1.49	21.97	6,563.00	1,091.47	-1,534.08	-1,536.74	1.73	0.55	84.71
6,980.00	12.75	57.47	6,656.15	1,098.21	-1,524.85	-1,527.53	12.31	11.98	37.77
7,074.00	20.31	61.87	6,746.20	1,111.50	-1,501.68	-1,504.39	8.15	8.04	4.68
7,168.00	27.96	79.27	6,832.03	1,123.32	-1,465.54	-1,468.28	11.04	8.14	18.51
7,261.00	36.76	88.59	6,910.55	1,128.08	-1,416.18	-1,418.93	10.85	9.46	10.02
7,355.00	47.92	93.68	6,979.95	1,126.53	-1,353.03	-1,355.77	12.41	11.87	5.41
7,449.00	55.84	90.34	7,037.94	1,124.05	-1,279.19	-1,281.94	8.88	8.43	-3.55
7,543.00	61.38	88.23	7,086.88	1,125.10	-1,199.00	-1,201.74	6.20	5.89	-2.24
7,637.00	65.16	90.70	7,129.16	1,125.85	-1,115.07	-1,117.82	4.66	4.02	2.63
7,731.00	75.10	96.32	7,161.09	1,120.31	-1,026.99	-1,029.73	11.97	10.57	5.98
7,825.00	84.15	97.20	7,178.00	1,109.43	-935.27	-937.98	9.67	9.63	0.94
7,880.01	86.85	93.56	7,182.32	1,104.30	-880.69	-883.38	8.23	4.91	-6.63
LP(final) 5N-25HZ rev1									
7,918.00	88.72	91.05	7,183.79	1,102.77	-842.76	-845.45	8.23	4.93	-6.59
8,012.00	89.16	88.76	7,185.53	1,102.93	-748.78	-751.47	2.48	0.47	-2.44
8,106.00	88.99	90.87	7,187.05	1,103.23	-654.80	-657.49	2.25	-0.18	2.24
8,200.00	89.60	90.70	7,188.20	1,101.94	-560.82	-563.51	0.67	0.65	-0.18
8,293.00	90.31	89.99	7,188.28	1,101.38	-467.82	-470.51	1.08	0.76	-0.76

Precision Drilling Corporation

Survey Report

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Site:	Wilson Ranch 9-26HZ Pad 4N-68W-26	MD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Well:	Whisper Rock 5N-25HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Single User

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)
8,386.00	91.19	89.64	7,187.06	1,101.68	-374.83	-377.52	1.02	0.95	-0.38
8,479.00	91.19	90.52	7,185.13	1,101.55	-281.85	-284.54	0.95	0.00	0.95
8,572.00	91.80	89.82	7,182.70	1,101.28	-188.88	-191.57	1.00	0.66	-0.75
8,665.00	90.75	91.05	7,180.63	1,100.57	-95.91	-98.60	1.74	-1.13	1.32
8,757.00	91.45	90.52	7,178.87	1,099.31	-3.94	-6.62	0.95	0.76	-0.58
8,850.00	88.81	91.40	7,178.66	1,097.75	89.04	86.36	2.99	-2.84	0.95
8,944.00	88.46	91.75	7,180.89	1,095.17	182.98	180.30	0.53	-0.37	0.37
8,965.75	88.46	91.50	7,181.48	1,094.55	204.71	202.03	1.13	0.00	-1.13
Section Line Entry 5N-25HZ									
9,037.00	88.46	90.70	7,183.39	1,093.18	275.92	273.25	1.13	0.00	-1.13
9,131.00	88.55	90.70	7,185.85	1,092.03	369.88	367.21	0.10	0.10	0.00
9,225.00	88.29	90.52	7,188.44	1,091.03	463.84	461.17	0.34	-0.28	-0.19
9,319.00	88.02	90.17	7,191.46	1,090.47	557.79	555.12	0.47	-0.29	-0.37
9,412.00	88.55	88.94	7,194.25	1,091.19	650.74	648.08	1.44	0.57	-1.32
9,507.00	89.34	88.59	7,196.00	1,093.24	745.70	743.03	0.91	0.83	-0.37
9,599.00	89.69	87.53	7,196.78	1,096.35	837.65	834.97	1.21	0.38	-1.15
9,692.00	89.87	90.34	7,197.13	1,098.08	930.62	927.94	3.03	0.19	3.02
9,785.00	90.40	89.29	7,196.91	1,098.38	1,023.62	1,020.93	1.26	0.57	-1.13
9,877.00	89.08	90.52	7,197.33	1,098.53	1,115.61	1,112.93	1.96	-1.43	1.34
9,970.00	88.81	90.52	7,199.04	1,097.69	1,208.59	1,205.91	0.29	-0.29	0.00
10,064.00	87.85	90.17	7,201.78	1,097.12	1,302.55	1,299.87	1.09	-1.02	-0.37
10,159.00	88.81	90.34	7,204.55	1,096.70	1,397.51	1,394.82	1.03	1.01	0.18
10,253.00	91.10	88.59	7,204.63	1,097.58	1,491.49	1,488.81	3.07	2.44	-1.86
10,347.00	91.80	91.22	7,202.25	1,097.73	1,585.46	1,582.77	2.89	0.74	2.80
10,441.00	92.33	90.70	7,198.86	1,096.16	1,679.38	1,676.70	0.79	0.56	-0.55
10,536.00	92.07	92.63	7,195.21	1,093.40	1,774.27	1,771.59	2.05	-0.27	2.03
10,631.00	89.08	93.68	7,194.26	1,088.17	1,869.11	1,866.44	3.34	-3.15	1.11
10,725.00	88.64	93.86	7,196.13	1,082.00	1,962.88	1,960.23	0.51	-0.47	0.19
10,820.00	89.43	92.10	7,197.73	1,077.06	2,057.74	2,055.10	2.03	0.83	-1.85
10,914.00	90.40	89.29	7,197.87	1,075.92	2,151.72	2,149.08	3.16	1.03	-2.99
11,006.00	89.34	88.94	7,198.08	1,077.34	2,243.71	2,241.07	1.21	-1.15	-0.38
11,099.00	91.98	89.64	7,197.01	1,078.49	2,336.68	2,334.04	2.94	2.84	0.75
11,191.00	92.42	89.64	7,193.47	1,079.07	2,428.61	2,425.97	0.48	0.48	0.00
11,285.00	89.87	88.76	7,191.60	1,080.38	2,522.58	2,519.93	2.87	-2.71	-0.94
11,379.00	89.78	88.41	7,191.88	1,082.70	2,616.55	2,613.90	0.38	-0.10	-0.37
11,472.00	89.69	85.42	7,192.31	1,087.71	2,709.40	2,706.74	3.22	-0.10	-3.22
11,566.00	90.04	86.83	7,192.54	1,094.06	2,803.18	2,800.50	1.55	0.37	1.50
11,658.00	89.34	91.05	7,193.03	1,095.76	2,895.15	2,892.46	4.65	-0.76	4.59
11,752.00	90.31	91.93	7,193.32	1,093.32	2,989.11	2,986.43	1.39	1.03	0.94
11,846.00	90.22	91.75	7,192.89	1,090.30	3,083.06	3,080.39	0.21	-0.10	-0.19
11,938.00	90.40	92.28	7,192.39	1,087.06	3,175.00	3,172.34	0.61	0.20	0.58
12,031.00	89.25	92.45	7,192.67	1,083.23	3,267.92	3,265.27	1.25	-1.24	0.18
12,125.00	90.04	92.81	7,193.25	1,078.91	3,361.82	3,359.17	0.92	0.84	0.38

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Whisper Rock 5N-25HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Site:	Wilson Ranch 9-26HZ Pad 4N-68W-26	MD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Well:	Whisper Rock 5N-25HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Single User

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)
12,218.00	89.69	89.99	7,193.47	1,076.64	3,454.78	3,452.14	3.06	-0.38	-3.03
12,311.00	89.60	87.88	7,194.05	1,078.37	3,547.76	3,545.11	2.27	-0.10	-2.27
12,404.00	89.69	87.36	7,194.63	1,082.23	3,640.68	3,638.02	0.57	0.10	-0.56
12,497.00	89.78	88.59	7,195.06	1,085.52	3,733.62	3,730.95	1.33	0.10	1.32
12,591.00	89.87	89.11	7,195.34	1,087.40	3,827.60	3,824.93	0.56	0.10	0.55
12,685.00	89.96	87.53	7,195.48	1,090.16	3,921.55	3,918.88	1.68	0.10	-1.68
12,778.00	88.29	88.59	7,196.90	1,093.31	4,014.48	4,011.80	2.13	-1.80	1.14
12,872.00	88.37	88.41	7,199.64	1,095.77	4,108.41	4,105.72	0.21	0.09	-0.19
12,965.00	87.41	88.41	7,203.07	1,098.35	4,201.31	4,198.62	1.03	-1.03	0.00
13,058.00	90.75	89.82	7,204.56	1,099.78	4,294.27	4,291.57	3.90	3.59	1.52
13,151.00	92.15	89.47	7,202.21	1,100.36	4,387.24	4,384.54	1.55	1.51	-0.38
13,245.00	91.10	91.22	7,199.54	1,099.79	4,481.20	4,478.49	2.17	-1.12	1.86
13,339.00	91.63	90.70	7,197.30	1,098.22	4,575.16	4,572.46	0.79	0.56	-0.55
13,431.00	89.16	92.45	7,196.67	1,095.69	4,667.11	4,664.42	3.29	-2.68	1.90
13,526.00	89.25	92.98	7,197.98	1,091.19	4,761.99	4,759.31	0.57	0.09	0.56
13,620.00	90.22	92.81	7,198.42	1,086.44	4,855.87	4,853.20	1.05	1.03	-0.18
13,711.00	91.19	93.51	7,197.30	1,081.42	4,946.72	4,944.07	1.31	1.07	0.77
13,776.00	91.19	93.51	7,195.95	1,077.45	5,011.59	5,008.94	0.00	0.00	0.00
BHL 5N-25HZ									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Surface 5N-25HZ	0.00	0.00	0.00	0.00	0.00	14,629,668.44	1,651,167.14	40.282666°N	104.961453°W
- actual wellpath hits target center									
- Point									
460' Internal Hardline	0.00	0.00	-1.00	738.24	4,173.53	14,630,408.50	1,655,340.36	40.284692°N	104.946488°W
- actual wellpath misses target center by 4238.32usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 460.00)									
460' Internal Hardline	0.00	0.00	-1.00	714.44	-1,116.59	14,630,382.40	1,650,050.25	40.284628°N	104.965457°W
- actual wellpath misses target center by 1325.59usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 460.00)									
Land Box Entry 5N-25	0.00	0.00	2,250.45	257.87	-360.21	14,629,926.16	1,650,806.83	40.283374°N	104.962745°W
- actual wellpath hits target center									
- Point									
Section Line Entry 5N	0.00	0.00	7,181.48	1,094.55	204.71	14,630,763.08	1,651,371.38	40.285672°N	104.960719°W
- actual wellpath hits target center									
- Point									
LP(final) 5N-25HZ rev	0.00	0.00	7,182.32	1,104.30	-880.70	14,630,772.35	1,650,285.97	40.285699°N	104.964611°W
- actual wellpath hits target center									
- Point									
BHL 5N-25HZ	0.00	0.00	7,195.95	1,077.45	5,011.59	14,630,748.07	1,656,178.26	40.285623°N	104.943483°W
- actual wellpath hits target center									
- Point									

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Whisper Rock 5N-25HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Site:	Wilson Ranch 9-26HZ Pad 4N-68W-26	MD Reference:	5041'GL+20'KB @ 5061.00usft (PD460)
Well:	Whisper Rock 5N-25HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Single User

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,309.00	2,250.45	257.87	-360.21	Land Box Entry
7,880.00	7,182.32	1,104.30	-880.70	LP
8,965.75	7,181.48	1,094.55	204.71	Section Line Entry