



US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N

Site: Wilson Ranch 16-26HZ Pad

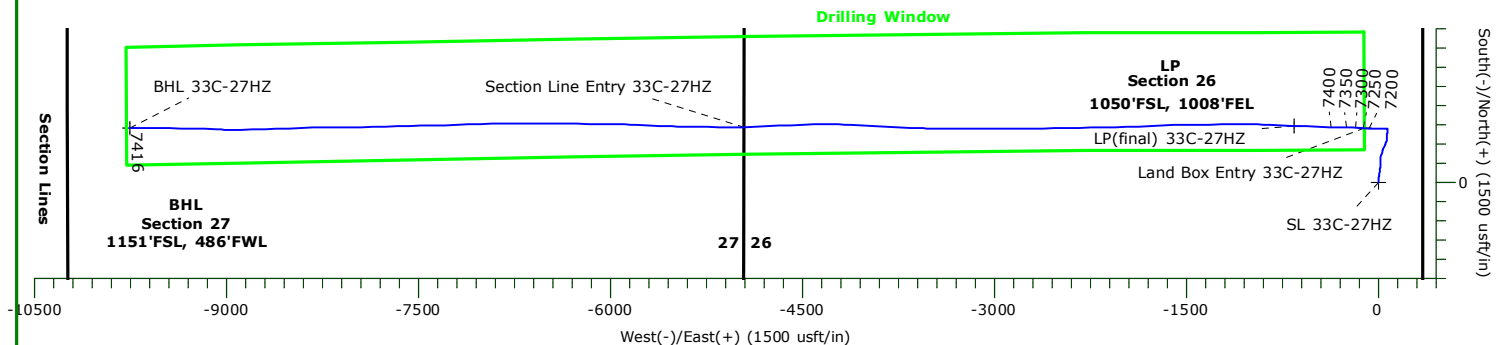
Well: Wilson Ranch #33C-27HZ

Wellbore: Original Hole

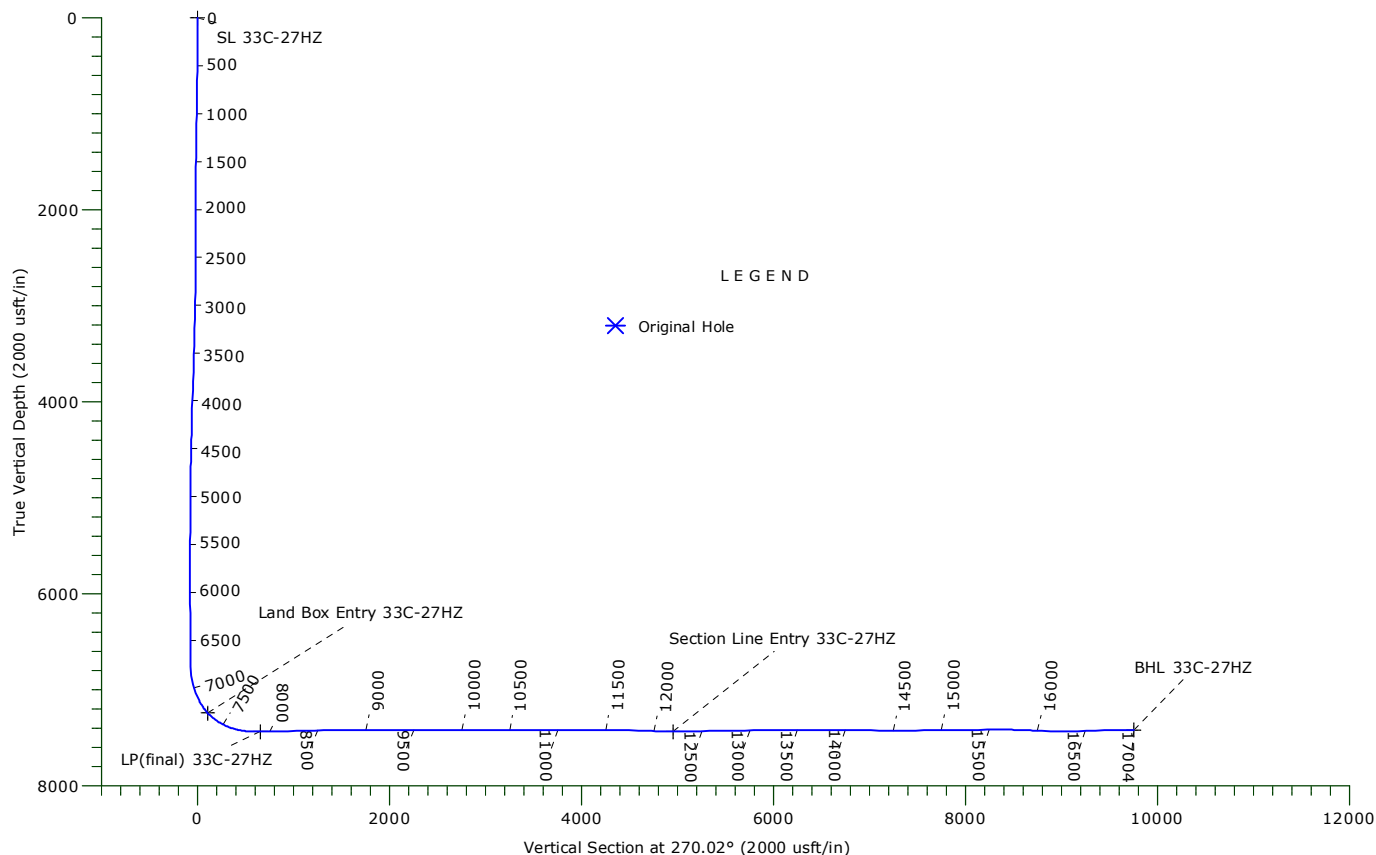
Design: Original Hole



Precision
Directional Services



TVD	MD	Inc	Azi	ANNOTATIONS		VSect	Departure	Annotation
				+N/-S	+E/-W			
7241.25	7302.00	43.26	272.64	423.55	-110.91	111.06	616.79	Land Box Entry
7433.15	7902.00	90.43	272.21	441.90	-659.02	659.18	1163.63	LP
7432.84	12201.75	89.98	268.75	432.54	-4955.95	4956.11	5462.76	Section Line Entry



WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 33C-27HZ	0.00	0.00	0.00	14628350.49	1651023.80	40° 16' 44.569200 N	104° 57' 43.088400 W	Point
Land Box Entry 33C-27HZ	7241.25	423.55	-110.91	14628774.00	1650912.71	40° 16' 48.756325 N	104° 57' 44.519995 W	Point
BHL 33C-27HZ	7416.35	424.84	-9755.51	14628771.15	1641268.11	40° 16' 48.750086 N	104° 59' 49.009753 W	Point
Section Line Entry 33C-27HZ	7432.84	432.54	-4955.95	14628780.90	1646067.66	40° 16' 48.840269 N	104° 58' 47.058494 W	Point
LP(final) 33C-27HZ	7433.15	441.90	-659.02	14628792.11	1650364.59	40° 16' 48.937655 N	104° 57' 51.594864 W	Point

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Wilson Ranch #33C-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Site:	Wilson Ranch 16-26HZ Pad	MD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Well:	Wilson Ranch #33C-27HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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

Site	Wilson Ranch 16-26HZ Pad		
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Site Position:		Northing:	14,628,290.77 usft	Latitude:	40° 16' 43.978800 N
From:	Lat/Long	Easting:	1,651,023.27 usft	Longitude:	104° 57' 43.095600 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.02 °

Well	Wilson Ranch #33C-27HZ				
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Well Position	+N/-S	0.00 usft	Northing:	14,628,350.49 usft	Latitude:	40° 16' 44.569200 N
	+E/-W	0.00 usft	Easting:	1,651,023.80 usft	Longitude:	104° 57' 43.088400 W
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,072.00 usft

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/04/15	8.38	66.77	52,592

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	270.02

Survey Program		Date	11/03/15		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
10.00	1,799.00	Survey #1 (Original Hole)	APC_ISCWSA REV 2 MW Fixed:v2:standard declination		
1,932.00	16,937.00	Survey #2 (Original Hole)	APC_ISCWSA REV 2 MW Fixed:v2:Rockies, crustal dec + 3-axis correction		
17,004.00	17,004.00	Survey #3 (Original Hole)	APC_BLIND	OWSG BLIND	

Survey										
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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
SL 33C-27HZ									
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
96.00	0.77	330.30	96.00	0.50	-0.29	0.29	0.90	0.90	0.00
187.00	0.37	262.63	186.99	1.00	-0.88	0.88	0.79	-0.44	-74.36
276.00	0.73	359.51	275.99	1.53	-1.17	1.17	0.96	0.40	108.85
382.00	1.59	348.77	381.97	3.64	-1.46	1.46	0.83	0.81	-10.13
472.00	2.31	6.69	471.92	6.67	-1.49	1.50	1.04	0.80	19.91
562.00	3.56	10.08	561.80	11.22	-0.79	0.80	1.40	1.39	3.77

Precision Drilling Corporation

Survey Report

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Site:	Wilson Ranch 16-26HZ Pad	MD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Well:	Wilson Ranch #33C-27HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
652.00	4.49	9.06	651.57	17.45	0.25	-0.24	1.04	1.03	-1.13
742.00	4.80	10.83	741.28	24.63	1.51	-1.50	0.38	0.34	1.97
832.00	4.99	9.64	830.95	32.19	2.87	-2.86	0.24	0.21	-1.32
922.00	5.06	8.43	920.60	39.97	4.11	-4.10	0.14	0.08	-1.34
1,012.00	5.24	7.10	1,010.24	47.98	5.20	-5.19	0.24	0.20	-1.48
1,103.00	5.30	5.76	1,100.86	56.28	6.14	-6.12	0.15	0.07	-1.47
1,193.00	5.32	7.81	1,190.47	64.55	7.12	-7.10	0.21	0.02	2.28
1,283.00	5.70	9.68	1,280.05	73.09	8.44	-8.41	0.47	0.42	2.08
1,373.00	5.14	9.78	1,369.65	81.47	9.88	-9.85	0.62	-0.62	0.11
1,463.00	4.68	8.22	1,459.32	89.08	11.09	-11.06	0.53	-0.51	-1.73
1,553.00	4.22	8.74	1,549.05	95.98	12.11	-12.08	0.51	-0.51	0.58
1,643.00	4.47	2.76	1,638.79	102.76	12.79	-12.75	0.57	0.28	-6.64
1,733.00	4.63	5.57	1,728.51	109.88	13.31	-13.27	0.30	0.18	3.12
1,799.00	4.40	3.57	1,794.30	115.06	13.72	-13.68	0.42	-0.35	-3.03
1,932.00	3.69	358.71	1,926.97	124.43	13.95	-13.90	0.59	-0.53	-3.65
2,026.00	3.45	355.19	2,020.79	130.27	13.64	-13.59	0.35	-0.26	-3.74
2,120.00	4.85	8.91	2,114.54	137.01	14.02	-13.97	1.82	1.49	14.60
2,214.00	4.97	0.93	2,208.20	145.01	14.70	-14.65	0.74	0.13	-8.49
2,307.00	4.83	357.73	2,300.86	152.95	14.61	-14.56	0.33	-0.15	-3.44
2,401.00	4.72	8.88	2,394.53	160.73	15.05	-14.99	0.99	-0.12	11.86
2,495.00	4.70	6.58	2,488.22	168.37	16.09	-16.03	0.20	-0.02	-2.45
2,588.00	4.98	5.45	2,580.88	176.18	16.91	-16.85	0.32	0.30	-1.22
2,683.00	5.04	4.06	2,675.52	184.44	17.60	-17.53	0.14	0.06	-1.46
2,777.00	5.07	3.54	2,769.16	192.71	18.14	-18.08	0.06	0.03	-0.55
2,869.00	4.91	13.41	2,860.81	200.59	19.31	-19.24	0.95	-0.17	10.73
2,962.00	5.13	11.37	2,953.45	208.54	21.05	-20.98	0.30	0.24	-2.19
3,054.00	4.11	17.44	3,045.15	215.72	22.85	-22.78	1.23	-1.11	6.60
3,147.00	3.75	13.55	3,137.93	221.86	24.56	-24.48	0.48	-0.39	-4.18
3,239.00	3.92	21.02	3,229.73	227.72	26.39	-26.32	0.57	0.18	8.12
3,332.00	4.88	20.86	3,322.45	234.38	28.94	-28.86	1.03	1.03	-0.17
3,424.00	4.20	18.89	3,414.16	241.23	31.43	-31.34	0.76	-0.74	-2.14
3,517.00	4.40	15.90	3,506.90	247.88	33.51	-33.42	0.32	0.22	-3.22
3,610.00	4.92	17.63	3,599.60	255.11	35.69	-35.60	0.58	0.56	1.86
3,704.00	5.80	24.26	3,693.18	263.28	38.87	-38.77	1.14	0.94	7.05
3,798.00	5.75	25.89	3,786.71	271.85	42.87	-42.78	0.18	-0.05	1.73
3,890.00	5.59	25.31	3,878.26	280.05	46.80	-46.70	0.18	-0.17	-0.63
3,985.00	5.38	26.39	3,972.82	288.22	50.76	-50.66	0.25	-0.22	1.14
4,079.00	4.70	12.36	4,066.46	295.93	53.54	-53.44	1.49	-0.72	-14.93
4,173.00	3.67	8.50	4,160.21	302.67	54.81	-54.71	1.14	-1.10	-4.11
4,267.00	4.37	18.54	4,253.98	309.04	56.39	-56.29	1.05	0.74	10.68
4,359.00	4.82	20.93	4,345.68	315.97	58.89	-58.78	0.53	0.49	2.60
4,452.00	5.84	18.52	4,438.28	324.11	61.79	-61.68	1.12	1.10	-2.59
4,544.00	5.11	12.07	4,529.86	332.55	64.13	-64.02	1.04	-0.79	-7.01

Precision Drilling Corporation

Survey Report

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Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Site:	Wilson Ranch 16-26HZ Pad	MD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Well:	Wilson Ranch #33C-27HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
4,637.00	5.10	8.63	4,622.49	340.69	65.62	-65.50	0.33	-0.01	-3.70
4,729.00	4.05	5.52	4,714.20	347.96	66.54	-66.42	1.17	-1.14	-3.38
4,822.00	5.07	2.58	4,806.90	355.34	67.05	-66.92	1.12	1.10	-3.16
4,914.00	6.36	4.43	4,898.44	364.48	67.62	-67.49	1.42	1.40	2.01
5,006.00	4.95	4.80	4,989.99	373.52	68.35	-68.22	1.53	-1.53	0.40
5,098.00	3.64	2.70	5,081.73	380.39	68.82	-68.68	1.43	-1.42	-2.28
5,191.00	4.20	5.80	5,174.51	386.73	69.30	-69.17	0.64	0.60	3.33
5,283.00	4.39	12.28	5,266.26	393.52	70.39	-70.25	0.57	0.21	7.04
5,375.00	3.26	12.73	5,358.05	399.51	71.72	-71.58	1.23	-1.23	0.49
5,468.00	2.36	7.89	5,450.94	403.99	72.56	-72.42	1.00	-0.97	-5.20
5,560.00	1.22	9.38	5,542.89	406.83	72.98	-72.84	1.24	-1.24	1.62
5,746.00	0.68	0.83	5,728.87	409.89	73.32	-73.18	0.30	-0.29	-4.60
5,839.00	0.48	356.74	5,821.86	410.83	73.30	-73.16	0.22	-0.22	-4.40
5,933.00	1.45	353.13	5,915.85	412.40	73.14	-73.00	1.03	1.03	-3.84
6,028.00	1.01	351.88	6,010.82	414.42	72.88	-72.73	0.46	-0.46	-1.32
6,120.00	0.63	326.80	6,102.81	415.65	72.49	-72.34	0.56	-0.41	-27.26
6,214.00	0.51	306.31	6,196.81	416.33	71.87	-71.72	0.25	-0.13	-21.80
6,309.00	0.91	358.89	6,291.80	417.33	71.51	-71.37	0.76	0.42	55.35
6,404.00	0.80	13.35	6,386.79	418.73	71.65	-71.50	0.25	-0.12	15.22
6,497.00	0.53	4.81	6,479.79	419.79	71.84	-71.69	0.31	-0.29	-9.18
6,589.00	0.33	319.31	6,571.78	420.42	71.70	-71.55	0.41	-0.22	-49.46
6,682.00	0.50	304.64	6,664.78	420.85	71.19	-71.04	0.21	0.18	-15.77
6,774.00	0.73	282.99	6,756.78	421.21	70.29	-70.14	0.35	0.25	-23.53
6,868.00	8.53	272.04	6,850.40	421.60	62.73	-62.58	8.31	8.30	-11.65
6,962.00	14.06	272.51	6,942.54	422.34	44.34	-44.19	5.88	5.88	0.50
7,054.00	21.38	268.16	7,030.12	422.30	16.37	-16.23	8.08	7.96	-4.73
7,148.00	28.02	268.59	7,115.47	421.20	-22.87	23.01	7.07	7.06	0.46
7,241.00	35.97	272.43	7,194.29	421.82	-72.08	72.23	8.82	8.55	4.13
7,302.02	43.27	272.64	7,241.26	423.55	-110.92	111.07	11.96	11.96	0.35
Land Box Entry 33C-27HZ									
7,336.00	47.33	272.74	7,265.16	424.68	-135.04	135.19	11.96	11.96	0.28
7,430.00	56.16	271.77	7,323.30	427.55	-208.73	208.88	9.43	9.39	-1.03
7,526.00	64.81	272.45	7,370.55	430.64	-292.13	292.28	9.03	9.01	0.71
7,620.00	73.84	271.11	7,403.71	433.34	-379.94	380.10	9.70	9.61	-1.43
7,715.00	80.97	271.52	7,424.41	435.47	-472.57	472.73	7.52	7.51	0.43
7,808.00	88.91	272.08	7,432.61	438.38	-565.09	565.24	8.56	8.54	0.60
7,902.00	90.43	272.21	7,433.15	441.90	-659.02	659.18	1.62	1.62	0.14
LP(final) 33C-27HZ									
7,997.00	90.42	272.32	7,432.45	445.65	-753.94	754.10	0.12	-0.01	0.12
8,092.00	91.49	273.19	7,430.86	450.22	-848.82	848.98	1.45	1.13	0.92
8,186.00	91.06	271.53	7,428.77	454.09	-942.71	942.87	1.82	-0.46	-1.77
8,281.00	90.61	269.73	7,427.39	455.13	-1,037.69	1,037.85	1.95	-0.47	-1.89
8,375.00	91.34	269.35	7,425.79	454.38	-1,131.67	1,131.83	0.88	0.78	-0.40
8,468.00	92.41	269.74	7,422.74	453.64	-1,224.62	1,224.78	1.22	1.15	0.42

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Survey Report

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Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Site:	Wilson Ranch 16-26HZ Pad	MD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Well:	Wilson Ranch #33C-27HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
8,562.00	90.62	269.39	7,420.26	452.93	-1,318.58	1,318.74	1.94	-1.90	-0.37
8,656.00	91.90	269.82	7,418.19	452.28	-1,412.55	1,412.71	1.44	1.36	0.46
8,747.00	90.61	268.96	7,416.20	451.31	-1,503.52	1,503.68	1.70	-1.42	-0.95
8,840.00	89.94	267.97	7,415.75	448.82	-1,596.49	1,596.64	1.29	-0.72	-1.06
8,932.00	91.23	267.74	7,414.81	445.38	-1,688.42	1,688.57	1.42	1.40	-0.25
9,025.00	88.99	266.81	7,414.63	440.95	-1,781.30	1,781.46	2.61	-2.41	-1.00
9,118.00	88.88	268.28	7,416.36	436.97	-1,874.20	1,874.35	1.58	-0.12	1.58
9,211.00	88.88	268.84	7,418.18	434.64	-1,967.15	1,967.30	0.60	0.00	0.60
9,303.00	89.33	268.72	7,419.62	432.68	-2,059.12	2,059.27	0.51	0.49	-0.13
9,396.00	89.33	268.33	7,420.70	430.28	-2,152.08	2,152.23	0.42	0.00	-0.42
9,489.00	89.89	268.81	7,421.34	427.96	-2,245.05	2,245.20	0.79	0.60	0.52
9,584.00	90.95	268.83	7,420.64	426.01	-2,340.03	2,340.18	1.12	1.12	0.02
9,678.00	91.96	269.41	7,418.25	424.56	-2,433.98	2,434.13	1.24	1.07	0.62
9,773.00	89.49	268.85	7,417.05	423.12	-2,528.96	2,529.11	2.67	-2.60	-0.59
9,867.00	89.83	268.54	7,417.61	420.98	-2,622.93	2,623.08	0.49	0.36	-0.33
9,961.00	89.21	270.19	7,418.40	419.94	-2,716.92	2,717.07	1.88	-0.66	1.76
10,055.00	89.32	269.67	7,419.60	419.82	-2,810.91	2,811.06	0.57	0.12	-0.55
10,149.00	89.94	271.00	7,420.21	420.37	-2,904.91	2,905.05	1.56	0.66	1.41
10,242.00	90.16	269.62	7,420.13	420.88	-2,997.90	2,998.05	1.50	0.24	-1.48
10,336.00	90.33	268.14	7,419.73	419.04	-3,091.88	3,092.03	1.58	0.18	-1.57
10,430.00	88.99	269.23	7,420.29	416.88	-3,185.85	3,186.00	1.84	-1.43	1.16
10,524.00	89.99	270.45	7,421.12	416.62	-3,279.84	3,279.99	1.68	1.06	1.30
10,618.00	89.49	271.18	7,421.55	417.96	-3,373.83	3,373.98	0.94	-0.53	0.78
10,712.00	90.33	271.52	7,421.70	420.17	-3,467.80	3,467.95	0.96	0.89	0.36
10,805.00	91.96	272.83	7,419.84	423.70	-3,560.71	3,560.86	2.25	1.75	1.41
10,899.00	89.94	271.53	7,418.28	427.27	-3,654.63	3,654.77	2.56	-2.15	-1.38
10,993.00	90.72	272.31	7,417.74	430.42	-3,748.57	3,748.72	1.17	0.83	0.83
11,087.00	89.88	272.76	7,417.25	434.58	-3,842.48	3,842.63	1.01	-0.89	0.48
11,181.00	91.23	273.35	7,416.34	439.59	-3,936.34	3,936.49	1.57	1.44	0.63
11,274.00	90.08	273.32	7,415.27	445.00	-4,029.17	4,029.33	1.24	-1.24	-0.03
11,368.00	88.29	272.94	7,416.61	450.13	-4,123.02	4,123.17	1.95	-1.90	-0.40
11,463.00	89.07	271.90	7,418.80	454.14	-4,217.90	4,218.06	1.37	0.82	-1.09
11,557.00	89.75	270.36	7,419.77	455.99	-4,311.88	4,312.04	1.79	0.72	-1.64
11,651.00	89.58	268.91	7,420.32	455.40	-4,405.87	4,406.03	1.55	-0.18	-1.54
11,745.00	88.40	267.69	7,421.97	452.61	-4,499.81	4,499.97	1.81	-1.26	-1.30
11,837.00	88.46	266.73	7,424.49	448.13	-4,591.67	4,591.82	1.05	0.07	-1.04
11,930.00	88.85	267.94	7,426.68	443.81	-4,684.54	4,684.69	1.37	0.42	1.30
12,022.00	87.67	266.73	7,429.47	439.53	-4,776.39	4,776.55	1.84	-1.28	-1.32
12,115.00	89.07	267.83	7,432.11	435.12	-4,869.25	4,869.40	1.91	1.51	1.18
12,201.75	89.98	268.75	7,432.84	432.54	-4,955.96	4,956.11	1.49	1.04	1.07
Section Line Entry 33C-27HZ									
12,207.00	90.03	268.81	7,432.84	432.43	-4,961.20	4,961.35	1.49	1.04	1.07
12,301.00	90.98	270.66	7,432.01	431.99	-5,055.19	5,055.34	2.21	1.01	1.97

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Wilson Ranch #33C-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Site:	Wilson Ranch 16-26HZ Pad	MD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Well:	Wilson Ranch #33C-27HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
12,394.00	90.87	270.29	7,430.51	432.76	-5,148.18	5,148.33	0.42	-0.12	-0.40
12,488.00	91.59	271.07	7,428.49	433.88	-5,242.15	5,242.30	1.13	0.77	0.83
12,580.00	91.65	270.61	7,425.89	435.22	-5,334.10	5,334.25	0.50	0.07	-0.50
12,673.00	90.08	270.68	7,424.48	436.27	-5,427.08	5,427.23	1.69	-1.69	0.08
12,765.00	91.03	272.11	7,423.59	438.51	-5,519.05	5,519.20	1.87	1.03	1.55
12,858.00	89.80	271.78	7,422.92	441.67	-5,611.99	5,612.14	1.37	-1.32	-0.35
12,951.00	90.36	272.56	7,422.79	445.19	-5,704.92	5,705.08	1.03	0.60	0.84
13,043.00	90.98	273.21	7,421.71	449.82	-5,796.80	5,796.95	0.98	0.67	0.71
13,136.00	90.64	272.19	7,420.40	454.20	-5,889.68	5,889.84	1.16	-0.37	-1.10
13,229.00	90.87	270.90	7,419.17	456.71	-5,982.64	5,982.80	1.41	0.25	-1.39
13,321.00	89.63	269.92	7,418.77	457.36	-6,074.63	6,074.79	1.72	-1.35	-1.07
13,415.00	89.97	270.12	7,419.10	457.40	-6,168.63	6,168.79	0.42	0.36	0.21
13,508.00	90.19	270.10	7,418.97	457.58	-6,261.63	6,261.79	0.24	0.24	-0.02
13,602.00	90.53	270.30	7,418.38	457.90	-6,355.63	6,355.79	0.42	0.36	0.21
13,696.00	90.14	270.27	7,417.83	458.37	-6,449.63	6,449.79	0.42	-0.41	-0.03
13,789.00	89.52	270.17	7,418.11	458.73	-6,542.63	6,542.79	0.68	-0.67	-0.11
13,885.00	91.15	271.83	7,417.55	460.40	-6,638.60	6,638.76	2.42	1.70	1.73
13,980.00	90.70	270.57	7,416.01	462.39	-6,733.57	6,733.73	1.41	-0.47	-1.33
14,074.00	88.23	268.61	7,416.89	461.72	-6,827.55	6,827.71	3.35	-2.63	-2.09
14,168.00	88.46	268.44	7,419.60	459.30	-6,921.48	6,921.64	0.30	0.24	-0.18
14,261.00	88.85	268.39	7,421.79	456.73	-7,014.42	7,014.58	0.42	0.42	-0.05
14,353.00	88.79	267.38	7,423.68	453.34	-7,106.33	7,106.49	1.10	-0.07	-1.10
14,447.00	89.30	267.97	7,425.25	449.52	-7,200.24	7,200.40	0.83	0.54	0.63
14,542.00	90.25	269.25	7,425.62	447.22	-7,295.21	7,295.37	1.68	1.00	1.35
14,635.00	91.09	268.27	7,424.53	445.21	-7,388.18	7,388.34	1.39	0.90	-1.05
14,727.00	91.76	268.51	7,422.25	442.62	-7,480.12	7,480.27	0.77	0.73	0.26
14,820.00	91.93	269.85	7,419.25	441.29	-7,573.06	7,573.21	1.45	0.18	1.44
14,912.00	90.98	268.75	7,416.92	440.17	-7,665.02	7,665.17	1.58	-1.03	-1.20
15,007.00	89.52	268.57	7,416.50	437.95	-7,759.99	7,760.14	1.55	-1.54	-0.19
15,101.00	90.53	268.00	7,416.46	435.13	-7,853.94	7,854.09	1.23	1.07	-0.61
15,194.00	90.42	268.69	7,415.69	432.45	-7,946.90	7,947.05	0.75	-0.12	0.74
15,289.00	89.97	270.16	7,415.37	431.49	-8,041.89	8,042.04	1.62	-0.47	1.55
15,384.00	90.36	269.58	7,415.09	431.28	-8,136.89	8,137.04	0.74	0.41	-0.61
15,477.00	91.99	270.18	7,413.19	431.08	-8,229.87	8,230.02	1.87	1.75	0.65
15,572.00	90.36	268.48	7,411.24	429.97	-8,324.83	8,324.98	2.48	-1.72	-1.79
15,666.00	89.41	267.34	7,411.43	426.55	-8,418.77	8,418.92	1.58	-1.01	-1.21
15,760.00	87.45	266.73	7,414.00	421.69	-8,512.60	8,512.75	2.18	-2.09	-0.65
15,855.00	86.83	266.75	7,418.74	416.29	-8,607.33	8,607.48	0.65	-0.65	0.02
15,948.00	88.62	269.64	7,422.43	413.36	-8,700.20	8,700.34	3.65	1.92	3.11
16,043.00	87.79	269.70	7,425.41	412.82	-8,795.15	8,795.29	0.88	-0.87	0.06
16,137.00	87.34	269.88	7,429.40	412.47	-8,889.06	8,889.21	0.52	-0.48	0.19
16,231.00	89.07	269.86	7,432.35	412.26	-8,983.01	8,983.16	1.84	1.84	-0.02
16,325.00	90.98	271.53	7,432.31	413.40	-9,077.00	9,077.14	2.70	2.03	1.78
16,419.00	92.99	271.56	7,429.05	415.93	-9,170.90	9,171.05	2.14	2.14	0.03

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Wilson Ranch #33C-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Site:	Wilson Ranch 16-26HZ Pad	MD Reference:	5072'GL+20'KB @ 5092.00usft (PD460)
Well:	Wilson Ranch #33C-27HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
16,511.00	91.26	271.97	7,425.64	418.76	-9,262.79	9,262.94	1.93	-1.88	0.45
16,606.00	91.82	271.69	7,423.09	421.80	-9,357.71	9,357.86	0.66	0.59	-0.29
16,699.00	91.93	272.57	7,420.04	425.25	-9,450.59	9,450.74	0.95	0.12	0.95
16,794.00	89.97	270.04	7,418.47	427.41	-9,545.54	9,545.69	3.37	-2.06	-2.66
16,889.00	90.25	269.16	7,418.29	426.75	-9,640.54	9,640.69	0.97	0.29	-0.93
16,937.00	91.15	269.02	7,417.70	425.99	-9,688.53	9,688.68	1.90	1.88	-0.29
17,004.00	91.15	269.02	7,416.35	424.84	-9,755.51	9,755.66	0.00	0.00	0.00
BHL 33C-27HZ									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL 33C-27HZ	0.00	0.00	0.00	0.00	0.00	14,628,350.49	1,651,023.80	40° 16' 44.569200	104° 57' 43.088400
- actual wellpath hits target center								N	W
- Point									
Land Box Entry 33C-2	0.00	0.00	7,241.25	423.55	-110.91	14,628,773.99	1,650,912.71	40° 16' 48.756325	104° 57' 44.519995
- actual wellpath hits target center								N	W
- Point									
BHL 33C-27HZ	0.00	0.00	7,416.35	424.84	-9,755.51	14,628,771.15	1,641,268.11	40° 16' 48.750086	104° 59' 49.009754
- actual wellpath hits target center								N	W
- Point									
Section Line Entry 33C	0.00	0.00	7,432.84	432.54	-4,955.96	14,628,780.90	1,646,067.66	40° 16' 48.840269	104° 58' 47.058494
- actual wellpath hits target center								N	W
- Point									
LP(final) 33C-27HZ	0.00	0.00	7,433.15	441.90	-659.02	14,628,792.11	1,650,364.59	40° 16' 48.937655	104° 57' 51.594864
- actual wellpath hits target center								N	W
- Point									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,302.00	7,241.25	423.55	-110.91	Land Box Entry
7,902.00	7,433.15	441.90	-659.02	LP
12,201.75	7,432.84	432.54	-4,955.95	Section Line Entry