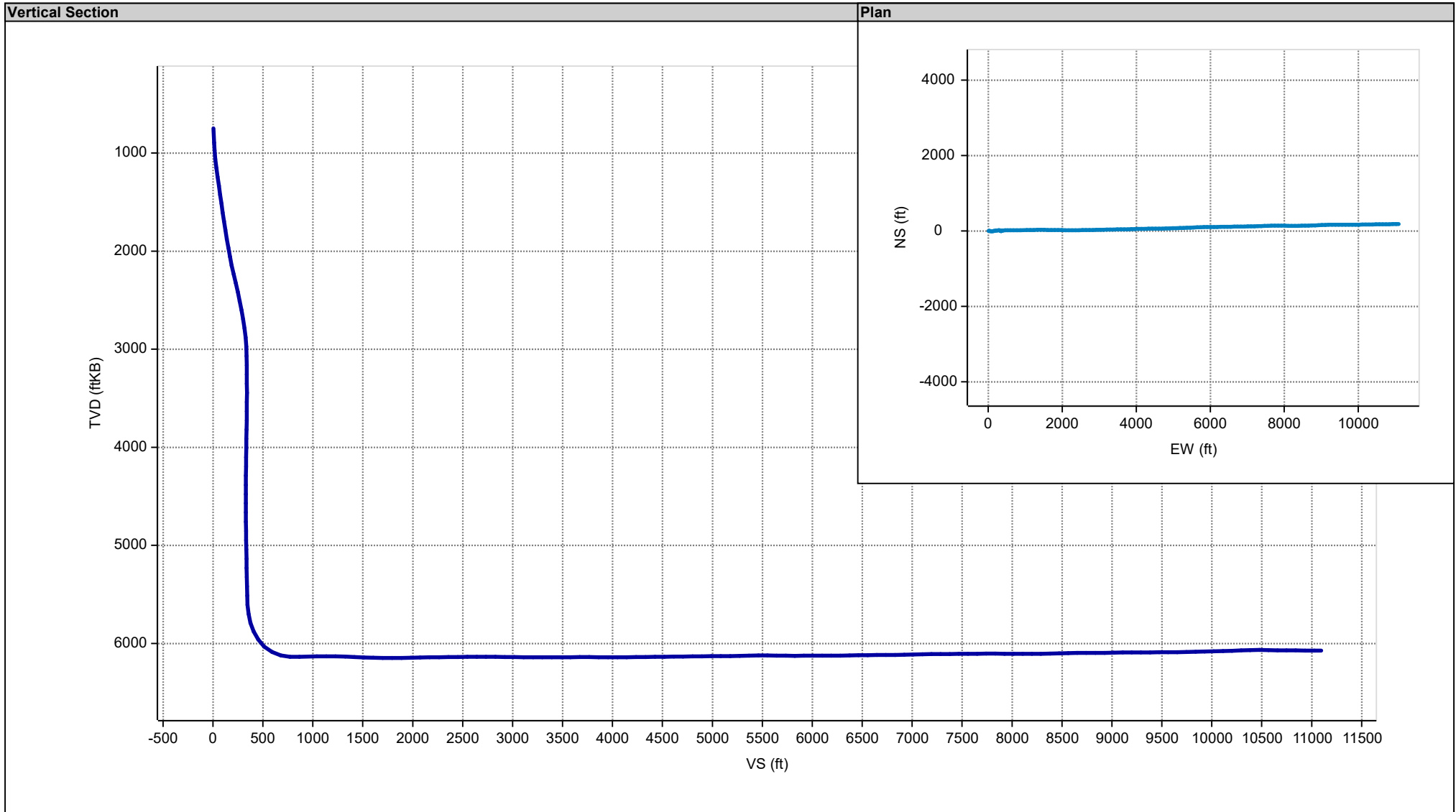




Directional Plot

Well Name: RSU Ans Fed 04-62-02-6457C

Well Name RSU Ans Fed 04-62-02-6457C	API 05-123-46839-__	Excalibur ID 20232	Operator HighPoint Resources	Current Well Status Producing	Government Authority
Well Configuration Type Horizontal	Original KB Elevation (ft) 4,545.50	Ground Elevation (ft) 4,522.50	KB-Ground Distance (ft) 23.00	Regulatory Drilling Spud Date 6/2/2018 01:00	Regulatory Rig Release Date 8/31/2018 06:00
Surface Legal Location SESE Sec. 3 T4N R62W	North/South Distance (ft) 283.0	North/South Reference FSL	East/West Distance (ft) 712.0	East/West Reference FEL	Lat/Long Datum NAD 83
Latitude (°) 40° 20' 5.989" N	Longitude (°) 104° 18' 16.751" W	Basin DJ Basin	Field Name Briggsdale	County Weld	State/Province Colorado



Panther		Kit Box #	Well name/No.		Rig Name & No.		Panther Job #		Calculation Method		Minimum Curvature				
Panther		46	RSU AF 4-62-02-6457C		Savana 803		647H-2018		Proposed Azimuth		88.99°				
MWD OPERATOR		DIR SUPERVISOR		COUNTY/PARISH, STATE				Start Date		Depth Reference:		RKB			
Jack Tucker		John Sartori		Weld, Colorado				17-Aug-18		Tie Into:		MWD			
DipA: 66.84		Mag Field: 0.52277		Mag Dec: 7.84		Total Cor.: 7.84		Job Service:							
Mag Spacing Req.		Mag Spacing Actual			Mag Spacing Req.		Mag Spacing Actual								
Below 32		Below 35.98			Above 52		Above 59.32								
Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates			Closure		Dogleg Severity (°/100')	Build Rate (°/100')	Walk Rate (°/100')	
							N/S (ft)	E/W (ft)		Distance (ft)	Direction Azimuth				
Tie-In	800.50	2.20	67.54	0.00	800.43	6.35	1.73	N	6.33	E	0.00	0.00	0.00	0.00	0.00
1	892.00	2.40	71.30	91.50	891.86	9.82	3.02	N	9.77	E	10.22	72.85	0.27	0.22	4.11
2	972.00	4.80	79.60	80.00	971.69	14.72	4.16	N	14.65	E	15.23	74.16	3.06	3.00	10.38
3	1063.00	6.20	88.10	91.00	1062.27	23.39	5.01	N	23.30	E	23.84	77.87	1.78	1.54	9.34
4	1154.00	7.60	104.30	91.00	1152.62	34.11	3.68	N	34.05	E	34.25	83.83	2.62	1.54	17.80
5	1245.00	7.90	99.90	91.00	1242.79	46.05	1.12	N	46.04	E	46.05	88.60	0.73	0.33	-4.84
6	1337.00	8.50	92.90	92.00	1333.85	59.04	0.31	S	59.06	E	59.06	90.30	1.26	0.65	-7.61
7	1428.00	7.50	89.20	91.00	1423.97	71.69	0.57	S	71.71	E	71.72	90.45	1.24	-1.10	-4.07
8	1519.00	7.30	92.00	91.00	1514.21	83.41	0.69	S	83.43	E	83.43	90.47	0.45	-0.22	3.08
9	1610.00	8.70	94.90	91.00	1604.32	96.03	1.48	S	96.07	E	96.08	90.88	1.60	1.54	3.19
10	1701.00	9.30	89.00	91.00	1694.20	110.22	1.93	S	110.28	E	110.29	91.01	1.21	0.66	-6.48
11	1792.00	8.40	80.70	91.00	1784.12	124.16	0.73	S	124.19	E	124.19	90.34	1.71	-0.99	-9.12
12	1883.00	8.70	80.30	91.00	1874.11	137.54	1.50	N	137.53	E	137.54	89.37	0.34	0.33	-0.44
13	1975.00	10.20	84.40	92.00	1964.86	152.54	3.47	N	152.50	E	152.54	88.70	1.79	1.63	4.46
14	2067.00	10.80	80.30	92.00	2055.32	169.18	5.72	N	169.10	E	169.20	88.06	1.04	0.65	-4.46
15	2158.00	11.60	76.00	91.00	2144.59	186.52	9.37	N	186.38	E	186.62	87.12	1.27	0.88	-4.73
16	2249.00	13.30	79.30	91.00	2233.45	205.75	13.52	N	205.55	E	205.99	86.24	2.02	1.87	3.63
17	2341.00	13.10	82.60	92.00	2323.02	226.55	16.83	N	226.29	E	226.91	85.75	0.85	-0.22	3.59
18	2435.00	12.20	86.50	94.00	2414.73	247.06	18.81	N	246.76	E	247.48	85.64	1.32	-0.96	4.15
19	2530.00	11.60	90.90	95.00	2507.69	266.63	19.27	N	266.33	E	267.03	85.86	1.14	-0.63	4.63
20	2624.00	11.10	90.30	94.00	2599.86	285.12	19.08	N	284.83	E	285.47	86.17	0.55	-0.53	-0.64
21	2718.00	9.70	91.00	94.00	2692.31	302.09	18.89	N	301.80	E	302.39	86.42	1.50	-1.49	0.74
22	2812.00	7.20	92.70	94.00	2785.28	315.88	18.47	N	315.60	E	316.14	86.65	2.67	-2.66	1.81
23	2906.00	5.00	105.50	94.00	2878.75	325.69	17.10	N	325.44	E	325.89	86.99	2.74	-2.34	13.62
24	3001.00	3.30	93.40	95.00	2973.50	332.38	15.83	N	332.16	E	332.53	87.27	2.00	-1.79	-12.74
25	3095.00	1.20	121.00	94.00	3067.42	335.92	15.17	N	335.70	E	336.04	87.41	2.45	-2.23	29.36
26	3189.00	1.10	128.10	94.00	3161.40	337.45	14.10	N	337.25	E	337.55	87.61	0.18	-0.11	7.55
27	3283.00	0.60	126.80	94.00	3255.39	338.54	13.25	N	338.36	E	338.62	87.76	0.53	-0.53	-1.38
28	3377.00	0.20	184.10	94.00	3349.39	338.91	12.79	N	338.74	E	338.98	87.84	0.55	-0.43	60.96
29	3471.00	0.10	122.50	94.00	3443.39	338.97	12.59	N	338.80	E	339.03	87.87	0.19	-0.11	-65.53
30	3564.00	0.40	229.50	93.00	3536.39	338.78	12.33	N	338.62	E	338.84	87.91	0.47	0.32	115.05
31	3658.00	0.70	232.40	94.00	3630.38	338.07	11.77	N	337.92	E	338.12	88.01	0.32	0.32	3.09
32	3752.00	0.90	256.00	94.00	3724.38	336.89	11.24	N	336.74	E	336.93	88.09	0.41	0.21	25.11
33	3846.00	1.20	222.10	94.00	3818.36	335.50	10.33	N	335.37	E	335.53	88.24	0.72	0.32	-36.06
34	3940.00	1.40	203.20	94.00	3912.34	334.35	8.54	N	334.26	E	334.37	88.54	0.50	0.21	-20.11
35	4034.00	1.40	228.60	94.00	4006.31	333.01	6.73	N	332.94	E	333.01	88.84	0.65	0.00	27.02
36	4129.00	1.00	275.70	95.00	4101.29	331.30	6.04	N	331.25	E	331.30	88.95	1.08	-0.42	49.58
37	4222.00	0.40	275.40	93.00	4194.28	330.17	6.15	N	330.12	E	330.17	88.93	0.65	-0.65	-0.32
38	4316.00	0.40	229.60	94.00	4288.28	329.59	5.97	N	329.54	E	329.59	88.96	0.33	0.00	-48.72
39	4411.00	0.50	261.80	95.00	4383.28	328.93	5.70	N	328.88	E	328.93	89.01	0.28	0.11	33.89
40	4505.00	0.30	264.70	94.00	4477.28	328.27	5.62	N	328.23	E	328.27	89.02	0.21	-0.21	3.09
41	4598.00	0.60	278.70	93.00	4570.27	327.55	5.67	N	327.50	E	327.55	89.01	0.34	0.32	15.05
42	4692.00	0.70	76.60	94.00	4664.27	327.63	5.88	N	327.57	E	327.63	88.97	1.36	0.11	-215.00
43	4786.00	1.10	82.80	94.00	4758.26	329.08	6.12	N	329.03	E	329.08	88.93	0.44	0.43	6.60
44	4881.00	0.90	58.60	95.00	4853.24	330.63	6.63	N	330.57	E	330.64	88.85	0.49	-0.21	-25.47
45	4975.00	1.00	66.60	94.00	4947.23	332.03	7.34	N	331.95	E	332.03	88.73	0.18	0.11	8.51
46	5069.00	1.00	73.40	94.00	5041.22	333.58	7.90	N	333.49	E	333.58	88.64	0.13	0.00	7.23
47	5164.00	1.00	60.90	95.00	5136.20	335.11	8.54	N	335.01	E	335.12	88.54	0.23	0.00	-13.16
48	5258.00	1.00	42.20	94.00	5230.19	336.39	9.54	N	336.28	E	336.41	88.37	0.35	0.00	-19.89
49	5351.00	1.10	63.60	93.00	5323.17	337.76	10.54	N	337.62	E	337.79	88.21	0.43	0.11	23.01
50	5445.00	1.40	52.50	94.00	5417.15	339.49	11.64	N	339.34	E	339.54	88.04	0.41	0.32	-11.81

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates				Closure		Dogleg Severity (°/100')	Build Rate (°/100')	Walk Rate (°/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth					
51	5539.00	1.60	51.90	94.00	5511.12	341.46	13.15	N	341.29	E	341.54	87.79	0.21	0.21	-0.64
52	5633.00	3.50	87.90	94.00	5605.03	345.38	14.06	N	345.19	E	345.47	87.67	2.55	2.02	38.30
53	5727.00	8.70	87.10	94.00	5698.46	355.36	14.53	N	355.16	E	355.46	87.66	5.53	5.53	-0.85
54	5821.00	15.40	87.50	94.00	5790.34	374.97	15.43	N	374.75	E	375.07	87.64	7.13	7.13	0.43
55	5915.00	23.70	87.50	94.00	5878.84	406.38	16.81	N	406.15	E	406.50	87.63	8.83	8.83	0.00
56	6009.00	34.90	85.70	94.00	5960.69	452.26	19.66	N	451.99	E	452.41	87.51	11.95	11.91	-1.91
57	6103.00	47.10	87.40	94.00	6031.50	513.76	23.25	N	513.43	E	513.95	87.41	13.03	12.98	1.81
58	6198.00	60.70	90.30	95.00	6087.35	590.32	24.62	N	589.98	E	590.49	87.61	14.52	14.32	3.05
59	6292.00	76.40	90.50	94.00	6121.62	677.51	24.00	N	677.20	E	677.62	87.97	16.70	16.70	0.21
60	6386.00	86.80	89.80	94.00	6135.33	770.36	23.76	N	770.06	E	770.42	88.23	11.09	11.06	-0.74
61	6481.00	91.30	89.30	95.00	6136.90	865.32	24.51	N	865.02	E	865.36	88.38	4.77	4.74	-0.53
62	6655.00	91.90	89.10	174.00	6132.05	1039.25	26.94	N	1038.93	E	1039.28	88.51	0.36	0.34	-0.11
63	6750.00	90.50	88.60	95.00	6130.06	1134.22	28.84	N	1133.89	E	1134.26	88.54	1.56	-1.47	-0.53
64	6843.00	88.70	89.40	93.00	6130.71	1227.21	30.47	N	1226.87	E	1227.25	88.58	2.12	-1.94	0.86
65	6938.00	88.00	89.70	95.00	6133.44	1322.17	31.21	N	1321.83	E	1322.19	88.65	0.80	-0.74	0.32
66	7032.00	87.40	90.00	94.00	6137.21	1416.08	31.46	N	1415.75	E	1416.10	88.73	0.71	-0.64	0.32
67	7127.00	87.10	90.40	95.00	6141.77	1510.95	31.13	N	1510.64	E	1510.96	88.82	0.53	-0.32	0.42
68	7221.00	88.10	90.50	94.00	6145.71	1604.84	30.39	N	1604.55	E	1604.84	88.91	1.07	1.06	0.11
69	7315.00	89.40	91.10	94.00	6147.76	1698.77	29.08	N	1698.52	E	1698.77	89.02	1.52	1.38	0.64
70	7409.00	90.50	90.30	94.00	6147.84	1792.72	27.93	N	1792.51	E	1792.73	89.11	1.45	1.17	-0.85
71	7503.00	91.00	90.10	94.00	6146.61	1886.69	27.60	N	1886.50	E	1886.70	89.16	0.57	0.53	-0.21
72	7597.00	91.20	91.00	94.00	6144.81	1980.64	26.70	N	1980.48	E	1980.66	89.23	0.98	0.21	0.96
73	7691.00	91.40	91.90	94.00	6142.67	2074.53	24.32	N	2074.42	E	2074.56	89.33	0.98	0.21	0.96
74	7785.00	91.10	91.40	94.00	6140.62	2168.40	21.61	N	2168.36	E	2168.47	89.43	0.62	-0.32	-0.53
75	7879.00	90.40	89.70	94.00	6139.39	2262.36	20.71	N	2262.34	E	2262.44	89.48	1.96	-0.74	-1.81
76	7973.00	90.60	88.50	94.00	6138.57	2356.35	22.19	N	2356.33	E	2356.43	89.46	1.29	0.21	-1.28
77	8067.00	90.60	88.60	94.00	6137.59	2450.34	24.57	N	2450.29	E	2450.41	89.43	0.11	0.00	0.11
78	8162.00	90.40	88.70	95.00	6136.76	2545.34	26.81	N	2545.26	E	2545.40	89.40	0.24	-0.21	0.11
79	8256.00	90.40	89.10	94.00	6136.10	2639.34	28.61	N	2639.24	E	2639.40	89.38	0.43	0.00	0.43
80	8349.00	89.60	89.50	93.00	6136.10	2732.33	29.75	N	2732.23	E	2732.40	89.38	0.96	-0.86	0.43
81	8443.00	89.50	89.10	94.00	6136.84	2826.33	30.89	N	2826.22	E	2826.39	89.37	0.44	-0.11	-0.43
82	8538.00	89.00	89.00	95.00	6138.08	2921.32	32.47	N	2921.20	E	2921.38	89.36	0.54	-0.53	-0.11
83	8632.00	89.60	89.10	94.00	6139.23	3015.31	34.03	N	3015.18	E	3015.37	89.35	0.65	0.64	0.11
84	8726.00	89.80	88.10	94.00	6139.72	3109.31	36.32	N	3109.15	E	3109.36	89.33	1.08	0.21	-1.06
85	8820.00	90.00	88.50	94.00	6139.89	3203.30	39.11	N	3203.11	E	3203.35	89.30	0.48	0.21	0.43
86	8914.00	90.30	89.20	94.00	6139.64	3297.30	41.00	N	3297.09	E	3297.34	89.29	0.81	0.32	0.74
87	9007.00	89.80	88.80	93.00	6139.56	3390.30	42.62	N	3390.07	E	3390.34	89.28	0.69	-0.54	-0.43
88	9101.00	89.50	89.20	94.00	6140.13	3484.30	44.26	N	3484.06	E	3484.34	89.27	0.53	-0.32	0.43
89	9195.00	90.60	89.20	94.00	6140.05	3578.29	45.58	N	3578.05	E	3578.34	89.27	1.17	1.17	0.00
90	9289.00	90.40	89.50	94.00	6139.23	3672.29	46.64	N	3672.04	E	3672.33	89.27	0.38	-0.21	0.32
91	9383.00	90.10	89.10	94.00	6138.82	3766.29	47.79	N	3766.03	E	3766.33	89.27	0.53	-0.32	-0.43
92	9477.00	89.20	88.40	94.00	6139.40	3860.28	49.84	N	3860.00	E	3860.33	89.26	1.21	-0.96	-0.74
93	9571.00	89.80	88.20	94.00	6140.22	3954.27	52.63	N	3953.96	E	3954.31	89.24	0.67	0.64	-0.21
94	9665.00	90.10	88.30	94.00	6140.30	4048.26	55.50	N	4047.91	E	4048.29	89.21	0.34	0.32	0.11
95	9759.00	91.00	88.00	94.00	6139.40	4142.25	58.53	N	4141.86	E	4142.27	89.19	1.01	0.96	-0.32
96	9853.00	90.80	88.50	94.00	6137.92	4236.23	61.40	N	4235.80	E	4236.25	89.17	0.57	-0.21	0.53
97	9947.00	89.80	88.50	94.00	6137.43	4330.22	63.87	N	4329.77	E	4330.24	89.15	1.06	-1.06	0.00
98	10041.00	91.30	89.80	94.00	6136.53	4424.21	65.26	N	4423.75	E	4424.23	89.15	2.11	1.60	1.38
99	10135.00	90.50	89.80	94.00	6135.05	4518.19	65.59	N	4517.74	E	4518.21	89.17	0.85	-0.85	0.00
100	10229.00	90.60	89.40	94.00	6134.15	4612.18	66.24	N	4611.73	E	4612.21	89.18	0.44	0.11	-0.43
101	10323.00	90.70	89.10	94.00	6133.08	4706.17	67.47	N	4705.72	E	4706.20	89.18	0.34	0.11	-0.32
102	10418.00	90.40	88.30	95.00	6132.17	4801.17	69.63	N	4800.69	E	4801.19	89.17	0.90	-0.32	-0.84
103	10512.00	91.40	88.80	94.00	6130.69	4895.15	72.01	N	4894.64	E	4895.17	89.16	1.19	1.06	0.53
104	10606.00	89.80	87.10	94.00	6129.71	4989.12	75.37	N	4988.57	E	4989.14	89.13	2.48	-1.70	-1.81
105	10701.00	90.80	87.60	95.00	6129.21	5084.08	79.76	N	5083.47	E	5084.09	89.10	1.18	1.05	0.53
106	10795.00	91.10	88.50	94.00	6127.65	5178.06	82.96	N	5177.40	E	5178.06	89.08	1.01	0.32	0.96
107	10888.00	91.10	88.50	93.00	6125.87	5271.04	85.39	N	5270.35	E	5271.04	89.07	0.00	0.00	0.00
108	10983.00	91.40	88.50	95.00	6123.79	5366.01	87.88	N	5365.29	E	5366.01	89.06	0.32	0.32	0.00
109	11077.00	90.20	87.70	94.00	6122.48	5459.99	91.00	N	5459.23	E	5459.99	89.05	1.53	-1.28	-0.85

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates			Closure		Dogleg Severity (°/100')	Build Rate (°/100')	Walk Rate (°/100')	
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth					
110	11168.00	89.90	87.60	91.00	6122.40	5550.96	94.73	N	5550.15	E	5550.96	89.02	0.35	-0.33	-0.11
111	11260.00	89.20	87.50	92.00	6123.12	5642.93	98.66	N	5642.07	E	5642.93	89.00	0.77	-0.76	-0.11
112	11351.00	88.80	87.60	91.00	6124.71	5733.89	102.55	N	5732.97	E	5733.89	88.98	0.45	-0.44	0.11
113	11442.00	90.10	89.00	91.00	6125.59	5824.87	105.25	N	5823.92	E	5824.87	88.96	2.10	1.43	1.54
114	11533.00	90.50	89.10	91.00	6125.11	5915.87	106.76	N	5914.91	E	5915.87	88.97	0.45	0.44	0.11
115	11624.00	90.10	89.70	91.00	6124.63	6006.87	107.71	N	6005.90	E	6006.87	88.97	0.79	-0.44	0.66
116	11715.00	90.10	89.50	91.00	6124.47	6097.86	108.35	N	6096.90	E	6097.86	88.98	0.22	0.00	-0.22
117	11806.00	90.50	89.10	91.00	6124.00	6188.86	109.46	N	6187.89	E	6188.86	88.99	0.62	0.44	-0.44
118	11898.00	90.20	89.10	92.00	6123.44	6280.86	110.90	N	6279.88	E	6280.86	88.99	0.33	-0.33	0.00
119	11989.00	90.90	89.30	91.00	6122.56	6371.85	112.17	N	6370.86	E	6371.85	88.99	0.80	0.77	0.22
120	12080.00	91.70	89.00	91.00	6120.50	6462.83	113.52	N	6461.83	E	6462.83	88.99	0.94	0.88	-0.33
121	12172.00	90.90	88.50	92.00	6118.41	6554.80	115.53	N	6553.78	E	6554.80	88.99	1.03	-0.87	-0.54
122	12263.00	90.60	88.80	91.00	6117.22	6645.79	117.67	N	6644.75	E	6645.79	88.99	0.47	-0.33	0.33
123	12354.00	90.00	88.80	91.00	6116.74	6736.79	119.58	N	6735.73	E	6736.79	88.98	0.66	-0.66	0.00
124	12446.00	91.10	89.30	92.00	6115.86	6828.78	121.10	N	6827.71	E	6828.78	88.98	1.31	1.20	0.54
125	12537.00	91.50	89.00	91.00	6113.80	6919.76	122.45	N	6918.67	E	6919.76	88.99	0.55	0.44	-0.33
126	12628.00	91.60	89.60	91.00	6111.33	7010.72	123.57	N	7009.63	E	7010.72	88.99	0.67	0.11	0.66
127	12719.00	90.90	89.30	91.00	6109.35	7101.70	124.44	N	7100.61	E	7101.70	89.00	0.84	-0.77	-0.33
128	12810.00	90.20	87.80	91.00	6108.48	7192.69	126.74	N	7191.57	E	7192.69	88.99	1.82	-0.77	-1.65
129	12901.00	90.50	87.70	91.00	6107.92	7283.66	130.31	N	7282.50	E	7283.66	88.97	0.35	0.33	-0.11
130	12993.00	90.50	87.50	92.00	6107.12	7375.63	134.17	N	7374.41	E	7375.64	88.96	0.22	0.00	-0.22
131	13084.00	90.50	88.50	91.00	6106.32	7466.62	137.34	N	7465.35	E	7466.62	88.95	1.10	0.00	1.10
132	13175.00	90.50	88.80	91.00	6105.53	7557.61	139.49	N	7556.33	E	7557.61	88.94	0.33	0.00	0.33
133	13267.00	91.10	89.00	92.00	6104.24	7649.60	141.25	N	7648.30	E	7649.60	88.94	0.69	0.65	0.22
134	13358.00	90.40	89.50	91.00	6103.05	7740.59	142.44	N	7739.28	E	7740.59	88.95	0.95	-0.77	0.55
135	13449.00	89.10	90.40	91.00	6103.45	7831.57	142.52	N	7830.28	E	7831.58	88.96	1.74	-1.43	0.99
136	13541.00	89.10	90.30	92.00	6104.89	7923.54	141.96	N	7922.27	E	7923.54	88.97	0.11	0.00	-0.11
137	13632.00	89.80	90.30	91.00	6105.77	8014.51	141.48	N	8013.26	E	8014.51	88.99	0.77	0.77	0.00
138	13724.00	89.90	91.00	92.00	6106.01	8106.47	140.44	N	8105.25	E	8106.47	89.01	0.77	0.11	0.76
139	13815.00	90.50	90.60	91.00	6105.69	8197.42	139.17	N	8196.24	E	8197.42	89.03	0.79	0.66	-0.44
140	13906.00	90.70	89.60	91.00	6104.74	8288.40	139.01	N	8287.24	E	8288.40	89.04	1.12	0.22	-1.10
141	13997.00	91.60	89.00	91.00	6102.91	8379.38	140.12	N	8378.21	E	8379.38	89.04	1.19	0.99	-0.66
142	14088.00	91.50	88.90	91.00	6100.45	8470.35	141.79	N	8469.16	E	8470.35	89.04	0.16	-0.11	-0.11
143	14179.00	91.10	88.70	91.00	6098.39	8561.32	143.69	N	8560.12	E	8561.32	89.04	0.49	-0.44	-0.22
144	14270.00	90.90	89.00	91.00	6096.80	8652.31	145.52	N	8651.09	E	8652.31	89.04	0.40	-0.22	0.33
145	14360.00	90.20	88.10	90.00	6095.93	8742.30	147.80	N	8741.05	E	8742.30	89.03	1.27	-0.78	-1.00
146	14451.00	90.00	86.80	91.00	6095.78	8833.26	151.85	N	8831.96	E	8833.26	89.02	1.45	-0.22	-1.43
147	14543.00	90.80	87.60	92.00	6095.13	8925.21	156.34	N	8923.85	E	8925.22	89.00	1.23	0.87	0.87
148	14634.00	91.60	87.30	91.00	6093.23	9016.16	160.39	N	9014.73	E	9016.16	88.98	0.94	0.88	-0.33
149	14725.00	91.20	87.60	91.00	6091.00	9107.10	164.44	N	9105.62	E	9107.10	88.97	0.55	-0.44	0.33
150	14816.00	89.90	88.30	91.00	6090.13	9198.08	167.69	N	9196.55	E	9198.08	88.96	1.62	-1.43	0.77
160	14907.00	89.60	89.10	91.00	6090.53	9289.08	169.76	N	9287.53	E	9289.08	88.95	0.94	-0.33	0.88
161	14999.00	90.10	89.80	92.00	6090.77	9381.07	170.64	N	9379.52	E	9381.07	88.96	0.94	0.54	0.76
162	15090.00	90.90	90.20	91.00	6089.97	9472.05	170.64	N	9470.52	E	9472.05	88.97	0.98	0.88	0.44
163	15180.00	90.40	90.60	90.00	6088.95	9562.02	170.01	N	9560.51	E	9562.02	88.98	0.71	-0.56	0.44
164	15272.00	90.40	90.40	92.00	6088.31	9653.99	169.21	N	9652.50	E	9653.99	89.00	0.22	0.00	-0.22
165	15363.00	91.30	90.00	91.00	6086.96	9744.95	168.89	N	9743.49	E	9744.95	89.01	1.08	0.99	-0.44
166	15455.00	91.80	89.60	92.00	6084.47	9836.91	169.21	N	9835.46	E	9836.91	89.01	0.70	0.54	-0.43
167	15546.00	91.50	89.60	91.00	6081.85	9927.87	169.85	N	9926.42	E	9927.87	89.02	0.33	-0.33	0.00
168	15638.00	91.60	89.30	92.00	6079.36	10019.83	170.73	N	10018.38	E	10019.83	89.02	0.34	0.11	-0.33
169	15729.00	91.70	89.10	91.00	6076.74	10110.79	172.00	N	10109.33	E	10110.79	89.03	0.25	0.11	-0.22
170	15820.00	91.80	88.50	91.00	6073.96	10201.75	173.90	N	10200.27	E	10201.75	89.02	0.67	0.11	-0.66
171	15911.00	91.90	89.10	91.00	6071.03	10292.70	175.81	N	10291.20	E	10292.70	89.02	0.67	0.11	0.66
172	16002.00	92.00	89.10	91.00	6067.93	10383.65	177.24	N	10382.14	E	10383.65	89.02	0.11	0.11	0.00
173	16093.00	90.00	88.90	91.00	6066.34	10474.63	178.82	N	10473.10	E	10474.63	89.02	2.21	-2.20	-0.22
174	16185.00	88.70	89.60	92.00	6067.39	10566.62	180.03	N	10565.09	E	10566.62	89.02	1.60	-1.41	0.76
175	16276.00	89.30	89.60	91.00	6068.97	10657.60	180.66	N	10656.07	E	10657.60	89.03	0.66	0.66	0.00
176	16366.00	89.50	89.30	90.00	6069.92	10747.59	181.53	N	10746.06	E	10747.60	89.03	0.40	0.22	-0.33
177	16458.00	89.50	89.10	92.00	6070.72	10839.59	182.81	N	10838.05	E	10839.59	89.03	0.22	0.00	-0.22

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (°/100')	Build Rate (°/100')	Walk Rate (°/100')		
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth					
178	16551.00	89.50	89.10	93.00	6071.53	10932.58	184.27	N	10931.04	E	10932.59	89.03	0.00	0.00	0.00
179	16645.00	89.50	89.10	94.00	6072.35	11026.58	185.75	N	11025.02	E	11026.58	89.03	0.00	0.00	0.00
180	16712.00	90.20	89.70	67.00	6072.53	11093.58	186.45	N	11092.02	E	11093.58	89.04	1.38	1.04	0.90
PTB	16789.00	90.20	89.70	77.00	6072.26	11170.57	186.85	N	11169.01	E	11170.58	89.04	0.00	0.00	0.00