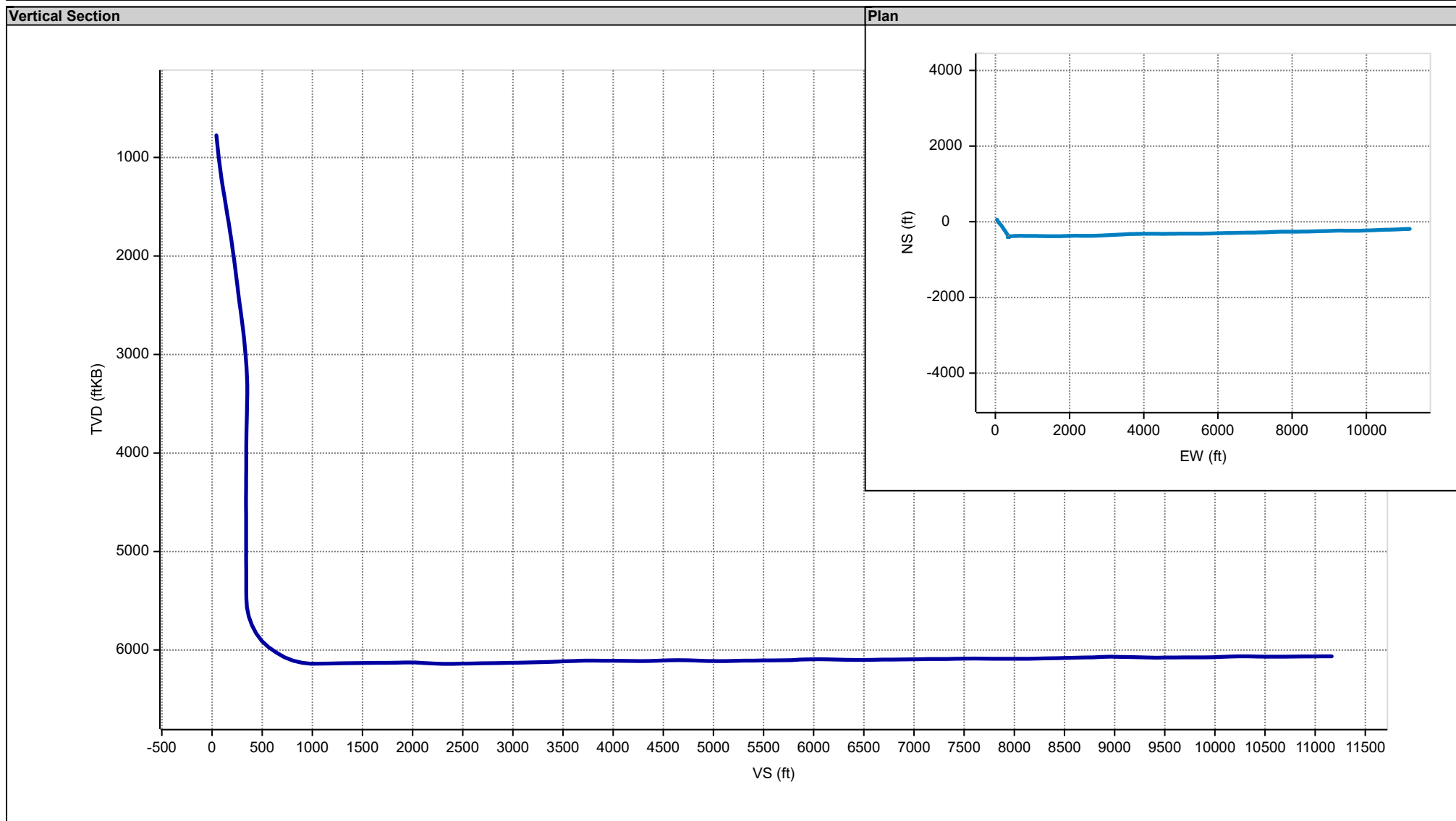




## Directional Plot

Well Name: **RSU Ans Fed 4-62-11-0108C**

Well Name <b>RSU Ans Fed 4-62-11-0108C</b>	API <b>05-123-46841-__</b>	Excalibur ID <b>20233</b>	Operator <b>HighPoint Resources</b>	Current Well Status <b>Producing</b>	Government Authority
Well Configuration Type <b>Horizontal</b>	Original KB Elevation (ft) <b>4,545.50</b>	Ground Elevation (ft) <b>4,522.50</b>	KB-Ground Distance (ft) <b>23.00</b>	Regulatory Drilling Spud Date <b>6/6/2018 19:00</b>	Regulatory Rig Release Date <b>9/9/2018 06:00</b>
Surface Legal Location <b>SESE Sec. 3 T4N R62W</b>	North/South Distance (ft) <b>268.0</b>	North/South Reference <b>FSL</b>	East/West Distance (ft) <b>713.0</b>	East/West Reference <b>FEL</b>	Lat/Long Datum <b>NAD 83</b>
Latitude (°)	Longitude (°)	Basin <b>DJ Basin</b>	Field Name <b>Briggsdale</b>	County <b>Weld</b>	State/Province <b>Colorado</b>



		Kit Box #		Well name/No.		Rig Name & No.		Panther Job #		Calculation Method		Minimum Curvature			
Panther		46		RSU AF 4-62-11-01080		Savana 803		660H-2018		Proposed Azimuth		89.03°			
MWD OPERATOR		DIR SUPERVISOR		COUNTY/PARISH, STATE				Start Date		Depth Reference:		RKB			
Jack Tucker		John Sartori		Weld, Colorado				31-Aug-18		Tie Into:		MWD			
DipA: 66.84		Mag Field:		0.52277	Mag Dec.	7.83	Total Cor.: 7.83			Job Service:					
Mag Spacing Req.		Mag Spacing Actual			Mag Spacing Req.		Mag Spacing Actual								
Below 32		Below	35.98		Above	52	Above		59.32						
Svy No.,	Survey Depth (ft)	Inclina- tion (deg)	Azi (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	779.50	11.29	149.67	0.00	774.29	40.77	58.17	S	41.76	E	0.00	0.00	0.00	0.00	
1	881.00	11.70	149.90	101.50	873.75	50.65	75.65	S	51.94	E	91.76	145.53	0.41	0.40	
2	972.00	12.00	149.80	91.00	962.81	59.76	91.81	S	61.32	E	110.41	146.26	0.33	0.33	
3	1063.00	13.70	145.40	91.00	1051.53	70.35	108.86	S	72.20	E	130.63	146.44	2.15	1.87	
4	1155.00	12.10	145.20	92.00	1141.21	81.75	125.74	S	83.89	E	151.16	146.29	1.74	-1.74	
5	1246.00	14.20	140.50	91.00	1229.82	94.02	142.19	S	96.44	E	171.81	145.85	2.59	2.31	
6	1337.00	13.70	138.50	91.00	1318.14	107.97	158.87	S	110.68	E	193.62	145.14	0.76	-0.55	
7	1429.00	13.80	138.60	92.00	1407.50	122.17	175.26	S	125.15	E	215.36	144.47	0.11	0.11	
8	1520.00	14.20	138.90	91.00	1495.80	136.40	191.82	S	139.67	E	237.28	143.94	0.45	0.44	
9	1611.00	13.60	135.90	91.00	1584.13	150.91	207.91	S	154.45	E	259.00	143.39	1.03	-0.66	
10	1702.00	16.40	148.40	91.00	1672.05	164.78	226.54	S	168.64	E	282.42	143.34	4.69	3.08	
11	1793.00	15.30	142.80	91.00	1759.59	178.42	247.05	S	182.63	E	307.22	143.53	2.07	-1.21	
12	1884.00	15.00	148.50	91.00	1847.43	191.50	266.66	S	196.04	E	330.96	143.68	1.67	-0.33	
13	1976.00	14.50	146.00	92.00	1936.40	203.82	286.36	S	208.70	E	354.34	143.91	0.88	-0.54	
14	2067.00	13.70	145.90	91.00	2024.66	215.92	304.72	S	221.11	E	376.49	144.03	0.88	-0.88	
15	2159.00	11.60	141.80	92.00	2114.42	227.47	321.02	S	232.94	E	396.63	144.03	2.48	-2.28	
16	2250.00	12.40	144.40	91.00	2203.43	238.56	336.15	S	244.29	E	415.54	143.99	1.06	0.88	
17	2342.00	11.40	144.80	92.00	2293.46	249.29	351.61	S	255.28	E	434.51	144.02	1.09	-1.09	
18	2436.00	12.90	146.40	94.00	2385.35	260.17	367.94	S	266.44	E	454.28	144.09	1.64	1.60	
19	2530.00	13.90	147.00	94.00	2476.79	271.82	386.15	S	278.40	E	476.05	144.21	1.07	1.06	
20	2624.00	13.80	147.40	94.00	2568.06	283.69	405.07	S	290.59	E	498.52	144.35	0.15	-0.11	
21	2718.00	13.50	146.40	94.00	2659.40	295.48	423.65	S	302.70	E	520.68	144.45	0.41	-0.32	
22	2813.00	12.50	142.80	95.00	2751.97	307.54	441.08	S	315.05	E	542.04	144.46	1.35	-1.05	
23	2907.00	10.50	147.10	94.00	2844.08	318.08	456.37	S	325.86	E	560.77	144.47	2.31	-2.13	
24	3002.00	8.00	145.20	95.00	2937.83	326.34	469.07	S	334.33	E	576.03	144.52	2.65	-2.63	
25	3096.00	7.50	135.40	94.00	3030.98	334.22	478.81	S	342.37	E	588.63	144.43	1.50	-0.53	
26	3190.00	5.50	139.70	94.00	3124.37	341.31	486.62	S	349.60	E	599.18	144.31	2.19	-2.13	
27	3284.00	5.20	155.00	94.00	3217.96	345.90	493.91	S	354.31	E	607.85	144.35	1.55	-0.32	
28	3378.00	2.80	156.00	94.00	3311.73	348.53	499.87	S	357.04	E	614.29	144.46	2.55	-2.55	
29	3472.00	1.10	224.60	94.00	3405.68	348.78	502.61	S	357.34	E	616.70	144.59	2.77	-1.81	
30	3566.00	1.50	244.20	94.00	3499.66	347.02	503.79	S	355.60	E	616.65	144.78	0.63	0.43	
31	3660.00	1.30	240.30	94.00	3593.63	344.97	504.85	S	353.57	E	616.35	144.99	0.24	-0.21	
32	3754.00	1.30	239.80	94.00	3687.60	343.11	505.92	S	351.72	E	616.17	145.19	0.01	0.00	
33	3847.00	1.90	259.50	93.00	3780.57	340.67	506.73	S	349.29	E	615.45	145.42	0.87	0.65	
34	3942.00	0.40	176.30	95.00	3875.55	339.13	507.35	S	347.77	E	615.10	145.57	1.99	-1.58	
35	4036.00	0.30	191.70	94.00	3969.55	339.09	507.92	S	347.74	E	615.55	145.60	0.15	-0.11	
36	4130.00	0.30	191.60	94.00	4063.55	338.98	508.40	S	347.64	E	615.89	145.64	0.00	0.00	
37	4224.00	0.40	260.90	94.00	4157.55	338.60	508.69	S	347.27	E	615.92	145.68	0.43	0.11	
38	4318.00	1.10	332.00	94.00	4251.54	337.87	507.95	S	346.52	E	614.89	145.70	1.11	0.74	
39	4413.00	1.10	329.40	95.00	4346.52	337.00	506.36	S	345.63	E	613.07	145.68	0.05	0.00	
40	4507.00	1.30	319.20	94.00	4440.50	335.87	504.77	S	344.47	E	611.11	145.69	0.31	0.21	
41	4600.00	0.70	79.70	93.00	4533.49	335.76	503.87	S	344.34	E	610.29	145.65	1.89	-0.65	
42	4694.00	0.90	68.30	94.00	4627.48	337.02	503.50	S	345.59	E	610.69	145.54	0.27	0.21	
43	4788.00	0.40	204.80	94.00	4721.48	337.56	503.52	S	346.14	E	611.02	145.49	1.30	-0.53	
44	4882.00	0.50	188.10	94.00	4815.48	337.36	504.23	S	345.94	E	611.49	145.55	0.17	0.11	
45	4976.00	0.70	172.40	94.00	4909.47	337.36	505.20	S	345.96	E	612.30	145.60	0.27	0.21	
46	5069.00	0.60	158.00	93.00	5002.47	337.60	506.22	S	346.22	E	613.29	145.63	0.21	-0.11	
47	5163.00	0.30	164.70	94.00	5096.46	337.84	506.91	S	346.47	E	614.00	145.65	0.32	-0.32	
48	5257.00	0.90	159.00	94.00	5190.46	338.15	507.84	S	346.80	E	614.95	145.67	0.64	0.64	
49	5351.00	0.30	124.50	94.00	5284.45	338.60	508.66	S	347.26	E	615.90	145.68	0.72	-0.64	
50	5446.00	0.30	151.30	95.00	5379.45	338.92	509.02	S	347.59	E	616.38	145.67	0.15	0.00	
51	5540.00	1.40	86.10	94.00	5473.44	340.18	509.16	S	348.85	E	617.21	145.58	1.39	1.17	
52	5634.00	5.10	90.60	94.00	5567.27	345.51	509.13	S	354.18	E	620.20	145.18	3.94	3.94	
53	5728.00	17.70	73.60	94.00	5659.25	363.54	505.12	S	372.14	E	627.40	143.62	13.73	13.40	
54	5822.00	22.90	84.20	94.00	5747.41	395.57	499.23	S	404.08	E	642.27	141.01	6.75	5.53	
55	5916.00	30.70	85.10	94.00	5831.25	437.80	495.33	S	446.24	E	666.69	137.98	8.31	8.30	
56	6010.00	41.60	87.60	94.00	5907.04	493.10	491.96	S	501.50	E	702.51	134.45	11.70	11.60	
57	6104.00	51.70	88.30	94.00	5971.49	561.35	489.55	S	569.72	E	751.16	130.67	10.76	10.74	

Svy No.,	Survey Depth (ft)	Inclination (deg)	Azi (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			
58	6198.00	57.10	89.40	94.00	6026.19	637.75	488.04 S	646.11 E	809.72	127.07	5.82	5.74	1.17
59	6293.00	62.80	91.00	95.00	6073.74	719.93	488.36 S	728.30 E	876.88	123.84	6.17	6.00	1.68
60	6387.00	74.40	90.40	94.00	6107.98	807.26	489.41 S	815.66 E	951.23	120.96	12.35	12.34	-0.64
61	6481.00	79.00	90.40	94.00	6129.60	898.69	490.05 S	907.12 E	1031.02	118.38	4.89	4.89	0.00
62	6567.00	88.60	89.90	86.00	6138.88	984.07	490.27 S	992.51 E	1107.00	116.29	11.18	11.16	-0.58
63	6662.00	91.90	91.60	95.00	6138.46	1079.01	491.51 S	1087.49 E	1193.40	114.32	3.91	3.47	1.79
64	6756.00	90.80	90.40	94.00	6136.25	1172.92	493.15 S	1181.44 E	1280.24	112.66	1.73	-1.17	-1.28
65	6850.00	91.10	90.90	94.00	6134.69	1266.87	494.22 S	1275.42 E	1367.83	111.18	0.62	0.32	0.53
66	6944.00	90.80	90.40	94.00	6133.13	1360.82	495.29 S	1369.40 E	1456.22	109.88	0.62	-0.32	-0.53
67	7039.00	90.30	90.40	95.00	6132.22	1455.79	495.95 S	1464.40 E	1546.10	108.71	0.53	-0.53	0.00
68	7133.00	91.20	91.20	94.00	6130.99	1549.74	497.26 S	1558.38 E	1635.79	107.70	1.28	0.96	0.85
69	7227.00	90.20	89.90	94.00	6129.84	1643.69	498.16 S	1652.36 E	1725.83	106.78	1.74	-1.06	-1.38
70	7321.00	90.30	89.20	94.00	6129.43	1737.69	497.43 S	1746.36 E	1815.82	105.90	0.75	0.11	-0.74
71	7416.00	91.50	87.60	95.00	6127.94	1832.67	494.77 S	1841.31 E	1906.62	105.04	2.11	1.26	-1.68
72	7510.00	90.00	88.10	94.00	6126.71	1926.63	491.25 S	1935.23 E	1996.61	104.24	1.68	-1.60	0.53
73	7604.00	88.80	88.20	94.00	6127.69	2020.62	488.21 S	2029.17 E	2087.08	103.53	1.28	-1.28	0.11
74	7698.00	86.60	88.90	94.00	6131.46	2114.53	485.84 S	2123.06 E	2177.94	102.89	2.46	-2.34	0.74
75	7791.00	86.60	90.00	93.00	6136.98	2207.36	484.95 S	2215.89 E	2268.34	102.34	1.18	0.00	1.18
76	7885.00	89.50	92.00	94.00	6140.18	2301.24	486.59 S	2309.81 E	2360.50	101.90	3.75	3.09	2.13
77	7980.00	91.10	90.30	95.00	6139.68	2396.17	488.49 S	2404.78 E	2453.89	101.48	2.46	1.68	-1.79
78	8073.00	91.30	88.90	93.00	6137.73	2489.14	487.84 S	2497.76 E	2544.95	101.05	1.52	0.22	-1.51
79	8168.00	90.50	89.20	95.00	6136.24	2584.13	486.27 S	2592.73 E	2637.94	100.62	0.90	-0.84	0.32
80	8262.00	91.60	87.80	94.00	6134.52	2678.10	483.81 S	2686.68 E	2729.89	100.21	1.89	1.17	-1.49
81	8356.00	90.00	87.90	94.00	6133.21	2772.07	480.28 S	2780.60 E	2821.77	99.80	1.71	-1.70	0.11
82	8450.00	91.90	88.00	94.00	6131.65	2866.04	476.92 S	2874.52 E	2913.82	99.42	2.02	2.02	0.11
83	8544.00	90.60	87.80	94.00	6129.60	2959.99	473.48 S	2968.43 E	3005.96	99.06	1.40	-1.38	-0.21
84	8638.00	91.30	86.80	94.00	6128.04	3053.94	469.05 S	3062.32 E	3098.03	98.71	1.30	0.74	-1.06
85	8732.00	91.50	87.00	94.00	6125.74	3147.84	463.97 S	3156.15 E	3190.07	98.36	0.30	0.21	0.21
86	8826.00	91.10	87.20	94.00	6123.61	3241.77	459.21 S	3250.00 E	3282.29	98.04	0.48	-0.43	0.21
87	8920.00	91.80	87.50	94.00	6121.23	3335.69	454.87 S	3343.87 E	3374.67	97.75	0.81	0.74	0.32
88	9014.00	92.20	86.80	94.00	6117.95	3429.59	450.20 S	3437.70 E	3467.05	97.46	0.86	0.43	-0.74
89	9108.00	91.10	87.00	94.00	6115.24	3523.48	445.12 S	3531.52 E	3559.46	97.18	1.19	-1.17	0.21
90	9202.00	92.00	86.70	94.00	6112.70	3617.38	439.95 S	3625.34 E	3651.94	96.92	1.01	0.96	-0.32
91	9295.00	92.30	89.80	93.00	6109.21	3710.29	437.12 S	3718.22 E	3743.83	96.70	3.35	0.32	3.33
92	9389.00	88.50	89.30	94.00	6108.55	3804.27	436.38 S	3812.20 E	3837.10	96.53	4.08	-4.04	-0.53
93	9483.00	90.30	88.90	94.00	6109.54	3898.26	434.90 S	3906.18 E	3930.32	96.35	1.96	1.91	-0.43
94	9577.00	89.60	89.70	94.00	6109.62	3992.26	433.75 S	4000.17 E	4023.62	96.19	1.13	-0.74	0.85
95	9672.00	89.20	90.00	95.00	6110.62	4087.24	433.50 S	4095.17 E	4118.05	96.04	0.53	-0.42	0.32
96	9766.00	88.60	90.30	94.00	6112.42	4181.20	433.75 S	4189.15 E	4211.54	95.91	0.71	-0.64	0.32
97	9859.00	90.00	90.40	93.00	6113.56	4274.17	434.32 S	4282.14 E	4304.11	95.79	1.51	1.51	0.11
98	9953.00	91.60	91.00	94.00	6112.24	4368.12	435.47 S	4376.12 E	4397.73	95.68	1.82	1.70	0.64
99	10048.00	92.10	91.00	95.00	6109.18	4463.01	437.12 S	4471.05 E	4492.37	95.58	0.53	0.53	0.00
100	10142.00	92.20	88.60	94.00	6105.65	4556.93	436.80 S	4564.98 E	4585.83	95.47	2.55	0.11	-2.55
101	10236.00	89.80	89.10	94.00	6104.01	4650.91	434.91 S	4658.94 E	4679.19	95.33	2.61	-2.55	0.53
102	10330.00	89.00	89.40	94.00	6104.99	4744.90	433.68 S	4752.92 E	4772.67	95.21	0.91	-0.85	0.32
103	10424.00	87.00	89.90	94.00	6108.27	4838.83	433.11 S	4846.86 E	4866.17	95.11	2.19	-2.13	0.53
104	10519.00	88.30	89.40	95.00	6112.17	4933.75	432.53 S	4941.78 E	4960.67	95.00	1.47	1.37	-0.53
105	10612.00	89.60	89.50	93.00	6113.87	5026.73	431.63 S	5034.75 E	5053.22	94.90	1.40	1.40	0.11
106	10707.00	91.50	90.40	95.00	6112.96	5121.70	431.55 S	5129.75 E	5147.87	94.81	2.21	2.00	0.95
107	10801.00	91.30	90.40	94.00	6110.67	5215.65	432.21 S	5223.71 E	5241.56	94.73	0.21	-0.21	0.00
108	10895.00	90.80	89.90	94.00	6108.94	5309.61	432.45 S	5317.70 E	5335.25	94.65	0.75	-0.53	-0.53
109	10989.00	89.60	89.70	94.00	6108.61	5403.60	432.12 S	5411.69 E	5428.92	94.57	1.29	-1.28	-0.21
110	11084.00	91.20	89.20	95.00	6107.95	5498.60	431.21 S	5506.68 E	5523.54	94.48	1.76	1.68	-0.53
111	11175.00	91.00	89.30	91.00	6106.20	5589.58	430.02 S	5597.66 E	5614.15	94.39	0.25	-0.22	0.11
112	11266.00	90.00	89.20	91.00	6105.41	5680.57	428.83 S	5688.65 E	5704.79	94.31	1.10	-1.10	-0.11
113	11357.00	92.10	88.90	91.00	6103.74	5771.55	427.32 S	5779.61 E	5795.39	94.23	2.33	2.31	-0.33
114	11449.00	92.80	88.20	92.00	6099.81	5863.46	425.00 S	5871.50 E	5886.86	94.14	1.08	0.76	-0.76
115	11540.00	92.30	87.90	91.00	6095.76	5954.36	421.90 S	5962.36 E	5977.27	94.05	0.64	-0.55	-0.33
116	11631.00	89.70	87.80	91.00	6094.17	6045.32	418.49 S	6053.27 E	6067.72	93.95	2.86	-2.86	-0.11
117	11722.00	88.00	88.10	91.00	6096.00	6136.28	415.23 S	6144.19 E	6158.21	93.87	1.90	-1.87	0.33
118	11813.00	88.40	89.50	91.00	6098.86	6227.23	413.33 S	6235.12 E	6248.81	93.79	1.60	0.44	1.54
119	11904.00	88.90	89.60	91.00	6101.00	6318.20	412.62 S	6326.10 E	6339.54	93.73	0.56	0.55	0.11
120	11995.00	89.80	89.20	91.00	6102.03	6409.19	411.66 S	6417.08 E	6430.27	93.67	1.08	0.99	-0.44
121	12086.00	90.80	88.40	91.00	6101.56	6500.19	409.76 S	6508.06 E	6520.95	93.60	1.41	1.10	-0.88
122	12178.00	90.60	88.70	92.00	6100.43	6592.18	407.43 S	6600.02 E	6612.59	93.53	0.39	-0.22	0.33
123	12269.00	91.40	89.10	91.00	6098.85	6683.17	405.68 S	6690.99 E	6703.28	93.47	0.98	0.88	0.44
124	12361.00	90.20	89.40	92.00	6097.56	6775.15	404.48 S	6782.97 E	6795.02	93.41	1.34	-1.30	0.33

Svy No.,	Survey Depth (ft)	Inclination (deg)	Azi (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			
125	12452.00	90.90	89.40	91.00	6096.69	6866.15	403.53 S	6873.96 E	6885.80	93.36	0.77	0.77	0.00
126	12543.00	90.40	89.70	91.00	6095.66	6957.14	402.81 S	6964.95 E	6976.59	93.31	0.64	-0.55	0.33
127	12634.00	91.30	88.50	91.00	6094.31	7048.13	401.38 S	7055.93 E	7067.34	93.26	1.65	0.99	-1.32
128	12725.00	90.80	88.30	91.00	6092.64	7139.10	398.84 S	7146.88 E	7158.00	93.19	0.59	-0.55	-0.22
129	12816.00	89.50	88.10	91.00	6092.40	7230.09	395.98 S	7237.83 E	7248.66	93.13	1.45	-1.43	-0.22
130	12907.00	90.80	88.10	91.00	6092.16	7321.08	392.97 S	7328.78 E	7339.31	93.07	1.43	1.43	0.00
131	12999.00	91.00	87.60	92.00	6090.72	7413.05	389.51 S	7420.70 E	7430.92	93.00	0.59	0.22	-0.54
132	13090.00	91.30	87.70	91.00	6088.89	7504.00	385.78 S	7511.61 E	7521.51	92.94	0.35	0.33	0.11
133	13182.00	89.80	87.10	92.00	6088.01	7595.96	381.61 S	7603.51 E	7613.08	92.87	1.76	-1.63	-0.65
134	13273.00	88.70	89.00	91.00	6089.20	7686.93	378.51 S	7694.44 E	7703.75	92.82	2.41	-1.21	2.09
135	13365.00	89.80	90.30	92.00	6090.40	7778.91	377.95 S	7786.43 E	7795.60	92.78	1.85	1.20	1.41
136	13456.00	89.10	90.10	91.00	6091.28	7869.89	378.27 S	7877.42 E	7886.50	92.75	0.80	-0.77	-0.22
137	13547.00	91.20	89.70	91.00	6091.04	7960.87	378.11 S	7968.42 E	7977.38	92.72	2.35	2.31	-0.44
138	13639.00	90.10	90.10	92.00	6089.99	8052.86	377.95 S	8060.41 E	8069.27	92.68	1.27	-1.20	0.43
139	13730.00	90.70	89.60	91.00	6089.36	8143.84	377.71 S	8151.41 E	8160.15	92.65	0.86	0.66	-0.55
140	13821.00	91.30	89.70	91.00	6087.77	8234.82	377.16 S	8242.39 E	8251.01	92.62	0.67	0.66	0.11
141	13913.00	90.70	89.40	92.00	6086.16	8326.81	376.43 S	8334.37 E	8342.87	92.59	0.73	-0.65	-0.33
142	14004.00	91.40	89.00	91.00	6084.50	8417.79	375.16 S	8425.35 E	8433.70	92.55	0.89	0.77	-0.44
143	14095.00	91.60	87.90	91.00	6082.12	8508.75	372.70 S	8516.28 E	8524.43	92.51	1.23	0.22	-1.21
144	14186.00	91.30	88.40	91.00	6079.81	8599.71	369.77 S	8607.20 E	8615.14	92.46	0.64	-0.33	0.55
145	14277.00	91.20	88.20	91.00	6077.83	8690.68	367.07 S	8698.14 E	8705.88	92.42	0.25	-0.11	-0.22
146	14367.00	92.20	88.70	90.00	6075.16	8780.64	364.63 S	8788.07 E	8795.63	92.38	1.24	1.11	0.56
147	14458.00	92.90	88.20	91.00	6071.11	8871.54	362.18 S	8878.94 E	8886.33	92.34	0.94	0.77	-0.55
148	14549.00	89.50	87.90	91.00	6069.20	8962.49	359.08 S	8969.86 E	8977.04	92.29	3.75	-3.74	-0.33
149	14640.00	88.90	88.30	91.00	6070.47	9053.47	356.06 S	9060.80 E	9067.79	92.25	0.79	-0.66	0.44
150	14732.00	88.40	88.20	92.00	6072.64	9145.44	353.25 S	9152.73 E	9159.55	92.21	0.55	-0.54	-0.11
151	14822.00	88.70	90.30	90.00	6074.92	9235.40	352.08 S	9242.69 E	9249.39	92.18	2.36	0.33	2.33
152	14914.00	87.80	90.50	92.00	6077.73	9327.33	352.72 S	9334.64 E	9341.30	92.16	1.00	-0.98	0.22
153	15005.00	91.00	90.90	91.00	6078.68	9418.28	353.83 S	9425.62 E	9432.26	92.15	3.54	3.52	0.44
154	15096.00	90.00	90.10	91.00	6077.89	9509.24	354.62 S	9516.61 E	9523.22	92.13	1.41	-1.10	-0.88
155	15187.00	90.90	90.50	91.00	6077.17	9600.22	355.10 S	9607.60 E	9614.17	92.12	1.08	0.99	0.44
156	15278.00	90.20	90.30	91.00	6076.30	9691.19	355.74 S	9698.60 E	9705.12	92.10	0.80	-0.77	-0.22
157	15370.00	90.30	88.90	92.00	6075.90	9783.18	355.09 S	9790.59 E	9797.03	92.08	1.53	0.11	-1.52
158	15462.00	89.40	88.20	92.00	6076.14	9875.17	352.77 S	9882.56 E	9888.86	92.04	1.24	-0.98	-0.76
159	15553.00	92.20	88.00	91.00	6074.87	9966.14	349.75 S	9973.49 E	9979.62	92.01	3.08	3.08	-0.22
160	15644.00	92.80	88.30	91.00	6070.90	10057.05	346.81 S	10064.36 E	10070.33	91.97	0.74	0.66	0.33
161	15735.00	91.70	86.90	91.00	6067.33	10147.94	343.01 S	10155.21 E	10161.00	91.93	1.96	-1.21	-1.54
162	15826.00	90.90	87.10	91.00	6065.26	10238.86	338.25 S	10246.06 E	10251.64	91.89	0.91	-0.88	0.22
163	15918.00	88.70	87.30	92.00	6065.58	10330.81	333.75 S	10337.94 E	10343.33	91.85	2.40	-2.39	0.22
164	16009.00	89.30	88.30	91.00	6067.17	10421.77	330.26 S	10428.86 E	10434.09	91.81	1.28	0.66	1.10
165	16100.00	88.90	88.60	91.00	6068.60	10512.76	327.80 S	10519.81 E	10524.92	91.78	0.55	-0.44	0.33
166	16191.00	90.60	89.00	91.00	6069.00	10603.75	325.89 S	10610.79 E	10615.79	91.76	1.92	1.87	0.44
167	16282.00	90.00	88.60	91.00	6068.52	10694.75	323.99 S	10701.77 E	10706.67	91.73	0.79	-0.66	-0.44
168	16373.00	91.40	88.60	91.00	6067.41	10785.74	321.76 S	10792.73 E	10797.53	91.71	1.54	1.54	0.00
169	16464.00	90.10	85.70	91.00	6066.22	10876.67	317.24 S	10883.60 E	10888.22	91.67	3.49	-1.43	-3.19
170	16558.00	90.40	87.80	94.00	6065.81	10970.59	311.91 S	10977.44 E	10981.87	91.63	2.26	0.32	2.23
171	16652.00	90.00	87.80	94.00	6065.48	11064.57	308.30 S	11071.37 E	11075.66	91.60	0.43	-0.43	0.00
172	16683.00	90.10	88.20	31.00	6065.45	11095.56	307.22 S	11102.35 E	11106.60	91.59	1.33	0.32	1.29
PTB	16750.00	90.10	88.20	67.00	6065.33	11162.55	305.12 S	11169.32 E	11173.49	91.56	0.00	0.00	0.00