

Panther		Kit Box #	Well name/No.		Rig Name & No.		Panther Job #		Calculation Method		Minimum Curvature				
Panther		46	Wetco 4-63-5-4033CB		Cade 23		756H-2019		Proposed Azimuth		270.76°				
MWD OPERATOR		DIR SUPERVISOR		COUNTY/PARISH, STATE				Start Date		Depth Reference:		RKB			
Jack Tucker		John Sartori		Weld, Colorado				08-Jan-19		Tie Into:		MWD			
DipA: 66.81		Mag Field: 0.52219		Mag Dec. 7.87		Total Cor.: 7.87		Job Service:							
Mag Spacing Req.		Mag Spacing Actual			Mag Spacing Req.		Mag Spacing Actual								
Below 32		Below 37.49			Above 50		Above 59.15								
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	856	5.71	311.02	50.00	854.00	35.30	22.51	N	35.01	W					
1	889	5.80	315.80	33.50	887.33	37.77	24.82	N	37.45	W	44.92	303.53	1.46	0.27	14.27
2	1027	6.20	316.60	138.00	1024.58	47.89	35.23	N	47.43	W	59.08	306.61	0.30	0.29	0.58
3	1119	6.40	317.70	92.00	1116.02	54.85	42.63	N	54.29	W	69.03	308.14	0.25	0.22	1.20
4	1210	6.50	320.00	91.00	1206.44	61.68	50.33	N	61.02	W	79.10	309.52	0.30	0.11	2.53
5	1302	6.50	320.70	92.00	1297.85	68.43	58.35	N	67.66	W	89.35	310.77	0.09	0.00	0.76
6	1394	6.20	321.90	92.00	1389.29	74.90	66.29	N	74.03	W	99.37	311.84	0.36	-0.33	1.30
7	1486	5.40	316.20	92.00	1480.82	81.05	73.32	N	80.09	W	108.58	312.47	1.07	-0.87	-6.20
8	1581	4.70	309.70	95.00	1575.45	87.22	79.03	N	86.18	W	116.93	312.52	0.95	-0.74	-6.84
9	1676	6.10	303.60	95.00	1670.02	94.49	84.31	N	93.38	W	125.81	312.08	1.59	1.47	-6.42
10	1771	7.90	301.20	95.00	1764.31	104.36	90.49	N	103.17	W	137.23	311.26	1.92	1.89	-2.53
11	1867	7.10	296.80	96.00	1859.49	115.38	96.58	N	114.10	W	149.49	310.25	1.03	-0.83	-4.58
12	1962	8.30	296.20	95.00	1953.63	126.84	102.26	N	125.50	W	161.88	309.17	1.27	1.26	-0.63
13	2058	9.50	294.40	96.00	2048.48	140.36	108.59	N	138.93	W	176.33	308.01	1.28	1.25	-1.88
14	2153	10.30	296.20	95.00	2142.06	155.21	115.58	N	153.69	W	192.30	306.94	0.90	0.84	1.89
15	2248	9.50	293.40	95.00	2235.65	170.12	122.44	N	168.51	W	208.29	306.00	0.98	-0.84	-2.95
16	2344	10.60	294.30	96.00	2330.17	185.52	129.22	N	183.83	W	224.70	305.11	1.16	1.15	0.94
17	2439	11.80	295.90	95.00	2423.36	202.33	137.06	N	200.53	W	242.89	304.35	1.30	1.26	1.68
18	2533	13.00	298.60	94.00	2515.17	220.38	146.32	N	218.46	W	262.93	303.81	1.42	1.28	2.87
19	2627	14.90	303.40	94.00	2606.39	239.91	158.04	N	237.83	W	285.55	303.60	2.37	2.02	5.11
20	2722	17.20	302.10	95.00	2697.68	262.19	172.22	N	259.93	W	311.81	303.53	2.45	2.42	-1.37
21	2817	17.30	300.20	95.00	2788.41	286.49	186.79	N	284.04	W	339.95	303.33	0.60	0.11	-2.00
22	2912	16.10	298.50	95.00	2879.40	310.45	200.19	N	307.82	W	367.19	303.04	1.36	-1.26	-1.79
23	3006	18.20	298.60	94.00	2969.22	334.97	213.43	N	332.17	W	394.83	302.72	2.23	2.23	0.11
24	3101	17.20	295.70	95.00	3059.72	360.83	226.63	N	357.85	W	423.58	302.35	1.40	-1.05	-3.05
25	3196	17.00	294.00	95.00	3150.52	386.32	238.37	N	383.19	W	451.28	301.88	0.57	-0.21	-1.79
26	3290	17.30	296.10	94.00	3240.35	411.58	250.11	N	408.30	W	478.81	301.49	0.73	0.32	2.23
27	3385	17.40	296.40	95.00	3331.02	437.15	262.64	N	433.71	W	507.03	301.20	0.14	0.11	0.32
28	3480	17.30	297.90	95.00	3421.70	462.53	275.56	N	458.91	W	535.29	300.98	0.48	-0.11	1.58
29	3575	19.50	298.80	95.00	3511.84	489.10	289.81	N	485.30	W	565.25	300.84	2.33	2.32	0.95
30	3670	20.50	297.60	95.00	3601.11	517.94	305.16	N	513.93	W	597.70	300.70	1.14	1.05	-1.26
31	3764	18.50	298.30	94.00	3689.71	545.85	319.85	N	541.65	W	629.04	300.56	2.14	-2.13	0.74
32	3858	15.50	298.30	94.00	3779.60	570.21	332.88	N	565.85	W	656.50	300.47	3.19	-3.19	0.00
33	3953	13.60	298.10	95.00	3871.54	591.39	344.16	N	586.88	W	680.35	300.39	2.00	-2.00	-0.21
34	4047	12.00	299.10	94.00	3963.21	609.81	354.12	N	605.17	W	701.16	300.33	1.72	-1.70	1.06
35	4142	9.80	298.00	95.00	4056.49	625.70	362.72	N	620.94	W	719.12	300.29	2.33	-2.32	-1.16
36	4237	8.00	298.50	95.00	4150.34	638.74	369.67	N	633.89	W	733.81	300.25	1.90	-1.89	0.53
37	4331	6.10	297.30	94.00	4243.62	648.99	375.08	N	644.08	W	745.33	300.21	2.03	-2.02	-1.28
38	4427	3.60	308.00	96.00	4339.27	655.96	379.28	N	650.98	W	753.41	300.23	2.76	-2.60	11.15
39	4522	1.10	300.10	95.00	4434.19	659.13	381.57	N	654.12	W	757.28	300.26	2.65	-2.63	-8.32
40	4617	0.50	282.80	95.00	4529.18	660.33	382.12	N	655.32	W	758.59	300.25	0.67	-0.63	-18.21
41	4712	0.30	236.10	95.00	4624.17	660.94	382.08	N	655.93	W	759.09	300.22	0.39	-0.21	-49.16
40	4808	0.40	200.10	96.00	4720.17	661.26	381.62	N	656.25	W	759.14	300.18	0.25	0.10	-37.50
43	4903	0.60	222.70	95.00	4815.17	661.70	380.94	N	656.70	W	759.19	300.12	0.29	0.21	23.79
44	4998	0.80	92.90	95.00	4910.17	661.37	380.54	N	656.38	W	758.71	300.10	1.34	0.21	-136.63
45	5094	1.10	88.00	96.00	5006.15	659.78	380.54	N	654.79	W	757.34	300.16	0.32	0.31	-5.10
46	5189	1.10	101.20	95.00	5101.14	657.97	380.40	N	652.98	W	755.70	300.22	0.27	0.00	13.89
47	5285	1.40	111.10	96.00	5197.11	655.96	379.80	N	650.98	W	753.67	300.26	0.38	0.31	10.31
48	5381	1.00	154.30	96.00	5293.09	654.49	378.62	N	649.53	W	751.82	300.24	1.00	-0.42	45.00

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					
49	5476	1.20	144.50	95.00	5388.08	653.53	377.06	N	648.59	W	750.23	300.17	0.29	0.21	-10.32
50	5571	0.40	83.50	95.00	5483.07	652.62	376.29	N	647.68	W	749.06	300.16	1.12	-0.84	-64.21
51	5667	0.60	106.50	96.00	5579.06	651.80	376.18	N	646.87	W	748.30	300.18	0.29	0.21	23.96
52	5763	1.00	113.60	96.00	5675.05	650.54	375.71	N	645.62	W	746.98	300.20	0.43	0.42	7.40
53	5858	1.10	82.60	95.00	5770.04	648.88	375.49	N	643.95	W	745.43	300.25	0.60	0.11	-32.63
54	5952	1.00	67.50	94.00	5864.02	647.23	375.92	N	642.30	W	744.22	300.34	0.31	-0.11	-16.06
55	6046	10.90	277.30	94.00	5957.50	655.34	377.37	N	650.39	W	751.94	300.12	12.53	10.53	223.19
56	6141	20.30	282.70	95.00	6048.90	680.44	382.15	N	675.43	W	776.04	299.50	10.00	9.89	5.68
57	6237	26.80	279.20	96.00	6136.86	718.18	389.28	N	713.08	W	812.42	298.63	6.92	6.77	-3.65
58	6332	34.80	270.20	95.00	6218.44	766.58	392.80	N	761.44	W	856.78	297.29	9.70	8.42	-9.47
59	6427	45.70	269.10	95.00	6290.84	827.85	392.36	N	822.72	W	911.49	295.50	11.50	11.47	-1.16
60	6523	54.60	265.70	96.00	6352.30	901.33	388.88	N	896.25	W	976.98	293.46	9.66	9.27	-3.54
61	6618	58.50	263.60	95.00	6404.66	980.11	381.46	N	975.14	W	1047.10	291.36	4.50	4.11	-2.21
62	6713	69.30	263.70	95.00	6446.39	1064.65	372.04	N	1059.80	W	1123.21	289.34	11.37	11.37	0.11
63	6745	75.40	265.70	32.00	6456.09	1094.95	369.23	N	1090.15	W	1150.99	288.71	19.97	19.06	6.25
64	6776	80.80	266.30	31.00	6462.48	1125.17	367.12	N	1120.40	W	1179.02	288.14	17.52	17.42	1.94
65	6808	84.80	266.40	32.00	6466.49	1156.82	365.10	N	1152.08	W	1208.55	287.58	12.50	12.50	0.31
66	6856	89.20	269.30	48.00	6469.00	1204.68	363.30	N	1199.96	W	1253.75	286.84	10.97	9.17	6.04
67	6955	92.50	270.90	99.00	6467.54	1303.64	363.48	N	1298.93	W	1348.83	285.63	3.70	3.33	1.62
68	7019	92.80	270.80	64.00	6464.58	1367.57	364.43	N	1362.86	W	1410.74	284.97	0.49	0.47	-0.16
69	7113	92.70	271.80	94.00	6460.07	1461.46	366.56	N	1456.72	W	1502.14	284.12	1.07	-0.11	1.06
70	7145	92.80	272.00	32.00	6458.53	1493.42	367.62	N	1488.67	W	1533.39	283.87	0.70	0.31	0.62
71	7208	92.50	271.90	63.00	6455.62	1556.33	369.76	N	1551.57	W	1595.02	283.40	0.50	-0.48	-0.16
72	7239	91.60	272.00	31.00	6454.51	1587.31	370.81	N	1582.53	W	1625.39	283.19	2.92	-2.90	0.32
73	7271	92.00	272.50	32.00	6453.50	1619.28	372.07	N	1614.49	W	1656.81	282.98	2.00	1.25	1.56
74	7302	90.40	271.80	31.00	6452.85	1650.26	373.23	N	1645.46	W	1687.26	282.78	5.63	-5.16	-2.26
75	7334	89.50	270.50	32.00	6452.88	1682.26	373.87	N	1677.45	W	1718.61	282.56	4.94	-2.81	-4.06
76	7397	88.00	269.10	63.00	6454.26	1745.23	373.65	N	1740.43	W	1780.09	282.12	3.26	-2.38	-2.22
77	7493	89.00	270.80	96.00	6456.77	1841.19	373.57	N	1836.39	W	1874.01	281.50	2.05	1.04	1.77
78	7588	88.00	270.60	95.00	6459.26	1936.15	374.73	N	1931.35	W	1967.37	280.98	1.07	-1.05	-0.21
79	7684	87.70	271.50	96.00	6462.86	2032.08	376.49	N	2027.27	W	2061.93	280.52	0.99	-0.31	0.94
80	7780	87.50	271.90	96.00	6466.88	2127.99	379.33	N	2123.14	W	2156.76	280.13	0.47	-0.21	0.42
81	7875	87.60	270.90	95.00	6470.94	2222.89	381.65	N	2218.03	W	2250.62	279.76	1.06	0.11	-1.05
82	7969	89.10	270.80	94.00	6473.65	2316.85	383.04	N	2311.97	W	2343.49	279.41	1.60	1.60	-0.11
83	8064	88.40	270.70	95.00	6475.72	2411.83	384.29	N	2406.94	W	2437.43	279.07	0.74	-0.74	-0.11
84	8158	88.50	271.30	94.00	6478.26	2505.79	385.93	N	2500.89	W	2530.50	278.77	0.65	0.11	0.64
85	8253	89.10	271.10	95.00	6480.25	2600.77	387.92	N	2595.85	W	2624.68	278.50	0.67	0.63	-0.21
86	8360	89.90	272.00	107.00	6481.18	2707.75	390.81	N	2702.81	W	2730.91	278.23	1.13	0.75	0.84
87	8456	90.40	272.00	96.00	6480.93	2803.73	394.16	N	2798.75	W	2826.37	278.02	0.52	0.52	0.00
88	8552	89.60	269.20	96.00	6480.93	2899.72	395.17	N	2894.73	W	2921.58	277.77	3.03	-0.83	-2.92
89	8647	90.20	267.70	95.00	6481.10	2994.64	392.60	N	2989.69	W	3015.36	277.48	1.70	0.63	-1.58
90	8741	89.30	268.60	94.00	6481.51	3088.54	389.56	N	3083.64	W	3108.15	277.20	1.35	-0.96	0.96
91	8837	89.60	269.00	96.00	6482.43	3184.48	387.55	N	3179.62	W	3203.15	276.95	0.52	0.31	0.42
92	8933	88.90	269.90	96.00	6483.69	3280.44	386.63	N	3275.60	W	3298.34	276.73	1.19	-0.73	0.94
93	9028	88.10	267.90	95.00	6486.17	3375.35	384.81	N	3370.55	W	3392.44	276.51	2.27	-0.84	-2.11
94	9083	88.40	267.10	55.00	6487.85	3430.24	382.41	N	3425.47	W	3446.75	276.37	1.55	0.55	-1.45
95	9124	88.90	269.60	41.00	6488.82	3471.19	381.23	N	3466.43	W	3487.34	276.28	6.22	1.22	6.10
96	9169	88.90	272.20	45.00	6489.68	3516.17	381.94	N	3511.42	W	3532.13	276.21	5.78	0.00	5.78
97	9220	89.10	271.50	51.00	6490.57	3567.16	383.58	N	3562.38	W	3582.97	276.15	1.43	0.39	-1.37
98	9315	87.60	271.90	95.00	6493.31	3662.10	386.40	N	3657.30	W	3677.65	276.03	1.63	-1.58	0.42
99	9360	87.10	270.80	45.00	6495.39	3707.05	387.46	N	3702.24	W	3722.46	275.97	2.68	-1.11	-2.44
100	9411	86.90	270.00	51.00	6498.06	3757.98	387.81	N	3753.17	W	3773.15	275.90	1.61	-0.39	-1.57
101	9444	88.00	271.60	33.00	6499.53	3790.95	388.27	N	3786.13	W	3805.99	275.86	5.88	3.33	4.85
102	9506	88.60	271.50	62.00	6501.37	3852.91	389.95	N	3848.08	W	3867.79	275.79	0.98	0.97	-0.16
103	9602	89.60	271.20	96.00	6502.87	3948.89	392.21	N	3944.04	W	3963.49	275.68	1.09	1.04	-0.31
104	9697	89.90	270.00	95.00	6503.29	4043.89	393.21	N	4039.03	W	4058.12	275.56	1.30	0.32	-1.26
105	9793	89.80	271.60	96.00	6503.54	4139.89	394.55	N	4135.02	W	4153.80	275.45	1.67	-0.10	1.67

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							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth					
106	9888	89.70	272.90	95.00	6503.96	4234.85	398.28	N	4229.94	W	4248.65	275.38	1.37	-0.11	1.37
107	9983	90.50	273.60	95.00	6503.79	4329.76	403.66	N	4324.79	W	4343.58	275.33	1.12	0.84	0.74
108	10077	89.00	272.70	94.00	6504.20	4423.67	408.83	N	4418.64	W	4437.51	275.29	1.86	-1.60	-0.96
109	10172	88.60	272.40	95.00	6506.19	4518.61	413.05	N	4513.52	W	4532.39	275.23	0.53	-0.42	-0.32
110	10267	89.40	271.70	95.00	6507.85	4613.57	416.45	N	4608.45	W	4627.23	275.16	1.12	0.84	-0.74
111	10363	89.20	273.30	96.00	6509.02	4709.51	420.64	N	4704.35	W	4723.11	275.11	1.68	-0.21	1.67
112	10454	88.70	272.30	91.00	6510.69	4800.44	425.08	N	4795.22	W	4814.03	275.07	1.23	-0.55	-1.10
113	10546	89.20	270.80	92.00	6512.37	4892.41	427.57	N	4887.17	W	4905.84	275.00	1.72	0.54	-1.63
114	10638	89.20	271.10	92.00	6513.66	4984.40	429.10	N	4979.15	W	4997.60	274.93	0.33	0.00	0.33
115	10730	89.50	272.40	92.00	6514.70	5076.38	431.91	N	5071.10	W	5089.46	274.87	1.45	0.33	1.41
116	10791	88.80	271.90	61.00	6515.61	5137.35	434.19	N	5132.05	W	5150.38	274.84	1.41	-1.15	-0.82
117	10883	90.50	272.10	92.00	6516.17	5229.33	437.40	N	5223.99	W	5242.27	274.79	1.86	1.85	0.22
118	10975	89.10	271.80	92.00	6516.49	5321.30	440.53	N	5315.93	W	5334.15	274.74	1.56	-1.52	-0.33
119	11067	89.80	272.10	92.00	6517.37	5413.28	443.66	N	5407.87	W	5426.04	274.69	0.83	0.76	0.33
120	11159	88.60	271.70	92.00	6518.66	5505.25	446.71	N	5499.81	W	5517.92	274.64	1.37	-1.30	-0.43
121	11251	87.40	271.50	92.00	6521.87	5597.18	449.28	N	5591.72	W	5609.74	274.59	1.32	-1.30	-0.22
122	11342	87.00	271.00	91.00	6526.31	5688.07	451.26	N	5682.59	W	5700.47	274.54	0.70	-0.44	-0.55
123	11434	86.90	270.40	92.00	6531.21	5779.94	452.39	N	5774.45	W	5792.14	274.48	0.66	-0.11	-0.65
124	11526	86.50	269.90	92.00	6536.50	5871.78	452.63	N	5866.29	W	5883.73	274.41	0.70	-0.43	-0.54
125	11618	88.70	270.80	92.00	6540.36	5963.69	453.19	N	5958.21	W	5975.42	274.35	2.58	2.39	0.98
126	11710	89.10	270.70	92.00	6542.12	6055.67	454.39	N	6050.18	W	6067.22	274.30	0.45	0.43	-0.11
127	11805	88.90	270.10	95.00	6543.78	6150.66	455.06	N	6145.16	W	6161.99	274.24	0.67	-0.21	-0.63
128	11900	89.80	270.20	95.00	6544.86	6245.65	455.31	N	6240.16	W	6256.74	274.17	0.95	0.95	0.11
129	11996	89.20	269.10	96.00	6545.70	6341.62	454.72	N	6336.15	W	6352.44	274.10	1.31	-0.62	-1.15
130	12091	89.70	271.20	95.00	6546.61	6436.61	454.97	N	6431.14	W	6447.21	274.05	2.27	0.53	2.21
131	12187	90.00	269.60	96.00	6546.86	6532.60	455.64	N	6527.13	W	6543.02	273.99	1.70	0.31	-1.67
132	12282	89.50	270.00	95.00	6547.27	6627.59	455.31	N	6622.13	W	6637.76	273.93	0.67	-0.53	0.42
133	12378	89.00	269.30	96.00	6548.53	6723.56	454.72	N	6718.12	W	6733.49	273.87	0.90	-0.52	-0.73
134	12473	89.10	271.50	95.00	6550.11	6818.54	455.38	N	6813.10	W	6828.30	273.82	2.32	0.11	2.32
135	12568	89.90	270.90	95.00	6550.94	6913.53	457.37	N	6908.07	W	6923.20	273.79	1.05	0.84	-0.63
136	12664	90.90	270.40	96.00	6550.27	7009.53	458.46	N	7004.06	W	7019.05	273.75	1.16	1.04	-0.52
137	12759	88.90	272.20	95.00	6550.43	7104.51	460.62	N	7099.03	W	7113.96	273.71	2.83	-2.11	1.89
138	12854	89.60	271.50	95.00	6551.67	7199.49	463.68	N	7193.97	W	7208.90	273.69	1.04	0.74	-0.74
139	12950	88.30	272.70	96.00	6553.43	7295.44	467.20	N	7289.89	W	7304.84	273.67	1.84	-1.35	1.25
140	13045	88.90	272.80	95.00	6555.75	7390.35	471.76	N	7384.75	W	7399.80	273.66	0.64	0.63	0.11
141	13141	89.30	272.90	96.00	6557.26	7486.28	476.53	N	7480.62	W	7495.78	273.64	0.43	0.42	0.10
142	13235	90.30	272.70	94.00	6557.59	7580.22	481.12	N	7574.50	W	7589.77	273.63	1.08	1.06	-0.21
143	13329	90.90	271.90	94.00	6556.61	7674.18	484.89	N	7668.42	W	7683.74	273.62	1.06	0.64	-0.85
144	13424	89.80	271.50	95.00	6556.03	7769.16	487.71	N	7763.38	W	7778.68	273.59	1.23	-1.16	-0.42
145	13518	90.30	271.20	94.00	6555.94	7863.16	489.93	N	7857.35	W	7872.61	273.57	0.62	0.53	-0.32
146	13612	89.60	270.50	94.00	6556.03	7957.15	491.32	N	7951.34	W	7966.50	273.54	1.05	-0.74	-0.74
147	13707	87.40	269.80	95.00	6558.51	8052.11	491.57	N	8046.30	W	8061.30	273.50	2.43	-2.32	-0.74
148	13801	87.10	269.30	94.00	6563.02	8145.98	490.83	N	8140.19	W	8154.97	273.45	0.62	-0.32	-0.53
149	13896	86.90	268.60	95.00	6567.99	8240.80	489.09	N	8235.04	W	8249.55	273.40	0.77	-0.21	-0.74
150	13990	87.80	269.30	94.00	6572.34	8334.65	487.37	N	8328.92	W	8343.17	273.35	1.21	0.96	0.74
151	14084	90.00	270.20	94.00	6574.15	8428.61	486.96	N	8422.90	W	8436.96	273.31	2.53	2.34	0.96
152	14179	90.10	269.70	95.00	6574.06	8523.60	486.88	N	8517.90	W	8531.80	273.27	0.54	0.11	-0.53
153	14273	90.70	269.30	94.00	6573.41	8617.58	486.06	N	8611.89	W	8625.60	273.23	0.77	0.64	-0.43
154	14367	90.50	269.90	94.00	6572.42	8711.55	485.40	N	8705.88	W	8719.40	273.19	0.67	-0.21	0.64
155	14462	89.40	270.70	95.00	6572.50	8806.55	485.90	N	8800.88	W	8814.28	273.16	1.43	-1.16	0.84
156	14556	88.60	272.00	94.00	6574.15	8900.53	488.12	N	8894.84	W	8908.22	273.14	1.62	-0.85	1.38
157	14650	89.70	272.20	94.00	6575.54	8994.49	491.56	N	8988.76	W	9002.19	273.13	1.19	1.17	0.21
158	14745	88.50	272.30	95.00	6577.03	9089.44	495.29	N	9083.67	W	9097.17	273.12	1.27	-1.26	0.11
159	14841	89.50	271.60	96.00	6578.71	9185.41	498.56	N	9179.60	W	9193.13	273.11	1.27	1.04	-0.73
160	14936	90.00	271.50	95.00	6579.12	9280.40	501.12	N	9274.57	W	9288.09	273.09	0.54	0.53	-0.11
161	15030	87.70	269.00	94.00	6581.01	9374.36	501.54	N	9368.53	W	9381.95	273.06	3.61	-2.45	-2.66
162	15126	87.50	268.70	96.00	6585.03	9470.22	499.61	N	9464.43	W	9477.61	273.02	0.38	-0.21	-0.31

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					
163	15220	88.30	269.50	94.00	6588.47	9564.12	498.14	N	9558.35	W	9571.32	272.98	1.20	0.85	0.85
164	15315	88.20	269.50	95.00	6591.37	9659.05	497.31	N	9653.30	W	9666.11	272.95	0.11	-0.11	0.00
165	15346	89.10	270.60	31.00	6592.10	9690.04	497.33	N	9684.29	W	9697.06	272.94	4.58	2.90	3.55
166	15410	89.70	270.70	64.00	6592.77	9754.04	498.06	N	9748.29	W	9761.00	272.92	0.95	0.94	0.16
167	15506	90.30	271.20	96.00	6592.77	9850.03	499.65	N	9844.27	W	9856.94	272.91	0.81	0.62	0.52
168	15601	91.30	270.50	95.00	6591.45	9945.02	501.06	N	9939.25	W	9951.87	272.89	1.28	1.05	-0.74
169	15695	89.00	271.00	94.00	6591.20	10039.02	502.29	N	10033.24	W	10045.80	272.87	2.50	-2.45	0.53
170	15789	89.10	271.60	94.00	6592.76	10133.00	504.42	N	10127.20	W	10139.75	272.85	0.65	0.11	0.64
171	15884	89.70	270.40	95.00	6593.76	10227.99	506.08	N	10222.18	W	10234.70	272.83	1.41	0.63	-1.26
172	15979	90.40	271.20	95.00	6593.67	10322.99	507.41	N	10317.17	W	10329.64	272.82	1.12	0.74	0.84
173	16073	91.30	270.10	94.00	6592.28	10416.98	508.47	N	10411.15	W	10423.56	272.80	1.51	0.96	-1.17
174	16168	91.70	269.40	95.00	6589.79	10511.93	508.06	N	10506.11	W	10518.39	272.77	0.85	0.42	-0.74
175	16263	92.40	268.50	95.00	6586.39	10606.82	506.32	N	10601.03	W	10613.12	272.73	1.20	0.74	-0.95
176	16312	92.80	268.50	49.00	6584.17	10655.73	505.04	N	10649.97	W	10661.94	272.72	0.82	0.82	0.00
PTB	16381	92.80	268.50	69.00	6580.80	10724.59	503.23	N	10718.86	W	10730.67	272.69	0.00	0.00	0.00