



Altitude Energy Partners
SURVEY CALCULATION REPORT
Minimum Curvature Calculations

Operator: Pioneer Natural Resources
Lease Name: University 7-14K 111H
Job Number: AEP-PB-230896
Survey Calc: Minimum Curvature
Survey Company: Altitude Energy Partners

Vertical Section AZM 345.90
Bit to Survey Offset: 62
Bit to Gamma Offset: 49.25

Survey	Measured	Inclination	Azimuth	Course	TVD	Vertical	+N/-S	+E/-W	Closure	DLS	BUR
T/I	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	26.50	0.00	0.00	26.50	26.50	#DIV/0!	0.00	N 0.00 E	0.00	0.00	0.00
2	154.50	0.30	12.80	128.00	154.50	0.30	0.33	N 0.07 E	0.34	0.23	0.23
3	244.50	0.40	81.30	90.00	244.50	0.48	0.60	N 0.44 E	0.75	0.45	0.11
4	331.50	0.60	250.10	87.00	331.50	0.40	0.49	N 0.31 E	0.58	1.14	0.23
5	417.50	1.00	255.70	86.00	417.49	0.36	0.16	N -0.84 W	0.86	0.47	0.47
6	513.50	0.40	214.50	96.00	513.48	0.13	-0.33	S -1.84 W	1.87	0.78	-0.63
7	608.50	0.40	227.40	95.00	608.48	-0.25	-0.82	S -2.28 W	2.42	0.09	0.00
8	704.50	1.00	27.20	96.00	704.48	0.22	-0.31	S -2.14 W	2.16	1.44	0.63
9	798.50	2.10	28.70	94.00	798.44	2.10	1.93	N -0.94 W	2.15	1.17	1.17
10	893.50	3.10	33.10	95.00	893.34	5.13	5.61	N 1.30 E	5.76	1.07	1.05
11	989.50	3.80	38.90	96.00	989.17	8.80	10.26	N 4.72 E	11.30	0.81	0.73
12	1085.50	4.10	40.20	96.00	1084.94	12.72	15.36	N 8.93 E	17.77	0.33	0.31
13	1181.50	4.30	43.20	96.00	1180.68	16.67	20.60	N 13.61 E	24.69	0.31	0.21
14	1276.50	3.50	37.20	95.00	1275.46	20.41	25.51	N 17.80 E	31.11	0.94	-0.84
15	1372.50	3.30	34.40	96.00	1371.29	24.07	30.12	N 21.13 E	36.80	0.27	-0.21
16	1467.50	2.80	29.30	95.00	1466.16	27.57	34.40	N 23.81 E	41.84	0.60	-0.53
17	1563.50	3.00	25.80	96.00	1562.03	31.20	38.71	N 26.05 E	46.66	0.28	0.21
18	1657.50	3.50	30.20	94.00	1655.88	35.14	43.41	N 28.57 E	51.96	0.59	0.53
19	1752.50	3.60	28.20	95.00	1750.70	39.42	48.54	N 31.44 E	57.83	0.17	0.11
20	1848.50	3.40	28.70	96.00	1846.52	43.74	53.69	N 34.23 E	63.67	0.21	-0.21
21	1900.50	3.30	32.30	52.00	1898.43	45.90	56.31	N 35.77 E	66.71	0.45	-0.19
22	2019.00	2.15	37.37	118.50	2016.80	49.64	60.96	N 38.94 E	72.34	0.99	-0.97
23	2114.00	4.02	31.96	95.00	2111.65	53.06	65.20	N 41.78 E	77.44	1.99	1.97
24	2208.00	6.36	35.63	94.00	2205.26	58.71	72.23	N 46.56 E	85.94	2.51	2.49
25	2303.00	5.84	34.78	95.00	2299.72	65.29	80.48	N 52.38 E	96.02	0.56	-0.55
26	2399.00	5.70	32.99	96.00	2395.24	71.75	88.49	N 57.77 E	105.67	0.24	-0.15
27	2494.00	5.83	30.97	95.00	2489.76	78.37	96.58	N 62.82 E	115.21	0.25	0.14
28	2589.00	5.90	27.12	95.00	2584.26	85.45	105.06	N 67.53 E	124.89	0.42	0.07
29	2684.00	5.84	26.89	95.00	2678.76	92.77	113.72	N 71.94 E	134.56	0.07	-0.06
30	2778.00	5.93	25.54	94.00	2772.27	100.12	122.37	N 76.19 E	144.15	0.18	0.10
31	2873.00	5.83	24.17	95.00	2866.77	107.69	131.20	N 80.29 E	153.81	0.18	-0.11
32	2968.00	5.75	21.21	95.00	2961.28	115.36	140.04	N 83.98 E	163.29	0.33	-0.08
33	3063.00	5.65	21.66	95.00	3055.81	123.04	148.82	N 87.43 E	172.60	0.12	-0.11
34	3158.00	5.34	36.80	95.00	3150.38	129.62	156.70	N 91.80 E	181.62	1.56	-0.33
35	3253.00	5.34	40.25	95.00	3244.97	134.98	163.62	N 97.31 E	190.37	0.34	0.00
36	3348.00	5.27	37.37	95.00	3339.56	140.28	170.46	N 102.81 E	199.07	0.29	-0.07
37	3443.00	5.16	36.38	95.00	3434.17	145.71	177.37	N 108.00 E	207.66	0.15	-0.12
38	3538.00	5.26	34.54	95.00	3528.78	151.31	184.39	N 113.00 E	216.26	0.20	0.11
39	3633.00	5.25	34.32	95.00	3623.38	157.07	191.57	N 117.92 E	224.95	0.02	-0.01
40	3728.00	5.08	33.11	95.00	3717.99	162.81	198.68	N 122.67 E	233.50	0.21	-0.18
41	3823.00	5.03	31.44	95.00	3812.62	168.59	205.76	N 127.14 E	241.87	0.16	-0.05
42	3918.00	4.81	30.43	95.00	3907.27	174.34	212.75	N 131.33 E	250.01	0.25	-0.23
43	4013.00	4.70	28.10	95.00	4001.94	180.07	219.61	N 135.18 E	257.88	0.23	-0.12
44	4108.00	4.59	24.77	95.00	4096.63	185.91	226.50	N 138.60 E	265.54	0.31	-0.12
45	4202.00	4.60	24.35	94.00	4190.33	191.79	233.35	N 141.73 E	273.02	0.04	0.01
46	4298.00	4.42	22.98	96.00	4286.03	197.76	240.26	N 144.76 E	280.50	0.22	-0.19
47	4393.00	4.21	21.39	95.00	4380.76	203.52	246.88	N 147.46 E	287.57	0.25	-0.22
48	4488.00	4.08	19.14	95.00	4475.52	209.18	253.32	N 149.84 E	294.32	0.22	-0.14
49	4582.00	4.93	28.60	94.00	4569.23	214.95	260.02	N 152.87 E	301.63	1.20	0.90
50	4677.00	5.24	30.84	95.00	4663.85	221.02	267.33	N 157.05 E	310.05	0.39	0.33
51	4772.00	5.07	29.27	95.00	4758.47	227.14	274.72	N 161.33 E	318.59	0.23	-0.18
52	4867.00	5.03	28.31	95.00	4853.10	233.27	282.05	N 165.36 E	326.94	0.10	-0.04
53	4962.00	5.01	26.70	95.00	4947.73	239.48	289.42	N 169.19 E	335.25	0.15	-0.02
54	5057.00	4.94	37.63	95.00	5042.38	245.15	296.36	N 173.56 E	343.44	1.00	-0.07
55	5152.00	5.12	41.27	95.00	5137.01	250.10	302.79	N 178.85 E	351.67	0.39	0.19
56	5247.00	4.92	40.90	95.00	5231.65	254.84	309.05	N 184.31 E	359.84	0.21	-0.21
57	5342.00	4.90	41.51	95.00	5326.30	259.47	315.17	N 189.67 E	367.84	0.06	-0.02
58	5437.00	4.75	39.15	95.00	5420.96	264.12	321.26	N 194.84 E	375.73	0.26	-0.16
59	5532.00	4.40	37.63	95.00	5515.66	268.73	327.20	N 199.55 E	383.25	0.39	-0.37
60	5627.00	4.29	35.81	95.00	5610.39	273.27	332.96	N 203.85 E	390.41	0.19	-0.12
61	5722.00	4.25	33.39	95.00	5705.12	277.94	338.79	N 207.87 E	397.47	0.19	-0.04
62	5817.00	4.06	33.17	95.00	5799.87	282.60	344.54	N 211.65 E	404.35	0.20	-0.20
63	5912.00	4.08	32.61	95.00	5894.63	287.20	350.20	N 215.31 E	411.09	0.05	0.02
64	6007.00	3.70	30.70	95.00	5989.41	291.69	355.68	N 218.69 E	417.54	0.42	-0.40
65	6102.00	3.74	29.02	95.00	6084.21	296.13	361.03	N 221.76 E	423.70	0.12	0.04
66	6197.00	3.64	28.53	95.00	6179.02	300.61	366.39	N 224.71 E	429.81	0.11	-0.11
67	6292.00	3.36	26.73	95.00	6273.84	304.93	371.52	N 227.40 E	435.59	0.32	-0.29

68	6387.00	3.28	26.27	95.00	6368.68	309.11	376.45	N	229.85	E	441.07	0.09	-0.08
69	6482.00	3.10	26.28	95.00	6463.53	313.14	381.19	N	232.19	E	446.34	0.19	-0.19
70	6520.00	2.91	24.65	38.00	6501.48	314.67	382.99	N	233.05	E	448.32	0.55	-0.50
71	6587.00	3.17	26.74	67.00	6568.39	317.40	386.19	N	234.59	E	451.86	0.42	0.39
72	6682.00	3.00	34.52	95.00	6663.25	321.03	390.58	N	237.18	E	456.96	0.48	-0.18
73	6777.00	0.62	184.21	95.00	6758.21	322.19	392.12	N	238.56	E	458.98	3.74	-2.51
74	6872.00	0.88	183.70	95.00	6853.20	321.00	390.88	N	238.47	E	457.88	0.27	0.27
75	6967.00	0.67	189.76	95.00	6948.19	319.80	389.60	N	238.33	E	456.72	0.24	-0.22
76	7062.00	0.18	185.28	95.00	7043.19	319.15	388.90	N	238.22	E	456.07	0.52	-0.52
77	7156.00	0.25	132.94	94.00	7137.19	318.84	388.62	N	238.36	E	455.89	0.21	0.07
78	7251.00	0.20	74.20	95.00	7232.19	318.67	388.52	N	238.67	E	455.97	0.24	-0.05
79	7346.00	0.48	8.95	95.00	7327.19	319.04	388.96	N	238.89	E	456.46	0.46	0.29
80	7442.00	0.80	15.14	96.00	7423.18	320.00	390.00	N	239.13	E	457.48	0.34	0.33
81	7537.00	1.08	34.97	95.00	7518.17	321.16	391.38	N	239.82	E	459.01	0.45	0.29
82	7631.00	0.91	65.73	94.00	7612.16	321.88	392.41	N	241.00	E	460.51	0.59	-0.18
83	7726.00	0.93	65.33	95.00	7707.14	322.15	393.04	N	242.39	E	461.77	0.02	0.02
84	7821.00	0.72	55.55	95.00	7802.13	322.50	393.70	N	243.58	E	462.96	0.27	-0.22
85	7916.00	1.16	20.73	95.00	7897.12	323.50	394.94	N	244.42	E	464.45	0.74	0.46
86	8011.00	0.64	81.89	95.00	7992.11	324.23	395.91	N	245.28	E	465.74	1.07	-0.55
87	8106.00	1.14	93.08	95.00	8087.10	323.90	395.94	N	246.75	E	466.53	0.55	0.53
88	8201.00	10.22	22.91	95.00	8181.57	330.36	403.67	N	250.99	E	475.33	10.41	9.56
89	8296.00	19.74	19.10	95.00	8273.24	350.56	426.64	N	259.54	E	499.38	10.07	10.02
90	8391.00	27.94	21.18	95.00	8360.06	382.21	462.62	N	272.85	E	537.09	8.68	8.63
91	8486.00	37.09	19.83	95.00	8440.09	424.24	510.42	N	290.65	E	587.37	9.66	9.63
92	8581.00	45.48	15.59	95.00	8511.42	477.53	570.11	N	309.50	E	648.70	9.31	8.83
93	8676.00	51.05	9.60	95.00	8574.67	540.86	639.24	N	324.79	E	717.02	7.51	5.86
94	8771.00	55.68	4.90	95.00	8631.36	611.84	714.82	N	334.31	E	789.13	6.28	4.87
95	8866.00	62.65	358.86	95.00	8680.06	690.20	796.25	N	336.82	E	864.56	9.14	7.34
96	8961.00	70.14	352.80	95.00	8718.10	775.86	882.94	N	330.37	E	942.73	9.81	7.88
97	9056.00	76.39	349.72	95.00	8745.45	866.38	972.80	N	316.52	E	1023.00	7.27	6.58
98	9151.00	81.98	349.17	95.00	8763.27	959.48	1064.50	N	299.43	E	1105.81	5.91	5.88
99	9246.00	86.22	347.03	95.00	8773.03	1053.88	1156.93	N	279.94	E	1190.32	4.99	4.46
100	9282.00	86.17	347.04	36.00	8775.42	1089.79	1191.94	N	271.88	E	1222.55	0.14	-0.14
101	9377.00	89.62	344.53	95.00	8778.91	1184.71	1283.95	N	248.57	E	1307.79	4.49	3.63
102	9472.00	89.57	343.52	95.00	8779.58	1279.65	1375.27	N	222.43	E	1393.14	1.06	-0.05
103	9567.00	92.23	342.72	95.00	8778.09	1374.52	1466.16	N	194.85	E	1479.05	2.92	2.80
104	9662.00	92.03	342.43	95.00	8774.56	1469.29	1556.74	N	166.42	E	1565.61	0.37	-0.21
105	9757.00	91.39	343.98	95.00	8771.73	1564.14	1647.64	N	138.98	E	1653.49	1.76	-0.67
106	9852.00	90.52	343.82	95.00	8770.14	1659.07	1738.90	N	112.64	E	1742.55	0.93	-0.92
107	9947.00	93.01	347.15	95.00	8767.22	1754.00	1830.81	N	88.84	E	1832.96	4.38	2.62
108	10042.00	92.93	347.63	95.00	8762.29	1848.84	1923.39	N	68.13	E	1924.60	0.51	-0.08
109	10138.00	92.87	347.18	96.00	8757.44	1944.69	2016.96	N	47.23	E	2017.51	0.47	-0.06
110	10233.00	92.76	347.19	95.00	8752.77	2039.55	2109.48	N	26.18	E	2109.64	0.12	-0.12
111	10328.00	92.20	346.72	95.00	8748.66	2134.44	2201.94	N	4.76	E	2201.95	0.77	-0.59
112	10423.00	91.44	346.37	95.00	8745.64	2229.39	2294.29	N	-17.34	W	2294.35	0.88	-0.80
113	10518.00	91.30	346.85	95.00	8743.37	2324.35	2386.68	N	-39.33	W	2387.00	0.53	-0.15
114	10613.00	90.83	346.89	95.00	8741.61	2419.32	2479.18	N	-60.91	W	2479.93	0.50	-0.49
115	10708.00	90.55	346.72	95.00	8740.46	2514.30	2571.66	N	-82.59	W	2572.99	0.34	-0.29
116	10803.00	92.70	346.10	95.00	8737.77	2609.26	2663.96	N	-104.90	W	2666.03	2.36	2.26
117	10898.00	92.82	346.08	95.00	8733.19	2704.15	2756.07	N	-127.71	W	2759.02	0.13	0.13
118	10993.00	92.31	345.96	95.00	8728.94	2799.05	2848.16	N	-150.64	W	2852.14	0.55	-0.54
119	11088.00	92.31	346.10	95.00	8725.11	2893.97	2940.28	N	-173.56	W	2945.39	0.15	0.00
120	11183.00	91.58	345.73	95.00	8721.89	2988.92	3032.37	N	-196.66	W	3038.74	0.86	-0.77
121	11276.00	91.19	345.84	93.00	8719.64	3081.89	3122.49	N	-219.49	W	3130.20	0.44	-0.42
122	11371.00	90.04	345.39	95.00	8718.62	3176.88	3214.51	N	-243.09	W	3223.69	1.30	-1.21
123	11466.00	91.19	346.17	95.00	8717.60	3271.87	3306.59	N	-266.43	W	3317.30	1.46	1.21
124	11560.00	90.21	348.25	94.00	8716.45	3365.83	3398.24	N	-287.23	W	3410.36	2.45	-1.04
125	11654.00	89.76	347.46	94.00	8716.48	3459.78	3490.14	N	-307.01	W	3503.61	0.97	-0.48
126	11750.00	92.09	347.56	96.00	8714.93	3555.72	3583.85	N	-327.77	W	3598.80	2.43	2.43
127	11844.00	91.98	347.08	94.00	8711.59	3649.63	3675.50	N	-348.39	W	3691.97	0.52	-0.12
128	11940.00	91.19	346.23	96.00	8708.94	3745.59	3768.87	N	-370.54	W	3787.04	1.21	-0.82
129	12033.00	88.28	343.06	93.00	8709.37	3838.54	3858.53	N	-395.16	W	3878.71	4.63	-3.13
130	12123.00	87.58	342.88	90.00	8712.62	3928.36	3944.52	N	-421.50	W	3966.98	0.80	-0.78
131	12218.00	89.29	344.45	95.00	8715.21	4023.25	4035.65	N	-448.20	W	4060.46	2.44	1.80
132	12314.00	89.43	344.47	96.00	8716.28	4119.21	4128.13	N	-473.92	W	4155.25	0.15	0.15
133	12408.00	90.74	346.02	94.00	8716.14	4213.20	4219.03	N	-497.86	W	4248.30	2.16	1.39
134	12503.00	91.27	346.77	95.00	8714.48	4308.18	4311.35	N	-520.20	W	4342.62	0.97	0.56
135	12598.00	89.34	345.39	95.00	8713.97	4403.18	4403.55	N	-543.06	W	4436.91	2.50	-2.03
136	12693.00	89.93	347.74	95.00	8714.58	4498.16	4495.94	N	-565.13	W	4531.32	2.55	0.62
137	12788.00	89.12	347.58	95.00	8715.36	4593.11	4588.74	N	-585.43	W	4625.94	0.87	-0.85
138	12883.00	90.66	346.30	95.00	8715.55	4688.09	4681.28	N	-606.89	W	4720.46	2.11	1.62
139	12978.00	88.73	345.43	95.00	8716.05	4783.08	4773.40	N	-630.09	W	4814.80	2.23	-2.03
140	13073.00	90.46	346.13	95.00	8716.72	4878.08	4865.48	N	-653.43	W	4909.16	1.96	1.82
141	13168.00	89.68	345.76	95.00	8716.61	4973.08	4957.63	N	-676.50	W	5003.58	0.91	-0.82
142	13263.00	89.82	346.34	95.00	8717.02	5068.07	5049.83	N	-699.40	W	5098.03	0.63	0.15
143	13358.00	90.13	346.90	95.00	8717.06	5163.07	5142.25	N	-721.38	W	5192.61	0.67	0.33
144	13453.00	90.04	347.30	95.00	8716.92	5258.05	5234.85	N	-742.59	W	5287.26	0.43	-0.09

145	13548.00	89.85	347.21	95.00	8717.01	5353.02	5327.51	N	-763.55	W	5381.95	0.22	-0.20
146	13643.00	89.20	345.51	95.00	8717.80	5448.01	5419.83	N	-785.95	W	5476.52	1.92	-0.68
147	13738.00	90.46	347.02	95.00	8718.08	5543.00	5512.11	N	-808.51	W	5571.09	2.07	1.33
148	13833.00	90.24	347.65	95.00	8717.50	5637.97	5604.79	N	-829.33	W	5665.82	0.70	-0.23
149	13927.00	89.37	344.90	94.00	8717.82	5731.96	5696.10	N	-851.63	W	5759.41	3.07	-0.93
150	14022.00	88.81	344.75	95.00	8719.33	5826.93	5787.77	N	-876.50	W	5853.77	0.61	-0.59
151	14117.00	88.53	345.15	95.00	8721.54	5921.89	5879.49	N	-901.16	W	5948.15	0.51	-0.29
152	14212.00	88.73	344.99	95.00	8723.81	6016.85	5971.26	N	-925.63	W	6042.57	0.27	0.21
153	14307.00	89.57	344.51	95.00	8725.22	6111.82	6062.90	N	-950.61	W	6136.97	1.02	0.88
154	14402.00	89.76	345.01	95.00	8725.77	6206.80	6154.56	N	-975.59	W	6231.40	0.56	0.20
155	14497.00	89.23	345.30	95.00	8726.61	6301.79	6246.38	N	-999.92	W	6325.91	0.64	-0.56
156	14592.00	88.64	345.82	95.00	8728.38	6396.77	6338.36	N	-1023.61	W	6420.49	0.83	-0.62
157	14687.00	88.45	345.77	95.00	8730.79	6491.74	6430.43	N	-1046.91	W	6515.09	0.21	-0.20
158	14782.00	90.91	345.92	95.00	8731.32	6586.73	6522.54	N	-1070.14	W	6609.74	2.59	2.59
159	14877.00	90.60	345.39	95.00	8730.07	6681.72	6614.57	N	-1093.68	W	6704.37	0.65	-0.33
160	14973.00	90.52	344.95	96.00	8729.13	6777.71	6707.36	N	-1118.25	W	6799.94	0.47	-0.08
161	15068.00	89.59	344.59	95.00	8729.04	6872.69	6799.03	N	-1143.20	W	6894.47	1.05	-0.98
162	15163.00	90.35	344.91	95.00	8729.09	6967.67	6890.68	N	-1168.19	W	6989.00	0.87	0.80
163	15258.00	90.63	345.12	95.00	8728.28	7062.65	6982.45	N	-1192.76	W	7083.59	0.37	0.29
164	15353.00	88.98	344.74	95.00	8728.60	7157.63	7074.18	N	-1217.45	W	7178.17	1.78	-1.74
165	15448.00	91.19	344.95	95.00	8728.46	7252.61	7165.87	N	-1242.29	W	7272.75	2.34	2.33
166	15543.00	90.32	343.75	95.00	8727.21	7347.57	7257.33	N	-1267.91	W	7367.26	1.56	-0.92
167	15638.00	90.46	343.81	95.00	8726.56	7442.50	7348.55	N	-1294.45	W	7461.69	0.16	0.15
168	15733.00	90.01	344.22	95.00	8726.17	7537.45	7439.87	N	-1320.61	W	7556.17	0.64	-0.47
169	15828.00	87.74	345.47	95.00	8728.03	7632.40	7531.55	N	-1345.44	W	7650.78	2.73	-2.39
170	15923.00	86.99	345.27	95.00	8732.40	7727.30	7623.37	N	-1369.41	W	7745.39	0.82	-0.79
171	16018.00	88.61	348.85	95.00	8736.05	7822.19	7715.87	N	-1390.66	W	7840.19	4.13	1.71
172	16113.00	89.71	350.92	95.00	8737.44	7916.94	7809.38	N	-1407.34	W	7935.17	2.47	1.16
173	16208.00	90.60	348.91	95.00	8737.19	8011.70	7902.90	N	-1423.98	W	8030.17	2.31	0.94
174	16302.00	89.40	348.31	94.00	8737.19	8105.60	7995.05	N	-1442.54	W	8124.14	1.43	-1.28
175	16397.00	91.33	346.39	95.00	8736.58	8200.56	8087.73	N	-1463.34	W	8219.05	2.87	2.03
176	16492.00	89.09	345.58	95.00	8736.23	8295.55	8179.90	N	-1486.35	W	8313.84	2.51	-2.36
177	16586.00	88.39	345.08	94.00	8738.30	8389.52	8270.81	N	-1510.15	W	8407.55	0.92	-0.74
178	16681.00	89.90	346.30	95.00	8739.72	8484.50	8362.85	N	-1533.62	W	8502.31	2.04	1.59
179	16776.00	90.55	347.15	95.00	8739.34	8579.49	8455.31	N	-1555.44	W	8597.19	1.13	0.68
180	16871.00	89.87	344.22	95.00	8739.00	8674.48	8547.35	N	-1578.92	W	8691.96	3.17	-0.72
181	16966.00	91.19	342.56	95.00	8738.12	8769.38	8638.37	N	-1606.08	W	8786.41	2.23	1.39
182	17061.00	89.59	342.81	95.00	8737.47	8864.23	8729.06	N	-1634.35	W	8880.74	1.70	-1.68
183	17156.00	90.77	345.39	95.00	8737.17	8959.17	8820.42	N	-1660.37	W	8975.33	2.99	1.24
184	17251.00	89.20	345.56	95.00	8737.20	9054.16	8912.38	N	-1684.20	W	9070.12	1.66	-1.65
185	17346.00	90.63	346.17	95.00	8737.34	9149.16	9004.50	N	-1707.40	W	9164.94	1.64	1.51
186	17441.00	89.79	345.56	95.00	8736.99	9244.16	9096.62	N	-1730.60	W	9259.78	1.09	-0.88
187	17536.00	88.61	345.42	95.00	8738.32	9339.14	9188.58	N	-1754.40	W	9354.57	1.25	-1.24
188	17631.00	87.63	345.19	95.00	8741.43	9434.09	9280.42	N	-1778.48	W	9449.30	1.06	-1.03
189	17726.00	89.54	347.96	95.00	8743.78	9529.04	9372.79	N	-1800.53	W	9544.16	3.54	2.01
190	17821.00	88.61	347.43	95.00	8745.31	9623.98	9465.59	N	-1820.77	W	9639.12	1.13	-0.98
191	17916.00	91.72	349.25	95.00	8745.04	9718.87	9558.61	N	-1839.97	W	9734.09	3.79	3.27
192	18011.00	91.69	349.53	95.00	8742.21	9813.66	9651.95	N	-1857.45	W	9829.05	0.30	-0.03
193	18106.00	92.03	349.26	95.00	8739.13	9908.43	9745.28	N	-1874.92	W	9924.00	0.46	0.36
194	18201.00	89.34	345.84	95.00	8737.99	10003.36	9838.01	N	-1895.40	W	10018.93	4.58	-2.83
195	18296.00	89.73	346.08	95.00	8738.76	10098.36	9930.17	N	-1918.45	W	10113.79	0.48	0.41
196	18391.00	91.61	346.70	95.00	8737.65	10193.34	10022.49	N	-1940.80	W	10208.68	2.08	1.98
197	18486.00	90.15	346.52	95.00	8736.19	10288.32	10114.90	N	-1962.79	W	10303.58	1.55	-1.54
198	18581.00	90.38	348.06	95.00	8735.75	10383.29	10207.57	N	-1983.69	W	10398.53	1.64	0.24
199	18676.00	90.13	348.98	95.00	8735.33	10478.19	10300.66	N	-2002.60	W	10493.52	1.00	-0.26
200	18771.00	90.41	349.67	95.00	8734.88	10573.02	10394.02	N	-2020.20	W	10588.52	0.78	0.29
201	18866.00	89.48	350.00	95.00	8734.98	10667.79	10487.52	N	-2036.97	W	10683.51	1.04	-0.98
202	18961.00	89.82	351.65	95.00	8735.56	10762.44	10581.30	N	-2052.11	W	10778.46	1.77	0.36
203	19066.00	89.17	352.47	105.00	8736.48	10866.82	10685.29	N	-2066.62	W	10883.31	1.00	-0.62
PTB	19128.00	89.17	352.47	62.00	8737.38	10928.41	10746.75	N	-2074.74	W	10945.19	0.00	0.00