

KHCC - Hutchinson Community College  
Channel-six TV Protection

FMCommander Allocation Study  
01-20-2006

KHCC CH 211 C0  
110 kW 847 M COR \*

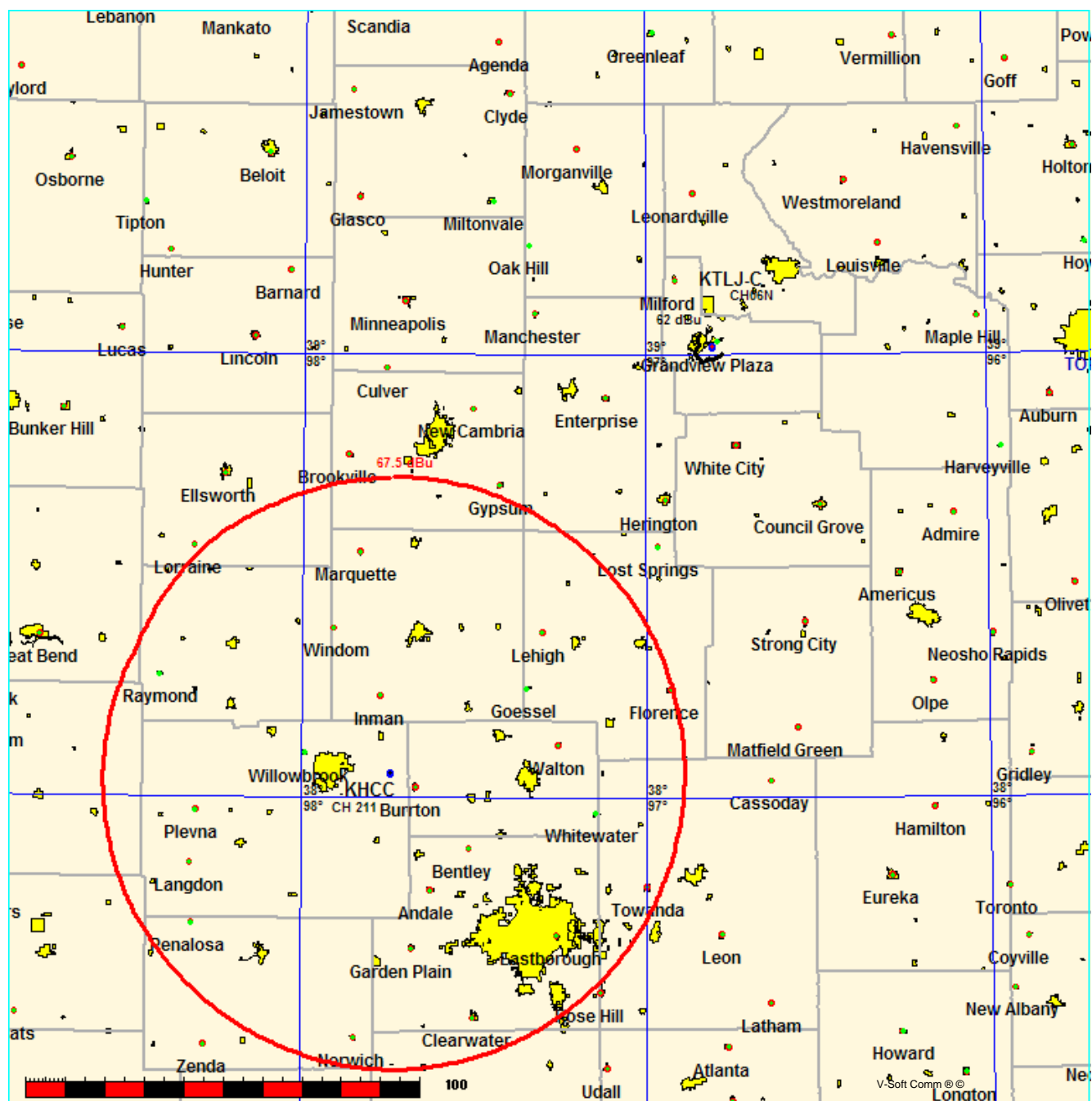
KTLJ-C CH 06N T BLTVL19880729IX  
.016 kW, 408 M COR

Intef. = 67.5 dBu

Prot. = 62 dBu

Scale = 1:2,500,000

\* TV-6 Study ERP, H + V/10 (worst case)



# Channel-Six TV Protection Study

KTLJ-C LI 06N T Dom 0.016 kW 84 M HAAT C HN  
Junction City KS 408M COR AMSL  
Lat= 39 01 07, Lng= 96 48 14  
Montgomery Communications, BLTVL19880729IX  
Fac ID# 43645, Cutoff Date= 881031  
Dist.=134.7304 km, Azi=37.1°, Rev Azi=217.7°

Direct line HAAT Grade B, 62 dBu= 4.62 km & Grade A= 3.26 km

Distance from reference to Grade B = 130.11 km

Cutoff Dist from Full Service or Class CA= 196

Maximum Co-located power= 26.3 kW

KTLJ-C Signal Contour at Reference location = -8.0 dBu

CH. 211, U/D ratio = 5.5 dB, Maximum FM signal = 67.5 dBu , add 6 dB if within angle.

## TV/FM D to U values

62.0	67.5	70.0	72.0	78.0	78.2	86.0	84.7
63.0	67.9	71.0	72.7	79.0	79.0	87.0	85.6
64.0	68.4	72.0	73.5	80.0	79.8	88.0	86.4
65.0	68.8	73.0	74.2	81.0	80.6	89.0	87.3
66.0	69.4	74.0	75.0	82.0	81.4	90.0	88.2
67.0	70.0	75.0	75.8	83.0	82.2	91.0	88.2
68.0	70.6	76.0	76.6	84.0	83.0	92.0	88.2
69.0	71.3	77.0	77.4	85.0	83.9	93.0	88.2

01-20-2006 30 Arc-Sec. Sec. Terrain Data

KTLJ-C BLTVL19880729IX

Channel = 06NT

Max ERP = 0.016 kW

RCAMSL = 408 M

N. Lat = 39 01 07

W. Lng = 96 48 14

Protected

62 dBu

KHCC

Channel = 211C0

Max ERP = 110 kW

RCAMSL = 847 M

N. Lat = 38 03 22

W. Lng = 97 44 43

Interfering

67.5 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
158.0	000.0160	0020.1	003.2	038.3	110.0000	0406.3	133.2	50.83
159.0	000.0160	0020.1	003.2	038.3	110.0000	0406.3	133.1	50.84
160.0	000.0160	0020.5	003.2	038.3	110.0000	0406.3	133.1	50.85
161.0	000.0160	0021.2	003.2	038.3	110.0000	0406.3	133.0	50.86
162.0	000.0160	0021.8	003.2	038.2	110.0000	0406.3	133.0	50.88
163.0	000.0160	0022.0	003.2	038.2	110.0000	0406.3	132.9	50.89
164.0	000.0160	0021.4	003.2	038.2	110.0000	0406.3	132.9	50.90
165.0	000.0160	0020.0	003.2	038.2	110.0000	0406.3	132.8	50.91
166.0	000.0160	0018.7	003.2	038.2	110.0000	0406.3	132.8	50.92
167.0	000.0160	0018.5	003.2	038.2	110.0000	0406.3	132.8	50.93
168.0	000.0160	0018.9	003.2	038.2	110.0000	0406.3	132.7	50.94
169.0	000.0160	0018.8	003.2	038.2	110.0000	0406.3	132.7	50.95
170.0	000.0160	0018.0	003.2	038.1	110.0000	0406.3	132.6	50.97
171.0	000.0160	0017.7	003.2	038.1	110.0000	0406.3	132.6	50.98
172.0	000.0160	0018.2	003.2	038.1	110.0000	0406.3	132.5	50.99
173.0	000.0160	0018.4	003.2	038.1	110.0000	0406.3	132.5	51.00
174.0	000.0160	0016.9	003.2	038.1	110.0000	0406.3	132.5	51.01
175.0	000.0160	0015.4	003.2	038.1	110.0000	0406.3	132.4	51.02
176.0	000.0160	0014.3	003.2	038.0	110.0000	0406.3	132.4	51.03
177.0	000.0160	0013.0	003.2	038.0	110.0000	0406.3	132.4	51.04
178.0	000.0160	0011.8	003.2	038.0	110.0000	0406.3	132.3	51.04
179.0	000.0160	0011.1	003.2	038.0	110.0000	0406.3	132.3	51.05
180.0	000.0160	0011.1	003.2	038.0	110.0000	0406.3	132.2	51.06
181.0	000.0160	0011.0	003.2	037.9	110.0000	0406.3	132.2	51.07
182.0	000.0160	0011.2	003.2	037.9	110.0000	0406.3	132.2	51.08
183.0	000.0160	0012.2	003.2	037.9	110.0000	0406.3	132.1	51.09
184.0	000.0160	0013.0	003.2	037.9	110.0000	0406.3	132.1	51.10
185.0	000.0160	0013.9	003.2	037.9	110.0000	0406.3	132.1	51.10
186.0	000.0160	0014.9	003.2	037.8	110.0000	0406.3	132.1	51.11
187.0	000.0160	0015.8	003.2	037.8	110.0000	0406.3	132.0	51.12
188.0	000.0160	0017.1	003.2	037.8	110.0000	0406.3	132.0	51.13
189.0	000.0160	0018.7	003.2	037.8	110.0000	0406.3	132.0	51.13
190.0	000.0160	0021.2	003.2	037.8	110.0000	0406.3	131.9	51.14
191.0	000.0160	0023.8	003.2	037.7	110.0000	0406.3	131.9	51.15
192.0	000.0160	0026.4	003.2	037.7	110.0000	0406.3	131.9	51.15

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
193.0	000.0160	0028.5	003.2	037.7	110.0000	0406.3	131.9	51.16
194.0	000.0160	0030.2	003.2	037.7	110.0000	0406.3	131.8	51.17
195.0	000.0160	0032.2	003.3	037.7	110.0000	0406.3	131.7	51.20
196.0	000.0160	0034.1	003.4	037.7	110.0000	0406.3	131.6	51.22
197.0	000.0160	0035.6	003.4	037.7	110.0000	0406.3	131.5	51.25
198.0	000.0160	0036.9	003.5	037.6	110.0000	0406.3	131.5	51.26
199.0	000.0160	0038.2	003.6	037.6	110.0000	0406.3	131.4	51.29
200.0	000.0160	0040.1	003.7	037.6	110.0000	0406.3	131.3	51.31
201.0	000.0160	0042.2	003.8	037.6	110.0000	0406.3	131.1	51.34
202.0	000.0160	0044.0	003.8	037.6	110.0000	0406.3	131.0	51.37
203.0	000.0160	0045.4	003.9	037.6	110.0000	0406.3	131.0	51.39
204.0	000.0160	0046.6	004.0	037.5	110.0000	0406.3	130.9	51.41
205.0	000.0160	0047.9	004.0	037.5	110.0000	0406.3	130.8	51.43
206.0	000.0160	0049.6	004.1	037.5	110.0000	0405.7	130.7	51.44
207.0	000.0160	0052.0	004.2	037.5	110.0000	0405.7	130.6	51.47
208.0	000.0160	0055.0	004.3	037.5	110.0000	0405.7	130.5	51.50
209.0	000.0160	0058.2	004.5	037.4	110.0000	0405.7	130.3	51.54
210.0	000.0160	0061.2	004.6	037.4	110.0000	0405.7	130.2	51.57
211.0	000.0160	0063.5	004.7	037.4	110.0000	0405.7	130.1	51.59
212.0	000.0160	0064.7	004.7	037.3	110.0000	0405.7	130.1	51.60
213.0	000.0160	0065.1	004.7	037.3	110.0000	0405.7	130.0	51.61
214.0	000.0160	0065.2	004.7	037.3	110.0000	0405.7	130.0	51.61
215.0	000.0160	0065.2	004.7	037.2	110.0000	0405.7	130.0	51.61
216.0	000.0160	0065.0	004.7	037.2	110.0000	0405.7	130.0	51.61
217.0	000.0160	0063.9	004.7	037.2	110.0000	0405.7	130.1	51.60
218.0	000.0160	0062.1	004.6	037.1	110.0000	0405.7	130.1	51.58
219.0	000.0160	0060.0	004.5	037.1	110.0000	0405.7	130.2	51.57
220.0	000.0160	0058.3	004.5	037.1	110.0000	0405.7	130.3	51.55
221.0	000.0160	0056.8	004.4	037.0	110.0000	0405.7	130.3	51.53
222.0	000.0160	0055.4	004.4	037.0	110.0000	0405.7	130.4	51.52
223.0	000.0160	0054.7	004.3	037.0	110.0000	0405.7	130.4	51.51
224.0	000.0160	0054.8	004.3	036.9	110.0000	0405.7	130.4	51.51
225.0	000.0160	0055.6	004.4	036.9	110.0000	0405.7	130.4	51.51
226.0	000.0160	0056.6	004.4	036.9	110.0000	0405.7	130.4	51.52
227.0	000.0160	0057.6	004.4	036.8	110.0000	0405.7	130.4	51.53
228.0	000.0160	0058.4	004.5	036.8	110.0000	0405.7	130.3	51.53
229.0	000.0160	0059.0	004.5	036.8	110.0000	0405.7	130.3	51.53
230.0	000.0160	0059.5	004.5	036.7	110.0000	0405.7	130.3	51.53
231.0	000.0160	0060.2	004.5	036.7	110.0000	0405.7	130.3	51.53
232.0	000.0160	0061.0	004.6	036.6	110.0000	0405.7	130.3	51.54
233.0	000.0160	0062.0	004.6	036.6	110.0000	0405.7	130.3	51.54
234.0	000.0160	0062.9	004.6	036.6	110.0000	0405.7	130.3	51.54
235.0	000.0160	0063.5	004.7	036.5	110.0000	0405.7	130.3	51.54
236.0	000.0160	0064.0	004.7	036.5	110.0000	0405.2	130.3	51.53
237.0	000.0160	0064.3	004.7	036.5	110.0000	0405.2	130.3	51.52
238.0	000.0160	0064.3	004.7	036.4	110.0000	0405.2	130.4	51.51
239.0	000.0160	0064.1	004.7	036.4	110.0000	0405.2	130.4	51.50
240.0	000.0160	0063.7	004.7	036.4	110.0000	0405.2	130.4	51.49
241.0	000.0160	0063.3	004.6	036.3	110.0000	0405.2	130.5	51.48
242.0	000.0160	0063.1	004.6	036.3	110.0000	0405.2	130.5	51.47
243.0	000.0160	0063.3	004.6	036.3	110.0000	0405.2	130.6	51.46

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
244.0	000.0160	0063.8	004.7	036.2	110.0000	0405.2	130.6	51.46
245.0	000.0160	0064.4	004.7	036.2	110.0000	0405.2	130.6	51.45
246.0	000.0160	0064.7	004.7	036.2	110.0000	0405.2	130.6	51.45
247.0	000.0160	0064.4	004.7	036.1	110.0000	0405.2	130.7	51.43
248.0	000.0160	0063.8	004.7	036.1	110.0000	0405.2	130.7	51.42
249.0	000.0160	0062.7	004.6	036.1	110.0000	0405.2	130.8	51.40
250.0	000.0160	0061.4	004.6	036.1	110.0000	0405.2	130.9	51.38
251.0	000.0160	0060.0	004.5	036.1	110.0000	0405.2	131.0	51.36
252.0	000.0160	0058.4	004.5	036.0	110.0000	0405.2	131.1	51.33
253.0	000.0160	0056.7	004.4	036.0	110.0000	0405.2	131.2	51.31
254.0	000.0160	0054.9	004.3	036.0	110.0000	0405.2	131.3	51.28
255.0	000.0160	0053.0	004.3	036.0	110.0000	0405.2	131.4	51.25
256.0	000.0160	0051.4	004.2	036.0	110.0000	0405.2	131.5	51.23
257.0	000.0160	0050.0	004.1	036.0	110.0000	0405.2	131.6	51.20
258.0	000.0160	0048.8	004.1	036.0	110.0000	0405.2	131.7	51.18
259.0	000.0160	0047.6	004.0	036.0	110.0000	0405.2	131.8	51.16
260.0	000.0160	0046.4	004.0	036.0	110.0000	0405.2	131.8	51.14
261.0	000.0160	0045.2	003.9	036.0	110.0000	0405.2	131.9	51.11
262.0	000.0160	0043.8	003.8	036.0	110.0000	0405.2	132.0	51.09
263.0	000.0160	0041.9	003.7	036.0	110.0000	0405.2	132.1	51.06
264.0	000.0160	0040.1	003.6	036.0	110.0000	0405.2	132.2	51.03
265.0	000.0160	0038.3	003.6	036.0	110.0000	0405.2	132.4	51.01
266.0	000.0160	0037.3	003.5	036.0	110.0000	0405.2	132.4	50.98
267.0	000.0160	0036.6	003.5	036.0	110.0000	0405.2	132.5	50.97
268.0	000.0160	0036.1	003.4	036.0	110.0000	0405.2	132.6	50.95
269.0	000.0160	0035.9	003.4	036.0	110.0000	0405.2	132.6	50.94
270.0	000.0160	0035.2	003.4	036.0	110.0000	0405.2	132.7	50.92
271.0	000.0160	0034.4	003.4	036.0	110.0000	0405.2	132.8	50.90
272.0	000.0160	0033.6	003.3	036.0	110.0000	0405.2	132.8	50.89
273.0	000.0160	0032.8	003.3	036.0	110.0000	0405.2	132.9	50.87
274.0	000.0160	0032.4	003.3	036.0	110.0000	0405.2	132.9	50.85
275.0	000.0160	0032.2	003.3	036.0	110.0000	0405.2	133.0	50.84
276.0	000.0160	0032.0	003.3	035.9	110.0000	0405.2	133.1	50.83
277.0	000.0160	0032.4	003.3	035.9	110.0000	0405.2	133.1	50.82
278.0	000.0160	0032.8	003.3	035.9	110.0000	0405.2	133.1	50.80

Doug Vernier, Telecommunications Consultants

N. Lat. = 39 01 07 W. Lng. = 96 48 14

HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

KTLJ-C, Montgomery Communications, I , BLTVL19880729IX

Azi .	AV EL	HAAT	ERP kW	dBk	Field	62-F5
000	371.8	36.2	0.0160	-17.96	1.000	3.46
010	371.0	37.0	0.0160	-17.96	1.000	3.49
020	348.7	59.3	0.0160	-17.96	1.000	4.50
030	332.1	75.9	0.0160	-17.96	1.000	5.08
040	324.1	83.9	0.0160	-17.96	1.000	5.35
050	343.5	64.5	0.0160	-17.96	1.000	4.69
060	360.4	47.6	0.0160	-17.96	1.000	4.01
070	366.1	41.9	0.0160	-17.96	1.000	3.74
080	374.4	33.6	0.0160	-17.96	1.000	3.33
090	381.3	26.7	0.0160	-17.96	1.000	3.16
100	388.6	19.4	0.0160	-17.96	1.000	3.16
110	386.0	22.0	0.0160	-17.96	1.000	3.16
120	387.9	20.1	0.0160	-17.96	1.000	3.16
130	386.9	21.1	0.0160	-17.96	1.000	3.16
140	382.3	25.7	0.0160	-17.96	1.000	3.16
150	387.0	21.0	0.0160	-17.96	1.000	3.16
160	387.7	20.3	0.0160	-17.96	1.000	3.16
170	390.1	17.9	0.0160	-17.96	1.000	3.16
180	397.1	10.9	0.0160	-17.96	1.000	3.16
190	387.0	21.0	0.0160	-17.96	1.000	3.16
200	368.2	39.8	0.0160	-17.96	1.000	3.64
210	347.1	60.9	0.0160	-17.96	1.000	4.56
220	350.1	57.9	0.0160	-17.96	1.000	4.46
230	349.0	59.0	0.0160	-17.96	1.000	4.49
240	344.6	63.4	0.0160	-17.96	1.000	4.65
250	346.5	61.5	0.0160	-17.96	1.000	4.58
260	361.7	46.3	0.0160	-17.96	1.000	3.95
270	373.1	34.9	0.0160	-17.96	1.000	3.39
280	375.0	33.0	0.0160	-17.96	1.000	3.30
290	362.2	45.8	0.0160	-17.96	1.000	3.92
300	357.9	50.1	0.0160	-17.96	1.000	4.13
310	345.9	62.1	0.0160	-17.96	1.000	4.61
320	346.5	61.5	0.0160	-17.96	1.000	4.58
330	353.8	54.2	0.0160	-17.96	1.000	4.31
340	364.6	43.4	0.0160	-17.96	1.000	3.81
350	378.0	30.0	0.0160	-17.96	1.000	3.16

Ave EI = 366.06 M HAAT= 41.94 M AMSL= 408 M

Doug Vernier, Telecommunications Consultants

N. Lat. = 38 03 22 W. Lng. = 97 44 43

HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

KHCC, Hutchinson Community College

Channel-six TV Interference Contour Distances

Azi .	AV EL	HAAT	ERP kW	dBk	Field	67.5-F1
000	448.9	398.1	110.0000	20.41	1.000	74.14
010	445.3	401.7	110.0000	20.41	1.000	74.45
020	443.4	403.6	110.0000	20.41	1.000	74.62
030	443.0	404.0	110.0000	20.41	1.000	74.66
040	440.0	407.0	110.0000	20.41	1.000	74.92
050	440.2	406.8	110.0000	20.41	1.000	74.91
060	439.2	407.8	110.0000	20.41	1.000	74.99
070	439.2	407.8	110.0000	20.41	1.000	74.99
080	439.6	407.4	110.0000	20.41	1.000	74.96
090	439.2	407.8	110.0000	20.41	1.000	74.99
100	439.3	407.7	110.0000	20.41	1.000	74.98
110	439.2	407.8	110.0000	20.41	1.000	74.99
120	439.3	407.7	110.0000	20.41	1.000	74.98
130	438.8	408.2	110.0000	20.41	1.000	75.03
140	439.6	407.4	110.0000	20.41	1.000	74.96
150	441.7	405.3	110.0000	20.41	1.000	74.77
160	442.6	404.4	110.0000	20.41	1.000	74.69
170	444.1	402.9	110.0000	20.41	1.000	74.56
180	445.1	401.9	110.0000	20.41	1.000	74.47
190	447.2	399.8	110.0000	20.41	1.000	74.29
200	450.1	396.9	110.0000	20.41	1.000	74.04
210	451.4	395.6	110.0000	20.41	1.000	73.93
220	453.3	393.7	110.0000	20.41	1.000	73.76
230	453.8	393.2	110.0000	20.41	1.000	73.71
240	454.2	392.8	110.0000	20.41	1.000	73.68
250	456.8	390.2	110.0000	20.41	1.000	73.45
260	460.6	386.4	110.0000	20.41	1.000	73.13
270	462.9	384.1	110.0000	20.41	1.000	72.93
280	468.1	378.9	110.0000	20.41	1.000	72.48
290	473.3	373.7	110.0000	20.41	1.000	72.03
300	473.9	373.1	110.0000	20.41	1.000	71.98
310	464.2	382.8	110.0000	20.41	1.000	72.82
320	454.0	393.0	110.0000	20.41	1.000	73.70
330	454.3	392.7	110.0000	20.41	1.000	73.67
340	455.1	391.9	110.0000	20.41	1.000	73.60
350	452.2	394.8	110.0000	20.41	1.000	73.86

Ave EI = 449.25 M HAAT= 397.75 M AMSL= 847