

**MINOR CHANGE APPLICATION**  
**BRENT EPPERSON**  
**W283AZ FM TRANSLATOR STATION**  
**CH 286D - 105.1 MHZ - 0.24 KW**  
**LYNCHBURG, VIRGINIA**  
**July 2015**

**EXHIBIT C1**

**Interference Study for W283AZ on Channel 286**  
**Using Proposed Site as Reference**

REFERENCE CH# 286D - 105.1 MHZ, Pwr= - 0.24 kW, HAAT= 66.4 M, COR= 288.6 M DISPLAY DATES  
 37 25 14.4 N. Average Protected F(50-50)= 10.5 km DATA 07-10-15  
 79 06 55.8 W. Omni-directional SEARCH 07-10-15

CH CITY	CALL	TYPE STATE	ANT	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
285C2 Roanoke	WJJS	LIC ZCX VA		266.0 85.5	71.94 BLH20040723ADP	37 22 23.0 79 55 40.0	14.500 282	75.6 699	51.1 Capstar Tx Llc	-14.4*	5.1
283D Lynchburg	W283AZ!	LIC C VA		0.0 226.3	0.00 BLFT20080306ABW	37 25 15.0 79 06 55.0	0.027 61	0.4 289	4.9 Brent Epperson	-8.5	-6.0
287A Dillwyn	WBNN-FM	LIC NC VA		67.6 247.9	47.04 BLH20000810ABK	37 34 50.0 78 37 18.0	6.000 100	42.9 274	26.5 Wkgm, Inc.	-8.2	0.1
288A Altavista	WKDE-FM	LIC CN VA		198.4 18.4	30.51 BMLH19970305KB	37 09 37.0 79 13 28.0	6.000 100	2.1 313	17.7 D.j. Broadcasting, Inc	18.9	7.4
286A Bridgewater	WTGD	LIC ZCX VA		8.9 189.0	116.11 BLH20041112ADU	38 27 08.0 78 54 32.0	6.000 100	95.7 548	35.2 M. Belmont Verstandig, Inc	11.0	54.0
286C1 Durham	WDCG	LIC NCX NC		171.9 352.1	191.61 BLH20080310ADT	35 42 50.0 78 49 04.0	73.000 339	169.1 443	72.1 Capstar Tx Llc	12.1	85.1
284C1 Crewe	WPZZ	LIC DCN VA		104.8 285.5	106.37 BLH19920211KA	37 10 15.0 77 57 16.0	100.000 299	9.5 399	70.1 Radio One Licenses, Llc	84.5	35.2

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 In & Out distances between contours are shown at closest points. Reference Zone= - Zone 2, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*\*affixed to 'IN' or 'OUT' values = site inside restricted contour.  
 Reference station has protected zone issue: AM tower

**W283AZ - Lynchburg, VA - Proposed**

Latitude: 37-25-14.40 N - Longitude: 079-06-55.80 W  
Channel: 286 - Frequency: 105.1 MHz  
ERP: 0.24 kW - AMSL Height: 288.6 m

**WJJS - Roanoke, VA - BLH20040723ADP**

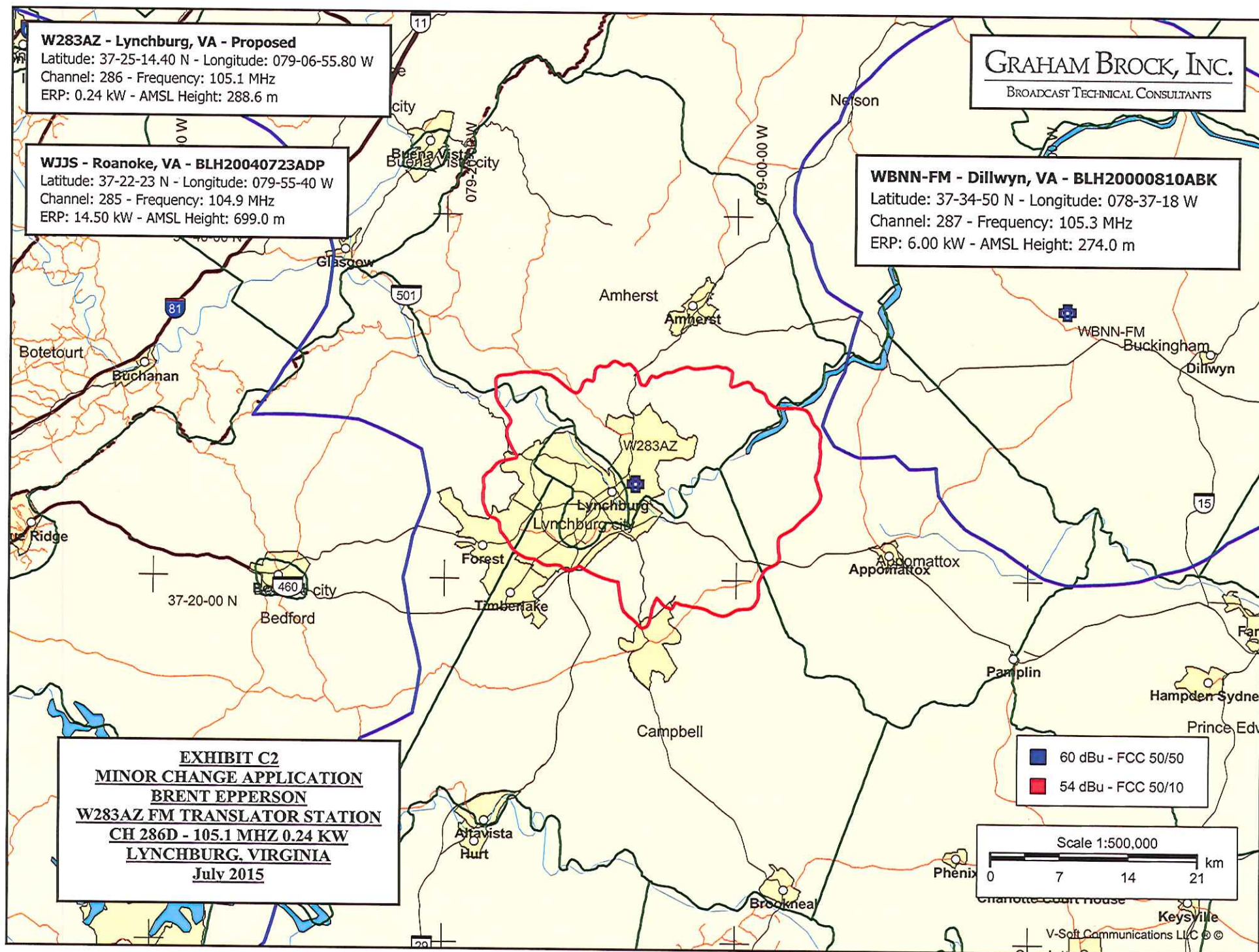
Latitude: 37-22-23 N - Longitude: 079-55-40 W  
Channel: 285 - Frequency: 104.9 MHz  
ERP: 14.50 kW - AMSL Height: 699.0 m

**WBNN-FM - Dillwyn, VA - BLH20000810ABK**

Latitude: 37-34-50 N - Longitude: 078-37-18 W  
Channel: 287 - Frequency: 105.3 MHz  
ERP: 6.00 kW - AMSL Height: 274.0 m

**GRAHAM BROCK, INC.**

BROADCAST TECHNICAL CONSULTANTS



**EXHIBIT C2**

**MINOR CHANGE APPLICATION**

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**EXHIBIT C3**

WJJS BLH20040723ADP  
Channel = 285C2  
Max ERP = 14.5 kW  
RCAMSL = 699 M  
N. Lat. 37 22 23.0  
W. Lng. 79 55 40.0  
Protected  
60 dBu

W283AZ - Proposed  
Channel = 286D  
Max ERP = 0.24 kW  
RCAMSL = 288.6 M  
N. Lat. 37 25 14.4  
W. Lng. 79 06 55.8  
Interfering  
54 dBu

Terrain Data: FCC NGDC 30 Sec

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
057.0	014.5000	0233.1	048.8	304.7	000.2400	0085.8	037.3	41.41	
058.0	014.5000	0224.3	048.1	303.3	000.2400	0083.4	036.8	41.39	
059.0	014.5000	0214.4	047.4	301.6	000.2400	0080.6	036.4	41.26	
060.0	014.5000	0203.5	046.5	299.8	000.2400	0073.8	036.1	40.65	
061.0	014.5000	0190.5	045.5	297.7	000.2400	0065.0	035.9	39.69	
062.0	014.5000	0175.8	044.2	295.4	000.2400	0061.2	036.0	39.20	
063.0	014.5000	0161.5	042.7	292.8	000.2400	0061.9	036.4	39.13	
064.0	014.5000	0148.8	041.2	290.2	000.2400	0059.1	036.9	38.59	
065.0	014.5000	0137.8	039.8	288.0	000.2400	0055.1	037.4	37.84	
066.0	014.5000	0127.8	038.6	285.9	000.2400	0051.6	037.9	37.12	
067.0	014.5000	0118.4	037.4	284.1	000.2400	0048.3	038.3	36.40	
068.0	014.5000	0109.3	036.2	282.3	000.2400	0046.2	039.0	35.81	
069.0	014.5000	0102.5	035.2	280.7	000.2400	0051.7	039.5	36.52	
070.0	014.5000	0102.1	035.1	279.9	000.2400	0055.4	039.3	37.16	
071.0	014.5000	0108.4	036.1	279.8	000.2400	0056.0	038.1	37.68	
072.0	014.5000	0123.4	038.0	280.3	000.2400	0053.5	036.1	38.11	
073.0	014.5000	0142.6	040.4	281.1	000.2400	0049.9	033.7	38.52	
074.0	014.5000	0165.3	043.2	282.2	000.2400	0046.3	030.9	39.07	
075.0	014.5000	0188.4	045.3	282.8	000.2400	0046.3	028.6	40.28	
076.0	014.5000	0207.2	046.8	282.8	000.2400	0046.2	026.9	41.29	
077.0	014.5000	0223.8	048.1	282.3	000.2400	0046.2	025.4	42.29	
078.0	014.5000	0238.3	049.2	281.6	000.2400	0048.1	024.1	43.61	
079.0	014.5000	0251.3	050.1	280.5	000.2400	0052.8	022.9	45.36	
080.0	014.5000	0262.8	050.9	279.0	000.2400	0059.4	021.8	47.21	
081.0	014.5000	0271.4	051.5	277.2	000.2400	0063.5	021.0	48.41	
082.0	014.5000	0274.1	051.7	275.0	000.2400	0066.9	020.5	49.16	
083.0	014.5000	0272.2	051.6	272.4	000.2400	0070.7	020.5	49.64	
084.0	014.5000	0269.5	051.4	269.9	000.2400	0070.9	020.6	49.60	
085.0	014.5000	0266.8	051.2	267.3	000.2400	0071.2	020.7	49.53	
086.0	014.5000	0262.7	050.9	264.9	000.2400	0071.8	021.0	49.37	
087.0	014.5000	0256.8	050.5	262.6	000.2400	0072.0	021.5	49.02	
088.0	014.5000	0250.4	050.0	260.4	000.2400	0071.2	022.0	48.49	
089.0	014.5000	0242.7	049.5	258.5	000.2400	0070.3	022.7	47.85	
090.0	014.5000	0241.0	049.4	256.4	000.2400	0067.2	023.0	47.23	
091.0	014.5000	0240.1	049.3	254.4	000.2400	0063.7	023.3	46.58	
092.0	014.5000	0239.2	049.2	252.5	000.2400	0064.0	023.7	46.36	
093.0	014.5000	0236.4	049.0	250.7	000.2400	0064.8	024.2	46.09	
094.0	014.5000	0233.8	048.8	249.1	000.2400	0063.6	024.7	45.56	
095.0	014.5000	0231.5	048.7	247.5	000.2400	0062.3	025.2	45.02	
096.0	014.5000	0229.7	048.5	246.0	000.2400	0061.7	025.8	44.57	
097.0	014.5000	0232.0	048.7	244.2	000.2400	0061.2	026.1	44.31	
098.0	014.5000	0236.9	049.1	242.2	000.2400	0060.8	026.3	44.12	
099.0	014.5000	0242.4	049.5	240.2	000.2400	0059.5	026.5	43.81	
100.0	014.5000	0249.3	050.0	238.1	000.2400	0057.3	026.7	43.36	
101.0	014.5000	0256.5	050.5	236.0	000.2400	0054.7	026.9	42.82	

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**EXHIBIT C4**

WBNN-FM BLH20000810ABK  
Channel = 287A  
Max ERP = 6 kW  
RCAMSL = 274 M  
N. Lat. 37 34 50.0  
W. Lng. 78 37 18.0  
Protected  
60 dBu

W283AZ - Proposed  
Channel = 286D  
Max ERP = 0.24 kW  
RCAMSL = 288.6 M  
N. Lat. 37 25 14.4  
W. Lng. 79 06 55.8  
Interfering  
54 dBu

Terrain Data: FCC NGDC 30 Sec

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
222.0	006.0000	0055.0	021.6	086.5	000.2400	0094.0	029.2	46.11	
223.0	006.0000	0057.5	022.0	086.6	000.2400	0093.8	028.6	46.44	
224.0	006.0000	0059.7	022.4	086.5	000.2400	0093.9	028.1	46.77	
225.0	006.0000	0061.1	022.6	086.2	000.2400	0094.4	027.7	47.08	
226.0	006.0000	0061.5	022.7	085.7	000.2400	0095.2	027.4	47.35	
227.0	006.0000	0060.9	022.6	085.0	000.2400	0096.2	027.2	47.58	
228.0	006.0000	0060.4	022.5	084.2	000.2400	0096.9	027.0	47.75	
229.0	006.0000	0060.5	022.5	083.5	000.2400	0097.4	026.8	47.96	
230.0	006.0000	0062.1	022.8	083.1	000.2400	0097.7	026.3	48.27	
231.0	006.0000	0065.4	023.3	083.0	000.2400	0097.8	025.7	48.71	
232.0	006.0000	0069.9	024.0	083.0	000.2400	0097.8	024.9	49.27	
233.0	006.0000	0074.8	024.7	083.0	000.2400	0097.8	024.0	49.87	
234.0	006.0000	0079.1	025.3	082.9	000.2400	0097.8	023.3	50.45	
235.0	006.0000	0082.4	025.8	082.5	000.2400	0098.0	022.6	50.95	
236.0	006.0000	0085.1	026.2	081.9	000.2400	0098.3	022.1	51.40	
237.0	006.0000	0087.3	026.5	081.2	000.2400	0098.9	021.6	51.83	
238.0	006.0000	0089.0	026.8	080.3	000.2400	0099.8	021.2	52.22	
239.0	006.0000	0090.7	027.0	079.3	000.2400	0100.3	020.8	52.57	
240.0	006.0000	0092.5	027.3	078.3	000.2400	0100.2	020.4	52.89	
241.0	006.0000	0094.5	027.5	077.3	000.2400	0100.7	020.0	53.26	
242.0	006.0000	0096.1	027.8	076.1	000.2400	0102.1	019.6	53.66	
243.0	006.0000	0096.4	027.8	074.7	000.2400	0103.5	019.5	53.90	
244.0	006.0000	0095.2	027.6	073.2	000.2400	0103.8	019.6	53.87	
245.0	006.0000	0093.4	027.4	071.7	000.2400	0102.2	019.7	53.58	
246.0	006.0000	0091.6	027.1	070.3	000.2400	0100.6	019.9	53.28	
247.0	006.0000	0089.7	026.9	068.9	000.2400	0100.4	020.2	53.08	
248.0	006.0000	0087.0	026.5	067.6	000.2400	0100.3	020.6	52.77	
249.0	006.0000	0083.3	026.0	066.4	000.2400	0099.7	021.1	52.28	
250.0	006.0000	0079.0	025.3	065.3	000.2400	0097.5	021.8	51.55	
251.0	006.0000	0075.3	024.8	064.3	000.2400	0093.7	022.3	50.74	
252.0	006.0000	0072.6	024.4	063.3	000.2400	0088.7	022.8	49.88	
253.0	006.0000	0070.9	024.1	062.4	000.2400	0083.6	023.1	49.09	
254.0	006.0000	0069.1	023.8	061.5	000.2400	0080.0	023.5	48.42	
255.0	006.0000	0065.9	023.4	060.8	000.2400	0078.0	024.0	47.79	
256.0	006.0000	0062.4	022.8	060.2	000.2400	0076.9	024.7	47.21	
257.0	006.0000	0060.3	022.5	059.5	000.2400	0076.0	025.1	46.81	
258.0	006.0000	0059.0	022.3	058.8	000.2400	0075.4	025.4	46.51	
259.0	006.0000	0059.0	022.3	058.0	000.2400	0074.8	025.5	46.35	
260.0	006.0000	0059.9	022.4	057.1	000.2400	0074.5	025.5	46.30	
261.0	006.0000	0059.5	022.4	056.3	000.2400	0074.5	025.8	46.16	

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**EXHIBIT C5**

North Latitude: 37° 25' 14.4"  
 West Longitude: 79° 06' 55.8"

HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	100-F1	60-F5	54-F1	40-F1
000	248.3	40.3	0.2400	-6.20	1.000	1.09	8.11	11.52	27.07
010	251.1	37.5	0.2400	-6.20	1.000	1.09	7.79	11.11	26.08
020	240.9	47.7	0.2400	-6.20	1.000	1.09	8.93	12.53	29.61
030	230.9	57.7	0.2400	-6.20	1.000	1.09	9.89	13.76	33.03
040	220.0	68.6	0.2400	-6.20	1.000	1.09	10.69	15.09	36.19
050	217.0	71.6	0.2400	-6.20	1.000	1.09	10.89	15.49	37.01
060	212.0	76.6	0.2400	-6.20	1.000	1.09	11.23	16.14	38.33
070	188.1	100.5	0.2400	-6.20	1.000	1.09	12.77	19.03	43.88
080	188.7	99.9	0.2400	-6.20	1.000	1.09	12.73	18.97	43.78
090	193.1	95.5	0.2400	-6.20	1.000	1.09	12.46	18.46	42.85
100	200.5	88.1	0.2400	-6.20	1.000	1.09	11.99	17.58	41.19
110	217.2	71.4	0.2400	-6.20	1.000	1.09	10.89	15.47	36.98
120	211.6	77.0	0.2400	-6.20	1.000	1.09	11.26	16.19	38.44
130	210.8	77.8	0.2400	-6.20	1.000	1.09	11.31	16.29	38.65
140	209.7	78.9	0.2400	-6.20	1.000	1.09	11.39	16.44	38.94
150	222.4	66.2	0.2400	-6.20	1.000	1.09	10.52	14.64	35.53
160	239.0	49.6	0.2400	-6.20	1.000	1.09	9.12	12.77	30.23
170	245.4	43.2	0.2400	-6.20	1.000	1.09	8.44	11.92	28.06
180	229.8	58.8	0.2400	-6.20	1.000	1.09	9.98	13.88	33.37
190	259.7	28.9	0.2400	-6.20	1.000	1.09	7.02	10.05	23.51
200	272.8	15.8	0.2400	-6.20	1.000	1.09	7.02	10.05	23.51
210	278.9	9.7	0.2400	-6.20	1.000	1.09	7.02	10.05	23.51
220	250.2	38.4	0.2400	-6.20	1.000	1.09	7.89	11.24	26.40
230	241.2	47.4	0.2400	-6.20	1.000	1.09	8.90	12.49	29.49
240	229.3	59.3	0.2400	-6.20	1.000	1.09	10.02	13.93	33.54
250	224.1	64.5	0.2400	-6.20	1.000	1.09	10.40	14.46	35.06
260	217.6	71.0	0.2400	-6.20	1.000	1.09	10.86	15.42	36.86
270	217.7	70.9	0.2400	-6.20	1.000	1.09	10.85	15.40	36.84
280	233.7	54.9	0.2400	-6.20	1.000	1.09	9.65	13.44	32.09
290	229.8	58.8	0.2400	-6.20	1.000	1.09	9.98	13.88	33.38
300	214.0	74.6	0.2400	-6.20	1.000	1.09	11.10	15.88	37.82
310	203.5	85.1	0.2400	-6.20	1.000	1.09	11.80	17.22	40.48
320	222.9	65.7	0.2400	-6.20	1.000	1.09	10.49	14.59	35.41
330	250.2	38.4	0.2400	-6.20	1.000	1.09	7.89	11.25	26.41
340	242.6	46.0	0.2400	-6.20	1.000	1.09	8.75	12.30	29.00
350	239.2	49.4	0.2400	-6.20	1.000	1.09	9.11	12.75	30.17

Ave El= 228.18 M HAAT= 60.42 M AMSL= 288.6 (HAAT based on 12 Radials)