

TECHNICAL STATEMENT  
K231BQ ESTES PARK, COLORADO 231D  
CEDAR COVE BROADCASTING, INC.  
FCC FORM 349  
FEBRUARY 2012

This Technical Statement is in support of FCC form 349 filed by Cedar Cove Broadcasting, Inc. for a minor change in the licensed facility of K231BQ, facility ID 142150. It is proposing to make some minor technical changes at its currently licensed tower site located at N.  $39^{\circ}-40'-31''$ , W.  $105^{\circ}-29'-02''$ , NAD 27, no change in its transmitter site location is proposed. A small decrease Effective Radiated Power of 10 Watts (0.010 KW) and utilizing a Scala HDCA-5CP directional type antenna is proposed, with its main purpose to add dual polarization to its current operation. The antenna will be mounted at the 31 meter level on a 43 meter overall, unregistered, existing tower, with a Center of Radiation at 3250 meters Above Mean Sea Level.

Figure 1 shows a channel interference study conducted from the proposed site for K231BQ. It shows that the proposed operation of K231BQ on channel 231D, will not cause any prohibited outgoing interference to any licensed or proposed FM services, with the exception of KRKS-FM Lafayette, Colorado operating on channel 234C, facility ID 58631. The proposed operation of K231BQ on 231D is located within the protected 60 dB $\mu$  contour of 3<sup>rd</sup> adjacent station KRKS-FM. Figure 2 shows the coverage area for the worse case 100 dB $\mu$  interference contour F(50-10) and shows that there is no population in the area of interference. The applicant, Cedar Cove Broadcasting, Inc., respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes

nearby the proposed existing tower site, which is a privately owned 10 acre wooded area, with private access. The transmitter building is uninhabited and does not have indoor plumbing.

Figure 3 shows the antenna polar plot of the proposed directional antenna system.

Figure 4 is a tabulation of distance to contours for the pertinent contours proposed by K231BQ.

It was concluded that the new proposed operation of K231BQ Estes Park, Colorado on channel 231D will not cause any harmful interference to any existing stations, and will be in full compliance with the commission's rules.

FIGURE 1, DETAILED CHANNEL INTERFERENCE STUDY

K231BQ ESTES PARK, COLORADO, CH. 231D

REFERENCE CH# 231D - 94.1 MHz, Pwr= 0.01 kW DA, HAAT= 493.5 M, COR= 3250 M DISPLAY DATES  
39 40 31.0 N. Average Protected F(50-50)= 12.52 km DATA 11-12-11  
105 29 02.0 W. Standard Directional SEARCH 11-12-11

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*
231D Estes Park	K231BQ	LIC DV_ CO	0.0 0.0	0.0 BLFT20110907AMK	39 40 31.0 105 29 02.0	0.016 3244	49.8	13.4 Cedar Cove Broadcasting, I	-52.9*	-32.1*
232C Colorado Springs	KILO	LIC _C_ CO	152.4 332.8	116.4 BLH20070426AAL	38 44 44.0 104 51 42.0	79.000 670	140.2 2922	92.0 Colorado Springs Radio Bro	-34.7*	2.3
234C Lafayette	KRKS-FM	LIC DCN CO	14.1 194.2	45.4 BMLH19981009KC	40 04 19.0 105 21 14.0	100.000 300	7.4 2442	60.0 Salem Media Of Colorado, I	28.8	-14.6*
230A Frisco	KYSL	LIC _CN CO	256.4 76.0	55.8 BLH19940808KA	39 33 22.0 106 06 53.0	0.560 324	59.5 3549	37.8 Krystal Broadcasting, Inco	-6.0*	11.0
231D Boulder	K231AA	LIC _CN CO	33.4 213.5	38.6 BLFT19960111TK	39 57 54.0 105 14 05.0	0.205 -133	22.6 1719	6.7 Citicasters Licenses, Inc.	6.0	4.0
229D Lakewood	K229BS	LIC DC_ CO	74.1 254.3	22.1 BLFT20100719AFS	39 43 46.0 105 14 08.0	0.099 218	0.7 2246	5.5 4-k's Lllp	7.1	14.8
231C2 Phippsburg	KEZZ	LIC NCX CO	307.2 126.4	128.6 BLH20090522ACV	40 22 03.0 106 41 28.0	1.750 380	105.5 3107	40.9 Youngers Colorado Broadcas	20.6	74.6
229D Ward	K229AC	LIC _E_ CO	354.6 174.6	33.2 BLFT20061218ACR	39 58 22.0 105 31 13.0	0.028 -188	0.4 2655	4.1 Boulder Community Broadcas	28.8	29.1
230A Loveland	KCWA	LIC ZCX CO	15.7 195.9	94.5 BLH20101214ACL	40 29 37.0 105 10 53.0	0.580 319	51.5 2098	32.5 Way Media, Inc.	35.3	56.1
232D Breckenridge	K232AC	LIC DHN CO	240.6 60.3	48.7 BLFT129	39 27 35.0 105 58 40.0	0.048 505	9.7 3840	6.2 Summit Public Radio And Tv	37.0	40.5
231C Montrose	KKXX	LIC _CY CO	232.1 50.7	238.6 BLH19961009KC	38 20 16.0 107 38 23.0	100.000 574	198.4 3094	92.1 Ccr-montrose Iv, Llc	37.9	140.6
230D Westcreek	631674	APP _C_ CO	145.0 325.3	67.6 BNPFT20030310BGE	39 10 33.0 105 02 03.1	0.010	11.6 2823	8.3 Way-fm Media , Inc.	44.3	42.8
231D Byers	649226	APP _C_ CO	87.8 268.7	109.8 BNPFT20030312ARO	39 42 19.0 104 12 18.0	0.200 102	28.7 1705	8.6 Frank G. Mccoy	66.3	45.0
230D Fort Lupton	630344	APP _C_ CO	54.8 235.3	76.3 BNPFT20030317AZW	40 04 05.0 104 45 08.0	0.170 90	15.5 1611	10.7 Horizon Christian Fellowsh	47.8	46.3
230D Fort Lupton	644473	APP _C_ CO	51.4 231.9	80.6 BNPFT20030317GEL	40 07 28.1 104 44 36.1	0.115 125	17.5 1630	11.8 Radio Assist Ministry, Inc	50.3	51.9
231D Eagle	K231AP	LIC _C_ CO	274.0 93.1	113.0 BLFT20051006ACY	39 44 18.0 106 47 58.0	0.010 703	58.1 3181	15.8 Skandia, Llc	52.3	88.3
232C3 Wellington	KMAX-FM	LIC _CX CO	11.6 191.8	142.1 BLH20021101AAV	40 55 41.0 105 08 36.0	8.700 168	74.3 2131	48.8 Townsquare Media Of Ft. Co	60.6	86.3
229D Berthoud	631534	APP DE_ CO	30.0 210.3	72.6 BNPFT20030312ADC	40 14 24.0 105 03 23.0	0.100 99	0.1 1637	4.2 Educational Communications	62.4	67.8
228D Leadville	K228AG	LIC DHN CO	232.9 52.5	75.4 BLFT19790511IC	39 15 54.0 106 10 54.0	0.107 546	0.1 4011	6.4 Lake County Tv-fm, Inc	73.1	67.7
228D Woodland Park	K228EM	LIC _C_ CO	154.8 335.1	84.4 BLFT20070823AEI	38 59 12.0 105 04 04.0	0.015 34	0.3 2774	10.0 Cheyenne Mountain Public B	73.7	72.6
229D Monument	631407	APP _C_ CO	141.3 321.7	87.7 BNPFT20030310AVZ	39 03 31.0 104 50 54.1	0.250 -191	1.1 2103	7.1 Way-fm Media , Inc.	73.9	80.5
234D Vail	633927	APP DC_ CO	267.2 86.6	82.7 BNPFT20030313APU	39 38 05.0 106 26 47.0	0.010 37	0.0 2963	2.5 Educational Communications	80.1	80.0
230D Windsor	631544	APP DE_ CO	15.7 195.9	94.4 BNPFT20030312ADM	40 29 36.0 105 10 52.0	0.010 332	2.9 2078	0.6 Educational Communications	83.7	81.3
229C2 Salida	KSBV	LIC _CX CO	198.6 18.2	143.8 BLH20020828AAQ	38 26 47.0 106 00 37.0	1.000 830	2.2 3572	58.8 Arkansas Valley Broadcasti	137.5	84.9

Page # 2											
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR (kW)	INT (km)	PRO (km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT (M)	COR (M)	LICENSEE	(Overlap	in km)
233D	640651	APP_V_		269.2	102.4	39 39 20.0	0.023	0.3	14.6	99.5	85.8
Avon		CO		88.4	BNPFT20030314BPJ	106 40 36.9	304	2841	Professional Antenna, Towe		
233D	652147	APP_C_		38.6	101.4	40 23 05.0	0.060	0.5	7.7	89.5	93.6
Greeley		CO		219.1	BNPFT20030317MSW	104 44 12.0	62	1508	Kevin J. Youngers		
234D	K234AJ	LIC_C_		149.6	101.5	38 53 10.0	0.019	0.3	3.7	89.8	95.7
Colorado Springs		CO		330.0	BLFT20101201AQE	104 53 24.0	-107	2213	Educational Communications		
228D	K228EZ	LIC DV_		14.0	99.7	40 32 47.0	0.009	0.0	3.1	92.1	96.6
Fort Collins		CO		194.2	BLFT20111005AJG	105 11 53.0		2198	Mountain Community Transla		
228C3	KTND	LIC_C_		252.9	133.0	39 18 56.0	21.000	2.2	21.8	128.5	102.6
Aspen		CO		72.0	BLH20100816ABF	106 57 32.0	109	2682	Bs&t Wireless, Inc.		
231C1	KNEB-FM	LIC_CN		33.4	271.8	41 42 04.0	100.000	155.7	58.7	105.2	187.6
Scottsbluff		NE		214.6	BLH19810904AB	103 40 49.0	207	1512	Nebraska Rural Radio Assoc		
229D	629875	APP DE_		152.4	116.4	38 44 43.0	0.010	0.0	0.2	105.4	111.0
Colorado Springs		CO		332.8	BNPFT20030312AJI	104 51 39.0	499	2718	Educational Communications		
229D	K229AI	LIC DV_		251.2	109.2	39 21 12.0	0.010	0.1	1.6	106.8	106.8
Thomasville		CO		70.4	BLFT20041105AKJ	106 41 00.0	-419	2666	Pitkin County Translator D		
229C1	KRAI-FM	LIC_CN		299.7	206.9	40 34 35.0	100.000	11.0	76.4	193.3	130.6
Craig		CO		118.3	BLH6997	107 36 29.0	299	2315	Wild West Radio, Inc.		
233C3	KTUN	LIC_CX		266.7	176.4	39 33 56.0	25.000	2.3	22.7	171.6	137.7
New Castle		CO		85.4	BLH20050603ABU	107 32 01.0	-121	1935	Wildcat Communications Llc		
229A	KIIQ	LIC_CX		105.8	161.1	39 16 00.0	1.000	1.6	10.2	144.4	150.7
Limon		CO		287.0	BLH20041025AEJ	103 41 15.0	-32	1649	Percheron Associates, Llc		
229C3	KAZY	LIC_CX		22.2	175.4	41 08 04.0	25.000	2.3	22.7	164.0	152.7
Cheyenne		WY		202.7	BLH20060615AAH	104 41 32.0	35	1859	Freisland Broadcasting Cor		
233D	KTUN-FM1	LIC DV_		266.0	157.9	39 33 40.0	0.340	0.2	3.3	155.1	154.6
Glenwood Springs		CO		84.8	BLFTB20051229AAQ	107 19 01.0		2216	Wildcat Communications, L.		

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Terrain database is 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= West Zone, Co to 3rd adjacent.  
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 protected contour.

FIGURE 2, PROPOSED 100 DBU CONTOUR  
K231BQ ESTES PARK, COLORADO, CH. 231D

Coverage Study - NGDC 30 SEC  
11-12-2011

K231BQ CH231 D , 0.01 kW, 493.5M HAAT, 3250.0M COR AMSL  
Interference Contour = 100 dBu. Population = 0

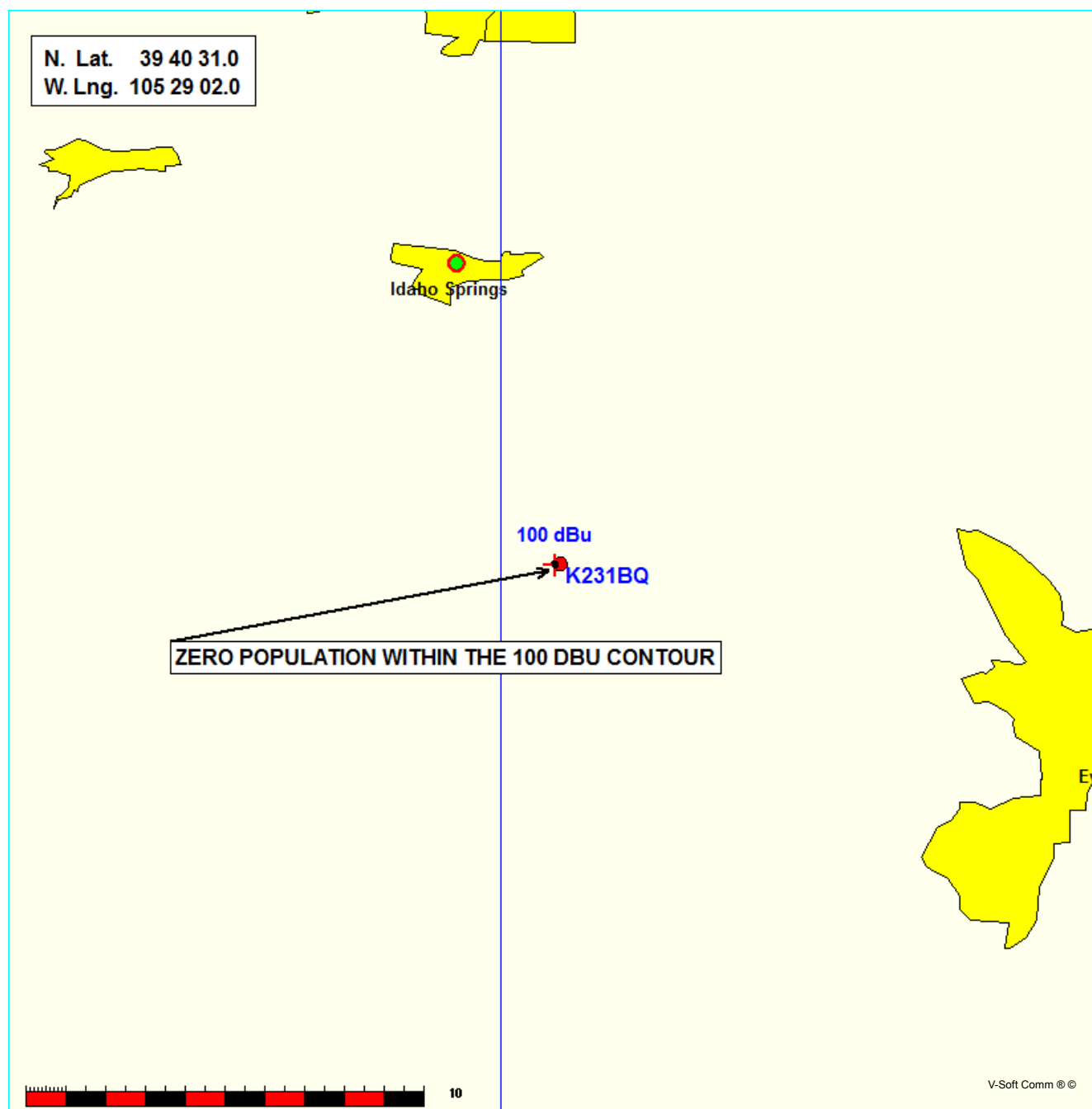


FIGURE 3, DIRECTIONAL ANTENNA DATA

K231BQ ESTES PARK, CO

11-12-2011

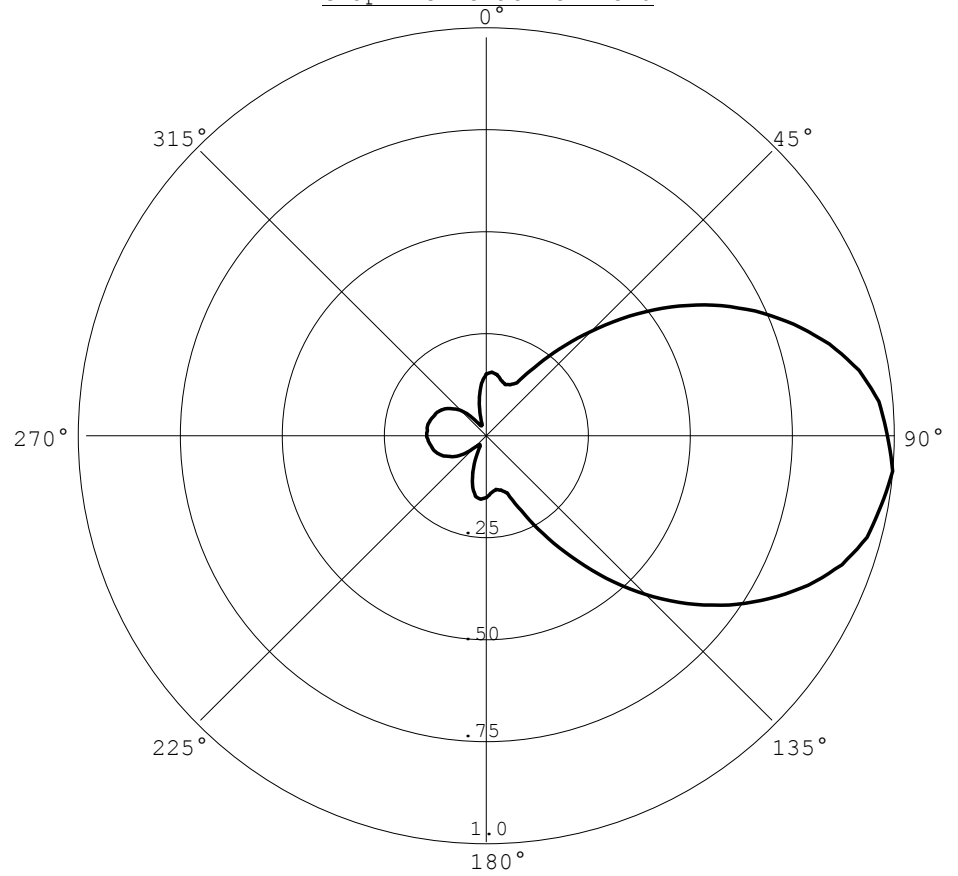
RMS (V) = .431

SCALA HDCA-5CP YAGI TYPE DIRECTIONAL ANTENNA

Main lobe oriented at 95 degrees

Graph is Relative Field

Azi	Field	dBk	kW
000	0.152	-36.363	0.000
010	0.153	-36.306	0.000
020	0.134	-37.458	0.000
030	0.150	-36.478	0.000
040	0.278	-31.119	0.001
050	0.458	-26.783	0.002
060	0.643	-23.836	0.004
070	0.802	-21.917	0.006
080	0.928	-20.649	0.009
090	0.983	-20.149	0.010
100	0.983	-20.149	0.010
110	0.928	-20.649	0.009
120	0.802	-21.917	0.006
130	0.643	-23.836	0.004
140	0.458	-26.783	0.002
150	0.278	-31.119	0.001
160	0.150	-36.478	0.000
170	0.134	-37.458	0.000
180	0.153	-36.306	0.000
190	0.152	-36.363	0.000
200	0.097	-40.265	0.000
210	0.030	-50.458	0.000
220	0.030	-50.458	0.000
230	0.067	-43.479	0.000
240	0.102	-39.828	0.000
250	0.127	-37.924	0.000
260	0.138	-37.202	0.000
270	0.146	-36.713	0.000
280	0.146	-36.713	0.000
290	0.138	-37.202	0.000
300	0.127	-37.924	0.000
310	0.102	-39.828	0.000
320	0.067	-43.479	0.000
330	0.030	-50.458	0.000
340	0.030	-50.458	0.000
350	0.097	-40.265	0.000
95	1.000	-20.000	0.010



Contour.out

N. Lat. = 394031.0 W. Lng. = 1052902.0  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC

FIGURE 4, DISTANCE TO CONTOURS, K231BQ

Azi.	AV EL	HAAT	dBk	60-F5	54-F1	40-F1	100-F1
000	2629.8	620.2	-36.36	3.14	5.80	18.68	0.03
005	2630.9	619.1	-36.08	3.24	5.95	19.04	0.03
010	2624.8	625.2	-36.31	3.16	5.84	18.85	0.03
015	2622.0	628.0	-37.02	2.93	5.46	17.97	0.03
020	2645.6	604.4	-37.46	2.80	5.20	16.95	0.03
025	2611.8	638.2	-37.20	2.88	5.38	17.91	0.03
030	2596.3	653.7	-36.48	3.11	5.79	19.15	0.03
035	2572.6	677.4	-33.85	4.12	7.42	23.30	0.05
040	2523.1	726.9	-31.12	5.53	9.72	28.73	0.06
045	2498.3	751.7	-28.80	6.94	12.05	33.95	0.08
050	2461.6	788.4	-26.78	8.48	15.14	39.31	0.10
055	2388.1	861.9	-25.15	10.10	18.09	45.19	0.12
060	2356.4	893.6	-23.84	11.50	20.31	49.59	0.14
065	2345.8	904.2	-22.77	12.73	22.07	52.81	0.16
070	2406.6	843.4	-21.92	13.48	22.70	53.48	0.18
075	2454.0	796.0	-21.20	14.09	23.19	54.00	0.19
080	2487.4	762.6	-20.65	14.54	23.55	54.42	0.21
085	2498.7	751.3	-20.30	14.88	23.92	55.00	0.21
090	2518.1	731.9	-20.15	14.91	23.83	54.75	0.22
095	2500.4	749.6	-20.00	15.24	24.35	55.77	0.22
100	2500.5	749.5	-20.15	15.05	24.12	55.35	0.22
105	2457.7	792.3	-20.30	15.19	24.54	56.35	0.21
110	2394.3	855.7	-20.65	15.14	24.86	57.38	0.21
115	2398.5	851.5	-21.20	14.40	23.92	55.70	0.19
120	2446.8	803.2	-21.92	13.28	22.20	52.26	0.18
125	2505.9	744.1	-22.77	12.04	20.17	48.01	0.16
130	2517.8	732.2	-23.84	10.92	18.51	44.82	0.14
135	2533.3	716.7	-25.15	9.66	16.53	41.19	0.12
140	2539.8	710.3	-26.78	8.28	13.98	37.29	0.10
145	2532.7	717.3	-28.80	6.88	11.86	33.09	0.08
150	2596.8	653.2	-31.12	5.44	9.44	27.03	0.06
155	2681.2	568.8	-33.85	4.04	7.17	20.91	0.05
160	2727.9	522.1	-36.48	3.06	5.56	16.54	0.03
165	2771.9	478.1	-37.20	2.83	5.12	14.73	0.03
170	2765.1	484.9	-37.46	2.76	5.02	14.59	0.03
175	2783.5	466.5	-37.02	2.88	5.18	14.74	0.03
180	2822.6	427.4	-36.31	3.07	5.39	14.77	0.03
185	2809.1	440.9	-36.08	3.16	5.53	15.50	0.03
190	2811.2	438.8	-36.36	3.06	5.41	15.12	0.03
195	2878.2	371.8	-37.72	2.61	4.58	12.81	0.03
200	2968.6	281.4	-40.26	1.95	3.39	9.66	0.02
205	2967.2	282.8	-44.44	1.33	2.34	7.38	0.01
210	3028.1	221.9	-50.46	0.67	1.33	4.32	0.01
215	3043.7	206.3	-51.37	0.60	1.19	3.93	0.01
220	3085.2	164.8	-50.46	0.67	1.33	3.84	0.01
225	3131.4	118.6	-47.54	0.93	1.61	4.00	0.01
230	3266.4	-16.4	-43.48	1.49	1.61	2.61	0.01
235	3366.4	-116.4	-41.11	1.61	1.61	2.96	0.02
240	3377.0	-127.0	-39.83	1.61	1.61	3.18	0.02
245	3309.9	-59.9	-38.64	1.61	1.53	3.41	0.03
250	3309.5	-59.5	-37.92	1.61	1.61	3.54	0.03
255	3260.2	-10.2	-37.46	1.61	1.66	3.64	0.03
260	3221.1	28.9	-37.20	1.61	1.69	3.70	0.03
265	3203.6	46.4	-36.89	1.51	2.18	4.73	0.03
270	3182.6	67.4	-36.71	1.81	2.56	5.75	0.03

					Contour. out		
275	3091.4	158.6	-36.77	2.37	3.69	8.85	0.03
280	3045.5	204.5	-36.71	2.57	4.11	10.12	0.03
285	3005.7	244.3	-36.89	2.66	4.32	10.93	0.03
290	2953.9	296.1	-37.20	2.63	4.46	11.82	0.03
295	2941.6	308.4	-37.46	2.58	4.42	11.87	0.03
300	2916.4	333.6	-37.92	2.50	4.35	12.01	0.03
305	2812.1	438.0	-38.64	2.43	4.44	13.04	0.03
310	2706.4	543.6	-39.83	2.17	4.03	13.15	0.02
315	2650.0	600.0	-41.11	1.89	3.58	12.63	0.02
320	2599.5	650.5	-43.48	1.49	2.81	10.84	0.01
325	2569.7	680.3	-47.54	0.93	1.82	7.64	0.01
330	2610.9	639.1	-50.46	0.67	1.33	5.78	0.01
335	2683.3	566.7	-51.37	0.60	1.19	5.19	0.01
340	2693.7	556.3	-50.46	0.67	1.33	5.66	0.01
345	2682.4	567.6	-44.44	1.33	2.52	9.56	0.01
350	2646.5	603.5	-40.26	2.09	3.91	13.48	0.02
355	2641.0	609.0	-37.72	2.73	5.07	16.70	0.03

Ave EI = 2747.47 M HAAT= 502.53 M AMSL= 3250