

## **LPFM SECOND ADJACENT CHANNEL WAIVER REQUEST**

Applicant is requesting a waiver of 73.807 of the rules in respect to KYSR and KKLA-FM.

The proposed LPFM station would operate 100 watts with a radiation center of 10 meters above ground level (5 meters HAAT).

Station KYSR is a Class B station that operates on Channel 254 and is located 30.2 km from the proposed LPFM site. KYSR operates 75kW at 337.3m HAAT towards the proposed LPFM site. KYSR places a 80.5 dBu service contour at the LPFM site.

Station KKLA-FM is a Class B station that operates on Channel 258 and is located 54.9 km from the proposed LPFM site. KKLA-FM operates a directional antenna radiating 8.42 kW at 844.1 meters HAAT towards the LPFM site. KKLA places a 67.1 dBu service contour at the LPFM site.

KKLA-FM has the larger overlap zone so it will require the most protection.

Following *Living Way*, using the U/D method, we have determined that the prohibited overlap goes as far as the 107.1 dBu Interference contour of the proposed LPFM station. Using the free-space method, this contour is 310 meters from the radiation center of the antenna.

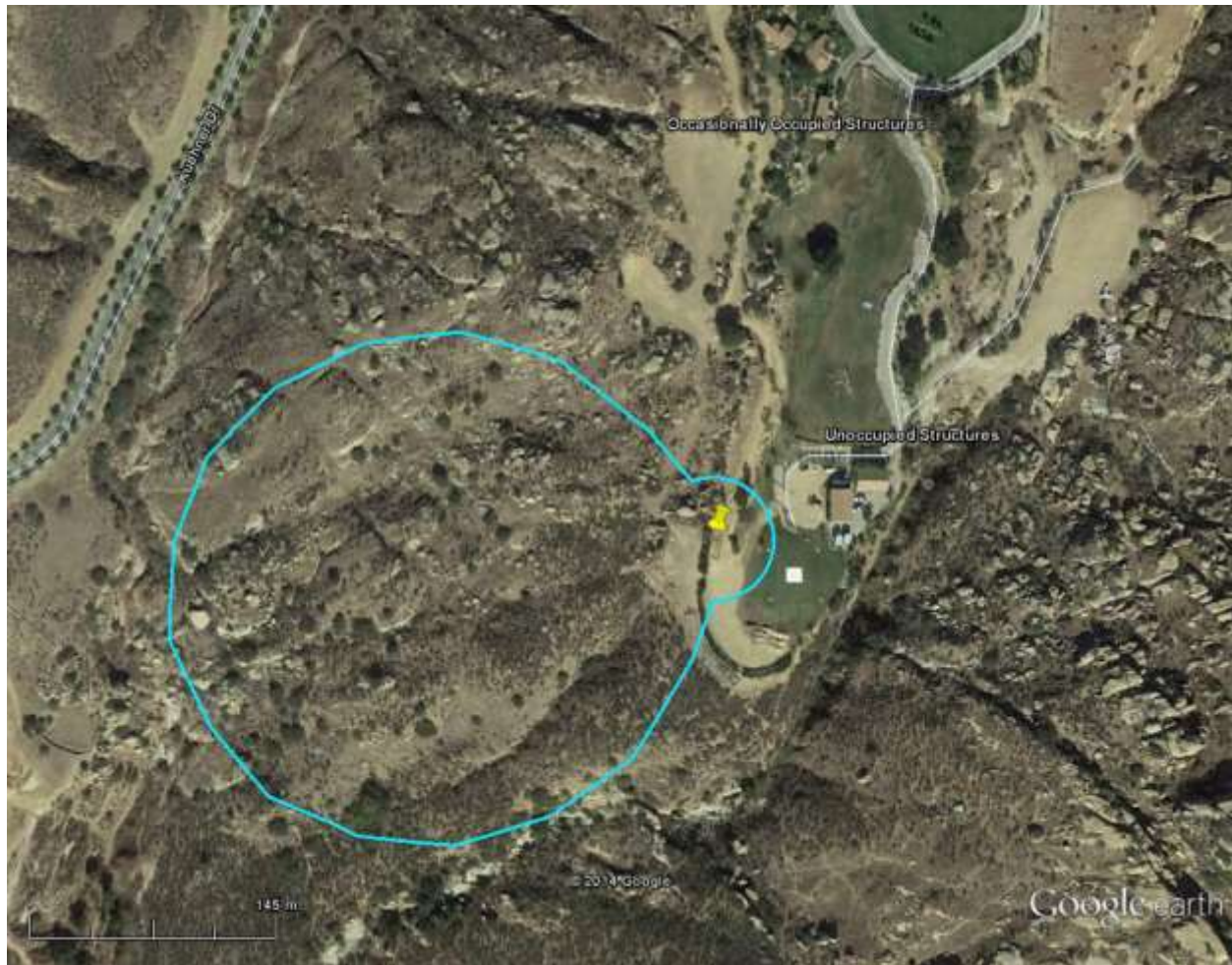
The proposed tower is located at the Hummingbird Nest Ranch. This is a large event venue. Within 310 meters of the proposed tower site, there are several structures. Those very close to the tower are used for equipment storage and are normally unoccupied. Structures to the north may be occupied at times. Those structures may occasionally have potential listeners to KKLA-FM and KYSR.

Since there are potentially occupied structures within 361 meters of the proposed antenna site, the applicant is proposing the use of a Katherin Scala model CL-FM directional antenna. This antenna will be rotated at 260 degrees azimuth. At this azimuth, the antenna will only place a 31 meter interference contour in the directions of both the unoccupied and occasionally occupied structures and therefore would not place an interference contour at any of those structures. The lobe of the interference contour will only exist in unoccupied rough terrain and will not cross any major highways. This directional antenna is being proposed in accordance with §73.816(c)(2) of the Commission's Rules.

Therefore, based on the information presented, the applicant submits that the proposed LPFM station will not create any interference to existing or potential listeners of second adjacent channel stations KYSR and KKLA-FM. The applicant is requesting a waiver of §73.807 of the Commission's Rules in respect to KYSR, and KKLA-FM.

## PROPOSED TOWER SITE AT HUMMINGBIRD NEST RANCH

Cyan contour is 107.1 dBu interference contour based on Scala CL-FM antenna.

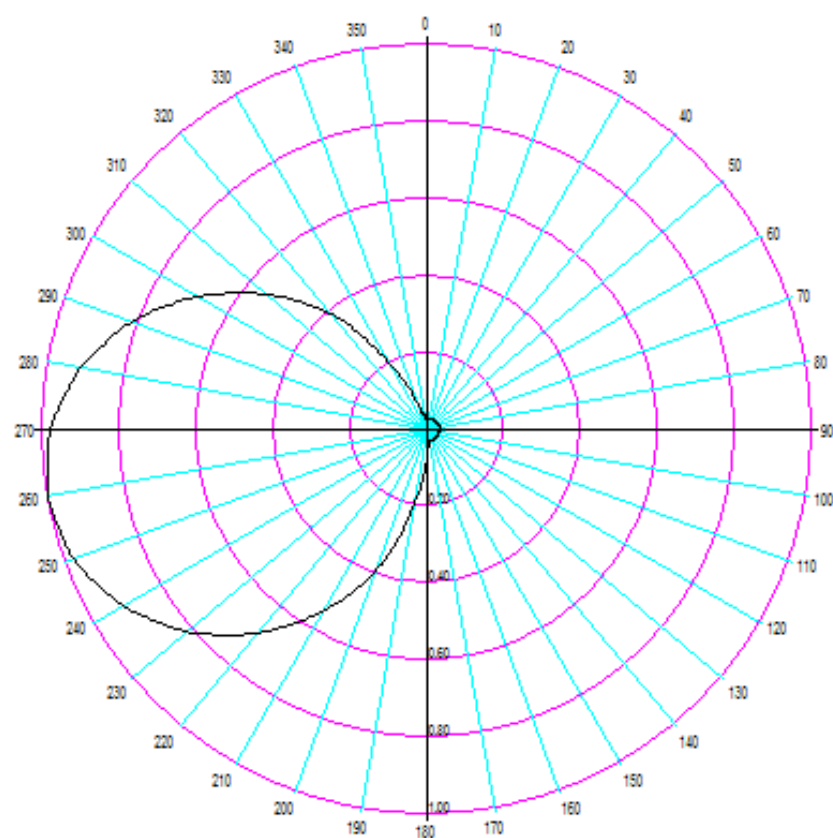


### **CLOSE-UP OF INTERFERENCE CONTOUR**

Demonstrates there are no occupied structures within interference contour using Scala CL-FM.







Azim	Rcl.FS	ERP [W]	dBk	Azim	Rcl.FS	ERP [W]	dBk	Azim	Rcl.FS	ERP [W]	dBk	Azim	Rcl.FS	ERP [W]	dBk
0.0	0.030	0.090	-40.458	90.0	0.030	0.090	-40.458	180.0	0.030	0.250	-36.021	270.0	0.980	96.040	-10.175
5.0	0.030	0.090	-40.458	95.0	0.030	0.090	-40.458	185.0	0.120	1.440	-28.416	275.0	0.948	89.870	-10.464
10.0	0.030	0.090	-40.458	100.0	0.030	0.090	-40.458	190.0	0.190	3.610	-24.425	280.0	0.916	83.906	-10.762
15.0	0.030	0.090	-40.458	105.0	0.030	0.090	-40.458	195.0	0.290	8.410	-20.752	285.0	0.866	74.996	-11.250
20.0	0.030	0.090	-40.458	110.0	0.030	0.090	-40.458	200.0	0.390	15.210	-18.179	290.0	0.817	66.749	-11.756
25.0	0.030	0.090	-40.458	115.0	0.030	0.090	-40.458	205.0	0.467	21.809	-16.614	295.0	0.753	56.701	-12.464
30.0	0.030	0.090	-40.458	120.0	0.030	0.090	-40.458	210.0	0.544	29.594	-15.288	300.0	0.690	47.610	-13.223
35.0	0.030	0.090	-40.458	125.0	0.030	0.090	-40.458	215.0	0.617	38.069	-14.194	305.0	0.617	38.069	-14.194
40.0	0.030	0.090	-40.458	130.0	0.030	0.090	-40.458	220.0	0.690	47.610	-13.223	310.0	0.544	29.594	-15.288
45.0	0.030	0.090	-40.458	135.0	0.030	0.090	-40.458	225.0	0.753	56.701	-12.464	315.0	0.467	21.809	-16.614
50.0	0.030	0.090	-40.458	140.0	0.030	0.090	-40.458	230.0	0.817	66.749	-11.756	320.0	0.390	15.210	-18.179
55.0	0.030	0.090	-40.458	145.0	0.030	0.090	-40.458	235.0	0.866	74.996	-11.250	325.0	0.290	8.410	-20.752
60.0	0.030	0.090	-40.458	150.0	0.030	0.090	-40.458	240.0	0.916	83.906	-10.762	330.0	0.190	3.610	-24.425
65.0	0.030	0.090	-40.458	155.0	0.030	0.090	-40.458	245.0	0.948	89.870	-10.464	335.0	0.120	1.440	-28.416
70.0	0.030	0.090	-40.458	160.0	0.030	0.090	-40.458	250.0	0.980	96.040	-10.175	340.0	0.030	0.250	-36.021
75.0	0.030	0.090	-40.458	165.0	0.030	0.090	-40.458	255.0	0.990	98.010	-10.087	345.0	0.040	0.160	-37.959
80.0	0.030	0.090	-40.458	170.0	0.030	0.090	-40.458	260.0	1.000	100.000	-10.000	350.0	0.030	0.090	-40.458
85.0	0.030	0.090	-40.458	175.0	0.040	0.160	-37.959	265.0	0.990	98.010	-10.087	355.0	0.030	0.090	-40.458

<b>Azimuth</b>	<b>Field</b>
0	0.030
10	0.030
20	0.030
30	0.030
40	0.030
50	0.030
60	0.030
70	0.030
80	0.030
90	0.030
100	0.030
110	0.030
120	0.030
130	0.030
140	0.030
150	0.030
160	0.030
170	0.030
180	0.050
190	0.190
200	0.390
210	0.544
220	0.690
230	0.817
240	0.916
250	0.980
260	1.000
270	0.980
280	0.916
290	0.817
300	0.690
310	0.544
320	0.390
330	0.190
340	0.050
350	0.030

**FIELD VALUES FOR PROPOSED ANTENNA AT 36 RADIALS**

Site: Proposed  
Coordinates: 34-16-55.3 N, 118-39-16.5 W  
Freq: 99.10000 MHz  
ERP: 100.00 W

Bearing	ERP W	HAAT	DH	Distance		Lat	Lon
0	0.09		-98	850	1.35	34.294152	-118.654583
1	0.09		-115	1090	1.35	34.294150	-118.654327
2	0.09		-115	1020	1.35	34.294145	-118.654071
3	0.09		-115	1130	1.35	34.294136	-118.653815
4	0.09		-118	1170	1.35	34.294123	-118.653560
5	0.09		-137	1070	1.35	34.294106	-118.653304
6	0.09		-136	1010	1.35	34.294086	-118.653049
7	0.09		-138	970	1.35	34.294062	-118.652795
8	0.09		-138	1080	1.35	34.294034	-118.652541
9	0.09		-143	970	1.35	34.294003	-118.652288
10	0.09		-151	960	1.35	34.293968	-118.652035
11	0.09		-160	1070	1.35	34.293929	-118.651783
12	0.09		-163	1140	1.35	34.293887	-118.651532
13	0.09		-156	1060	1.35	34.293841	-118.651282
14	0.09		-166	950	1.35	34.293792	-118.651033
15	0.09		-170	850	1.35	34.293739	-118.650785
16	0.09		-181	870	1.35	34.293683	-118.650538
17	0.09		-183	850	1.35	34.293622	-118.650293
18	0.09		-201	840	1.35	34.293559	-118.650048
19	0.09		-203	750	1.35	34.293492	-118.649805
20	0.09		-222	760	1.35	34.293421	-118.649564
21	0.09		-219	800	1.35	34.293347	-118.649324
22	0.09		-232	730	1.35	34.293269	-118.649086
23	0.09		-242	700	1.35	34.293188	-118.648849
24	0.09		-234	740	1.35	34.293104	-118.648614
25	0.09		-229	820	1.35	34.293016	-118.648381
26	0.09		-223	800	1.35	34.292925	-118.648150
27	0.09		-218	740	1.35	34.292831	-118.647921
28	0.09		-213	770	1.35	34.292733	-118.647694
29	0.09		-206	680	1.35	34.292632	-118.647469
30	0.09		-214	730	1.35	34.292528	-118.647246
31	0.09		-204	710	1.35	34.292420	-118.647025
32	0.09		-202	770	1.35	34.292310	-118.646807
33	0.09		-186	730	1.35	34.292196	-118.646591
34	0.09		-188	790	1.35	34.292079	-118.646377
35	0.09		-203	730	1.35	34.291959	-118.646166
36	0.09		-210	720	1.35	34.291836	-118.645957
37	0.09		-205	760	1.35	34.291711	-118.645751
38	0.09		-194	800	1.35	34.291582	-118.645548
39	0.09		-187	780	1.35	34.291450	-118.645348
40	0.09		-186	760	1.35	34.291315	-118.645150
41	0.09		-195	790	1.35	34.291178	-118.644955
42	0.09		-199	810	1.35	34.291038	-118.644764
43	0.09		-188	790	1.35	34.290895	-118.644575
44	0.09		-186	700	1.35	34.290749	-118.644389
45	0.09		-196	740	1.35	34.290601	-118.644206
46	0.09		-196	770	1.35	34.290450	-118.644027
47	0.09		-191	790	1.35	34.290296	-118.643851
48	0.09		-197	820	1.35	34.290140	-118.643678
49	0.09		-200	820	1.35	34.289982	-118.643508
50	0.09		-201	670	1.35	34.289821	-118.643342
51	0.09		-206	670	1.35	34.289657	-118.643179
52	0.09		-202	730	1.35	34.289492	-118.643019
53	0.09		-199	720	1.35	34.289324	-118.642863
54	0.09		-204	650	1.35	34.289154	-118.642711
55	0.09		-198	610	1.35	34.288982	-118.642562
56	0.09		-186	530	1.35	34.288807	-118.642417
57	0.09		-192	550	1.35	34.288631	-118.642276
58	0.09		-179	490	1.35	34.288452	-118.642138
59	0.09		-188	500	1.35	34.288272	-118.642005
60	0.09		-213	360	1.35	34.288089	-118.641875
61	0.09		-210	360	1.35	34.287905	-118.641749
62	0.09		-215	380	1.35	34.287719	-118.641626
63	0.09		-219	470	1.35	34.287531	-118.641508
64	0.09		-214	430	1.35	34.287342	-118.641394
65	0.09		-192	420	1.35	34.287151	-118.641284

66	0.09	-188	390	1.35	34.286959	-118.641177
67	0.09	-179	510	1.35	34.286764	-118.641075
68	0.09	-149	630	1.35	34.286569	-118.640977
69	0.09	-156	720	1.35	34.286372	-118.640884
70	0.09	-145	830	1.35	34.286174	-118.640794
71	0.09	-132	780	1.35	34.285974	-118.640708
72	0.09	-126	800	1.35	34.285774	-118.640627
73	0.09	-121	980	1.35	34.285572	-118.640550
74	0.09	-109	1070	1.35	34.285369	-118.640478
75	0.09	-85	1170	1.35	34.285165	-118.640409
76	0.09	-89	1230	1.35	34.284960	-118.640345
77	0.09	-78	1320	1.35	34.284754	-118.640285
78	0.09	-60	1310	1.35	34.284548	-118.640230
79	0.09	-39	1180	1.35	34.284340	-118.640179
80	0.09	-32	1080	1.35	34.284132	-118.640132
81	0.09	-21	1020	1.35	34.283924	-118.640090
82	0.09	-25	940	1.35	34.283714	-118.640052
83	0.09	-13	930	1.35	34.283505	-118.640019
84	0.09	-8	810	1.35	34.283294	-118.639990
85	0.09	-10	710	1.35	34.283084	-118.639965
86	0.09	-5	690	1.35	34.282873	-118.639945
87	0.09	2	750	1.35	34.282661	-118.639930
88	0.09	22	880	1.35	34.282450	-118.639919
89	0.09	22	970	1.35	34.282239	-118.639912
90	0.09	22	1150	1.35	34.282027	-118.639910
91	0.09	22	930	1.35	34.281815	-118.639912
92	0.09	42	940	1.42	34.281583	-118.639190
93	0.09	61	980	1.52	34.281311	-118.638049
94	0.09	69	980	1.55	34.281055	-118.637763
95	0.09	73	800	1.56	34.280801	-118.637634
96	0.09	78	870	1.58	34.280540	-118.637468
97	0.09	89	630	1.62	34.280251	-118.637081
98	0.09	92	450	1.63	34.279985	-118.637002
99	0.09	96	350	1.65	34.279712	-118.636898
100	0.09	101	320	1.66	34.279431	-118.636767
101	0.09	104	340	1.67	34.279159	-118.636728
102	0.09	107	370	1.68	34.278885	-118.636696
103	0.09	109	350	1.69	34.278615	-118.636701
104	0.09	115	360	1.70	34.278321	-118.636597
105	0.09	118	270	1.71	34.278046	-118.636604
106	0.09	124	190	1.72	34.277755	-118.636555
107	0.09	125	190	1.73	34.277490	-118.636627
108	0.09	130	170	1.74	34.277204	-118.636622
109	0.09	133	110	1.74	34.276925	-118.636655
110	0.09	136	90	1.75	34.276649	-118.636704
111	0.09	140	100	1.76	34.276363	-118.636729
112	0.09	143	100	1.76	34.276083	-118.636781
113	0.09	146	100	1.77	34.275802	-118.636839
114	0.09	148	90	1.78	34.275529	-118.636923
115	0.09	148	90	1.78	34.275276	-118.637063
116	0.09	150	130	1.78	34.275008	-118.637170
117	0.09	151	210	1.78	34.274746	-118.637291
118	0.09	152	180	1.78	34.274489	-118.637429
119	0.09	154	170	1.79	34.274226	-118.637552
120	0.09	155	120	1.79	34.273968	-118.637692
121	0.09	155	120	1.79	34.273725	-118.637864
122	0.09	155	150	1.79	34.273485	-118.638042
123	0.09	156	170	1.79	34.273238	-118.638207
124	0.09	156	160	1.79	34.273004	-118.638395
125	0.09	162	190	1.81	34.272704	-118.638472
126	0.09	155	210	1.79	34.272553	-118.638804
127	0.09	155	280	1.79	34.272327	-118.639006
128	0.09	154	280	1.79	34.272120	-118.639239
129	0.09	153	240	1.79	34.271912	-118.639468
130	0.09	152	250	1.78	34.271707	-118.639700
131	0.09	153	250	1.79	34.271482	-118.639904
132	0.09	153	270	1.79	34.271272	-118.640129
133	0.09	152	300	1.78	34.271077	-118.640375
134	0.09	151	270	1.78	34.270887	-118.640624
135	0.09	150	270	1.78	34.270706	-118.640884
136	0.09	151	270	1.78	34.270491	-118.641103
137	0.09	148	310	1.78	34.270344	-118.641400

138	0.09	142	340	1.76	34.270250	-118.641751
139	0.09	141	300	1.76	34.270087	-118.642023
140	0.09	141	340	1.76	34.269907	-118.642277
141	0.09	139	350	1.75	34.269760	-118.642563
142	0.09	139	410	1.75	34.269588	-118.642823
143	0.09	132	410	1.74	34.269536	-118.643193
144	0.09	131	470	1.74	34.269388	-118.643471
145	0.09	132	410	1.74	34.269215	-118.643727
146	0.09	133	400	1.74	34.269038	-118.643981
147	0.09	132	440	1.74	34.268909	-118.644275
148	0.09	128	410	1.73	34.268824	-118.644600
149	0.09	119	420	1.71	34.268828	-118.644987
150	0.09	109	440	1.69	34.268895	-118.645408
151	0.09	120	440	1.71	34.268544	-118.645539
152	0.09	119	440	1.71	34.268431	-118.645836
153	0.09	119	480	1.71	34.268307	-118.646124
154	0.09	119	480	1.71	34.268187	-118.646415
155	0.09	119	460	1.71	34.268072	-118.646709
156	0.09	118	480	1.71	34.267977	-118.647014
157	0.09	116	440	1.71	34.267911	-118.647333
158	0.09	115	440	1.70	34.267825	-118.647640
159	0.09	115	380	1.70	34.267727	-118.647941
160	0.09	112	400	1.69	34.267710	-118.648278
161	0.09	108	380	1.68	34.267706	-118.648616
162	0.09	104	390	1.67	34.267734	-118.648963
163	0.09	104	410	1.67	34.267655	-118.649266
164	0.09	105	410	1.67	34.267554	-118.649561
165	0.09	114	390	1.70	34.267258	-118.649795
166	0.09	114	420	1.70	34.267191	-118.650107
167	0.09	113	430	1.70	34.267155	-118.650429
168	0.09	116	430	1.71	34.267027	-118.650725
169	0.09	119	430	1.71	34.266912	-118.651028
170	0.09	116	470	1.71	34.266925	-118.651361
171	0.10	116	470	1.77	34.266330	-118.651575
172	0.12	111	470	1.81	34.265924	-118.651845
173	0.13	107	370	1.85	34.265539	-118.652134
174	0.14	103	430	1.88	34.265211	-118.652445
175	0.16	97	430	1.90	34.265021	-118.652783
176	0.18	94	510	1.93	34.264747	-118.653121
177	0.19	89	510	1.94	34.264611	-118.653479
178	0.21	90	510	1.98	34.264212	-118.653831
179	0.23	90	510	2.03	34.263790	-118.654198
180	0.25	51	430	1.79	34.265892	-118.654583
181	0.41	51	430	1.95	34.264491	-118.654954
182	0.61	51	450	2.13	34.262836	-118.655394
183	0.85	51	490	2.32	34.261153	-118.655907
184	1.12	41	480	2.21	34.262154	-118.656265
185	1.44	24	480	2.00	34.264143	-118.656477
186	1.80	32	380	2.19	34.262465	-118.657071
187	2.19	27	380	2.23	34.262093	-118.657545
188	2.62	21	370	2.34	34.261212	-118.658123
189	3.10	17	370	2.43	34.260423	-118.658724
190	3.61	19	370	2.52	34.259697	-118.659347
191	4.41	17	370	2.64	34.258754	-118.660057
192	5.29	19	370	2.74	34.257913	-118.660785
193	6.25	20	400	2.84	34.257164	-118.661528
194	7.29	20	400	2.93	34.256492	-118.662286
195	8.41	19	380	3.01	34.255851	-118.663069
196	9.61	13	380	3.13	34.254983	-118.663966
197	10.89	9	360	3.23	34.254202	-118.664876
198	12.25	10	380	3.34	34.253482	-118.665805
199	13.69	0	430	3.43	34.252840	-118.666742
200	15.21	-9	490	3.52	34.252251	-118.667695
201	16.40	-20	400	3.59	34.251898	-118.668575
202	17.64	-27	450	3.65	34.251588	-118.669462
203	19.01	-24	450	3.71	34.251269	-118.670379
204	20.34	-16	430	3.77	34.251025	-118.671282
205	21.81	-13	430	3.83	34.250781	-118.672210
206	23.23	-7	460	3.89	34.250603	-118.673125
207	24.70	-6	430	3.94	34.250451	-118.674047
208	26.32	-10	480	4.00	34.250299	-118.674992
209	27.88	-27	470	4.06	34.250095	-118.675996



210	29.59	-15	470	4.13	34.249871	-118.677042
211	31.14	-25	480	4.19	34.249745	-118.678049
212	32.83	-30	490	4.25	34.249623	-118.679078
213	34.46	-36	490	4.30	34.249559	-118.680090
214	36.24	-35	550	4.36	34.249491	-118.681131
215	38.07	-29	550	4.42	34.249459	-118.682170
216	39.82	-36	550	4.47	34.249491	-118.683179
217	41.73	-33	560	4.53	34.249513	-118.684222
218	43.56	-21	550	4.58	34.249598	-118.685232
219	45.56	-25	490	4.63	34.249681	-118.686268
220	47.61	-30	510	4.68	34.249791	-118.687303
221	49.28	-31	510	4.72	34.249997	-118.688264
222	51.12	-36	510	4.76	34.250206	-118.689241
223	53.00	-24	500	4.80	34.250435	-118.690220
224	54.76	-19	490	4.84	34.250707	-118.691168
225	56.70	-25	490	4.88	34.250985	-118.692132
226	58.68	-31	550	4.92	34.251281	-118.693095
227	60.53	-38	550	4.96	34.251620	-118.694025
228	62.57	-44	570	4.99	34.251965	-118.694968
229	64.64	-51	590	5.04	34.252292	-118.695958
230	66.75	-47	610	5.08	34.252633	-118.696955
231	68.23	-55	610	5.11	34.253079	-118.697823
232	69.89	-42	550	5.15	34.253518	-118.698719
233	71.57	-26	590	5.18	34.253980	-118.699601
234	73.27	-38	610	5.21	34.254459	-118.700477
235	75.00	-28	660	5.25	34.254960	-118.701337
236	76.74	4	790	5.28	34.255477	-118.702191
237	78.50	6	640	5.31	34.256011	-118.703036
238	80.28	15	540	5.34	34.256566	-118.703864
239	82.08	18	490	5.37	34.257137	-118.704684
240	83.91	30	490	5.40	34.257723	-118.705494
241	85.01	35	450	5.81	34.256698	-118.709844
242	86.12	54	430	7.28	34.251271	-118.724519
243	87.42	61	410	7.78	34.250252	-118.729975
244	88.55	68	410	8.23	34.249540	-118.735103
245	89.87	73	370	8.58	34.249388	-118.739188
246	91.01	85	380	9.31	34.247919	-118.747168
247	92.16	85	360	9.34	34.249154	-118.748175
248	93.51	98	350	10.05	34.248124	-118.755976
249	94.67	106	360	10.47	34.248224	-118.760972
250	96.04	114	330	10.87	34.248542	-118.765718
251	96.43	116	330	10.97	34.249861	-118.767418
252	96.83	120	340	11.15	34.250983	-118.769974
253	97.22	129	300	11.55	34.251588	-118.774805
254	97.61	137	300	11.91	34.252440	-118.779153
255	98.01	142	300	12.15	34.253682	-118.782272
256	98.41	145	300	12.30	34.255193	-118.784467
257	98.80	146	270	12.36	34.256950	-118.785641
258	99.20	143	260	12.23	34.259085	-118.784790
259	99.60	139	260	12.06	34.261270	-118.783376
260	100.00	140	260	12.12	34.263037	-118.784428
261	99.60	142	260	12.20	34.264796	-118.785692
262	99.20	147	230	12.42	34.266408	-118.788441
263	98.80	151	220	12.59	34.268156	-118.790556
264	98.41	148	220	12.44	34.270257	-118.789249
265	98.01	148	220	12.43	34.272211	-118.789349
266	97.61	151	210	12.55	34.274078	-118.790862
267	97.22	151	220	12.54	34.276050	-118.790869
268	96.83	151	220	12.53	34.278020	-118.790846
269	96.43	148	210	12.38	34.280011	-118.789322
270	96.04	148	180	12.37	34.281954	-118.789215
271	94.67	148	180	12.32	34.283889	-118.788719
272	93.51	148	210	12.29	34.285812	-118.788258
273	92.16	139	210	11.84	34.287532	-118.783256
274	91.01	130	240	11.41	34.289127	-118.778538
275	89.87	123	230	11.07	34.290651	-118.774694
276	88.55	117	260	10.79	34.292119	-118.771430
277	87.42	115	260	10.68	34.293675	-118.769936
278	86.12	115	330	10.64	34.295288	-118.769253
279	85.01	115	260	10.60	34.296895	-118.768612
280	83.91	112	340	10.44	34.298281	-118.766512
281	82.08	109	240	10.25	34.299574	-118.764154

282	80.28	98	250	9.69	34.300098	-118.757739
283	78.50	85	250	8.96	34.300126	-118.749670
284	76.74	82	270	8.74	34.301020	-118.746960
285	75.00	81	280	8.63	34.302096	-118.745399
286	73.27	81	320	8.58	34.303272	-118.744407
287	71.57	68	470	7.78	34.302468	-118.735623
288	69.89	55	470	6.95	34.301321	-118.726541
289	68.23	48	440	6.46	34.300921	-118.721067
290	66.75	33	440	5.32	34.298382	-118.709012
291	64.64	0	420	5.04	34.298256	-118.705792
292	62.57	-12	440	4.99	34.298844	-118.704997
293	60.53	-34	500	4.96	34.299435	-118.704254
294	58.68	-35	630	4.92	34.300017	-118.703520
295	56.70	-54	780	4.88	34.300568	-118.702738
296	54.76	-65	920	4.84	34.301102	-118.701948
297	53.00	-76	1010	4.80	34.301627	-118.701169
298	51.12	-82	1130	4.76	34.302119	-118.700344
299	49.28	-89	1300	4.72	34.302593	-118.699513
300	47.61	-94	1370	4.68	34.303058	-118.698694
301	45.56	-102	1480	4.63	34.303455	-118.697768
302	43.56	-106	1340	4.58	34.303826	-118.696828
303	41.73	-115	1340	4.53	34.304192	-118.695914
304	39.82	-118	1400	4.47	34.304509	-118.694943
305	38.07	-117	1310	4.42	34.304824	-118.694007
306	36.24	-112	1250	4.36	34.305088	-118.693017
307	34.46	-118	1110	4.30	34.305320	-118.692011
308	32.83	-115	1110	4.25	34.305546	-118.691032
309	31.14	-95	1100	4.19	34.305723	-118.690014
310	29.59	-94	1140	4.13	34.305889	-118.689016
311	27.88	-98	1150	4.06	34.305975	-118.687939
312	26.32	-112	1070	4.00	34.306067	-118.686910
313	24.70	-100	1280	3.94	34.306192	-118.685959
314	23.23	-107	1280	3.89	34.306310	-118.685029
315	21.81	-116	1070	3.83	34.306402	-118.684095
316	20.34	-112	970	3.77	34.306436	-118.683122
317	19.01	-131	920	3.71	34.306462	-118.682171
318	17.64	-137	930	3.65	34.306422	-118.681177
319	16.40	-140	950	3.59	34.306381	-118.680215
320	15.21	-144	1060	3.52	34.306299	-118.679241
321	13.69	-132	1170	3.43	34.306015	-118.678101
322	12.25	-137	1210	3.34	34.305677	-118.676953
323	10.89	-124	1370	3.23	34.305264	-118.675782
324	9.61	-106	1180	3.13	34.304787	-118.674603
325	8.41	-107	1300	3.01	34.304226	-118.673400
326	7.29	-81	1470	2.93	34.303845	-118.672399
327	6.25	-62	1660	2.84	34.303427	-118.671407
328	5.29	-48	1540	2.74	34.302934	-118.670399
329	4.41	-49	1560	2.64	34.302350	-118.669366
330	3.61	-43	1410	2.52	34.301664	-118.668308
331	3.10	-45	1390	2.43	34.301159	-118.667421
332	2.62	-33	1430	2.34	34.300587	-118.666529
333	2.19	-40	1460	2.23	34.299923	-118.665621
334	1.80	-42	1310	2.12	34.299150	-118.664692
335	1.44	-34	1170	2.00	34.298298	-118.663768
336	1.12	-41	1360	1.94	34.297952	-118.663166
337	0.85	-42	1100	1.87	34.297527	-118.662547
338	0.61	-65	990	1.79	34.296997	-118.661904
339	0.41	-64	750	1.70	34.296319	-118.661224
340	0.25	-67	870	1.59	34.295441	-118.660493
341	0.23	-82	670	1.57	34.295363	-118.660141
342	0.21	-79	610	1.55	34.295270	-118.659791
343	0.19	-87	700	1.53	34.295162	-118.659444
344	0.18	-76	590	1.50	34.295040	-118.659100
345	0.16	-98	620	1.48	34.294903	-118.658759
346	0.14	-98	640	1.46	34.294752	-118.658423
347	0.13	-89	670	1.43	34.294586	-118.658093
348	0.12	-97	670	1.41	34.294398	-118.657766
349	0.10	-102	710	1.38	34.294194	-118.657446
350	0.09	-116	720	1.35	34.293968	-118.657132
351	0.09	-114	780	1.35	34.294003	-118.656879
352	0.09	-105	680	1.35	34.294034	-118.656626
353	0.09	-104	730	1.35	34.294062	-118.656372

354	0.09	-105	670	1.35	34.294086	-118.656117
355	0.09	-113	620	1.35	34.294106	-118.655862
356	0.09	-101	720	1.35	34.294123	-118.655607
357	0.09	-102	770	1.35	34.294136	-118.655351
358	0.09	-98	750	1.35	34.294145	-118.655096
359	0.09	-98	840	1.35	34.294150	-118.654839

