

DELAUDER COMMUNICATIONS, INC.

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ENGINEERING REPORT

K287BS, Stockton, CA, Channel 233D Minor Mod

ENGINEERING STATEMENT

PROTECTION TO KHOP AND KPFA

All contour non-overlap protection requirements are met with the exception of KHOP, Oakdale, CA (236B) and KPFA, Berkeley, CA (231B), discussed below.

KHOP (70 kilometers at 105 degrees True) and KPFA (83 kilometers at 263 degrees True) are second/third adjacent-channel to the proposed channel 233D facility. The 54 dBu F50,50 service contour of each extends beyond the proposed 233D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KHOP or KPFA.

Note that a rule waiver of Section 74.1204 for this second/third adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to any station.

The F50,50 signal strength from KHOP at the proposed 233D transmitter site is at least 54.5 dBu (the "desired" signal of KHOP). The F50,50 signal strength from KPFA at the proposed 233D transmitter site is at least 55.5 dBu (the other "desired" signal of KPFA). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired ("U/D") dB signal strength ratio of 40:1. Therefore, predicted interference to KHOP and KPFA from the proposed 233D facility is a signal of greater than or equal to 94.5 dBu.

The centerline for the proposed PSI 4-bay (3/4 wavelength spaced) antenna is 112 meters above ground level. The attached table (requested for use by the FCC for these studies) demonstrates that the 94.5 dBu interference signal is predicted to be at least 7.95 meters above ground level. (A vertical plane pattern tabulation is also attached.) As demonstrated by the attached aerial photo of the proposed transmitter site, there are no tall buildings near the site. Any second floor persons in a nearby building should be adequately protected based on the clearance shown on the table. Therefore, KHOP and KPFA are both adequately protected by the proposed facility.

74.1204(d) Showing

Stockton, CA

ERP (kw)	0.04
Height of Antenna above Ground (m)	112
Translator's IX Contour	94.5

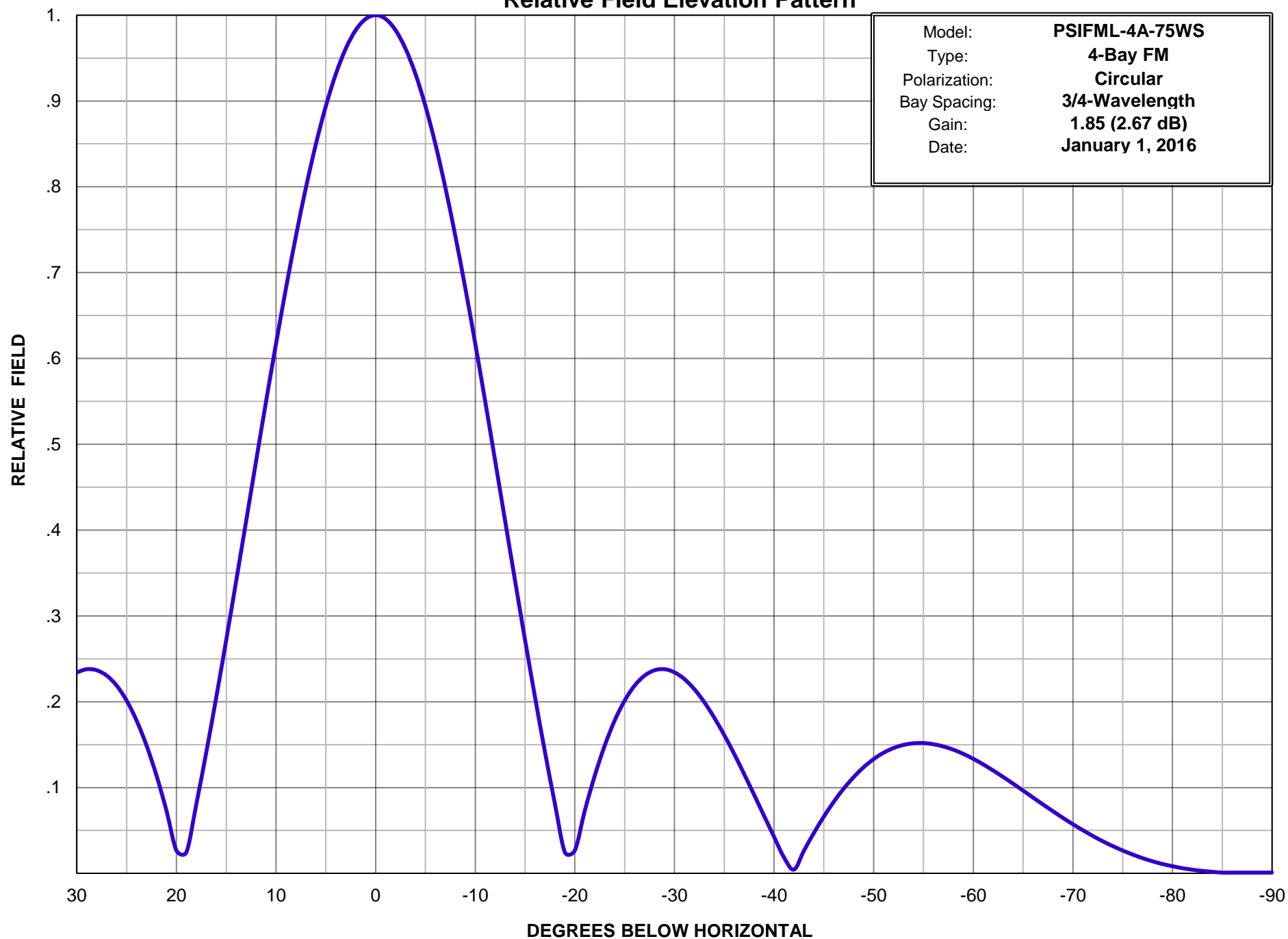
<u>Depression Angle from Horizon</u>	<u>Antenna Relative Field</u>	<u>ERP (kw) from the Antenna RF</u>	<u>Dist. To IX Contour (m)</u>	<u>Height IX Contour Above Ground (m)</u>
0	1	0.0400	835.6607	112.000
5	0.894	0.0320	747.0807	46.888
10	0.617	0.0152	515.6027	22.467
15	0.272	0.0030	227.2997	53.171
20	0.027	0.0000	22.5628	104.283
25	0.201	0.0016	167.9678	41.014
30	0.234	0.0022	195.5446	14.228
35	0.161	0.0010	134.5414	34.830
40	0.043	0.0001	35.9334	88.902
45	0.066	0.0002	55.1536	73.001
50	0.133	0.0007	111.1429	26.860
55	0.152	0.0009	127.0204	7.951
60	0.133	0.0007	111.1429	15.747
65	0.097	0.0004	81.0591	38.536
70	0.057	0.0001	47.6327	67.240
75	0.027	0.0000	22.5628	90.206
80	0.008	0.0000	6.6853	105.416
85	0.001	0.0000	0.8357	111.168
90	0.001	0.0000	0.8357	111.164

Note: Input the ERP, Height of the antenna above Ground, the Calculated Translator IX contour, and the specified Antenna Relative Field Pat



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Relative Field Elevation Pattern



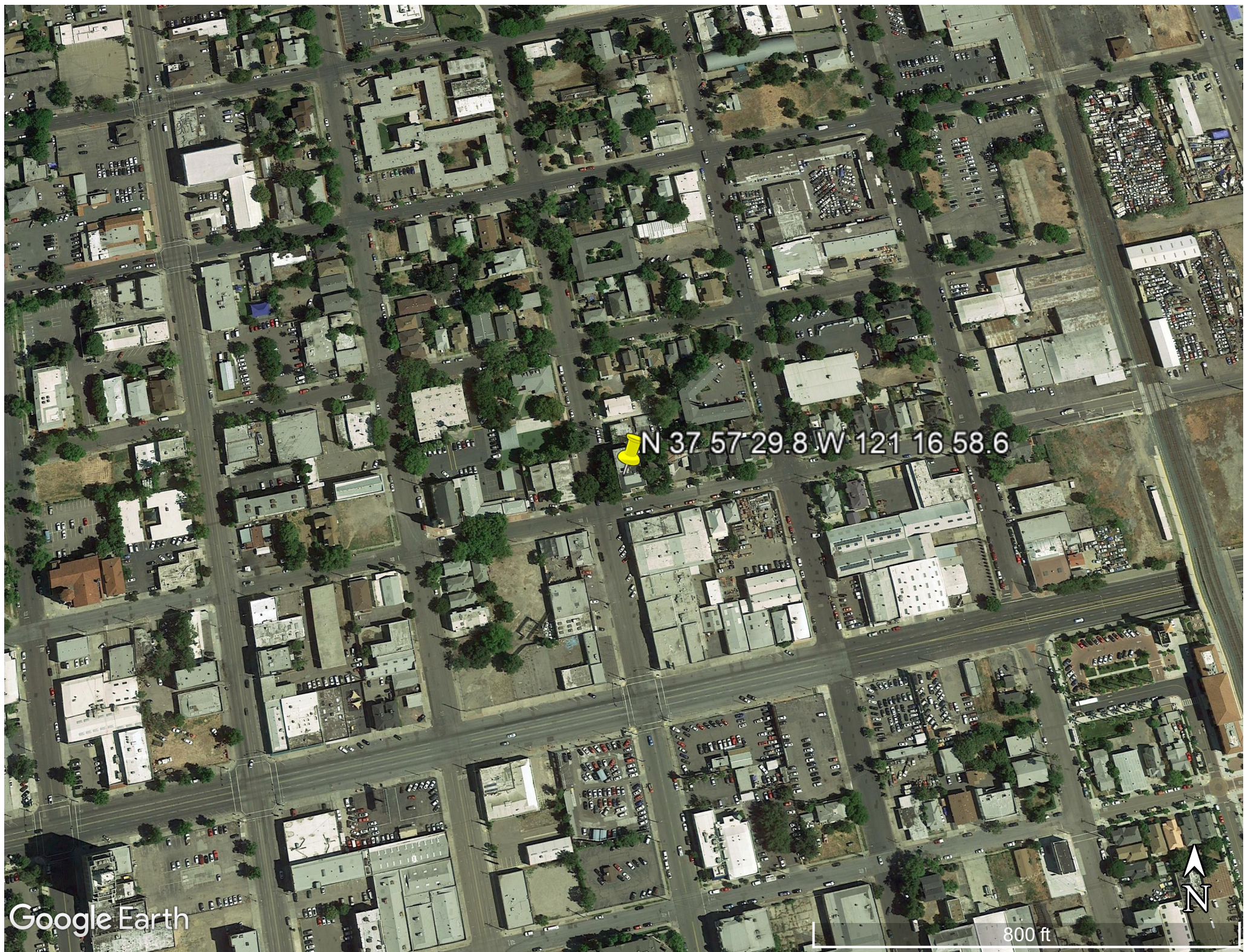


Propagation Systems Inc.

Elevation Pattern Tabulation

Antenna: PSIFML-4A-75WS

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.828	-50.0	0.133	-17.511	-10.0	0.617	-4.190
-89.0	0.001	-60.828	-49.0	0.124	-18.146	-9.0	0.682	-3.325
-88.0	0.001	-60.828	-48.0	0.112	-18.995	-8.0	0.743	-2.583
-87.0	0.001	-60.828	-47.0	0.099	-20.093	-7.0	0.799	-1.950
-86.0	0.001	-60.828	-46.0	0.083	-21.568	-6.0	0.850	-1.415
-85.0	0.001	-60.828	-45.0	0.066	-23.581	-5.0	0.894	-0.974
-84.0	0.002	-54.807	-44.0	0.047	-26.536	-4.0	0.931	-0.618
-83.0	0.003	-50.816	-43.0	0.027	-31.530	-3.0	0.961	-0.346
-82.0	0.004	-47.448	-42.0	0.004	-47.143	-2.0	0.982	-0.154
-81.0	0.006	-44.350	-41.0	0.018	-34.664	-1.0	0.996	-0.038
-80.0	0.008	-41.584	-40.0	0.043	-27.417	0.0	1.000	0.000
-79.0	0.011	-39.244	-39.0	0.067	-23.482	1.0	0.996	-0.038
-78.0	0.014	-37.021	-38.0	0.092	-20.770	2.0	0.983	-0.153
-77.0	0.018	-35.027	-37.0	0.116	-18.740	3.0	0.961	-0.345
-76.0	0.022	-33.164	-36.0	0.139	-17.134	4.0	0.931	-0.618
-75.0	0.027	-31.481	-35.0	0.161	-15.860	5.0	0.894	-0.972
-74.0	0.032	-29.946	-34.0	0.181	-14.829	6.0	0.850	-1.415
-73.0	0.037	-28.537	-33.0	0.199	-14.006	7.0	0.799	-1.948
-72.0	0.044	-27.203	-32.0	0.215	-13.370	8.0	0.743	-2.582
-71.0	0.050	-25.968	-31.0	0.226	-12.904	9.0	0.682	-3.325
-70.0	0.057	-24.841	-30.0	0.234	-12.607	10.0	0.617	-4.188
-69.0	0.065	-23.782	-29.0	0.238	-12.473	11.0	0.550	-5.193
-68.0	0.072	-22.802	-28.0	0.237	-12.517	12.0	0.481	-6.361
-67.0	0.080	-21.905	-27.0	0.230	-12.748	13.0	0.411	-7.728
-66.0	0.088	-21.078	-26.0	0.219	-13.200	14.0	0.341	-9.347
-65.0	0.097	-20.308	-25.0	0.201	-13.920	15.0	0.272	-11.305
-64.0	0.105	-19.614	-24.0	0.178	-14.983	16.0	0.205	-13.752
-63.0	0.112	-18.995	-23.0	0.149	-16.540	17.0	0.141	-16.993
-62.0	0.120	-18.427	-22.0	0.114	-18.867	18.0	0.081	-21.840
-61.0	0.127	-17.926	-21.0	0.073	-22.712	19.0	0.025	-32.147
-60.0	0.133	-17.491	-20.0	0.027	-31.431	20.0	0.027	-31.481
-59.0	0.139	-17.125	-19.0	0.025	-32.201	21.0	0.073	-22.730
-58.0	0.144	-16.827	-18.0	0.081	-21.840	22.0	0.114	-18.867
-57.0	0.148	-16.602	-17.0	0.141	-16.993	23.0	0.149	-16.540
-56.0	0.150	-16.452	-16.0	0.205	-13.752	24.0	0.178	-14.990
-55.0	0.152	-16.374	-15.0	0.272	-11.310	25.0	0.201	-13.920
-54.0	0.152	-16.391	-14.0	0.341	-9.351	26.0	0.219	-13.200
-53.0	0.150	-16.496	-13.0	0.411	-7.731	27.0	0.230	-12.748
-52.0	0.146	-16.709	-12.0	0.481	-6.364	28.0	0.237	-12.517
-51.0	0.141	-17.040	-11.0	0.550	-5.195	29.0	0.238	-12.473



N 37 57 29.8 W 121 16 58.6

Google Earth

800 ft

