KOUV-LP VANCOUVER WASHINGTON
Facility ID: 196567
Modification of Construction Permit

Channel	300
New Location:	45° 39' 22.5” N, 122° 23' 06.3"W -- NAD 83
Relocation:	Minor Change
Antenna AGL	30 m
Antenna Ground	237 m
Antenna COR	267 m
Total Tower Height	31.5 m AMSL
HAAT	25 m
Power	100 w
ASR	N/A

HAAT CALCULATION

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude **45° 39' 22.5"** North
Longitude **122° 23' 6.3"** West (NAD 83)

Height of antenna radiation center above mean sea level: **267** meters AMSL

Number of Evenly Spaced Radials = **8** 0° is referenced to True North

Results

Calculated HAAT = **25 meters**

Antenna Height Above Average Terrain calculated
using 1 km GLOBE terrain data

Individual "Radial HAAT" Values, in meters

0°	-130.3 m
45°	-430.2 m
90°	-58.2 m
135°	95.0 m
180°	196.0 m
225°	203.4 m
270°	180.5 m
315°	146.1 m

SPACING

Recording Nw

REFERENCE DISPLAY DATES
45 39 22.50 N. CLASS = L1 DATA 01-16-21
122 23 06.30 W. Current Spacings to 2nd Adj. SEARCH 02-09-21
---------- Channel 300 - 107.9 MHz ----------

Call		Channel	Location		Azi	Dist	FCC	Margin
*KXJM	LIC	298C0	Banks	OR	240.3	31.38	83.5	-52.1
KOUV-LP	CP	300L1	Vancouver	WA	300.6	0.82	23.5	-22.7
KOUV-LP	LIC	300L1	Vancouver	WA	301.4	0.83	23.5	-22.7
KHPE	LIC	300C	Albany	OR	212.0	132.13	129.5	2.6

Reference station has protected zone issue: Canada
All separation margins include rounding
* See Second Adj Waiver

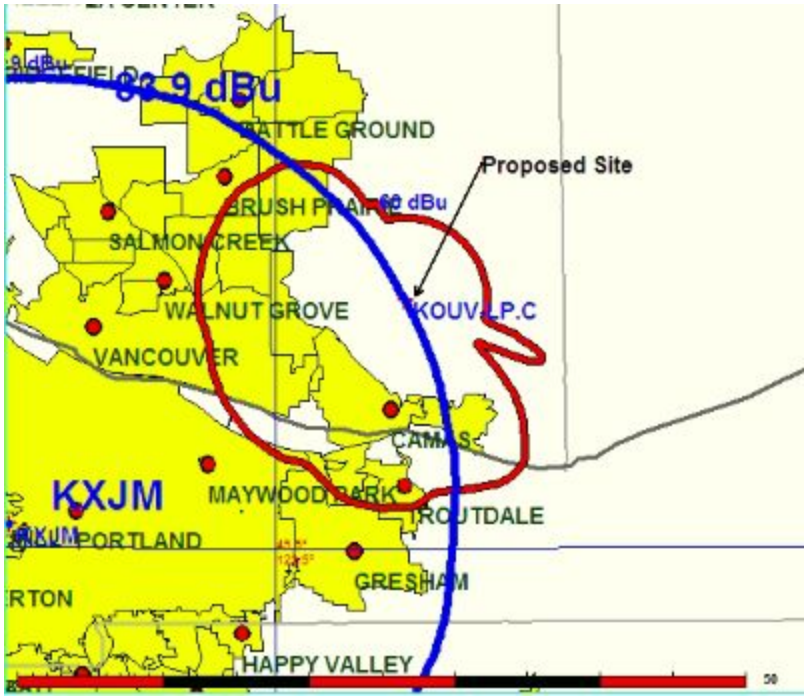
TOWAIR

DETERMINATION Results	
Structure does not require registration. The structure meets the 6.10-meter (20-foot) Rule criteria.	
Your Specifications	
NAD83 Coordinates	
Latitude	45-39-22.5 north
Longitude	122-23-06.3 west
Measurements (Meters)	
Overall Structure Height (AGL)	32
Support Structure Height (AGL)	32
Site Elevation (AMSL)	237
Structure Type	
TREE - When used as a support for an antenna	

SECOND ADJACENT WAIVER REQUEST

License respectfully requests a "second adjacent channel waiver" with regards to Section 47 C.F.R. Section 73.807 of the FCC rules based upon the "Living Way" precedence (Living Way Ministries, Inc., Memorandum Opinion and Order, 17 FCC Red 17054, 17056, ¶ 5 (2002), recon. denied 23 FCC Red 15070 (2008)). This will be accomplished by using Free Space methodology of calculation.

Using U/D methodology, at the proposed KOUV-LP transmitter location KXJM has a signal strength of 83.9 dBu. Interference will occur when the interfering signal exceeds the desired signal by 40 dbu for the lowest signal value. So the area of predicted interference would then be bounded by the 123.9 dBu contour.



The distance to this contour, using free space method:

D = (7.01*P 1/2)/E, where P is power (watts), E is field strength (v/m), and D is distance to contour (meters):

P = 100 w, E = 123.8 dBu D = 44.9 meters

However, the field strength of the proposed LPFM's antenna system falls quickly at depression angles below the horizon. Using elevation pattern data provided by Bext for a Telecom TFC2K 2-bay antenna, the distance to the 123.8 dBu contour at various depression angles is tabulated below. The data shows that the lowest point at which the signal strength rises to 123.8 dBu is 9.1 meters below the center of radiation of the antenna system, or 20.9 meters above the ground. Therefore, this is sufficient clearance, and the interference area encompasses zero population. The table below shows that the lowest elevation point of the 123.8 dBu F(50,10) interfering contour is 20.9 meters above the ground.

Due to zero population within this radiation radius, this meets the "Living Way" Criteria to qualify for a Waiver of 47 C.F.R. Section 73.807.

Thus, the applicant requests a second adjacent waiver based upon evidence no interference is proposed.

MAX ERP	DEPRESSION ANGLE BELOW HORIZON	RELATIVE FIELD	dB FROM RELATIVE	ERP	ANGULAR DISTANCE TO 123.8 dBu CONTOUR	VERTICAL DISTANCE (below antenna)	HORIZONTAL DISTANCE TO 123.8 dBu CONTOUR	CLEARANCE OF CONTOUR ABOVE GROUND
100	0	1.001	0.009	100.20	44.7	0	44.7	30
100	0.4	1	0.000	100.00	44.7	0.3	44.6	29.7
100	0.8	0.999	-0.009	99.80	44.6	0.6	44.5	29.4
100	1.1	0.998	-0.017	99.60	44.6	0.8	44.5	29.2
100	1.5	0.997	-0.026	99.40	44.6	1.1	44.5	28.9
100	1.9	0.995	-0.044	99.00	44.5	1.4	44.4	28.6
100	2.3	0.993	-0.061	98.60	44.4	1.7	44.3	28.3
100	2.6	0.991	-0.079	98.21	44.3	2	44.2	28
100	3	0.988	-0.105	97.61	44.2	2.3	44.1	27.7
100	3.4	0.986	-0.122	97.22	44.1	2.6	44	27.4
100	3.8	0.983	-0.149	96.63	43.9	2.9	43.8	27.1
100	4.1	0.979	-0.184	95.84	43.8	3.1	43.6	26.9
100	4.5	0.976	-0.211	95.26	43.6	3.4	43.4	26.6
100	4.9	0.972	-0.247	94.48	43.4	3.7	43.2	26.3
100	5.3	0.967	-0.291	93.51	43.2	3.9	43	26.1
100	5.6	0.962	-0.336	92.54	43	4.1	42.7	25.9
100	6	0.957	-0.382	91.58	42.8	4.4	42.5	25.6
100	6.4	0.951	-0.436	90.44	42.5	4.7	42.2	25.3
100	6.8	0.945	-0.491	89.30	42.2	4.9	41.9	25.1
100	7.1	0.939	-0.547	88.17	42	5.1	41.6	24.9
100	7.5	0.933	-0.602	87.05	41.7	5.4	41.3	24.6
100	7.9	0.926	-0.668	85.75	41.4	5.6	41	24.4
100	8.3	0.919	-0.734	84.46	41.1	5.9	40.6	24.1
100	8.6	0.912	-0.800	83.17	40.8	6	40.3	24
100	9	0.905	-0.867	81.90	40.4	6.3	39.9	23.7
100	9.4	0.897	-0.944	80.46	40.1	6.5	39.5	23.5
100	9.8	0.889	-1.022	79.03	39.7	6.7	39.1	23.3
100	10.2	0.881	-1.100	77.62	39.4	6.9	38.7	23.1
100	10.5	0.872	-1.190	76.04	39	7.1	38.3	22.9
100	10.9	0.863	-1.280	74.48	38.6	7.2	37.9	22.8
100	11.3	0.854	-1.371	72.93	38.2	7.4	37.4	22.6
100	11.7	0.845	-1.463	71.40	37.8	7.6	37	22.4
100	12	0.835	-1.566	69.72	37.3	7.7	36.4	22.3
100	12.4	0.826	-1.660	68.23	36.9	7.9	36	22.1
100	12.8	0.816	-1.766	66.59	36.5	8	35.5	22
100	13.2	0.806	-1.873	64.96	36	8.2	35	21.8
100	13.5	0.796	-1.982	63.36	35.6	8.3	34.6	21.7

100	13.9	0.785	-2.103	61.62	35.1	8.4	34	21.6
100	14.3	0.775	-2.214	60.06	34.6	8.5	33.5	21.5
100	14.7	0.764	-2.338	58.37	34.1	8.6	32.9	21.4
100	15	0.754	-2.453	56.85	33.7	8.7	32.5	21.3
100	15.4	0.742	-2.592	55.06	33.1	8.7	31.9	21.3
100	15.8	0.731	-2.722	53.44	32.7	8.8	31.4	21.2
100	16.2	0.719	-2.865	51.70	32.1	8.9	30.8	21.1
100	16.5	0.707	-3.012	49.98	31.6	8.9	30.3	21.1
100	16.9	0.696	-3.148	48.44	31.1	9	29.7	21
100	17.3	0.684	-3.299	46.79	30.6	9	29.2	21
100	17.7	0.672	-3.453	45.16	30	9.1	28.5	20.9
100	18	0.66	-3.609	43.56	29.5	9.1	28	20.9
100	18.4	0.648	-3.768	41.99	28.9	9.1	27.4	20.9
100	18.8	0.636	-3.931	40.45	28.4	9.1	26.8	20.9
100	19.2	0.624	-4.096	38.94	27.9	9.1	26.3	20.9
100	19.6	0.612	-4.265	37.45	27.3	9.1	25.7	20.9
100	19.9	0.599	-4.451	35.88	26.8	9.1	25.2	20.9
100	20.3	0.587	-4.627	34.46	26.2	9	24.5	21
100	20.7	0.574	-4.822	32.95	25.6	9	23.9	21
100	21.1	0.562	-5.005	31.58	25.1	9	23.4	21
100	21.4	0.549	-5.209	30.14	24.5	8.9	22.8	21.1
100	21.8	0.536	-5.417	28.73	23.9	8.8	22.1	21.2
100	22.2	0.524	-5.613	27.46	23.4	8.8	21.6	21.2
100	22.6	0.511	-5.832	26.11	22.8	8.7	21	21.3
100	22.9	0.499	-6.038	24.90	22.3	8.6	20.5	21.4
100	23.3	0.486	-6.267	23.62	21.7	8.5	19.9	21.5
100	23.7	0.474	-6.484	22.47	21.2	8.5	19.4	21.5
100	24.1	0.461	-6.726	21.25	20.6	8.4	18.8	21.6
100	24.4	0.449	-6.955	20.16	20	8.2	18.2	21.8
100	24.8	0.436	-7.210	19.01	19.5	8.1	17.7	21.9
100	25.2	0.424	-7.453	17.98	18.9	8	17.1	22
100	25.6	0.412	-7.702	16.97	18.4	7.9	16.5	22.1
100	25.9	0.399	-7.981	15.92	17.8	7.7	16	22.3
100	26.3	0.387	-8.246	14.98	17.3	7.6	15.5	22.4
100	26.7	0.375	-8.519	14.06	16.7	7.5	14.9	22.5
100	27.1	0.363	-8.802	13.18	16.2	7.3	14.4	22.7
100	27.4	0.351	-9.094	12.32	15.7	7.2	13.9	22.8
100	27.8	0.339	-9.396	11.49	15.1	7	13.3	23
100	28.2	0.327	-9.709	10.69	14.6	6.8	12.8	23.2
100	28.6	0.316	-10.006	9.99	14.1	6.7	12.3	23.3
100	29	0.304	-10.343	9.24	13.6	6.5	11.8	23.5
100	29.3	0.293	-10.663	8.58	13.1	6.4	11.4	23.6
100	29.7	0.282	-10.995	7.95	12.6	6.2	10.9	23.8
100	30.1	0.271	-11.341	7.34	12.1	6	10.4	24
100	30.5	0.259	-11.734	6.71	11.5	5.8	9.9	24.2
100	30.8	0.248	-12.111	6.15	11	5.6	9.4	24.4

100	31.2	0.237	-12.505	5.62	10.6	5.4	9	24.6
100	31.6	0.227	-12.879	5.15	10.1	5.2	8.6	24.8
100	32	0.216	-13.311	4.67	9.6	5	8.1	25
100	32.3	0.206	-13.723	4.24	9.2	4.9	7.7	25.1
100	32.7	0.195	-14.199	3.80	8.7	4.6	7.3	25.4
100	33.1	0.185	-14.657	3.42	8.2	4.4	6.8	25.6
100	33.5	0.175	-15.139	3.06	7.8	4.3	6.5	25.7
100	33.8	0.166	-15.598	2.76	7.4	4.1	6.1	25.9
100	34.2	0.156	-16.138	2.43	6.9	3.8	5.7	26.2
100	34.6	0.147	-16.654	2.16	6.5	3.6	5.3	26.4
100	35	0.137	-17.266	1.88	6.1	3.4	4.9	26.6
100	35.3	0.128	-17.856	1.64	5.7	3.2	4.6	26.8
100	35.7	0.119	-18.489	1.42	5.3	3	4.3	27
100	36.1	0.111	-19.094	1.23	4.9	2.8	3.9	27.2
100	36.5	0.102	-19.828	1.04	4.5	2.6	3.6	27.4
100	36.8	0.094	-20.537	0.88	4.2	2.5	3.3	27.5
100	37.2	0.085	-21.412	0.72	3.8	2.2	3	27.8
100	37.6	0.077	-22.270	0.59	3.4	2	2.6	28
100	38	0.07	-23.098	0.49	3.1	1.9	2.4	28.1
100	38.4	0.062	-24.152	0.38	2.7	1.6	2.1	28.4
100	38.7	0.055	-25.193	0.30	2.4	1.4	1.8	28.6
100	39.1	0.047	-26.558	0.22	2.1	1.3	1.6	28.7
100	39.5	0.04	-27.959	0.16	1.7	1	1.3	29
100	39.9	0.033	-29.630	0.11	1.4	0.8	1	29.2
100	40.2	0.026	-31.701	0.07	1.1	0.7	0.8	29.3
100	40.6	0.02	-33.979	0.04	0.8	0.5	0.6	29.5
100	41	0.013	-37.721	0.02	0.5	0.3	0.3	29.7
100	41.4	0.007	-43.098	0.00	0.3	0.1	0.2	29.9
100	41.7	0.001	-60.000	0.00	0	0	0	30
100	42.1	0.005	-46.021	0.00	0.2	0.1	0.1	29.9
100	42.5	0.01	-40.000	0.01	0.4	0.2	0.2	29.8
100	42.9	0.016	-35.918	0.03	0.7	0.4	0.5	29.6
100	43.2	0.021	-33.556	0.04	0.9	0.6	0.6	29.4
100	43.6	0.026	-31.701	0.07	1.1	0.7	0.7	29.3
100	44	0.031	-30.173	0.10	1.3	0.9	0.9	29.1
100	44.4	0.036	-28.874	0.13	1.6	1.1	1.1	28.9
100	44.7	0.04	-27.959	0.16	1.7	1.1	1.2	28.9
100	45.1	0.045	-26.936	0.20	2	1.4	1.4	28.6
100	45.5	0.049	-26.196	0.24	2.1	1.4	1.4	28.6
100	45.9	0.053	-25.514	0.28	2.3	1.6	1.6	28.4
100	46.2	0.057	-24.883	0.32	2.5	1.8	1.7	28.2
100	46.6	0.061	-24.293	0.37	2.7	1.9	1.8	28.1
100	47	0.064	-23.876	0.41	2.8	2	1.9	28
100	47.4	0.068	-23.350	0.46	3	2.2	2	27.8
100	47.8	0.071	-22.975	0.50	3.1	2.2	2	27.8
100	48.1	0.074	-22.615	0.55	3.3	2.4	2.2	27.6

100	48.5	0.077	-22.270	0.59	3.4	2.5	2.2	27.5
100	48.9	0.079	-22.047	0.62	3.5	2.6	2.3	27.4
100	49.3	0.082	-21.724	0.67	3.6	2.7	2.3	27.3
100	49.6	0.085	-21.412	0.72	3.8	2.8	2.4	27.2
100	50	0.087	-21.210	0.76	3.8	2.9	2.4	27.1
100	50.4	0.089	-21.012	0.79	3.9	3	2.4	27
100	50.8	0.091	-20.819	0.83	4	3	2.5	27
100	51.1	0.093	-20.630	0.86	4.1	3.1	2.5	26.9
100	51.5	0.095	-20.446	0.90	4.2	3.2	2.6	26.8
100	51.9	0.096	-20.355	0.92	4.2	3.3	2.5	26.7
100	52.3	0.098	-20.175	0.96	4.3	3.4	2.6	26.6
100	52.6	0.099	-20.087	0.98	4.4	3.4	2.6	26.6
100	53	0.1	-20.000	1.00	4.4	3.5	2.6	26.5
100	53.4	0.101	-19.914	1.02	4.5	3.6	2.6	26.4
100	53.8	0.102	-19.828	1.04	4.5	3.6	2.6	26.4
100	54.1	0.103	-19.743	1.06	4.6	3.7	2.6	26.3
100	54.5	0.104	-19.659	1.08	4.6	3.7	2.6	26.3
100	54.9	0.105	-19.576	1.10	4.6	3.7	2.6	26.3
100	55.3	0.105	-19.576	1.10	4.6	3.7	2.6	26.3
100	55.6	0.106	-19.494	1.12	4.7	3.8	2.6	26.2
100	56	0.106	-19.494	1.12	4.7	3.8	2.6	26.2
100	56.4	0.106	-19.494	1.12	4.7	3.9	2.6	26.1
100	56.8	0.107	-19.412	1.14	4.7	3.9	2.5	26.1
100	57.2	0.107	-19.412	1.14	4.7	3.9	2.5	26.1
100	57.5	0.107	-19.412	1.14	4.7	3.9	2.5	26.1
100	57.9	0.106	-19.494	1.12	4.7	3.9	2.4	26.1
100	58.3	0.106	-19.494	1.12	4.7	3.9	2.4	26.1
100	58.7	0.106	-19.494	1.12	4.7	4	2.4	26
100	59	0.106	-19.494	1.12	4.7	4	2.4	26
100	59.4	0.105	-19.576	1.10	4.6	3.9	2.3	26.1
100	59.8	0.105	-19.576	1.10	4.6	3.9	2.3	26.1
100	60.2	0.104	-19.659	1.08	4.6	3.9	2.2	26.1
100	60.5	0.103	-19.743	1.06	4.6	4	2.2	26
100	60.9	0.103	-19.743	1.06	4.6	4	2.2	26
100	61.3	0.102	-19.828	1.04	4.5	3.9	2.1	26.1
100	61.7	0.101	-19.914	1.02	4.5	3.9	2.1	26.1
100	62	0.1	-20.000	1.00	4.4	3.8	2	26.2
100	62.4	0.099	-20.087	0.98	4.4	3.8	2	26.2
100	62.8	0.098	-20.175	0.96	4.3	3.8	1.9	26.2
100	63.2	0.097	-20.265	0.94	4.3	3.8	1.9	26.2
100	63.5	0.096	-20.355	0.92	4.2	3.7	1.8	26.3
100	63.9	0.095	-20.446	0.90	4.2	3.7	1.8	26.3
100	64.3	0.094	-20.537	0.88	4.2	3.7	1.8	26.3
100	64.7	0.092	-20.724	0.85	4.1	3.7	1.7	26.3
100	65	0.091	-20.819	0.83	4	3.6	1.6	26.4
100	65.4	0.09	-20.915	0.81	4	3.6	1.6	26.4

100	65.8	0.088	-21.110	0.77	3.9	3.5	1.6	26.5
100	66.2	0.087	-21.210	0.76	3.8	3.4	1.5	26.6
100	66.6	0.086	-21.310	0.74	3.8	3.4	1.5	26.6
100	66.9	0.084	-21.514	0.71	3.7	3.4	1.4	26.6
100	67.3	0.083	-21.618	0.69	3.7	3.4	1.4	26.6
100	67.7	0.081	-21.830	0.66	3.6	3.3	1.3	26.7
100	68.1	0.08	-21.938	0.64	3.5	3.2	1.3	26.8
100	68.4	0.078	-22.158	0.61	3.4	3.1	1.2	26.9
100	68.8	0.077	-22.270	0.59	3.4	3.1	1.2	26.9
100	69.2	0.075	-22.499	0.56	3.3	3	1.1	27
100	69.6	0.074	-22.615	0.55	3.3	3	1.1	27
100	69.9	0.072	-22.853	0.52	3.2	3	1.1	27
100	70.3	0.07	-23.098	0.49	3.1	2.9	1	27.1
100	70.7	0.069	-23.223	0.48	3	2.8	0.9	27.2
100	71.1	0.067	-23.479	0.45	2.9	2.7	0.9	27.3
100	71.4	0.066	-23.609	0.44	2.9	2.7	0.9	27.3
100	71.8	0.064	-23.876	0.41	2.8	2.6	0.8	27.4
100	72.2	0.062	-24.152	0.38	2.7	2.5	0.8	27.5
100	72.6	0.061	-24.293	0.37	2.7	2.5	0.8	27.5
100	72.9	0.059	-24.583	0.35	2.6	2.4	0.7	27.6
100	73.3	0.057	-24.883	0.32	2.5	2.3	0.7	27.7
100	73.7	0.056	-25.036	0.31	2.5	2.3	0.7	27.7
100	74.1	0.054	-25.352	0.29	2.4	2.3	0.6	27.7
100	74.4	0.052	-25.680	0.27	2.3	2.2	0.6	27.8
100	74.8	0.051	-25.849	0.26	2.2	2.1	0.5	27.9
100	75.2	0.049	-26.196	0.24	2.1	2	0.5	28
100	75.6	0.047	-26.558	0.22	2.1	2	0.5	28
100	76	0.046	-26.745	0.21	2	1.9	0.4	28.1
100	76.3	0.044	-27.131	0.19	1.9	1.8	0.4	28.2
100	76.7	0.043	-27.331	0.18	1.9	1.8	0.4	28.2
100	77.1	0.041	-27.744	0.17	1.8	1.7	0.4	28.3
100	77.5	0.039	-28.179	0.15	1.7	1.6	0.3	28.4
100	77.8	0.038	-28.404	0.14	1.7	1.6	0.3	28.4
100	78.2	0.036	-28.874	0.13	1.6	1.5	0.3	28.5
100	78.6	0.035	-29.119	0.12	1.5	1.4	0.2	28.6
100	79	0.033	-29.630	0.11	1.4	1.3	0.2	28.7
100	79.3	0.031	-30.173	0.10	1.3	1.2	0.2	28.8
100	79.7	0.03	-30.458	0.09	1.3	1.2	0.2	28.8
100	80.1	0.028	-31.057	0.08	1.2	1.1	0.2	28.9
100	80.5	0.027	-31.373	0.07	1.2	1.1	0.1	28.9
100	80.8	0.026	-31.701	0.07	1.1	1	0.1	29
100	81.2	0.024	-32.396	0.06	1	0.9	0.1	29.1
100	81.6	0.023	-32.765	0.05	1	0.9	0.1	29.1
100	82	0.022	-33.152	0.05	0.9	0.8	0.1	29.2
100	82.3	0.02	-33.979	0.04	0.8	0.7	0.1	29.3
100	82.7	0.019	-34.425	0.04	0.8	0.7	0.1	29.3

100	83.1	0.018	-34.895	0.03	0.8	0.7	0	29.3
100	83.5	0.016	-35.918	0.03	0.7	0.6	0	29.4
100	83.8	0.015	-36.478	0.02	0.6	0.5	0	29.5
100	84.2	0.014	-37.077	0.02	0.6	0.5	0	29.5
100	84.6	0.012	-38.416	0.01	0.5	0.4	0	29.6
100	85	0.011	-39.172	0.01	0.4	0.3	0	29.7
100	85.4	0.01	-40.000	0.01	0.4	0.3	0	29.7
100	85.7	0.009	-40.915	0.01	0.4	0.3	0	29.7
100	86.1	0.009	-40.915	0.01	0.4	0.3	0	29.7
100	86.5	0.008	-41.938	0.01	0.3	0.2	0	29.8
100	86.9	0.007	-43.098	0.00	0.3	0.2	0	29.8
100	87.2	0.006	-44.437	0.00	0.2	0.1	0	29.9
100	87.6	0.005	-46.021	0.00	0.2	0.1	0	29.9
100	88	0.004	-47.959	0.00	0.1	0	0	30
100	88.4	0.004	-47.959	0.00	0.1	0	0	30
100	88.7	0.003	-50.458	0.00	0.1	0	0	30
100	89.1	0.002	-53.979	0.00	0	0	0	30
100	89.5	0.001	-60.000	0.00	0	0	0	30
100	89.9	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
100	90.2	0.001	-60.000	0.00	0	0	0	30
100	90.6	0.001	-60.000	0.00	0	0	0	30
100	91	0.002	-53.979	0.00	0	0	0	30
100	91.4	0.003	-50.458	0.00	0.1	0	0	30
100	91.7	0.004	-47.959	0.00	0.1	0	0	30
100	92.1	0.005	-46.021	0.00	0.2	0.1	0	29.9
100	92.5	0.006	-44.437	0.00	0.2	0.1	0	29.9
100	92.9	0.007	-43.098	0.00	0.3	0.2	0	29.8
100	93.2	0.008	-41.938	0.01	0.3	0.2	0	29.8
100	93.6	0.008	-41.938	0.01	0.3	0.2	0	29.8
100	94	0.009	-40.915	0.01	0.4	0.3	0	29.7
100	94.4	0.01	-40.000	0.01	0.4	0.3	0	29.7
100	94.8	0.011	-39.172	0.01	0.4	0.3	0	29.7
100	95.1	0.012	-38.416	0.01	0.5	0.4	0	29.6
100	95.5	0.013	-37.721	0.02	0.5	0.4	0	29.6
100	95.9	0.015	-36.478	0.02	0.6	0.5	0	29.5
100	96.3	0.016	-35.918	0.03	0.7	0.6	0	29.4
100	96.6	0.017	-35.391	0.03	0.7	0.6	0	29.4
100	97	0.018	-34.895	0.03	0.8	0.7	0	29.3
100	97.4	0.02	-33.979	0.04	0.8	0.7	-0.1	29.3
100	97.8	0.021	-33.556	0.04	0.9	0.8	-0.1	29.2
100	98.1	0.022	-33.152	0.05	0.9	0.8	-0.1	29.2
100	98.5	0.023	-32.765	0.05	1	0.9	-0.1	29.1
100	98.9	0.025	-32.041	0.06	1.1	1	-0.1	29
100	99.3	0.026	-31.701	0.07	1.1	1	-0.1	29
100	99.6	0.027	-31.373	0.07	1.2	1.1	-0.1	28.9
100	100	0.028	-31.057	0.08	1.2	1.1	-0.2	28.9

100	100.4	0.03	-30.458	0.09	1.3	1.2	-0.2	28.8
100	100.8	0.031	-30.173	0.10	1.3	1.2	-0.2	28.8
100	101.1	0.033	-29.630	0.11	1.4	1.3	-0.2	28.7
100	101.5	0.034	-29.370	0.12	1.5	1.4	-0.2	28.6
100	101.9	0.036	-28.874	0.13	1.6	1.5	-0.3	28.5
100	102.3	0.037	-28.636	0.14	1.6	1.5	-0.3	28.5
100	102.6	0.039	-28.179	0.15	1.7	1.6	-0.3	28.4
100	103	0.04	-27.959	0.16	1.7	1.6	-0.3	28.4
100	103.4	0.041	-27.744	0.17	1.8	1.7	-0.4	28.3
100	103.8	0.043	-27.331	0.18	1.9	1.8	-0.4	28.2
100	104.2	0.044	-27.131	0.19	1.9	1.8	-0.4	28.2
100	104.5	0.046	-26.745	0.21	2	1.9	-0.4	28.1
100	104.9	0.047	-26.558	0.22	2.1	2	-0.5	28
100	105.3	0.048	-26.375	0.23	2.1	2	-0.5	28
100	105.7	0.05	-26.021	0.25	2.2	2.1	-0.5	27.9
100	106	0.051	-25.849	0.26	2.2	2.1	-0.6	27.9
100	106.4	0.053	-25.514	0.28	2.3	2.2	-0.6	27.8
100	106.8	0.054	-25.352	0.29	2.4	2.2	-0.6	27.8
100	107.2	0.056	-25.036	0.31	2.5	2.3	-0.7	27.7
100	107.5	0.057	-24.883	0.32	2.5	2.3	-0.7	27.7
100	107.9	0.059	-24.583	0.35	2.6	2.4	-0.7	27.6
100	108.3	0.06	-24.437	0.36	2.6	2.4	-0.8	27.6
100	108.7	0.061	-24.293	0.37	2.7	2.5	-0.8	27.5
100	109	0.063	-24.013	0.40	2.8	2.6	-0.9	27.4
100	109.4	0.064	-23.876	0.41	2.8	2.6	-0.9	27.4
100	109.8	0.065	-23.742	0.42	2.9	2.7	-0.9	27.3
100	110.2	0.067	-23.479	0.45	2.9	2.7	-0.9	27.3
100	110.5	0.068	-23.350	0.46	3	2.8	-1	27.2
100	110.9	0.07	-23.098	0.49	3.1	2.8	-1.1	27.2
100	111.3	0.071	-22.975	0.50	3.1	2.8	-1.1	27.2
100	111.7	0.072	-22.853	0.52	3.2	2.9	-1.1	27.1
100	112	0.073	-22.734	0.53	3.2	2.9	-1.1	27.1
100	112.4	0.075	-22.499	0.56	3.3	3	-1.2	27
100	112.8	0.076	-22.384	0.58	3.4	3.1	-1.3	26.9
100	113.2	0.077	-22.270	0.59	3.4	3.1	-1.3	26.9
100	113.6	1/9	-22.158	0.61	3.4	3.1	-1.3	26.9
100	113.9	1/9	-21.938	0.64	3.5	3.2	-1.4	26.8
100	114.3	1/9	-21.830	0.66	3.6	3.2	-1.4	26.8
100	114.7	1/9	-21.724	0.67	3.6	3.2	-1.5	26.8
100	115.1	1/9	-21.618	0.69	3.7	3.3	-1.5	26.7
100	115.4	1/9	-21.514	0.71	3.7	3.3	-1.5	26.7
100	115.8	1/9	-21.412	0.72	3.8	3.4	-1.6	26.6
100	116.2	1/9	-21.310	0.74	3.8	3.4	-1.6	26.6
100	116.6	1/9	-21.210	0.76	3.8	3.3	-1.6	26.7
100	116.9	1/9	-21.210	0.76	3.8	3.3	-1.7	26.7
100	117.3	1/9	-21.110	0.77	3.9	3.4	-1.7	26.6

100	117.7	1/9	-21.012	0.79	3.9	3.4	-1.8	26.6
100	118.1	1/9	-20.915	0.81	4	3.5	-1.8	26.5
100	118.4	1/9	-20.915	0.81	4	3.5	-1.8	26.5
100	118.8	1/9	-20.819	0.83	4	3.5	-1.9	26.5
100	119.2	1/9	-20.724	0.85	4.1	3.5	-1.9	26.5
100	119.6	1/9	-20.724	0.85	4.1	3.5	-2	26.5
100	119.9	1/9	-20.724	0.85	4.1	3.5	-2	26.5
100	120.3	1/9	-20.630	0.86	4.1	3.5	-2	26.5
100	120.7	1/9	-20.630	0.86	4.1	3.5	-2	26.5
100	121.1	1/9	-20.630	0.86	4.1	3.5	-2.1	26.5
100	121.4	1/9	-20.537	0.88	4.2	3.5	-2.1	26.5
100	121.8	1/9	-20.537	0.88	4.2	3.5	-2.2	26.5
100	122.2	1/9	-20.537	0.88	4.2	3.5	-2.2	26.5
100	122.6	1/9	-20.537	0.88	4.2	3.5	-2.2	26.5
100	123	1/9	-20.537	0.88	4.2	3.5	-2.2	26.5
100	123.3	1/9	-20.630	0.86	4.1	3.4	-2.2	26.6
100	123.7	1/9	-20.630	0.86	4.1	3.4	-2.2	26.6
100	124.1	1/9	-20.630	0.86	4.1	3.3	-2.2	26.7
100	124.5	1/9	-20.724	0.85	4.1	3.3	-2.3	26.7
100	124.8	1/9	-20.724	0.85	4.1	3.3	-2.3	26.7
100	125.2	1/9	-20.819	0.83	4	3.2	-2.3	26.8
100	125.6	1/9	-20.819	0.83	4	3.2	-2.3	26.8
100	126	1/9	-20.915	0.81	4	3.2	-2.3	26.8
100	126.3	1/9	-21.012	0.79	3.9	3.1	-2.3	26.9
100	126.7	1/9	-21.110	0.77	3.9	3.1	-2.3	26.9
100	127.1	1/9	-21.210	0.76	3.8	3	-2.2	27
100	127.5	1/9	-21.310	0.74	3.8	3	-2.3	27
100	127.8	1/9	-21.514	0.71	3.7	2.9	-2.2	27.1
100	128.2	1/9	-21.618	0.69	3.7	2.9	-2.2	27.1
100	128.6	0.081	-21.830	0.66	3.6	2.8	-2.2	27.2
100	129	0.08	-21.938	0.64	3.5	2.7	-2.1	27.3
100	129.3	0.078	-22.158	0.61	3.4	2.6	-2.1	27.4
100	129.7	0.076	-22.384	0.58	3.4	2.6	-2.1	27.4
100	130.1	0.074	-22.615	0.55	3.3	2.5	-2.1	27.5
100	130.5	0.072	-22.853	0.52	3.2	2.4	-2	27.6
100	130.8	0.07	-23.098	0.49	3.1	2.3	-2	27.7
100	131.2	0.068	-23.350	0.46	3	2.2	-1.9	27.8
100	131.6	0.065	-23.742	0.42	2.9	2.1	-1.9	27.9
100	132	0.062	-24.152	0.38	2.7	2	-1.8	28
100	132.4	0.06	-24.437	0.36	2.6	1.9	-1.7	28.1
100	132.7	0.057	-24.883	0.32	2.5	1.8	-1.6	28.2
100	133.1	0.054	-25.352	0.29	2.4	1.7	-1.6	28.3
100	133.5	0.051	-25.849	0.26	2.2	1.5	-1.5	28.5
100	133.9	0.048	-26.375	0.23	2.1	1.5	-1.4	28.5