

MINOR CHANGE APPLICATION
FAMILY WORSHIP CENTER CHURCH, INC.
K211DY FM TRANSLATOR STATION
CH 211D - 90.1 MHZ - 0.099 KW - ND
NATCHITOCHES, LOUISIANA
February 2016

EXHIBIT C

Interference Study for K211DY
Using Proposed Site as Reference

The proposed K211DY, operating with an effective radiated power of 0.099 kilowatt at 117.3 meters (385 feet) above ground level, will not cause interference to any existing, applied for or proposed facility. As noted on Exhibit C1, the proposed K211DY is within the predicted 60 dBu contour of third adjacent station KLSA, Channel 214C0, Alexandria, Louisiana and second adjacent channel station KBIO, Channel 209A, Natchitoches, Louisiana.

K221DY vs KLSA

Due to the relationship between the proposed K211DY and KLSA, a 40 db ratio of the protected and interfering contours applies. We have, therefore, calculated the KLSA level of signal at the proposed K211DY site at 69.8 dBu, FCC 50/50. The corresponding interfering contour for K211DY is 109.8 dBu (50/10). At its greatest distance, the interfering contour (109.8 dBu, FCC 50/10) of K211DY extends 227.0 meters (745 feet) from the proposed K211DY antenna, as indicated on Exhibits C2 and C3. The interference contour does reach ground level, as indicated in Exhibit C3. Exhibit C6 is a Google Earth Pro depiction of the tower site and surrounding area which demonstrates the interference contour would not extend out to any publicly accessed area or structure of comparable height within the contour. As such, KLSA will not receive interference from the proposed translator.

K221DY vs KBIO

Due to the relationship between the proposed K211DY and KBIO, a 40 db ratio of the protected and interfering contours applies. We have, therefore, calculated the KBIO level of signal at the proposed K211DY site at 66 dBu, FCC 50/50. The corresponding interfering contour for K211DY is 106 dBu (50/10). At its greatest distance, the interfering contour (106 dBu, FCC 50/10) of K211DY extends 347.0 meters (1,138 feet) from the proposed K211DY antenna, as indicated on Exhibits C4 and C5. The interference contour does reach ground level, as indicated in Exhibit C5. Exhibit C6 is a Google Earth Pro depiction of the tower site and surrounding area, and it demonstrates that the interference contour would not extend out to any publicly accessed area or structure of comparable height within the contour. As such, KBIO will not receive interference from the proposed translator.

Based on the foregoing, it is believed that the proposed K211DY is in compliance with §74.1204(d) of the Commission's rules. If a waiver of the rule is needed to address KLSA and KBIO, one is respectfully requested.

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EXHIBIT C1

Interference Study for K211DY
Using Proposed Site as Reference

REFERENCE CH# 211D - 90.1 MHz, Pwr= 0.099 kW, HAAT= 122.5 M, COR= 158.7 M DISPLAY DATES
 31 47 25.8 N. Average Protected F(50-50)= 11.3 km DATA 02-22-16
 93 04 53.4 W. Omni-directional SEARCH 02-22-16

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
211D Natchitoches	K211DY!	CP	C LA	276.5 96.5	4.98 BPFT20141118ACG	31 47 44.0 93 08 02.0	0.010	16.2 104	5.0 Family Worship Center Chur	-22.4	-38.2
211D Natchitoches	K211DY!	LIC	C LA	265.2 85.1	4.67 BLFT20010301ACD	31 47 13.0 93 07 51.0	0.010 62	15.6 100	4.9 Family Worship Center Chur	-21.7	-37.0
214C0 Alexandria	KLSA	LIC	CN LA	116.2 296.5	56.39 BLED19861224KB	31 33 56.0 92 32 50.0	100.000 379	11.5 428	79.2 Bd Supervisors, Louisiana	33.2	-23.5*
209A Natchitoches	KBIO	LIC	C LA	265.2 85.2	4.70 BLED20010711ABB	31 47 13.0 93 07 52.0	0.100 90	0.7 72	6.6 Radio Maria, Inc.	-6.8*	-5.2*
210C1 Shreveport	KDAQ	LIC	CX LA	321.4 141.0	126.58 BLED20090805AAQ	32 40 40.0 93 55 30.0	100.000 284	104.0 351	71.5 Bd Supervisors, Louisiana	11.1	38.3
210A Alexandria	KLXA	LIC	CN LA	128.4 308.7	73.58 BLED19981118KB	31 22 40.0 92 28 27.0	3.000 100	37.8 132	24.8 Educational Media Foundati	24.3	31.3
212C1 Monroe	KEDM	LIC	CX LA	46.4 227.0	140.97 BLED20090414ABX	32 39 38.0 91 59 28.0	100.000 261	101.7 285	69.6 University Of Louisia	27.6	54.4
212C1 Lake Charles	KYLC	LIC	V LA	178.3 358.4	128.39 BLED20010509AAL	30 38 10.0 93 02 33.0	80.000 143	83.4 168	55.1 American Family Associatio	33.3	56.2

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.

K211DY - Natchitoches, GA - Proposed

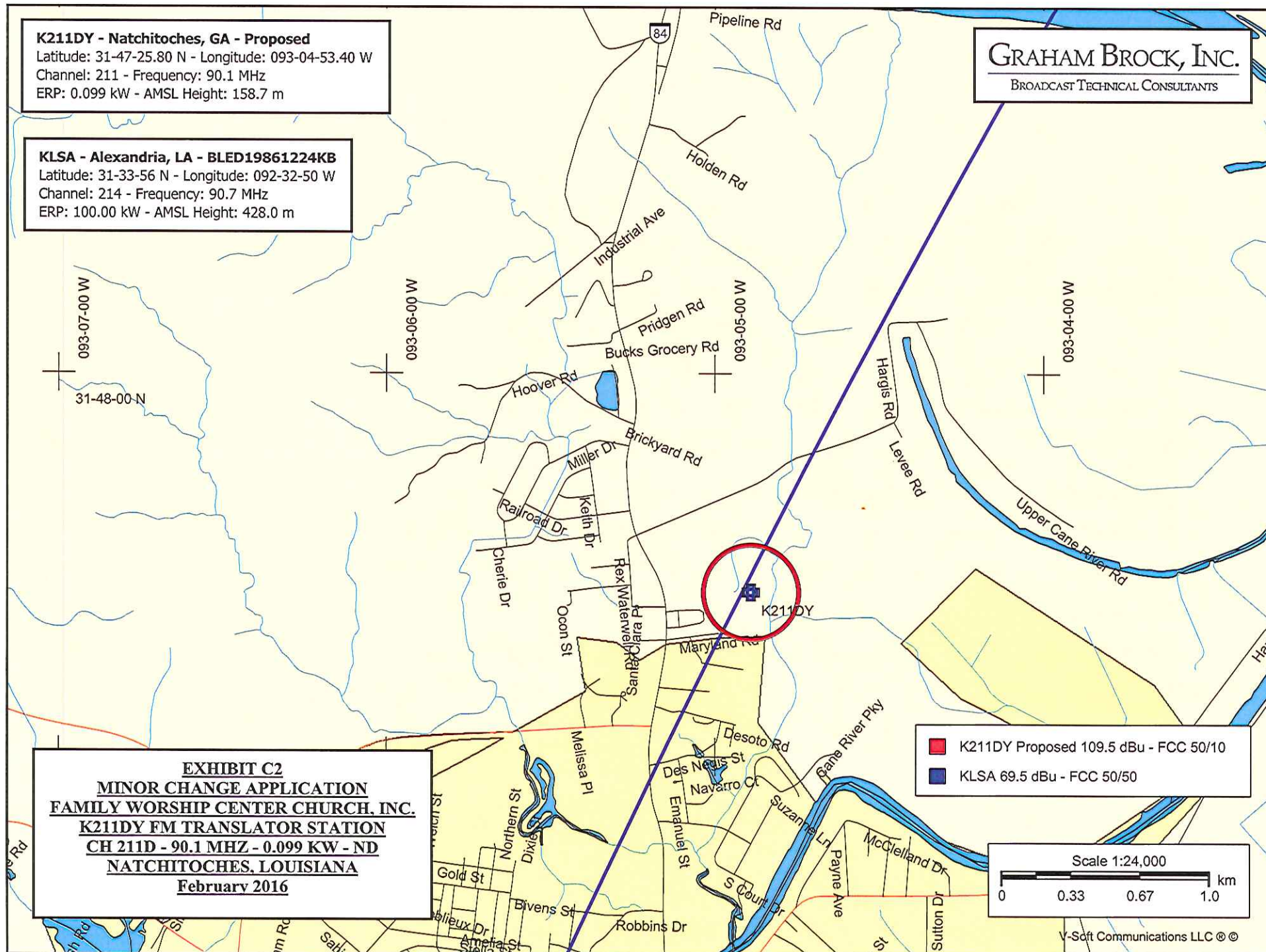
Latitude: 31-47-25.80 N - Longitude: 093-04-53.40 W
Channel: 211 - Frequency: 90.1 MHz
ERP: 0.099 kW - AMSL Height: 158.7 m

KLSA - Alexandria, LA - BLED19861224KB

Latitude: 31-33-56 N - Longitude: 092-32-50 W
Channel: 214 - Frequency: 90.7 MHz
ERP: 100.00 kW - AMSL Height: 428.0 m

GRAHAM BROCK, INC.

BROADCAST TECHNICAL CONSULTANTS



■ K211DY Proposed 109.5 dBu - FCC 50/10

■ KLSA 69.5 dBu - FCC 50/50

EXHIBIT C2
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EXHIBIT C3

K211DY vs KLSA

K211DY Natchitoches, LA
74.1204(d) Showing
Translator or LPFM Maximum Licensed ERP = 0.099
Translator or LPFM Antenna Height AG = 117 Meters
K211DY Antenna Model = SWR FMEC-3HW

Protected Station's Contour = 69.7 dBu
Translator's or LPFM's full Interference contour 109.7

Review Azimuth = 0 Degrees True
Relative Field on the horizon at Review Azimuth = 1.000
Translator/LPFM ERP on the horizon at Review Azimuth = 0.099 kW
Distance between stations = 56.4 km
Protected Station= KLSA, 100 kW, 428 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.0990	228.4639	228.4639	117.000
05.00	0.972	1.0	0.0935	222.0669	221.2219	097.646
10.00	0.891	1.0	0.0786	203.5613	200.4688	081.652
15.00	0.767	1.0	0.0582	175.2318	169.2609	071.647
20.00	0.615	1.0	0.0374	140.5053	132.0318	068.944
25.00	0.452	1.0	0.0202	103.2657	093.5905	073.358
30.00	0.293	1.0	0.0085	066.9399	057.9717	083.530
35.00	0.151	1.0	0.0023	034.4980	028.2591	097.213
40.00	0.035	1.0	0.0001	007.9962	006.1255	111.860
45.00	0.052	1.0	0.0003	011.8801	008.4005	108.599
50.00	0.109	1.0	0.0012	024.9026	016.0071	097.924
55.00	0.141	1.0	0.0020	032.2134	018.4769	090.612
60.00	0.151	1.0	0.0023	034.4980	017.2490	087.124
65.00	0.146	1.0	0.0021	033.3557	014.0967	086.769
70.00	0.131	1.0	0.0017	029.9288	010.2362	088.876
75.00	0.11	1.0	0.0012	025.1310	006.5044	092.725
80.00	0.085	1.0	0.0007	019.4194	003.3721	097.876
85.00	0.059	1.0	0.0003	013.4794	001.1748	103.572
90.00	0.033	1.0	0.0001	007.5393	000.0000	109.461

K211DY - Natchitoches, GA - Proposed

Latitude: 31-47-25.80 N - Longitude: 093-04-53.40 W
Channel: 211 - Frequency: 90.1 MHz
ERP: 0.099 kW - AMSL Height: 158.7 m

KBIO - Natchitoches, LA - BLED20010711ABB

Latitude: 31-47-13 N - Longitude: 093-07-52 W
Channel: 209 - Frequency: 89.7 MHz
ERP: 0.10 kW - AMSL Height: 72.0 m

GRAHAM BROCK, INC.

BROADCAST TECHNICAL CONSULTANTS

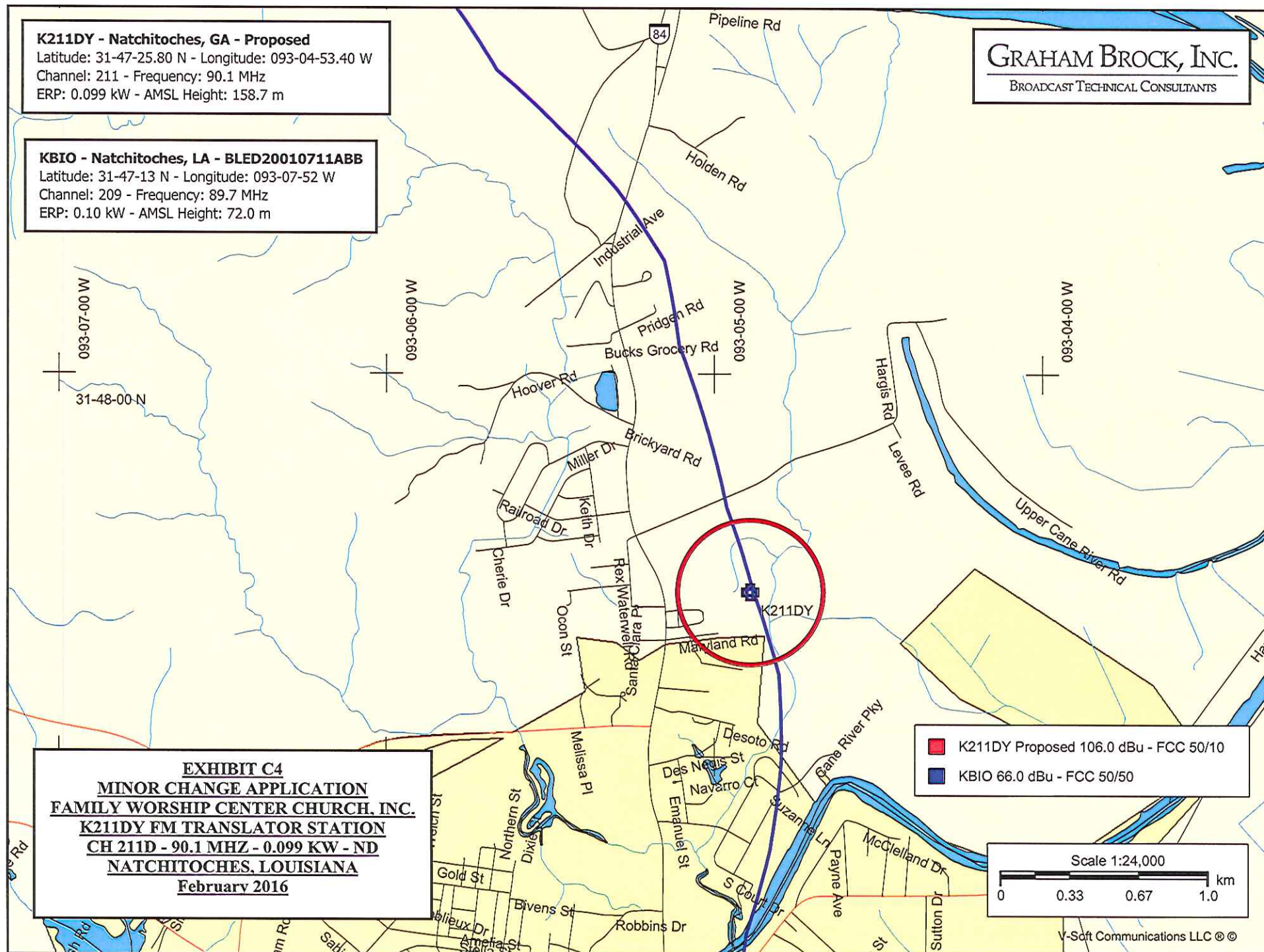


EXHIBIT C4
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■ K211DY Proposed 106.0 dBu - FCC 50/10
■ KBIO 66.0 dBu - FCC 50/50

Scale 1:24,000
0 0.33 0.67 1.0 km

V-Soft Communications LLC ©

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EXHIBIT C5

K211DY vs KBIO

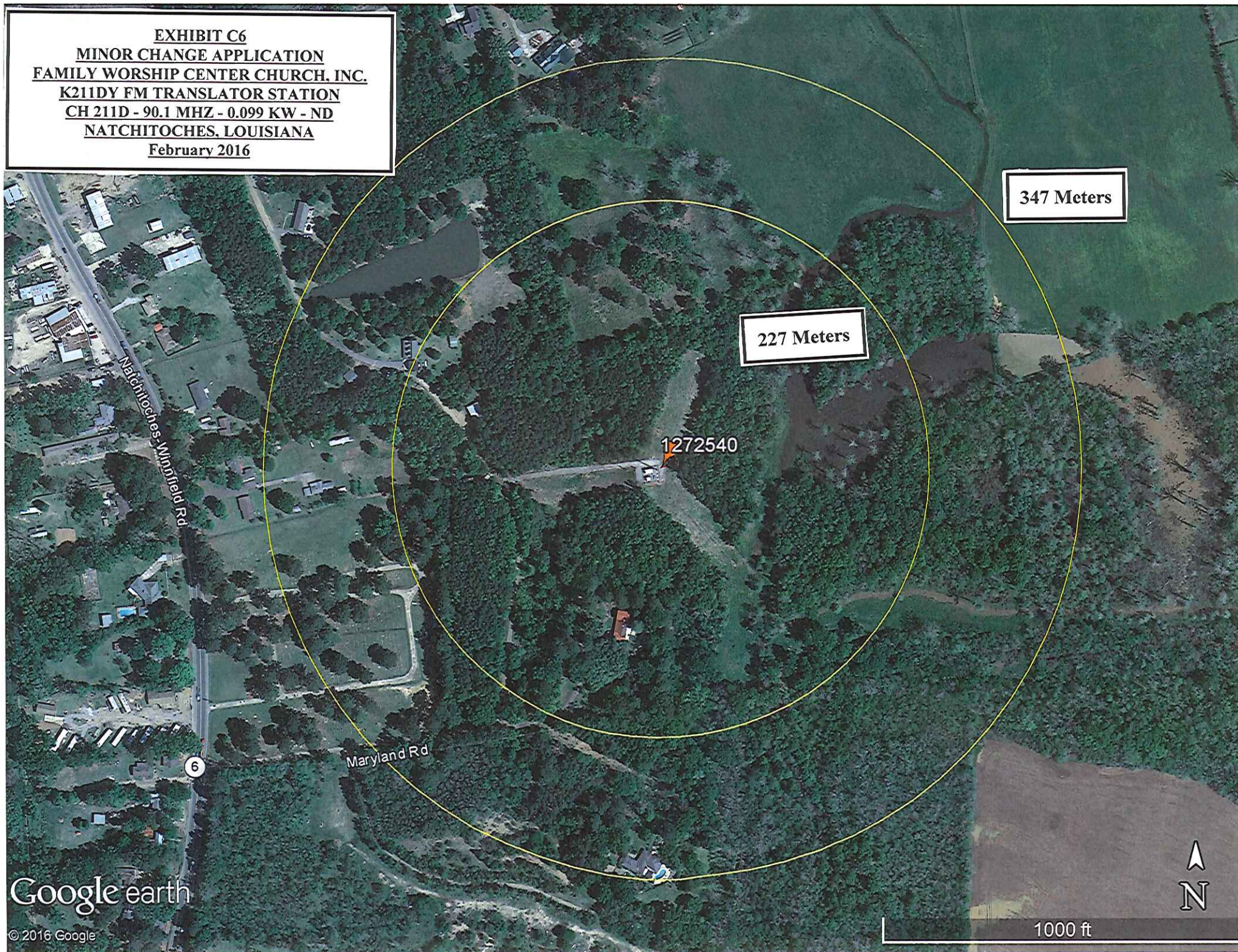
K211DY Natchitoches, LA
74.1204(d) Showing
Translator or LPFM Maximum Licensed ERP = 0.099
Translator or LPFM Antenna Height AG = 117 Meters
K211DY Antenna Model = SWR FMEC-3HW

Protected Station's Contour = 66.0 dBu
Translator's or LPFM's full Interference contour 106

Review Azimuth = 0 Degrees True
Relative Field on the horizon at Review Azimuth = 1.000
Translator/LPFM ERP on the horizon at Review Azimuth = 0.099 kW
Distance between stations = 4.7 km
Protected Station= KBIO, .1 kW, 72 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.0990	349.7982	349.7982	117.000
05.00	0.972	1.0	0.0935	340.0039	338.7101	087.367
10.00	0.891	1.0	0.0786	311.6702	306.9352	062.879
15.00	0.767	1.0	0.0582	268.2952	259.1533	047.560
20.00	0.615	1.0	0.0374	215.1259	202.1522	043.423
25.00	0.452	1.0	0.0202	158.1088	143.2952	050.180
30.00	0.293	1.0	0.0085	102.4909	088.7597	065.755
35.00	0.151	1.0	0.0023	052.8195	043.2672	086.704
40.00	0.035	1.0	0.0001	012.2429	009.3786	109.130
45.00	0.052	1.0	0.0003	018.1895	012.8619	104.138
50.00	0.109	1.0	0.0012	038.1280	024.5082	087.792
55.00	0.141	1.0	0.0020	049.3216	028.2897	076.598
60.00	0.151	1.0	0.0023	052.8195	026.4098	071.257
65.00	0.146	1.0	0.0021	051.0705	021.5833	070.714
70.00	0.131	1.0	0.0017	045.8236	015.6726	073.940
75.00	0.11	1.0	0.0012	038.4778	009.9588	079.833
80.00	0.085	1.0	0.0007	029.7328	005.1631	087.719
85.00	0.059	1.0	0.0003	020.6381	001.7987	096.440
90.00	0.033	1.0	0.0001	011.5433	000.0000	105.457

EXHIBIT C6
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EXHIBIT C7

North Latitude: 31° 47' 25.8" - Tabulated Protected and Interfering Contours
West Longitude: 93° 04' 53.4" - K211DY FM Translator, Natchitoches, Louisiana

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

Azi.	AV EL	HAAT	ERP kW	dBk	Field	109.7-F1	106-F1	100-F1	60-F5	54-F1	40-F1
000	33.6	125.1	0.0990	-10.04	1.000	0.23	0.35	0.70	11.42	16.66	38.84
010	33.5	125.2	0.0990	-10.04	1.000	0.23	0.35	0.70	11.43	16.67	38.86
020	33.5	125.2	0.0990	-10.04	1.000	0.23	0.35	0.70	11.43	16.66	38.85
030	28.3	130.4	0.0990	-10.04	1.000	0.23	0.35	0.70	11.65	17.08	39.52
040	30.7	128.0	0.0990	-10.04	1.000	0.23	0.35	0.70	11.55	16.89	39.21
050	27.1	131.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.71	17.18	39.67
060	25.3	133.4	0.0990	-10.04	1.000	0.23	0.35	0.70	11.79	17.33	39.91
070	29.9	128.8	0.0990	-10.04	1.000	0.23	0.35	0.70	11.59	16.96	39.32
080	28.1	130.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.66	17.10	39.55
090	25.4	133.3	0.0990	-10.04	1.000	0.23	0.35	0.70	11.78	17.32	39.89
100	26.5	132.2	0.0990	-10.04	1.000	0.23	0.35	0.70	11.73	17.23	39.75
110	31.1	127.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.53	16.86	39.16
120	26.8	131.9	0.0990	-10.04	1.000	0.23	0.35	0.70	11.72	17.20	39.71
130	27.7	131.0	0.0990	-10.04	1.000	0.23	0.35	0.70	11.68	17.13	39.59
140	29.8	128.9	0.0990	-10.04	1.000	0.23	0.35	0.70	11.59	16.96	39.32
150	25.4	133.3	0.0990	-10.04	1.000	0.23	0.35	0.70	11.78	17.32	39.88
160	29.4	129.3	0.0990	-10.04	1.000	0.23	0.35	0.70	11.61	17.00	39.39
170	28.1	130.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.66	17.10	39.55
180	32.5	126.2	0.0990	-10.04	1.000	0.23	0.35	0.70	11.47	16.75	38.98
190	37.2	121.5	0.0990	-10.04	1.000	0.23	0.35	0.70	11.27	16.37	38.37
200	39.1	119.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.19	16.21	38.10
210	45.8	112.9	0.0990	-10.04	1.000	0.23	0.35	0.70	10.90	15.63	37.11
220	56.0	102.7	0.0990	-10.04	1.000	0.23	0.35	0.70	10.42	14.62	35.35
230	50.5	108.2	0.0990	-10.04	1.000	0.23	0.35	0.70	10.68	15.20	36.33
240	45.5	113.2	0.0990	-10.04	1.000	0.23	0.35	0.70	10.91	15.66	37.15
250	46.7	112.0	0.0990	-10.04	1.000	0.23	0.35	0.70	10.86	15.55	36.96
260	48.6	110.1	0.0990	-10.04	1.000	0.23	0.35	0.70	10.77	15.38	36.65
270	45.1	113.6	0.0990	-10.04	1.000	0.23	0.35	0.70	10.93	15.70	37.22
280	35.8	122.9	0.0990	-10.04	1.000	0.23	0.35	0.70	11.33	16.48	38.55
290	35.4	123.3	0.0990	-10.04	1.000	0.23	0.35	0.70	11.35	16.51	38.60
300	35.8	122.9	0.0990	-10.04	1.000	0.23	0.35	0.70	11.33	16.48	38.54
310	36.1	122.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.32	16.46	38.51
320	32.0	126.7	0.0990	-10.04	1.000	0.23	0.35	0.70	11.49	16.79	39.05
330	34.1	124.6	0.0990	-10.04	1.000	0.23	0.35	0.70	11.40	16.61	38.77
340	32.4	126.3	0.0990	-10.04	1.000	0.23	0.35	0.70	11.47	16.75	38.99
350	35.6	123.1	0.0990	-10.04	1.000	0.23	0.35	0.70	11.34	16.49	38.57

AMSL= 158.7