DELAWDER COMMUNICATIONS, INC.
2121 Eisenhower Avenue, Suite 200
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ENGINEERING REPORT

J.B. Salazar
Laredo, TX (Channel 47- Minor Modification)—Mexican Interference Study (Appendix A)

APPENDIX A – INTERFERENCE STUDY TO MEXICAN STATIONS

TECHNICAL EXHIBIT PREPARED ON BEHALF OF LAREDO, TEXAS LOW POWER TV (LPTV) STATION KLMV-LP, FOR CHANNEL DISPLACEMENT TO CHANNEL 47 (-) ANALOG

1. This technical exhibit has been prepared on behalf of J. B. Salazar, the licensee of KLMV-LP, Laredo, TX, channel 68 (FCC File Number BPTTL-19990818AAF). Mr. Salazar is seeking "DTV displacement relief" by proposing to migrate its LPTV operation from Channel 68 to Channel 47(-), and to operate with analog (NTSC) service. The following technical parameters are specified by the proposed operation:

City, State:	Laredo, TX
Transmitter Location:	N 27-31-28; W 99-31-21 (NAD 27)
Call Sign:	KLMV-LP (LPTV Station)
Channel Number:	47 (668 - 674 MHz)
Frequency Offset:	minus (-)
Effective Radiated Power (ERP):	150.0 kW (21.76 dBK)
Height Above Average Terrain:	100 meters
Radiation Center Height:	243 meters Above Mean Sea Level (AMSL)
Antenna System:	Directional (for pattern data see Figure A1)
Make:	Bogner
Model:	B8UA
Polarization:	Circular (horizontal and vertical)
Beamtilt:	none
Orientation:	90 degrees True

2. Figures A2 and A3, attached, are separation studies to the Mexican analog and digital stations, respectively, based on the provisions of the US-Mexican TV Agreement (June 1982) and the Memorandum of Understanding (MOU) between the United States and Mexico regarding the use of DTV Service along the common border. The listed separation requirements are not met to various Mexican stations; however, as demonstrated below, any interference predicted by the proposed channel 47 facility will be minor, and is only predicted to exist to a small areas near the KLMV-LP

transmitter site within US Territory. In fact, as demonstrated below, the following is true:

-- interference is not predicted to exist more than 0.6 miles (1 km) from the proposed KLMV-LP transmitter site;

-- interference is not predicted to exist to any Mexican Station within Mexican Territory;

-- Using the OET-69 Methodology attached to the MOU, interference is predicted to exist to only less than 0.1% of the US Population within the proposed service contours of two Mexican stations.

3. Attached as Figure A8 is a copy of the MOU, that includes the Longley-Rice Methodology (as Appendix 5 to the MOU). All Longley-Rice studies are based on the procedures outlined in Appendix 5 of the MOU.

Nuevo Laredo Channel 33 (Analog)

4. The Nuevo Laredo Channel 33 facility is 14 channels below the channel 47 proposal. According to the Longley-Rice Methodology, the required desired-to-undesired (D/U) protection ratio to the Nuevo Laredo station is -25 dB. As demonstrated by the attached Longley-Rice study (Figure A4), no interference is predicted to exist to the Nuevo Laredo-33 facility within Mexican Territory from the Laredo-47 proposal. All predicted interference (shown in red) exists near the KLMV-LP site within US Territory. (The area shown in yellow is non-interference area of predicted service.) Note that a 1000 KW nondirectional ERP and an antenna height of 100 meters above ground are assumed for the Nuevo Laredo station. Interference is not anticipated for other possible facility parameters at Nuevo Laredo.

5. Using OET-69 (Longley-Rice), as demonstrated by Figure A4, Interference to the Nuevo Laredo station (*within US Territory Only)* from the proposed facility is determined as follows:

Total US Population within Nuevo Laredo ch33 Contour: 133,300
Total US Interference Population within Nuevo Laredo ch33 Contour: 120
Percent US Interference Population within Nuevo Laredo ch33 Contour: <0.1%

As shown above, using Longley-Rice, the predicted amount of interference caused to this Mexican Station is below the *de minimus* interference standard allowed to TV stations.

Nuevo Laredo Channel 45 (Analog)

6. The Nuevo Laredo Channel 45 facility is two channels below the channel 47 proposal. According to the Longley-Rice Methodology, the required D/U protection ratio to the Nuevo Laredo station is -29 dB. As demonstrated by the attached Longley-Rice study (Figure A5), no interference is predicted to exist to the Nuevo Laredo-45 facility within Mexican Territory from the Laredo-47 proposal. All predicted interference (shown in red) exists near the KLMV-LP site within US Territory. (The area shown in yellow is non-interference area of predicted service.) Note that a 1000 KW nondirectional ERP and an antenna height of 100 meters above ground are assumed for the Nuevo Laredo station. Interference is not anticipated for other possible facility parameters at Nuevo Laredo.

7. Using OET-69 (Longley-Rice), as demonstrated by Figure A5, Interference to the Nuevo Laredo station (*within US Territory Only)* from the proposed facility is determined as follows:

Total US Population within Nuevo Laredo ch45 Contour: 133,300
Total US Interference Population within Nuevo Laredo ch45 Contour: 120
Percent US Interference Population within Nuevo Laredo ch45 Contour: <0.1%

As shown above, using Longley-Rice, the predicted amount of interference caused to this Mexican Station is below the *de minimus* interference standard allowed to TV stations.

Muzquiz Channel 47z (Analog)

8. The Muzquiz Channel 47 facility is co-channel with the Laredo proposal. According to the Longley-Rice Methodology, the required D/U protection ratio to the Muzquis station is +28 dB. As demonstrated by the attached Longley-Rice study (Figure A6), a single point of interference is predicted to exist to the Muzquiz-47 facility from the Laredo-47 proposal. The only predicted interference (shown in red) exists to a single point located approximately 95 kilometers south-southeast of the Muzquiz site. No population is predicted to exist at this point. (The area shown in yellow is non-interference area of predicted service.) Note that a 1000 KW nondirectional ERP and an antenna height of 100 meters above ground is assumed for the Muzquiz station. Interference to Mexico is not anticipated for other possible facility parameters at Muzquiz.

Monterrey Channel 47z (Analog)

9. The Monterrey Channel 47 facility is co-channel with the Laredo proposal. According to the Longley-Rice Methodology, the required D/U protection ratio to the Monterrey station is +28 dB. As demonstrated by the attached Longley-Rice study (Figure A7), no interference is predicted to exist to the Monterrey-47 facility from the Laredo-47 proposal. (The area shown in yellow is non-interference area of predicted service.) Note that a 1000 KW nondirectional ERP and an antenna height of 100 meters above ground is assumed for the Monterrey station. Interference to Mexico is not anticipated for other possible facility parameters at Monterrey.

Nuevo Laredo Channels 50, 51, 54, 55 and 62 (All Digital)

10. The Nuevo Laredo digital facilities are not co-channel or first-adjacent channel to the Laredo Channel 47 facility. According to the Longley-Rice

Methodology, there is no actual protection requirement to a digital station that is not co-channel or first-adjacent. (This is the same for the US digital protection rules.) No interference will be caused to the Nuevo Laredo digital stations from the Laredo-47 proposal.

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I, Darryl K. DeLawder, declare and state as follows:

That I have received a Bachelor of Science degree in electrical engineering from Villanova University;

That I have either prepared or directly supervised the preparation of all technical information contained in this Technical Showing;

That the facts stated in this Showing are true of my own knowledge, except as to such statements as are herein stated to be on information and belief, and as to such statements I believe them to be true.

December 6, 2005 /s/
Date Darryl K. DeLawder

FIGURE A1 (Page 1 of 2)

Horizontal Plane Pattern Tabulation of Proposed Antenna

Antenna: Bogner B8UA with 0 degrees of electr. beamtilt

Bearing	Relative Field	
.0,	1.000	(Bearing oriented at 90 degrees T)
10.0,	.998	
20.0,	.950	
30.0,	.925	
40.0,	.920	
50.0,	.950	
60.0,	.975	
70.0,	1.000	
80.0,	.980	
90.0,	.950	
100.0,	.875	
110.0,	.775	
120.0,	.630	
130.0,	.470	
140.0,	.350	
150.0,	.240	
160.0,	.210	
170.0,	.220	
180.0,	.235	
190.0,	.220	
200.0,	.210	
210.0,	.220	
220.0,	.325	
230.0,	.460	
240.0,	.620	
250.0,	.770	
260.0,	.870	
270.0,	.950	
280.0,	.990	
290.0,	1.000	
300.0,	.975	
310.0,	.940	
320.0,	.920	
330.0,	.925	
340.0,	.960	
350.0,	.980	

FIGURE A1 (Page 2 of 2)

Vertical Plane Pattern Tabulation of Proposed Antenna

Antenna: Bogner B8UA with 0 degrees of electr. beamtilt

Depression Angle	Field Strength
45,	0.056
20,	0.056
8,	0.056
7,	0.001
6,	0.141
4,	0.530
2,	0.869
1,	0.975
0,	1.000
-1,	0.959
-2,	0.848
-4,	0.475
-6,	0.126
-6.8,	0.106
-8,	0.131
-10,	0.222
-11,	0.240
-12,	0.227
-14,	0.101
-15,	0.051
-16,	0.079
-18,	0.125
-20,	0.101
-45,	0.101
-90,	0.101

LPTV/TV Translator Interference Study

Title: LAREDO, TX – TO MEXICAN ANALOG
ERP: 150 kW
Latitude: N 27° 31' 28.0"
Channel: 47 Offset: Minus Analog
RCAMSL: 243 m
Longitude: W 99° 31' 21.0"
Database: FCC 11/18/2005
Safety Zone: 0 km

Call / City of License	Auth / St	Licensee name / FCC File Number	Chan / Zone	ERP / HAMSL	Latitude / Longitude	Br-to / -from	Dist (km)	Required (km) Min	Required (km) Max
ALLOC			32 o		N 26° 29' 59.0"	209	130.7	0	120
SABINAS HIDALGO	NL (Fac ID: 98205)		II		W 100° 10' 09.0"	29			CLEAR
ALLOC			33 o		N 27° 29' 48.0"	145	3.8	0	95
NUEVO LAREDO	TA (Fac ID: 98248)		II		W 99° 30' 01.0"	325			SHORT
ALLOC			40 o		N 28° 20' 36.0"	305	159.1	0	95
ALLENDE	CI (Fac ID: 97156)		II		W 100° 51' 06.0"	125			CLEAR
ALLOC			45 o		N 27° 29' 13.0"	154	4.7	0	32
NUEVO LAREDO	TA (Fac ID: 98874)		II		W 99° 30' 06.0"	334			SHORT
ALLOC			47 o		N 27° 52' 51.0"	282	200.1	0	280
MUZQUIZ	CI (Fac ID: 96942)		II		W 101° 30' 56.0"	102			SHORT
ALLOC			47 o		N 25° 40' 11.0"	201	220.4	0	280
MONTERREY	NL (Fac ID: 97816)		II		W 100° 18' 26.0"	21			SHORT

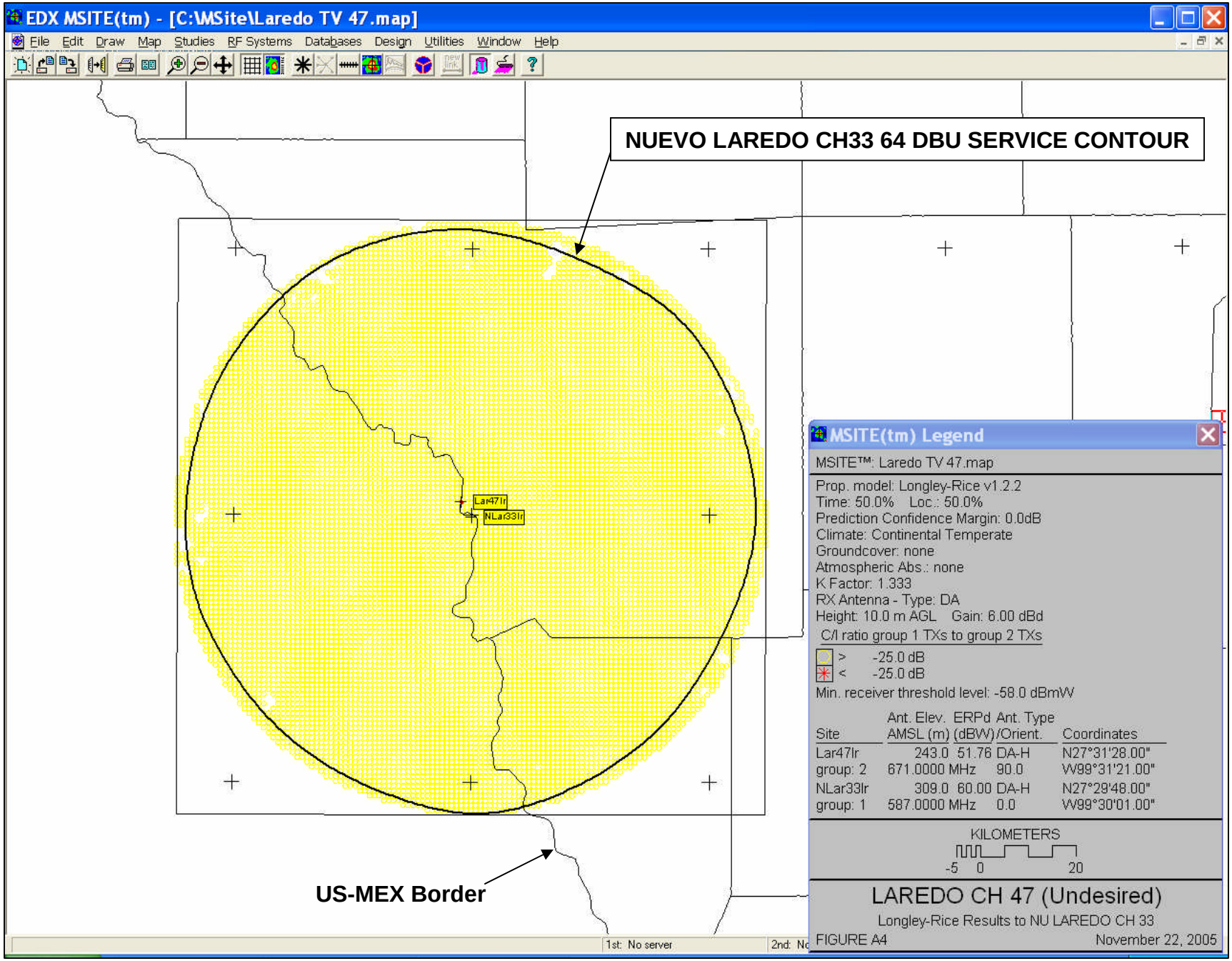
>> End of channel 47 Mexican Analog Study <<

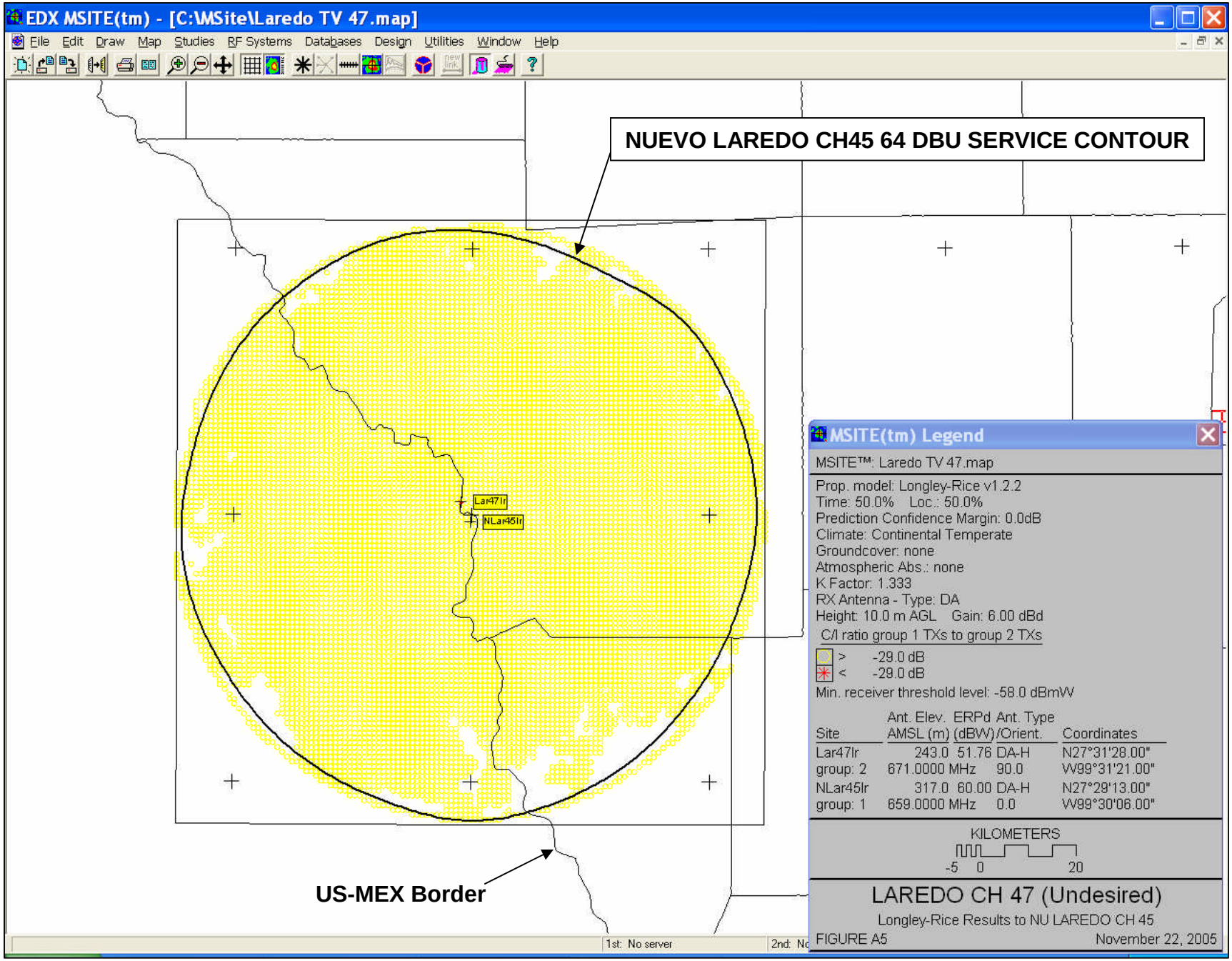
LPTV/TV Translator Interference Study

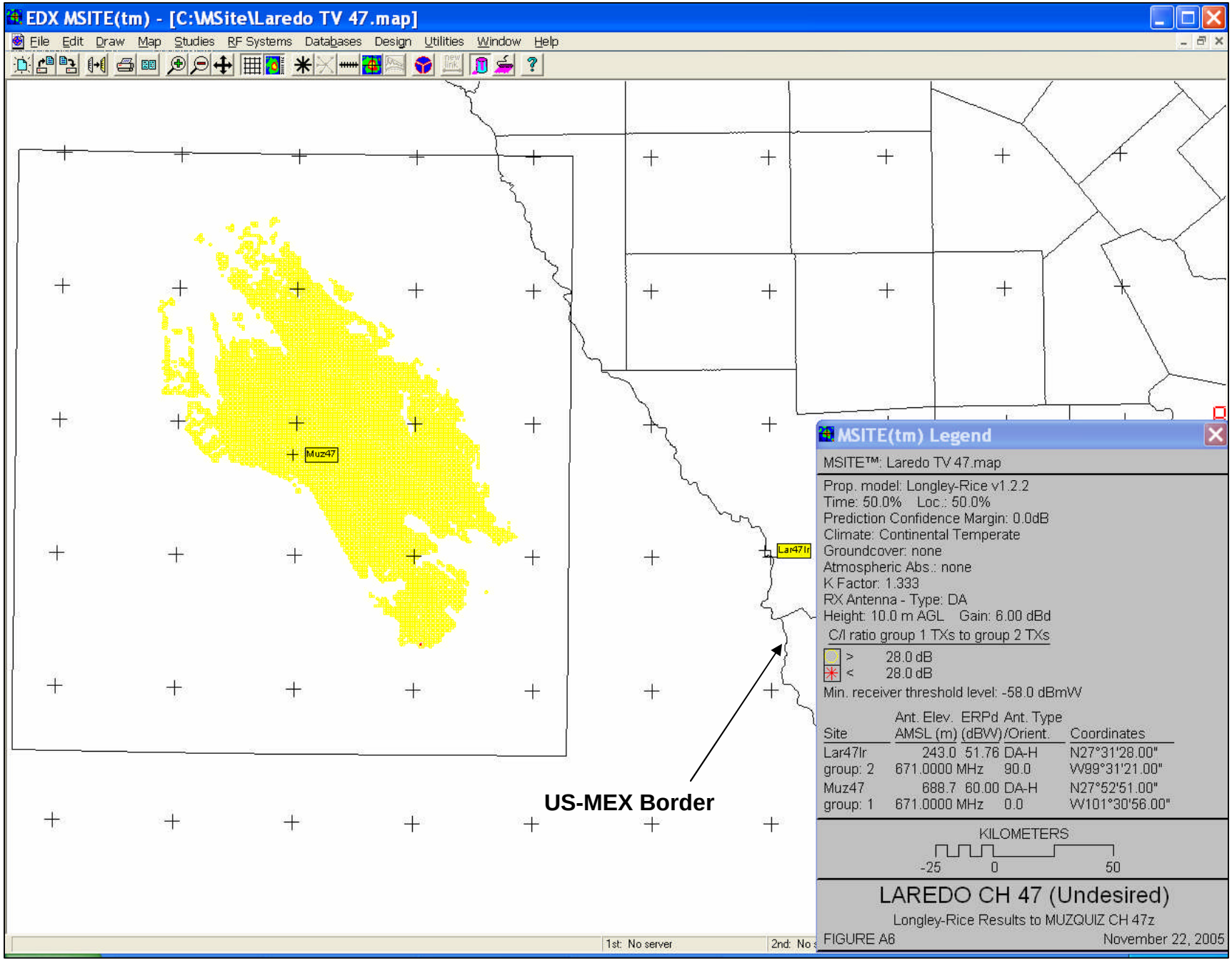
Title: LAREDO, TX – TO MEXICAN DIGITAL
ERP: 150 kW
Latitude: N 27° 31' 28.0"
Channel: 47 Offset: Minus Analog
RCAMSL: 243 m
Longitude: W 99° 31' 21.0"
Database: FCC 11/18/2005
Safety Zone: 0 km

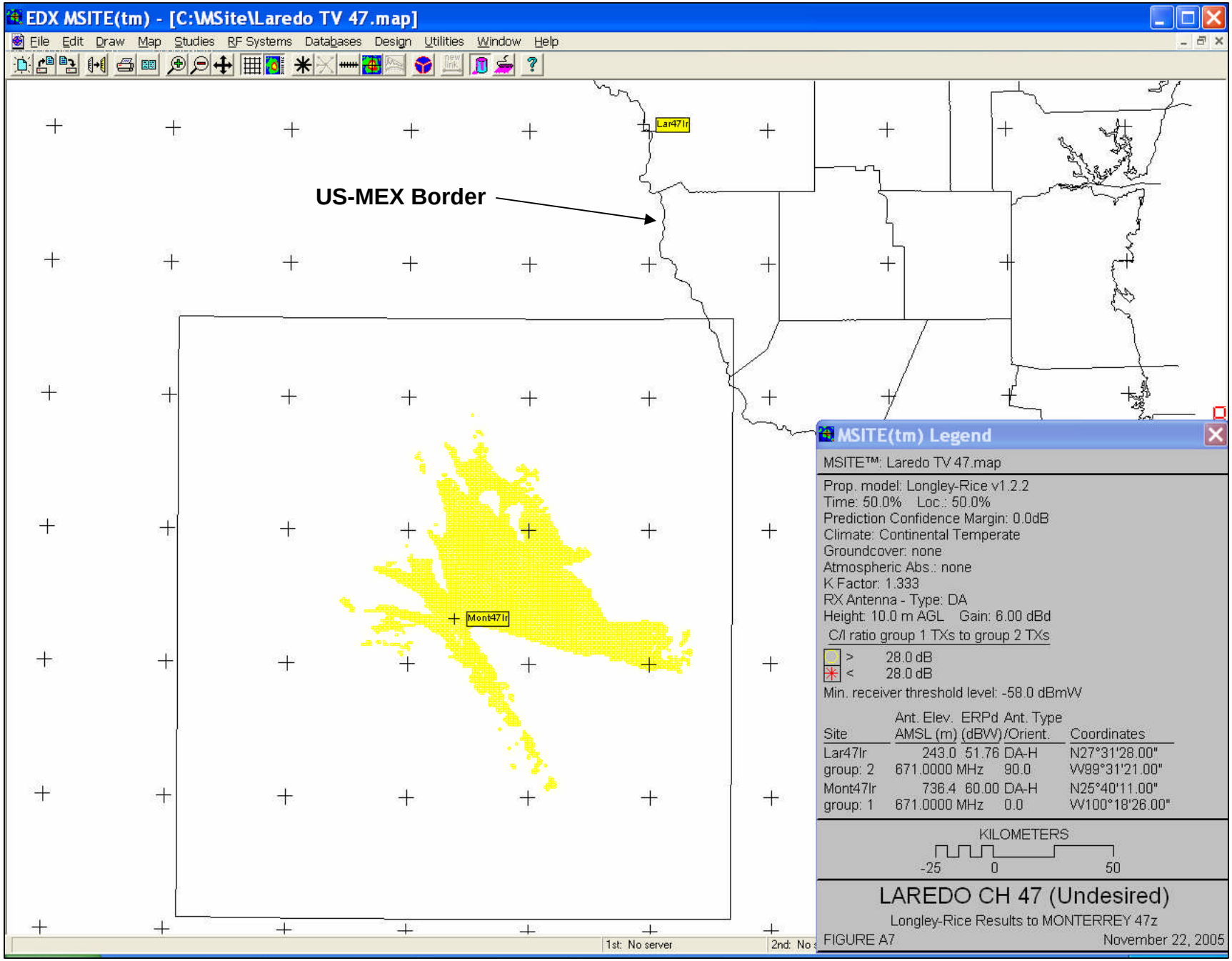
Call / City of License	Auth	Licensee name / St	FCC File Number	Chan / Zone	ERP / HAMSL	Latitude / Longitude	Br-to -from	Dist (km)	Required (km) Min	Max
NEW-DTV	App		BPFS-20041020AAX	46 d	1000kW	N 26° 28' 58.0"	210	133.4	10	88
SABINAS HIDALGO		NL (Fac ID: 163379)		II	445 m	W 100° 11' 28.0"	30			CLEAR
NEW-DTV	App		BPFS-20041216ABM	48 d		N 27° 50' 37.0"	283	162.7	10	88
SABINAS NUEVA ROSITA		NL (Fac ID: 164466)		II		W 101° 08' 07.0"	103			CLEAR
NEW-DTV	App		BPFS-20041221AAB	50 d		N 27° 26' 41.0"	171	9.0	24	32
NUEVO LAREDO		TA (Fac ID: 164540)		II		W 99° 30' 30.0"	351			CLEAR
NEW-DTV	App		BPFS-20041221AAC	51 d		N 27° 27' 30.0"	178	7.4	24	32
NUEVO LAREDO		TA (Fac ID: 164541)		II		W 99° 31' 12.0"	358			CLEAR
NEW-DTV	App		BPFS-20041221AAD	54 d		N 27° 29' 13.0"	154	4.7	24	95
NUEVO LAREDO		TA (Fac ID: 164542)		II		W 99° 30' 06.0"	334			CLEAR
NEW-DTV	App		BPFS-20041221AAE	55 d		N 27° 26' 45.0"	170	8.9	24	32
NUEVO LAREDO		TA (Fac ID: 164543)		II		W 99° 30' 27.0"	350			CLEAR
NEW-DTV	App		BPFS-20041221AAG	62 d		N 27° 26' 45.0"	170	8.9	24	96
NUEVO LAREDO		TA (Fac ID: 164545)		II		W 99° 30' 27.0"	350			CLEAR

>> End of channel 47 Mexican Digital Study <<


EDX MSITE(tm) - [C:\MSite\Laredo TV 47.map]
File Edit Draw Map Studies RF Systems Databases Design Utilities Window Help
NUEVO LAREDO CH33 64 DBU SERVICE CONTOUR
Lar47lr
NLar33lr
US-MEX Border
MSITE(tm) Legend
MSITE™: Laredo TV 47.map
Prop. model: Longley-Rice v1.2.2
Time: 50.0% Loc.: 50.0%
Prediction Confidence Margin: 0.0dB
Climate: Continental Temperate
Groundcover: none
Atmospheric Abs.: none
K Factor: 1.333
RX Antenna - Type: DA
Height: 10.0 m AGL Gain: 6.00 dBd
C/I ratio group 1 TXs to group 2 TXs
> -25.0 dB
< -25.0 dB
Min. receiver threshold level: -58.0 dBmW
Site | Ant. Elev. AMSL (m) | ERPd (dBW) | Ant. Type /Orient. | Coordinates
Lar47lr 243.0 51.76 DA-H N27°31'28.00"
group: 2 671.0000 MHz 90.0 W99°31'21.00"
NLar33lr 309.0 60.00 DA-H N27°29'48.00"
group: 1 587.0000 MHz 0.0 W99°30'01.00"
KILOMETERS
-5 0 20
LAREDO CH 47 (Undesired)
Longley-Rice Results to NU LAREDO CH 33
FIGURE A4
November 22, 2005
1st: No server


EDX MSITE(tm) - [C:\MSite\Laredo TV 47.map]
File Edit Draw Map Studies RF Systems Databases Design Utilities Window Help
NUEVO LAREDO CH45 64 DBU SERVICE CONTOUR
Lar47lr
NLar45lr
US-MEX Border
MSITE(tm) Legend
MSITE™: Laredo TV 47.map
Prop. model: Longley-Rice v1.2.2
Time: 50.0% Loc.: 50.0%
Prediction Confidence Margin: 0.0dB
Climate: Continental Temperate
Groundcover: none
Atmospheric Abs.: none
K Factor: 1.333
RX Antenna - Type: DA
Height: 10.0 m AGL Gain: 6.00 dBd
C/I ratio group 1 TXs to group 2 TXs
> -29.0 dB
< -29.0 dB
Min. receiver threshold level: -58.0 dBmV
Site Ant. Elev. AMSL (m) ERPd (dBW) Ant. Type /Orient. Coordinates
Lar47lr 243.0 51.76 DA-H N27°31'28.00"
group: 2 671.0000 MHz 90.0 W99°31'21.00"
NLar45lr 317.0 60.00 DA-H N27°29'13.00"
group: 1 659.0000 MHz 0.0 W99°30'06.00"
KILOMETERS
-5 0 20
LAREDO CH 47 (Undesired)
Longley-Rice Results to NU LAREDO CH 45
FIGURE A5
November 22, 2005
1st: No server


EDX MSITE(tm) - [C:\MSite\Laredo TV 47.map]
File Edit Draw Map Studies RF Systems Databases Design Utilities Window Help
Muz47
Lar47lr
US-MEX Border
MSITE(tm) Legend
MSITE™: Laredo TV 47.map
Prop. model: Longley-Rice v1.2.2
Time: 50.0% Loc.: 50.0%
Prediction Confidence Margin: 0.0dB
Climate: Continental Temperate
Groundcover: none
Atmospheric Abs.: none
K Factor: 1.333
RX Antenna - Type: DA
Height: 10.0 m AGL Gain: 6.00 dBd
C/I ratio group 1 TXs to group 2 TXs
> 28.0 dB
< 28.0 dB
Min. receiver threshold level: -58.0 dBmW
Site | Ant. Elev. AMSL (m) | ERPd (dBW) | Ant. Type /Orient. | Coordinates
Lar47lr | 243.0 | 51.76 | DA-H | N27°31'28.00"
group: 2 | 671.0000 MHz | | 90.0 | W99°31'21.00"
Muz47 | 688.7 | 60.00 | DA-H | N27°52'51.00"
group: 1 | 671.0000 MHz | | 0.0 | W101°30'56.00"
KILOMETERS
-25 0 50
LAREDO CH 47 (Undesired)
Longley-Rice Results to MUZQUIZ CH 47z
FIGURE A6
November 22, 2005
1st: No server
2nd: No


EDX MSITE(tm) - [C:\MSite\Laredo TV 47.map]
File Edit Draw Map Studies RF Systems Databases Design Utilities Window Help
Lar47lr
US-MEX Border
Mont47lr
1st: No server
MSITE(tm) Legend
MSITE™: Laredo TV 47.map
Prop. model: Longley-Rice v1.2.2
Time: 50.0% Loc.: 50.0%
Prediction Confidence Margin: 0.0dB
Climate: Continental Temperate
Groundcover: none
Atmospheric Abs.: none
K Factor: 1.333
RX Antenna - Type: DA
Height: 10.0 m AGL Gain: 6.00 dBd
C/I ratio group 1 TXs to group 2 TXs
> 28.0 dB
< 28.0 dB
Min. receiver threshold level: -58.0 dBmW
Site | Ant. Elev. AMSL (m) | ERPd (dBW) | Ant. Type /Orient. | Coordinates
Lar47lr | 243.0 | 51.76 | DA-H | N27°31'28.00"
group: 2 | 671.0000 MHz | | 90.0 | W99°31'21.00"
Mont47lr | 736.4 | 60.00 | DA-H | N25°40'11.00"
group: 1 | 671.0000 MHz | | 0.0 | W100°18'26.00"
KILOMETERS
-25 0 50
LAREDO CH 47 (Undesired)
Longley-Rice Results to MONTERREY 47z
FIGURE A7
November 22, 2005