

Daytime Groundwave Allocation Study
In Support of an Application to
Amend a Modification of
Construction Permit to
Change Antenna Location
KLDC, Denver, Colorado
Facility ID 12364
1220 kHz, 1.0 kW-D/0.012 kW-N, ND

To determine the relevant daytime protections and maximum inverse distance field (IDF) toward each protected station for the above-captioned application, a Daytime Groundwave Allocation Study was conducted for 1220 kHz. Relevant protections were identified on the two first-adjacent channels and the lower third-adjacent channel.

For each first-adjacent station studied, the 0.5 and 0.25 mV/m contours were calculated using the procedure specified in 47 C.F.R. §73.183. For the third-adjacent channel station studied, the 25 mV/m contour was calculated using the same procedure.

Conductivity values were determined using 47 C.F.R. §73.190 Figure M3. Where measured conductivity data was available, such measured conductivity data was applied across arcs in accordance with Commission policy.

Grandfathered overlaps exist between the KLDC licensed daytime facility and both KHAT in Laramie, WY and KKPC in Pueblo, CO. Where such overlaps exist, the existing KLDC 0.5 and 0.25 mV/m contour locations were used as the limiting distances for the 0.5 and 0.25 mV/m contours, respectively, from the new location, maintaining the existing overlap to some degree but not increasing it.

Figures 1-3 herein show the proposed, protected and interfering contours as calculated. From this exhibit, it can be clearly seen that there is no prohibited overlap between any of the proposed KLDC contours and any other protected or interfering contours. As such, the proposed facility is in compliance with 47 C.F.R. §73.37.

Licensed Daytime Operation
KLDC – Denver, Colorado
Fac. ID #12364
1220 kHz, 0.66 kW-D/11 W-N, ND

The licensed KLDC daytime groundwave contours were calculated every five degrees from 0° to 355° True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

Proposed Daytime Operation
KLDC – Denver, Colorado
Fac. ID #12364
1220 kHz, 1kW-D/18 W-N, ND

The proposed KLDC daytime groundwave contours were calculated every five degrees from 0° to 355° True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules. Calculations were made at 145°, 165° and 185° True using conductivities from measurements made on August 31-September 1, 2021 (see Exhibit 17A herein). Measured conductivity data was applied in an arc $\pm 10^\circ$ in accordance with Commission policy.

KHAT – Laramie, WY
Fac. ID #10333
1210 kHz, 10 kW-D/1 kW-N, DA-N

The KHAT daytime groundwave contours were calculated every five degrees from 0° to 355° True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules. No measured conductivity data was obtainable from FCC archives.

KSTC – Sterling, CO
Fac. ID #35639
1230 kHz, 1 kW-U, ND

The KSTC daytime groundwave contours were calculated every five degrees from 0° to 355° True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

KKPC – Pueblo, CO
Fac. ID # 53851
1230 kHz, 1 kW-U, ND

The KKPC daytime groundwave contours were calculated every five degrees from 0° to 355° True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

KVCU – Boulder, CO
Fac. ID # 48965
1190 kHz, 6.8 kW-D/5 kW-C/110 W-N, ND

The KVCU daytime groundwave contours were calculated every five degrees from 0° to 355° True using the calculated standard pattern inverse distance field for each azimuth. Ground conductivity values for all azimuths were obtained from §73.190, Figure M3 of the FCC rules.

Crawford Broadcasting Company

Station: **KLDC-L** 1220 kHz 39-41-00 105-00-24

Distances are from Site to Conductivity Breaks

AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	15	31.9	8	310.2	15	450.0		
5	15	32.5	8	338.3	15	440.2	8	450.0
10	15	33.5	8	370.4	15	388.3	8	450.0
15	15	34.8	8	359.7	15	410.7	8	450.0
20	15	36.5	8	363.0	15	450.0		
25	15	38.6	8	377.5	15	412.4	8	450.0
30	15	41.4	8	402.0	4	424.0	8	450.0
35	15	45.0	8	311.5	4	450.0		
40	15	49.6	8	280.2	4	450.0		
45	15	54.7	8	284.9	4	450.0		
50	15	60.6	8	296.8	4	450.0		
55	15	68.5	8	315.6	4	450.0		
60	15	79.4	8	177.8	15	342.8	4	450.0
65	15	96.0	8	148.9	15	386.6	4	390.0
	30	450.0						
70	15	375.1	30	450.0				
75	15	368.0	30	450.0				
80	15	363.8	30	450.0				
85	15	362.5	30	450.0				
90	15	364.0	30	450.0				
95	15	368.2	30	450.0				
100	15	375.5	30	450.0				
105	15	389.6	30	450.0				
110	15	418.5	30	450.0				
115	15	450.0						
120	15	443.8	30	450.0				
125	15	430.0	30	450.0				
130	15	422.3	30	450.0				
135	15	424.7	30	450.0				
140	15	438.7	30	450.0				
145	15	469.5						
150	15	450.0						
155	15	450.0						
160	15	450.0						
165	15	450.0						
170	15	450.0						
175	15	254.2	2	324.6	15	450.0		
180	15	191.0	8	223.2	2	358.8	15	450.0
185	15	160.0	8	224.5	2	450.0		
190	15	134.6	8	207.6	4	215.1	2	246.9
	4	310.2	2	418.2	4	449.0	2	450.0
195	15	105.9	8	189.0	4	304.4	2	353.1
	4	439.5	15	450.0				
200	15	87.5	8	177.9	4	287.6	2	338.9
	4	428.2	15	450.0				

Crawford Broadcasting Company								
Station: KLDC-L			1220 kHz		39-41-00		105-00-24	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
205	15	75.7	8	169.3	4	268.4	2	327.0
	4	425.2	15	450.0				
210	15	67.2	8	161.9	2	317.2	4	421.6
	15	450.0						
215	15	62.8	8	153.6	2	315.2	4	415.2
	15	450.0						
220	15	60.1	8	145.8	2	324.5	4	417.3
	15	450.0						
225	15	58.0	8	138.4	2	326.0	4	424.5
	15	450.0						
230	15	56.9	8	130.0	2	308.1	4	428.1
	15	450.0						
235	15	56.9	8	120.4	2	289.3	4	433.3
	15	450.0						
240	15	57.3	8	112.9	2	251.4	8	266.9
	15	312.6	4	449.4	15	450.0		
245	15	58.2	8	107.1	2	224.2	8	273.5
	15	331.6	4	450.0				
250	15	59.6	8	103.3	2	219.1	8	271.3
	15	352.8	4	423.2	15	450.0		
255	15	61.5	8	100.9	2	219.9	8	278.4
	15	450.0						
260	15	62.4	8	99.3	2	223.5	8	294.3
	15	450.0						
265	15	62.1	8	98.5	2	228.8	8	320.9
	15	353.6	8	388.7	4	450.0		
270	15	59.7	8	98.5	2	231.4	8	392.8
	4	450.0						
275	15	56.5	8	99.2	2	228.4	8	381.7
	15	421.8	4	450.0				
280	15	51.1	8	100.7	2	222.4	8	366.5
	15	450.0						
285	15	46.7	8	103.1	2	216.6	8	361.6
	15	411.3	2	450.0				
290	15	43.3	8	106.4	2	213.6	8	276.7
	15	314.9	8	316.5	2	452.4		
295	15	40.6	8	110.3	2	213.8	8	268.4
	15	362.6	8	450.0				
300	15	38.2	8	115.3	2	220.7	8	263.7
	15	384.9	8	450.0				
305	15	35.8	8	121.5	2	248.0	8	261.1
	15	450.0						
310	15	34.0	8	125.4	2	260.1	15	450.0
315	15	32.5	8	130.6	2	261.1	15	430.8
	2	450.0						
320	15	31.5	8	137.4	2	263.3	15	450.0

Crawford Broadcasting Company

Station: KLDC-L			1220 kHz		39-41-00		105-00-24	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
325	15	30.7	8	145.4	2	266.0	15	450.0
330	15	30.1	8	155.6	2	264.7	15	481.4
335	15	29.8	8	157.4	15	175.7	2	240.9
	15	446.9	8	450.0				
340	15	29.8	8	153.1	15	447.7	8	450.0
345	15	29.9	8	158.0	15	450.0		
350	15	30.3	8	234.7	15	450.0		
355	15	31.0	8	312.3	15	450.0		

Crawford Broadcasting Company

Station: **KLDC-P** 1220 kHz 39-39-29 105-00-49

Distances are from Site to Conductivity Breaks

AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	15	34.5	8	313.0	15	450.0		
5	15	35.3	8	340.6	15	443.3	8	450.0
10	15	36.3	8	373.3	15	391.1	8	450.0
15	15	37.7	8	362.6	15	413.7	8	450.0
20	15	39.5	8	365.9	15	450.0		
25	15	41.9	8	381.0	15	415.1	8	450.0
30	15	44.9	8	404.2	4	428.2	8	450.0
35	15	48.8	8	311.9	4	450.0		
40	15	53.8	8	282.1	4	450.0		
45	15	58.8	8	287.9	4	450.0		
50	15	65.1	8	300.2	4	450.0		
55	15	73.6	8	319.2	4	450.0		
60	15	85.4	8	175.8	15	347.1	4	450.0
65	15	103.5	8	145.6	15	389.8	30	450.0
70	15	375.9	30	450.0				
75	15	368.8	30	450.0				
80	15	364.7	30	450.0				
85	15	363.4	30	450.0				
90	15	364.8	30	450.0				
95	15	369.1	30	450.0				
100	15	376.3	30	450.0				
105	15	391.2	30	450.0				
110	15	421.0	30	450.0				
115	15	451.6						
120	15	441.7	30	450.0				
125	15	428.1	30	450.0				
130	15	420.8	30	450.0				
135	15	423.5	15	423.5	30	450.0		
135	-6	29.6	15	423.5	30	450.0		
140	-6	29.6	15	438.1	30	450.0		
145	-6	29.6	15	469.4				
150	-6	29.6	15	450.0				
155	-6	29.6	15	450.0				
155	-5	25.8	15	450.0				
160	-5	25.8	15	450.0				
165	-5	25.8	15	450.0				
170	-5	25.8	15	450.0				
175	-5	25.8	15	249.1	2	322.7	15	450.0
175	-5	30.8	15	249.1	8	322.7	15	450.0
180	-5	30.8	15	186.8	8	220.7	2	357.6
	15	450.0						
185	-5	30.8	15	156.5	8	221.4	2	450.0
190	-5	30.8	15	131.5	8	204.6	4	212.4
	2	243.8	4	307.4	2	413.8	4	447.1
	2	450.0						
195	-5	30.8	15	103.5	8	186.2	4	301.6
	2	350.3	4	436.7	15	450.0		

Crawford Broadcasting Company								
Station: KLDC-P 1220 kHz 39-39-29 105-00-49								
AZIMUTH	mS/m KM		mS/m KM		mS/m KM		mS/m KM	
195	15	103.5	8	186.2	4	301.6	2	350.3
	4	436.7	15	450.0				
200	15	85.4	8	175.3	4	285.0	2	336.2
	4	425.4	15	450.0				
205	15	73.9	8	166.8	4	266.1	2	324.4
	4	422.4	15	450.0				
210	15	65.6	8	159.7	2	314.7	4	419.0
	15	450.0						
215	15	60.8	8	151.5	2	312.5	4	412.7
	15	450.0						
220	15	58.2	8	144.2	2	321.8	4	414.4
	15	450.0						
225	15	56.2	8	136.9	2	324.4	4	421.9
	15	450.0						
230	15	54.7	8	129.4	2	307.3	4	425.7
	15	450.0						
235	15	54.7	8	119.9	2	287.5	4	430.7
	15	450.0						
240	15	55.1	8	112.4	2	255.2	8	265.6
	15	309.2	4	446.3	15	450.0		
245	15	56.0	8	106.6	2	224.0	8	272.3
	15	328.4	4	450.0				
250	15	57.3	8	102.6	2	217.7	8	269.6
	15	349.7	4	424.9	15	450.0		
255	15	59.1	8	100.2	2	218.3	8	276.0
	15	450.0						
260	15	61.6	8	98.6	2	221.8	8	291.0
	15	450.0						
265	15	61.3	8	97.8	2	227.2	8	315.5
	15	361.0	8	387.8	4	450.0		
270	15	61.0	8	97.8	2	230.7	8	391.3
	4	450.0						
275	15	57.8	8	98.5	2	228.9	8	384.2
	15	417.1	4	450.0				
280	15	54.2	8	100.0	2	223.3	8	367.2
	15	450.0						
285	15	49.5	8	102.4	2	217.5	8	361.9
	15	421.7	2	450.0				
290	15	45.9	8	105.6	2	214.0	8	278.3
	15	309.0	8	319.6	2	450.0		
295	15	43.1	8	109.7	2	214.3	8	269.7
	15	359.7	2	368.9	8	450.0		
300	15	40.9	8	114.7	2	220.3	8	265.0
	15	384.6	8	450.0				
305	15	38.7	8	121.0	2	243.6	8	262.4
	15	450.0						
310	15	36.7	8	125.7	2	261.5	15	450.0

Crawford Broadcasting Company								
Station: KLDC-P 1220 kHz 39-39-29 105-00-49								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
315	15	35.2	8	130.9	2	262.5	15	434.5
	2	450.0						
320	15	34.0	8	137.7	2	264.8	15	450.0
325	15	33.1	8	145.7	2	268.0	15	450.0
330	15	32.6	8	155.9	2	267.4	15	450.0
335	15	32.2	8	160.4	15	174.4	2	250.7
	15	450.5						
340	15	32.2	8	156.0	15	449.3	8	450.0
345	15	32.4	8	159.9	15	450.0		
350	15	32.8	8	230.8	15	450.0		
355	15	33.5	8	315.1	15	450.0		

Negative mS/m are MEASURED Conductivity Values

Crawford Broadcasting Company								
Station: KHAT 1210 kHz 41-15-19 105-33-01								
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
0	15	88.8	8	123.5	15	325.0	8	450.0
5	15	51.6	8	136.2	15	307.7	8	389.3
	15	436.8	8	450.0				
10	15	28.7	8	138.9	15	294.3	8	402.6
	15	450.0						
15	15	20.9	8	141.3	15	284.7	8	408.7
	15	450.0						
20	15	16.6	8	145.0	15	259.0	8	393.4
	15	450.0						
25	15	13.9	8	377.8	15	450.0		
30	15	12.1	8	218.8	15	248.8	8	355.3
	15	450.0						
35	15	10.7	8	217.3	15	275.4	8	299.2
	15	450.0						
40	15	9.7	8	225.2	15	329.4	8	405.1
	15	450.0						
45	15	8.9	8	237.5	15	295.6	8	434.1
	15	450.0						
50	15	8.3	8	259.7	15	300.4	8	446.3
	15	450.0						
55	15	7.8	8	300.7	4	364.0	8	450.0
60	15	7.5	8	277.8	4	420.4	8	450.0
65	15	7.2	8	250.4	4	448.5	8	450.0
70	15	7.0	8	237.8	4	450.0		
75	15	6.8	8	230.3	4	450.0		
80	15	6.7	8	229.7	4	450.0		
85	15	6.7	8	261.9	4	446.6	30	450.0
90	15	6.7	8	312.1	15	339.0	4	401.9
	30	450.0						
95	15	6.8	8	284.6	15	398.9	30	450.0
100	15	6.9	8	251.0	15	407.0	30	450.0
105	15	7.0	8	229.6	15	418.7	30	450.0
110	15	7.3	8	218.8	15	434.5	30	450.0
115	15	7.6	8	216.0	15	455.2		
120	15	8.0	8	212.9	15	481.7		
125	15	8.5	8	210.0	15	450.0		
130	15	9.2	8	202.3	15	450.0		
135	15	10.1	8	188.1	15	450.0		
140	15	11.3	8	175.1	15	450.0		
145	15	12.8	8	164.6	15	450.0		
150	15	15.0	8	157.1	15	450.0		
155	15	16.9	8	153.1	15	450.0		
160	15	18.7	8	150.5	15	450.0		
165	15	21.1	8	150.4	15	450.0		
170	15	23.0	8	152.5	15	451.8		

Crawford Broadcasting Company								
Station: KHAT 1210 kHz 41-15-19 105-33-01								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
175	15	24.4	8	155.9	15	322.4	8	400.4
	2	450.0						
180	15	26.1	8	163.4	15	206.7	8	358.5
	4	450.0						
185	15	28.4	8	323.8	2	324.8	4	459.1
190	15	31.1	8	282.1	2	395.0	4	405.6
	2	450.0						
195	15	32.0	8	197.7	2	450.0		
200	15	33.2	8	155.6	2	450.0		
205	15	34.8	8	126.8	2	438.6	4	450.0
210	15	36.8	8	89.7	2	312.3	8	363.3
	2	374.0	15	375.6	2	385.6	4	450.0
215	15	39.3	8	62.7	2	286.7	8	351.3
	15	401.3	4	450.0				
220	15	42.5	8	48.0	2	273.0	8	334.3
	15	406.3	4	450.0				
225	15	41.3	2	259.7	8	331.2	15	412.1
	4	450.0						
230	15	37.8	2	233.8	8	335.2	15	450.0
235	15	35.1	2	193.2	8	350.3	15	450.0
240	15	33.0	2	170.9	8	395.4	4	450.0
245	15	32.1	2	160.7	8	388.6	4	450.0
250	15	31.7	2	156.9	8	223.4	15	245.9
	8	336.3	15	401.3	4	450.0		
255	15	31.5	2	158.3	8	194.6	15	259.7
	2	290.4	8	313.6	15	451.0		
260	15	31.6	2	163.8	8	174.6	15	273.4
	2	450.0						
265	15	31.9	2	159.3	15	283.1	2	450.0
270	15	32.5	2	147.2	15	288.2	8	375.9
	15	438.0	8	450.0				
275	15	33.3	2	137.8	15	287.1	8	357.8
	15	432.8	8	450.0				
280	15	35.2	2	129.9	15	319.2	8	341.6
	15	422.4	8	450.0				
285	15	37.9	2	123.2	15	411.1	8	450.0
290	15	41.5	2	118.0	15	422.0	8	450.0
295	15	46.2	2	111.7	15	302.4	2	331.8
	15	441.9	8	450.0				
300	15	52.5	2	106.5	15	281.6	2	415.6
	15	437.4	2	450.0				
305	15	61.4	2	97.8	15	329.7	2	450.0
310	15	377.7	8	379.1	2	450.0		
315	15	345.4	8	415.2	2	450.0		
320	15	315.9	8	460.7				
325	15	285.8	8	518.8				

Crawford Broadcasting Company

Station: **KHAT** 1210 kHz 41-15-19 105-33-01
 AZIMUTH mS/m KM mS/m KM mS/m KM mS/m KM

330	15	264.5	8	450.0
335	15	266.4	8	450.0
340	15	285.0	8	450.0
345	15	343.2	8	450.0
350	15	366.5	8	450.0
355	15	347.1	8	450.0

Crawford Broadcasting Company								
Station: KSTC 1230 kHz 40-37-04 103-10-41								
Distances are from Site to Conductivity Breaks								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM

0	8	233.1	15	450.0				
5	8	242.1	15	270.5	8	347.5	15	450.0
10	8	255.4	15	257.0	8	380.4	15	450.0
15	8	111.1	4	274.1	8	391.4	15	450.0
20	8	107.3	4	290.8	8	386.9	15	450.0
25	8	107.1	4	303.2	8	379.3	15	450.0
30	8	107.7	4	317.7	8	373.9	15	450.0
35	8	109.1	4	326.1	8	376.3	15	450.0
40	8	111.4	4	329.7	8	388.6	15	450.0
45	8	115.7	4	335.2	8	398.1	15	450.0
50	8	121.5	4	345.0	8	406.1	15	450.0
55	8	128.8	4	362.6	8	436.0	15	450.0
60	8	132.2	15	138.6	4	392.2	8	450.0
65	8	43.8	15	153.1	4	438.1	8	443.9
	15	450.0						
70	8	22.9	15	174.0	4	241.5	30	392.1
	4	440.8	15	450.0				
75	8	17.7	15	206.5	30	409.0	15	450.0
80	8	14.6	15	200.9	30	404.5	15	450.0
85	8	12.5	15	199.3	30	401.1	15	431.7
	30	450.0						
90	8	10.9	15	199.7	30	400.7	15	450.0
95	8	9.8	15	201.7	30	401.5	15	450.0
100	8	9.0	15	205.3	30	405.3	15	450.0
105	8	8.4	15	210.7	30	415.5	15	450.0
110	8	8.2	15	218.1	30	450.0		
115	8	8.1	15	227.8	30	450.0		
120	8	8.1	15	240.3	30	450.0		
125	8	8.1	15	256.3	30	450.0		
130	8	8.1	15	276.8	30	450.0		
135	8	8.3	15	311.8	30	450.0		
140	8	8.4	15	388.2	30	450.0		
145	8	8.7	15	399.6	30	450.0		
150	8	9.1	15	401.4	30	450.0		
155	8	9.6	15	408.2	30	450.0		
160	8	10.2	15	424.0	30	450.0		
165	8	10.9	15	459.0				
170	8	11.9	15	450.0				
175	8	13.2	15	450.0				
180	8	15.0	15	450.0				
185	8	17.5	15	450.0				
190	8	21.1	15	450.0				
195	8	26.8	15	450.0				
200	8	34.0	15	391.9	2	450.0		
205	8	43.9	15	357.3	2	450.0		

Crawford Broadcasting Company

Station: KSTC 1230 kHz 40-37-04 103-10-41								
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
210	8	59.8	15	328.1	8	371.3	2	405.3
	4	450.0						
215	8	72.4	15	308.7	8	356.0	4	450.0
220	8	81.1	15	287.8	8	346.4	4	432.6
	2	450.0						
225	8	89.2	15	265.3	8	339.8	2	450.0
230	8	98.8	15	249.6	8	329.5	2	450.0
235	8	111.3	15	243.5	8	314.3	2	450.0
240	8	128.2	15	244.8	8	294.0	2	427.9
	8	450.0						
245	8	162.6	15	238.6	8	280.9	2	402.4
	8	450.0						
250	8	271.5	2	401.2	8	450.0		
255	8	264.6	2	400.9	8	450.0		
260	8	259.1	2	385.2	8	450.0		
265	8	252.7	2	359.9	8	450.0		
270	8	244.3	2	346.6	8	412.8	15	438.4
	8	450.0						
275	8	237.5	2	350.5	8	384.5	15	450.0
280	8	232.7	2	363.4	15	450.0		
285	8	200.7	15	236.1	2	346.4	15	450.0
290	8	203.9	15	250.7	2	331.4	15	450.0
295	8	212.3	15	279.9	2	309.5	15	450.0
300	8	222.4	15	450.0				
305	8	235.0	15	450.0				
310	8	256.5	15	494.0				
315	8	276.2	15	439.6	8	450.0		
320	8	273.6	15	448.8	8	450.0		
325	8	253.8	15	450.0				
330	8	256.8	15	450.0				
335	8	272.1	15	434.9	8	450.0		
340	8	303.0	15	377.2	8	450.0		
345	8	254.5	15	292.1	8	450.0		
350	8	244.1	15	294.5	8	450.0		
355	8	236.4	15	304.1	8	423.6	15	450.0

Crawford Broadcasting Company

Station: **KKPC** 1230 kHz 38-16-40 104-39-15

Distances are from Site to Conductivity Breaks

AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM

0	15	193.3	8	450.0				
5	15	195.3	8	450.0				
10	15	198.1	8	450.0				
15	15	202.7	8	450.0				
20	15	209.5	8	437.6	4	450.0		
25	15	231.4	8	395.6	4	450.0		
30	15	319.7	8	398.6	4	450.0		
35	15	372.6	8	408.0	4	450.0		
40	15	424.0	4	450.0				
45	15	449.7	4	450.0				
50	15	422.7	30	450.0				
55	15	399.7	30	450.0				
60	15	381.9	30	450.0				
65	15	368.2	30	450.0				
70	15	358.1	30	450.0				
75	15	351.2	30	450.0				
80	15	348.9	30	450.0				
85	15	354.6	30	450.0				
90	15	367.6	30	450.0				
95	15	380.4	30	450.0				
100	15	364.8	30	450.0				
105	15	338.3	30	450.0				
110	15	319.5	30	450.0				
115	15	308.8	30	450.0				
120	15	304.9	30	450.0				
125	15	308.2	30	450.0				
130	15	318.6	30	450.0				
135	15	333.7	30	450.0				
140	15	351.8	30	450.0				
145	15	373.8	30	450.0				
150	15	397.1	30	450.0				
155	15	428.4	30	450.0				
160	15	450.0						
165	15	450.0						
170	15	450.0						
175	15	450.0						
180	15	117.6	2	164.1	15	379.2	8	450.0
185	15	98.9	2	183.6	15	346.7	8	450.0
190	15	85.7	2	256.3	15	470.0		
195	15	74.1	2	334.3	15	450.0		
200	15	65.3	8	68.9	2	319.9	15	450.0
205	15	58.0	8	74.7	2	252.8	4	310.0
	15	450.0						
210	15	52.6	8	80.0	2	133.5	4	173.1
	2	228.7	4	304.3	15	450.0		

Crawford Broadcasting Company

Station: KKPC		1230 kHz		38-16-40		104-39-15	
AZIMUTH	mS/m KM	mS/m KM	mS/m KM	mS/m KM	mS/m KM	mS/m KM	mS/m KM
215	15 49.6	8 83.7	2 122.9	4 176.6			
	2 219.7	4 303.1	15 467.0				
220	15 47.3	8 85.0	2 114.9	4 175.7			
	2 218.8	4 307.9	15 422.2	8 450.0			
225	15 45.5	8 85.3	2 105.6	4 173.4			
	2 219.9	4 315.2	15 409.9	8 450.0			
230	15 44.2	8 83.7	2 93.3	4 172.5			
	2 219.8	4 320.3	15 424.0	8 450.0			
235	15 43.2	8 82.7	4 170.2	2 221.4			
	4 325.1	15 430.4	8 450.0				
240	15 42.6	8 82.2	4 168.5	2 225.5			
	4 335.4	15 431.7	8 450.0				
245	15 42.4	8 82.4	4 164.5	2 237.5			
	4 355.7	15 439.7	8 450.0				
250	15 42.5	8 83.4	4 156.1	2 260.7			
	4 372.8	15 457.0					
255	15 42.9	8 86.1	4 144.7	2 271.9			
	4 388.9	15 450.0					
260	15 43.6	8 89.7	4 134.2	2 271.1			
	4 418.1	15 450.0					
265	15 44.7	8 94.4	4 122.0	2 267.7			
	4 450.0						
270	15 46.2	8 100.4	4 112.6	2 271.9			
	4 278.0	15 300.5	4 436.4	15 450.0			
275	15 48.3	8 107.8	2 256.5	8 262.8			
	15 356.6	4 414.3	15 450.0				
280	15 50.9	8 115.4	2 244.8	8 284.8			
	15 450.0						
285	15 53.3	8 123.8	2 241.9	8 305.1			
	15 423.0	8 432.1	4 450.0				
290	15 56.4	8 132.6	2 253.1	8 364.8			
	15 386.2	8 449.1	4 450.0				
295	15 60.3	8 142.3	2 275.8	8 452.1			
300	15 65.1	8 149.9	2 301.3	8 449.1			
	15 450.0						
305	15 69.5	8 157.2	2 313.1	8 449.3			
	2 450.0						
310	15 75.2	8 166.6	2 318.2	8 385.4			
	15 450.0						
315	15 82.6	8 180.4	2 325.7	8 384.3			
	15 450.0						
320	15 93.6	8 199.9	2 344.1	8 389.2			
	15 450.0						
325	15 109.6	8 226.1	2 397.0	15 450.0			
330	15 179.9	8 259.1	2 407.6	15 450.0			
335	15 183.8	8 282.9	2 417.2	15 450.0			

Crawford Broadcasting Company

Station: KKPC 1230 kHz 38-16-40 104-39-15									
AZIMUTH	mS/m KM		mS/m KM		mS/m KM		mS/m KM		
340	15	186.1	8	311.7	2	410.1	15	450.0	
345	15	187.0	8	310.5	15	450.0			
350	15	189.5	8	439.5	15	450.0			
355	15	190.9	8	450.0					

Crawford Broadcasting Company

Station: **KVCU** 1190 kHz 39-57-53 105-14-07

Distances are from Site to Conductivity Breaks

AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM

0	8	279.6	15	450.6				
5	8	280.5	15	426.8	8	450.0		
10	8	339.6	15	373.0	8	450.0		
15	8	339.2	15	369.8	8	450.0		
20	8	336.2	15	392.2	8	452.4		
25	8	342.0	15	444.5	8	450.0		
30	8	360.5	15	393.3	8	450.0		
35	8	384.6	4	416.2	8	450.0		
40	8	309.9	4	459.6				
45	8	277.9	4	450.0				
50	8	273.0	4	450.0				
55	8	287.1	4	450.0				
60	8	307.9	4	450.0				
65	8	300.5	15	338.5	4	450.0		
70	8	188.6	15	390.1	4	396.9	30	450.0
75	8	170.3	15	384.7	30	450.0		
80	8	151.8	15	380.4	30	450.0		
85	8	29.3	15	116.4	8	121.9	15	379.1
	30	450.0						
90	8	17.7	15	380.8	30	450.0		
95	8	14.5	15	385.3	30	450.0		
100	8	12.4	15	393.0	30	450.0		
105	8	10.8	15	404.1	30	450.0		
110	8	9.7	15	426.4	30	450.0		
115	8	8.9	15	450.0				
120	8	8.2	15	450.0				
125	8	7.7	15	450.0				
130	8	7.3	15	450.0				
135	8	7.0	15	450.0				
140	8	6.8	15	450.0				
145	8	6.6	15	450.0				
150	8	6.5	15	450.0				
155	8	6.4	15	450.0				
160	8	6.4	15	450.0				
165	8	6.5	15	450.0				
170	8	6.5	15	325.7	2	338.5	15	450.0
175	8	6.7	15	221.0	8	254.6	2	375.2
	15	450.0						
180	8	6.9	15	176.4	8	254.5	2	474.1
185	8	7.2	15	114.8	8	229.4	4	255.8
	2	268.0	4	336.6	2	450.0		
190	8	7.5	15	86.7	8	207.7	4	331.2
	2	384.6	4	450.0				
195	8	8.0	15	77.6	8	193.3	4	309.7
	2	363.5	4	450.0				

Crawford Broadcasting Company

Station: KVCU		1190 kHz		39-57-53		105-14-07	
AZIMUTH	mS/m KM	mS/m KM	mS/m KM	mS/m KM	mS/m KM	mS/m KM	mS/m KM
200	8 8.5	15 71.5	8 180.6	2 214.3			
	4 281.6	2 347.6	4 447.1	15 450.0			
205	8 9.3	15 68.0	8 167.4	2 334.6			
	4 441.0	15 450.0					
210	8 10.3	15 65.2	8 153.8	2 332.3			
	4 431.4	15 450.0					
215	8 11.6	15 63.2	8 138.9	2 338.4			
	4 429.9	15 450.0					
220	8 13.4	15 61.8	8 122.0	2 331.4			
	4 434.2	15 450.0					
225	8 16.0	15 59.2	8 109.4	2 305.2			
	4 434.7	15 450.0					
230	8 20.5	15 55.3	8 101.1	2 279.6			
	15 286.1	2 289.9	4 436.7	15 450.0			
235	8 95.1	2 224.2	8 272.7	15 319.3			
	4 449.0	15 450.0					
240	8 90.4	2 214.7	8 267.0	15 333.9			
	4 450.0						
245	8 86.8	2 212.2	8 266.8	15 350.5			
	4 416.1	15 450.0					
250	8 84.1	2 212.3	8 274.2	15 450.0			
255	8 82.2	2 214.1	8 289.6	15 450.0			
260	8 80.9	2 214.5	8 373.4	4 441.8			
	15 450.0						
265	8 80.3	2 210.9	8 374.4	4 448.4			
	15 450.0						
270	8 80.3	2 203.4	8 362.1	15 394.8			
	4 450.0						
275	8 80.9	2 194.6	8 343.6	15 450.0			
280	8 81.8	2 188.0	8 336.1	15 422.7			
	2 450.0						
285	8 83.3	2 185.0	8 247.9	15 283.8			
	8 290.4	2 450.0					
290	8 85.5	2 184.0	8 238.4	15 323.5			
	2 354.1	8 426.9	15 450.0				
295	8 88.6	2 189.5	8 232.4	15 347.1			
	8 420.7	15 450.0					
300	8 90.0	2 208.0	8 228.4	15 358.6			
	8 412.9	15 450.0					
305	8 92.2	2 226.0	15 450.0				
310	8 95.2	2 225.1	15 450.0				
315	8 99.2	2 226.1	15 390.3	2 450.0			
320	8 104.1	2 227.4	15 450.0				
325	8 110.1	2 229.2	15 474.0				
330	8 117.9	2 228.2	15 444.8	8 450.0			
335	8 122.4	15 131.2	2 218.3	15 413.1			
	8 450.0						

Crawford Broadcasting Company

Station: KVCU			1190 kHz		39-57-53		105-14-07	
AZIMUTH	mS/m	KM	mS/m	KM	mS/m	KM	mS/m	KM
340	8	119.0	15	407.8	8	450.0		
345	8	117.7	15	448.9	8	450.0		
350	8	123.4	15	450.0				
355	8	271.1	15	481.6				





