

TECHNICAL STATEMENT
K294CW PHOENIX, ARIZONA, CH 294D
MOUNTAIN COMMUNITY TRANSLATORS, LLC
MINOR CHANGE APPLICATION
MAY 2020

This Technical Statement is made in support of a minor change of for FM translator station K294CW at Phoenix, Arizona, facility ID 148238. K294CW is a fill-in translator for KASA(AM) Phoenix, Arizona, facility ID 33451. K294CW now seeks to remain at its current transmitter site with the same antenna height, but with a reduced Effective Radiated Power (“ERP”) of 150 watts (0.15 KW), and make modification to its directional antenna system. This application is being made to offer protection of a pending minor change application of KDVA(FM) Buckeye, AZ, facility ID 2750, which is proposing to change channels from 295A to 294A at its same transmitter site. This proposed modified operation of K294CW will protect the future planned operation of KDVA(FM) on channel 294A. The following will show that the new proposed operation of K294CW will meet all of the Commissions technical requirements for an FM translator station.

The proposed operation of K294CW specifies an Effective Radiated Power of 0.15 kilowatts. It will operate with a custom directional antenna with an “off the shelf” type antenna, or a BEXT Log-R yagi, with dual polarization. The antenna will be mounted on an existing non-registered tower with an overall height of 24 meters above the ground. The antenna will be mounted with a Center of Radiation of 20 meters above the ground, and 665 meters Above Mean Sea Level. The coordinates of this tower are located at N 33° 35’ 39.1”, W 112° 05’ 10.5”, NAD 83.

Figure 1 is a detailed interference study conducted on channel 294D with these new proposed facilities. It shows that the new operation of K294CW will not cause any interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 294, with the exception of 2nd adjacent channel station KVVA-FM Apache Junction, Arizona operating on channel 296C3, facility ID 1331 and KOMR(FM) Sun City, Arizona operating on channel 292C2, facility ID 55913.

There is an apparent overlap with an allotment of channel 294C2 at Buckeye, AZ, however this allotment is reserved for Mexican protection purposes only. US stations do not need to protect this allotment.

KVVA-FM has a pending minor change application, BPH-20190723AAO, to change facilities and operate at Sun Lakes, Arizona on channel 296C2. However, this proposed facility, if granted, will place a higher predicted field strength at the K294CW transmitter site. Hence only the existing licensed site operation was studied further.

The proposed operation of K294CW on 294D is also located within the protected 60 dB μ contour of 2nd adjacent channel KOMR(FM). Figure 2 show the predicted F(50-50) field strength of KOMR at the proposed K294CW transmitter site is 62.0 dB μ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K294CW on channel 294D is an additional 40 DB μ or 102.0 dB μ .

The proposed operation of K294CW on 294D is located within the protected 60 dB μ contour of 2nd adjacent channel of KVVA-FM. Figure 3 shows the predicted F(50-50) field strength of KVVA-FM at the proposed K294CW transmitter site is 61.5 dB μ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed K294CW on channel 294D is an additional 40 dB μ or 101.5 dB μ .

Figure 4 shows the coverage area for the worst case 101.5 dB μ interference contour F(50-10) and shows that there is no population in the area of interference. The applicant, Mountain Community Translators, LLC, respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes nearby the proposed existing tower site, which is a privately owned with private gated access located at a remote mountain tower site known as "Shaw Butte". The transmitter building is uninhabited and does not have indoor plumbing. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with K294CW until such interference can be eliminated. Figure 5 shows a USGS 7.5 minute map of the area around the proposed site. It also documents that there are no homes located in the predicted 101.5 dB μ contour.

Figure 6 is the directional antenna data for the proposed BEXT antenna system proposed to be used.

The proposed operation of K294CW Phoenix will remain a "Fill-In" operation for Class D AM station KASA Phoenix, Arizona. KASA(AM) is licensed with 10 kilowatts daytime with a directional antenna system on 1540 kHz. However, recently KASA(AM) has been operation with an Engineering STA operation at a site adjacent to its licensed tower site with 0.255 Kilowatts daytime. Figure 7 shows that the proposed 60 dB μ contour for the proposed K294CW will not extend beyond the licensed daytime 2.0 mV/m contour of KASA. It will also not extend beyond a 25 mile (40 KM) radius from the KASA tower licensed site and/or engineering STA site. Since this is a "Fill-In"

translator, the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

It was found that the new proposed operation of K294CW Phoenix, Arizona on channel 294D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K294CW PHOENIX, AZ, CH. 294D

REFERENCE 33 35 39.10 N. CH# 294D - 106.7 MHz, Pwr= 0.15 kW DA, HAAT= 0.0 M, COR= 665 M DISPLAY DATES
112 05 10.50 W. Average Protected F(50-50)= 6.24 km DATA 05-21-20
Standard Directional SEARCH 05-21-20

CH CITY	CALL	TYPE STATE	ANT AZ	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
294C3 Buckeye	AL9806	---	---	230.1 49.9	52.65	33 17 23.16 112 31 14.57	25.000 100	119.3 433	43.0	-71.9*	-13.3
294D Phoenix	K294CW	LIC D	---	85.2 274.8	0.00 BLFT20171129ABI	33 35 39.10 112 05 10.50	0.250	665	---Reference---		Mountain Community Transla
296C1 Peoria	R98961	ADD	---	292.8 112.8	0.64	33 35 47.15 112 05 33.53	100.000 299	8.7 708	65.9	-19.8*	-65.6*
294A Buckeye	KDVA	RSV-A	---	251.6 71.3	50.33	33 27 01.15 112 36 00.59	6.000 100	94.4 489	32.1	-48.9*	0.3
294C2 Prescott Valley	R17780	DEL	---	337.6 157.4	107.65	34 29 25.08 112 32 02.61	50.000 150	144.2 1844	52.8	-48.5*	2.2
294A Buckeye	KDVA *	APP N	---	251.6 71.3	50.33 BPH20190723AAN	33 27 01.10 112 36 00.60	6.000 93	91.9 472	30.2	-46.4*	3.8
294C2 Prescott Valley	KPPV	LIC	---	337.6 157.4	107.65 BLH19930204KB	34 29 25.10 112 32 02.60	3.700 493	131.2 2181	51.9	-35.9*	6.2
296C2 Sun Lakes	KVVA-FM	RSV-A	---	160.4 340.5	24.13	33 23 21.17 111 59 56.54	50.000 150	6.6 529	56.1	7.0	-32.2*
296C2 Sun Lakes	KVVA-FM *	APP N	---	176.0 356.0	28.99 BPH20190723AAO	33 20 00.20 112 03 51.50	2.050 508	2.9 880	48.4	16.1	-19.6*
294C0 Pinetop	KNKI	RSV-A	---	76.6 257.8	217.62	34 01 36.17 109 47 37.35	100.000 450	211.3 2795	99.9	-10.8	63.2
292C2 Sun City	KOMR	LIC	---	318.2 138.0	54.01 BLH19961025KC	33 57 21.10 112 28 36.60	23.000 221	6.7 1098	58.3	33.6	-4.8*
296C3 Apache Junction	KVVA-FM *	LIC	---	110.9 291.2	46.11 BLH20130315ABB	33 26 44.10 111 37 21.40	17.000 124	5.3 651	49.3	24.4	-3.9*
295A Buckeye	KDVA	LIC	---	251.6 71.3	50.33 BLH19980814KB	33 27 01.10 112 36 00.60	6.000 93	49.0 472	30.2	-3.5	13.2
293D Phoenix	K293CO	LIC D	---	160.4 340.4	24.14 BLFT20180326AAC	33 23 21.20 111 59 55.50	0.250	7.9 478	5.2	6.0	2.7
295C2 Prescott Valley	R17780	ADD	---	337.6 157.4	107.65	34 29 25.08 112 32 02.61	50.000 150	84.7 1844	52.8	11.0	27.3
297C2 Aguila	DKAZV	VAC	---	280.9 100.3	93.29	33 44 54.12 113 04 30.68	50.000 150	7.1 836	58.1	74.4	34.5
297C2 Aguila	R18077	DEL	---	280.9 100.3	93.29	33 44 54.12 113 04 30.68	50.000 150	7.1 836	58.1	74.4	34.5
293A Arizona City	KKMR	LIC N	---	157.9 338.1	92.52 BLED20181026AAU	32 49 17.20 111 42 44.40	0.860 266	44.1 711	29.2	37.8	48.6
294D Payson	K294AN	LIC D	---	46.6 227.1	112.89 BLFT19950920TA	34 17 17.10 111 11 34.40	0.012 306	45.9 1952	12.9	51.2	49.3
295C Show Low	AL6595	RSV-A	---	70.5 251.6	209.67 RMNS-155	34 12 20.15 109 56 28.37	100.000 600	141.0 2675	95.3	51.7	89.3
294C1 Pinetop	KNKI	LIC	---	71.7 253.1	242.45 BLH20100426AAU	34 15 06.10 109 35 08.30	65.000 357	170.6 2600	73.4	55.1	114.7
294D Prescott Valley	KPPV-FM2	LIC D	---	358.6 178.6	122.76 BLFTB20120525AAF	34 42 02.30 112 07 07.00	0.100	34.8 2389	5.1	78.2	56.8
294C Nogales	XHSNFM	USE	---	156.7 337.3	273.39	31 19 51.36 110 56 47.30	100.000 600	204.5 1873	92.0	57.4	147.7
297C2 Aguila	R18077	ADD	---	289.9 109.3	115.52	33 56 32.11 113 15 41.70	50.000 150	6.7 868	56.6	96.0	58.4
295D Little Acres	K295AL	LIC	---	105.7 286.4	120.89 BLFT20070323AIE	33 17 37.20 110 50 11.30	0.015 1039	29.3 2378	18.6	74.6	77.6

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 2	
										IN (Overlap	*OUT* in km)
291D Prescott	K291AL	LIC ___ AZ		337.6 157.4	107.61 BLFT20070402KSB	34 29 24.10 112 32 01.60	0.010 483	0.2 2175	12.5 Arizona	92.9 Board Of Regents F	93.6
240C0 Cottonwood	KKLD	LIC N__ AZ		358.6 178.6	121.21 BMLH20100428AEO	34 41 12.10 112 07 04.60	21.000 799	1.1 2388	9.5 Yavapai	24.5R Broadcasting Corpo	96.7M
296D Prescott Valley	K296GN	LIC D__ AZ		358.6 178.6	121.30 BLFT20150612AAD	34 41 15.10 112 07 03.60	0.250 2363	0.1 2363	7.0 Itm, LLC	105.8	100.3
291D Globe	K291CU	CP ___ AZ		99.5 280.2	120.86 BNPFT20171213ADM	33 24 30.20 110 48 16.40	0.250 1213	1.1 1213	7.1 Globecasting, Inc.	102.5	108.7
291C2 Munds Park	KFSZ	LIC ___ AZ		19.0 199.3	161.43 BLH20080219BFC	34 58 06.10 111 30 31.50	4.300 468	4.1 2646	51.4 Southwest Media, Inc.	141.6	107.8
293C1 Leupp	DKLFZ	VAC ___ AZ		20.9 201.5	240.75	35 37 00.00 111 08 02.51	100.000 299	105.6 1757	72.8 Alex Media, Inc.	119.4	144.4
292C2 Oracle	KTGV	LIC Z__ AZ		136.3 317.0	176.34 BMLH20110726AHI	32 26 26.20 110 47 14.30	0.440 1272	1.0 2807	45.7 Bustos Media Holdings, LLC	161.6	127.1
294C Nogales	XHSNFM	LIC D__ SO		156.7 337.3	273.39	31 19 51.40 110 56 47.30	20.000 150	130.1 1423	92.0	131.7	147.7
292D Tucson	KTGV-FM1	LIC D__ AZ		145.2 325.8	175.74 BLFTB20101129AOK	32 17 23.30 111 01 08.30	10.000 899	3.2 899	36.2 Bustos Media Holdings, LLC	160.2	139.3
241C Tucson	KLPX	LIC ___ AZ		148.6 329.1	174.56 BLH19900503KD	32 14 56.30 111 07 01.40	100.000 595	1.1 1360	9.5 Arizona	28.5R Lotus Corp.	146.1M
291A Sonoita	AL8762	___ SO		200.7 20.3	205.62 RM	31 51 41.25 112 51 18.58	3.000 100	1.8 560	24.0	194.5	181.5
296C1 Needles	KNKK	LIC ___ CA		308.0 126.7	263.66 BLH20020708AAZ	35 01 58.00 114 21 59.80	16.500 582	6.9 1368	67.8 Cameron Broadcasting, Inc.	243.0	192.4
296A Pima	VA2384	VAC ___N AZ		110.8 292.0	233.29	32 49 46.24 109 45 18.30	6.000 100	3.7 1116	39.7	212.8	192.6
292A Desert Hills	1768421	RSV-A ___ AZ		297.4 116.2	235.74	34 32 57.04 114 22 03.84	6.000 100	1.6 442	15.8 L. Topaz Enterprises, Inc.	220.8	202.0
292A Desert Hills	AL4999	VAC ___ AZ		297.4 116.2	235.77 RM11796	34 32 58.05 114 22 04.86	6.000 100	1.6 442	15.8 Copper Mountain Broadcasti	220.9	202.1
294B1 Mexicali	XEWVFM	USE ___ BN		252.5 70.6	332.41	32 38 51.21 115 28 21.98	25.000 100	112.6 106	45.0	210.8	267.7
296B Ciudad Morelos	AL8716	VAC ___ BN		248.2 66.7	278.71	32 38 00.19 114 51 02.85	50.000 150	5.9 192	65.0	264.4	213.6
292B San Luis Rio Colorado	AL8252	VAC ___ SO		244.6 63.2	279.68	32 29 15.20 114 46 52.85	50.000 150	5.9 183	65.0	265.8	214.6
292B San Luis Rio Colorado	AL6329	VAC ___ SO		244.6 63.2	279.68	32 29 15.20 114 46 52.85	50.000 150	5.9 183	65.0	265.8	214.6
292B San Luis Rio Colorado	AL1557	VAC ___ SO		244.6 63.2	279.68	32 29 15.20 114 46 52.85	50.000 150	5.9 183	65.0	265.8	214.6
240C3 Wellton	KUKY	LIC ___ AZ		244.6 63.3	233.58 BLH20120803AAD	32 40 22.20 114 20 14.00	1.600 385	1.1 534	9.5 Hispanic	11.5R Target Media Inc.	222.1M
291B Puerto Penasco	XHPPOFM	LIC D__ SO		208.7 27.9	289.42	31 18 09.30 113 32 59.60	50.000 150	5.8 154	65.0	274.7	224.2
291B Puerto Penasco	XHPPOFM	USE ___ SO		208.7 27.9	289.42	31 18 09.30 113 32 59.61	50.000 150	5.8 154	65.0	274.7	224.2
295A Puerto Penasco	R17759	VAC ___ SO		208.7 27.9	287.48	31 19 00.30 113 32 15.61	3.000 100	33.6 105	24.0	245.0	253.5
296A Nogales	R17547	VAC ___ SO		156.8 337.4	274.65	31 19 07.36 110 56 47.30	3.000 100	2.9 1383	24.0	260.2	250.4
293C0 Las Vegas	KSNE-FM	LIC ___ NV		316.0 134.4	378.32 BMLH20110126ABC	36 00 29.90 115 00 23.00	100.000 352	111.4 1048	76.0 Citicasters Licenses, Inc.	253.1	281.3
296B Caborca	AL9098	VAC ___ SO		181.2 1.2	322.14	30 41 50.38 112 09 31.41	50.000 150	5.1 450	65.0	307.3	256.8
293B1 Agua Prieta	R17547	VAC ___ SO		136.0 317.3	346.71	31 19 33.38 109 32 58.24	25.000 100	69.5 1377	45.0	262.3	281.7

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT (M)	INT(km) COR (M)	PRO(km) LICENSEE	Page # 3 *IN* (Overlap	*OUT* in km)
295B1 Agua Prieta	R14915	VAC ____ SO		136.2 317.5	345.33	31 19 38.37 109 34 09.24	25.000 100	67.9 1369	45.0	262.7	280.4
294B1 Mexicali	XEWVFM	LIC D____ BN		252.5 70.6	332.41	32 38 51.20 115 28 22.00	2.020 39	48.1 45	45.0	275.3	267.7
297A Cananea	R17613	VAC ____ SO		149.5 330.5	335.38	30 58 55.40 110 18 04.25	3.000 100	1.6 1670	24.0	321.0	311.1
291C1 Gallup	KFMQ	LIC N____ NM		54.5 236.4	372.30 BMLH20050608AAE	35 29 39.10 108 44 34.30	100.000 57	5.3 2134	47.2	351.0 Clear Channel Broadcasting	319.0
297C2 Chinle	KFXR-FM	LIC ____ AZ		33.2 214.5	368.73 BLH19950908KE	36 21 07.00 109 49 56.40	3.600 497	3.5 2507	43.0	349.6 Ihm Licenses, LLC	324.9
241C1 Window Rock	KWRK	LIC ____ AZ		50.4 232.1	349.55 BLH19960911KD	35 33 36.10 109 06 32.30	100.000 178	1.1 2321	9.5	21.5R The Navajo Nation	328.1M
241A Nacozari De Garcia	AL0055	VAC ____ SO		189.2 8.9	361.66	30 22 25.40 112 41 32.43	3.000 100	1.1 214	9.5	8.0R	353.7M

Terrain database is 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= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
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.
« = Station meets FCC minimum distance spacing for its class.
Reference station has protected zone issue: Mexico

* Not actual interference will be caused to either KVVA-FM or KOMR(FM) since the worst case 101.5 DBU interference contour will not cover any population. See the Technical Statement for more details.

K294CW

BLFT20160713AAY

Latitude: 33-35-39 N

Longitude: 112-05-08 W

ERP: 0.25 kW

Channel: 294

Frequency: 106.7 MHz

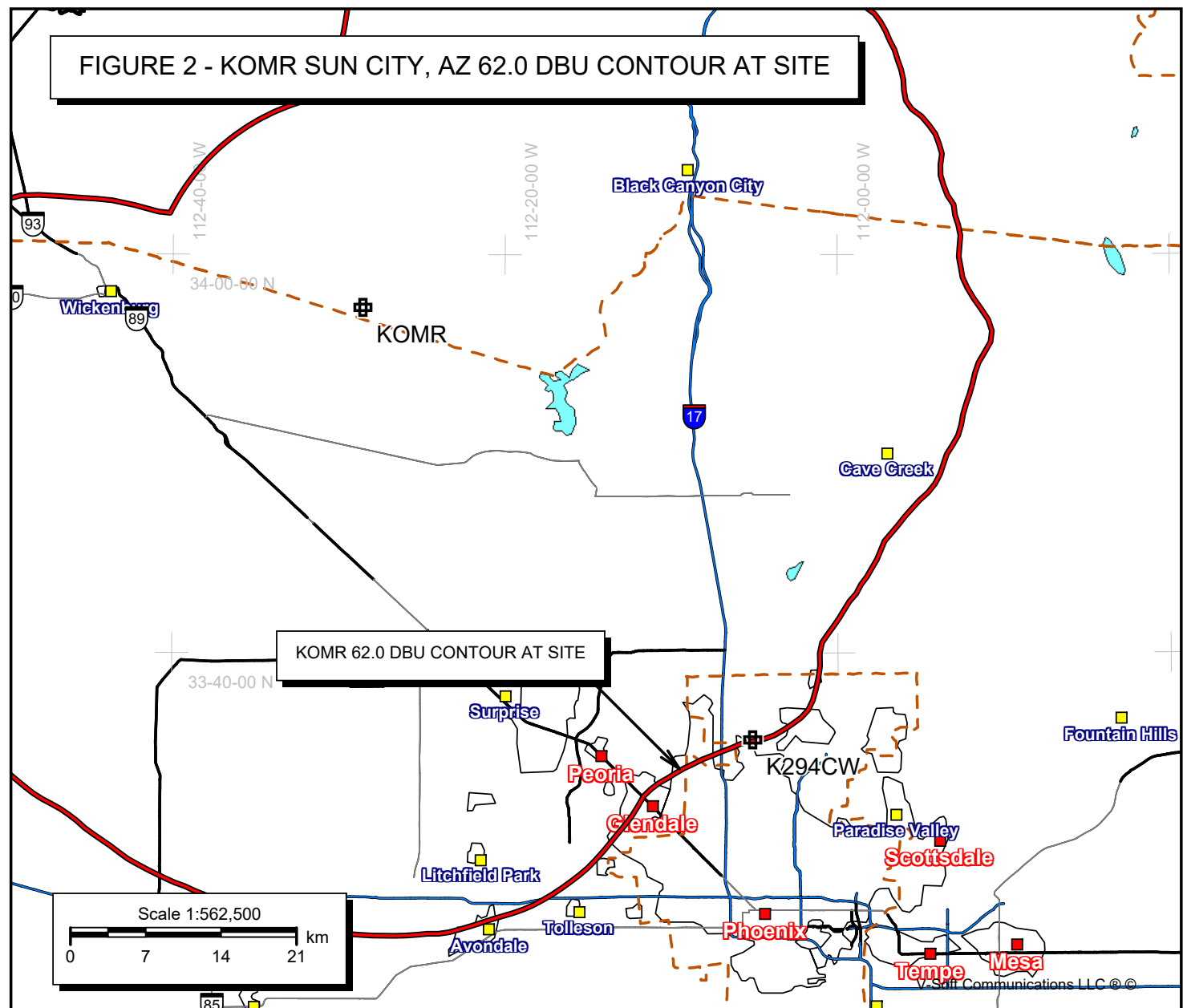
AMSL Height: 665.0 m

Elevation: 645.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

FIGURE 2 - KOMR SUN CITY, AZ 62.0 DBU CONTOUR AT SITE

K294CW

BLFT20160713AAY

Latitude: 33-35-39 N

Longitude: 112-05-08 W

ERP: 0.25 kW

Channel: 294

Frequency: 106.7 MHz

AMSL Height: 665.0 m

Elevation: 645.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

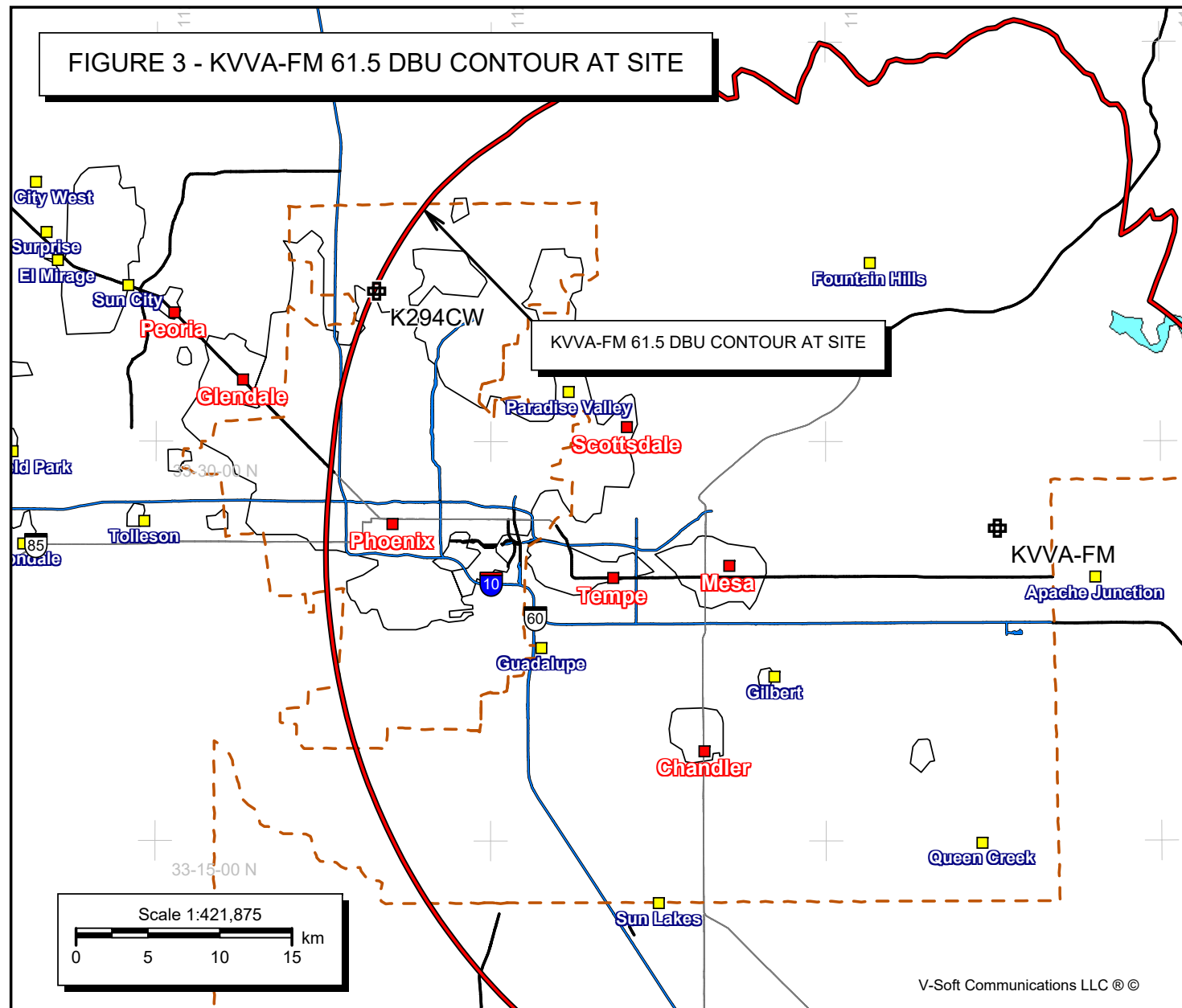
FIGURE 3 - KVVA-FM 61.5 DBU CONTOUR AT SITE

FIGURE 4 - PREDICTED 101.5 DBU INTEFERENCE CONTOUR
K294CW PHOENIX, AZ, CH. 294D

Coverage Study - NGDC 30 SEC
05-21-2020

K294CW CH294 D , 0.15 kW, 0.0m HAAT, 665.0m COR AMSL
Interference Contour = 101.5 dBu. Population = 0

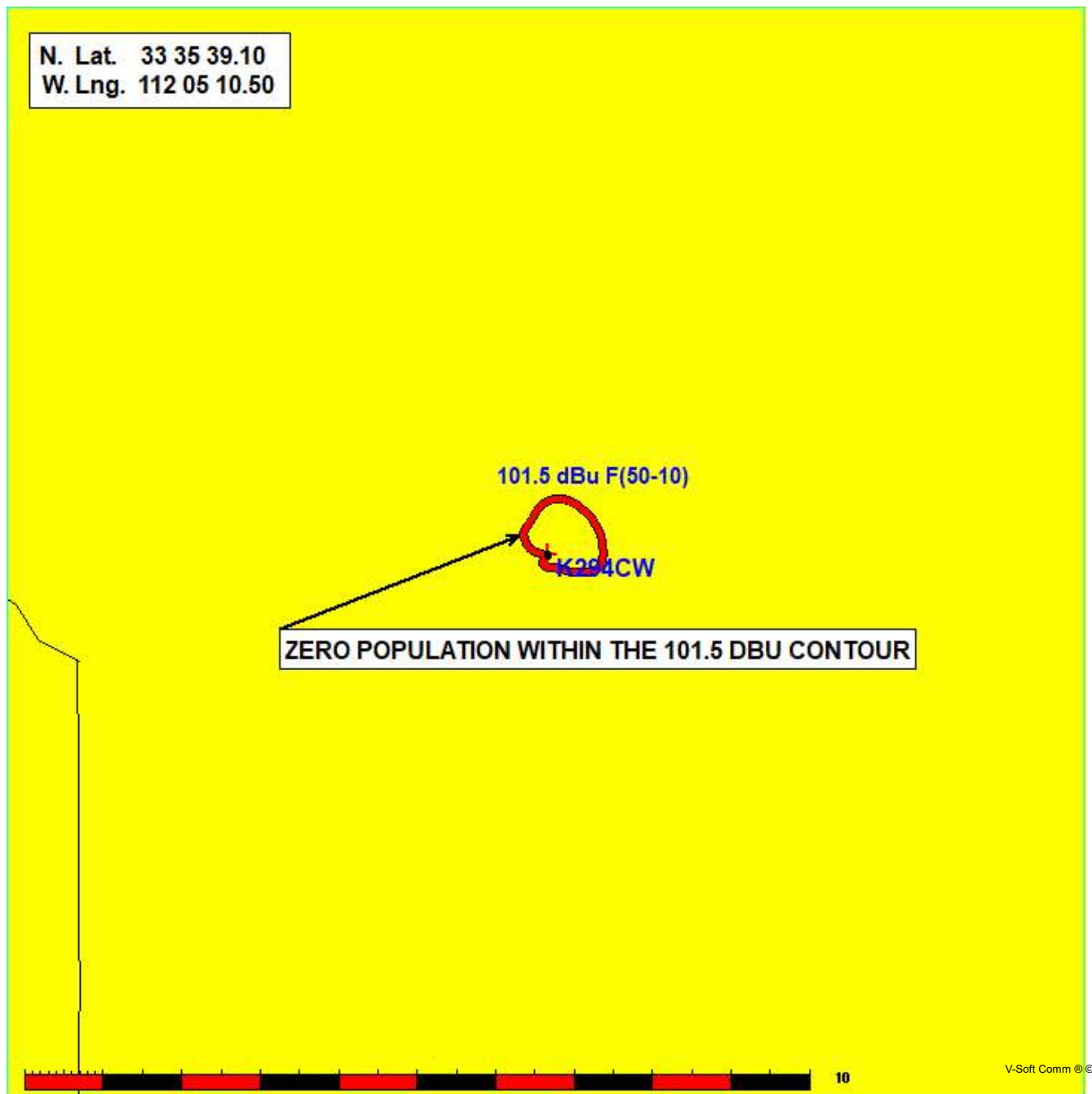


FIGURE 5 USGS 7.5 MINUTE TOPOGRAPHIC MAP OF AREA AROUND SITE

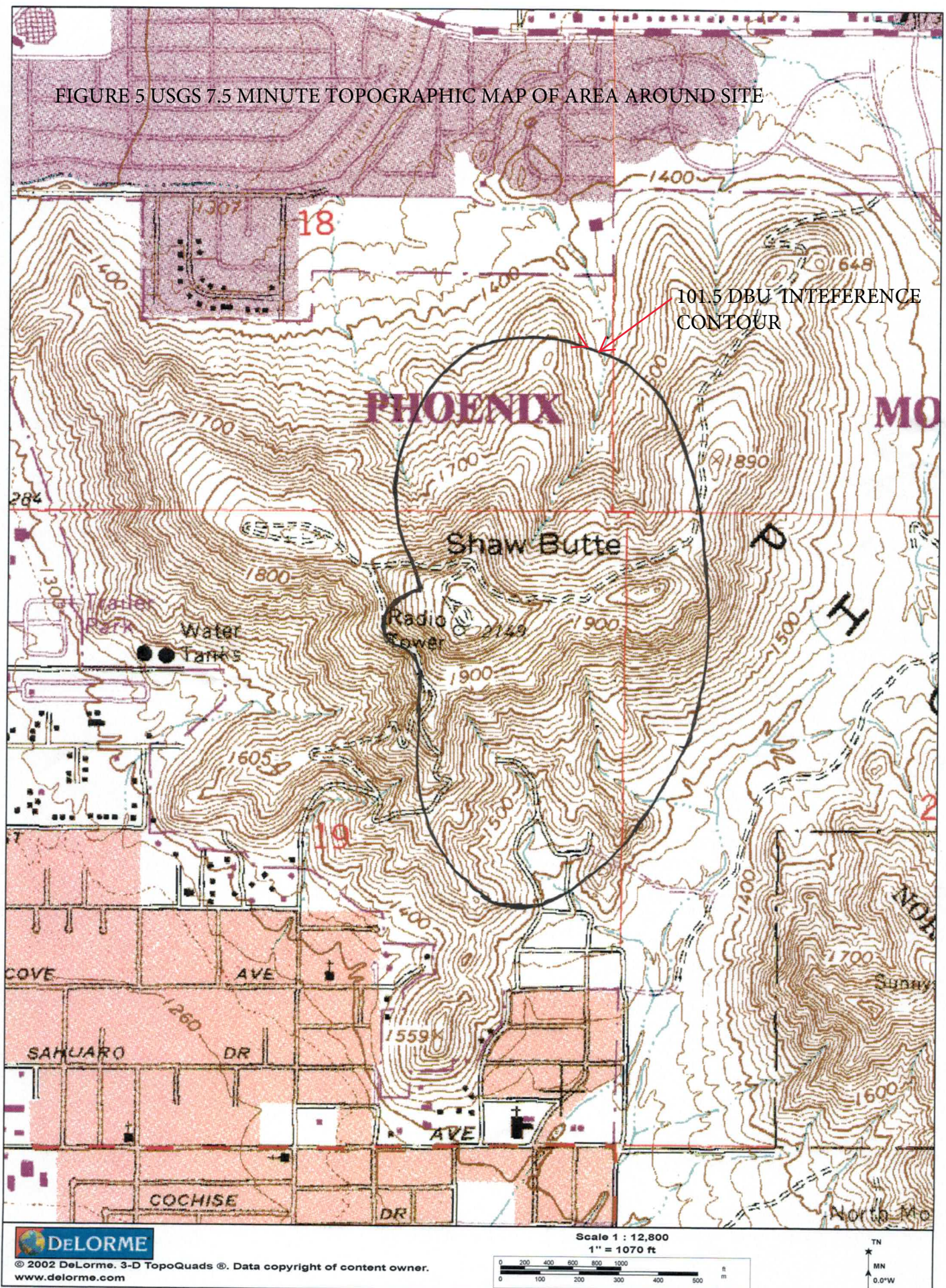


FIGURE 6 - DIRECTIONAL ANTENNA DATA

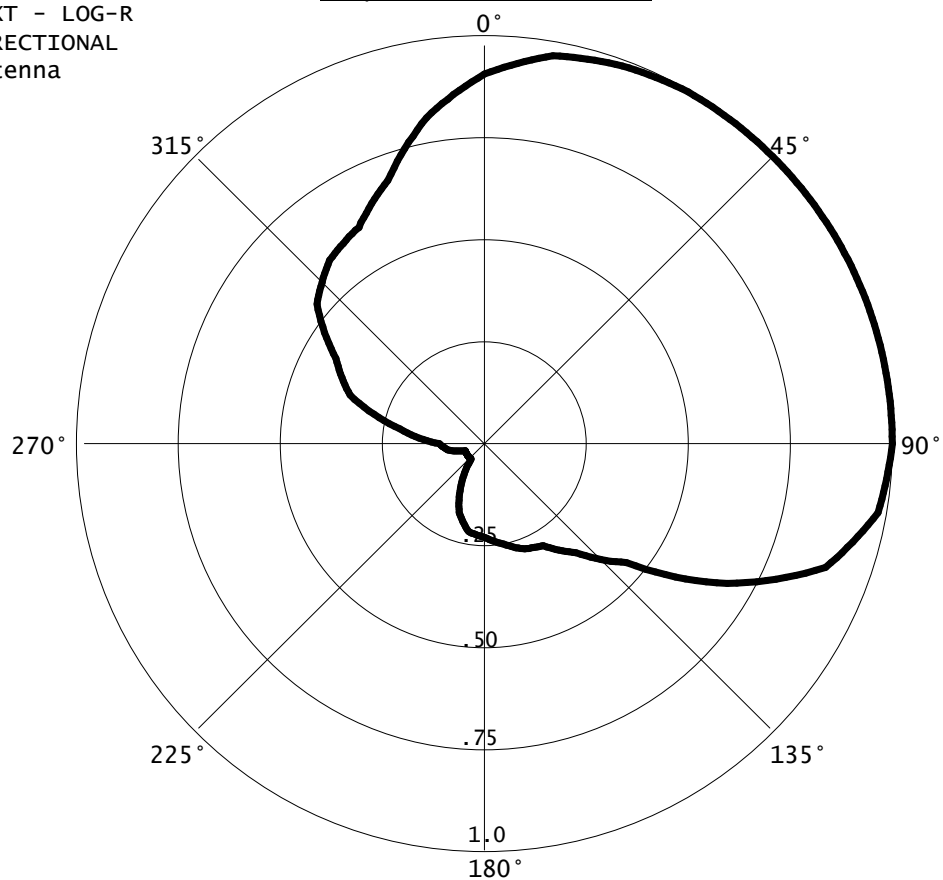
K294CW

05-21-2020

RMS(V)= .649

Graph is Relative FieldBEXT - LOG-R
DIRECTIONAL
Antenna

Azi	Field	dBk	kw
000	0.910	-06.840	0.207
010	0.970	-06.285	0.235
020	0.990	-06.108	0.245
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	0.980	-06.196	0.240
110	0.890	-07.033	0.198
120	0.688	-09.269	0.118
130	0.455	-12.860	0.052
140	0.350	-15.139	0.031
150	0.290	-16.773	0.021
160	0.275	-17.234	0.019
170	0.250	-18.062	0.016
180	0.230	-18.786	0.013
190	0.220	-19.172	0.012
200	0.180	-20.915	0.008
210	0.110	-25.193	0.003
220	0.050	-32.041	0.001
230	0.050	-32.041	0.001
240	0.050	-32.041	0.001
250	0.050	-32.041	0.001
260	0.090	-26.936	0.002
270	0.110	-25.193	0.003
280	0.210	-19.576	0.011
290	0.350	-15.139	0.031
300	0.420	-13.556	0.044
310	0.535	-11.454	0.072
320	0.590	-10.604	0.087
330	0.615	-10.243	0.095
340	0.690	-09.244	0.119
350	0.815	-07.797	0.166



K294CW

BLFT20171129ABI

Latitude: 33-35-38.95 N

Longitude: 112-05-07.96 W

ERP: 0.15 kW

Channel: 294

Frequency: 106.7 MHz

AMSL Height: 665.0 m

Elevation: 645.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

FIGURE 7 - FILL IN MAP WITH KASA(AM)