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COMSEARCH®

January 25, 2001

Mr. Sidney Skjei
Skjei Telecom
7777 Leesburg Pike, Suite 315N
Falls Church, Va. 22043-2403

Re: Bonneville Holding Company
Coordination Final Reports
Salt Lake City, UT (3.8 meter)
C-Band Transmit/Receive Earth Station

Dear Mr. Skjei:

Enclosed please find the Final Report for the proposed Bonneville Holding Company C-band transmit/receive earth station site referenced above.

If you should have any questions, please call.

Sincerely,

COMSEARCH

A handwritten signature in black ink, appearing to read "Puneet K. Sekhon", written in a cursive style.

Puneet K. Sekhon
Engineer
Microwave and Satellite Services

Enclosure

FREQUENCY COORDINATION AND INTERFERENCE
ANALYSIS REPORT

PREPARED FOR
BONNEVILLE HOLDING COMPANY
SALT LAKE CY, UT
SATELLITE EARTH STATION

PREPARED BY
COMSEARCH
2002 EDMUND HALLEY DRIVE
RESTON, VIRGINIA 20191
January 24, 2001

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1. CONCLUSIONS

AN INTERFERENCE STUDY CONSIDERING ALL EXISTING, PROPOSED AND PRIOR COORDINATED MICROWAVE FACILITIES WITHIN THE COORDINATION CONTOURS OF THE PROPOSED EARTH STATION DEMONSTRATES THAT THIS SITE WILL OPERATE SATISFACTORILY WITH THE COMMON CARRIER MICROWAVE ENVIRONMENT. FURTHER, THERE WILL BE NO RESTRICTIONS OF ITS OPERATION DUE TO INTERFERENCE CONSIDERATIONS.

2. SUMMARY OF RESULTS

A NUMBER OF GREAT CIRCLE INTERFERENCE CASES WERE IDENTIFIED DURING THE INTERFERENCE STUDY OF THE PROPOSED EARTH STATION. EACH OF THE CASES WHICH EXCEEDED THE INTERFERENCE OBJECTIVE ON A LINE-OF-SIGHT BASIS WAS PROFILED AND THE PROPAGATION LOSSES ESTIMATED USING NBS TN101 (REVISED) TECHNIQUES. THE LOSSES WERE FOUND TO BE SUFFICIENT TO REDUCE THE SIGNAL LEVELS TO ACCEPTABLE MAGNITUDES IN EVERY CASE.

THE FOLLOWING COMPANIES REPORTED POTENTIAL GREAT CIRCLE INTERFERENCE CONFLICTS WHICH DID NOT MEET THE OBJECTIVES ON A LINE-OF-SIGHT BASIS. WHEN OVER-THE-HORIZON LOSSES ARE CONSIDERED ON THE INTERFERING PATHS, SUFFICIENT BLOCKAGE EXISTS TO NEGATE HARMFUL INTERFERENCE FROM OCCURRING WITH THE PROPOSED TRANSMIT AND RECEIVE EARTH STATION.

COMPANY

AT&T WIRELESS SERVICES - SALT LAKE, UT

NO OTHER CARRIERS REPORTED POTENTIAL INTERFERENCE CASES.

3. SUPPLEMENTAL SHOWING
RE: PART 25.203(C)

PURSUANT TO PART 25.203(C) OF THE FCC RULES AND REGULATIONS,
THE SATELLITE EARTH STATION PROPOSED IN THIS APPLICATION
WAS COORDINATED BY COMSEARCH USING COMPUTER TECHNIQUES
AND IN ACCORDANCE WITH PART 25 OF THE FCC RULES AND
REGULATIONS.

COORDINATION DATA FOR THIS EARTH STATION WAS SENT TO THE
BELOW LISTED CARRIERS WITH A LETTER DATED JANUARY 5, 2001.

ALL WEST COMMUNICATIONS, INC.
AMOCO PRODUCTION COMPANY
AT&T COMMUNICATIONS
AT&T COMMUNICATIONS OF MOUNTAIN STATES
AT&T WIRELESS SERVICES - PROVO, UT
AT&T WIRELESS SERVICES - SALT LAKE, UT
CITIZENS TELECOMMUNICATIONS CO OF UTAH
CORBAN COMMUNICATIONS INC.
DESERET GENERATION & TRANSMISSION COOP
IHC HOSPITALS, INC.
LEGACY WORLDCOM
METRO NETWORKS COMMUNICATIONS INC
NEXTEL LICENSE HOLDINGS 4 INC
PACIFICORP
PILOT BUTTE TRANSMISSION CO., INC.
QUESTAR INFOCOMM, INC.
QWEST COMMUNICATIONS INTERNATIONAL INC.
SPECIALTY ANTENNA SITE RESOURCES, INC.
UTAH COMMUNICATIONS AGENCY
UTAH STATE HIGHWAY PATROL
UTAH STATE ITS/UTAH EDUCATION NETWORK
VOICESTREAM PCS II LICENSE CORPORATION
WASATCH UTAH RSA NO. 2 LTD PARTNERSHIP

4. EARTH STATION COORDINATION DATA

THIS SECTION PRESENTS THE DATA PERTINENT TO FREQUENCY COORDINATION OF THE PROPOSED EARTH STATION WHICH WAS CIRCULATED TO ALL COMMON CARRIERS WITHIN ITS COORDINATION CONTOURS.

SATELLITE EARTH STATION
FREQUENCY COORDINATION DATA

Company	BONNEVILLE HOLDING COMPANY		
Owner code	S01150		
Earth Station Name, State	SALT LAKE CY, UT		
Call Sign	SALT LAK		
Latitude (DMS) (NAD83)	40 46 11.8 N		
Longitude (DMS) (NAD83)	111 54 5.8 W		
Ground Elevation AMSL (Ft/m)	4255.13 / 1296.90		
Antenna Centerline AGL (Ft/m)	45.02 / 13.72		
Receive Antenna Type:	FCC32	VERTEX 3.8 METER	
4.0 GHz Gain (dBi) / Diameter (m)	41.8 / 3.8		
3 dB / 15 dB Half Beamwidth	1.35 / 2.84		
Transmit Antenna Type:	FCC32	VERTEX 3.8 METER	
6.0 GHz Gain (dBi) / Diameter (m)	45.9 / 3.8		
3 dB / 15 dB Half Beamwidth	0.87 / 1.83		
Operating Mode	TRANSMIT AND RECEIVE		
Modulation	DIGITAL		
Emission / Receive Band (MHz)	520KG7D	6M00G7D /	3700.0000 - 3710.0000
	520KG7D	6M00G7D /	3940.0000 - 3960.0000
	520KG7D	6M00G7D /	4020.0000 - 4040.0000
	520KG7D	6M00G7D /	4190.0000 - 4200.0000
Emission / Transmit Band (MHz)	360KG7D	6M00G7D /	5925.0000 - 5935.0000
	360KG7D	6M00G7D /	6165.0000 - 6185.0000
	360KG7D	6M00G7D /	6245.0000 - 6265.0000
	360KG7D	6M00G7D /	6415.0000 - 6425.0000
Max. Available RF Power (dBW)/4 kHz	-20.40		
(dBW)/MHz	3.60		
Max. EIRP (dBW)/4 kHz	25.50		
(dBW)/MHz	49.50		
Max permissible Interference Power			
4.0 GHz, 20% (dBW/1 MHz)	-156.0		
4.0 GHz, 0.0100% (dBW/1 MHz)	-146.0		
6.0 GHz, 20% (dBW/4 kHz)	-154.0		
6.0 GHz, 0.0025% (dBW/4 kHz)	-131.0		
Range of Satellite Arc (Geostationary)			
Degrees Longitude	97.0 W / 101.0 W		
Azimuth Range (Min/Max)	157.8 / 163.6		
Corresponding Elevation Angles	40.4 / 41.5		
Radio Climate	A		
Rain Zone	5		
Max Great Circle Coordination Distance (Mi/Km)			
4.0 GHz	184.6 / 297.1		
6.0 GHz	75.0 / 120.7		
Precipitation Scatter Contour Radius (Mi/Km)			
4.0 GHz	62.1 / 100.0		
6.0 GHz	62.1 / 100.0		

Table of Earth Station Coordination Values

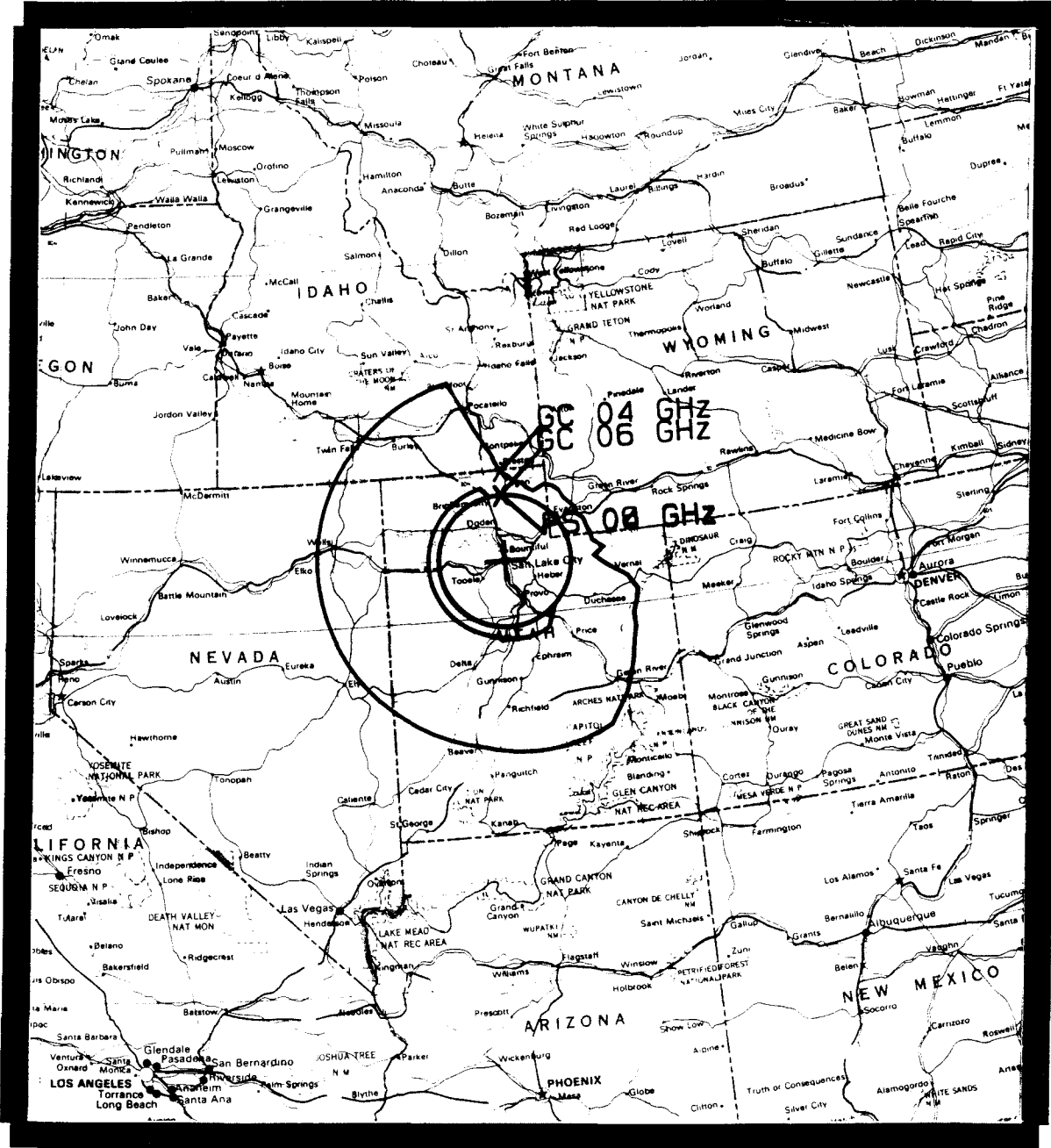
Earth Station Name SALT LAKE CY UT
 Owner BONNEVILLE HOLDING COMPANY
 Latitude (DMS) (NAD83) 40 46 11.8 N
 Longitude (DMS) (NAD83) 111 54 5.8 W
 Ground Elevation (Ft/m) 4255.13 / 1296.90 AMSL
 Antenna Centerline (Ft/m) 45.02 / 13.72 AGL
 Antenna Model VERTEX 3.8 METER
 Objectives: Receive -156.0 (dBW /1 MHz)
 Transmit -154.0 (dBW /4 kHz) TX Power -20.4 (dBW/4 kHz)

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4.0 GHz		6.0 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
0	4.77	138.80	-10.00	136.6	-10.00	100.0
5	5.56	136.88	-10.00	129.4	-10.00	100.0
10	6.33	134.50	-10.00	121.5	-10.00	100.0
15	6.35	131.30	-10.00	121.3	-10.00	100.0
20	6.89	128.15	-10.00	115.5	-10.00	100.0
25	6.98	124.56	-10.00	114.5	-10.00	100.0
30	5.41	120.15	-10.00	130.8	-10.00	100.0
35	5.03	116.23	-10.00	134.5	-10.00	100.0
40	4.96	112.35	-10.00	134.1	-10.00	100.0
45	5.46	108.54	-10.00	130.3	-10.00	100.0
50	5.44	104.53	-10.00	130.5	-10.00	100.0
55	5.21	100.45	-10.00	132.7	-10.00	100.0
60	5.59	96.42	-10.00	129.1	-10.00	100.0
65	5.06	92.31	-10.00	134.2	-10.00	100.0
70	5.16	88.23	-10.00	133.2	-10.00	100.0
75	4.88	84.17	-10.00	135.1	-10.00	100.0
80	4.90	80.12	-10.00	134.9	-10.00	100.0
85	3.93	76.28	-10.00	149.3	-10.00	100.0
90	4.91	72.12	-10.00	134.8	-10.00	100.0
95	3.77	68.52	-10.00	152.6	-10.00	100.0
100	2.37	65.22	-10.00	185.9	-10.00	100.0
105	1.55	61.95	-10.00	204.3	-10.00	100.0
110	1.43	58.55	-10.00	207.4	-10.00	100.0
115	1.36	55.29	-10.00	209.4	-10.00	100.0
120	0.99	52.41	-10.00	220.7	-10.00	100.0
125	0.84	49.65	-10.00	229.1	-10.00	100.0
130	0.62	47.22	-9.85	243.1	-9.85	100.0
135	0.48	45.05	-9.34	255.9	-9.34	100.0
140	0.37	43.23	-8.89	270.7	-8.89	104.8
145	0.30	41.80	-8.53	282.2	-8.53	111.8
150	0.00	41.06	-8.33	296.0	-8.33	120.3
155	0.00	40.52	-8.19	297.0	-8.19	120.7
160	0.00	40.48	-8.18	297.1	-8.18	120.7
165	0.00	40.96	-8.31	296.2	-8.31	120.4
170	0.00	41.89	-8.55	294.6	-8.55	119.7
175	0.00	42.81	-8.79	293.1	-8.79	119.1
180	0.00	44.12	-9.12	290.9	-9.12	118.3

Table of Earth Station Coordination Values

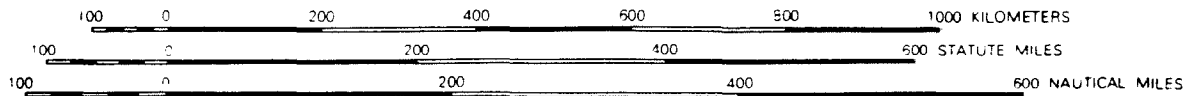
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Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4.0 GHz		6.0 GHz	
			Antenna Gain (dBi)	Coordination Distance (Km)	Antenna Gain (dBi)	Coordination Distance (Km)
185	0.00	45.84	-9.53	288.2	-9.53	117.2
190	0.00	47.92	-10.00	285.2	-10.00	116.0
195	0.00	50.31	-10.00	285.2	-10.00	116.0
200	0.00	52.98	-10.00	285.2	-10.00	116.0
205	0.00	55.87	-10.00	285.2	-10.00	116.0
210	0.00	58.95	-10.00	285.2	-10.00	116.0
215	0.00	62.19	-10.00	285.2	-10.00	116.0
220	0.00	65.55	-10.00	285.2	-10.00	116.0
225	0.00	69.03	-10.00	285.2	-10.00	116.0
230	0.00	72.59	-10.00	285.2	-10.00	116.0
235	0.00	76.21	-10.00	285.2	-10.00	116.0
240	0.00	79.89	-10.00	285.2	-10.00	116.0
245	0.00	83.60	-10.00	285.2	-10.00	116.0
250	0.00	87.33	-10.00	285.2	-10.00	116.0
255	0.00	91.07	-10.00	285.2	-10.00	116.0
260	0.00	94.81	-10.00	285.2	-10.00	116.0
265	0.00	98.53	-10.00	285.2	-10.00	116.0
270	0.00	102.22	-10.00	285.2	-10.00	116.0
275	0.00	105.87	-10.00	285.2	-10.00	116.0
280	0.00	109.46	-10.00	285.2	-10.00	116.0
285	0.00	112.97	-10.00	285.2	-10.00	116.0
290	0.00	116.39	-10.00	285.2	-10.00	116.0
295	0.00	119.68	-10.00	285.2	-10.00	116.0
300	0.00	122.84	-10.00	285.2	-10.00	116.0
305	0.00	125.81	-10.00	285.2	-10.00	116.0
310	0.00	128.58	-10.00	285.2	-10.00	116.0
315	0.00	131.09	-10.00	285.2	-10.00	116.0
320	0.00	133.31	-10.00	285.2	-10.00	116.0
325	0.00	135.19	-10.00	285.2	-10.00	116.0
330	0.00	136.68	-10.00	285.2	-10.00	116.0
335	0.00	137.74	-10.00	285.2	-10.00	116.0
340	0.00	138.33	-10.00	285.2	-10.00	116.0
345	0.00	138.43	-10.00	285.2	-10.00	116.0
350	1.69	139.68	-10.00	202.8	-10.00	100.0
355	3.12	139.46	-10.00	166.8	-10.00	100.0



SCALE 1:10,000,000

1 INCH EQUALS 158 MILES



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2002 Edmund Halley Drive

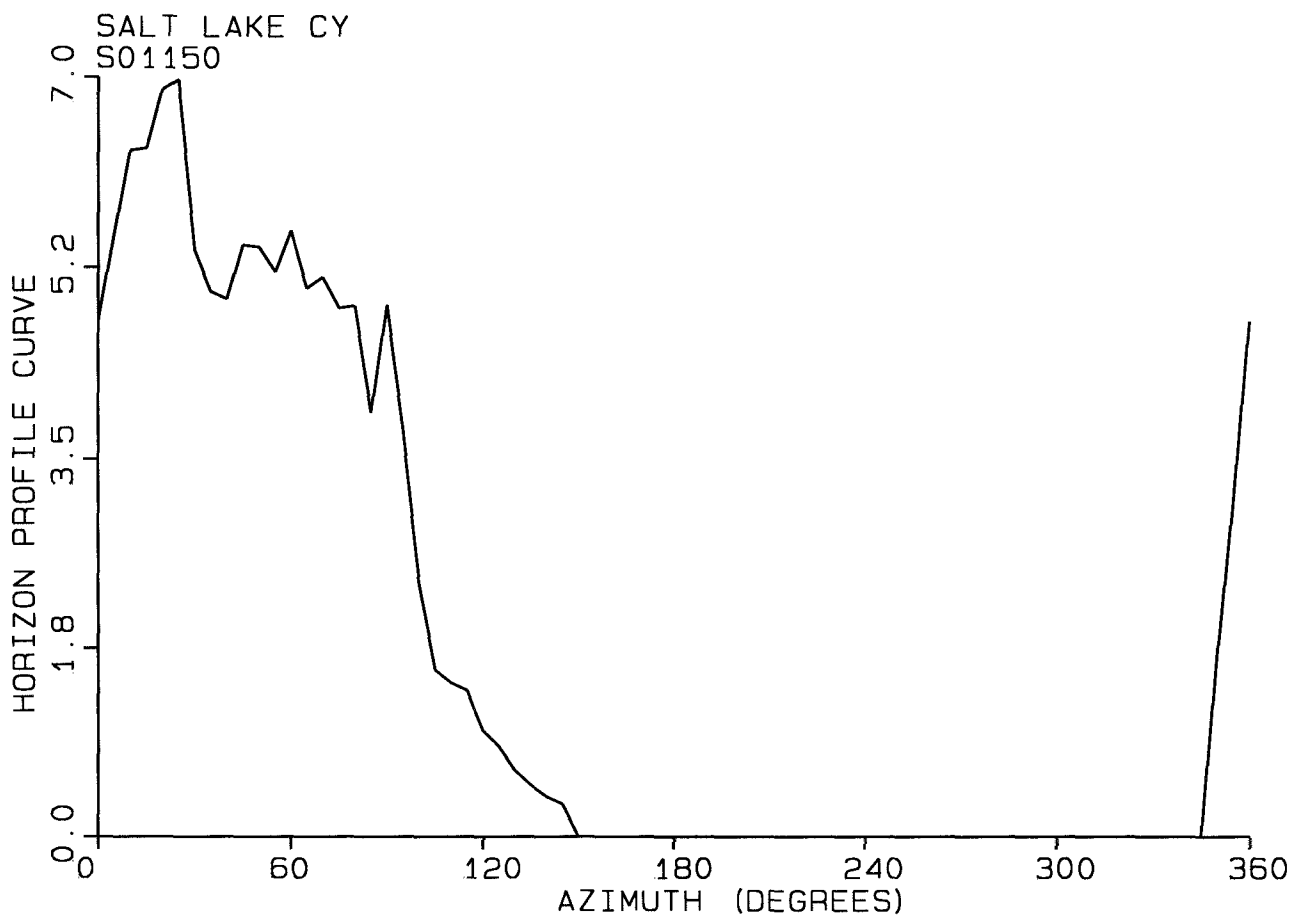
Reston, VA 20191 USA

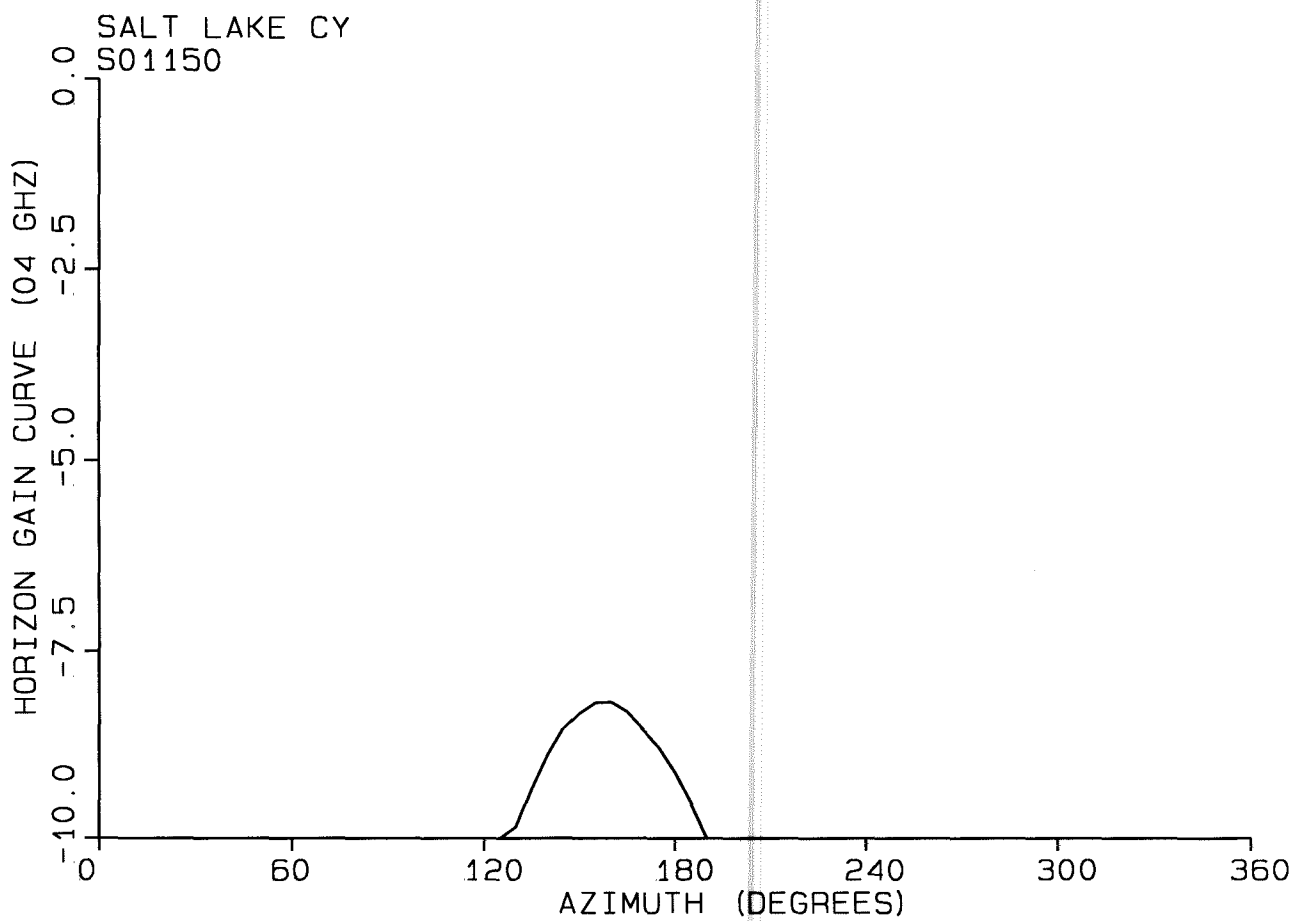
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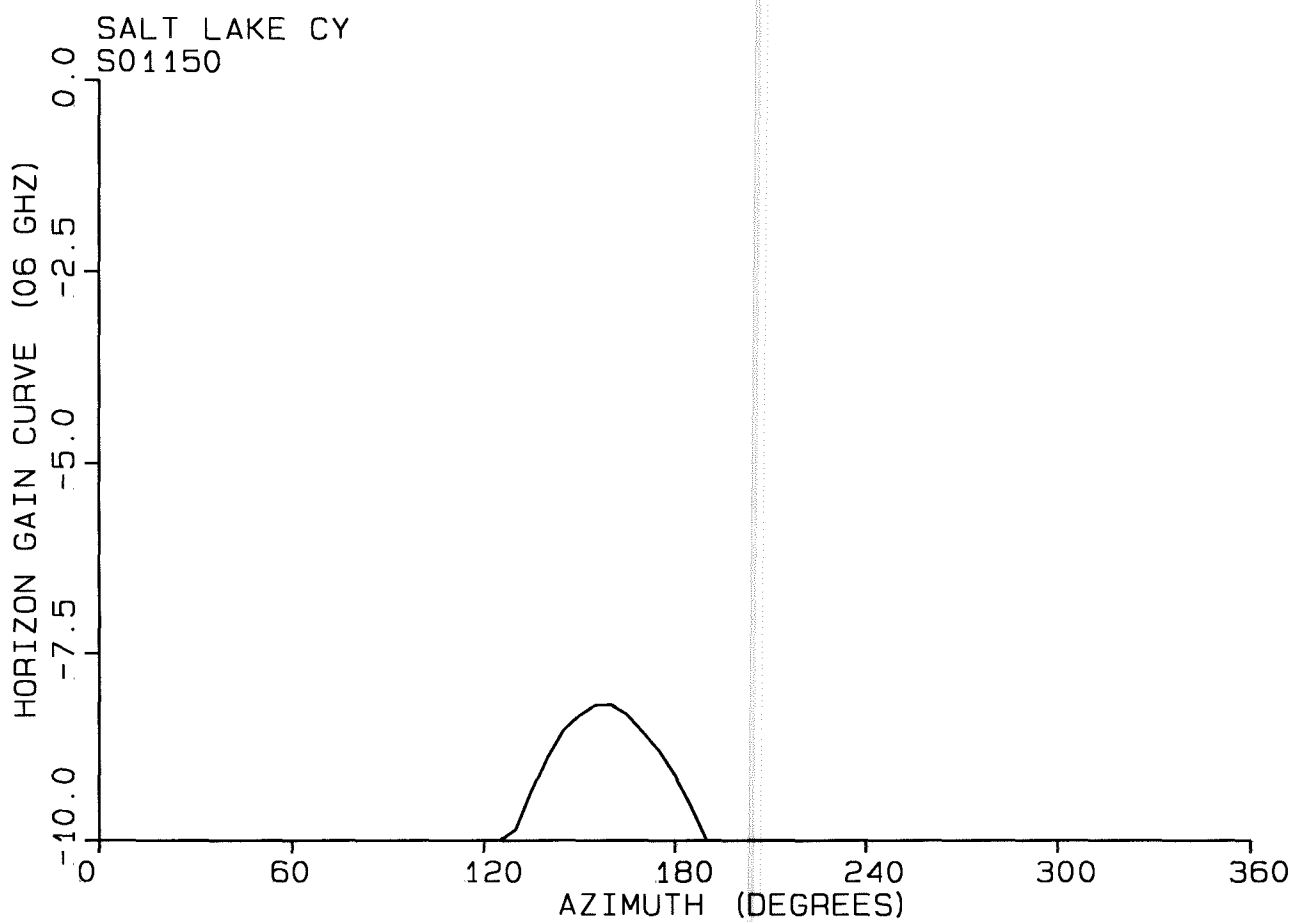
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5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: _____



PUNEET K. SEKHON
ENGINEER
COMSEARCH
2002 EDMUND HALLEY DRIVE
RESTON, VIRGINIA 20191

DATED: January 24, 2001