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Tabulations of Propagation Data Over Irregular Terrain in the 230-to 9200-MHz Frequency Range

Part III: North Table Mountain-Golden

P. L. McQUATE

J. M. HARMAN

M. E. McCLANAHAN

A. P. BARSIS

BOULDER, COLO.
JULY 1970



U. S. DEPARTMENT OF COMMERCE

Maurice H. Stans, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Robert M. White, Administrator

RESEARCH LABORATORIES

Wilmot N. Hess, Director

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TABULATIONS OF PROPAGATION DATA OVER IRREGULAR TERRAIN
IN THE 230- TO 9200-MHz FREQUENCY RANGE

Part III: North Table Mountain - Golden

P. L. McQuate, J. M. Harman,
M. E. McClanahan, and A. P. Barsis

This is the third part of a four-part report containing tabulations and graphs of transmission loss data resulting from propagation experiments in the 230- to 9200-MHz frequency range conducted over irregular terrain in Colorado. This part describes data obtained at a common receiver site, which is located on a high mesa near Golden, Colorado, over propagation paths varying in length from 0.5 to 80 km.

Key Words: Elevated antennas, irregular terrain,
UHF propagation data

1. Introduction

The purpose of this four-part report series is to present tabulations of transmission loss data for propagation over irregular terrain in Colorado with path lengths ranging from 0.5 to 120 km at seven frequencies in the 230- to 9200-MHz range.

The measurement program was sponsored by the U. S. Army Electronics Command and the U. S. Security Agency as a part of a study of propagation characteristics under conditions resembling the operations of an army in the field.

Part I of this series (McQuate, Harman, and Barsis, 1968) presented data obtained at a common receiver site R1 located near the summit of a hill in the open plains area near Boulder, Colorado. Several of the transmitting sites were located in the mountains west of

Boulder; all others were located in the relatively open and rolling plains area.

Part II of this series (McQuate, Harman, Johnson, and Barsis, 1968) presented data obtained at a common receiver site R2, located in the mountains about 20 km west of Boulder. The mountains shield this site from the plains. Only 8 of the 44 transmitting sites associated with this receiving location are in the plains area.

This, the third part of the four-part report series, presents data obtained from common receiver site R3 located on the eastern edge of a high mesa (see fig. 1) at a juncture between the mountains and the plains. The mesa, identified as North Table Mountain, is located

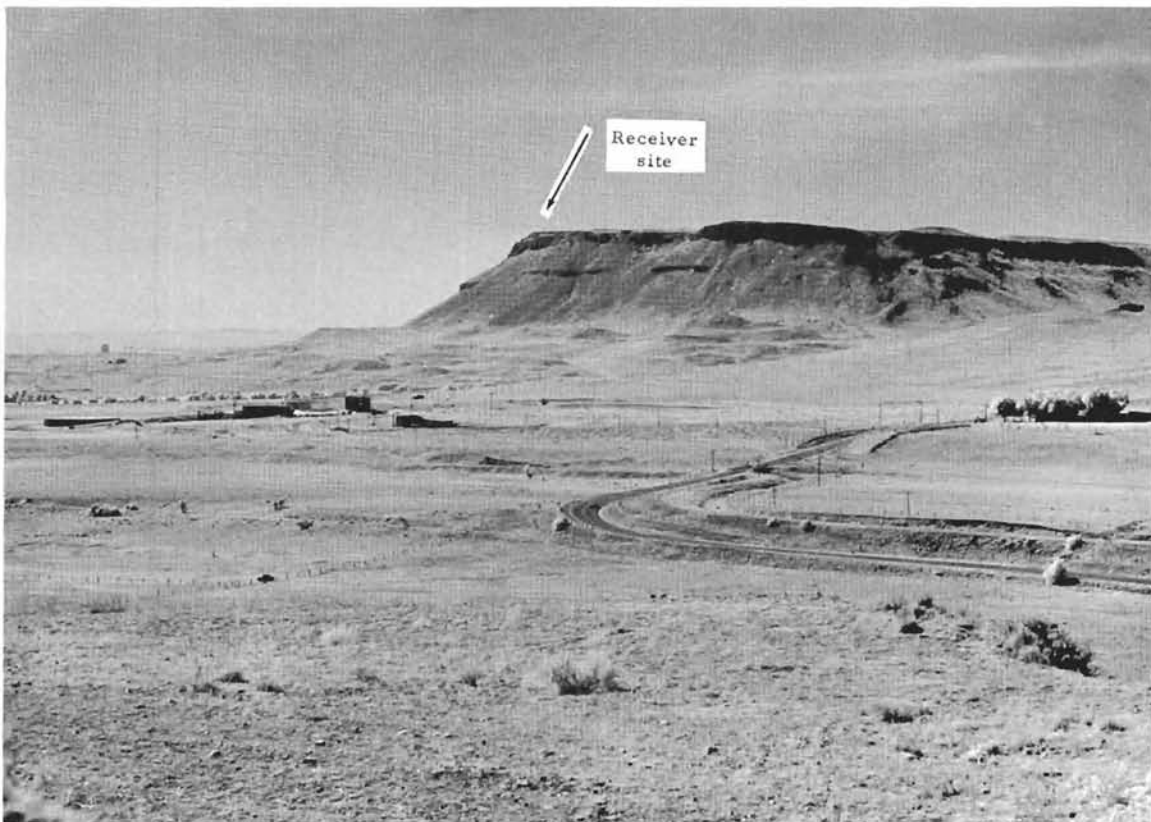


Figure 1. View of the common receiver site from a point near the transmitter site R3-5-T1.

about 3 km northeast of Golden, Colorado, and is visible to most of the 57 transmitting sites associated with the common receiver site. This site was selected to represent propagation from the ground to low-flying aircraft. To obtain as many different propagation paths as possible, all measurements were made with mobile transmitters and a fixed receiving site.

2. Measurement Program

Figure 2 presents an overall view of the measurement area and the distribution of the transmitter locations. It shows most of the 57 measurement locations arranged in concentric circles around the common receiving site at nominal distances of 0.5, 3, 5, 10, 20, 30, 40, 50, 55, 60, and 80 km.

Figures 3 and 4 are panoramic views of the measurement area taken from the antenna tower at the common receiver site. The bearings are measured clockwise from true north. All transmitting sites lie east of the mountains in the relatively open and rolling plains area. No transmitting sites are located in the city of Denver or near the Stapleton International Airport approach corridor east of the city. Most of the transmitting sites were selected to provide a clear, unobstructed foreground in the direction of the receiving antenna. However, eight transmitting sites were selected so that the transmitting installation, including the antennas, would be at least partly concealed from the receiving antenna at the transmitting terminal by the surrounding vegetation to represent a "concealed" location. Each concealed site has a "companion" open site; i. e., a site with a clear unobstructed foreground in the direction of the receiver. These sites are selected so that they are not more than 100 m apart and have essentially a common terrain profile.

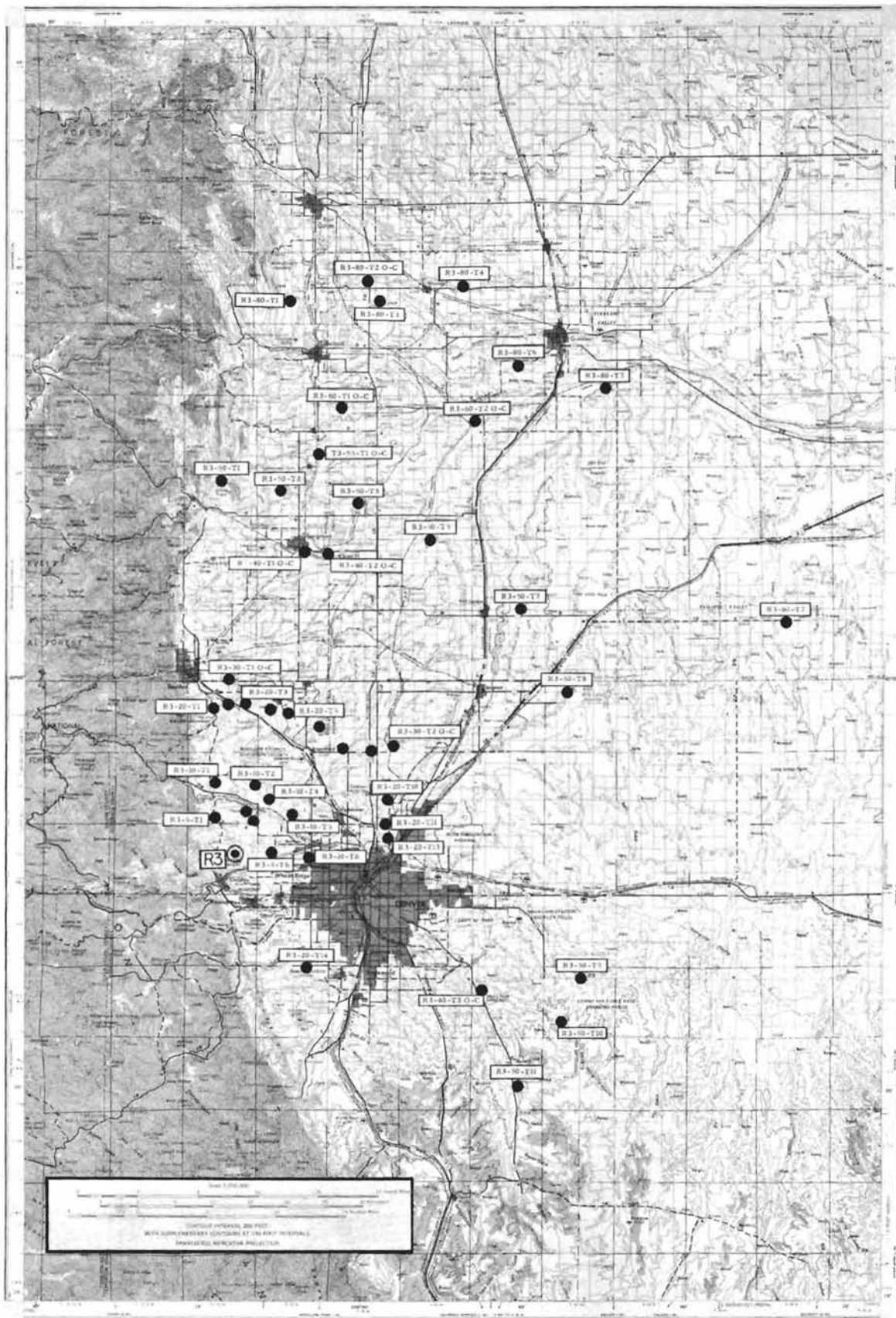


Figure 2. Layout of measurement points.

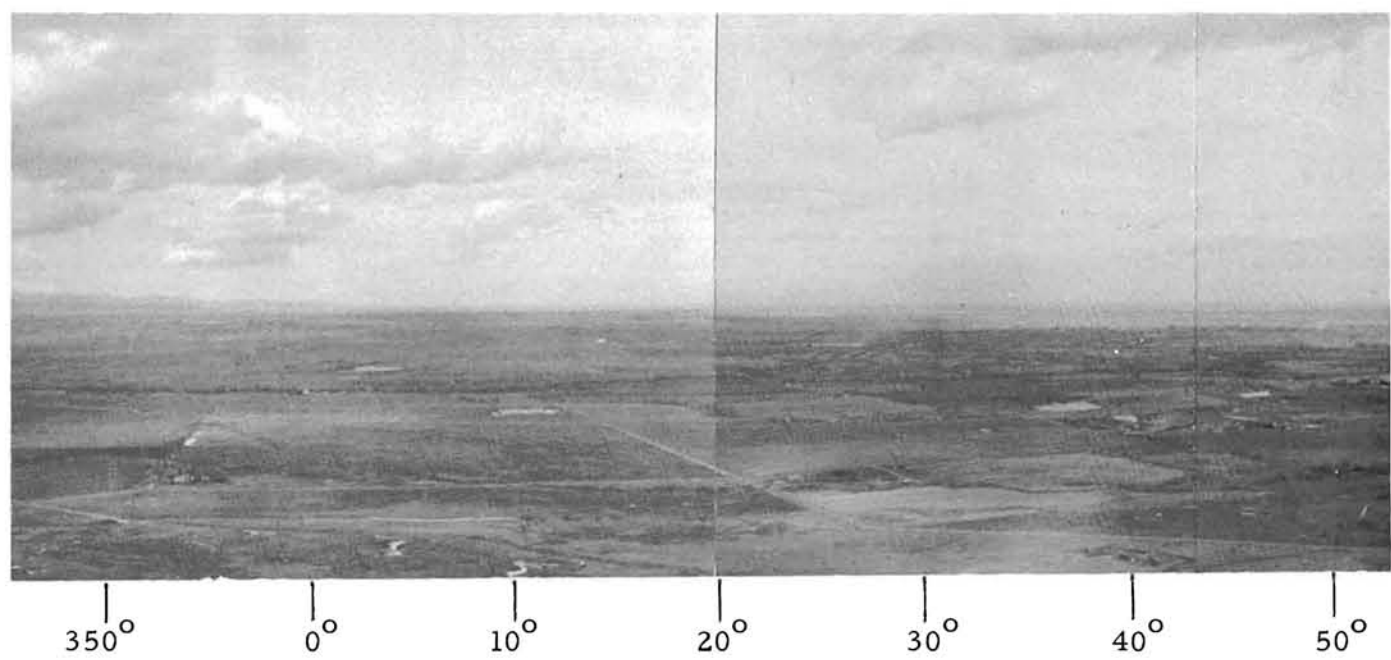


Figure 3. Panoramic view of the northern sector from the common receiver site. Azimuth in degrees from true north.

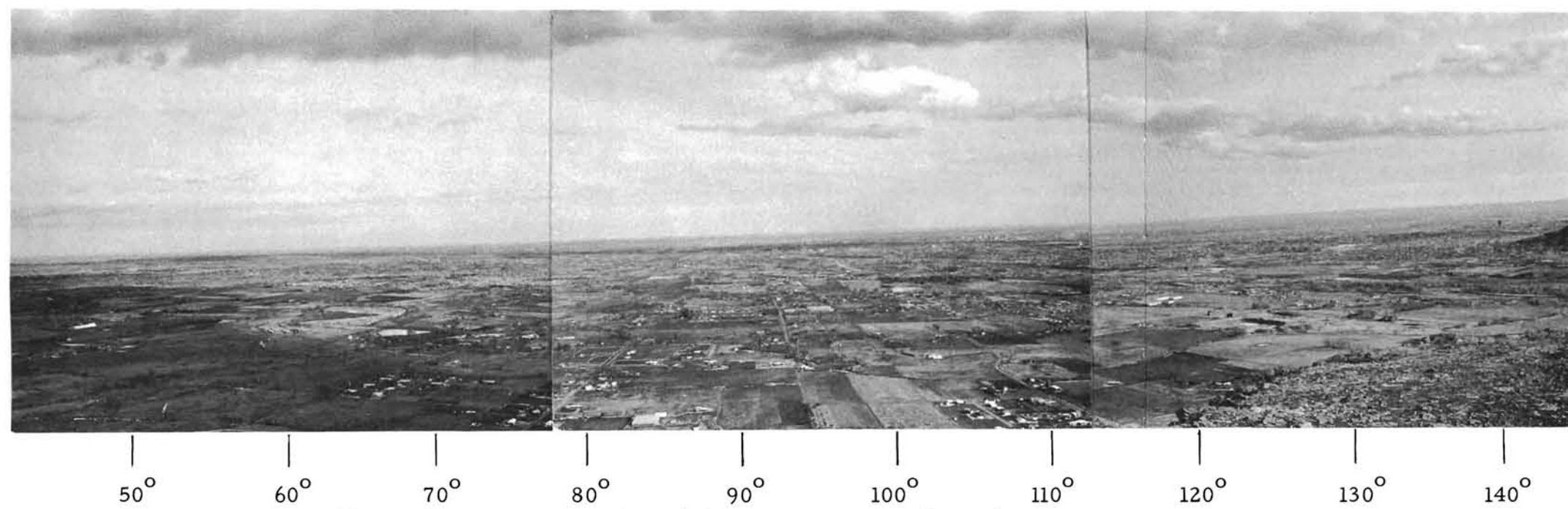


Figure 4. Panoramic view of the eastern sector from the common receiver site. Azimuth in degrees from true north.

All transmissions were continuous wave and frequencies of 230, 410, 751, 910, 1846, and 9190 MHz were used with horizontal polarization only.

3. Receiving Equipment

The seven frequencies were divided into two groups and separate receiver trailers and transmitter vans were outfitted for each group. Figure 5 shows the low frequency group (230, 410, and 751 MHz) receiver trailer at common receiver site R2 and figure 6 shows the receiver trailer, at common receiver site R1, used for the four higher frequencies (910, 1846, 4595, and 9190 MHz). Both figures show the antennas associated with each frequency group mounted on movable carriages attached to identical towers. The carriage can be installed on any of the four tower faces and can be raised or lowered between the limits of 1 and 15 km above ground at a speed of approximately 0.6 m/sec. A servo system, attached to the antenna carriage, drives a strip-chart recorder upon which continuous signal strength versus antenna height recordings were made.

Figure 7, a photograph taken from a ledge on the eastern face of the mesa, shows the receiver antenna tower at the R3 location with the 910-, 1846-, 4595-, and 9190-MHz receiving antennas elevated about 11 m above the ground and the great difference in elevation between this common receiver location and the valley below it. The photograph also indicates that the tower is not erected on the edge of the mesa. It is set back about 8 m from the edge to provide space for guying. This set-back causes the edge of the mesa to obstruct most of the paths at low receiver antenna elevations (at elevations up to 2.0 m above ground for the 3-km paths).

The same type of transmitting and receiving antennas were used for each frequency, and the electrical characteristics of each pair of



Figure 5. The low frequency receiving unit at common receiver site R2.

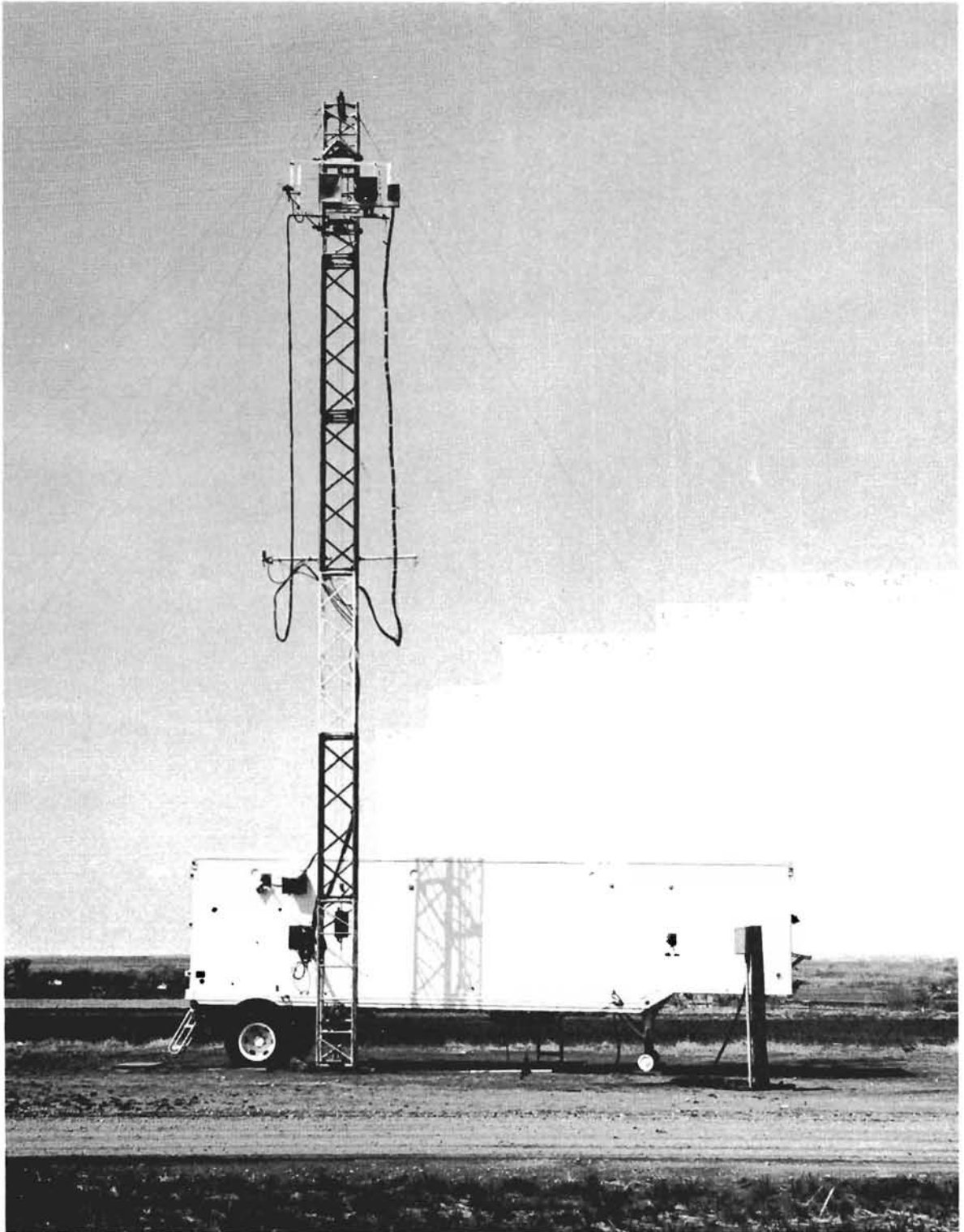


Figure 6. The upper frequency receiving equipment at common receiver site R1.

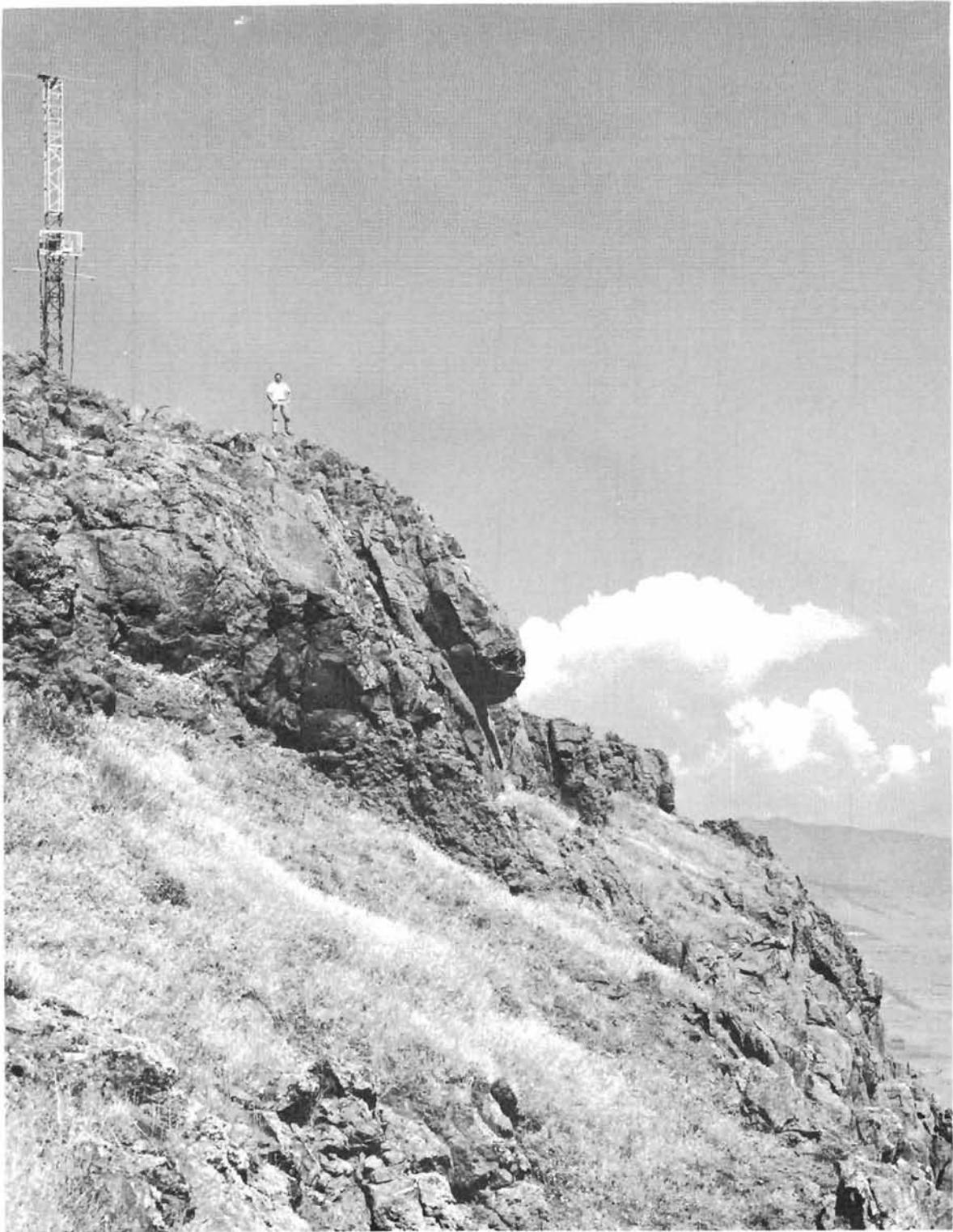


Figure 7. The upper frequency antenna tower at common receiver site R3.

antennas were also almost identical. These parameters are given in table 1. The voltage standing-wave ratio of the antenna systems, as viewed from the receiver inputs, exhibited essentially no change as the antennas were moved up and down the tower.

Propagation data for the higher four frequencies were obtained between June 21 and August 5, 1966, and data for the three lower frequencies were obtained between September 9 and October 10, 1966.

4. Transmitting Equipment

The transmitting equipment was housed in two mobile vans; one was used for the three lower frequencies, the other for the four higher frequencies. Figures 8 and 9 show the vans at separate transmitting sites. The antennas were mounted side by side on a framework attached to a rigid mast that pivoted in elevation and azimuth on a base mounted on the top of the transmitter van. This arrangement assured constant antenna height for each frequency group (6.6 m for the lower frequency group and 7.3 m for the higher). After the antenna assembly had been raised and before transmission, the antennas were oriented to the path azimuth by a siting device mounted on the antenna mast, if the common receiver location was visible, or with the aid of a compass when the receiver location was obscured by terrain or atmospheric conditions.

5. Data Presentation and Tabulations

The data are arranged and coded as in parts I and II of this report series; i. e., by path distance and for each distance sequentially by azimuth counted clockwise from true north. For example, R3-10-T4 indicates a 10-km path from the common receiver site R3 to transmitter T4, which is the fourth site at the 10-km distance counted clockwise from true north. Pairs of open and concealed sites are denoted by the standard site designation followed by "open" or "O" for open or

Table 1. Antenna Parameters

Freq. in MHz	1/2 Power Beamwidth	Description	Free-Space Gain Above Isotropic, dB	Height Above Ground, m	
				Transmitting	Receiving
230	38°	half-wave center-fed dipole with reflector	6.9	6.6	1-15 (continuously variable at all frequencies)
410	58°	three-element Yagi with reflector	8.6	6.6	
751	59°	half-wave center-fed folded dipole with reflector	7.9	6.6	
910	52.5°	four-element Yagi with reflector	9.1	7.3	
1846	33°	horn	15.2	7.3	
4595	12.5°	horn	19.7	7.3	
9190	12.5°	horn	21.0	7.3	



Figure 8. Lower frequency group transmitting unit.



Figure 9. Upper frequency group transmitting unit.

unobstructed sites, or "concealed" or "C" for sites that are at least partly concealed by vegetation at the transmitter site.

The data for each transmission path usually comprise three pages arranged in the following order:

The first page includes site designation and code with the photograph(s) of terrain taken at the transmitter site in the direction of the receiver.

The second page contains a graph of basic transmission loss versus receiving antenna height derived from the path-loss measurements with the site designation and code and measurement data for each group indicated; only data from open sites are shown here. In addition to the free-space basic transmission loss, values of maximum measurable loss are also indicated for all frequencies, if the received signal level was below the receiver noise level.

A number of these graphs do not show curves for all seven frequencies. Curves for some frequencies are omitted because of equipment malfunction, temporary inaccessibility of transmitter sites, obvious calibration errors, and misalignments of antennas.

The third page shows again the site code and includes the following:

(a) The path profile, with site elevation and path length indicated, drawn in each case by using an effective earth radius based on a surface refractivity value of 290 N-units. This represents an average for the area where the measurements were made.

(b) The results of the time recording before each height-gain run, shown below the path profiles and designated " L_b (dB) short term signal variability". The 50 percent value is defined as the dB value exceeded 50 percent of the time during the time recording period and the 10 - 90 percent value is defined as the dB difference

between the levels of the received signal exceeded for 90 percent and 10 percent of the time recording period.

(c) Field notes describing the terrain and significant obstacles along the transmission path.

Additional pages (where applicable) include data for the "O" and "C" pairs of basic transmission loss versus receiving antenna height, and pertinent profile information, time run data, and descriptive material related to the concealed site.

6. Acknowledgements

Nearly all personnel within the Tropospheric Radio Systems Predictions Group of the Institute for Telecommunication Sciences participated in the collection, analysis, and evaluation of the data.

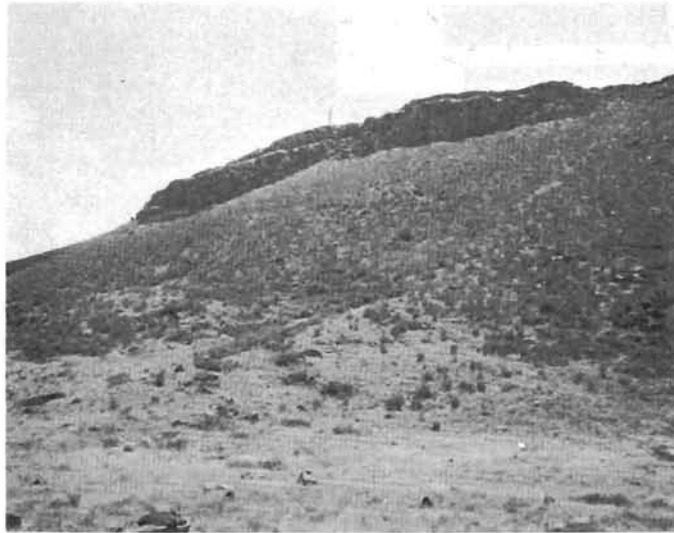
7. References

- McQuate, P. L., J. M. Harman, and A. P. Barsis (1968), Tabulations of propagation data over irregular terrain in the 230- to 9200-MHz frequency range, Part I: Gunbarrel Hill receiver site, ESSA Tech. Rept. ERL 65-ITS 58 (U. S. Govt. Printing Office, Washington, D. C.).
- McQuate, P. L., J. M. Harman, M. E. Johnson, and A. P. Barsis (1968), Tabulations of propagation data over irregular terrain in the 230- to 9200-MHz frequency range, Part II: Fritz Peak receiver site, ESSA Tech. Rept. ERL 65-ITS 58-2 (U. S. Govt. Printing Office, Washington, D. C.).

8. Tabulation of Data

Propagation data tabulations are presented on pages 17 through 216. Figure numbers in this section have been omitted since all data, pictures, and graphs are identified by the appropriate site code number.

R3-0.5-T1
EASLEY ROAD NORTH



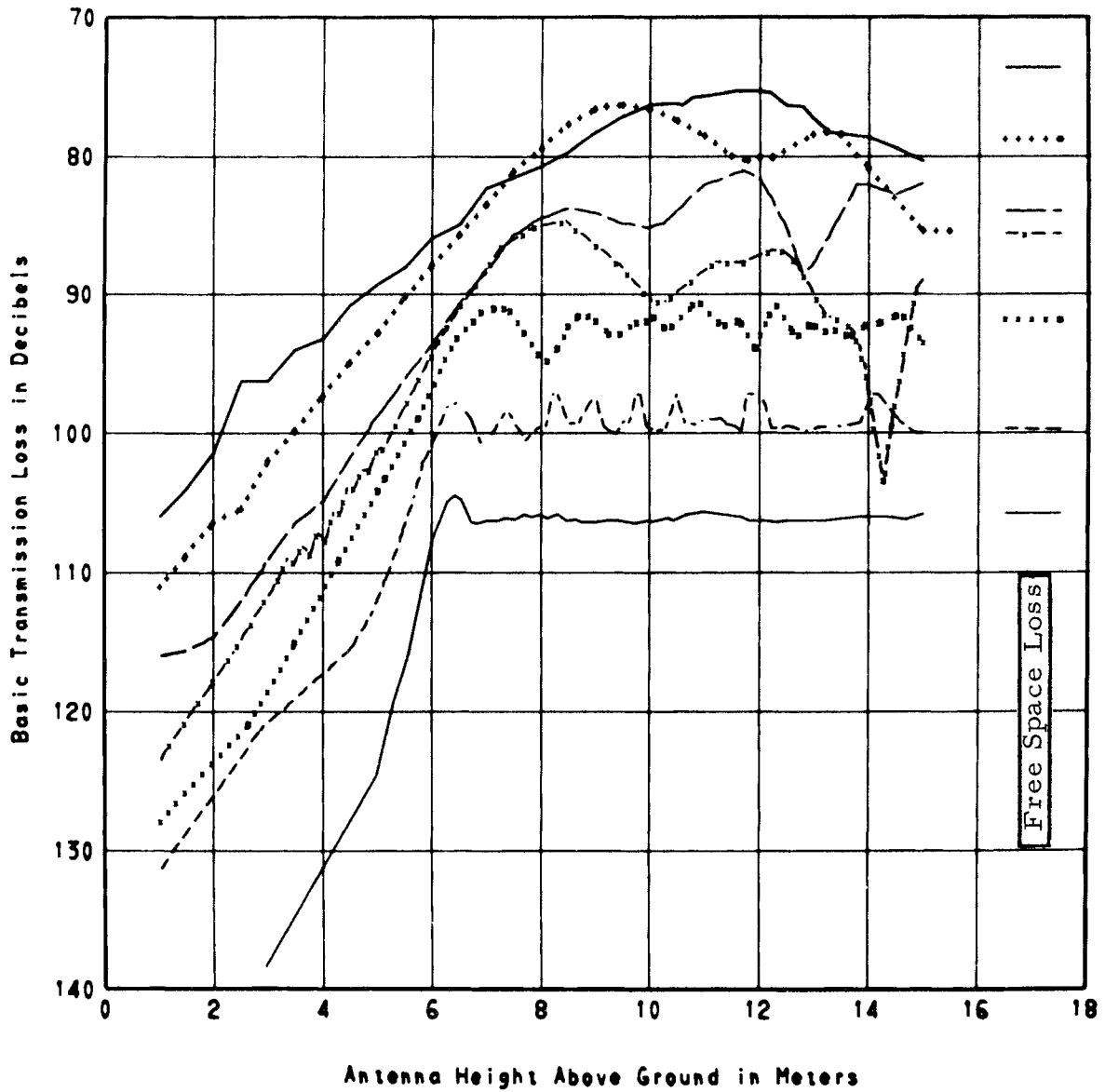
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $08^{\circ} 24' 55''$ T.

R3-0.5-T1

EASLEY ROAD N

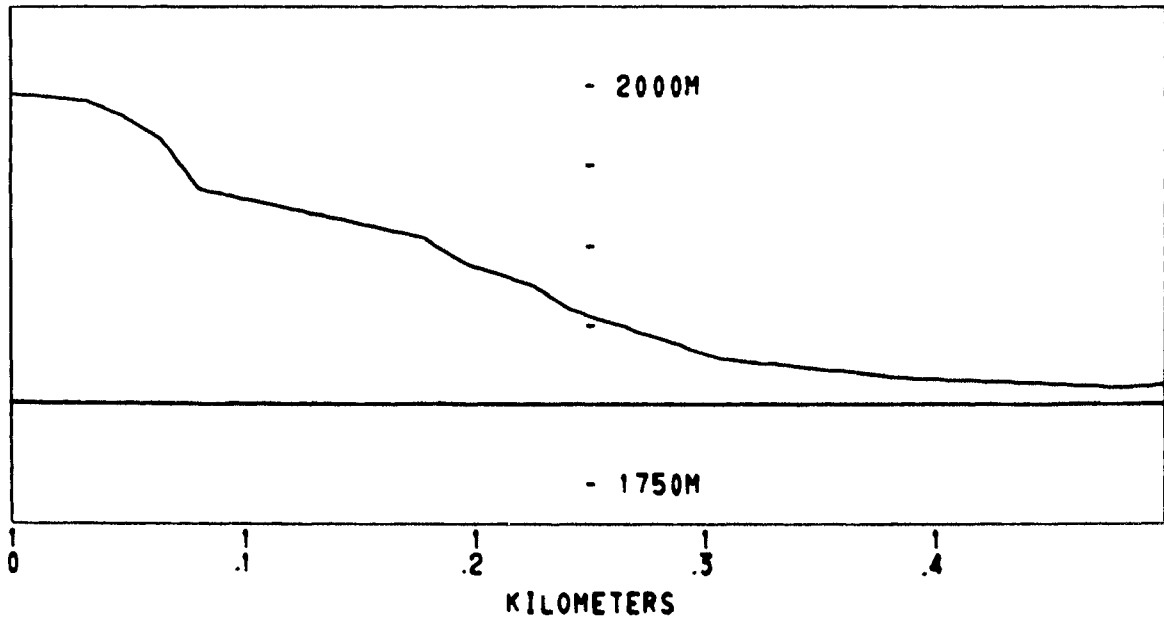
- 230 MHZ 10/ 7/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 7/25/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-0.5-T1
PATH LENGTH 0.50 km

XMTR. ELEV.
1813 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-7-66 at 15 M				7-25-66 at 7.3 M		
50%	80.8	84.6	80.4	84.9	90.8	98.9	105.2
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over grass and rocks for 70 m, then over rocks and sage brush for 70 m. The terrain breaks at this point and rises immediately to the antenna above the cliff.

R3-0.5-T2
EASLEY ROAD SOUTH

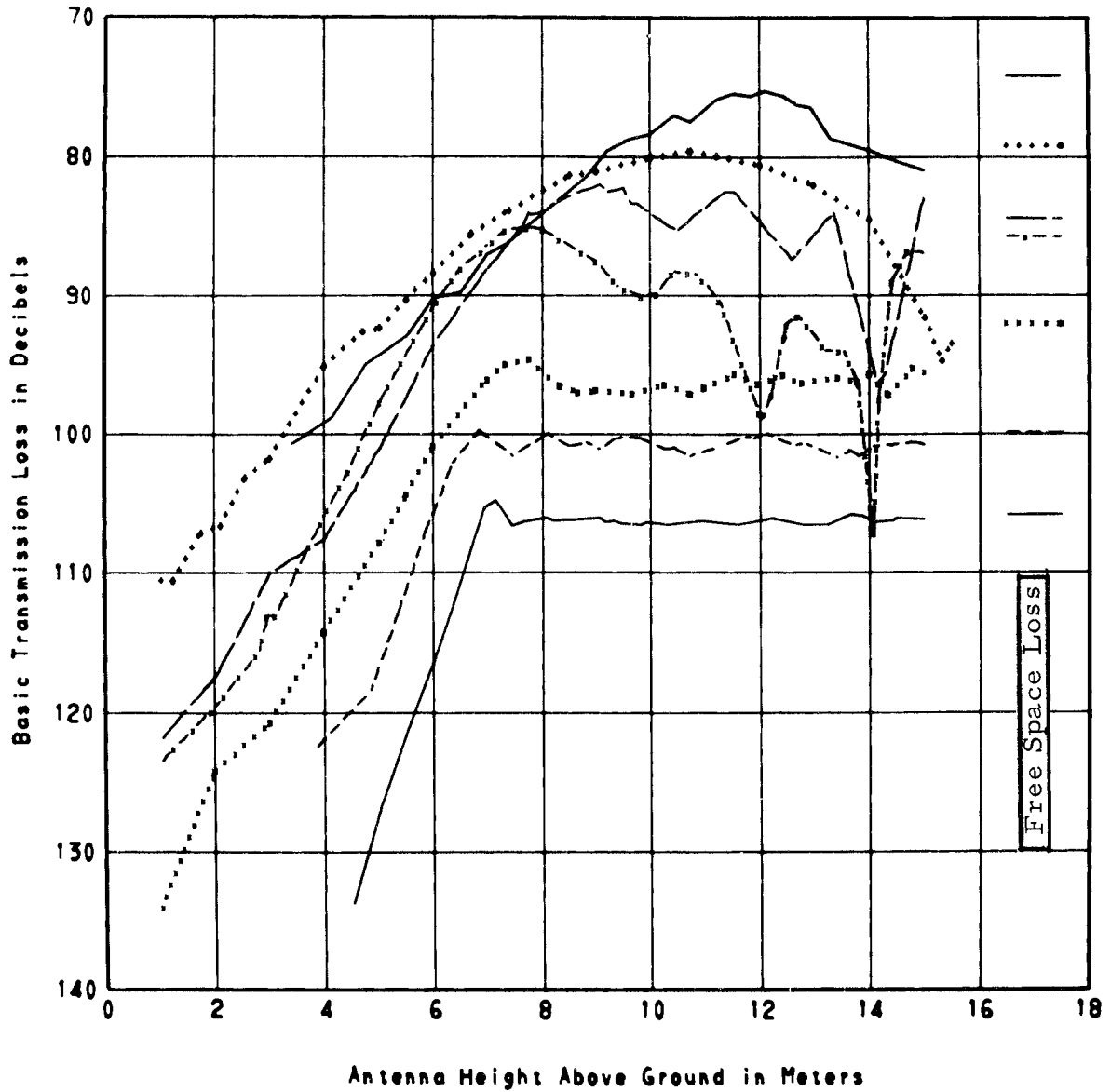


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $83^{\circ} 38' 32''$ T.

R3-0.5-T2
 EASLEY ROAD S

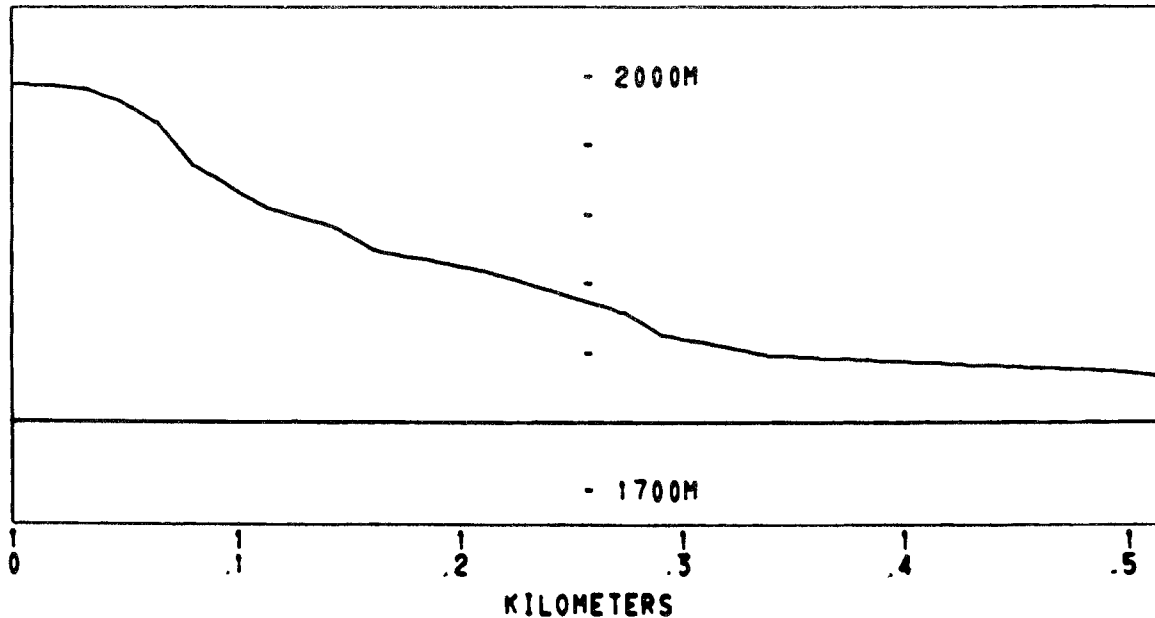
- 230 MHZ 9/16/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 7/26/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-0.5-T2
PATH LENGTH 0.51 km

XMTR. ELEV.
1783 M

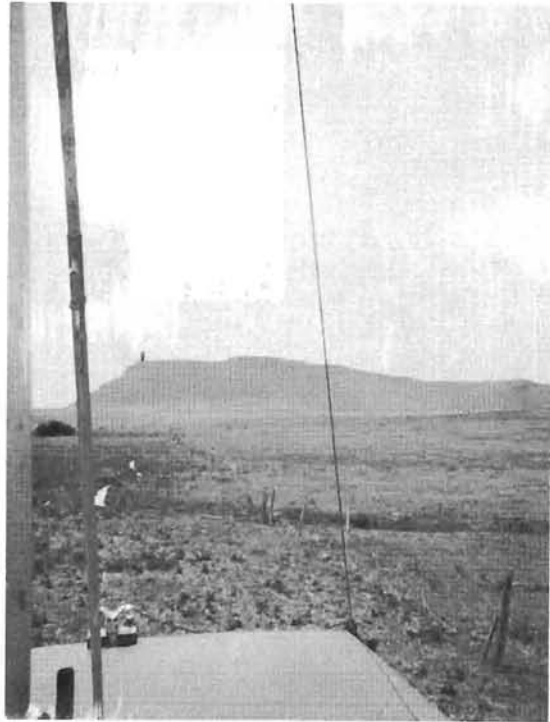


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-16-66 at 15 M				7-26-66 at 7.3 M		
50%	79.2	91.2	88.3	85.7	94.0	100.1	106.3
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The site is located in a farmyard. The first 30 m of the path are clear, then there is a 3-wire fence with a horse trailer behind the fence. The next 30 m are fairly level, then there is a steep rise to the receiver tower. The ground covering is rock, sage brush, and a small amount of grass.

R3-3-T1
CHURCH LAKE



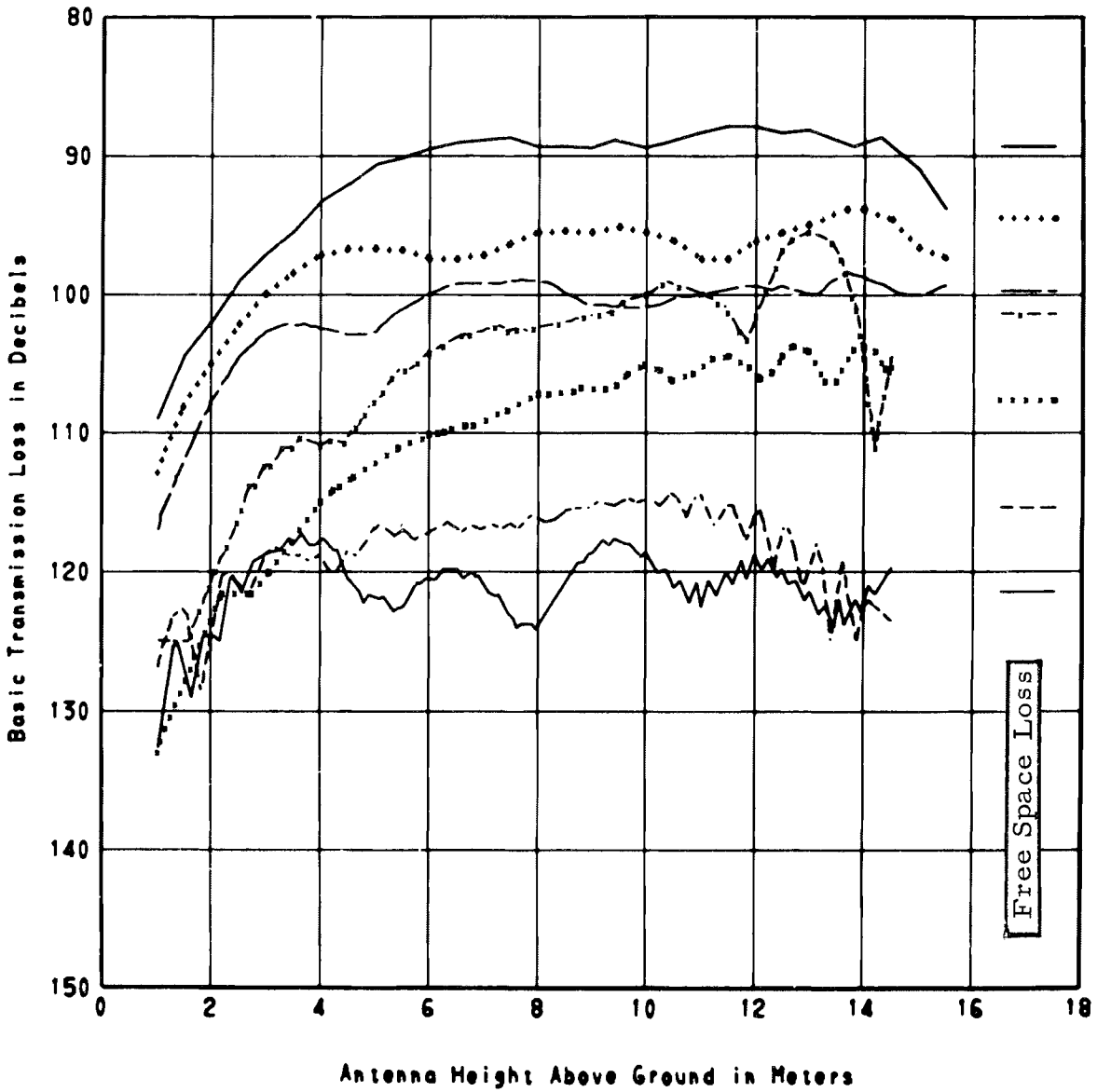
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $333^{\circ} 51' 53''$ T.

R3-3-T1

CHURCH LAKE

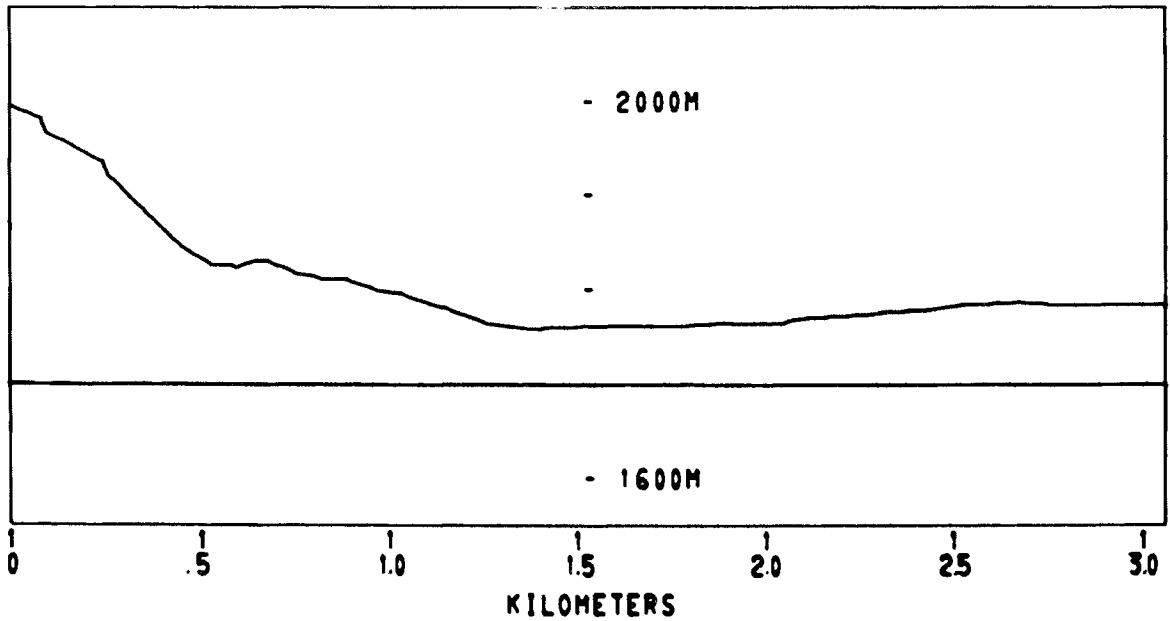
- 230 MHz 9/20/66
- 410 MHz
- - - 751 MHz
- · - · 910 MHz 6/21/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-3-T1
PATH LENGTH 3.06 km

XMTR. ELEV.
1783 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-20-66 at 15 M				6-21-66 at 7.3 M		
50%	93.6	93.2	99.4	101.8	107.6	116.6	119.6
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The site is on a curve in the road. There is a 4-wire fence just behind the truck and another about 6 m to the right of the path. A power line crosses the path at 0.8 km. The ground covering is wild grass, and a clump of brush, which is to the left of the path. A small irrigation ditch about 50 m along the path follows it for 30 m.

R3-3-T2
64TH AND NORTH QUAKER



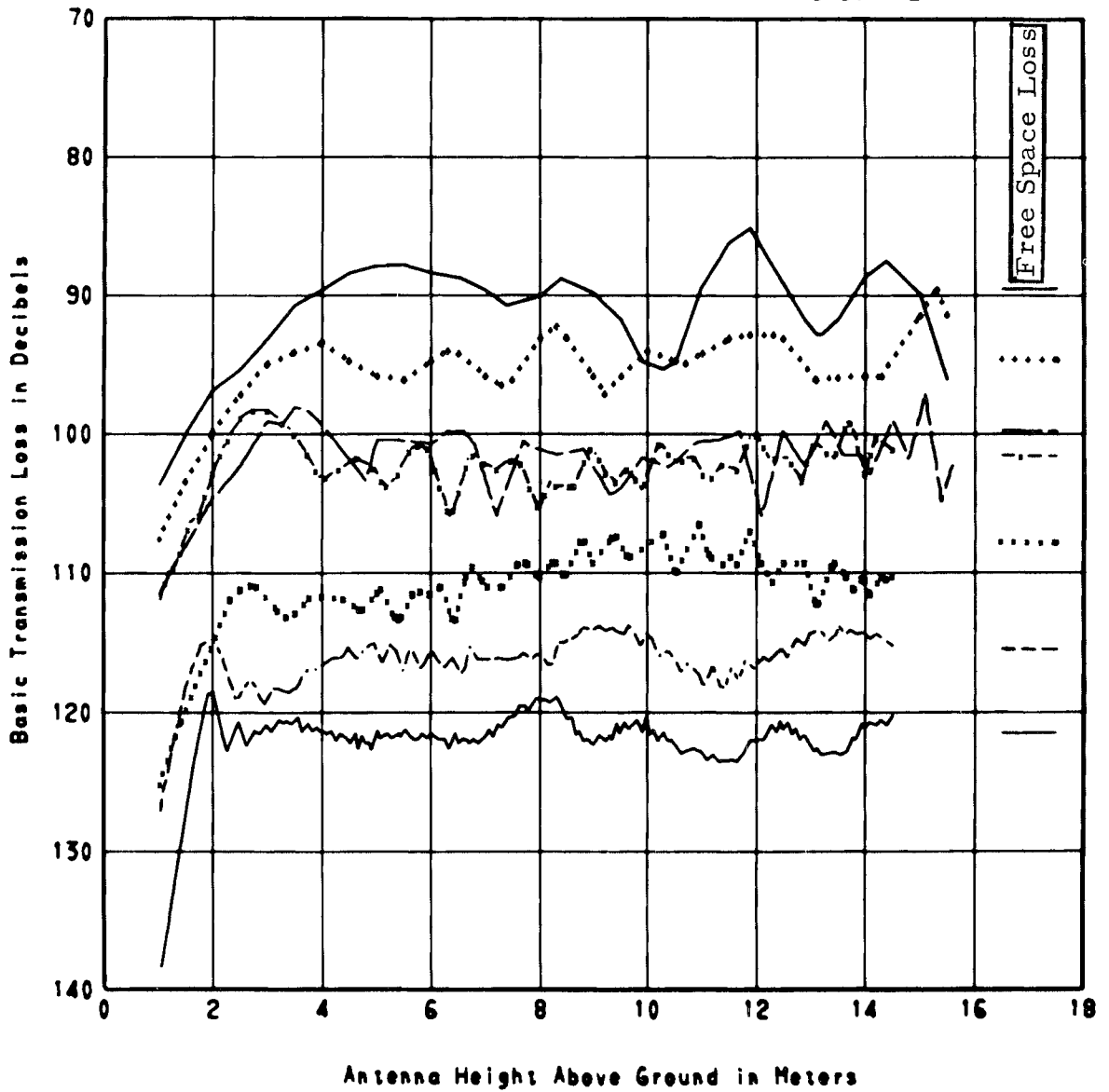
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $24^{\circ} 49' 17''$ T.

R3-3-T2

64TH AND QUAKER N1

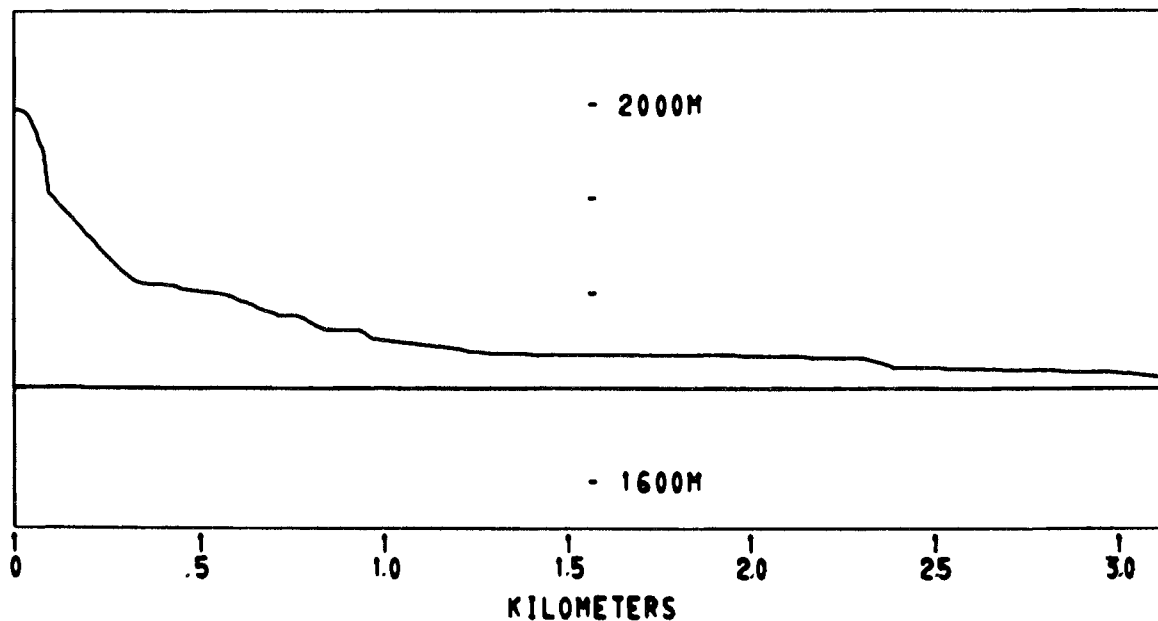
- 230 MHz 9/20/66
- 410 MHz
- - - 751 MHz
- · - · 910 MHz 6/21/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-3-T2
PATH LENGTH 3.12 km

XMTR. ELEV.
1710 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-20-66 at 15 M				6-21-66 at 7.3 M		
50%	96.0	92.2	102.5	102.5	108.3	116.0	119.6
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The ground covering on this path is wild grass. A 4-wire fence crosses the path at 30 m. At 0.4 km, there is a low-voltage power line, and also houses to the right and to the left of the path. At 1.6 km, a new high-tension line is under construction.

R3-3-T3 OPEN AND CONCEALED
64TH AND QUAKER E



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $37^{\circ} 51' 27''$ T.



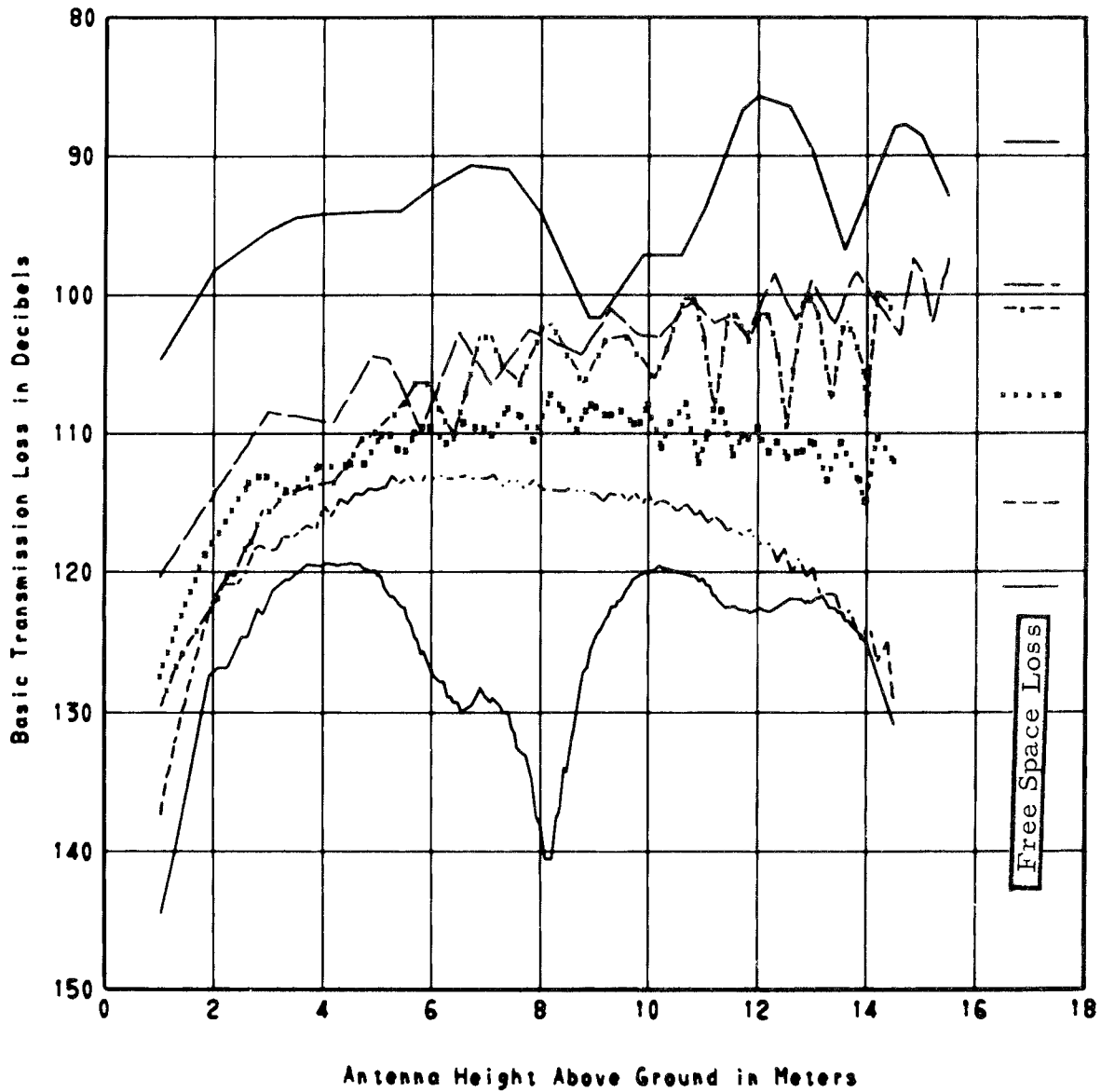
PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $37^{\circ} 07' 08''$ T.

R3-3-T3 OPEN

64TH AND QUAKER E1

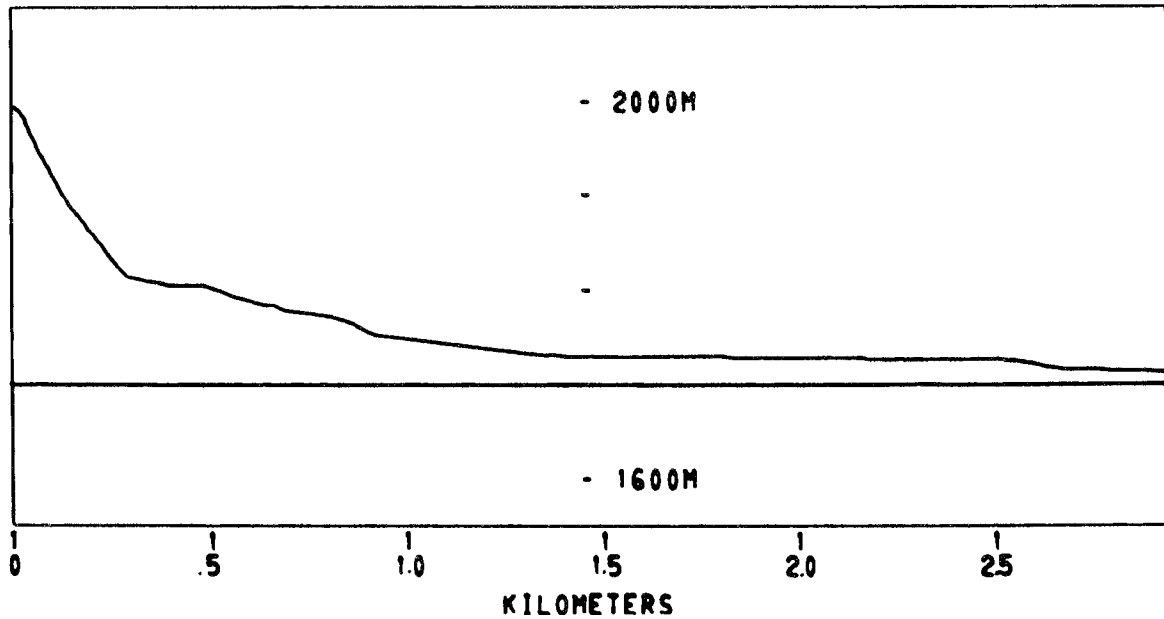
- | | | |
|-----------|----------|---------|
| — | 230 MHZ | 9/20/66 |
| - - - | 751 MHZ | |
| - · - · - | 910 MHZ | 6/22/66 |
| · · · · · | 1846 MHZ | |
| - - - | 4595 MHZ | |
| — | 9190 MHZ | |



RCVR. ELEV.
1995 M

R3-3-T3 OPEN
PATH LENGTH 2.93 km

XMTR. ELEV.
1713 M

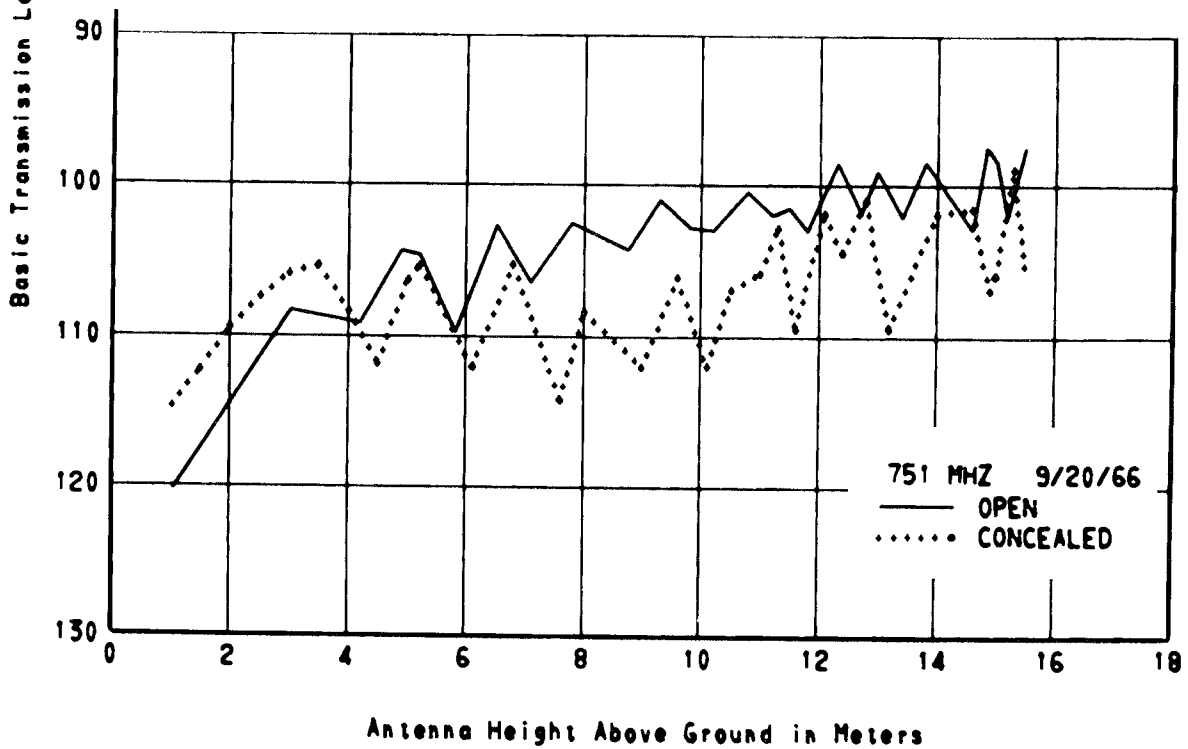
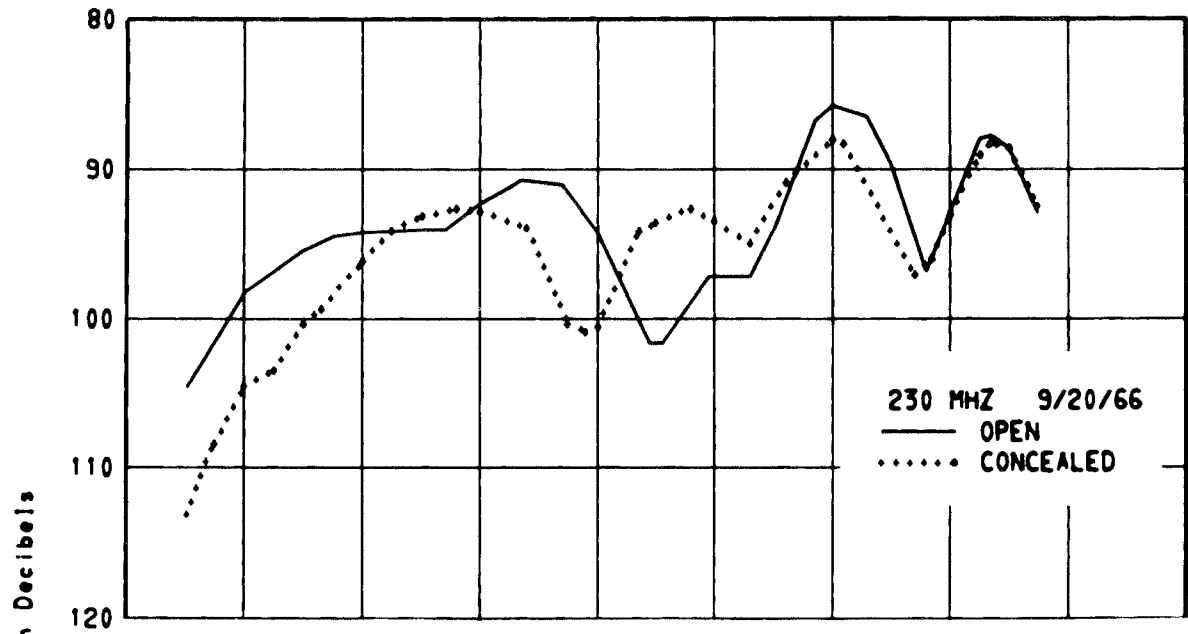


L _b (dB) SHORT TERM SIGNAL VARIABILITY							
Freq(MHz)	230	410	751	910	1846	4595	9190
	9-20-66 at 15 M				6-22-66 at 15 M		
50%	92.7		93.4	101.3	112.3	128.4	134.5
Δ10%-90%	< 3		< 3	< 3	< 3	< 3	< 3
					6-22-66 at 7.3 M		
50%				105.3	106.9	112.3	131.0
Δ10%-90%				< 3	< 3	< 3	< 3
					6-22-66 at 1 M		
50%				129.8	125.3	139.9	145.0
Δ10%-90%				< 3	< 3	< 3	< 3

The terrain covering is wild grass. There is a 5-wire fence on one side of the van, with a 4-wire power line 2 m above and 4 m in front of the antenna.

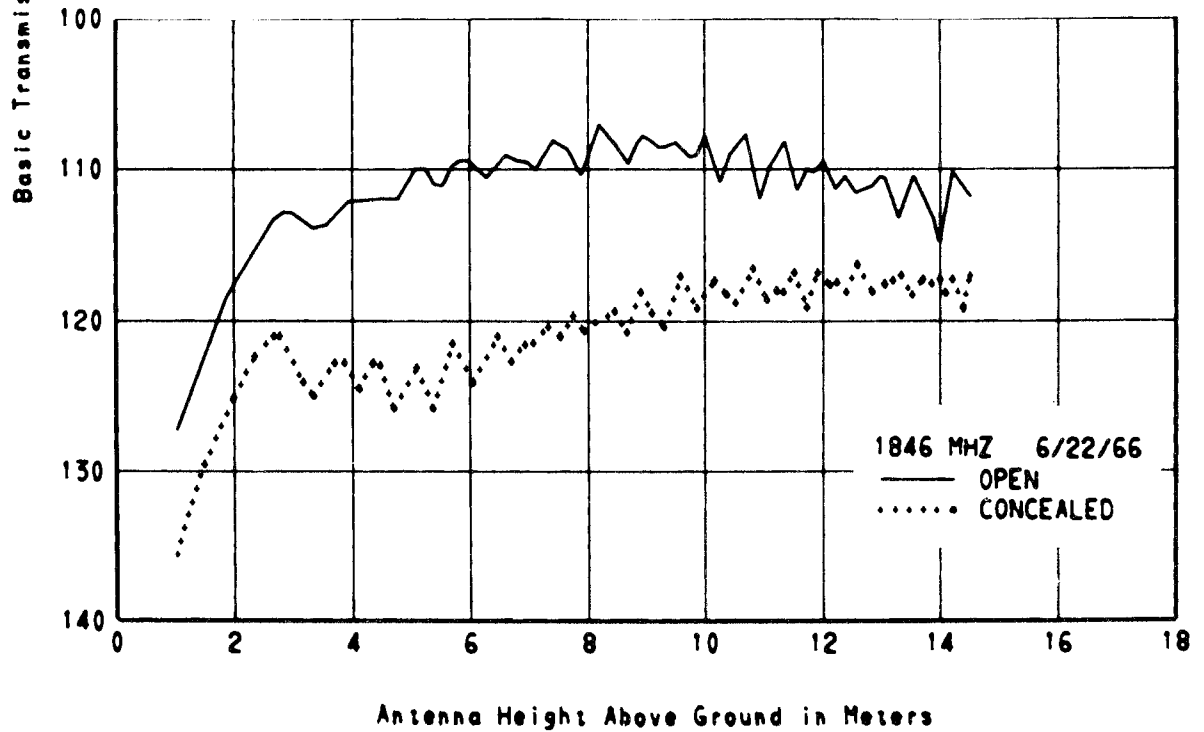
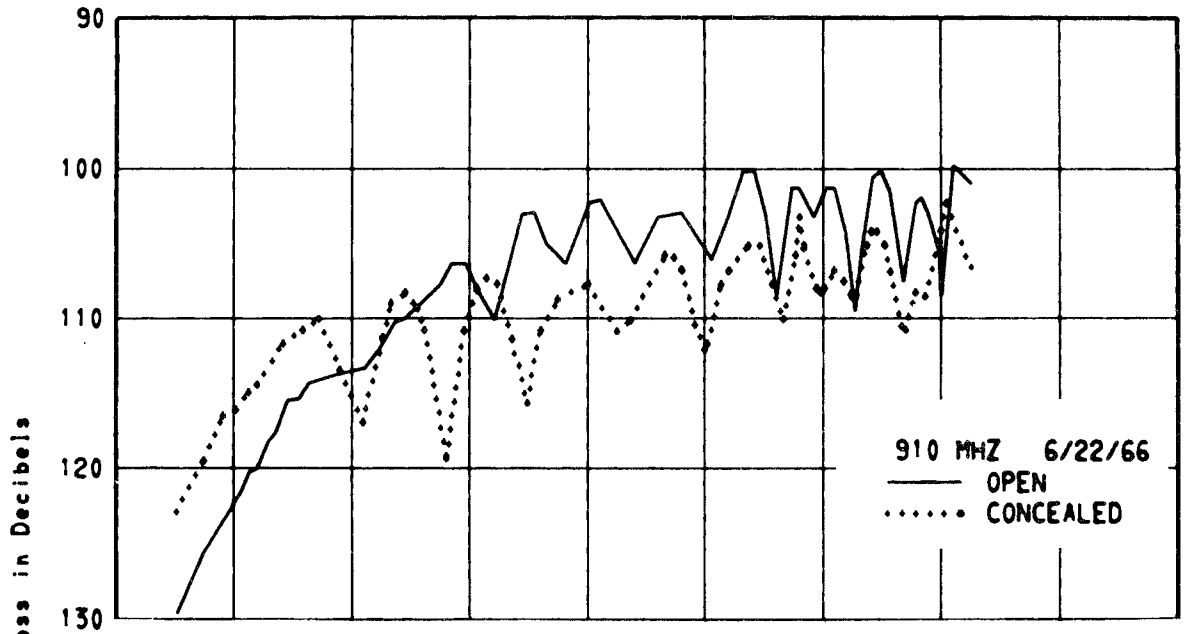
R3-3-T3 O&C

64TH AND QUAKER E1



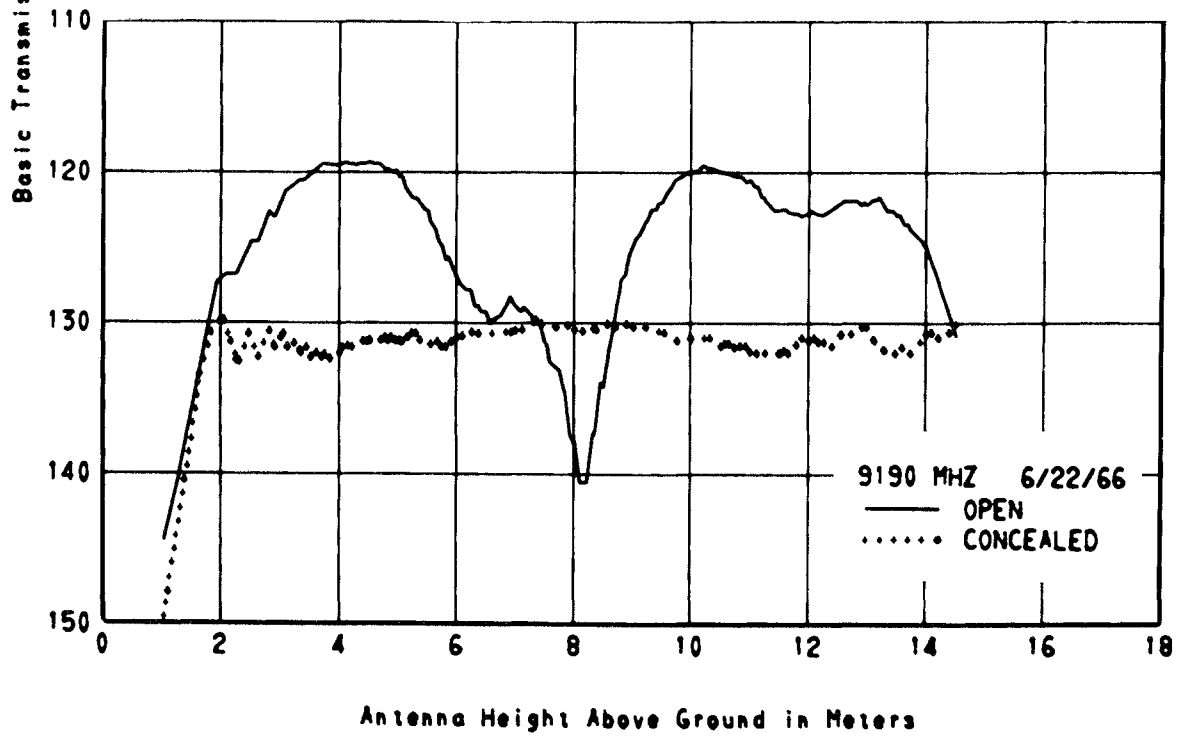
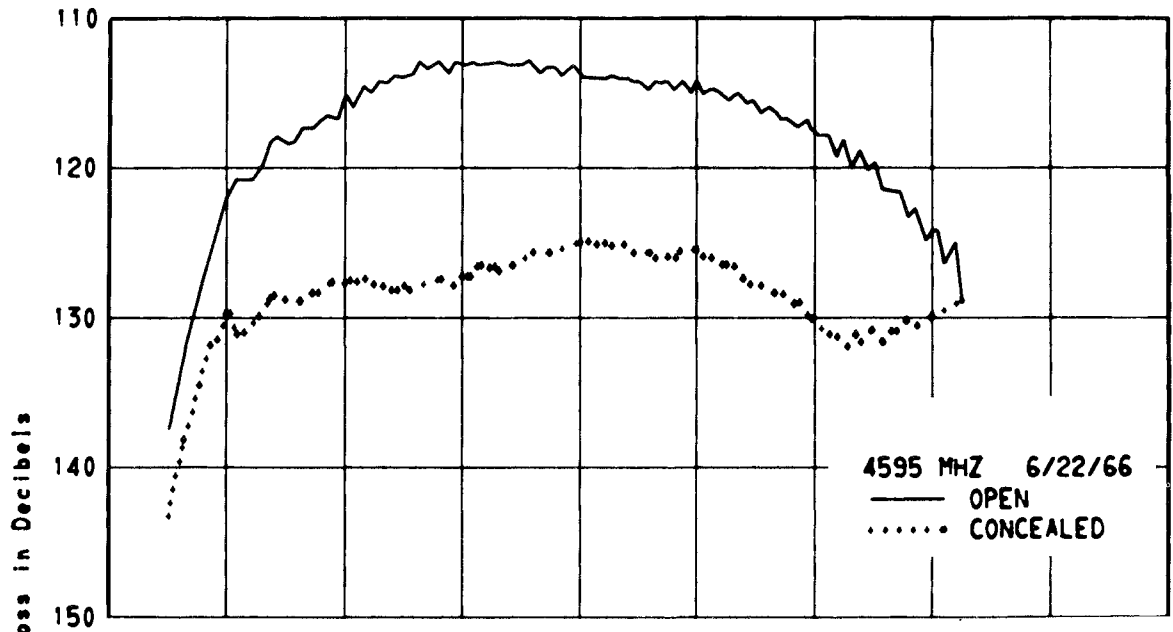
R3-3-T3 O&C

64TH AND QUAKER E1



R3-3-T3 O&C

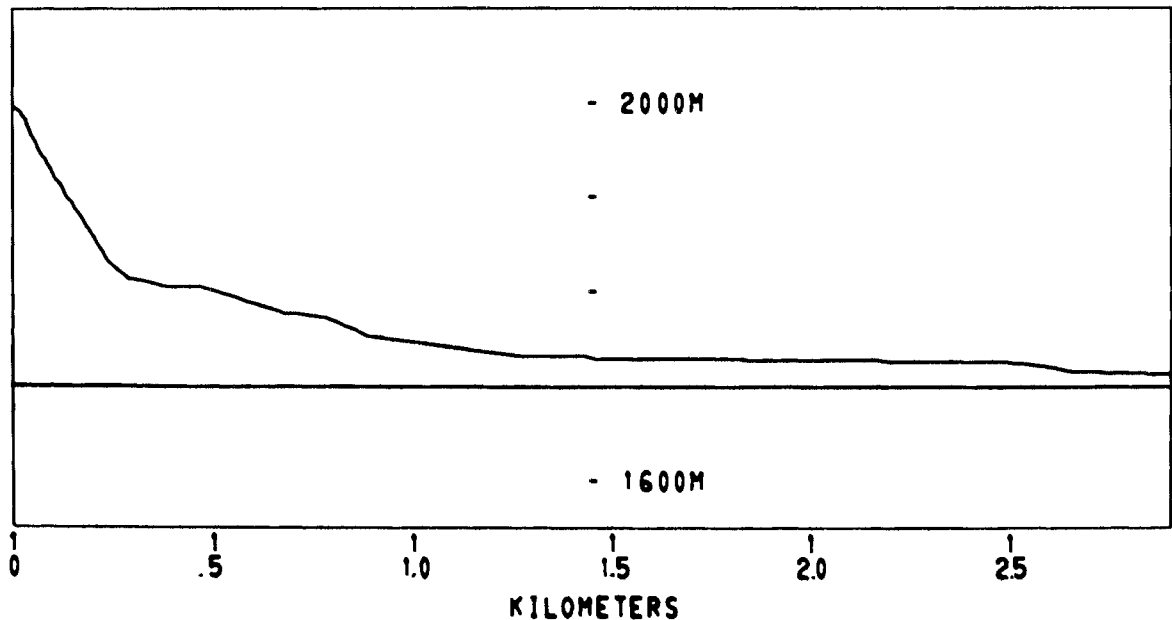
64TH AND QUAKER E1



RCVR. ELEV.
1995 M

R3-3-T3 CONCEALED
PATH LENGTH 2.90 km

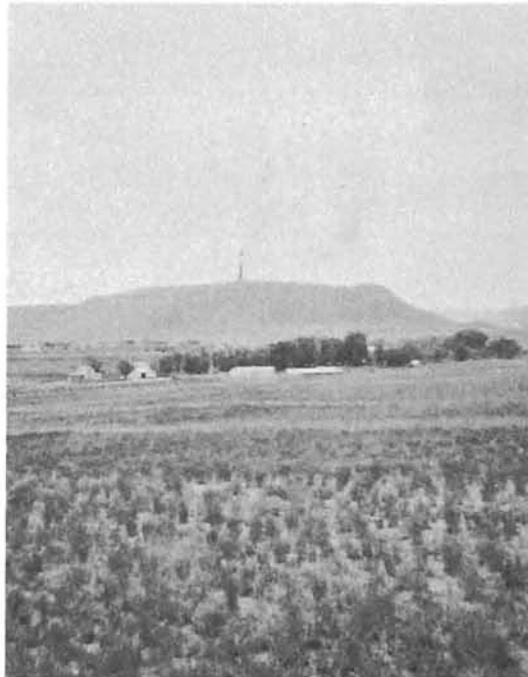
XMTR. ELEV.
1713 M



Freq(MHz)	L_b (dB) SHORT TERM SIGNAL VARIABILITY						
	230	410	751	910	1846	4595	9190
	9-20-66 at 15 M			6-22-66 at 15 M			
50%	92.6		109.6	106.8	116.6	129.2	129.7
$\Delta 10\% - 90\%$	< 3		< 3	< 3	< 3	< 3	< 3
				6-22-66 at 7.3 M			
50%				109.8	123.8	124.9	129.7
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
				6-22-66 at 1 M			
50%				122.0	132.8	143.9	146.9
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

A large tree is in the immediate foreground. A power line and a fence run at 30° to the path. Beyond the tree is an open space for 50 m, then another tree, behind which is a dry lake.

R3-3-T4
64TH AND MCINTYRE S



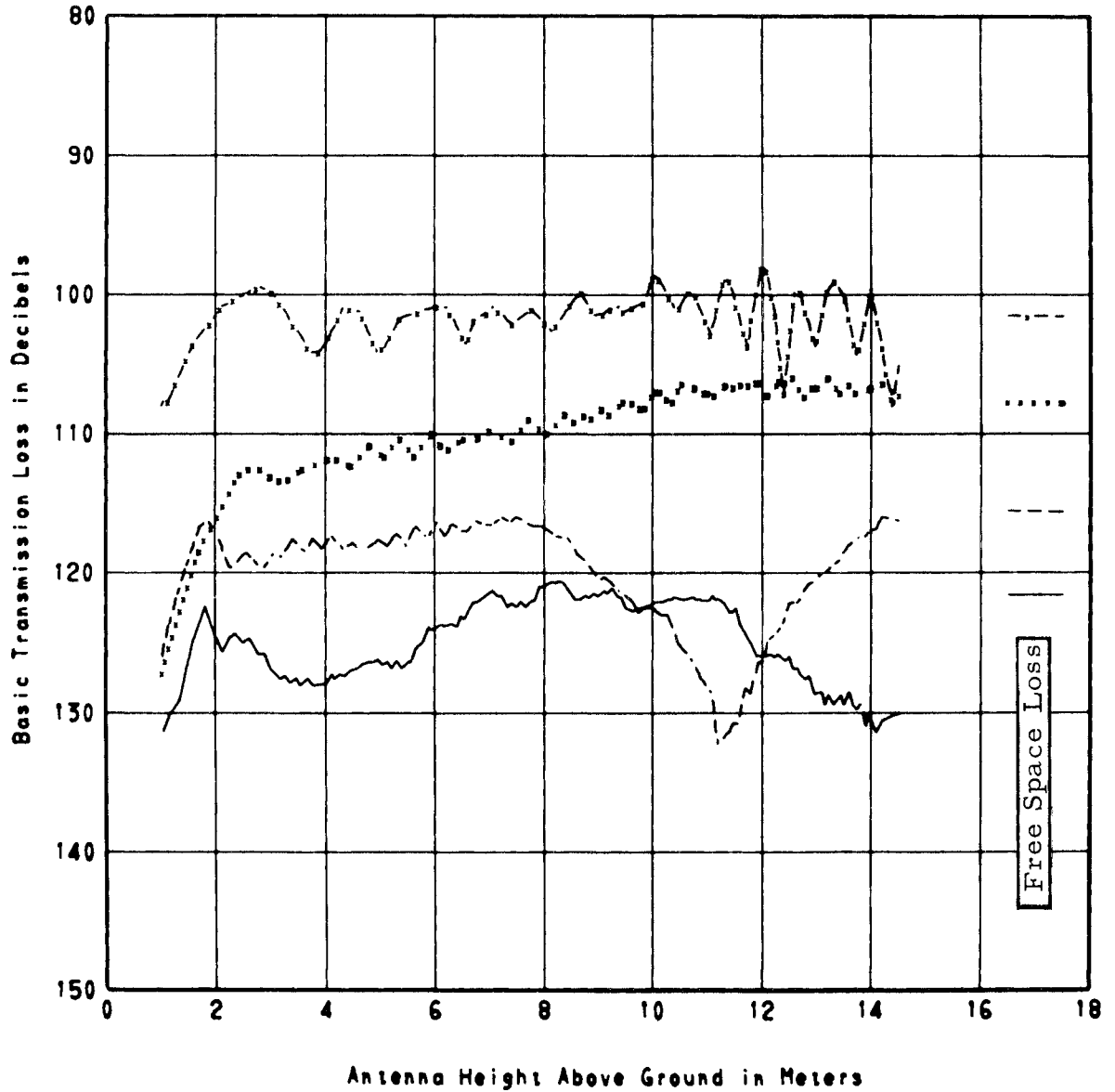
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
44° 07' 21" T.

R3-3-T4

64TH AND MCINTYRE STREET

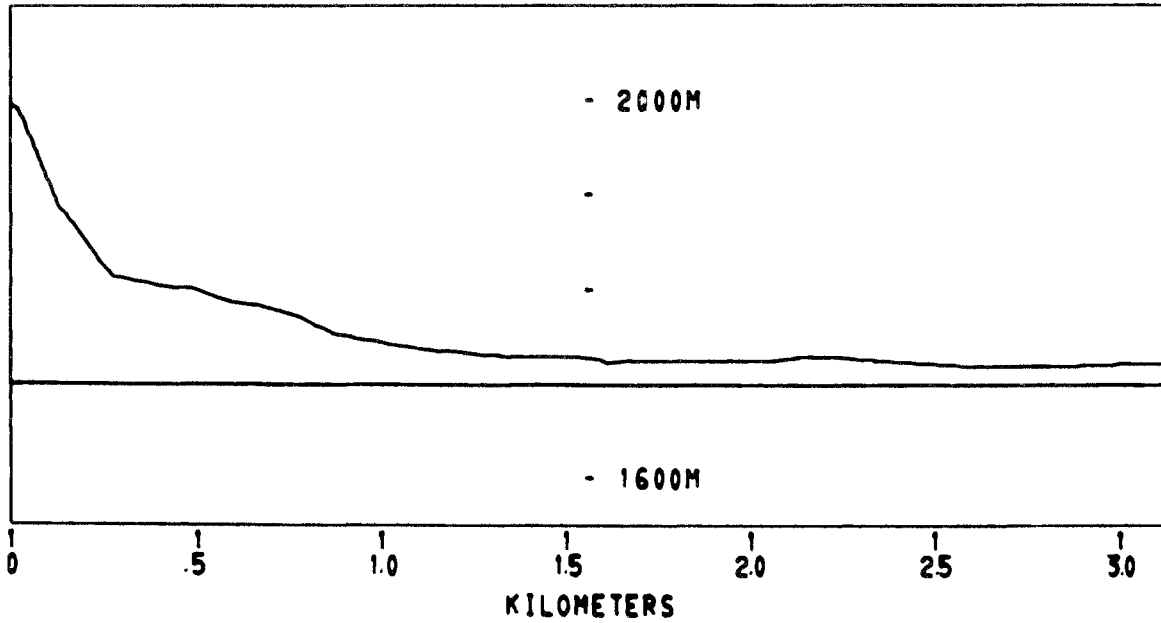
--- 910 MHZ 6/22/66
..... 1846 MHZ
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-3-T4
PATH LENGTH 3.12 km

XMTR. ELEV.
1722 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
					6-22-66 at 7.3 M		
50%				101.8	110.3	117.6	122.0
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

This path extends over fields of alfalfa, wheat, and weeds, to a low barn at 0.4 km. There are 10-m trees behind the barn, and more buildings to the left of the path at 2.4 km. There is a 5-wire fence that runs 1 m from the van.

R3-3-T5
LOVELAND STREET



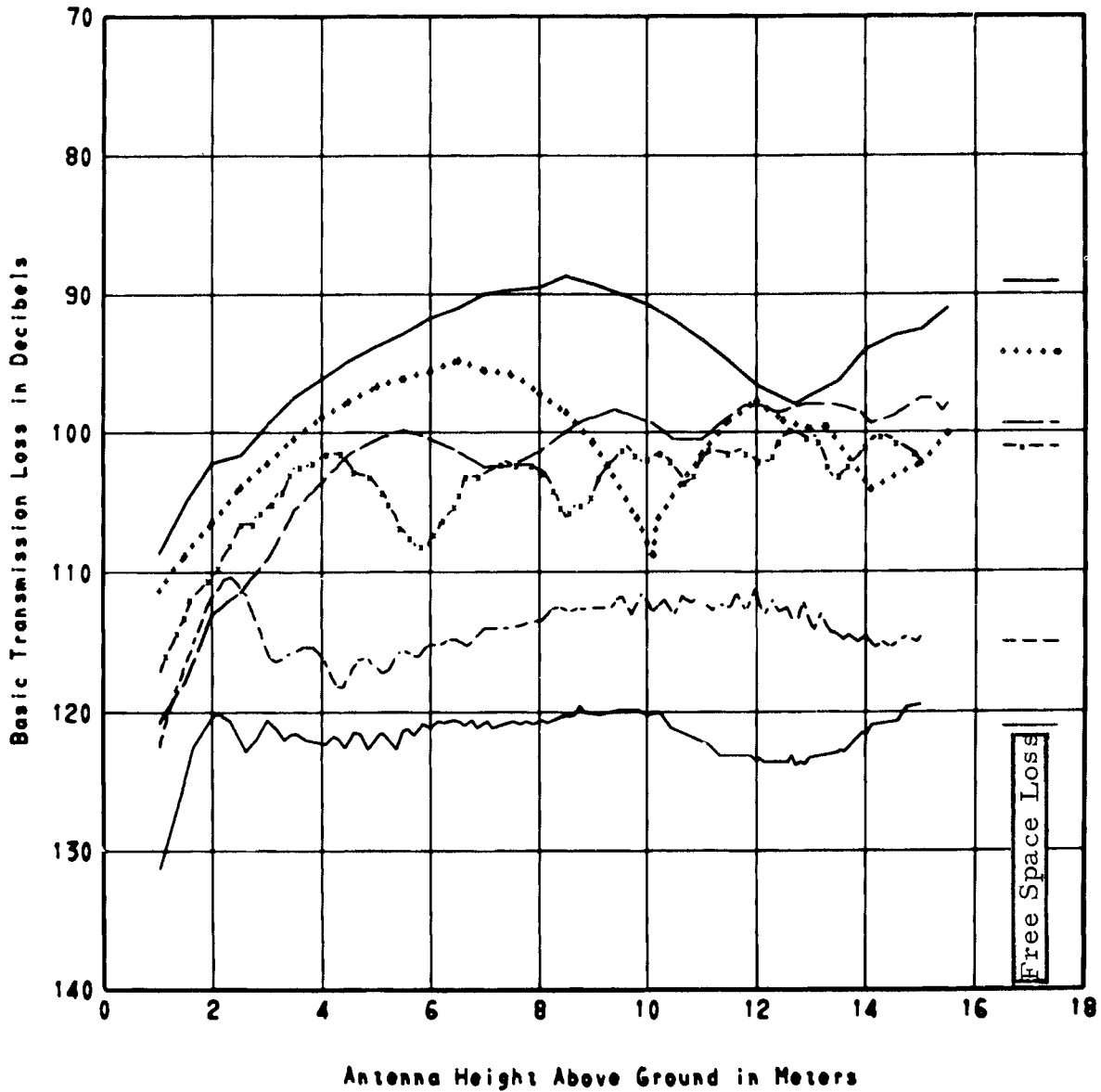
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $127^{\circ} 22' 56''$ T.

R3-3-T5

LOVELAND STREET

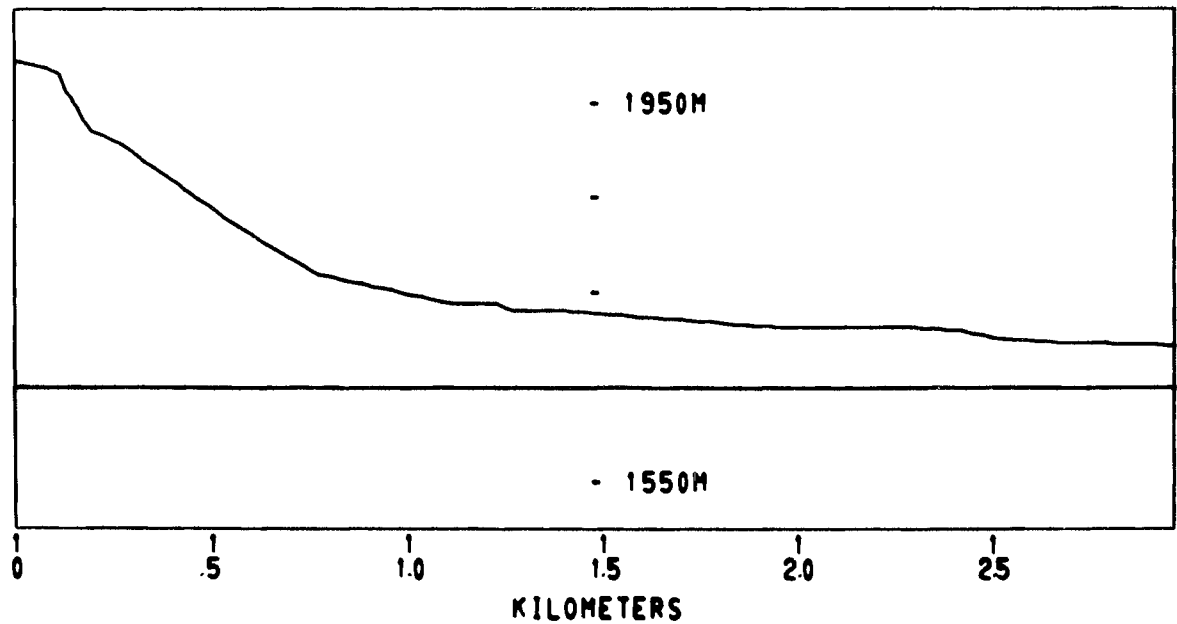
—	230 MHz	9/16/66
.....	410 MHz	
—	751 MHz	
- · - · -	910 MHz	7/27/66
- - - - -	4595 MHz	
—	9190 MHz	



RCVR. ELEV.
1995 M

R3-3-T5
PATH LENGTH 2.96 km

XMTR. ELEV.
1694 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-16-66 at 15 M				7-27-66 at 7.3 M		
50%	111.1	100.7	97.3	101.8		113.7	120.3
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3		< 3	< 3

The first 300 m of the path is a field of dry weeds. The path then crosses two streets that have power lines and telephone cables along them, as well as railroad tracks. There is a house with metal buildings beside it, and 15-m high trees behind it.

R3-5-T1
PATTRIDGE EAST



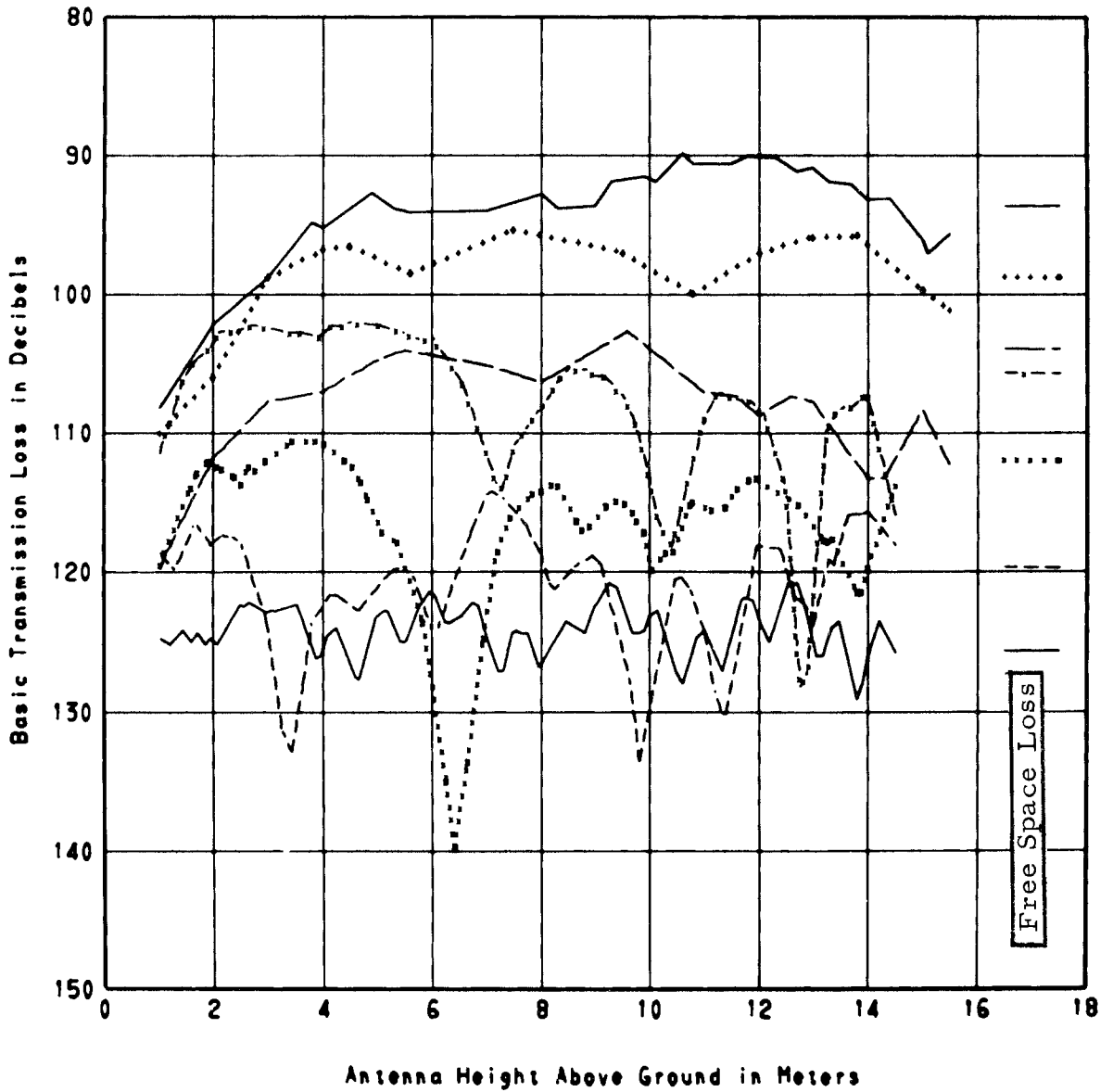
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $330^{\circ} 46' 48''$ T.

R3-5-T1

PATTRIDGE E

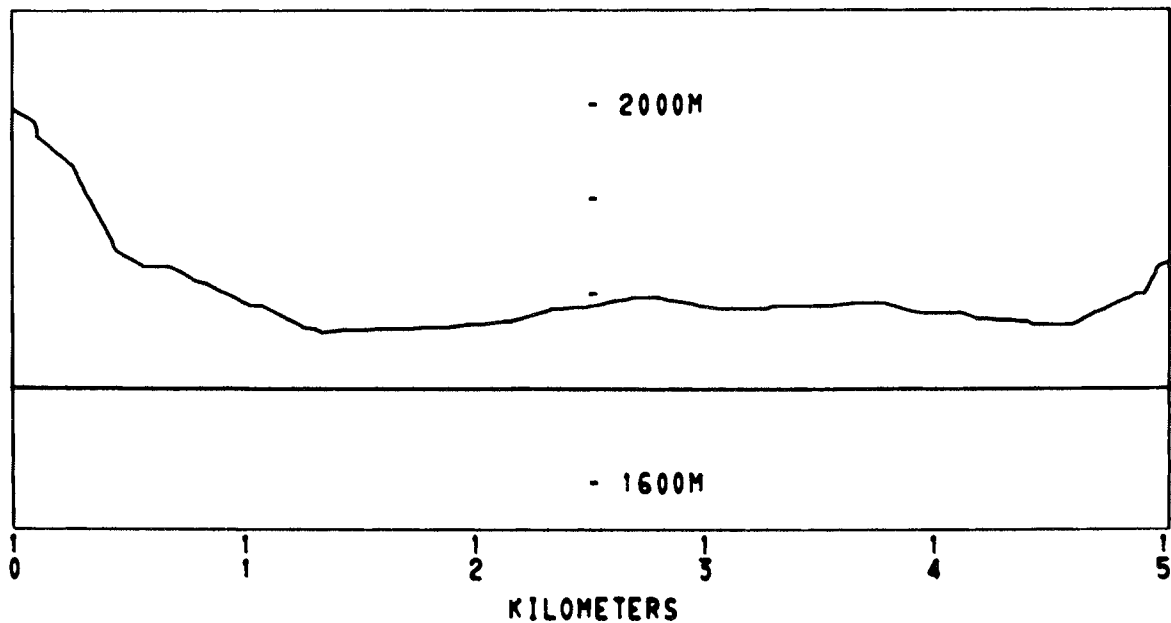
- 230 MHz 10/ 7/66
- 410 MHz
- - - 751 MHz
- · - · 910 MHz 6/23/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-5-T1
PATH LENGTH 5.02 km

XMTR. ELEV.
1832 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-7-66 at 15 M				6-23-66 at 7.3 M		
50%	93.1	100.1	112.5	114.6	116.1	113.4	126.5
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The site is on a bluff, which is 30-m high. The path crosses the highway three times: at 50 m, 0.4 km, and 1.3 km. There is a lake at 1.6 km.

R3-5-T2
PATTRIDGE E1



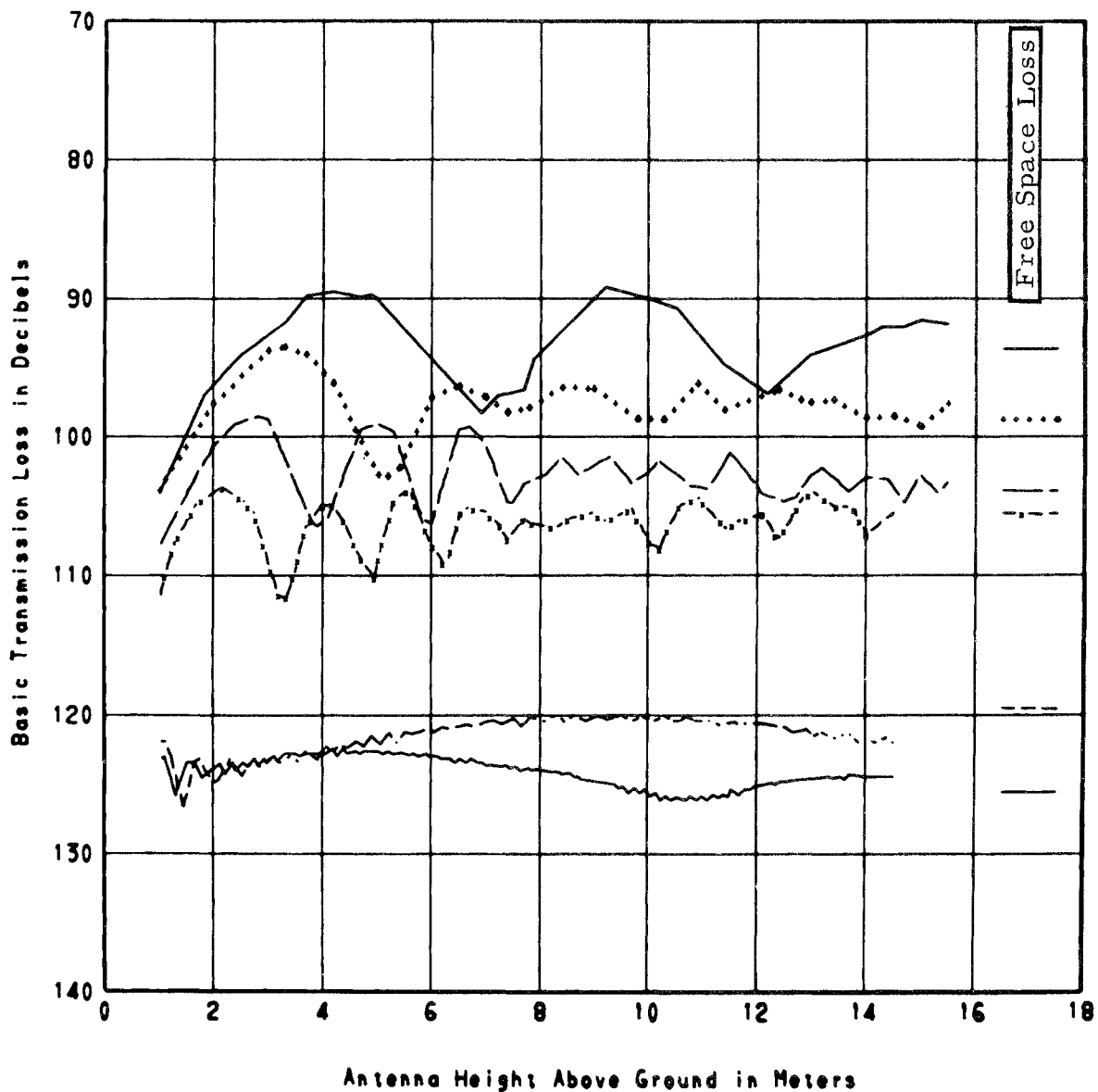
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $343^{\circ} 46' 48''$ T.

R3-5-T2

PATTRIDGE E1

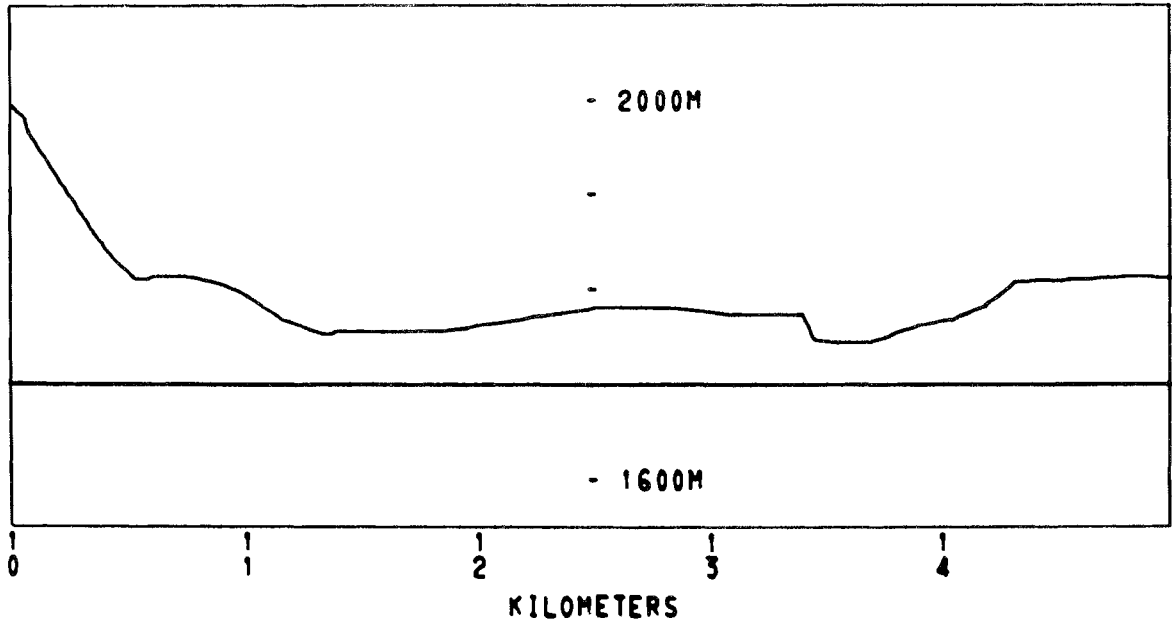
- 230 MHz 10/ 7/66
- 410 MHz
- 751 MHz
- .-.-.- 910 MHz 6/23/66
- 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-5-T2
PATH LENGTH 4.97 km

XMTR. ELEV.
1812 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-7-66 at 15 M			6-23-66 at 7.3 M			
50%	91.6	96.6		106.9		120.2	123.5
$\Delta 10\% - 90\%$	< 3	< 3		< 3		< 3	< 3

The path extends over wild grass. A power line is nearly at a right angle to the path at 130 m.

R3-5-T3
TUCKER LAKE NE1



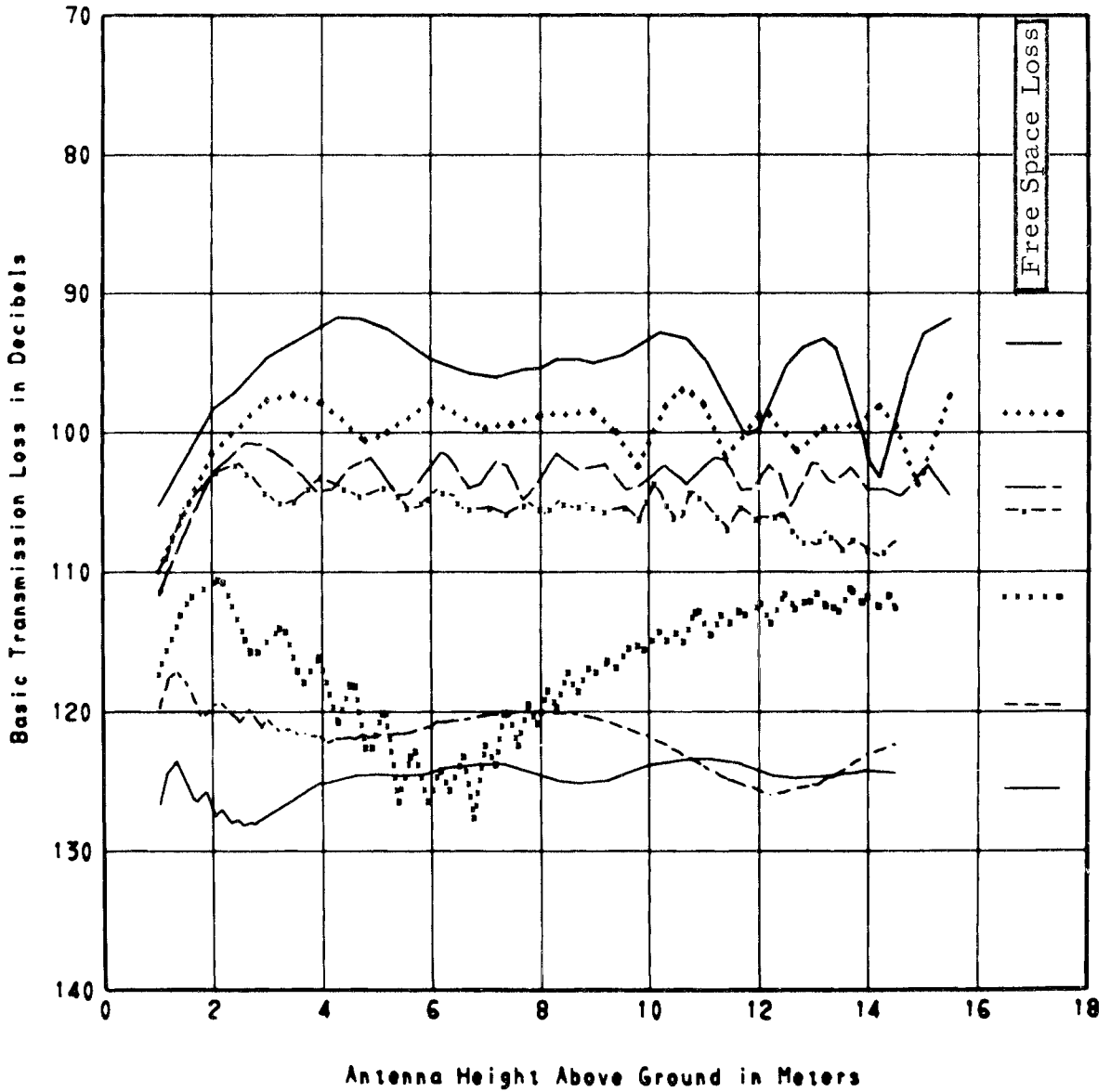
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $08^{\circ} 36' 04''$ T.

R3-5-T3

TUCKER LAKE NE1

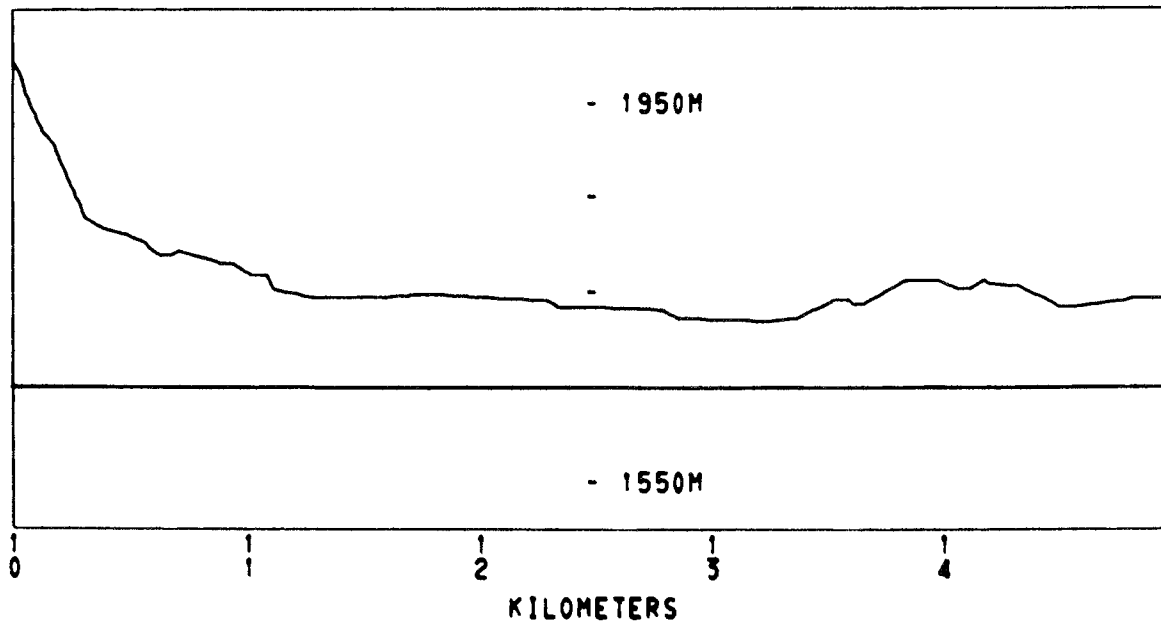
- 230 MHZ 9/20/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 6/24/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-5-T3
PATH LENGTH 4.96 km

XMTR. ELEV.
1746 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-20-66 at 15 M				6-24-66 at 7.3 M		
50%	93.3	98.1	104.4	106.2	118.7	119.8	123.7
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The ground slopes downward in the immediate foreground of the path. The ground covering is wild grass and weeds. The path is crossed by an irrigation ditch at 25 m, and by a power line and a one-wire electric fence at 28 m.

R3-5-T4
74TH AND MCINTYRE



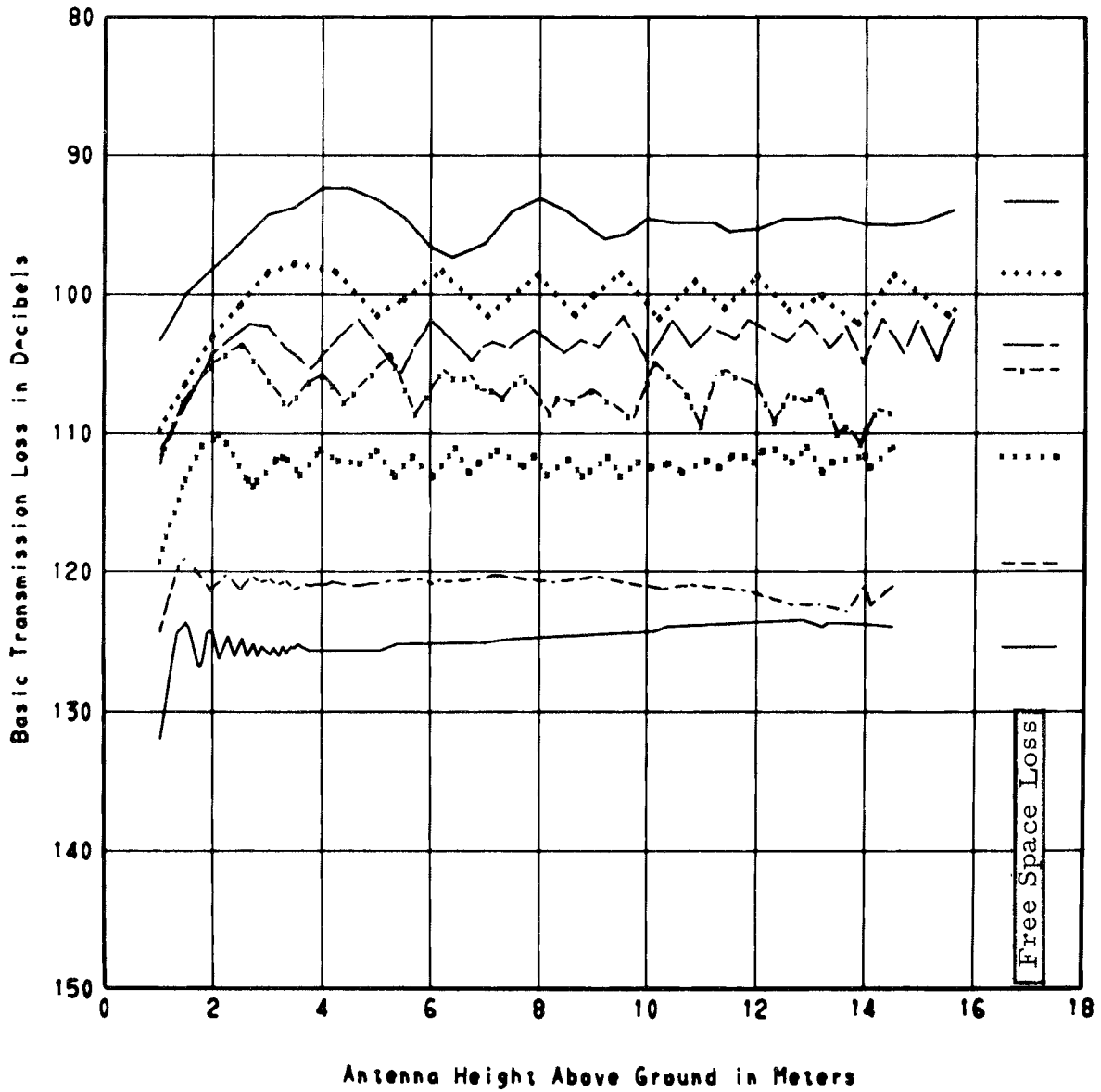
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $27^{\circ} 09' 32''$ T.

R3-5-T4

74TH AND MCINTYRE STREET

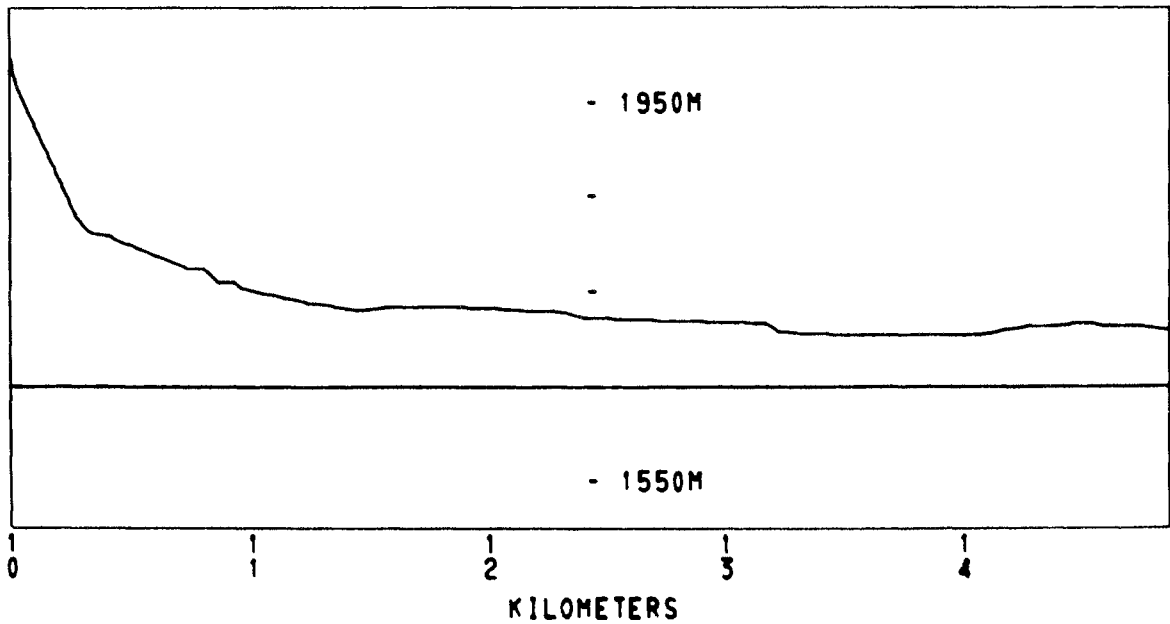
- 230 MHZ 9/22/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 6/24/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-5-T4
PATH LENGTH 4.86 km

XMTR. ELEV.
1708 M



L _b (dB) SHORT TERM SIGNAL VARIABILITY							
Freq(MHz)	230	410	751	910	1846	4595	9190
	9-22-66 at 15 M				6-24-66 at 7.3 M		
50%	93.4	99.8	102.9	109.2	112.6	122.2	123.9
Δ10%-90%	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over ground covered by wild grass and weeds. A fence and a telephone line cross the path at 25 m. Trees about 20-m high are on the path at 0.4 km.

R3-5-T5
RALSTON CHURCH



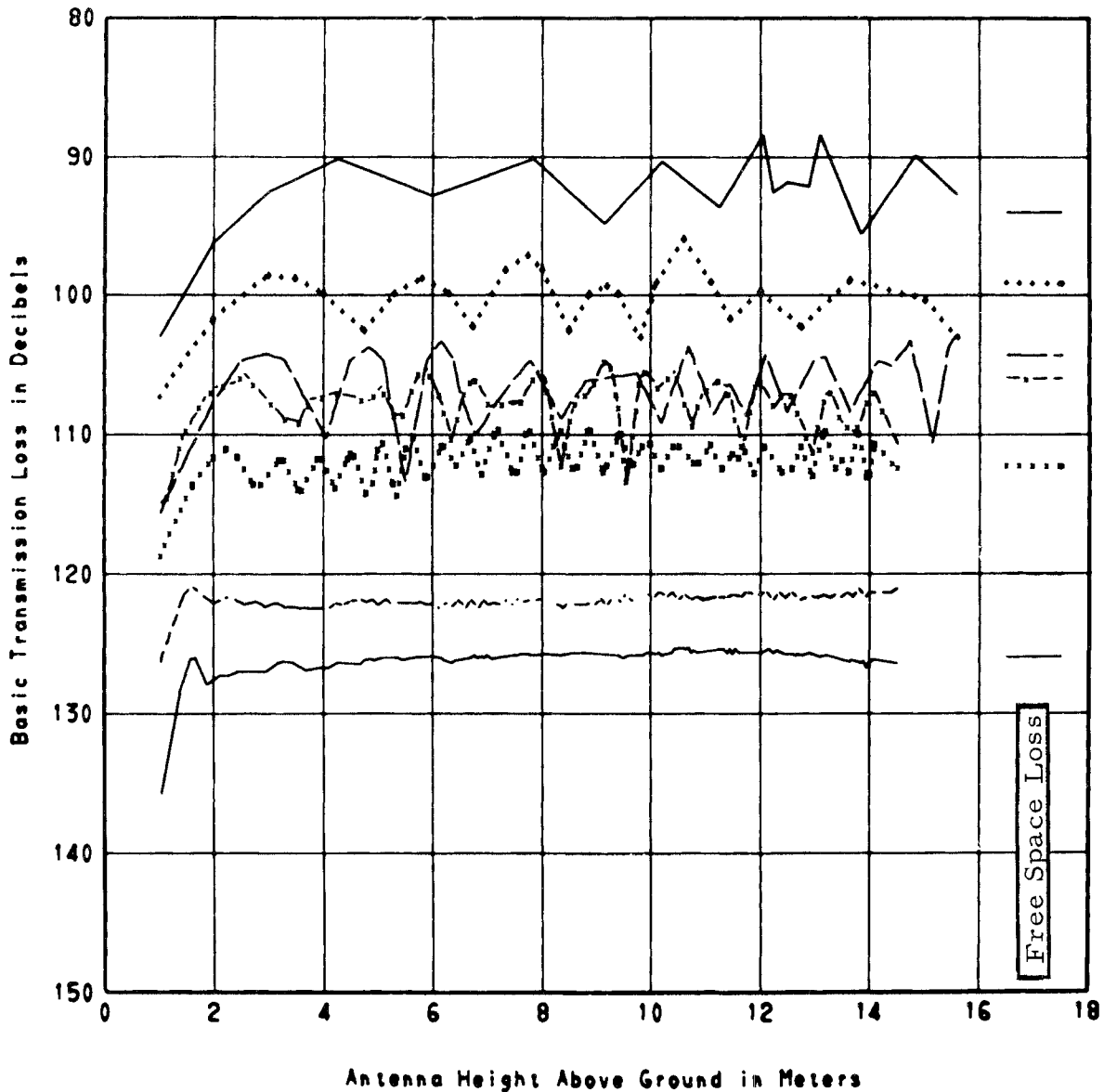
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $35^{\circ} 09' 09''$ T.

R3-5-T5

RALSTON CHURCH

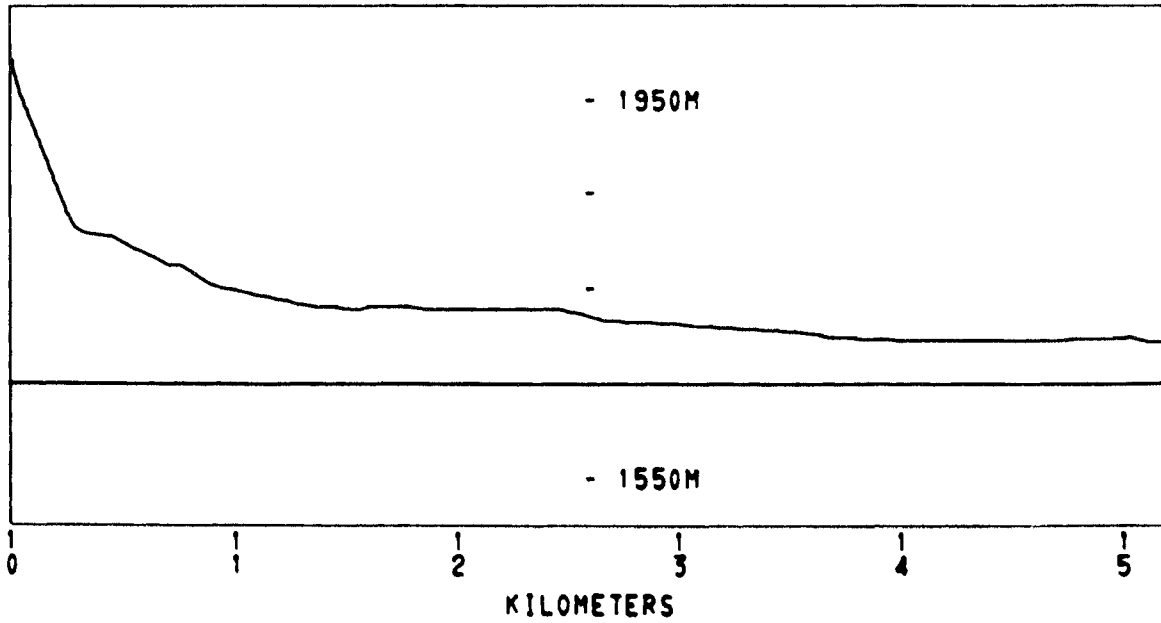
- 230 MHz 9/22/66
- 410 MHz
- 751 MHz
- - - - 910 MHz 6/24/66
- 1846 MHz
- - - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-5-T5
PATH LENGTH 5.18 km

XMTR. ELEV.
1695 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-22-66 at 15 M				6-24-66 at 7.3 M		
50%	92.8	101.5	103.4	108.5	112.2	122.0	125.0
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends mostly over wild grasses. There is an irrigation ditch with a small tree in the ditch at 10 m. There are orchard trees, 6-m high, at 125 m. A power line crosses the path at 0.4 km. A fence and a telephone line run 1 m from the van, but are 1 m below the antenna.

R3-5-T6
MOUNT OLIVET



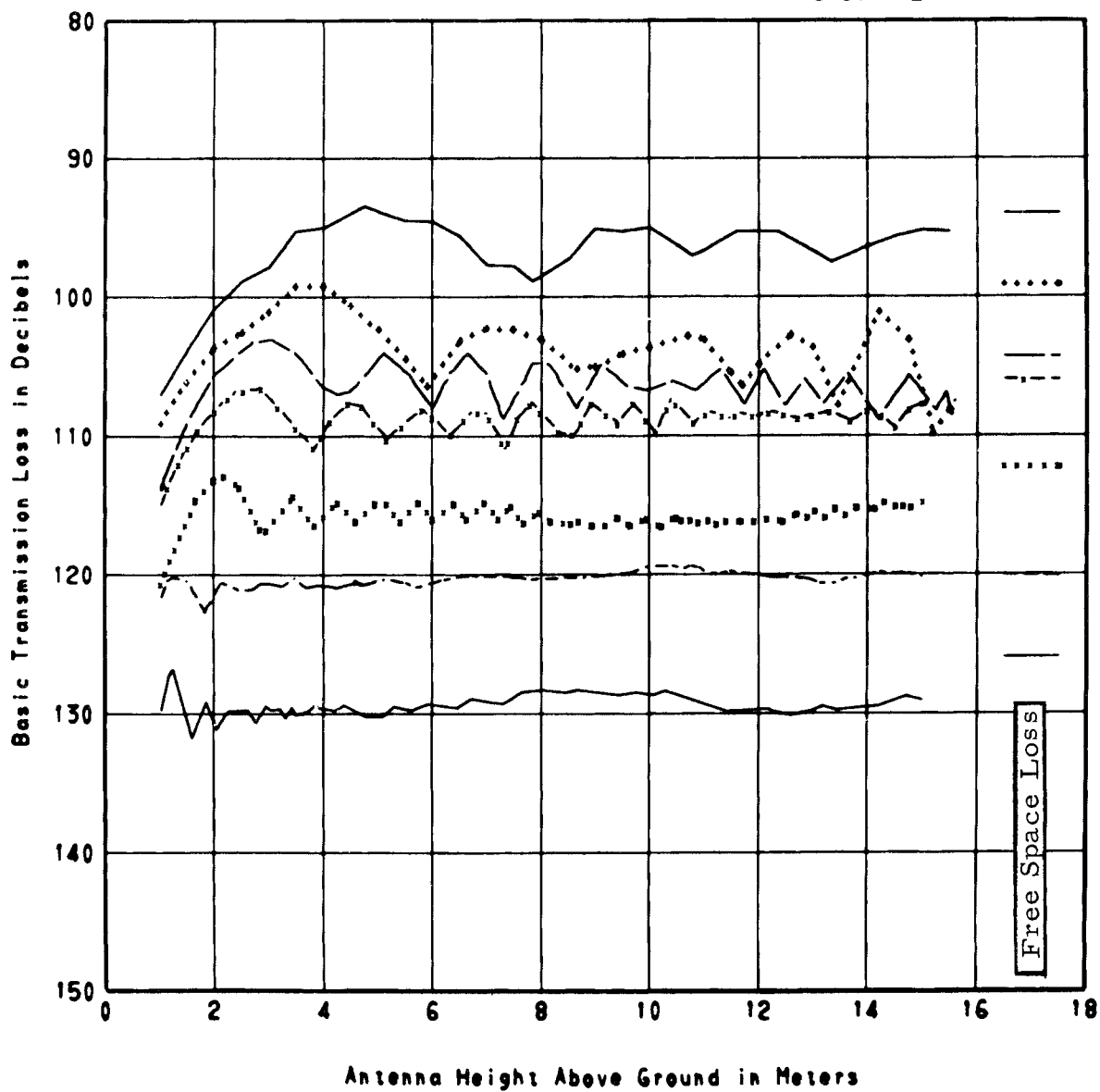
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
96° 14' 56" T.

R3-5-T6

MOUNT OLIVET

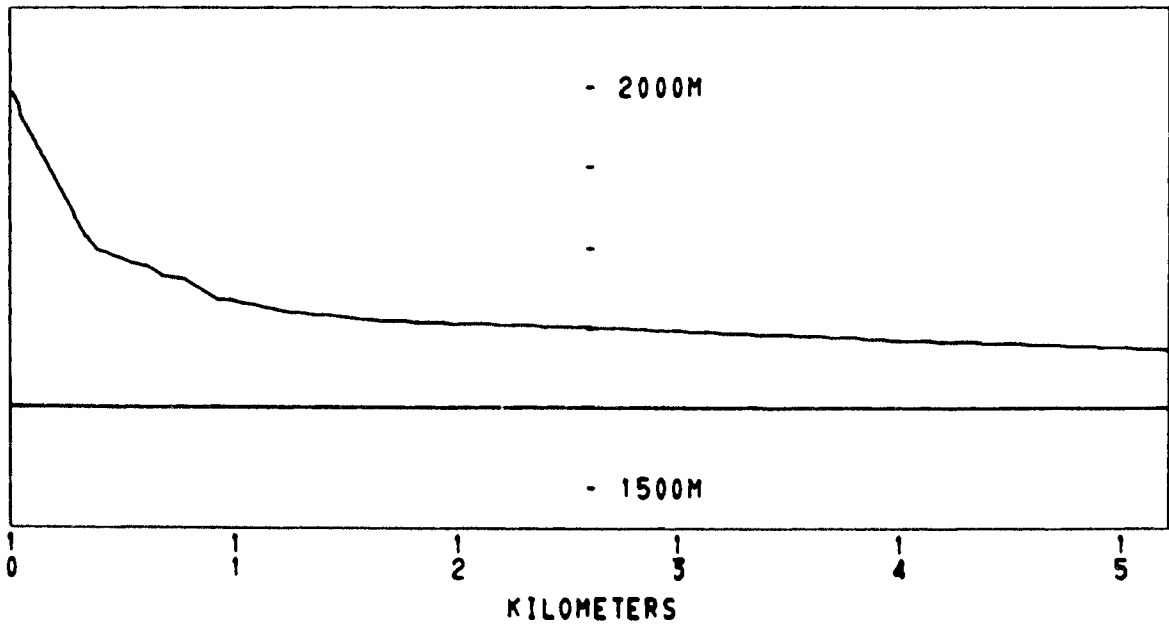
- 230 MHZ 9/ 9/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 7/28/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-5-T6
PATH LENGTH 5.21 km

XMTR. ELEV.
1673 M



L_b (dB) SHORT TERM VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-9-66 at 15 M				7-28-66 at 7.3 M		
50%	96.7	104.5	105.8	109.9	114.8	120.0	130.1
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The site is located between railroad tracks and a road. There is an olive hedge, 3-m high, which is 25 m along the path, with 7-m high trees behind the hedge. There are large, 20-m high trees at 400 m.

R3-5-T7
ROLLING HILLS NE1



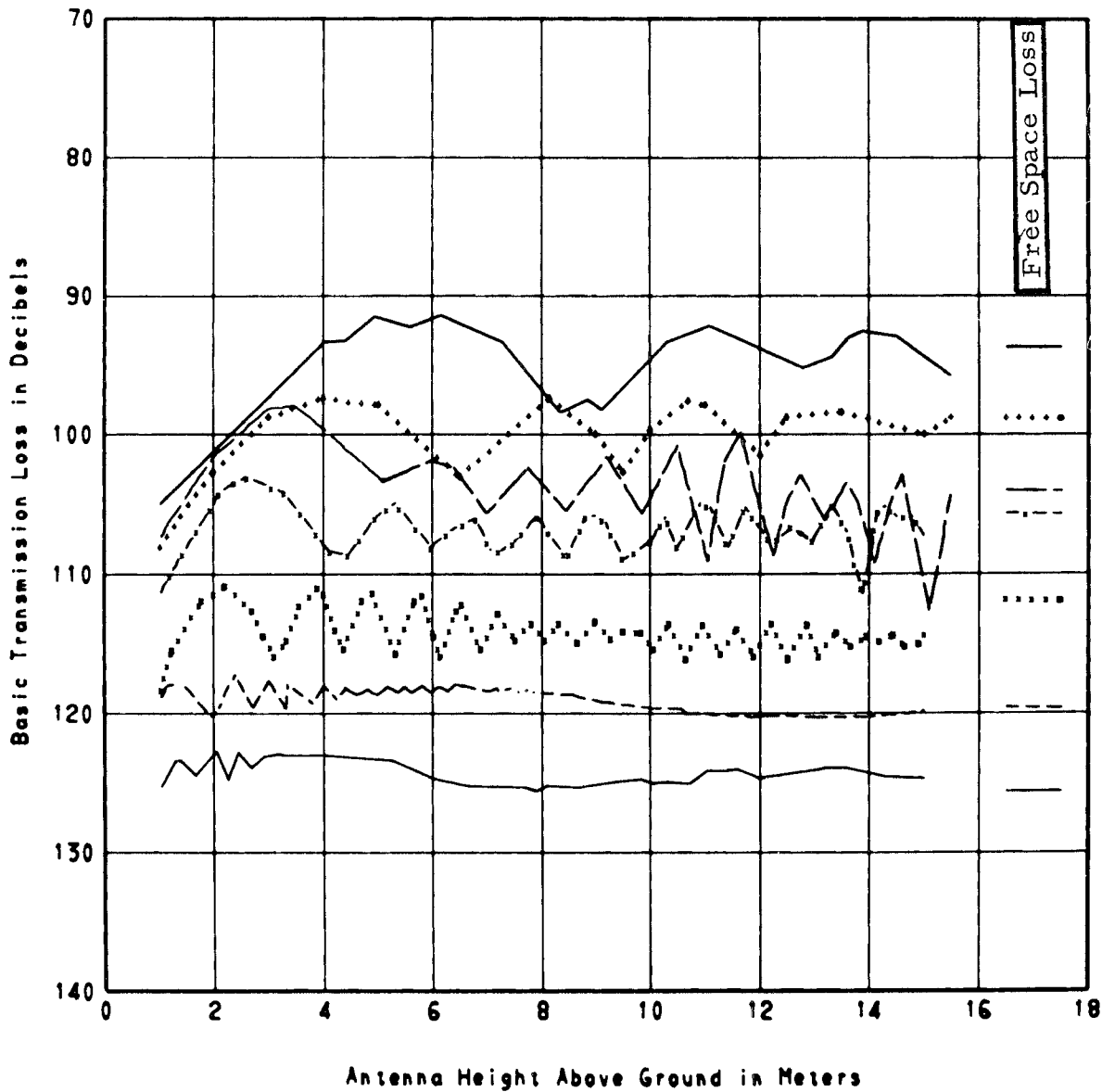
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
115° 31' 00" T.

R3-5-T7

ROLLING HILLS NE1

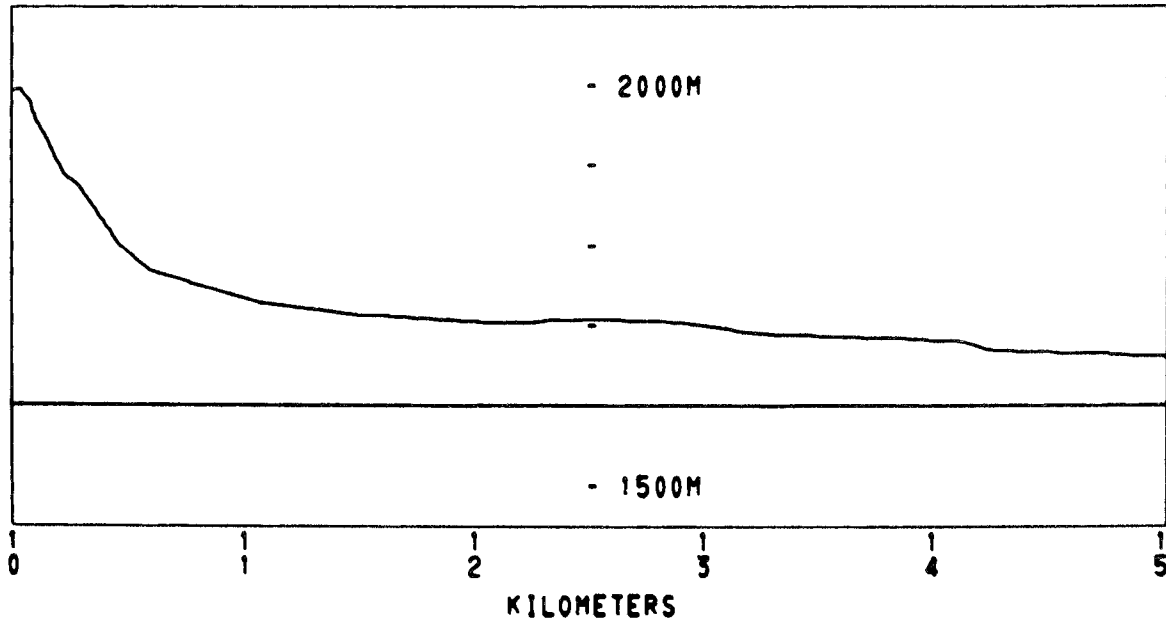
- 230 MHz 9/12/66
- 410 MHz
- - - 751 MHz
- · - · 910 MHz 7/28/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-5-T7
PATH LENGTH 5.02 km

XMTR. ELEV.
1661 M



L_b (dB) SHORT TERM VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-9-66 at 15 M				7-28-66 at 7.3 M		
50%	95.2	114.9	96.6	108.8	113.9	118.1	124.6
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The immediate foreground of the path is covered with asphalt and piles of asphalt. Clear Creek is 50 m away. The next 200 m are covered with 18-m high trees.

R3-10-T1
ROCKY FLATS CLAY PIT



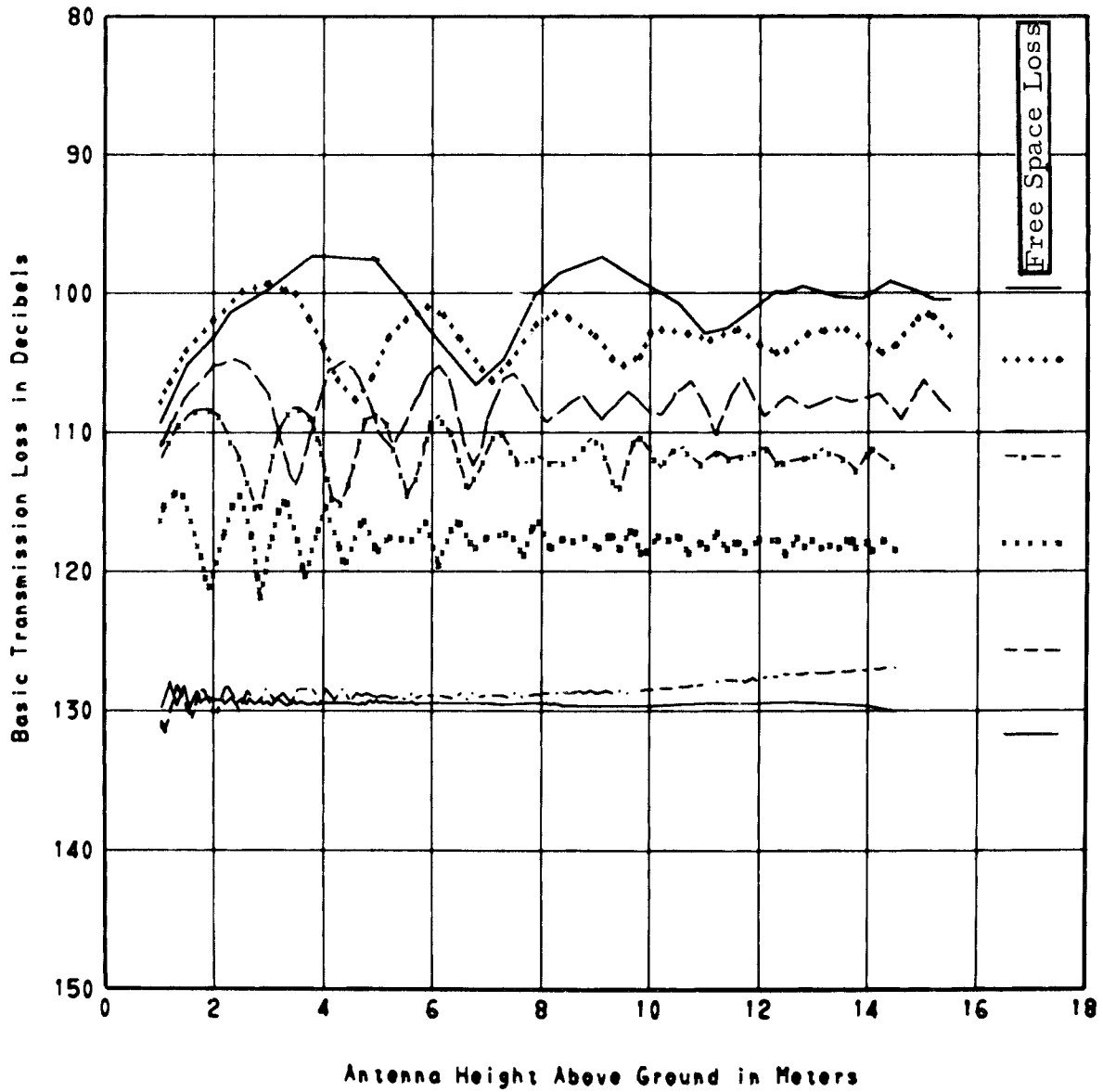
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
342° 42' 12" T.

R3-10-T1

ROCKY FLATS CLAY PIT

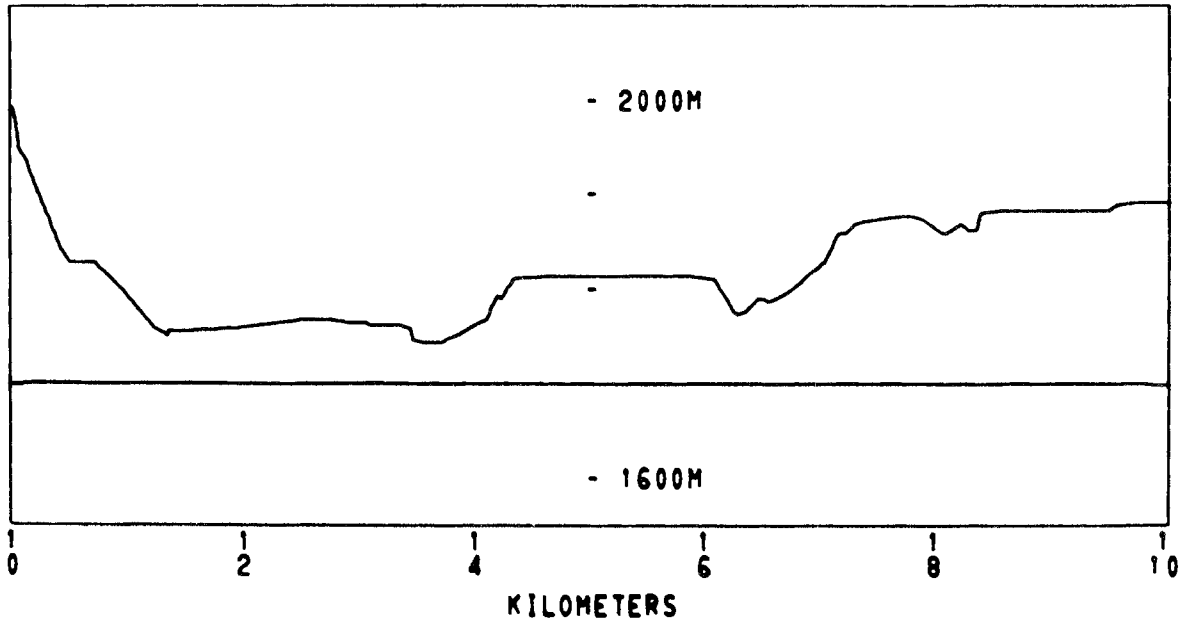
- 230 MHZ 9/22/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 6/24/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-10-T1
PATH LENGTH 10.04 km

XMTR. ELEV.
1893 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-22-66 at 15 M				6-24-66 at 7.3 M		
50%	100.1	102.6	109.6	109.2	117.1	128.2	129.1
$\Delta 10\%-90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The ground covering on this path is wild grass. There are two small trees on either side of the path on the 3-m high bank of an irrigation ditch which crosses the path at 0.4 km. Power lines cross the path at 0.8 km.

R3-10-T2
POLE CORRAL

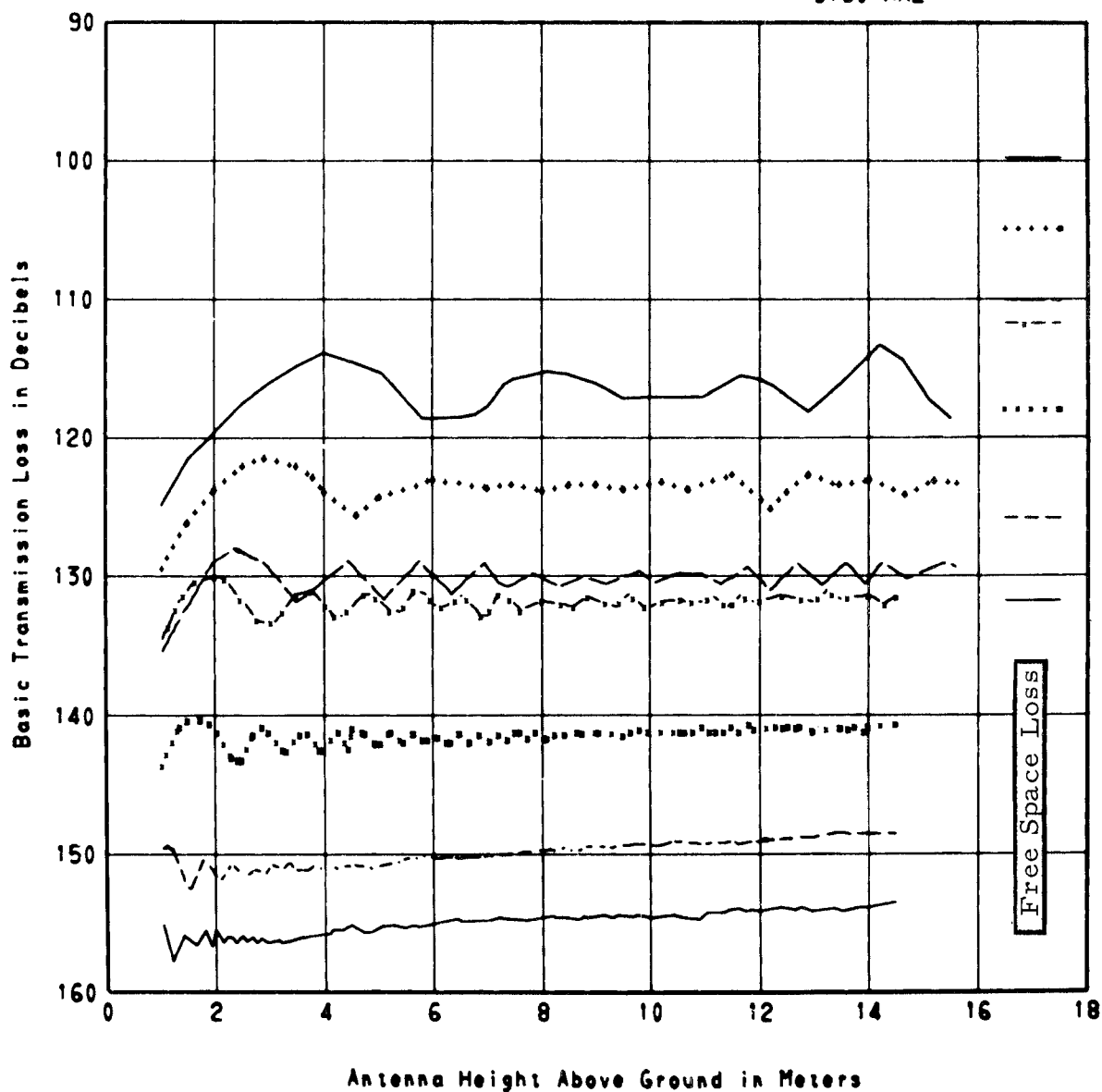


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $07^{\circ} 54' 23''$ T.

R3-10-T2
 POLE CORRAL

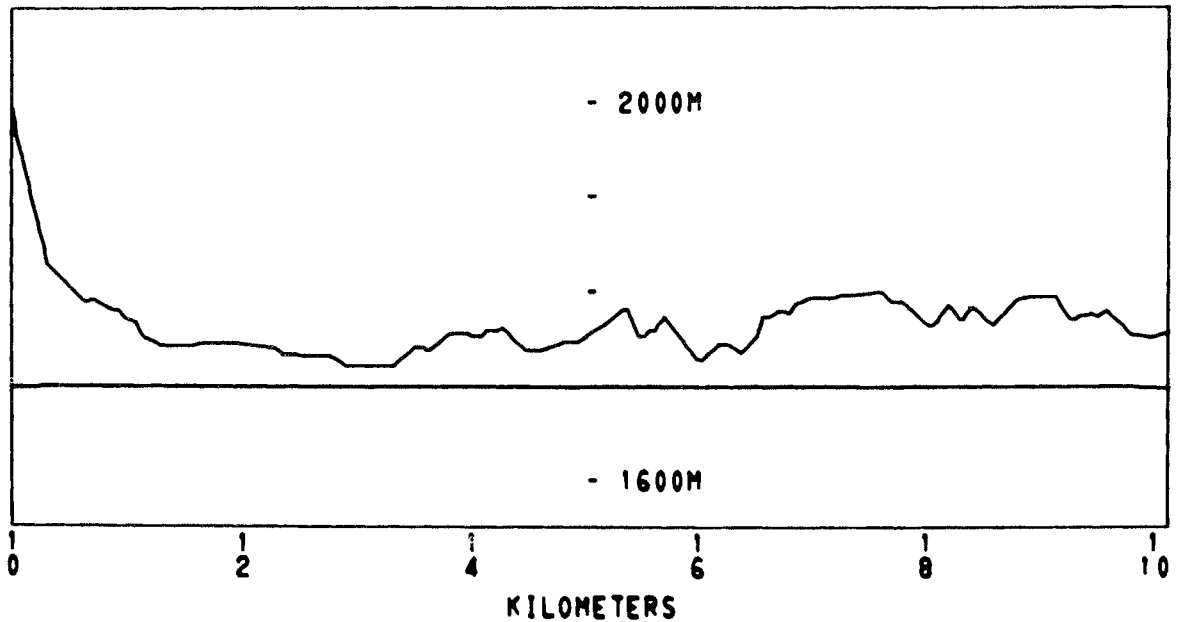
- 230 MHZ 9/22/66
- 410 MHZ
- 751 MHZ
- - - - 910 MHZ 6/27/66
- 1846 MHZ
- - - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-10-T2
PATH LENGTH 10.11 km

XMTR. ELEV.
1757 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-22-66 at 15 M				6-27-66 at 15 M		
50%	119.0	124.0	129.7	131.5	139.6	148.8	153.0
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					6-27-66 at 7.3 M		
50%				131.7	141.2	149.4	154.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					6-27-66 at 1 M		
50%				135.5	143.3	150.1	153.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

In the foreground of the path, there are 300 m of wild grass, followed by 300 m of wheat fields. Fences cross the path at 70 m and 200 m.

R3-10-T3
POLE CORRAL E1



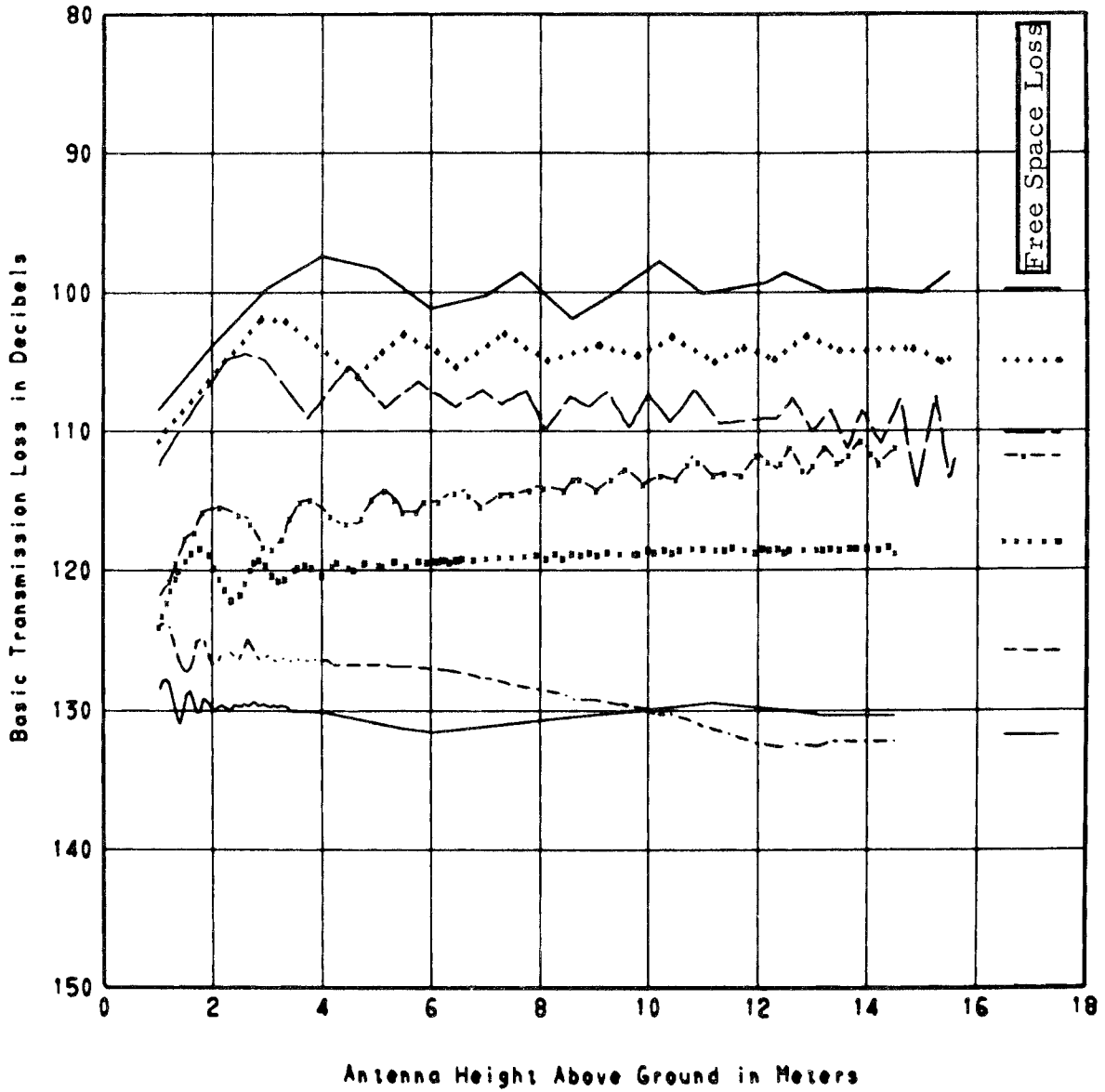
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $16^{\circ} 25' 18''$ T.

R3-10-T3

POLE CORRAL E1

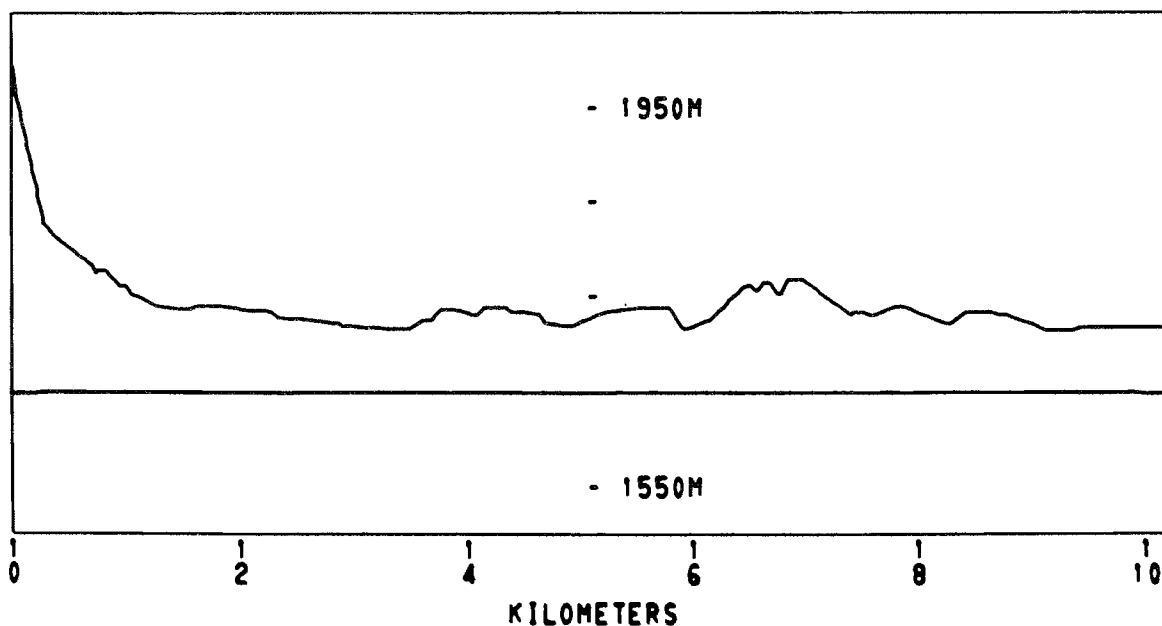
- 230 MHZ 9/22/66
- 410 MHZ
- - - 751 MHZ
- . - . 910 MHZ 6/27/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-10-T3
PATH LENGTH 10.20 km

XMTR. ELEV.
1717 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-22-66 at 15 M			6-27-66 at 7.3 M			
50%	97.6	102.8	110.1	114.0	118.7	127.2	131.8
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The terrain of the path is smooth, covered by a wheat field for the first 0.4 km and then plowed fields for 2.4 km. A fence crosses the path at 10 m, a highway at 2.4 km, and a railroad track at 2.8 km.

R3-10-T4
80TH AND KIPLING N



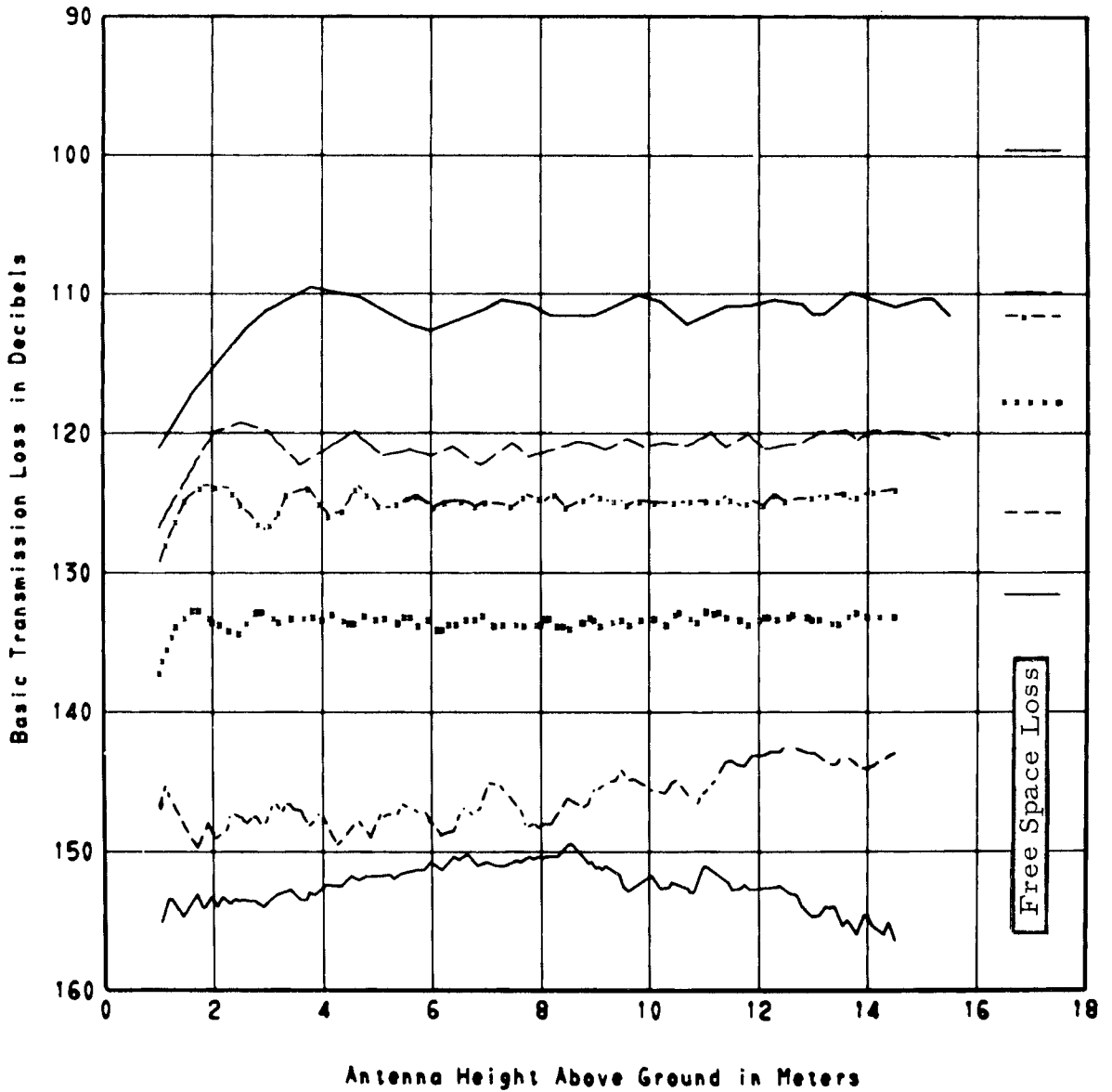
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $50^{\circ} 57' 52''$ T.

R3-10-T4

80TH AND KIPLING N

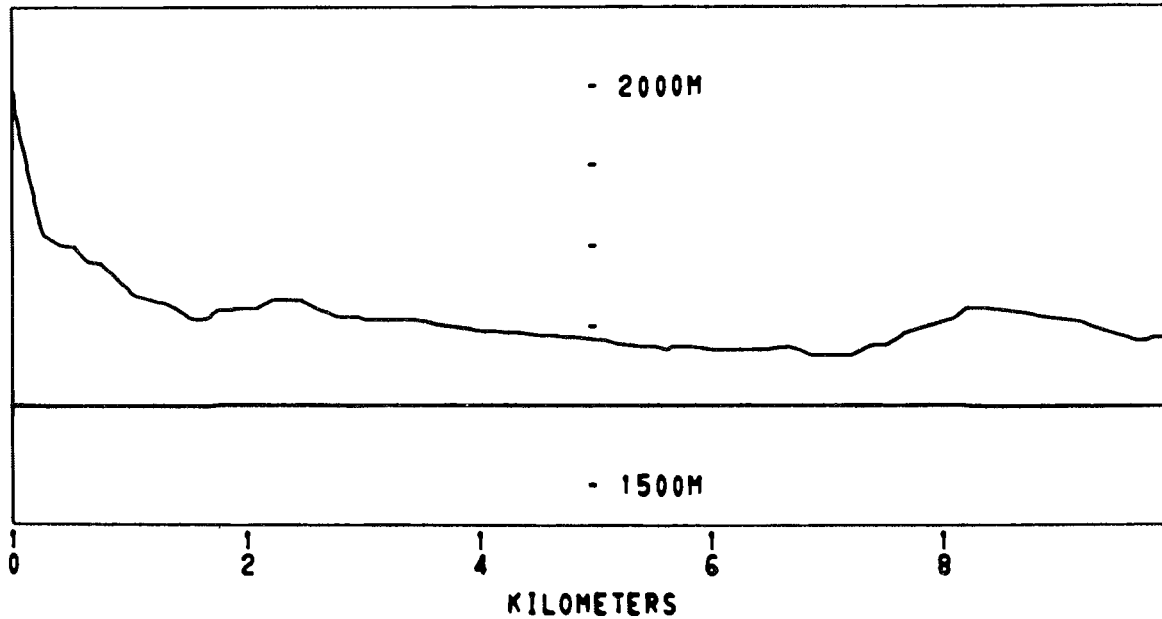
—	230 MHZ	9/22/66
- - -	751 MHZ	
- · - · -	910 MHZ	6/27/66
· · · · ·	1846 MHZ	
- - -	4595 MHZ	
—	9190 MHZ	



RCVR. ELEV.
1995 M

R3-10-T4
PATH LENGTH 9.91 km

XMTR. ELEV.
1686 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-22-66 at 15 M			6-27-66 at 15 M			
50%	112.5		120.0	111.7	133.0	141.6	154.2
$\Delta 10\% - 90\%$	< 3		< 3	< 3	< 3	< 3	4.7
				6-27-66 at 7.3 M			
50%				116.2	132.8	144.4	149.9
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
				6-27-66 at 1 M			
50%				117.8	136.4	148.0	152.0
$\Delta 10\% - 90\%$				< 3	< 3	3.5	6.9

The foreground of the path is a field, sparsely covered with weeds. At 400 m, there is a house with 15- to 20-m high trees behind it.

R3-10-T5
73RD AND FIELD



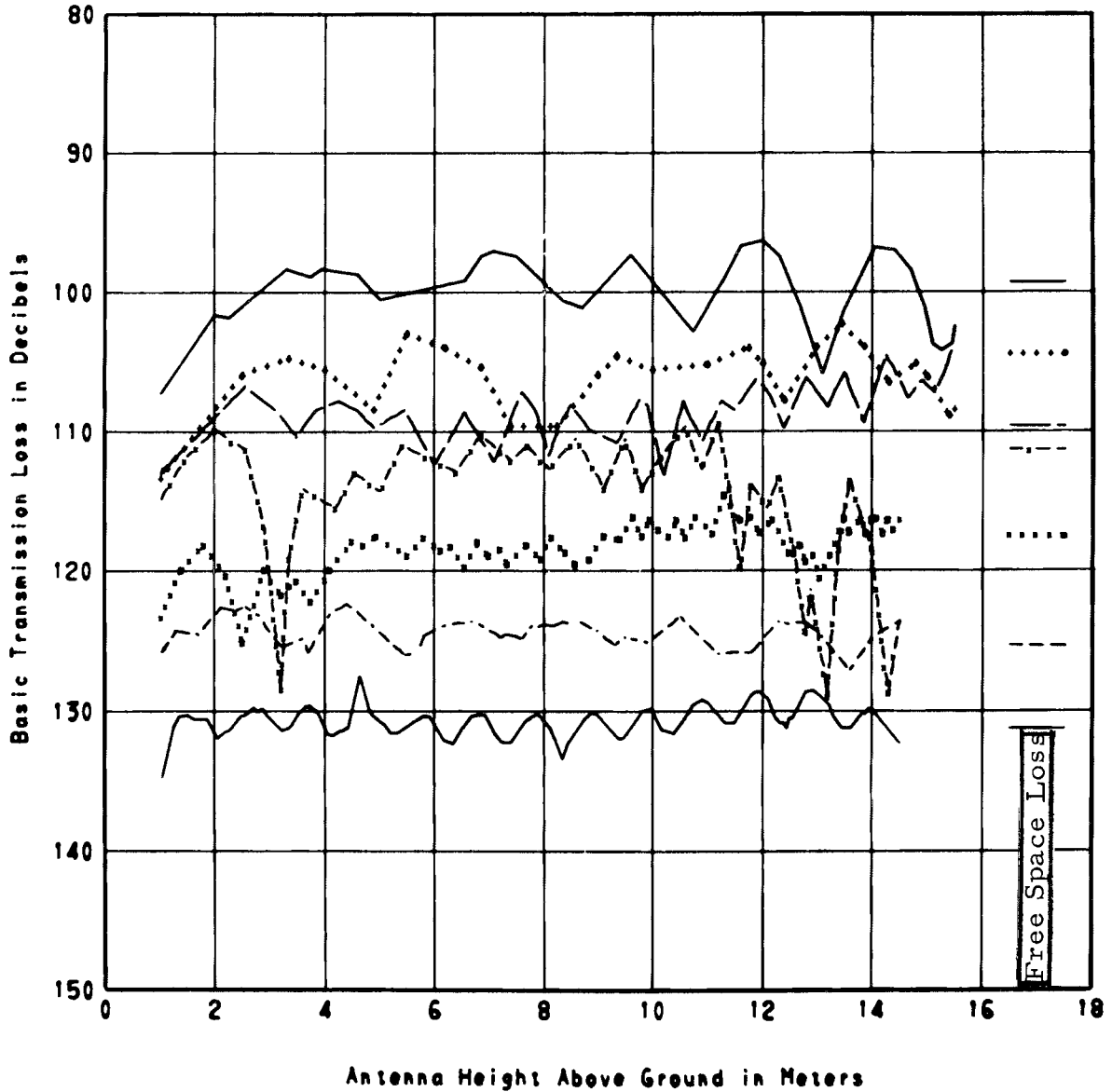
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
64° 36' 19" T.

R3-10-T5

73RD AND FIELD

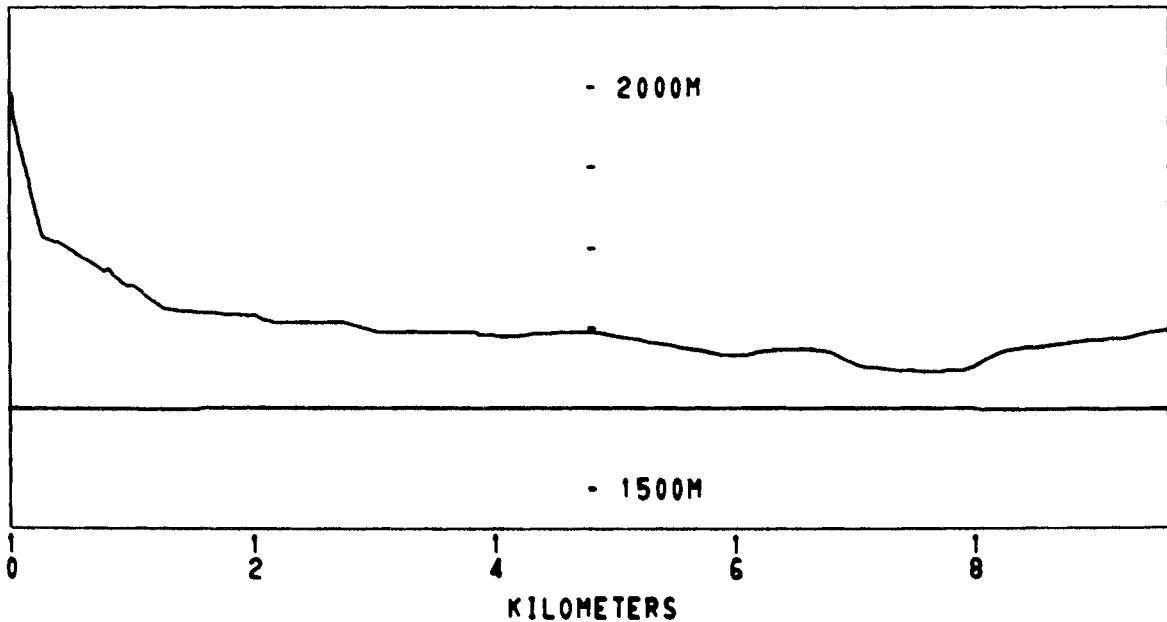
- 230 MHZ 9/15/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 6/28/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-10-T5
PATH LENGTH 9.59 km

XMTR. ELEV.
1697 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-15-66 at 15 M				6-28-66 at 7.3 M		
50%	102.7	105.9	105.3	111.5	117.8	124.7	132.2
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over broken terrain. At 35 m, there is an irrigation ditch with tall grass on either side of it. On the far side of the ditch, there is an alfalfa field, and then a dirt bank, 3-m high. At 0.4 km, there are 15-m high trees across the path.

R3-10-T6
RUSSELL SCHOOL S



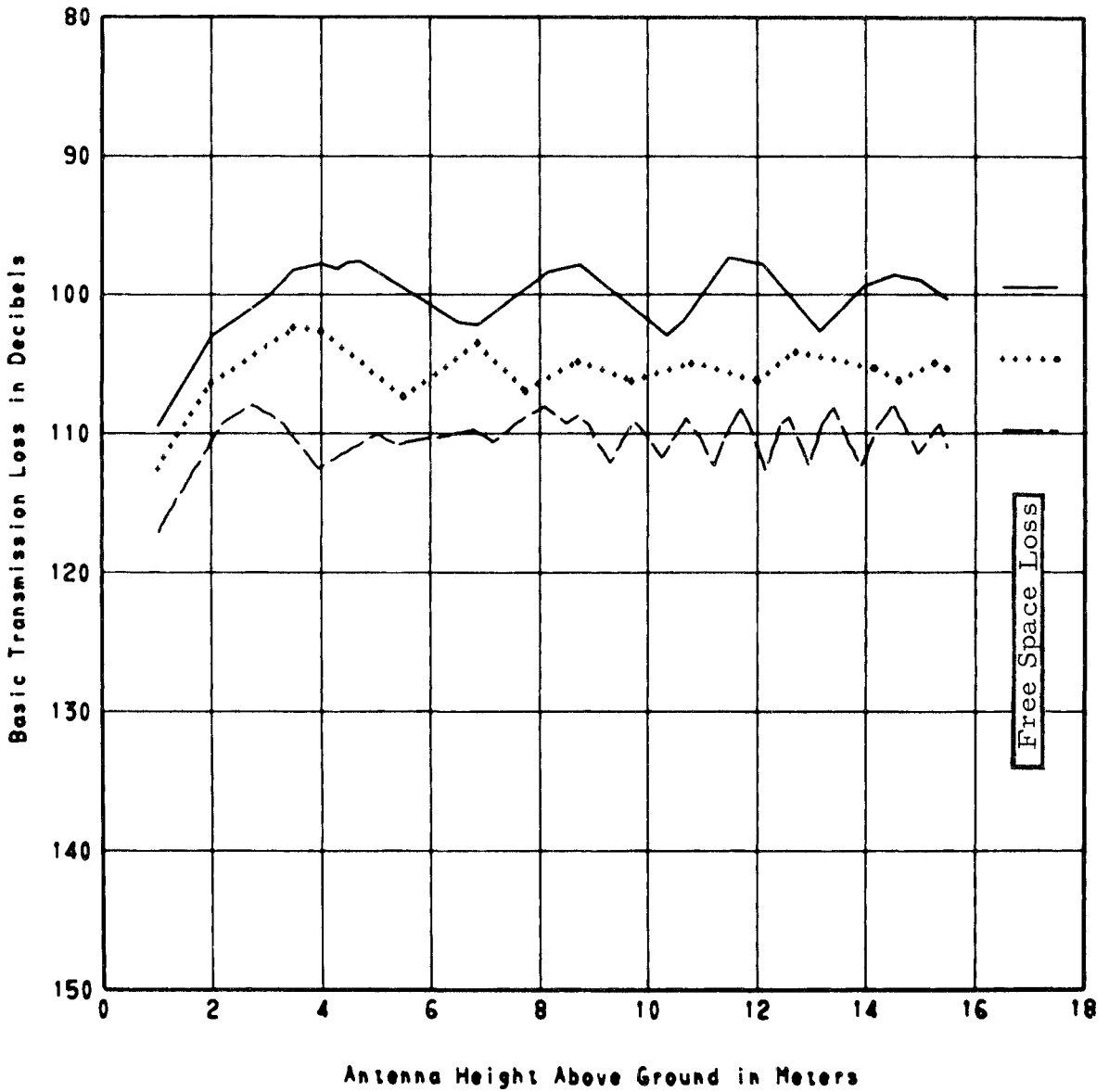
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $94^{\circ} 14' 37''$ T.

R3-10-T6

RUSSELL SCHOOL

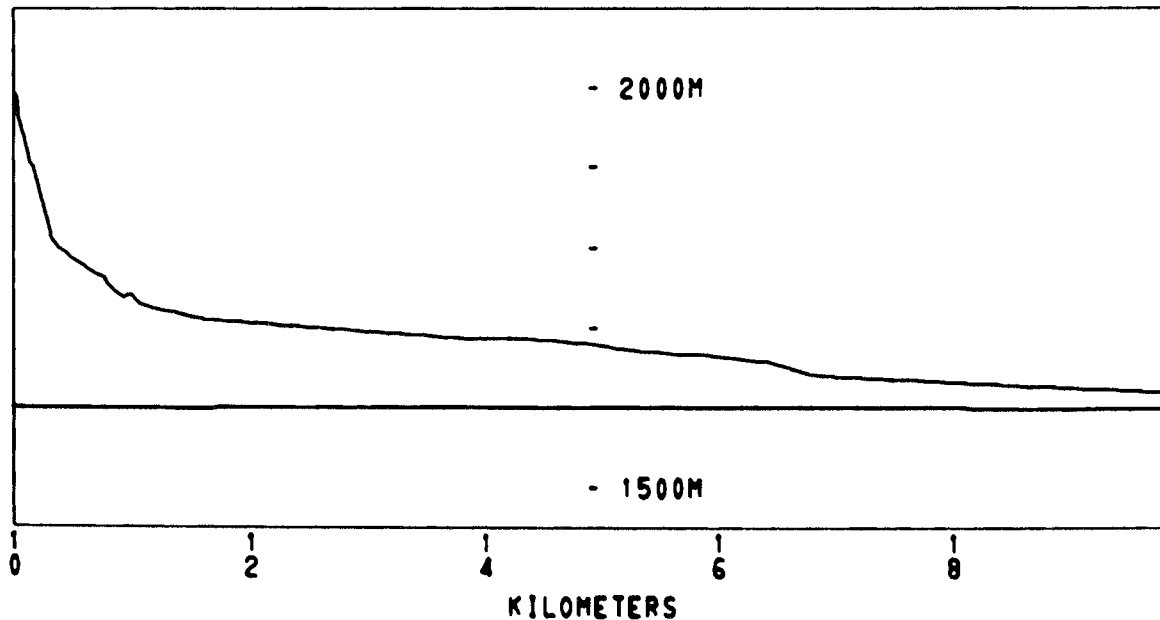
— 230 MHz 9/15/66
..... 410 MHz
- - - 751 MHz



RCVR. ELEV.
1995 M

R3-10-T6
PATH LENGTH 9.82 km

XMTR. ELEV.
1621 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
9-15-66 at 15 M							
50%	100.1	104.1	113.0				
$\Delta 10\% - 90\%$	< 3	< 3	< 3				

In the immediate foreground of the path is a dirt road. There is a fence across the path at 30 m and at 100 m, and a ditch at 200 m. Between the fences and the ditch, there is ground that is covered with grass. At 0.2 km, a house on one side of the path with trees, 5 to 10 m high.

R3-20-T1
MARSHALL ROAD



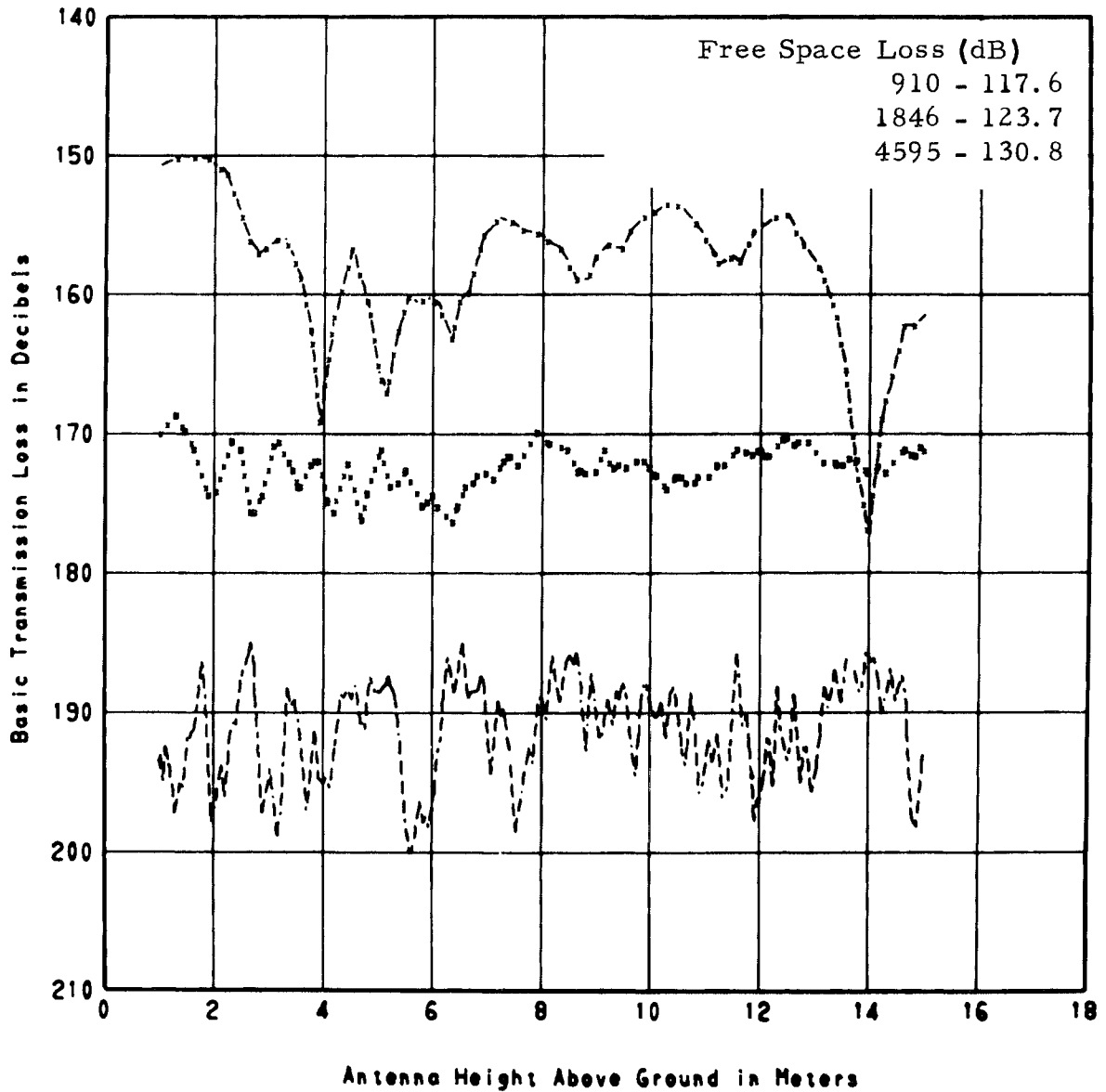
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $351^{\circ} 01' 07''$ T.

R3-20-T1

MARSHALL ROAD

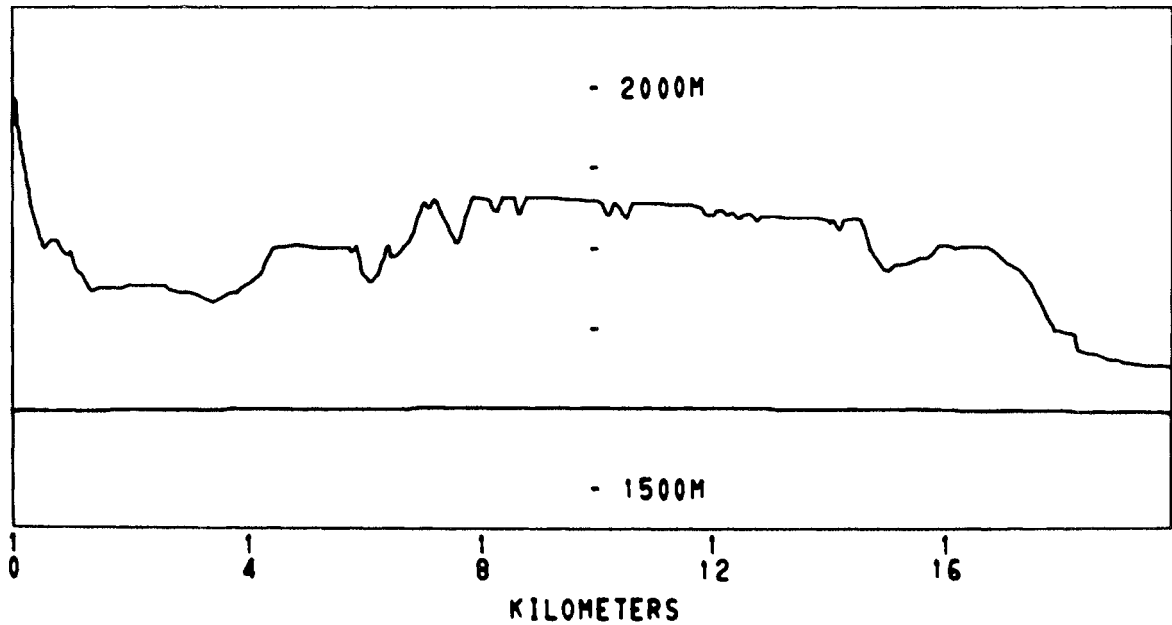
--- 910 MHZ 6/30/66
..... 1846 MHZ
- - - 4595 MHZ



RCVR. ELEV.
1995 M

R3-20-T1
PATH LENGTH 19.86 km

XMTR. ELEV.
1657 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
					6-30-66 at 15 M		
50%				161.5	170.0	188.4	
$\Delta 10\% - 90\%$				< 3	< 3	11.0	
					6-30-66 at 7.3 M		
50%				155.3	172.5	190.2	
$\Delta 10\% - 90\%$				< 3	< 3	8.9	
					6-30-66 at 1 M		
50%				151.7	169.6	191.5	
$\Delta 10\% - 90\%$				< 3	< 3	7.6	

The path extends along a dirt road for 0.4 km. There is a power line on one side of the road and a telephone line on the other side. There are low fences on both sides of the road. A guy-cable crosses the road at 30 m. At 0.4 km, there are houses and trees on the path. A few trees are scattered beyond this point.

R3-20-T2
CHERRYVALE ROAD



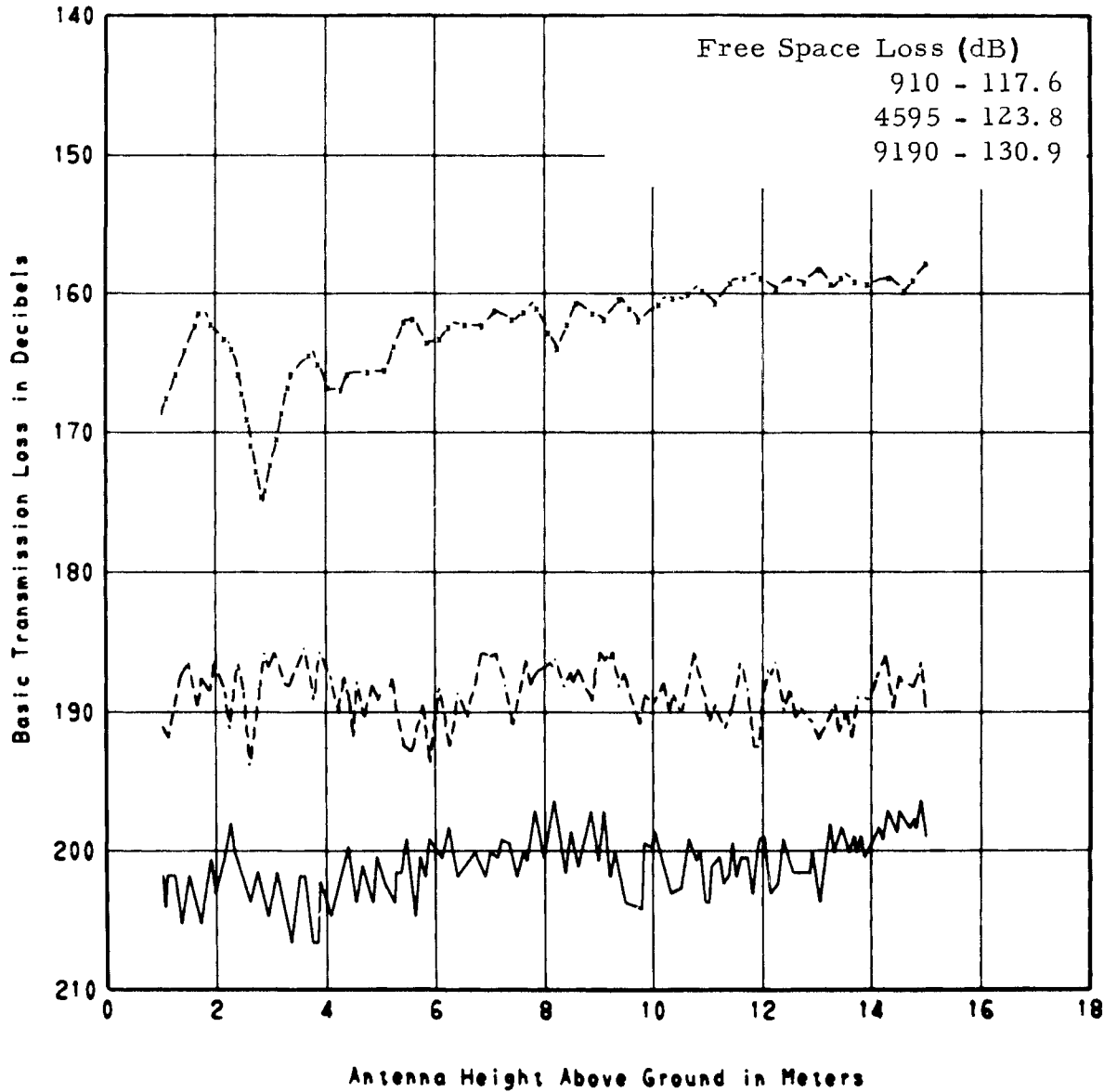
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $357^{\circ} 01' 07''$ T.

R3-20-T2

CHERRYVALE ROAD

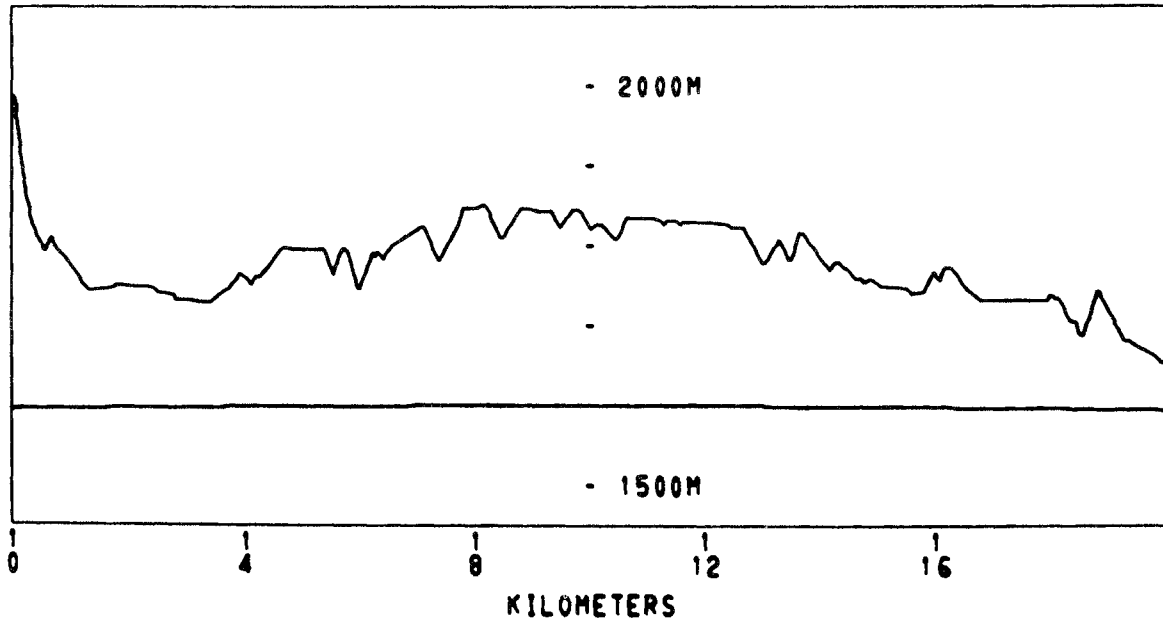
--- 910 MHZ 6/30/66
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T2
PATH LENGTH 19.99 km

XMTR. ELEV.
1660 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	6-30-66 at 15 M						
50%				157.0		188.2	201.1
$\Delta 10\% - 90\%$				< 3		4.1	3.0
	6-30-66 at 7.3 M						
50%				161.5		189.5	203.4
$\Delta 10\% - 90\%$				< 3		4.5	3.0
	6-30-66 at 1 M						
50%				167.5		187.6	205.6
$\Delta 10\% - 90\%$				< 3		4.6	3.0

The site is located on a dirt road. A power line, a telephone cable, and a low fence are in the immediate foreground. At 100 m, there is an irrigation ditch with 20-m high trees. The path horizon is approximately 0.8 km from the transmitter.

R3-20-T3
GREAT WESTERN RESERVOIR SW1



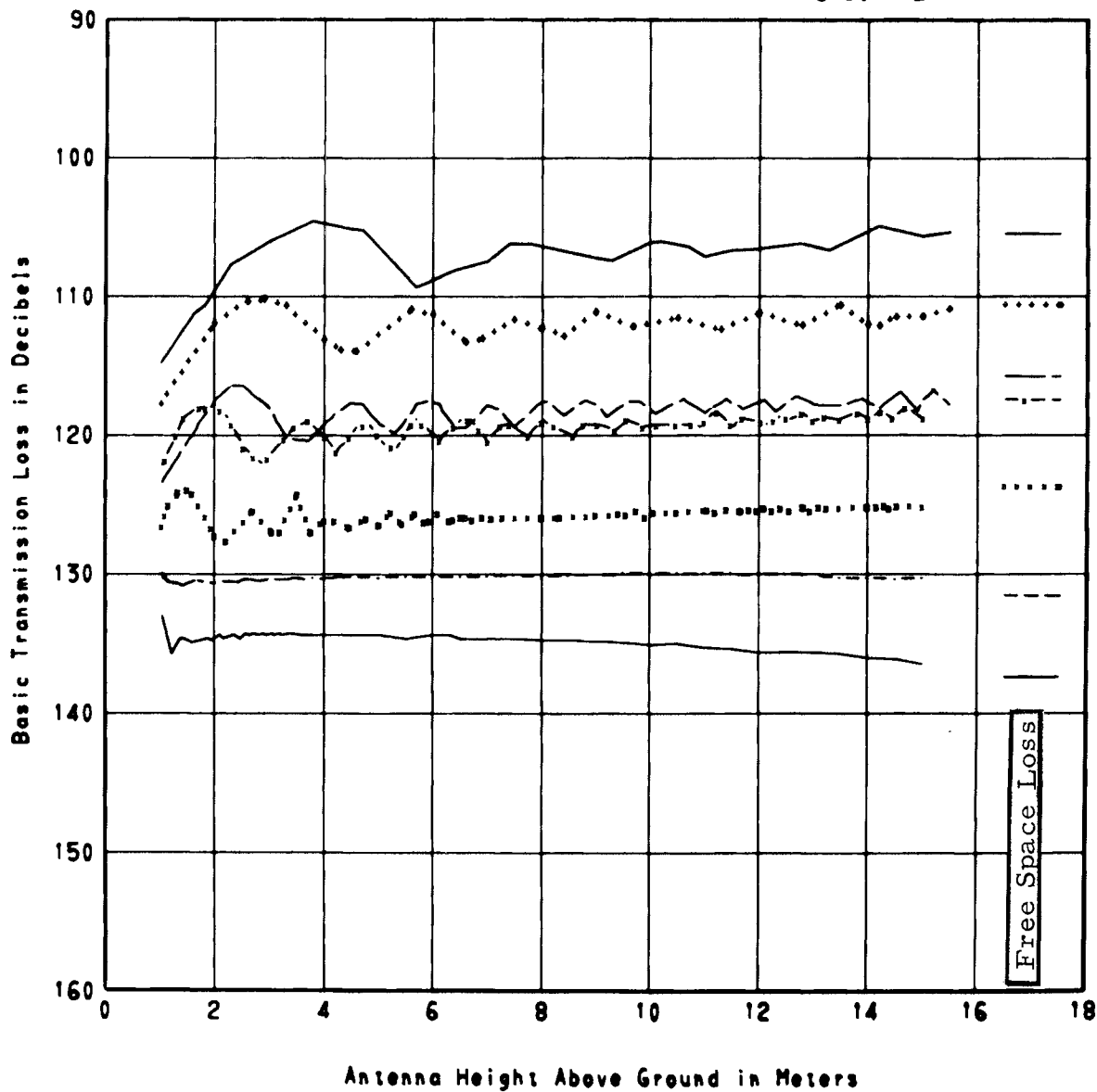
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $02^{\circ} 43' 52''$ T.

R3-20-T3

GREAT WESTERN RESERVOIR SW1

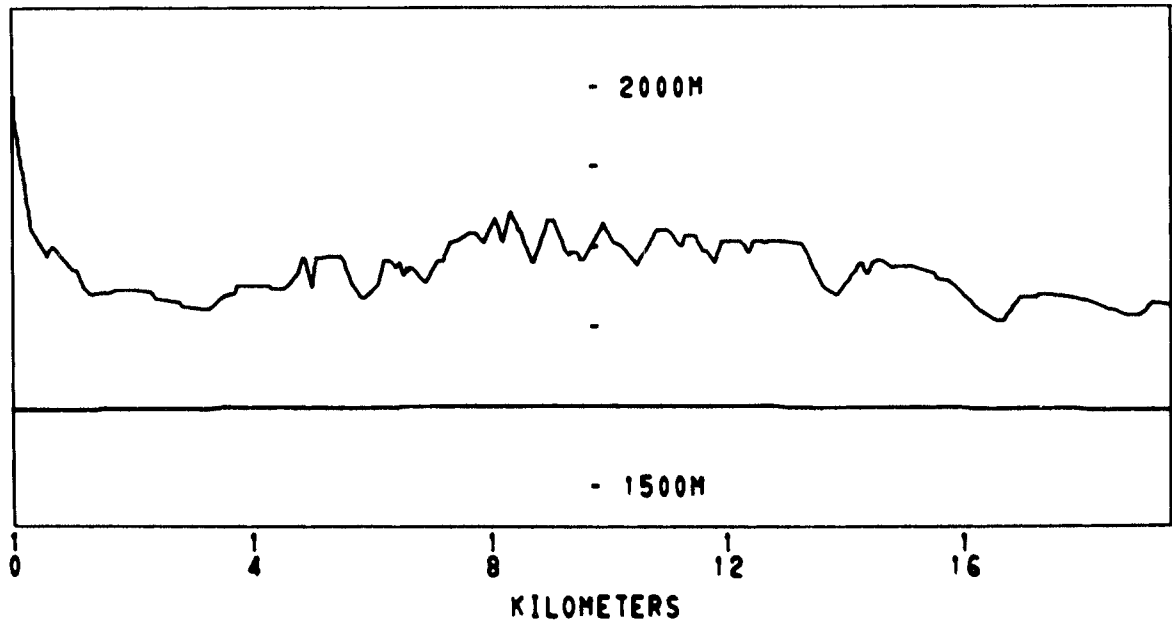
- 230 MHZ 9/23/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 6/30/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T3
PATH LENGTH 19.47 km

XMTR. ELEV.
1732 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-23-66 at 15 M				6-30-66 at 7.3 M		
50%	105.7	110.2	117.7	119.1	125.1	129.6	134.2
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over grassland. Power and telephone lines cross the path at 100 m. At 120 m and to the right of the path, there are a house, a car, and a fence.

R3-20-T4
LOUISVILLE SW1

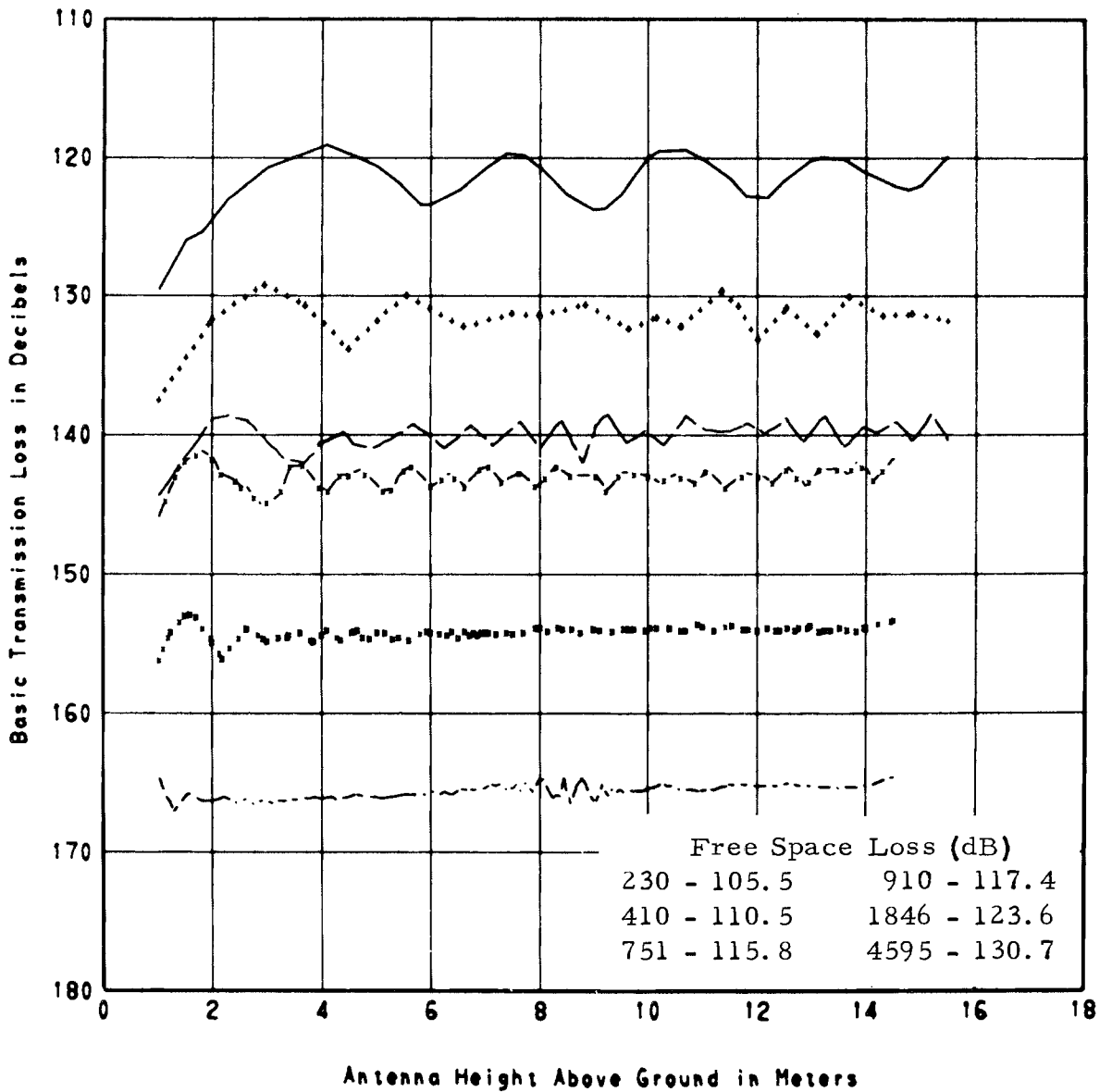


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
14° 39' 33" T.

R3-20-T4
 LOUISVILLE SW1

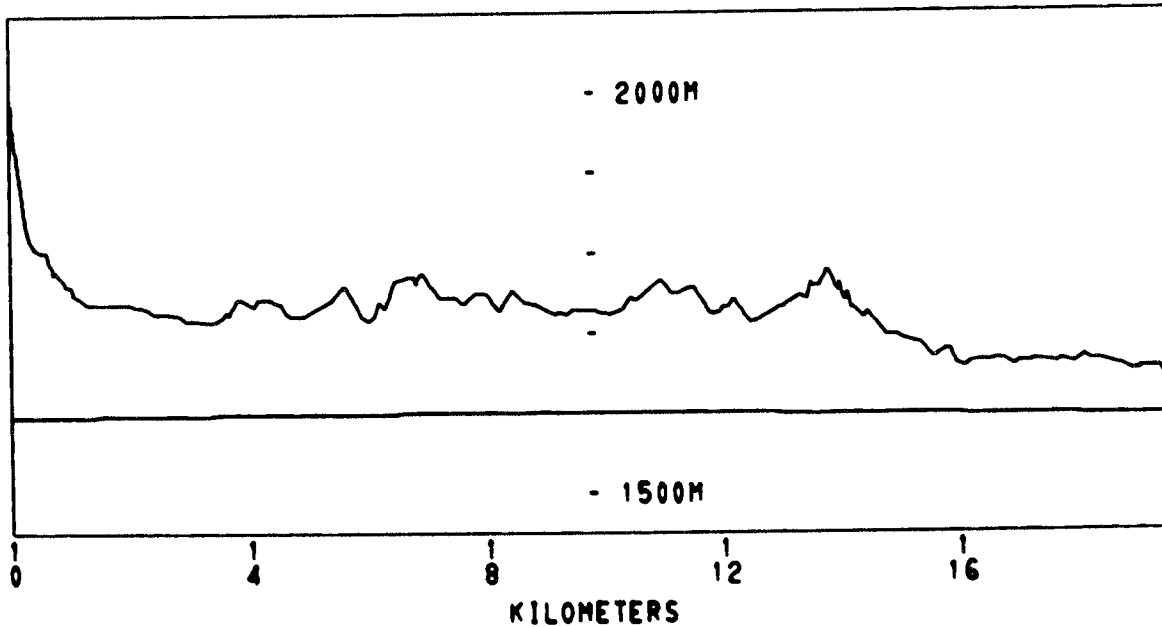
— 230 MHZ 9/23/66
 410 MHZ
 - - - 751 MHZ
 - · - · 910 MHZ 6/29/66
 1846 MHZ
 - - - 4595 MHZ



RCVR. ELEV.
1995 M

R3-20-T4
PATH LENGTH 19.47 km

XMTR. ELEV.
1643 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-23-66 at 15 M			6-29-66 at 15 M			
50%	121.2	131.6	138.9	141.6	152.8	165.4	
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	
				6-29-66 at 7.3 M			
50%				143.9	152.9	165.2	
$\Delta 10\% - 90\%$				< 3	< 3	< 3	
				6-29-66 at 1 M			
50%				146.1	152.8	165.0	
$\Delta 10\% - 90\%$				< 3	< 3	< 3	

The path extends over grasslands for the first 500 m, then over plowed fields for the next 2 km. In the foreground, there are trees to the left of the path and a 15-wire telephone line to the right. There is a telephone cable across the path. There are several scattered trees along the path.

R3-20 - T5
LOUISVILLE S1



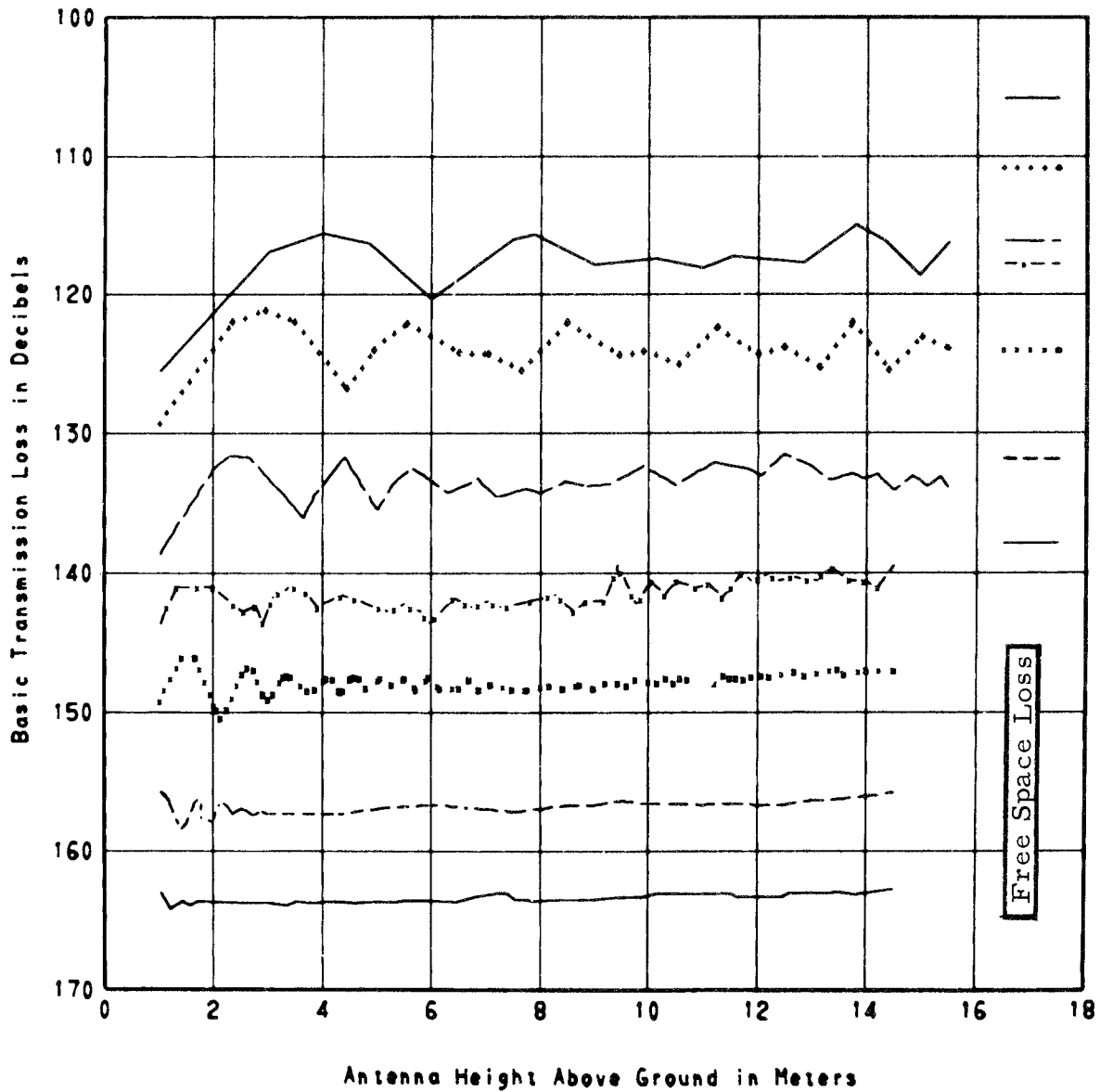
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
17° 41' 07" T.

R3-20-T5

LOUISVILLE S2

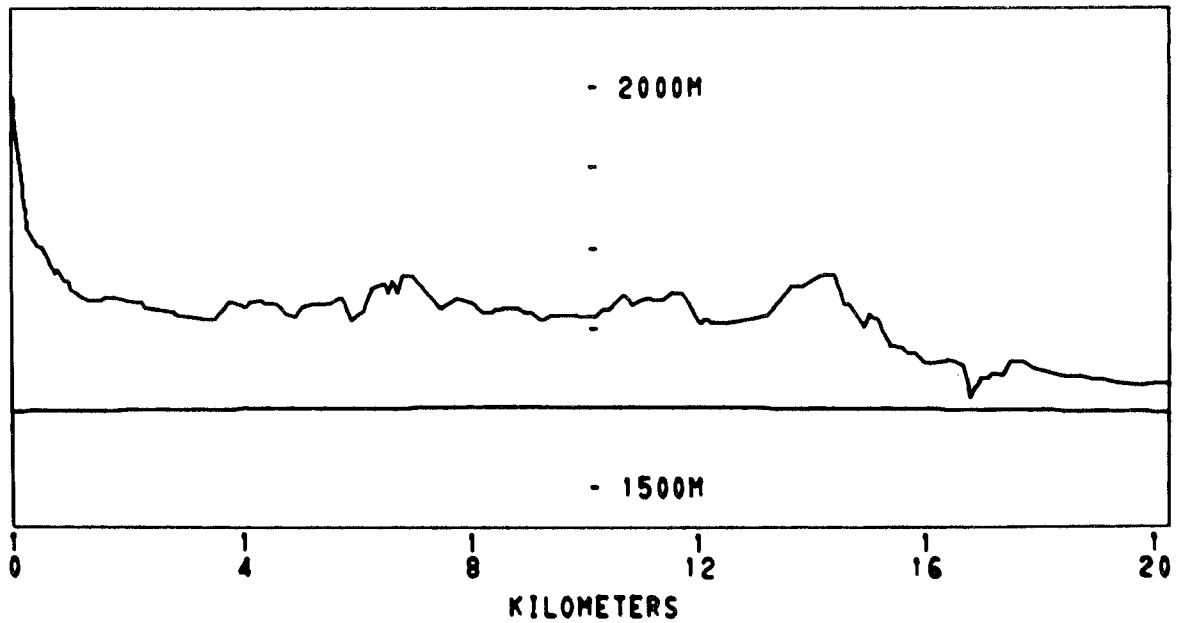
- 230 MHZ 9/23/66
- 410 MHZ
- 751 MHZ
- - - - 910 MHZ 6/29/66
- 1846 MHZ
- - - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T5
PATH LENGTH 20.25 km

XMTR. ELEV.
1637 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-23-66 at 15 M				6-29-66 at 7.3 M		
50%	116.0	131.6	138.9	141.2	147.8	156.7	162.8
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over a wheat field for 1.6 km. The rest of the path consists of grassland. There is a telephone cable 3 m to the left of the antenna. At 0.8 km, there is a 2-m high pile of dirt, which is covered with weeds. There are a few trees to the right and to the left of the path.

R3-20-T6
STEARNS LAKE N1



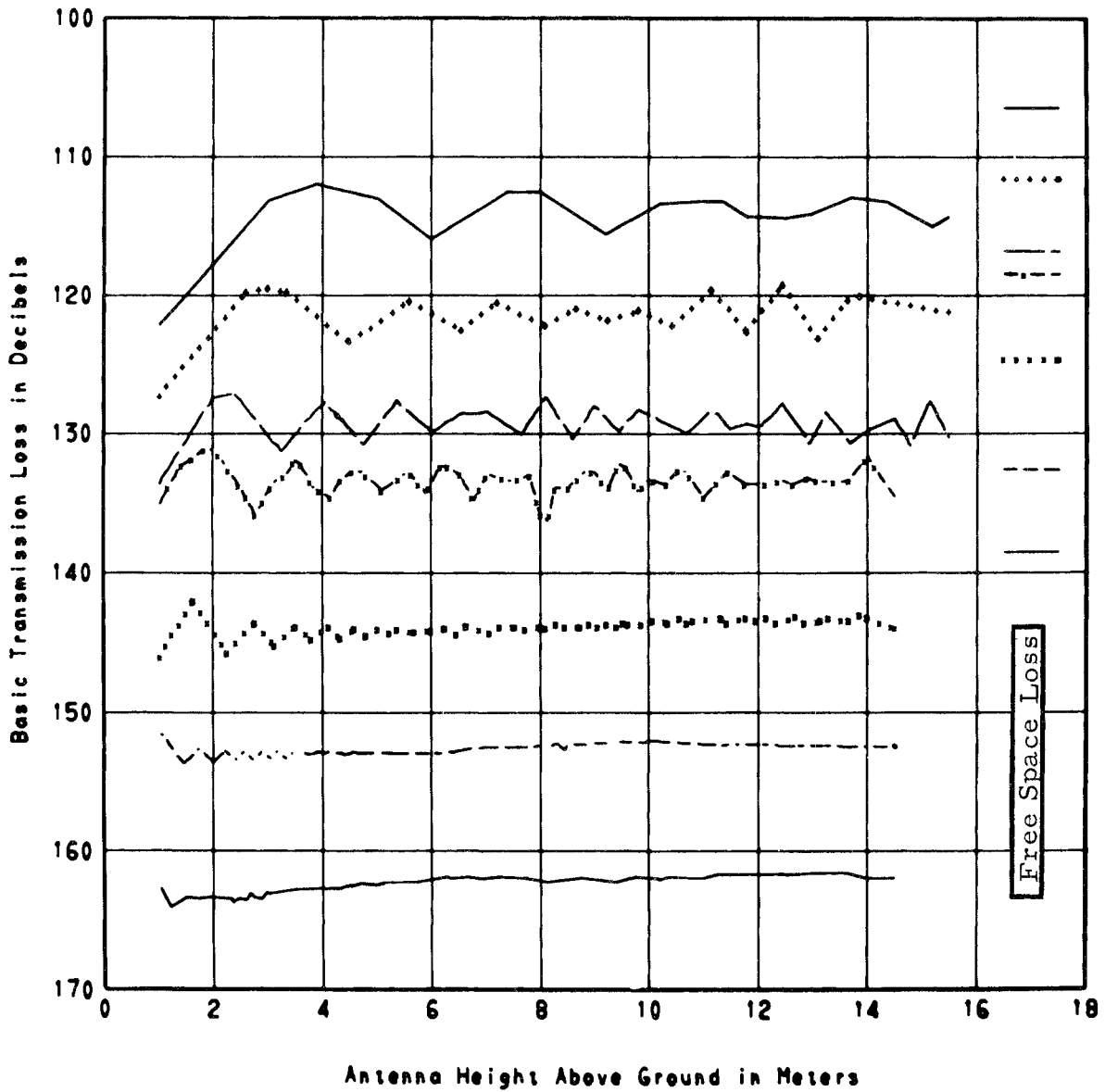
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $32^{\circ} 26' 23''$ T.

R3-20-T6

STEARNS LAKE N1

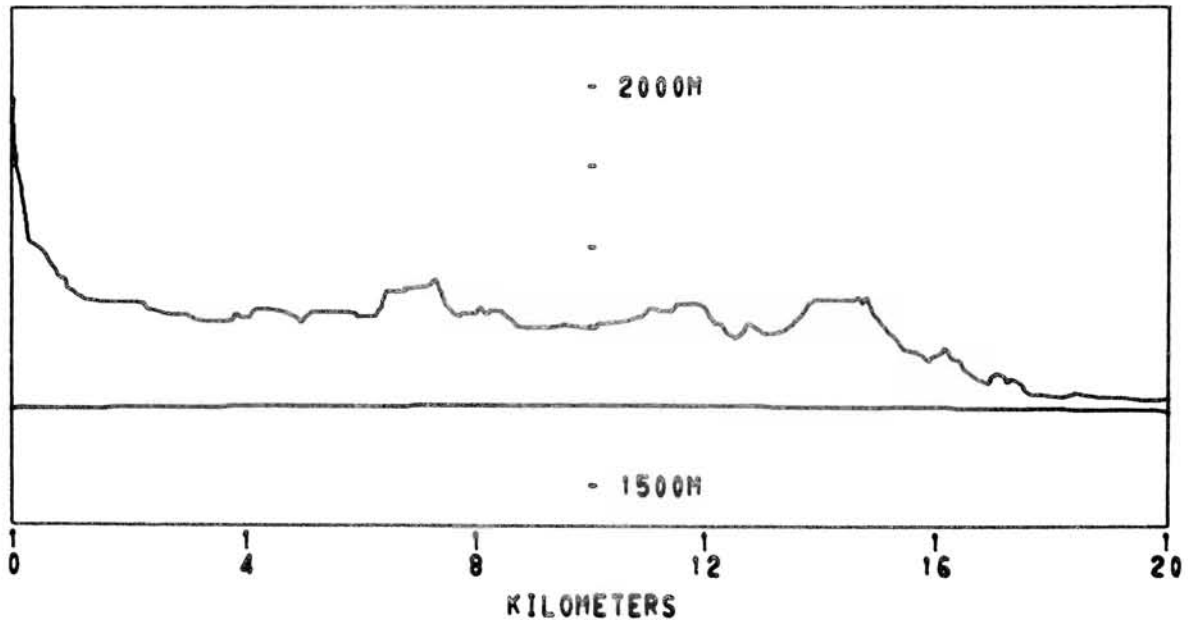
- 230 MHz 9/23/66
- 410 MHz
- - - 751 MHz
- · - · 910 MHz 6/29/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-20-T6
PATH LENGTH 20.04 km

XMTR. ELEV.
1615 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-23-66 at 15 M				6-29-66 at 15 M		
50%	115.4	119.2	130.2	134.4	142.8	152.4	161.3
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					6-29-66 at 7.3 M		
50%				132.9	142.8	152.4	161.5
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					6-29-66 at 1 M		
50%				136.9	145.3	151.6	162.1
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The first 0.4 km of the path extends over a wheat field; the rest of it is grassland. There are scattered trees on either side of the path at 1.2 km.

R3-20-T8 OPEN AND CONCEALED
124TH AND CARBON ROAD



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $23^{\circ} 40' 18''$ T.

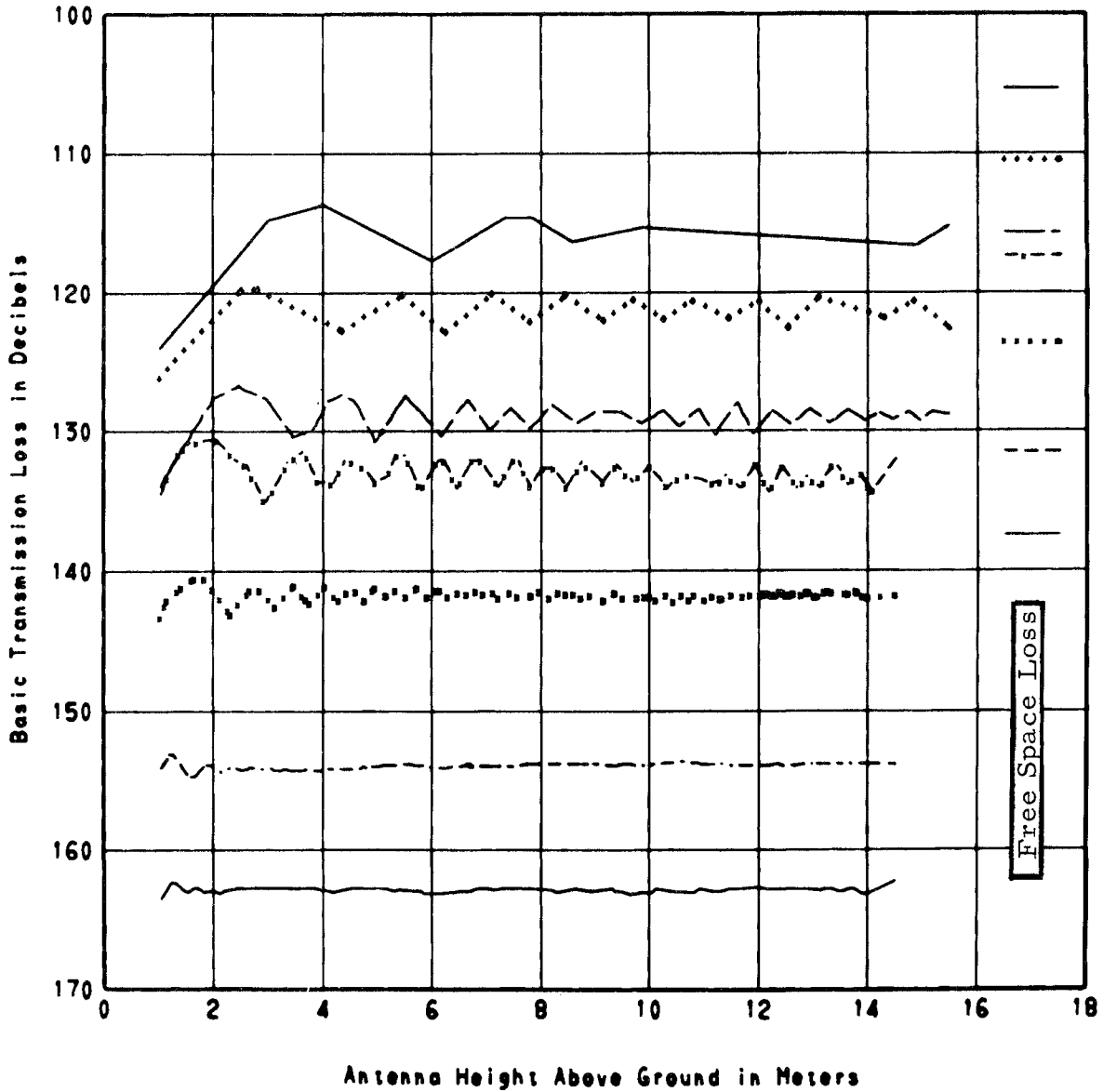


PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $23^{\circ} 25' 38''$ T.

R3-20-T8 OPEN
 124TH AND CARBON ROAD

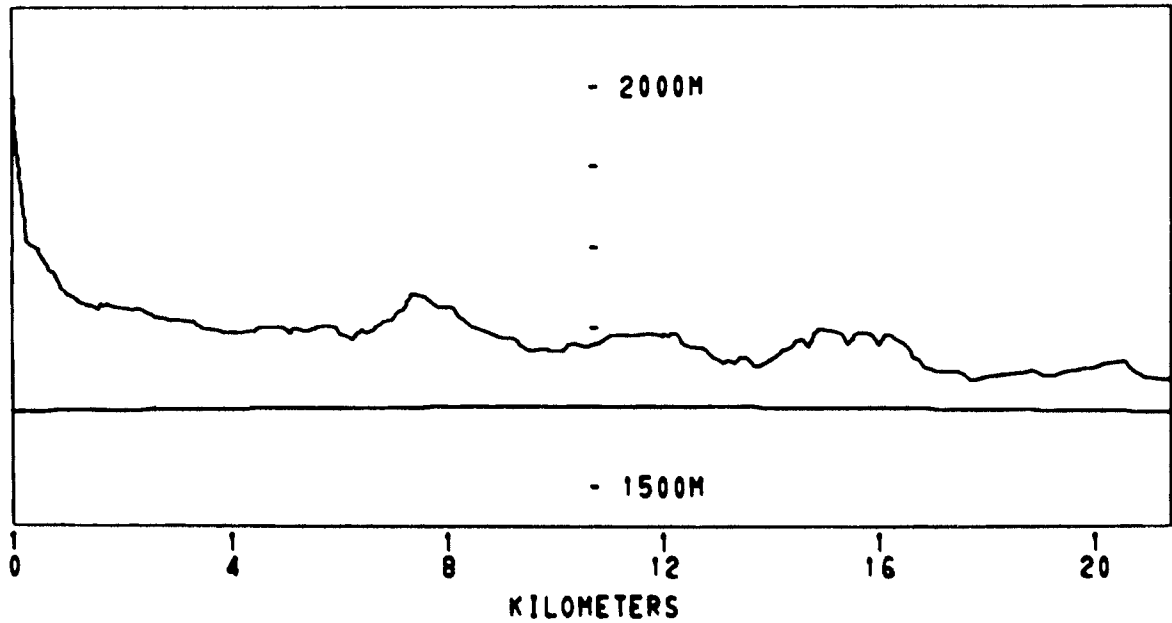
- 230 MHZ 9/23/66
- 410 MHZ
- 751 MHZ
- - - - 910 MHZ 6/29/66
- 1846 MHZ
- - - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T8 OPEN
PATH LENGTH 21.42 km

XMTR. ELEV.
1642 M



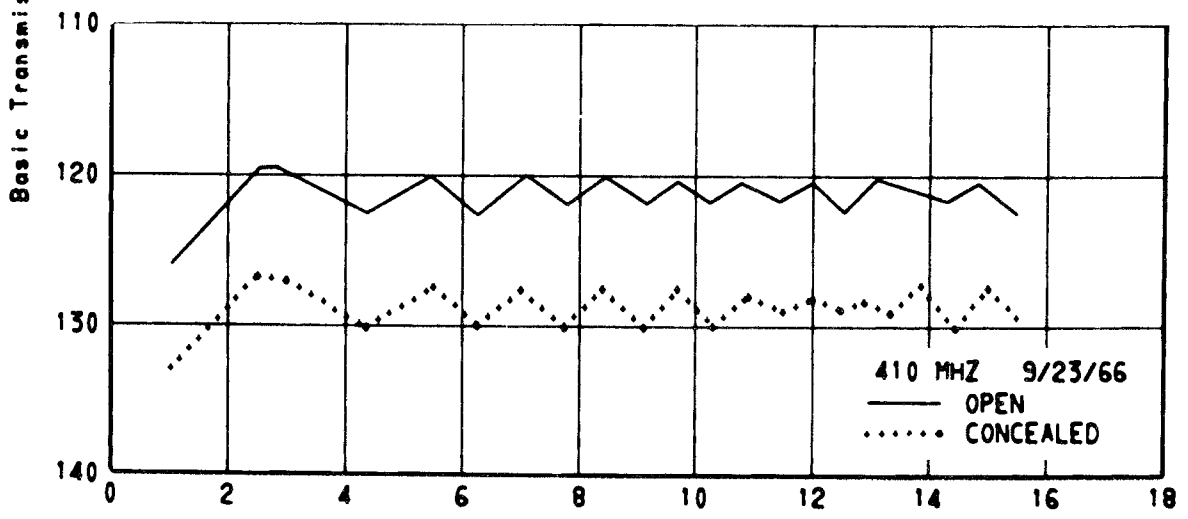
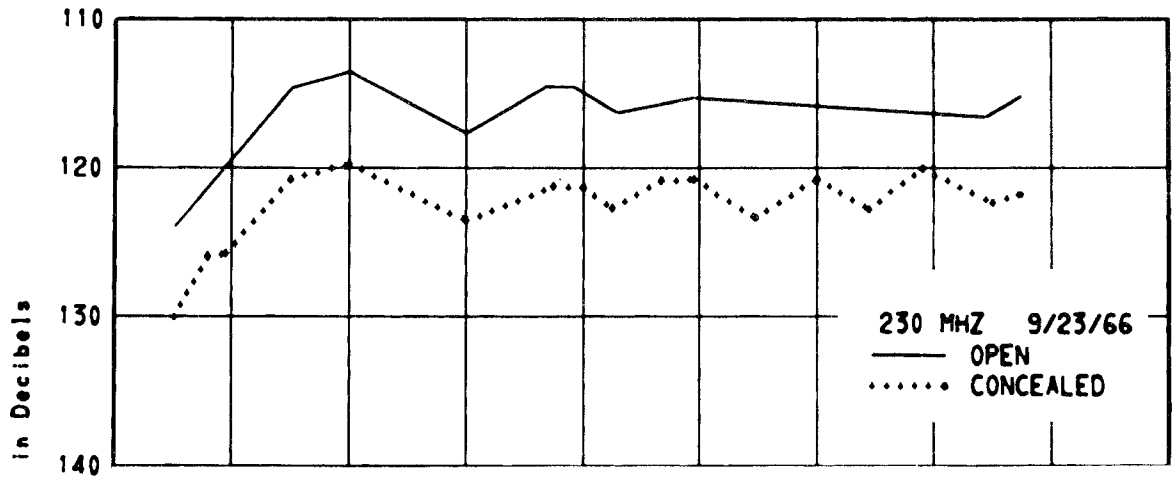
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-23-66 at 15 M				6-29-66 at 7.3 M		
50%	113.9	121.0	128.9	134.1	140.8	153.8	162.6
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Power lines cross the path in the immediate foreground. The path also crosses a small pond, a fence, and scattered trees, 4 to 15 m high. To the left of the path, at 70 m, is a section of corrugated tin standing on edge.

R3-20-T8 O&C

124TH AND CARBON ROAD

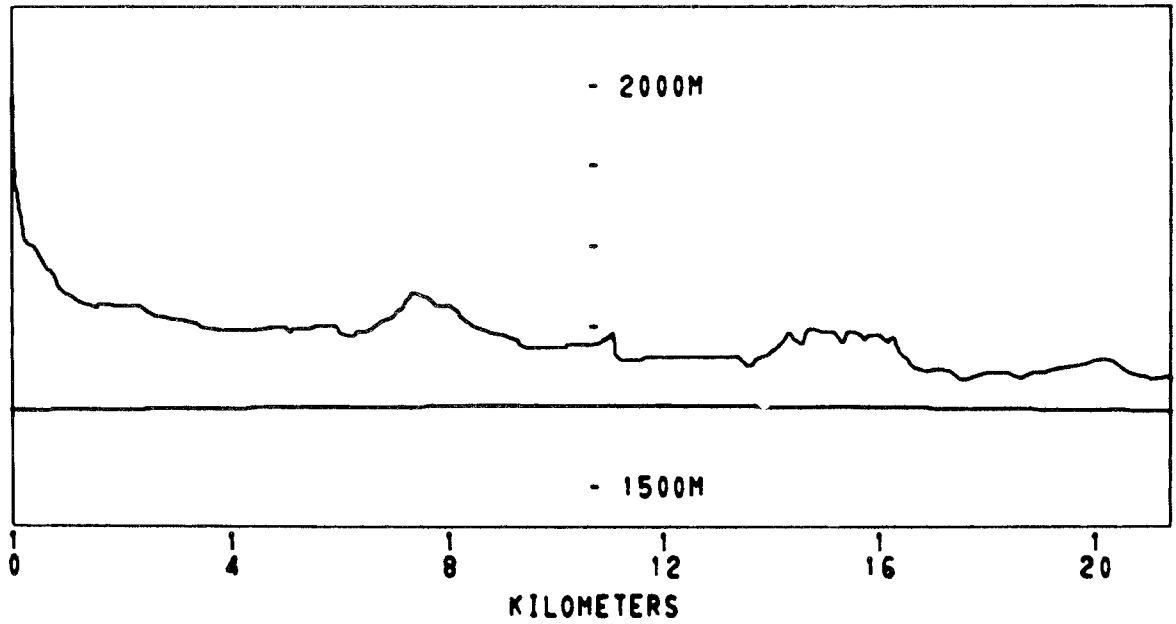


Antenna Height Above Ground in Meters

RCVR. ELEV.
1995 M

R3-20-T8 CONCEALED
PATH LENGTH 21.25 km

XMTR. ELEV.
1642 M



L _b (dB) SHORT TERM VARIABILITY							
Freq(MHz)	230	410	751	910	1846	4595	9190
9-23-66 at 15 M							
50%	123.5	129.6					
Δ10%-90%	< 3	< 3					

A 2-wire power line crosses the path, 5 m from the antenna.
The trees on the path are 5 to 15 m high and they extend along the path
for 100 m.

R3-20-T9
120 TH AND LOWELL BOULEVARD N



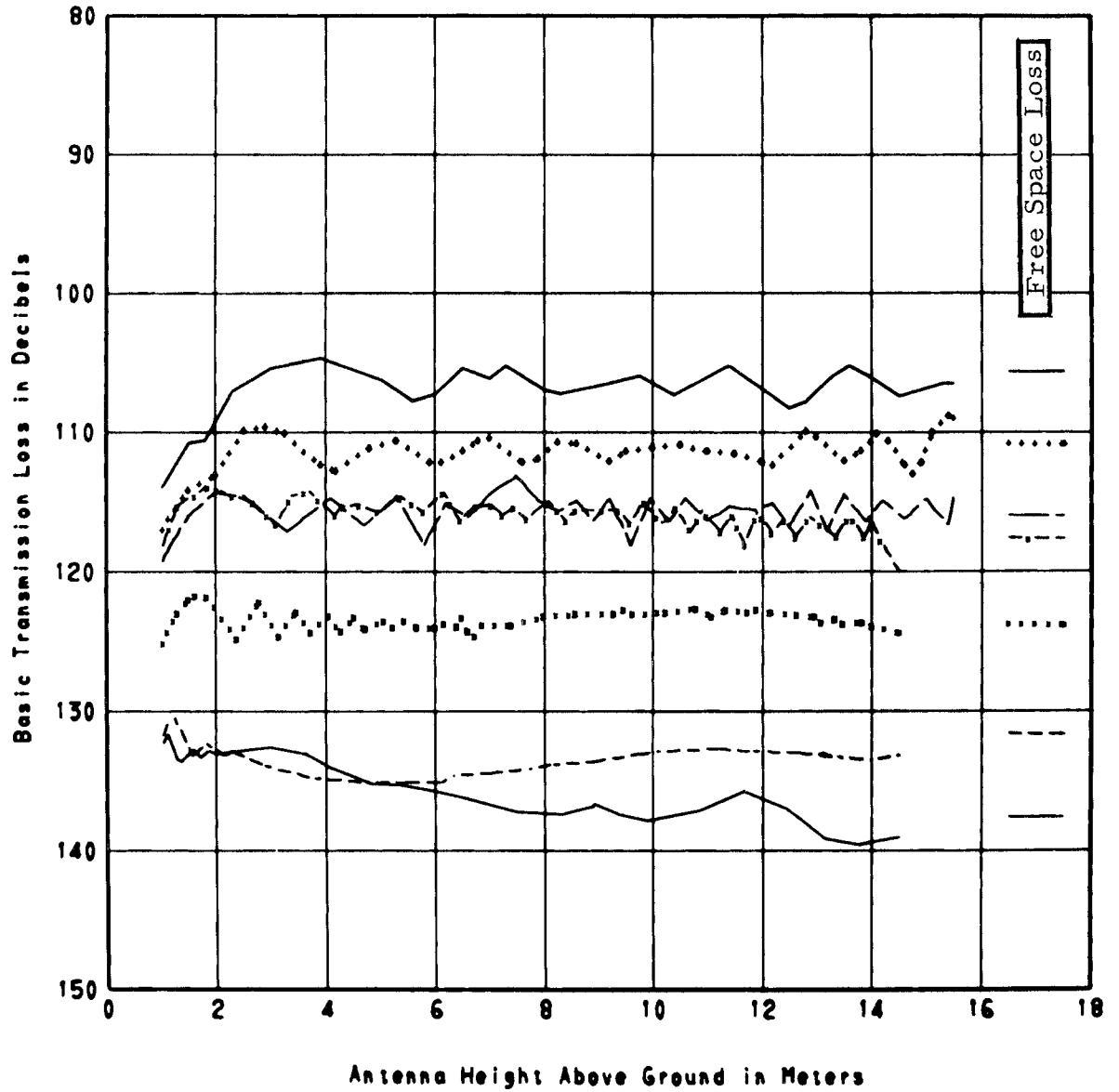
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $45^{\circ} 21' 40''$ T.

R3-20-T9

120TH AND LOWELL BLVD. N

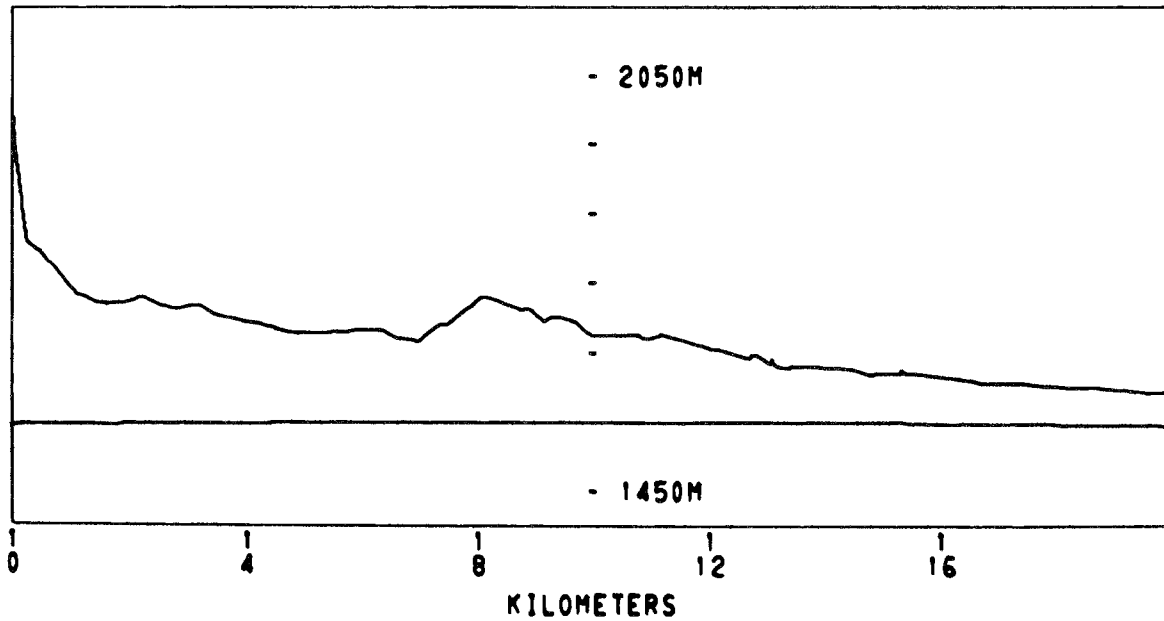
- 230 MHZ 9/23/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 6/28/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T9
PATH LENGTH 19.89 km

XMTR. ELEV.
1599 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-23-66 at 15 M				6-28-66 at 7.3 M		
50%	106.4	108.6	114.8	116.7	122.7	134.8	137.1
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over a wheatfield for 35 m, then plowed ground for 10 m, then over wheatfield, grassland, and more fields. At 40 m, there is a fence corner to the left of the path. At 0.8 km, a power line and a road cross the path. There are a few scattered trees about 2.3 km along the path.

R3-20-T10
100 TH AND PECOS



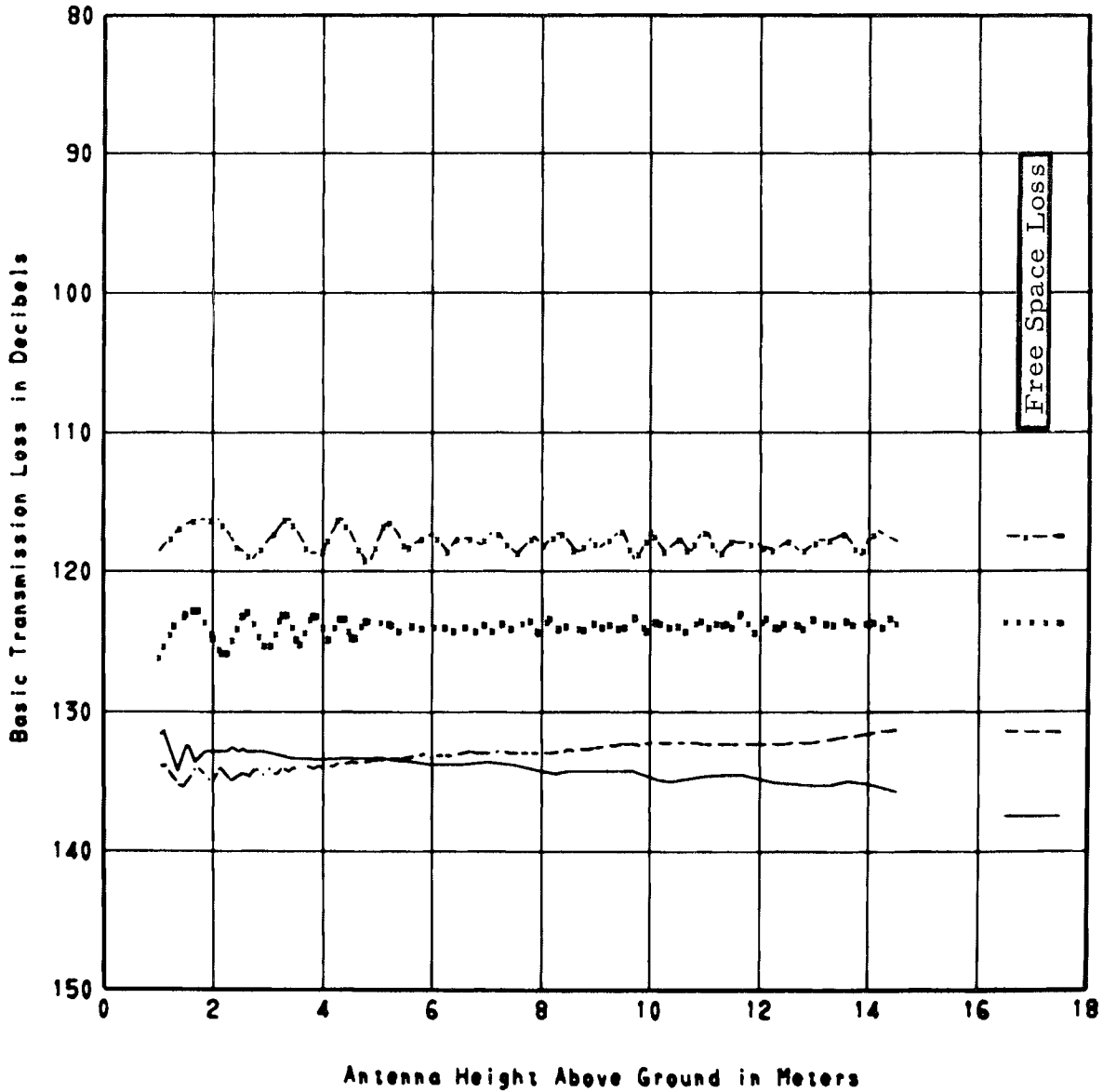
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
58° 51' 23" T.

R3-20-T10

100TH AND PECOS

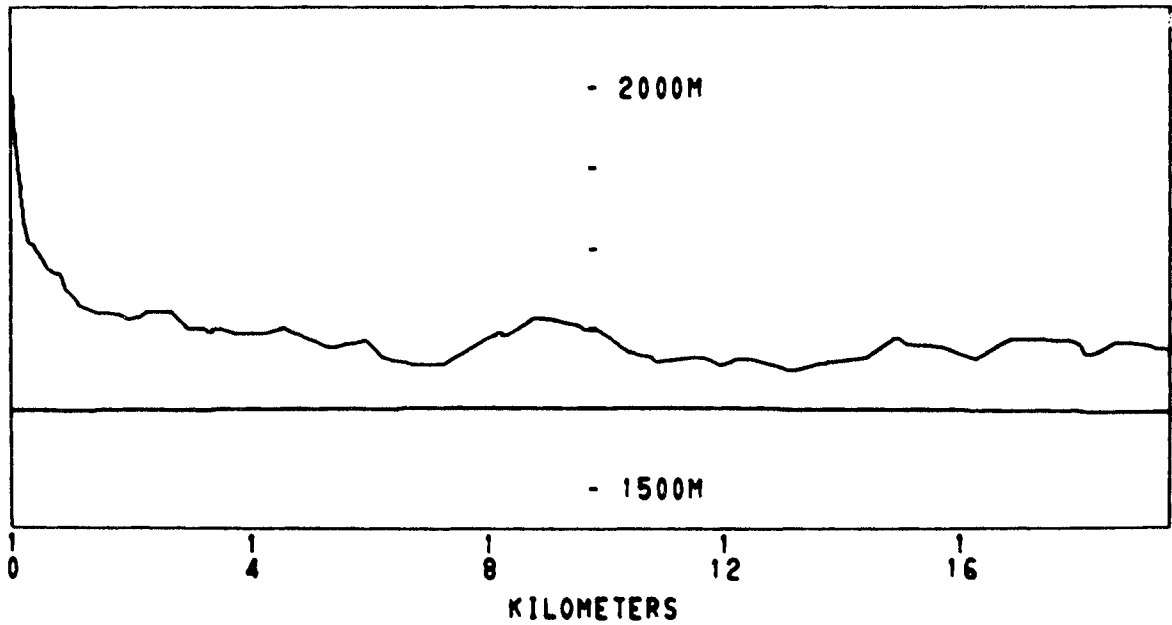
--- 910 MHZ 6/28/66
..... 1846 MHZ
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T10
PATH LENGTH 19.51 km

XMTR. ELEV.
1677 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
					6-28-66 at 7.3 M		
50%				116.7	123.6	132.8	133.5
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The site is located in an undeveloped housing area which has a weed covering. There is a plowed field for 1.6 km beyond the housing area, and then houses. A power line crosses the path at 0.8 km.

R3-20-T11
THORNTON S1

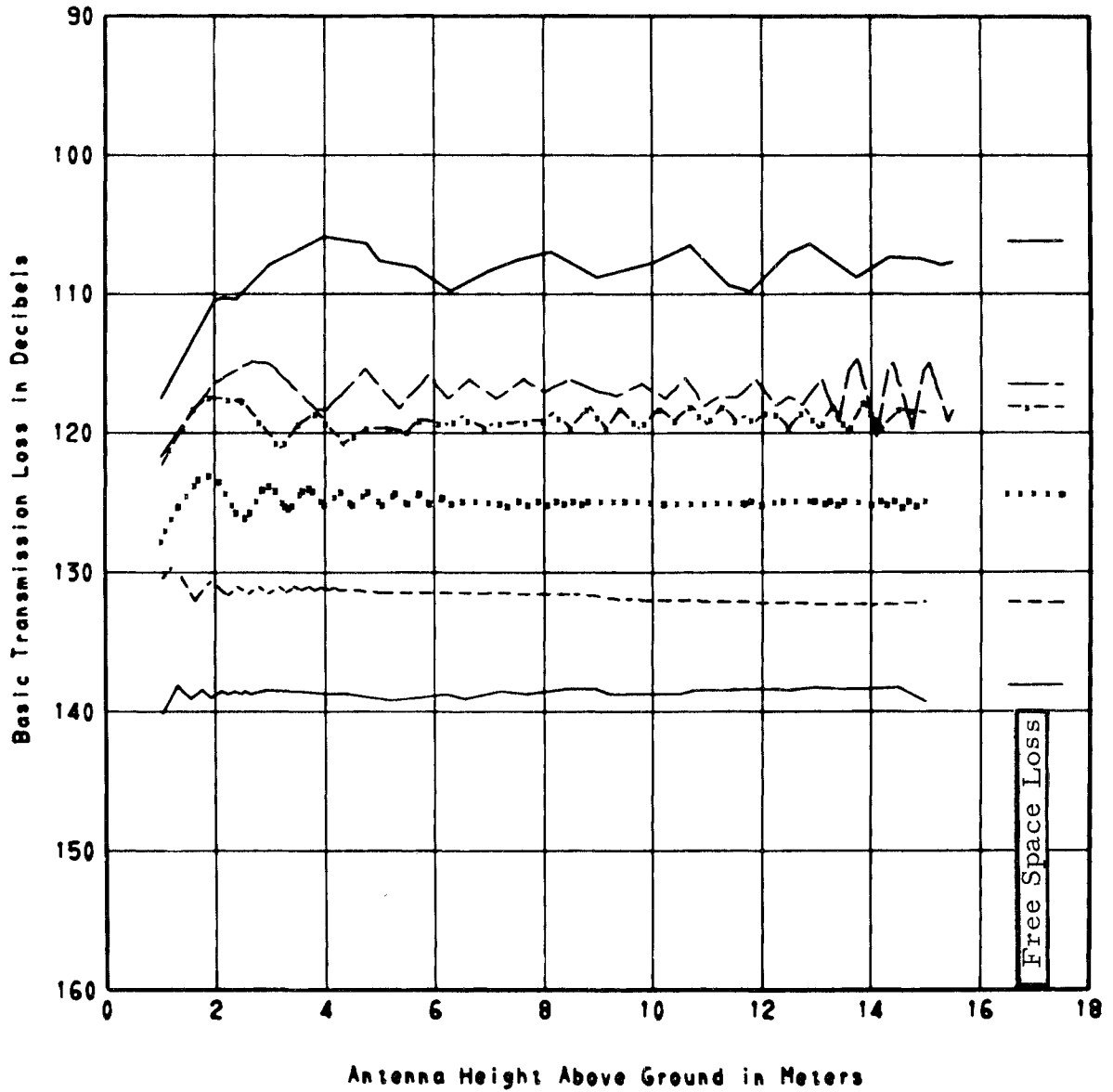


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
72° 50' 47" T.

R3-20-T11
THORNTON S1

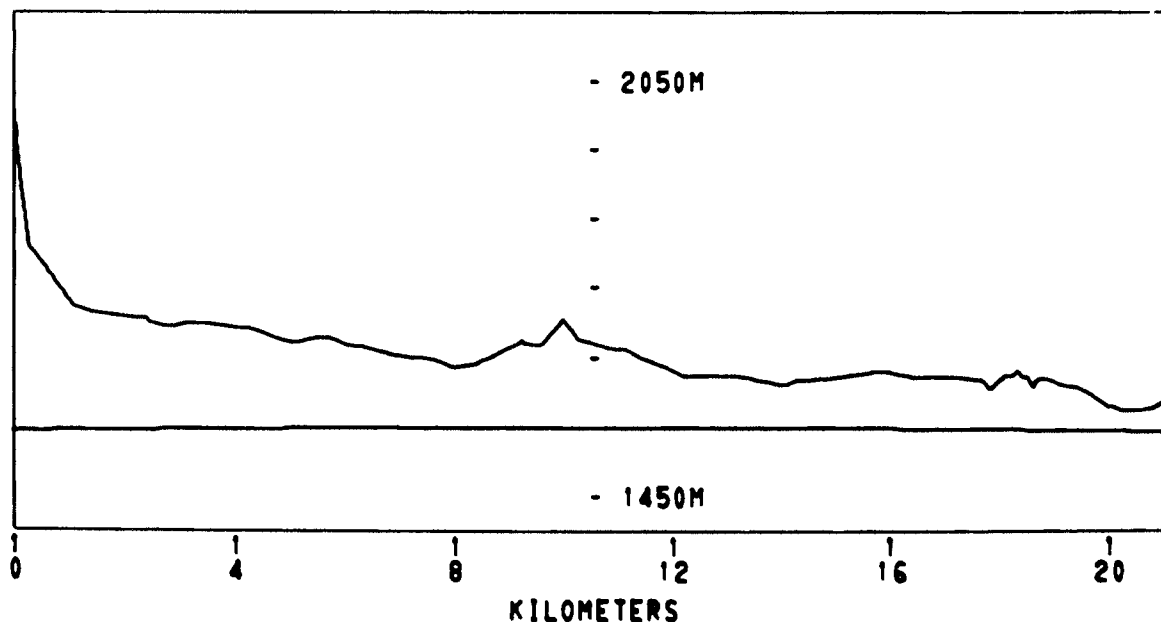
— 230 MHZ 9/15/66
- - - 751 MHZ
- · - · - 910 MHZ 7/29/66
· · · · · 1846 MHZ
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T11
PATH LENGTH 21.08 km

XMTR. ELEV.
1594 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-15-66 at 15 M			7-29-66 at 7.3 M			
50%	107.2		117.3	119.0	123.0	131.0	138.3
$\Delta 10\% - 90\%$	< 3		< 3	< 3	< 3	< 3	< 3

The first 0.4 km of the path is covered with weeds. The next 0.4 km has houses, power lines, and trees. There are trees to the right and to the left of the path.

R3-20-T12
WESTERN HILLS SE1



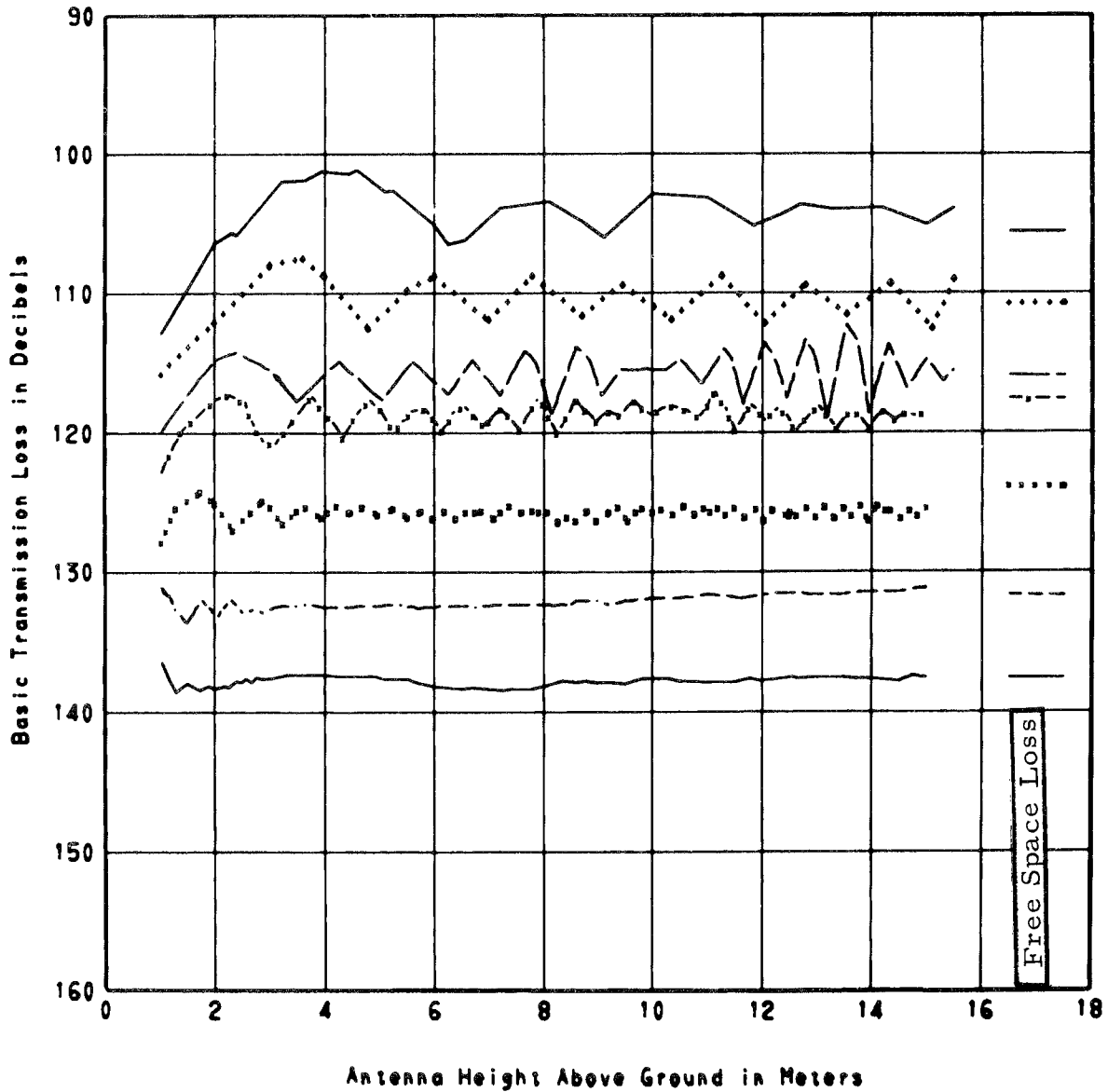
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $80^{\circ} 47' 00''$ T.

R3-20-T12

WESTERN HILLS SE1

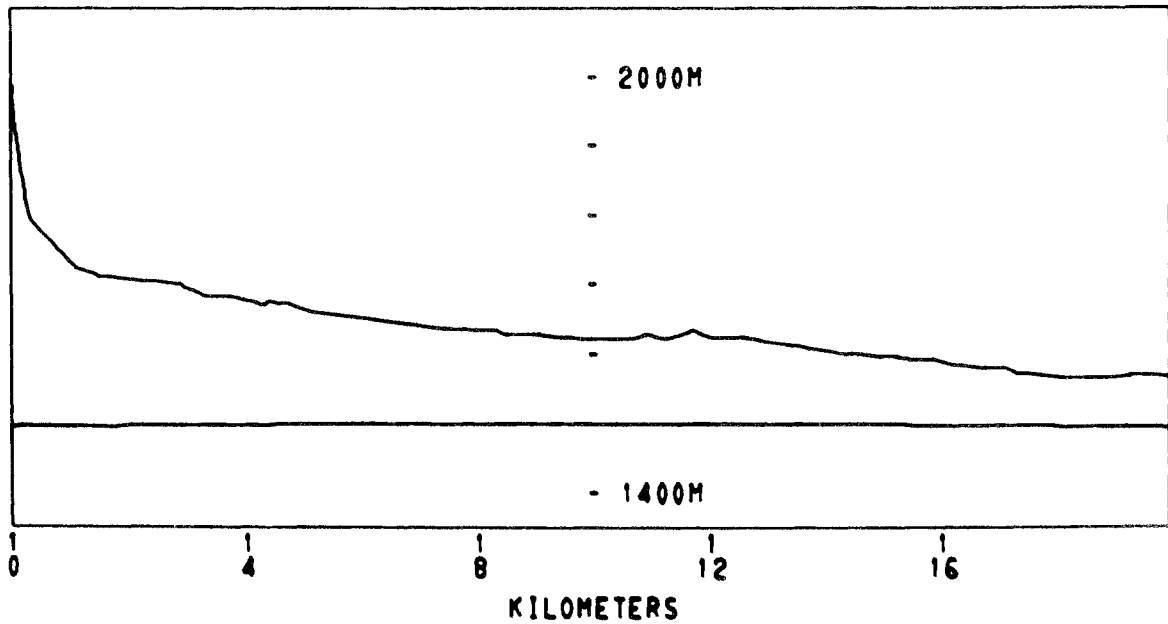
- 230 MHZ 9/15/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 7/29/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T12
PATH LENGTH 19.89 km

XMTR. ELEV.
1573 M



L _b (dB) SHORT TERM SIGNAL VARIABILITY							
Freq(MHz)	230	410	751	910	1846	4595	9190
	9-15-66 at 15 M				7-29-66 at 7.3 M		
50%	103.8	106.8	115.9	118.9	125.1	131.8	137.5
Δ10%-90%	< 3	< 3	< 3	< 3	< 3	< 3	< 3

An irrigation ditch and a fence cross the path in the foreground. The next 30 m are covered with low, garden plants. The path then extends between two houses, over a power line, and over 8-m high trees. The power line crosses at 80 m.

R3-20-T13
RIVERSIDE CEMETERY

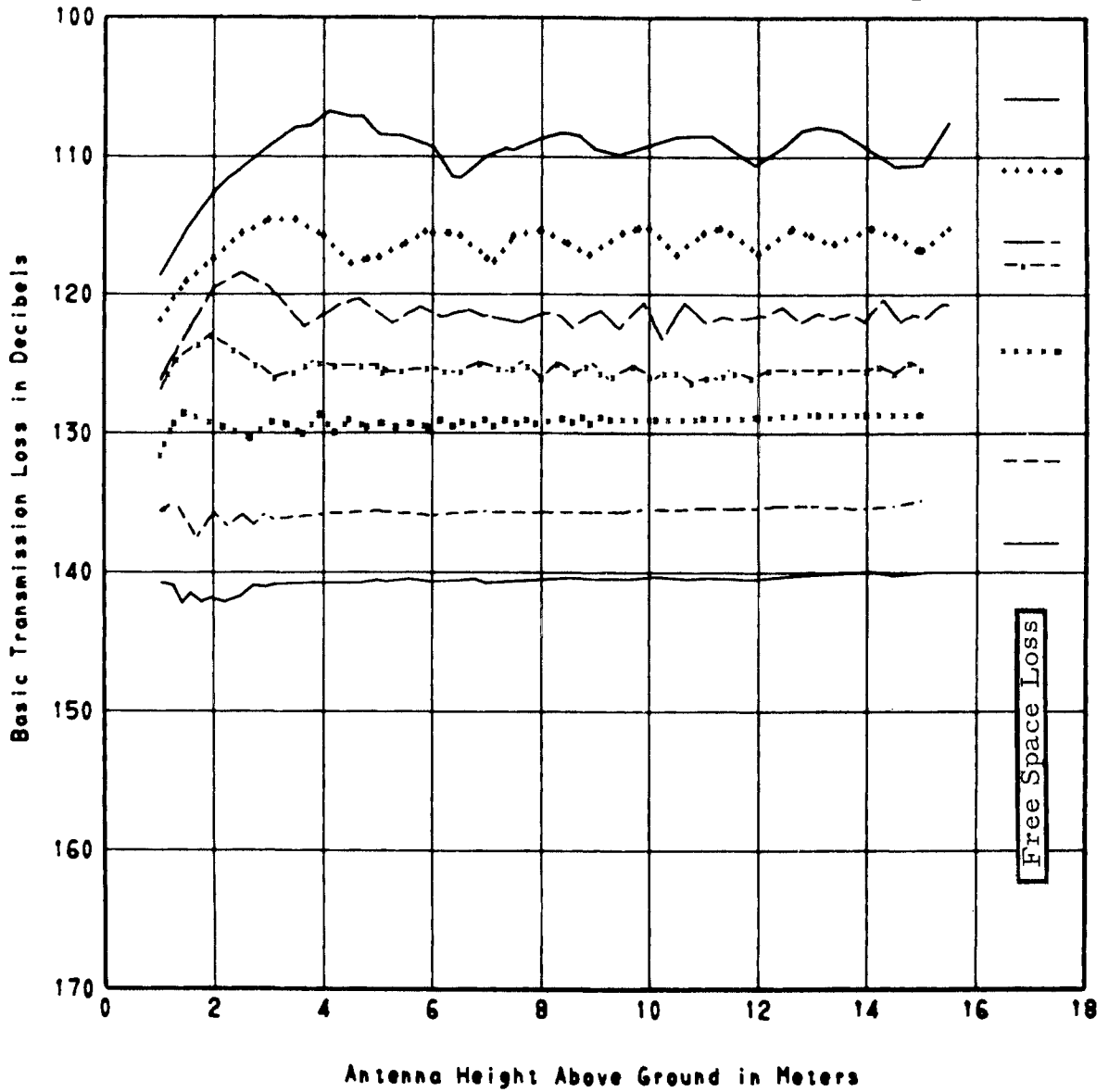


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $87^{\circ} 42' 19''$ T.

R3-20-T13
 RIVERSIDE CEMETERY

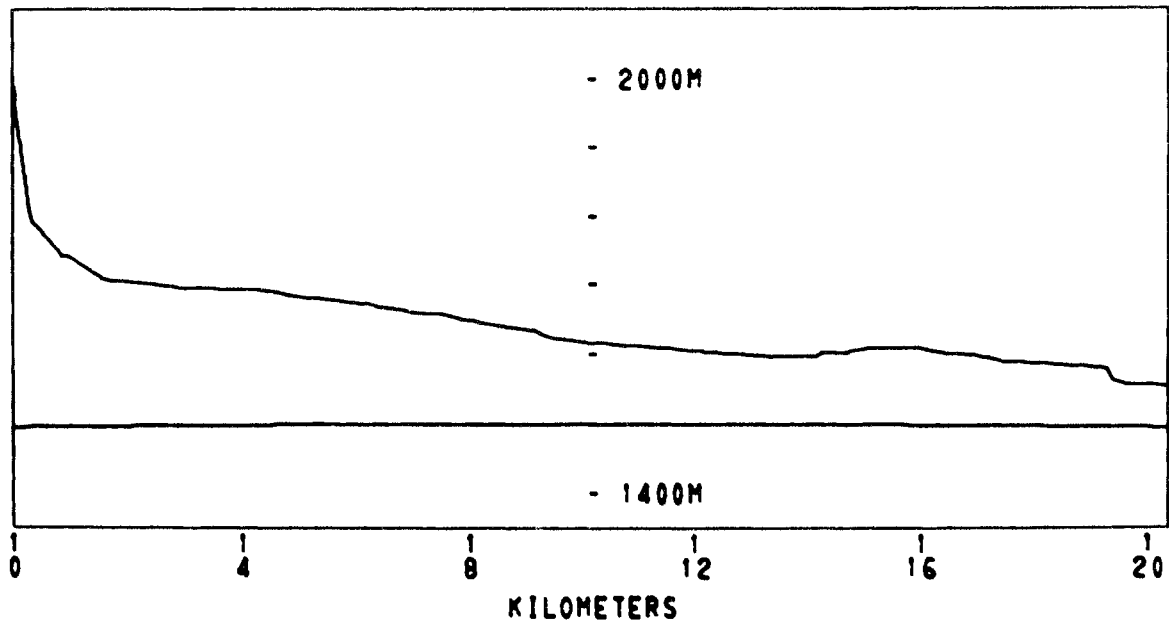
- 230 MHZ 9/15/66
- 410 MHZ
- 751 MHZ
- · - · 910 MHZ 7/29/66
- 1846 MHZ
- - - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T13
PATH LENGTH 20.34 km

XMTR. ELEV.
1558 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-15-66 at 15 M				7-29-66 at 7.3 M		
50%	107.5	112.2	120.9	126.3	128.4	134.9	140.3
$\Delta 10\%-90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The site is located near a packing plant. The path has the following obstructions: at 10 m, a metal gate; at 25 m, a large pile of wire; railroad tracks and a power line at 30 m; at 45 m, a small building with trees on either side; 100-m high trees; a building at 150 m; and, an antenna (aircraft array) at 175 m.

R3-20-T14
MARSTON LAKE NW



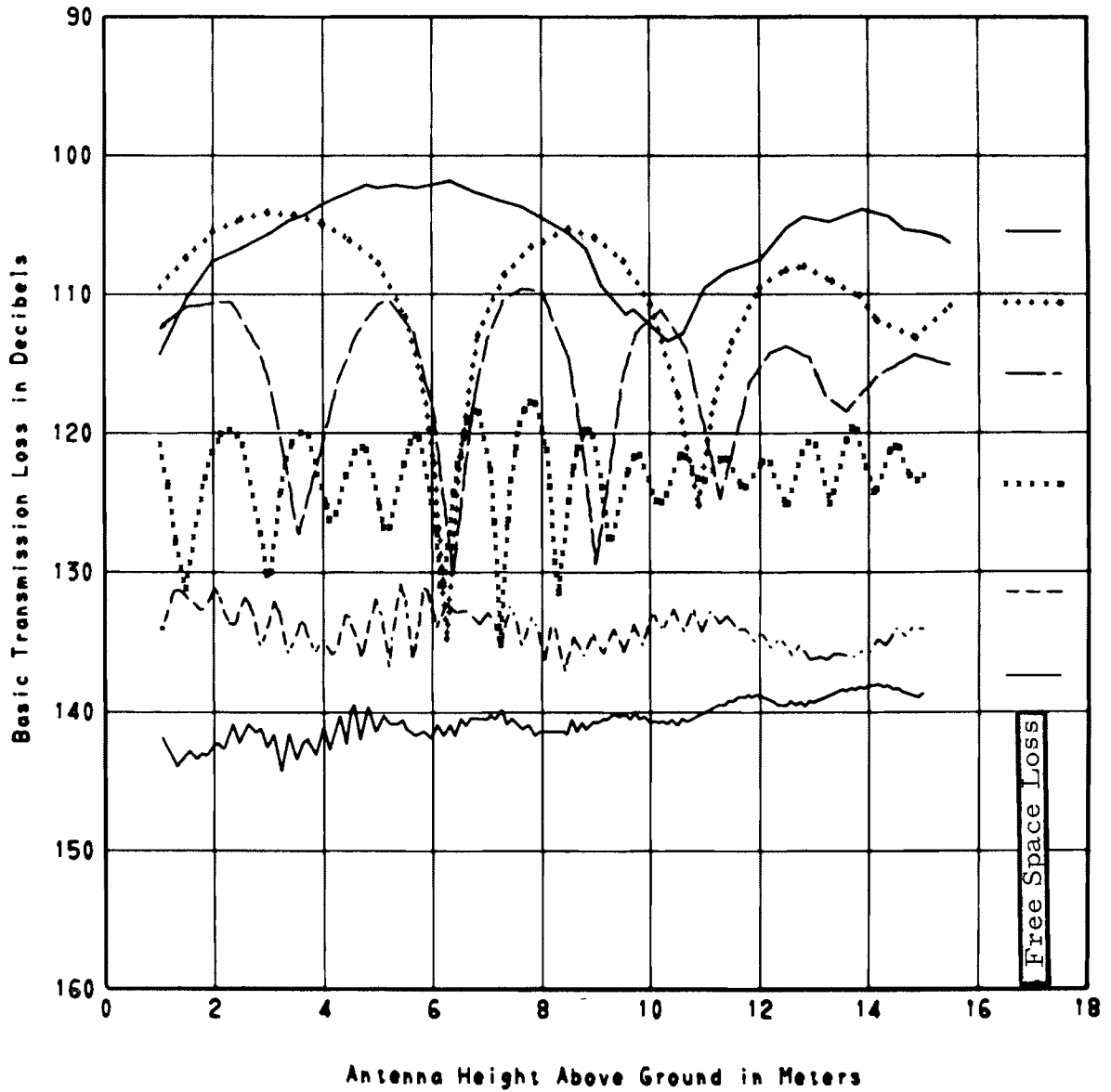
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
148° 31' 24" T.

R3-20-T14

MARSTON LAKE NW

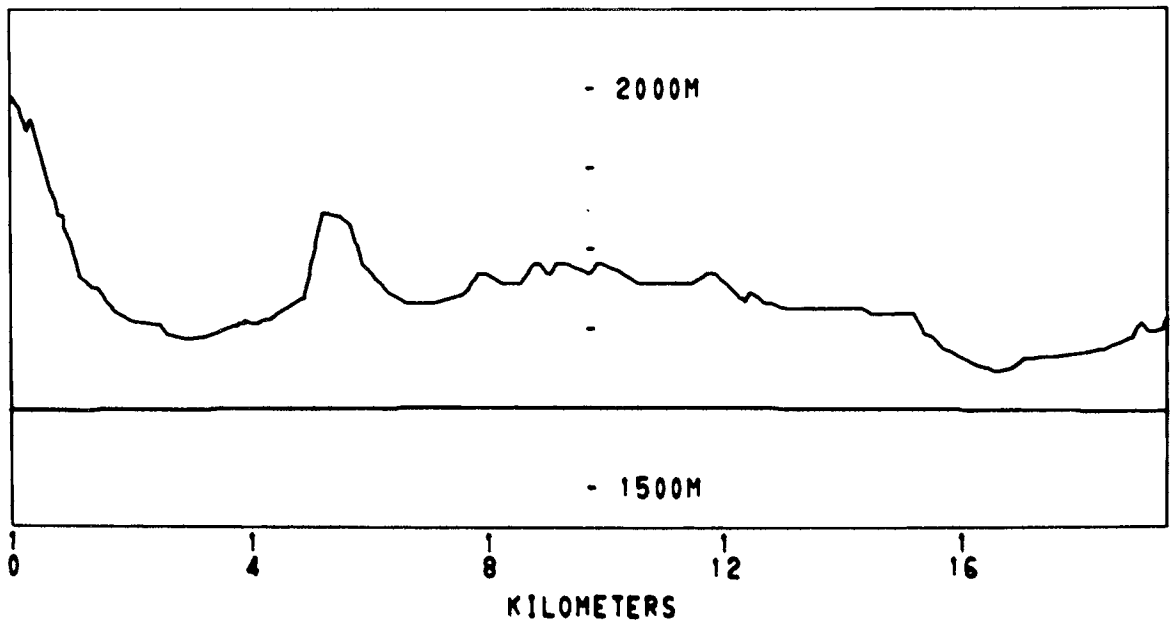
— 230 MHZ 9/12/66
..... 410 MHZ
- - - 751 MHZ
..... 1846 MHZ 8/ 5/66
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-20-T14
PATH LENGTH 19.44 km

XMTR. ELEV.
1716 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-12-66 at 15 M				8-5-66 at 15 M		
50%	106.6	110.2	115.1		121.3	133.9	141.9
$\Delta 10\% - 90\%$	< 3	< 3	< 3		< 3	< 3	< 3
					8-5-66 at 7.3 M		
50%					125.3	134.7	140.9
$\Delta 10\% - 90\%$					< 3	< 3	< 3
					8-5-66 at 1 M		
50%					121.3	132.4	142.1
$\Delta 10\% - 90\%$					< 3	< 3	< 3

The first 400 m of the path extend over plowed fields. Then, there is a water tower to the right of the path, and buildings and trees for the next 5 to 6 km.

R3-30-T1
LEGGETT RESERVOIR NE2



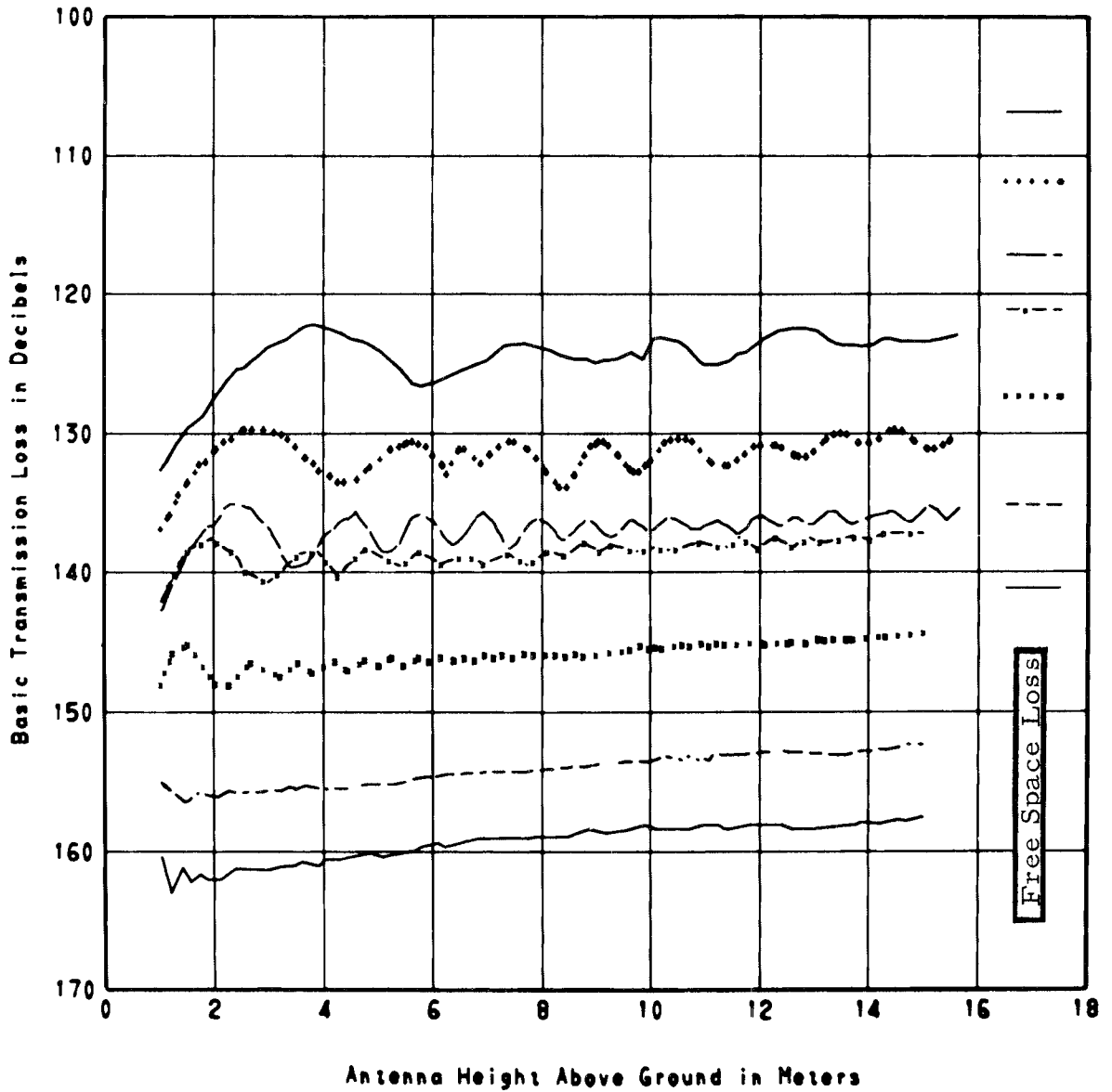
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $03^{\circ} 35' 26''$ T.

R3-30-T1

LEGGETT RESERVOIR NE2

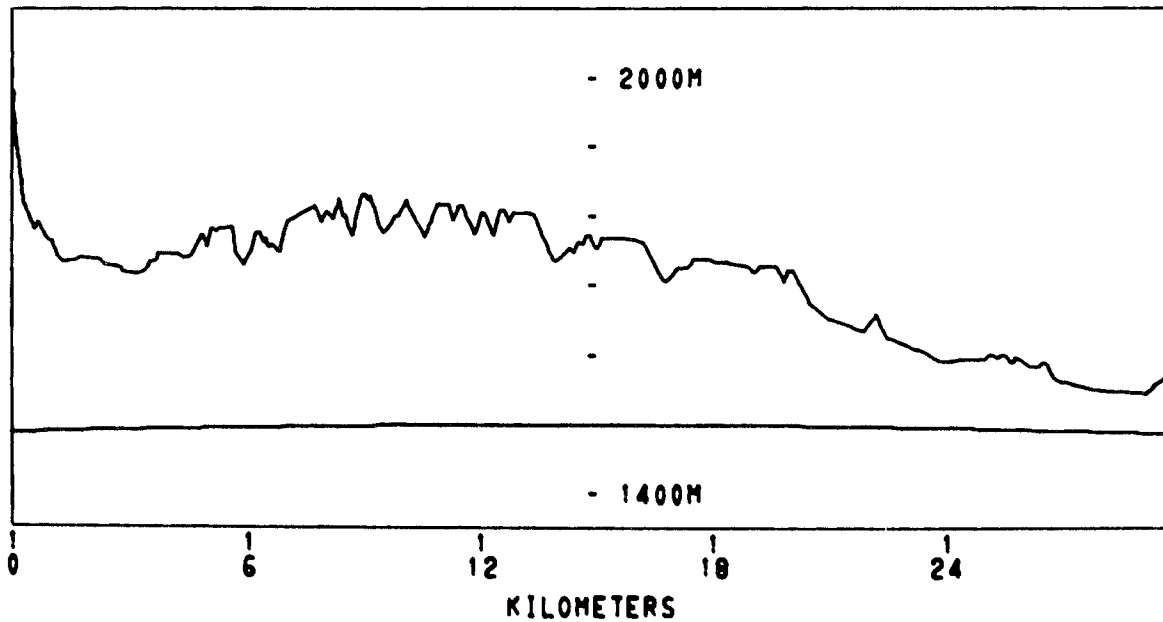
- 230 MHZ 9/26/66
- 410 MHZ
- 751 MHZ
- .-.-.- 910 MHZ 7/22/66
- 1846 MHZ
- 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-30-T1
PATH LENGTH 29.64 km

XMTR. ELEV.
1580 M

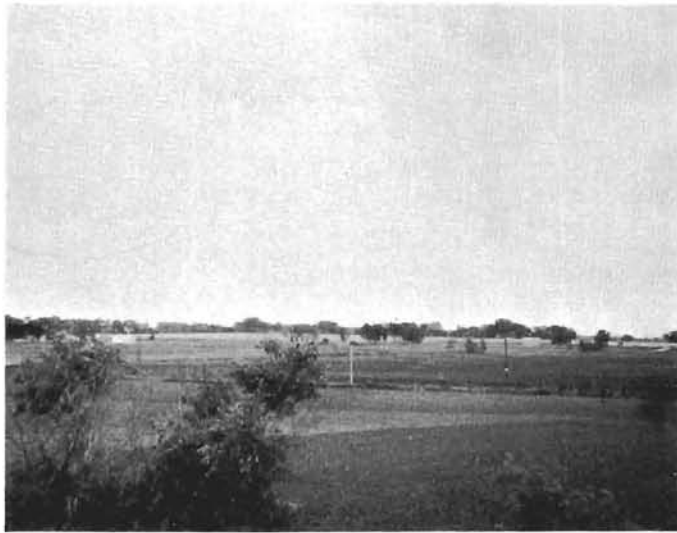


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-26-66 at 15 M				7-22-66 at 7.3 M		
50%	122.4	130.5	135.2	141.0	145.7	153.9	159.0
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The first 0.4 km of the path extends downhill to a row of 20-m high trees. The trees are below the radio horizon. A power line runs parallel to the path for 0.4 km and then angles to the right of the path.

R3-30-T2
EAST LAKE RESERVOIR N3



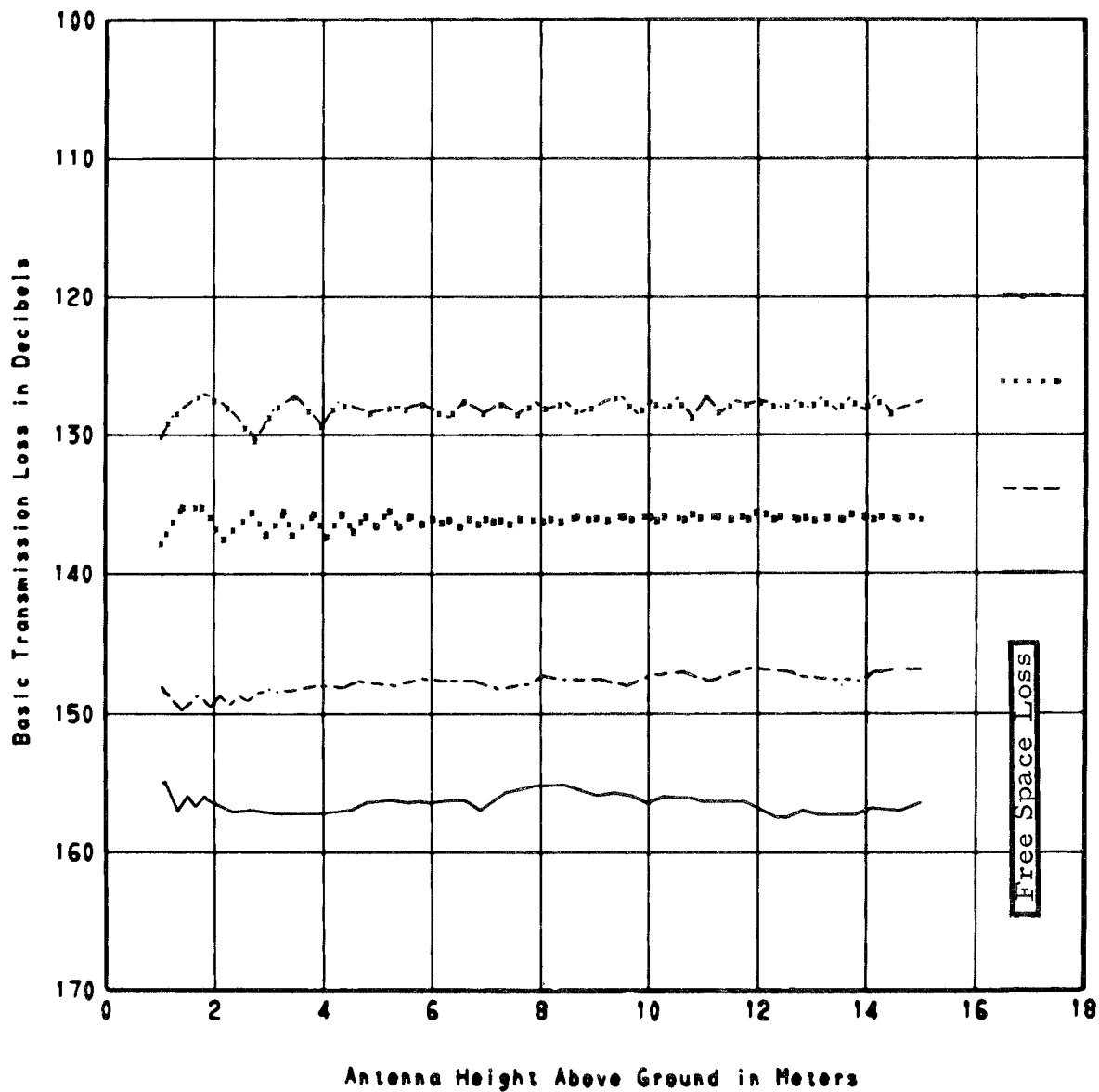
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $53^{\circ} 10' 17''$ T.

R3-30-T2

EAST LAKE RESERVOIR N3

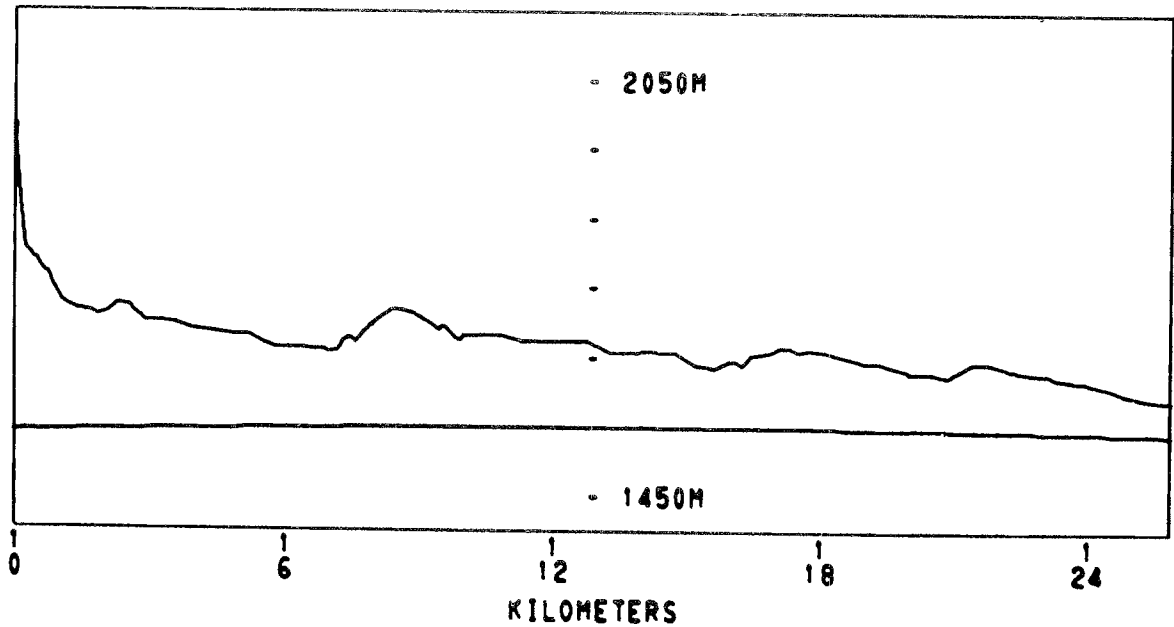
----- 910 MHZ 8/ 1/66
..... 1846 MHZ
----- 4595 MHZ
----- 9190 MHZ



RCVR. ELEV.
1995 M

R3-30-T2
PATH LENGTH 25.81 km

XMTR. ELEV.
1600 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
					8-1-66 at 15 M		
50%				127.4	135.5	146.4	155.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					8-1-66 at 7.3 M		
50%				126.7	136.0	147.5	155.7
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					8-1-66 at 1 M		
50%				131.0	137.0	147.5	154.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

At 70 m, two fences, a power line, and a road cross the path. The next 110 m is pasture land. A road, a power line, and two fences then cross the path. After another 100 m, there are several small, wooden buildings. A row of 10-m high trees crosses the path at the horizon.

R3-30-T3 OPEN AND CONCEALED
WEBSTER LAKE



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $53^{\circ} 12' 48''$ T.



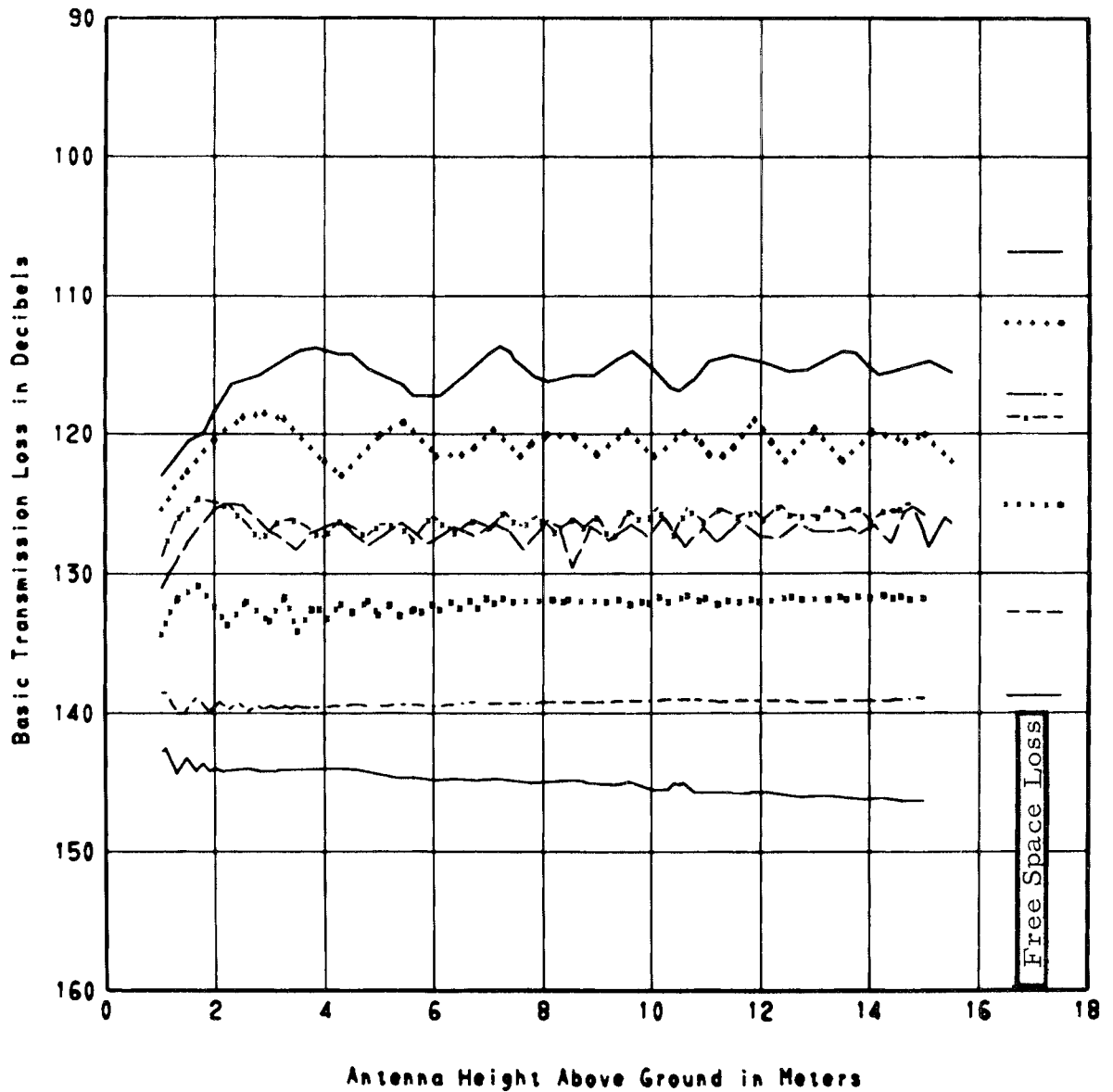
PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $53^{\circ} 14' 40''$ T.

R3-30-T3 OPEN

WEBSTER LAKE

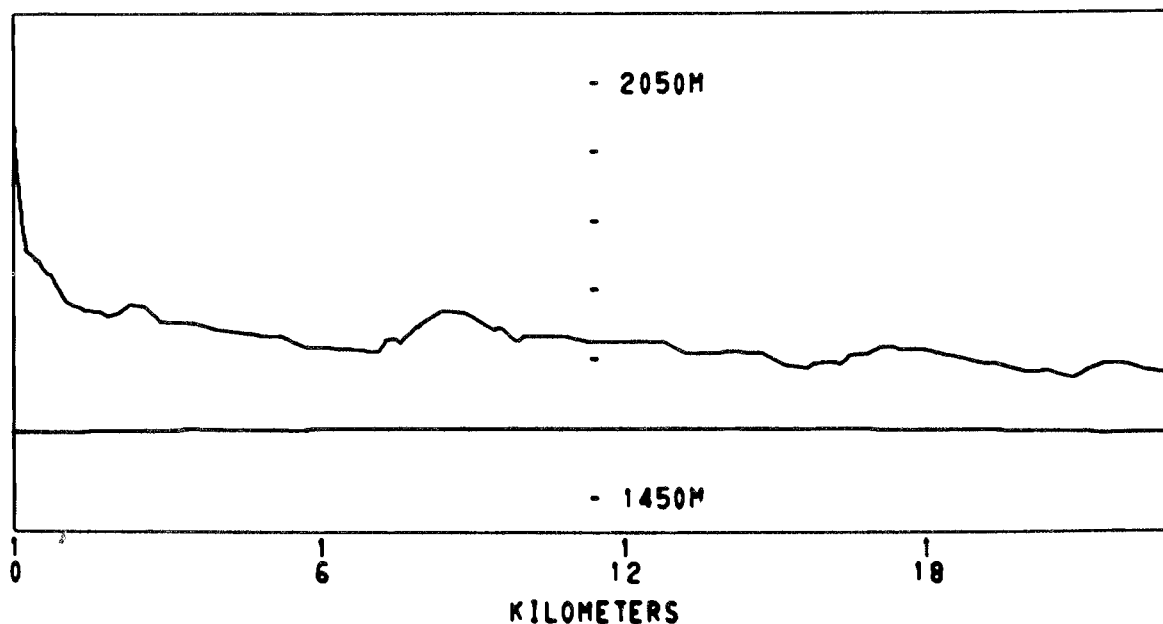
- 230 MHZ 10/ 6/66
- 410 MHZ
- 751 MHZ
- .-.- 910 MHZ 8/ 1/66
- 1846 MHZ
- .-.- 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-30-T3 OPEN
PATH LENGTH 22.76 km

XMTR. ELEV.
1635 M



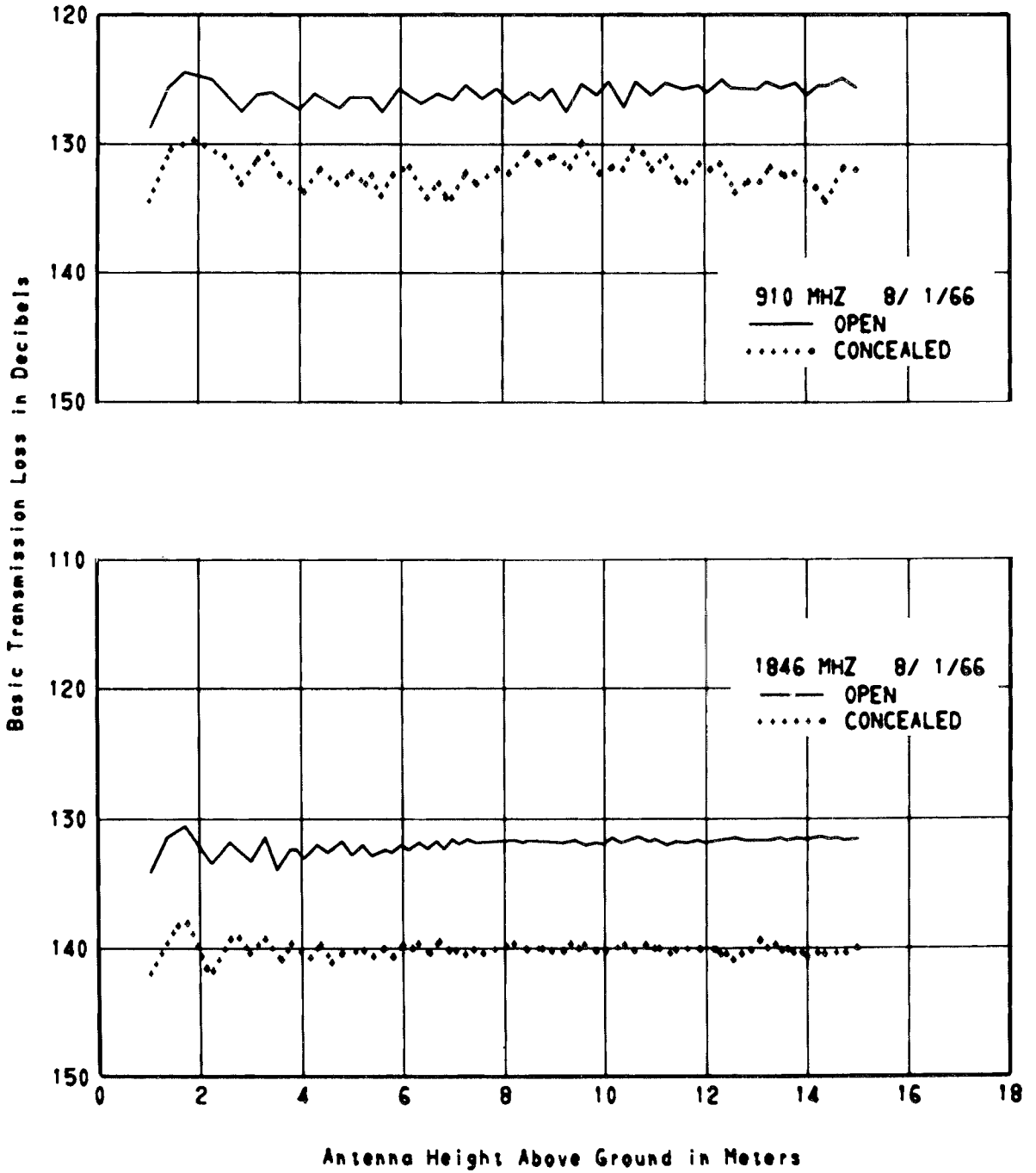
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-6-66 at 15 M				8-1-66 at 7.3 M		
50%	114.5	120.5	130.0	125.1	133.7	141.3	144.2
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path crosses a road, a 4-wire fence, and a 2-wire power line at the end of a row of trees. At 350 m, it crosses another fence, a 3-wire power line, and a 4-lane highway. There are power lines and a phone line on the far side of the highway. A wheat field and low grassland with sparsely scattered trees extend for the next 0.4 km.

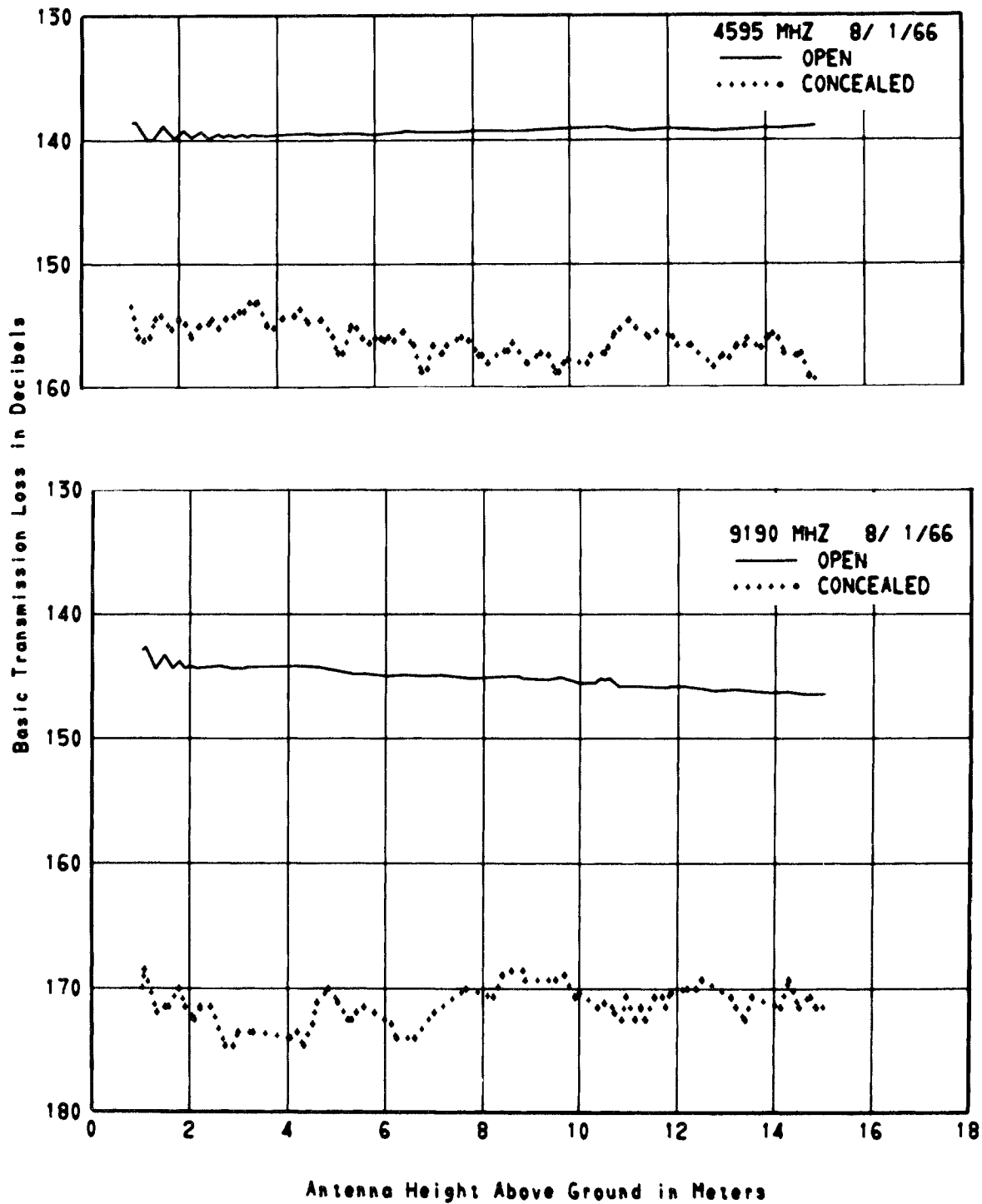
R3-30-T3 O&C

WEBSTER LAKE



R3-30-T3 O&C

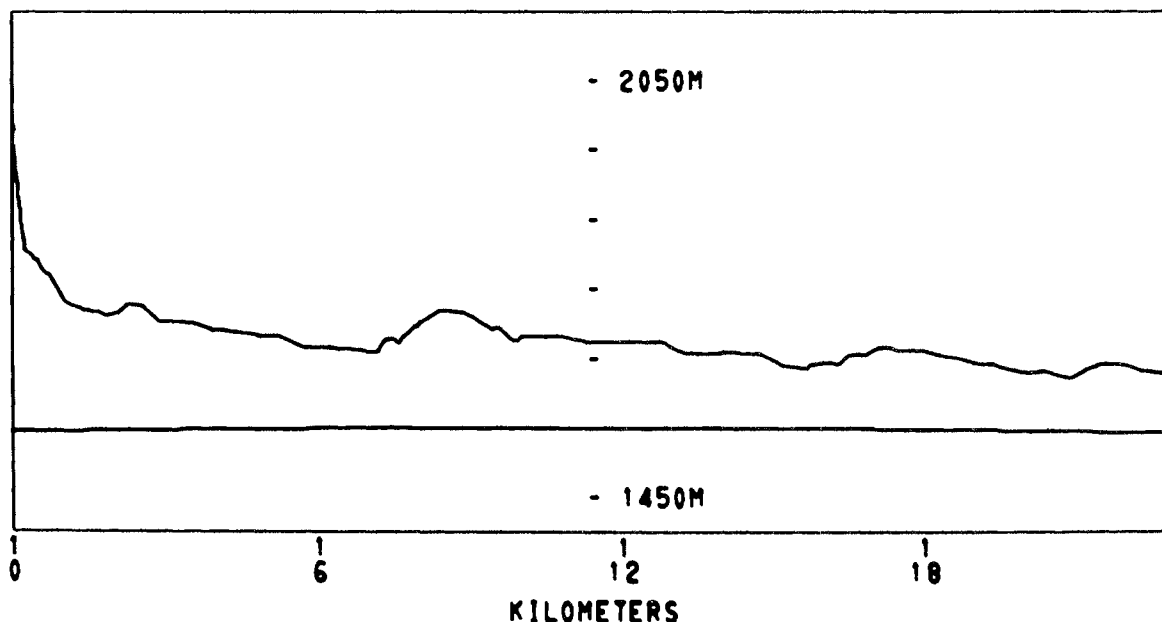
WEBSTER LAKE



RCVR. ELEV.
1995 M

R3-30-T3 CONCEALED
PATH LENGTH 22.82 km

XMTR. ELEV.
1636 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	8-1-66 at 15 M						
50%				142.7	139.4	154.4	170.9
$\Delta 10\% - 90\%$				< 3	< 3	< 3	6.3
	8-1-66 at 7.3 M						
50%				146.5	139.9	154.8	168.5
$\Delta 10\% - 90\%$				5.0	< 3	3.9	7.8
	8-1-66 at 1 M						
50%				146.3	141.1	156.0	167.4
$\Delta 10\% - 90\%$				4.4	< 3	7.5	6.1

The site is located in a ditch. A 4-wire fence and a 2-wire power line are 3 m behind the van. In front of the van is a hedge, 4-m high, followed by another hedge, 12-m high.

R3-40-T1 OPEN AND CONCEALED
LONGMONT S1



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $13^{\circ} 20' 59''$ T.

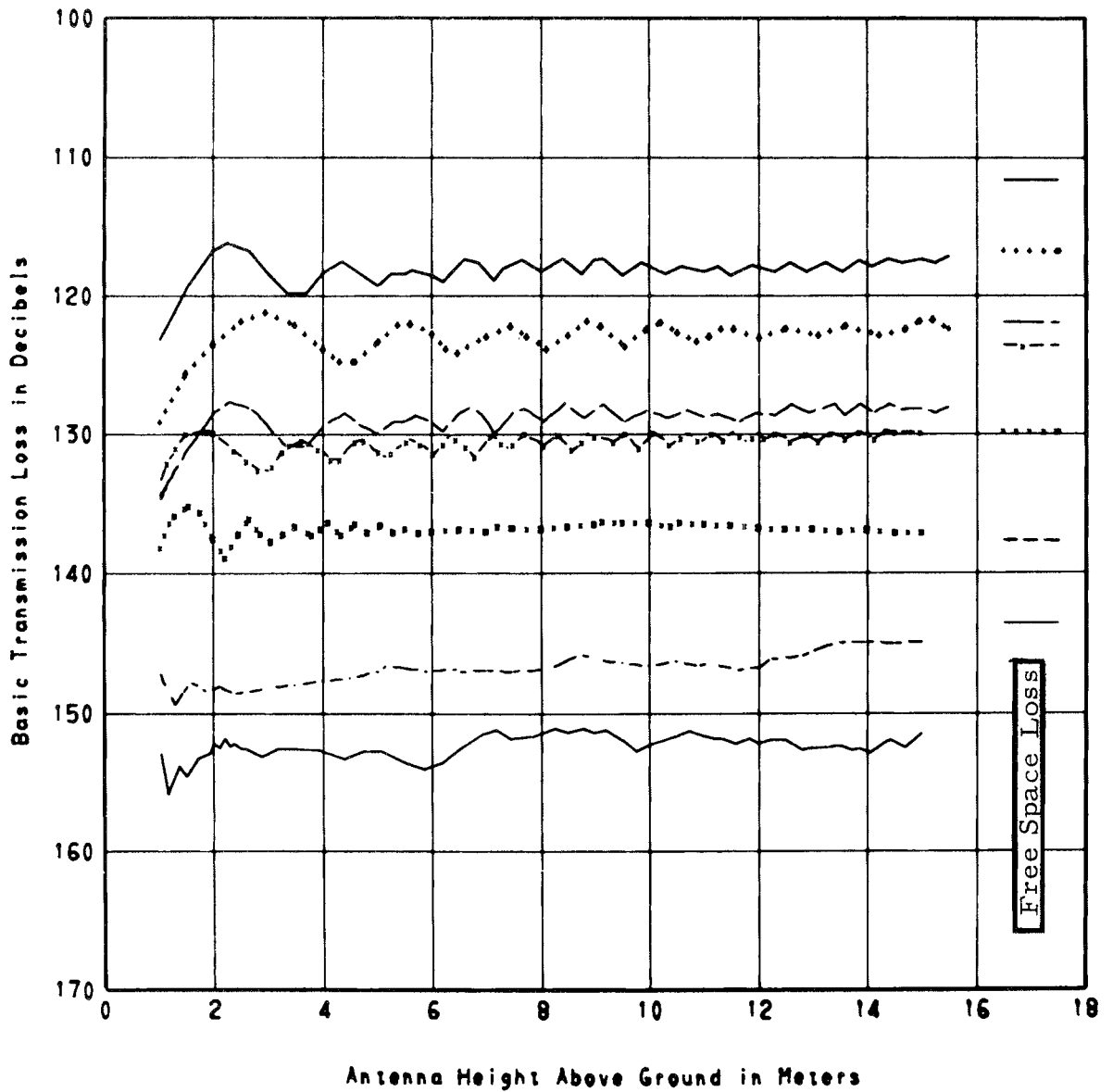


PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $13^{\circ} 25' 54''$ T.

R3-40-T1 OPEN
 LONGMONT S1

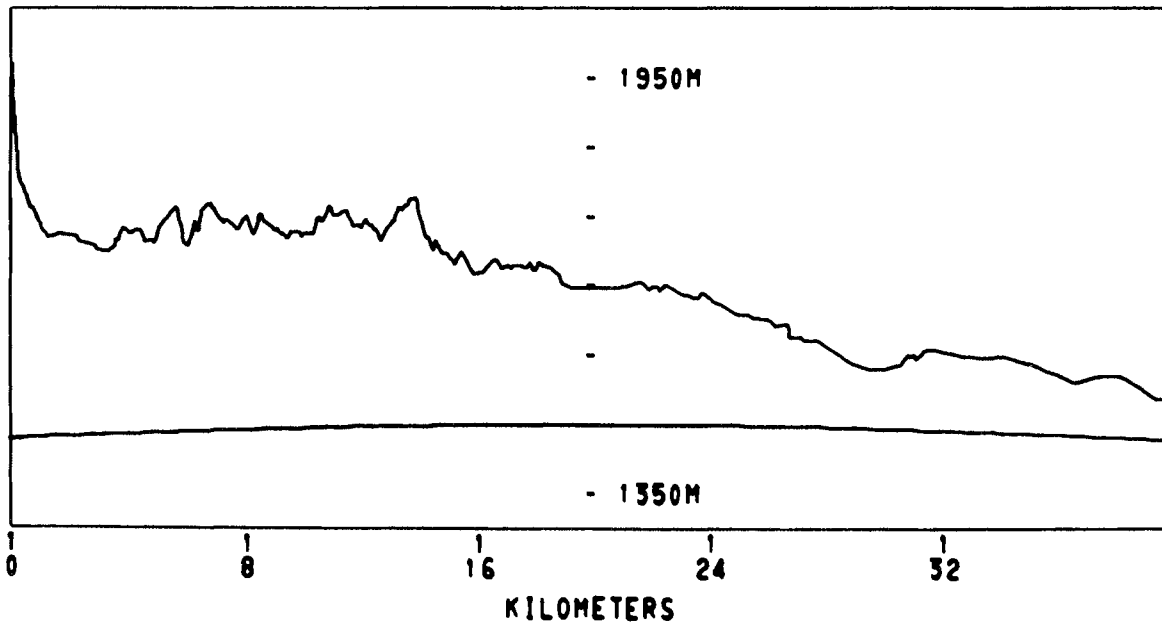
- 230 MHZ 9/26/66
- 410 MHZ
- 751 MHZ
- - - - 910 MHZ 7/16/66
- 1846 MHZ
- - - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-40-T1 OPEN
PATH LENGTH 39.59 km

XMTR. ELEV.
1509 M



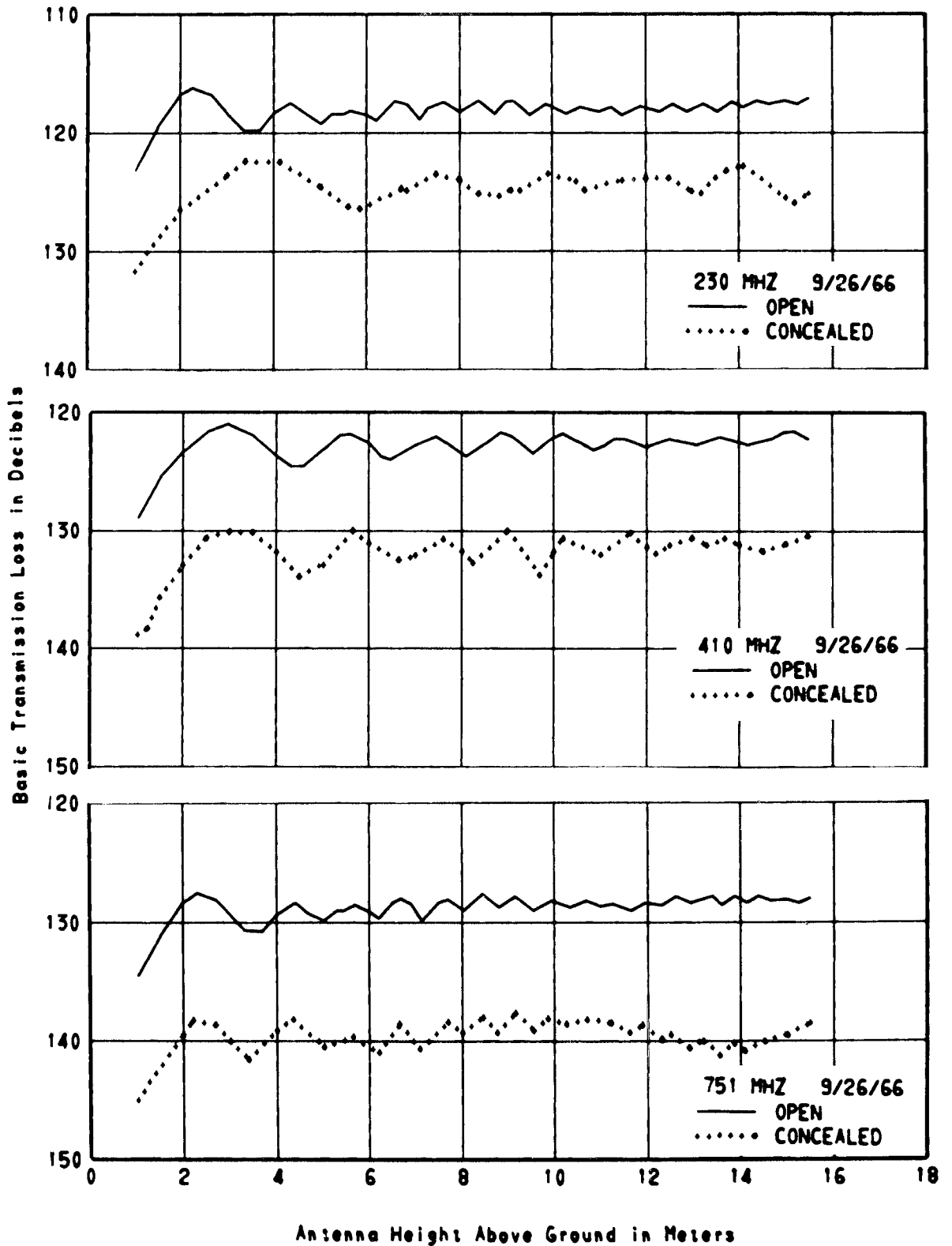
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-26-66 at 15 M				7-18-66 at 15 M		
50%	116.5	121.9	127.7	130.4	136.4	144.6	151.4
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					7-18-66 at 7.3 M		
50%				130.9	136.4	146.0	152.1
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					7-18-66 at 1 M		
50%				130.9	136.4	146.1	155.9
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The site is on the north bank of the St. Vrain River. The path crosses a stream at 30 m, and fences at 100 m, 250 m, and 500 m. At 500 m the terrain changes from pasture land to cornfield. The cornfield extends for 0.8 km. There are a few scattered trees at 1 km and at 3 km.

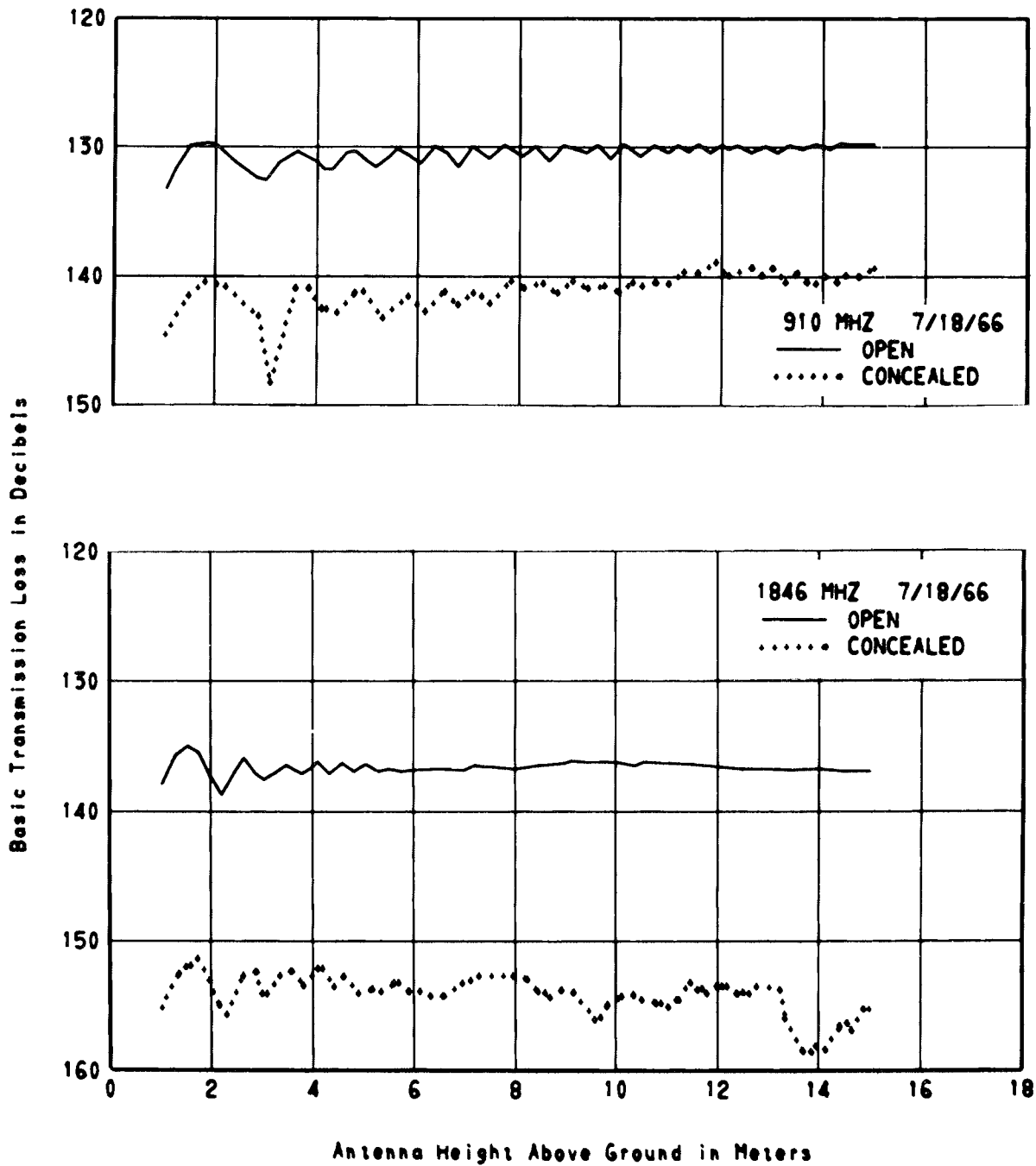
R3-40-T1 O&C

LONGMONT S1



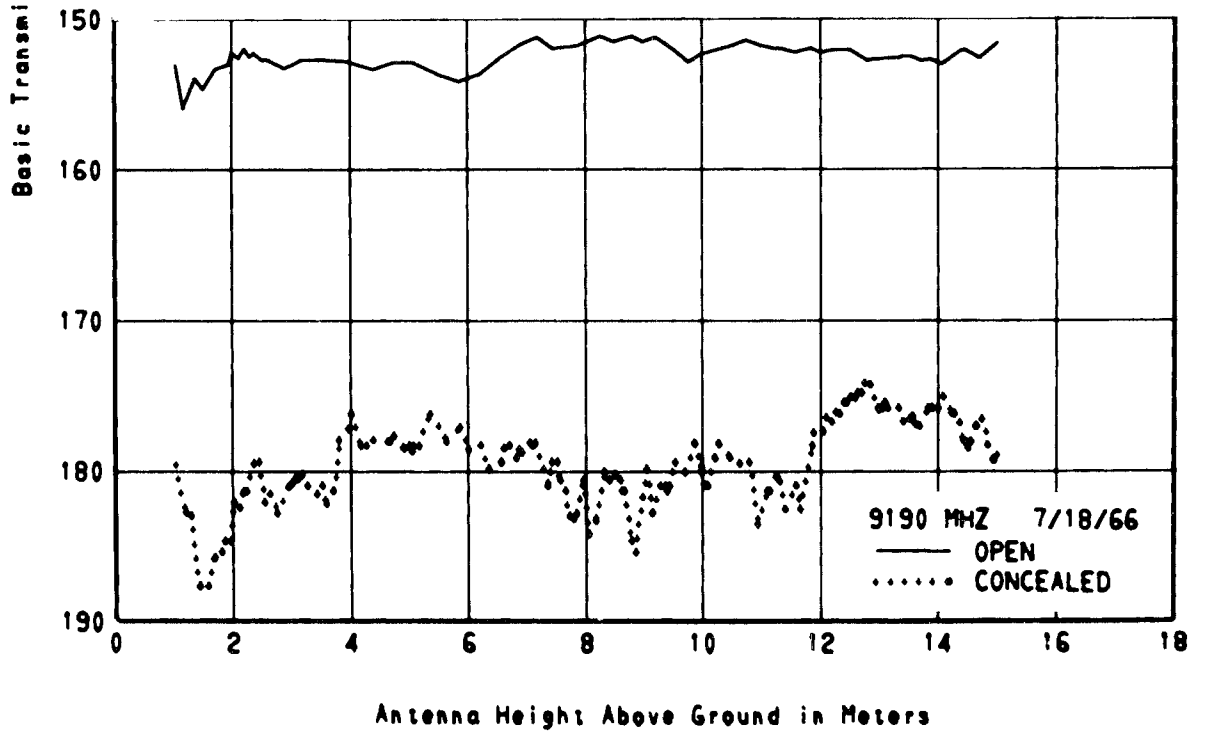
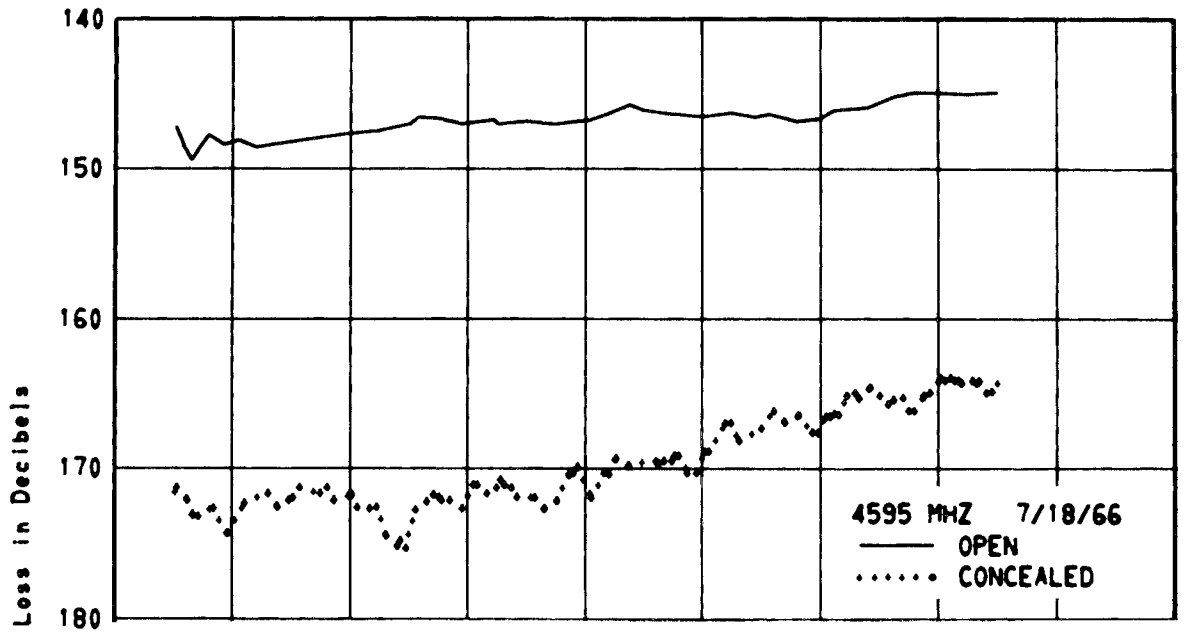
R3-40-T1 O&C

LONGMONT S1



R3-40-T1 O&C

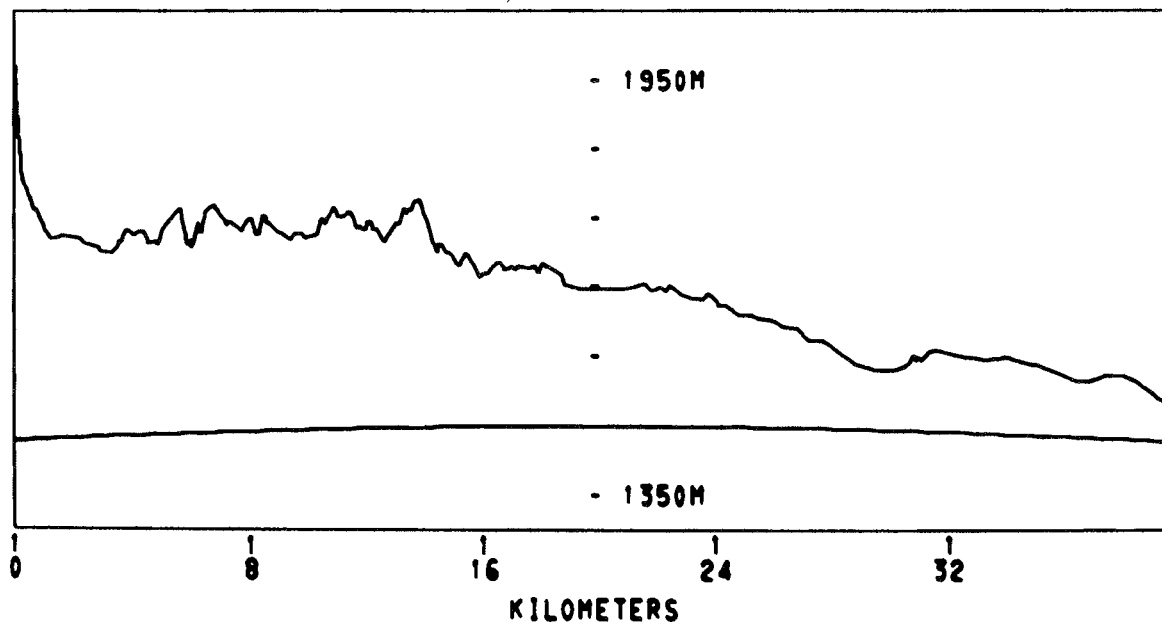
LONGMONT S1



RCVR. ELEV.
1995 M

R3-40-T1 CONCEALED
PATH LENGTH 39.56 km

XMTR. ELEV.
1509 M

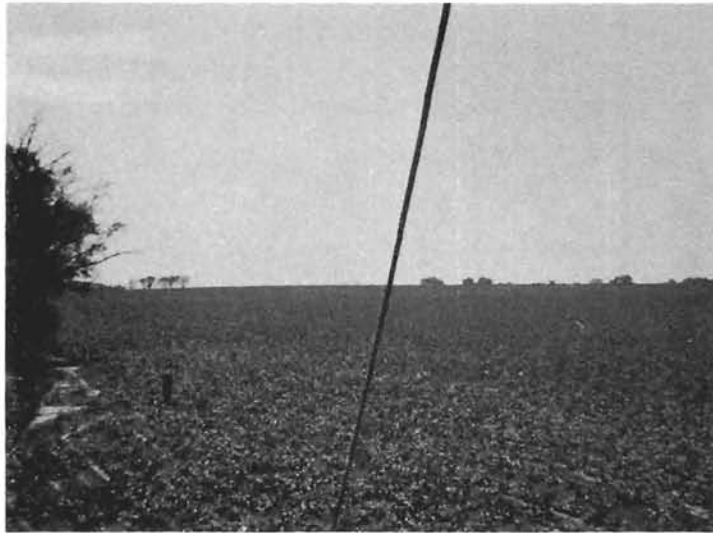


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-26-66 at 15 M				7-18-66 at 15 M		
50%	126.5	129.6	137.5	141.9	156.5	166.4	178.3
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	4.9	3.1	7.6
					7-18-66 at 7.3 M		
50%				142.4	155.0	167.3	181.0
$\Delta 10\% - 90\%$				< 3	3.5	3.3	9.0
					7-18-66 at 1 M		
50%				146.7	155.5	168.9	179.7
$\Delta 10\% - 90\%$				3.1	4.0	4.1	8.4

The beginning of the path is concealed by 20-m high trees. The remainder of the path is essentially identical to R3-40-T1 OPEN.

R3-40-T2
LONGMONT SE3



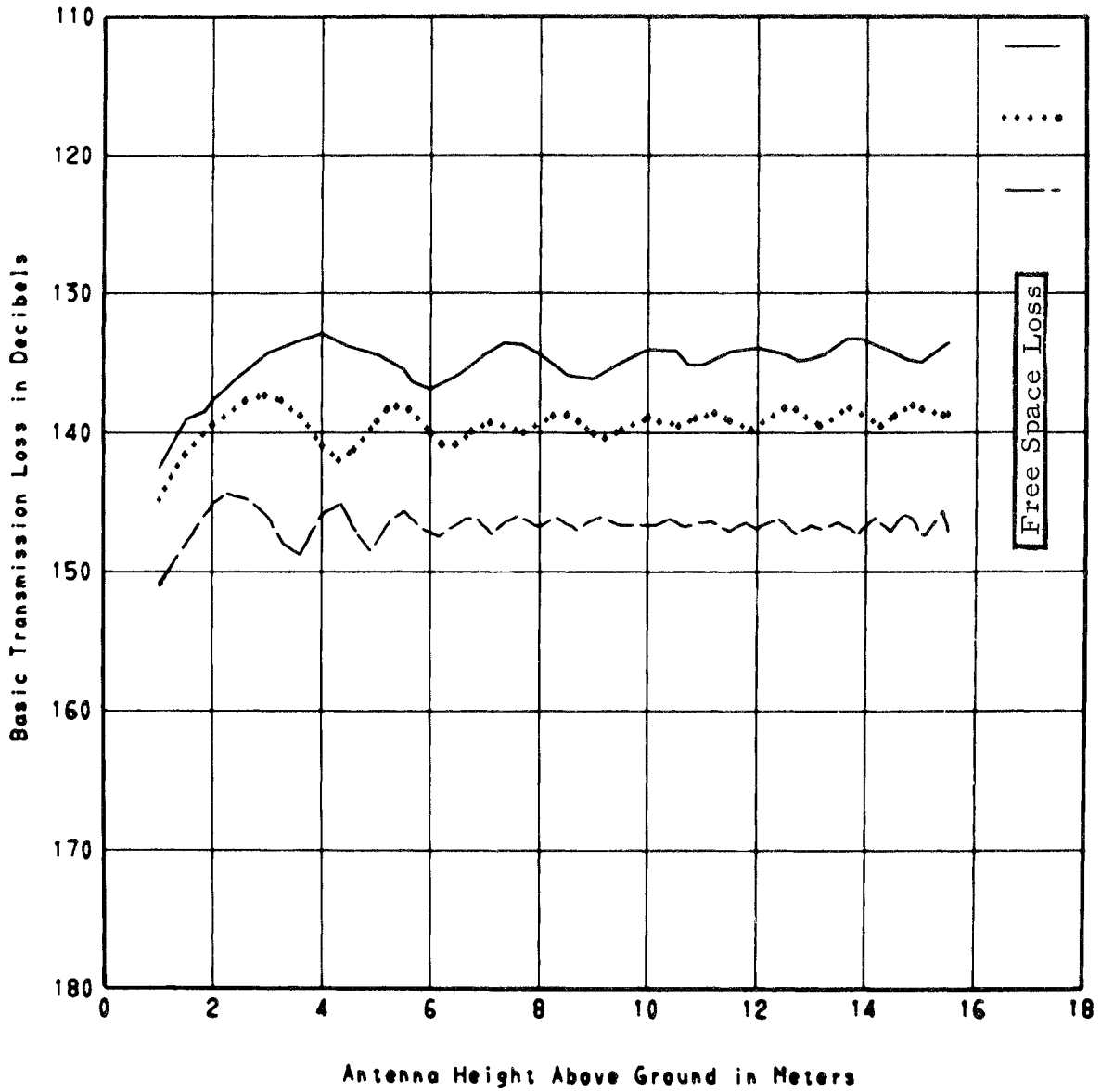
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $16^{\circ} 53' 08''$ T.

R3-40-T2

LONGMONT SE3

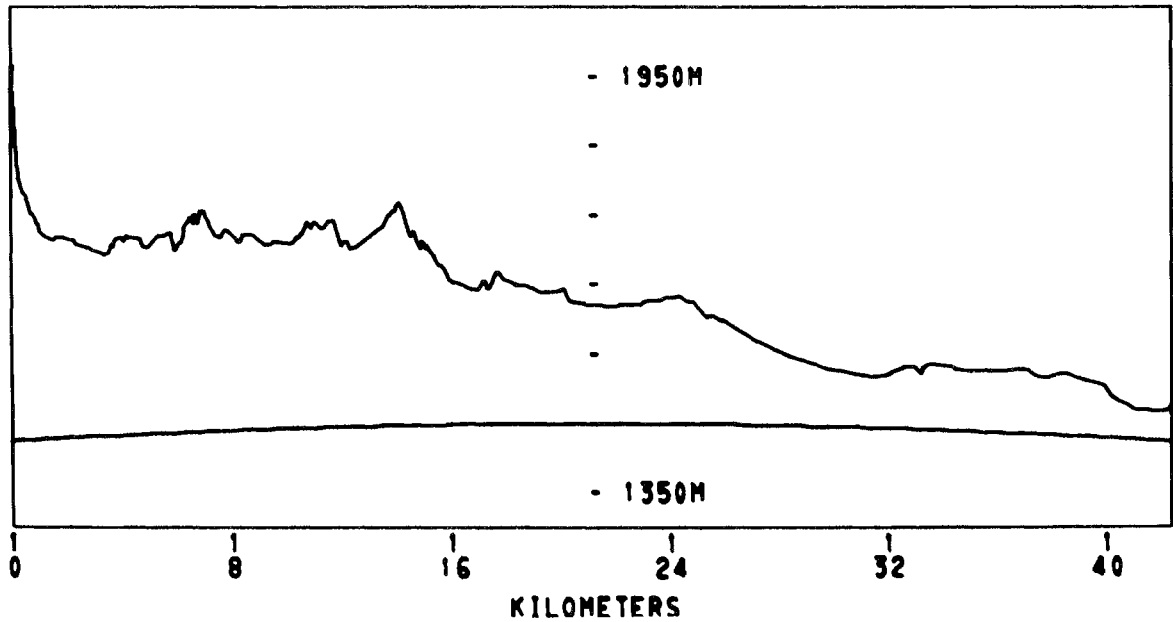
— 230 MHZ 10/ 5/66
..... 410 MHZ
- - - 751 MHZ



RCVR. ELEV.
1995 M

R3-40-T2
PATH LENGTH 42.33 km

XMTR. ELEV.
1501 M



L _b (dB) SHORT TERM SIGNAL VARIABILITY							
Freq(MHz)	230	410	751	910	1846	4595	9190
10-5-66 at 15 M							
50%	132.9	138.2	147.4				
Δ10%-90%	< 3	< 3	< 3				

The path extends over sugar-beet fields to the horizon. There are 20-m high trees, 70 m to the south, and a high ridge, 0.8 km to the south.

R3-40-T3 OPEN AND CONCEALED
LOWRY BOMBING RANGE W



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $119^{\circ} 11' 34''$ T.

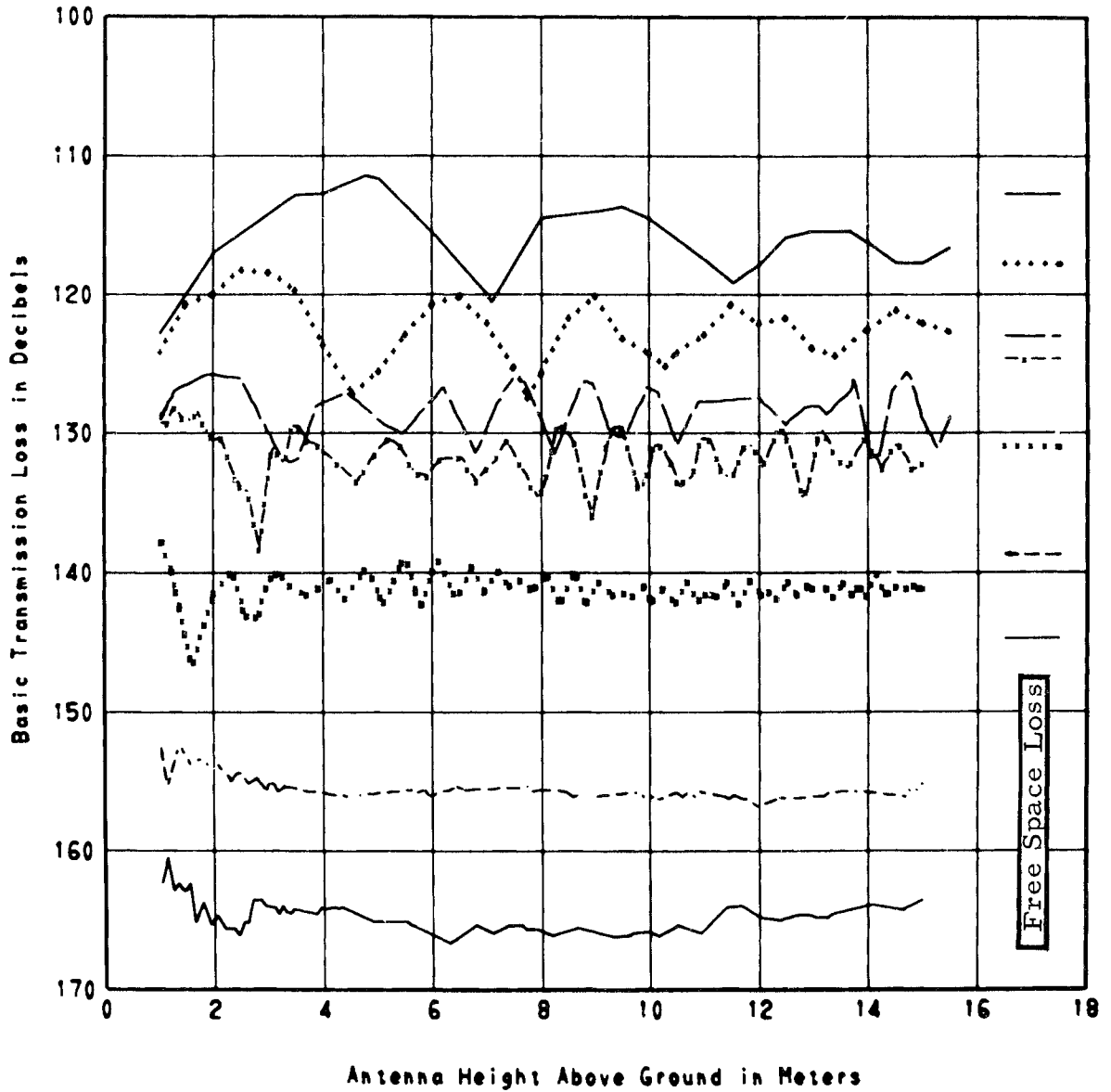


PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $119^{\circ} 16' 32''$ T.

R3-40-T3 OPEN
 LOWRY BOMBING RANGE W

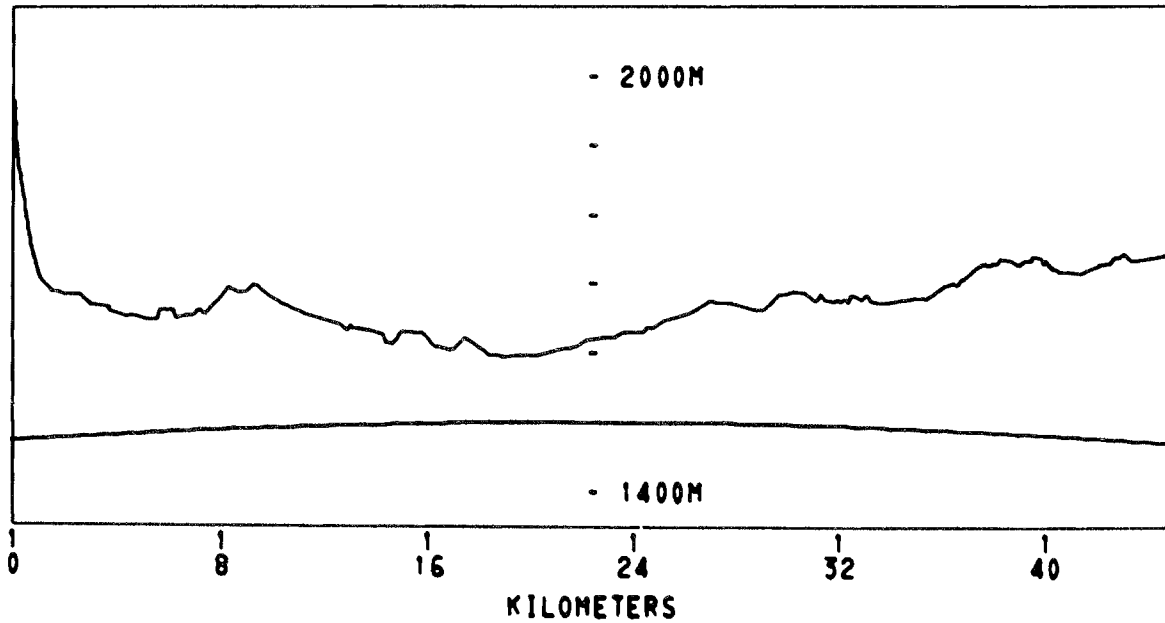
- 230 MHZ 9/13/66
- 410 MHZ
- 751 MHZ
- - - - 910 MHZ 8/ 3/66
- 1846 MHZ
- - - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-40-T3 OPEN
PATH LENGTH 44.71 km

XMTR. ELEV.
1774 M



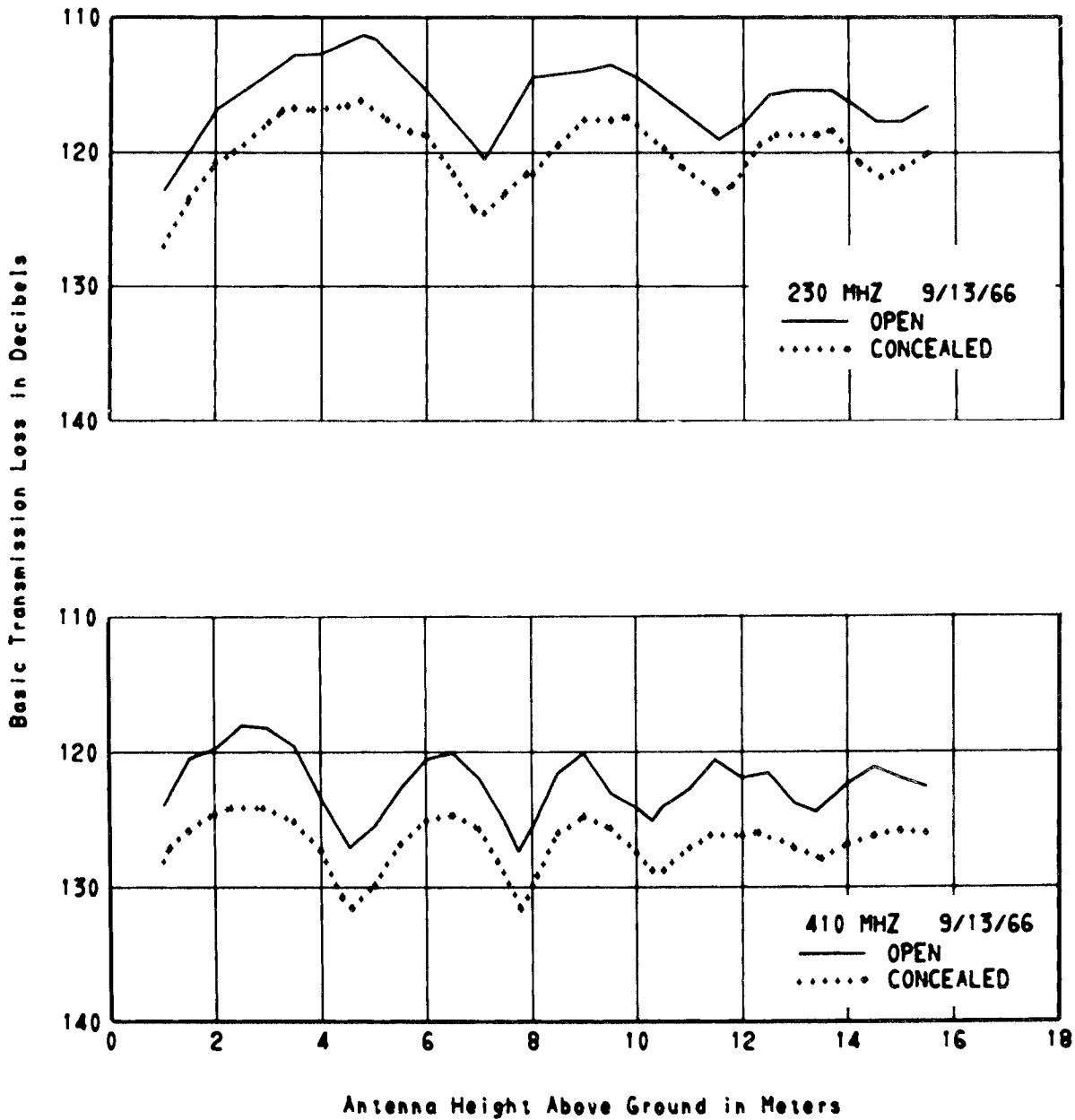
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-13-66 at 15 M				8-3-66 at 15 M		
50%	117.5	120.2	124.2	132.5	139.8	154.6	162.5
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					8-3-66 at 7.3 M		
50%				130.4	141.5	154.1	165.6
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					8-3-66 at 1 M		
50%				130.8	137.8	151.3	161.1
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The immediate foreground of the path is covered with grass. A 4-wire fence is close to the van. The path crosses an 8-m wide creek bed at 50 m. There are 10-m high trees at 0.4 km. The horizon is at the crest of a hill, approximately 2.4 km away.

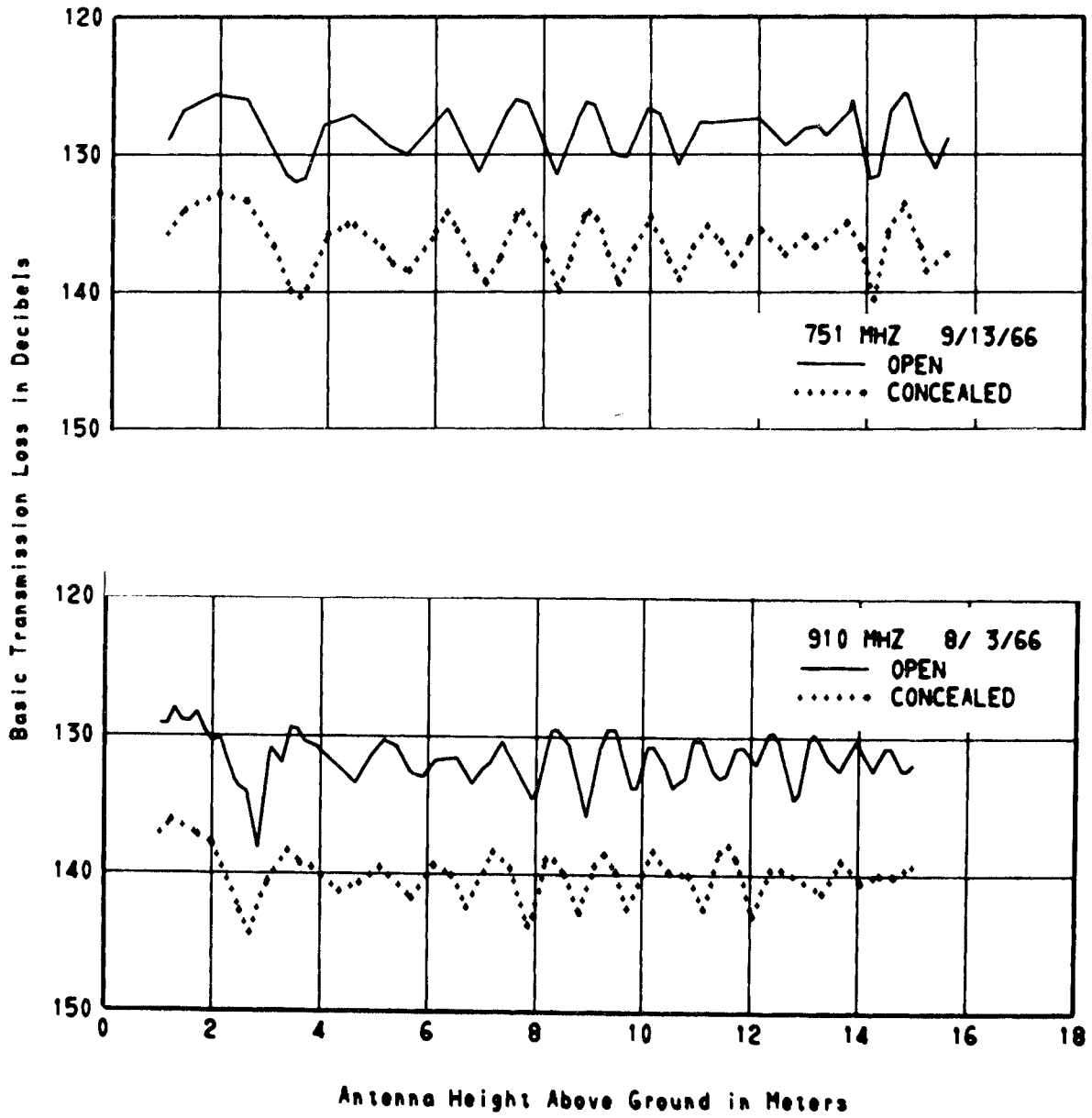
R3-40-T3 O&C

LOWRY BOMBING RANGE W



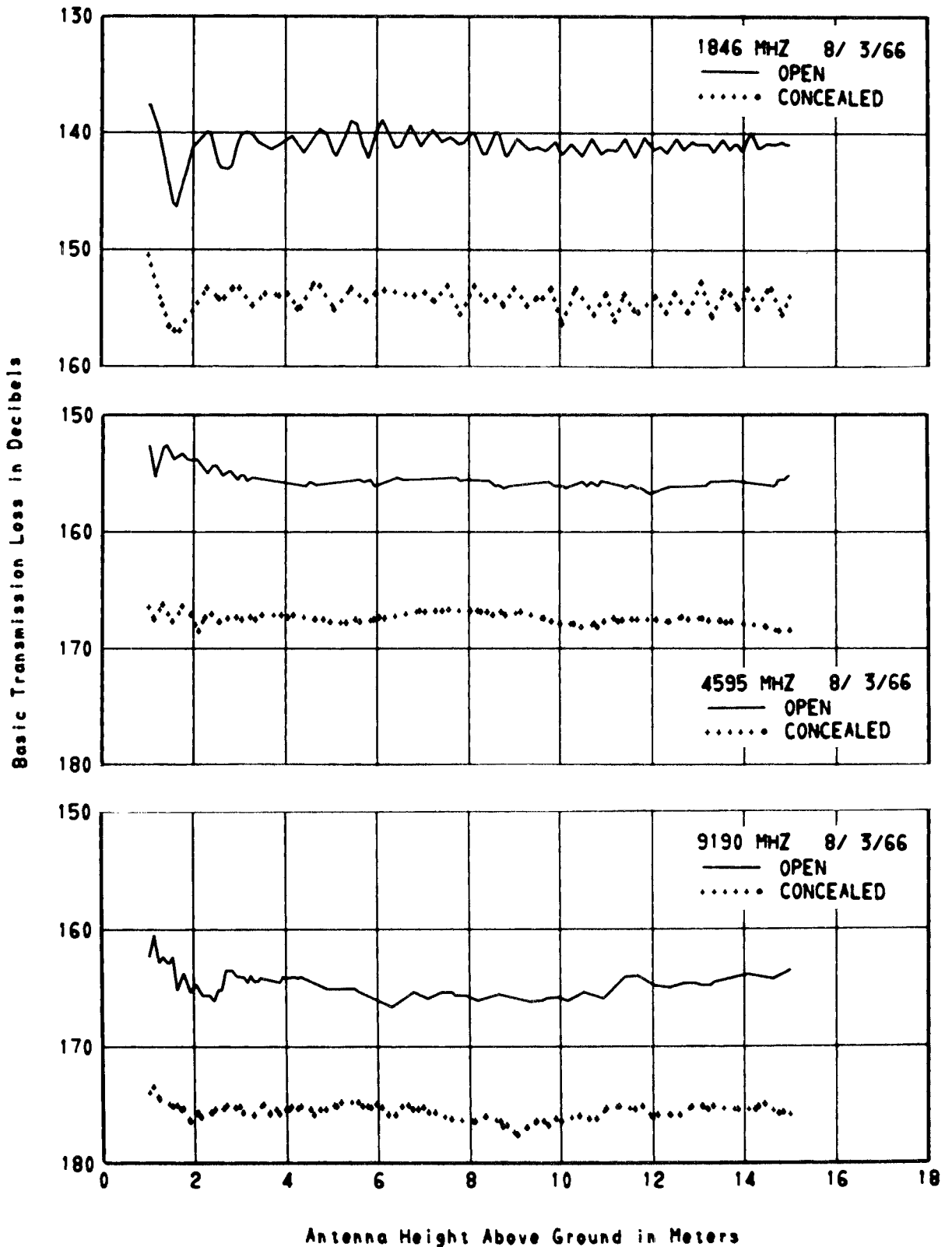
R3-40-T3 O&C

LOWRY BOMBING RANGE W



R3-40-T3 O&C

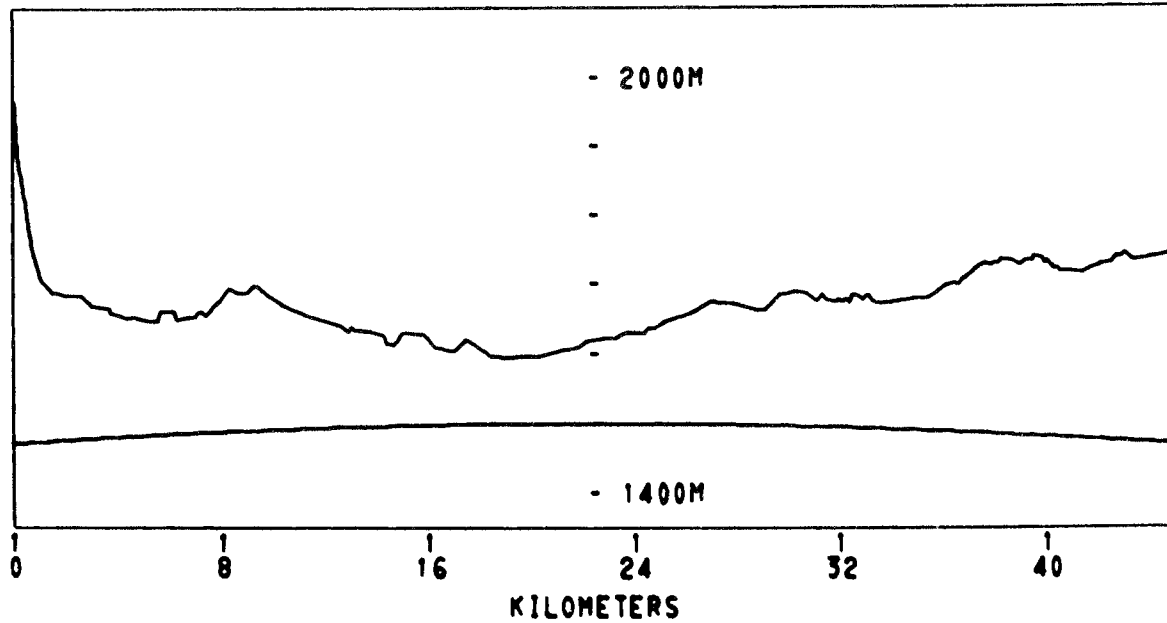
LOWRY BOMBING RANGE



RCVR. ELEV.
1995 M

R3-40-T3 CONCEALED
PATH LENGTH 44.71 km

XMTR. ELEV.
1774 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-13-66 at 15 M				8-3-66 at 15 M		
50%	120.5	125.3	136.2	139.5	152.0	168.2	176.8
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	4.3
					8-3-66 at 7.3 M		
50%				138.0	152.5	166.8	177.6
$\Delta 10\% - 90\%$				< 3	< 3	< 3	6.7
					8-3-66 at 1 M		
50%				138.8	151.3	165.3	175.6
$\Delta 10\% - 90\%$				< 3	< 3	< 3	4.2

There are 10-12 m high trees at 10 m along the path. The rest of the path is essentially identical to R3-40-T3 OPEN.

R3-50-T1
DOWE FLATS

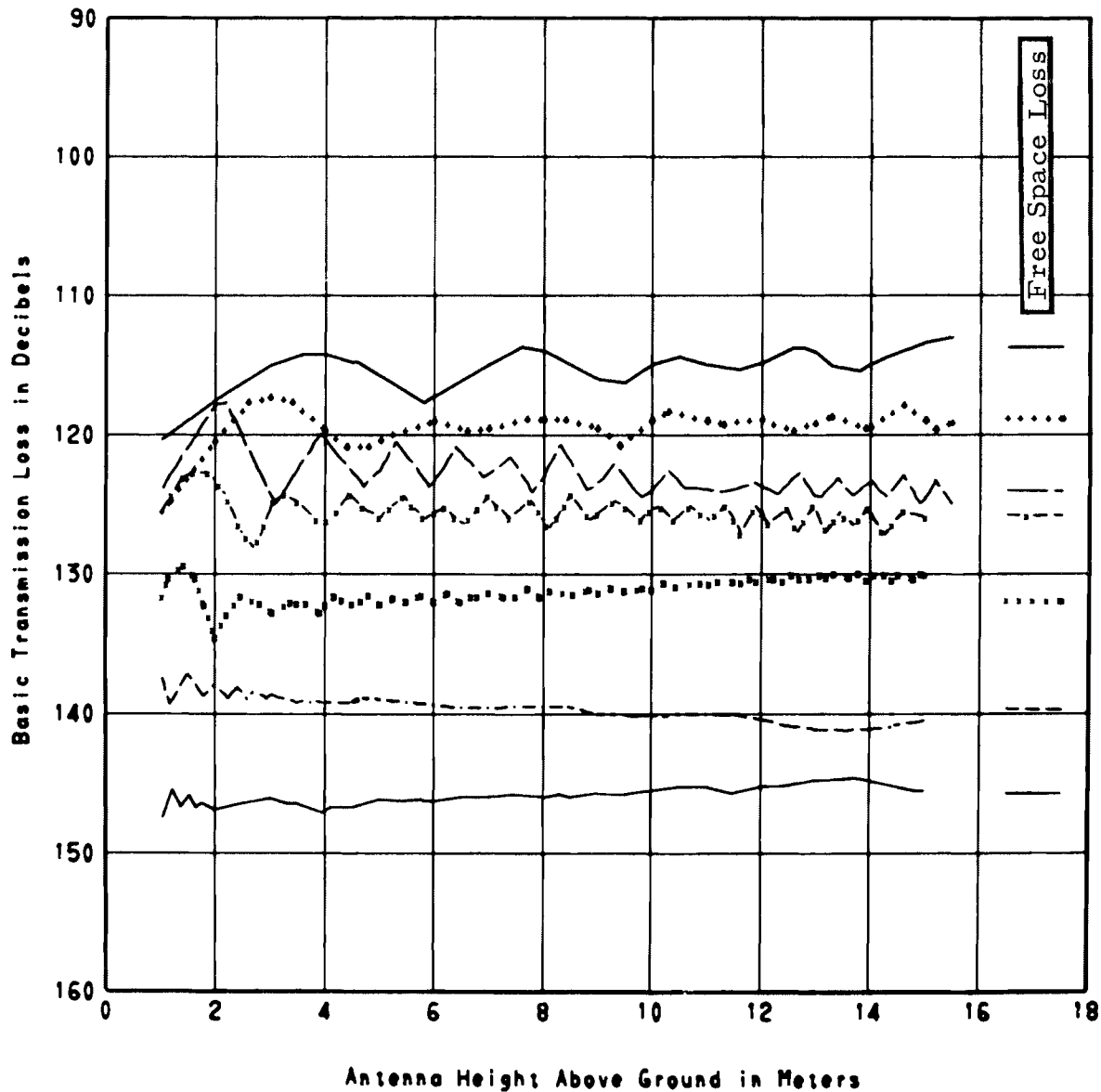


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $177^{\circ} 34' 15''$ T.

R3-50-T1
DOWE FLATS

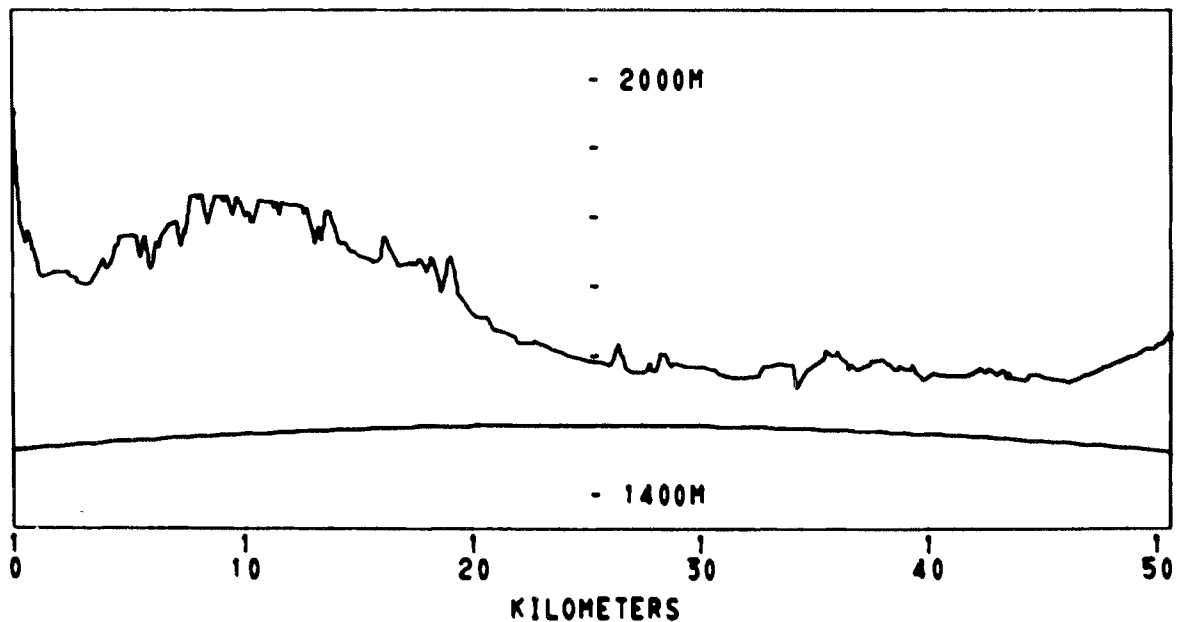
- 230 MHZ 10/ 4/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 7/ 1/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-50-T1
PATH LENGTH 50.57 km

XMTR. ELEV.
1671 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-4-66 at 15 M				7-1-66 at 15 M		
50%	112.8	118.1	122.1	124.8	130.4	137.8	144.7
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					7-1-66 at 7.3 M		
50%				126.8	132.3	137.8	144.7
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					7-1-66 at 1 M		
50%				126.8	132.2	134.2	147.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The path extends over grassland. It crosses an irrigation ditch at 30 m. There is a power line below the level of the van at 400 m, and also a telephone line. At 1 km, there is a house, and at 2.3 km, a few scattered trees.

R3-50-T2
HIGHLAND NO. 2 RESERVOIR



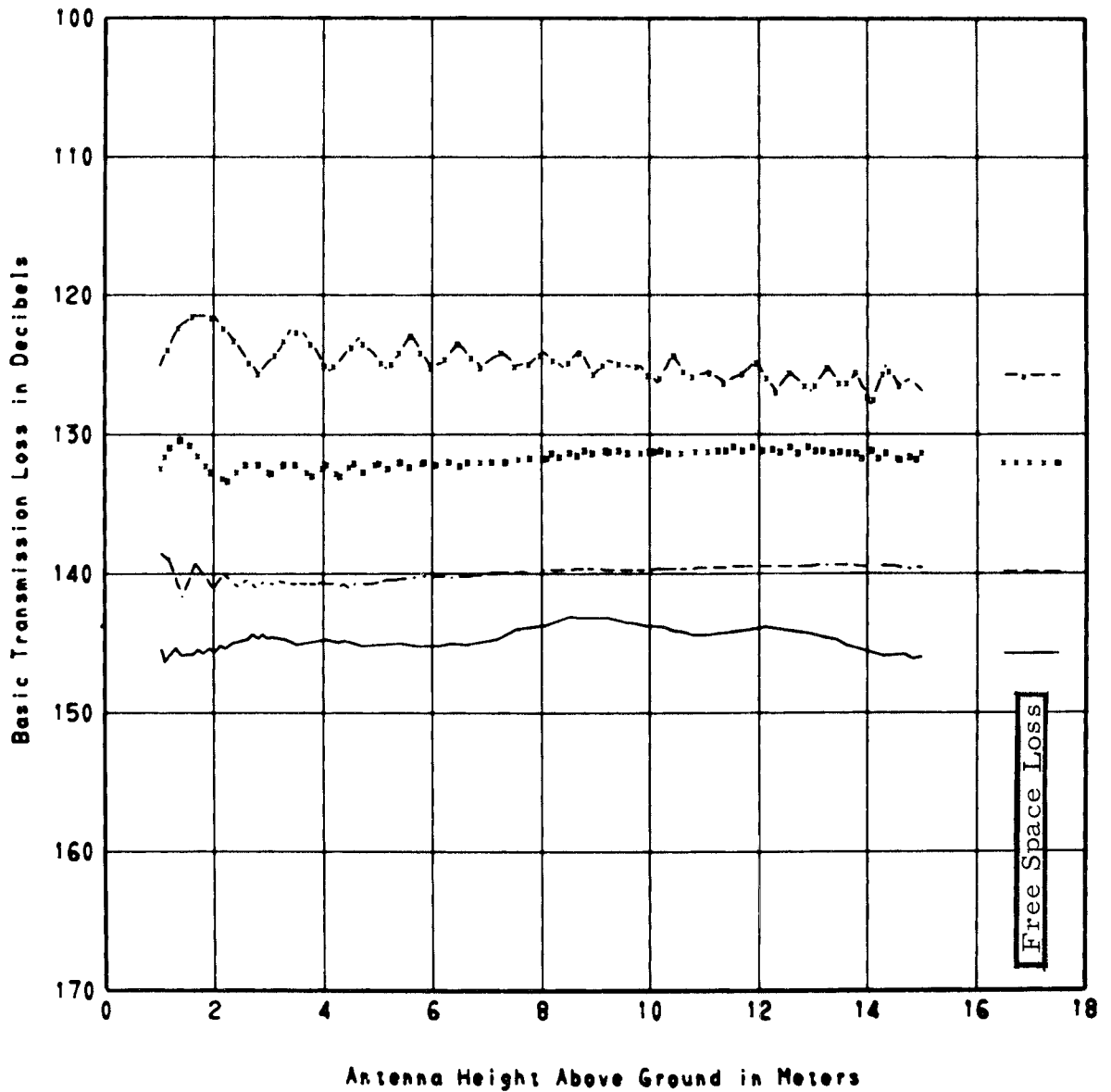
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $06^{\circ} 34' 40''$ T.

R3-50-T2

HIGHLAND RESERVOIR NO. 2

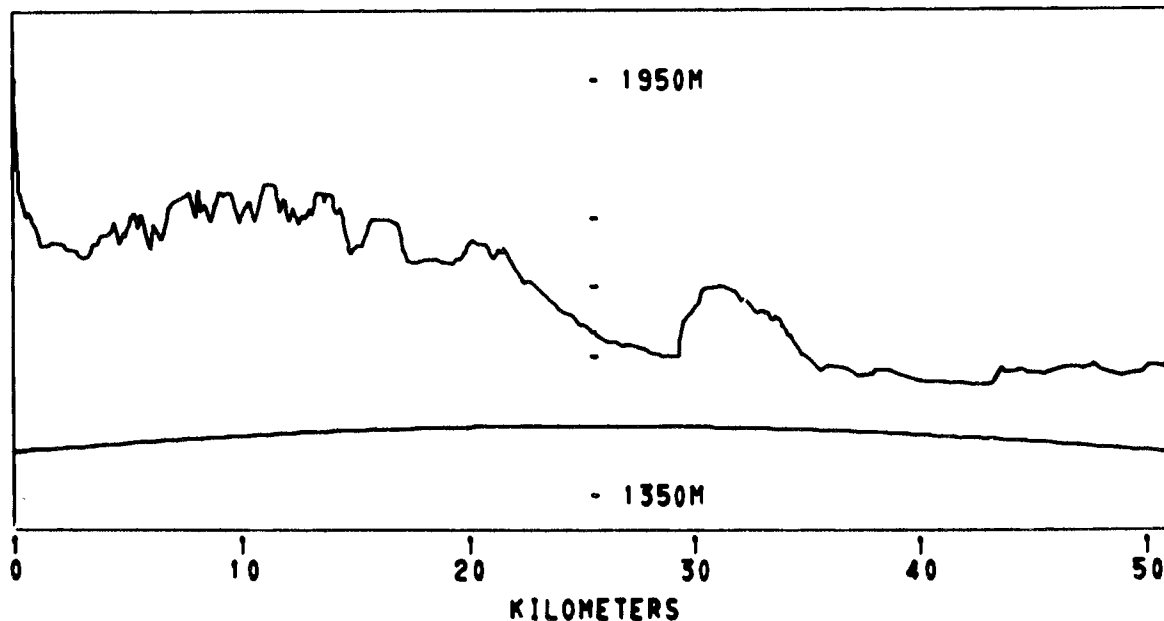
--- 910 MHZ 7/ 6/66
..... 1846 MHZ
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-50-T2
PATH LENGTH 50.98 km

XMTR. ELEV.
1583 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	7-6-66 at 15 M						
50%				126.6	131.2	138.4	144.3
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
	7-6-66 at 7.3 M						
50%				123.8	131.3	139.2	145.3
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
	7-6-66 at 1 M						
50%				135.1	128.1	137.0	145.5
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

There is a wheat field in the foreground of the path. At 90 m, a fence and telephone lines cross the path. A lake lies on the path at 0.8 km, with a few trees at the edge of the lake.

R3-50-T3
MEAD SW1



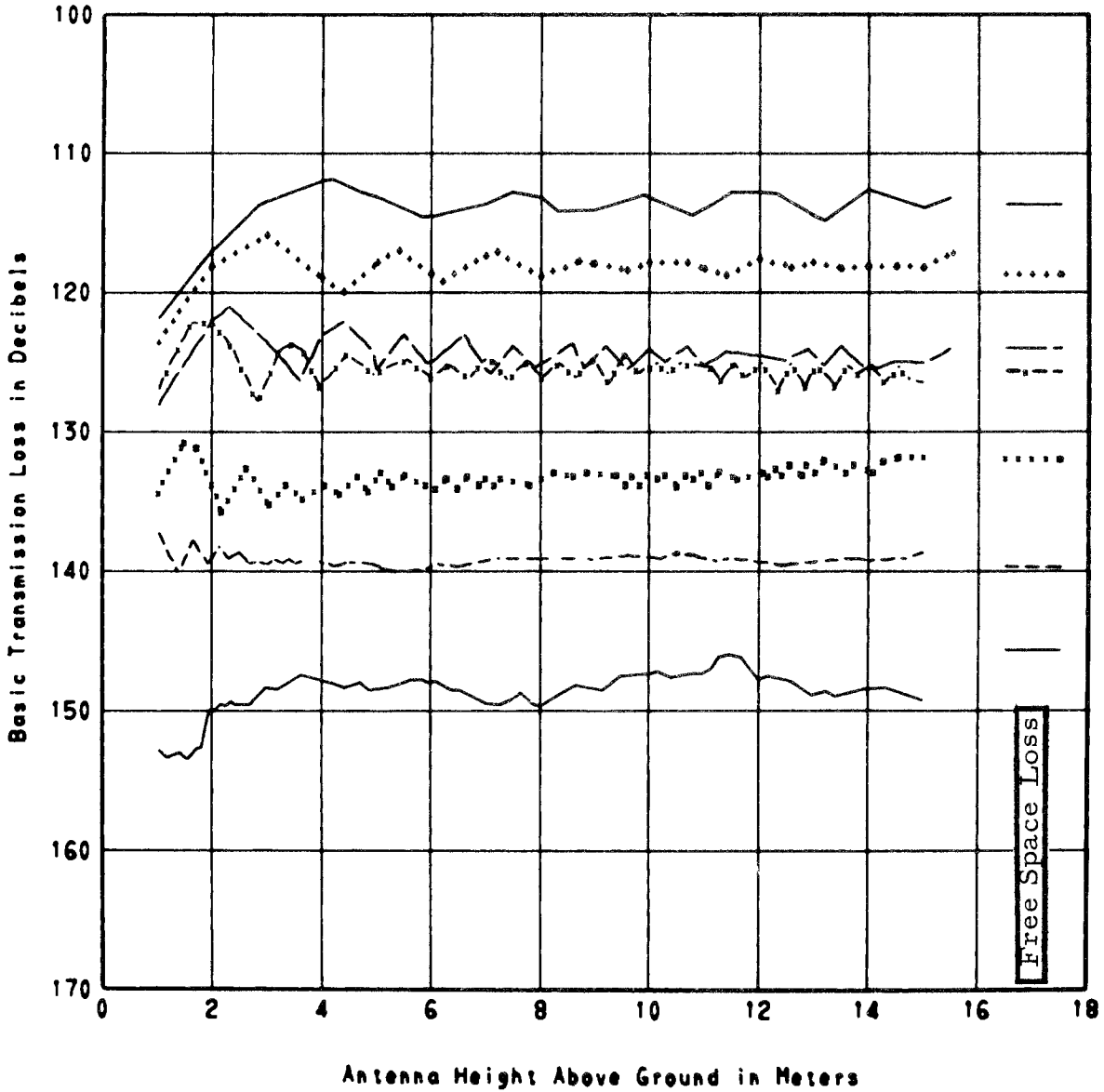
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $19^{\circ} 01' 35''$ T.

R3-50-T3

MEAD SW1

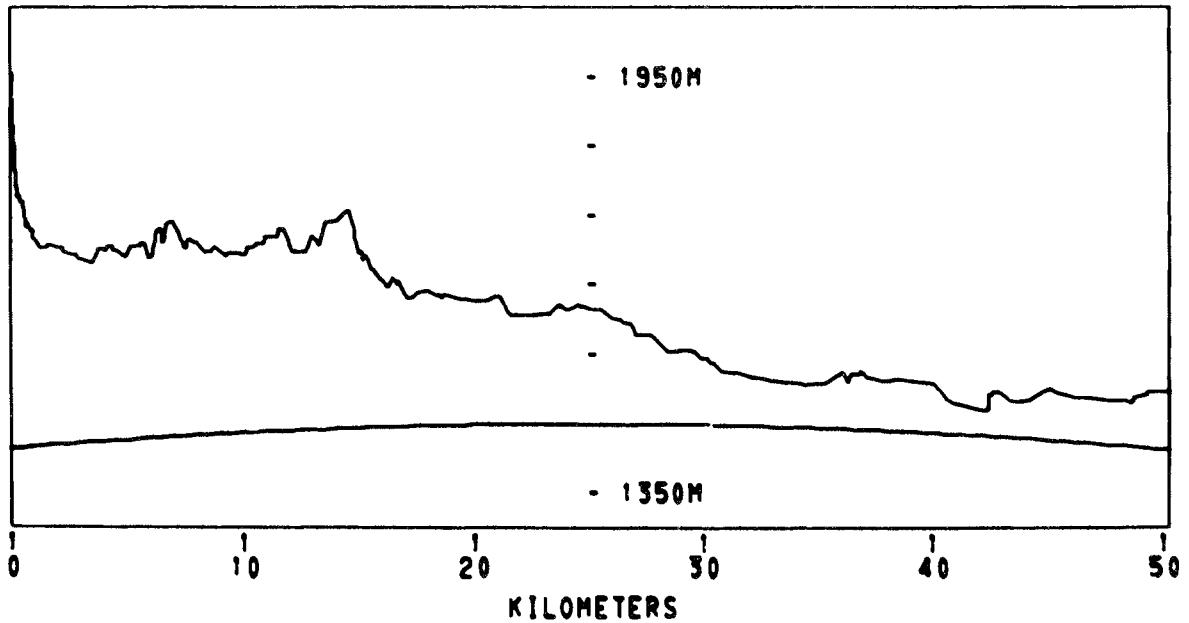
- 230 MHz 9/26/66
- 410 MHz
- - - 751 MHz
- · - · 910 MHz 7/ 1/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-50-T3
PATH LENGTH 50.21 km

XMTR. ELEV.
1535 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-26-66 at 15 M				7-1-66 at 15 M		
50%	113.1	116.1	124.1	125.7	128.1	139.1	154.0
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	4.7
					7-1-66 at 7.3 M		
50%				124.9	128.7	137.2	148.0
$\Delta 10\% - 90\%$				< 3	< 3	< 3	3.4
					7-1-66 at 1 M		
50%				126.7	132.1	135.9	148.7
$\Delta 10\% - 90\%$				< 3	< 3	< 3	6.0

The first 100 m of the path is covered with grass. This is broken at 75 m by a fence. For the next 440 m, the ground is covered with corn, and the next 1.2 km are covered with wheat. At 100 m, a 15-wire telephone line crosses the path. At 1.6 km there are trees and buildings on the far side of the path.

R3-50-T4 OPEN AND CONCEALED
MEAD NE1



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $20^{\circ} 14' 29''$ T.



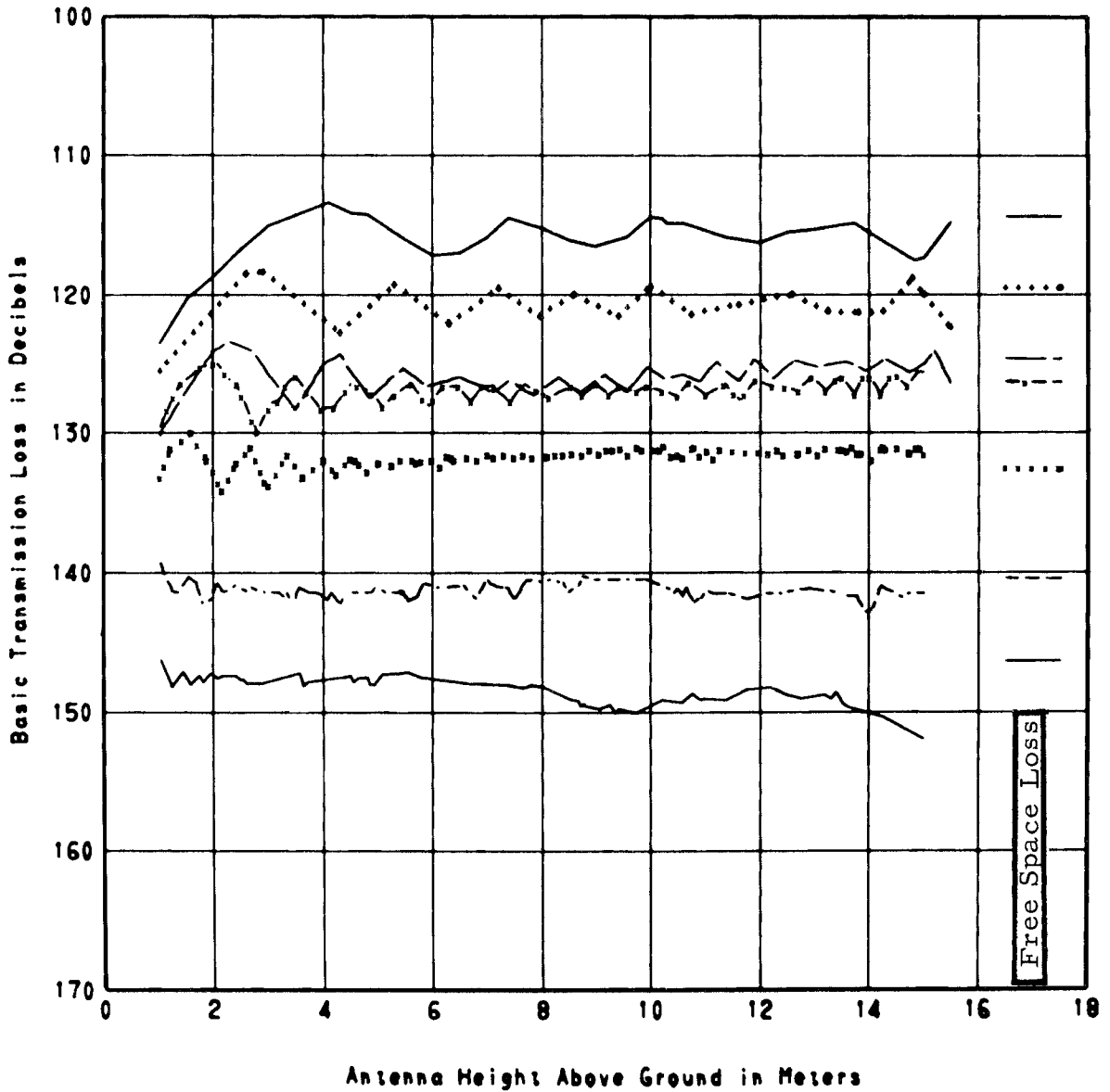
PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $20^{\circ} 27' 20''$ T.

R3-50-T4 OPEN

MEAD NE1

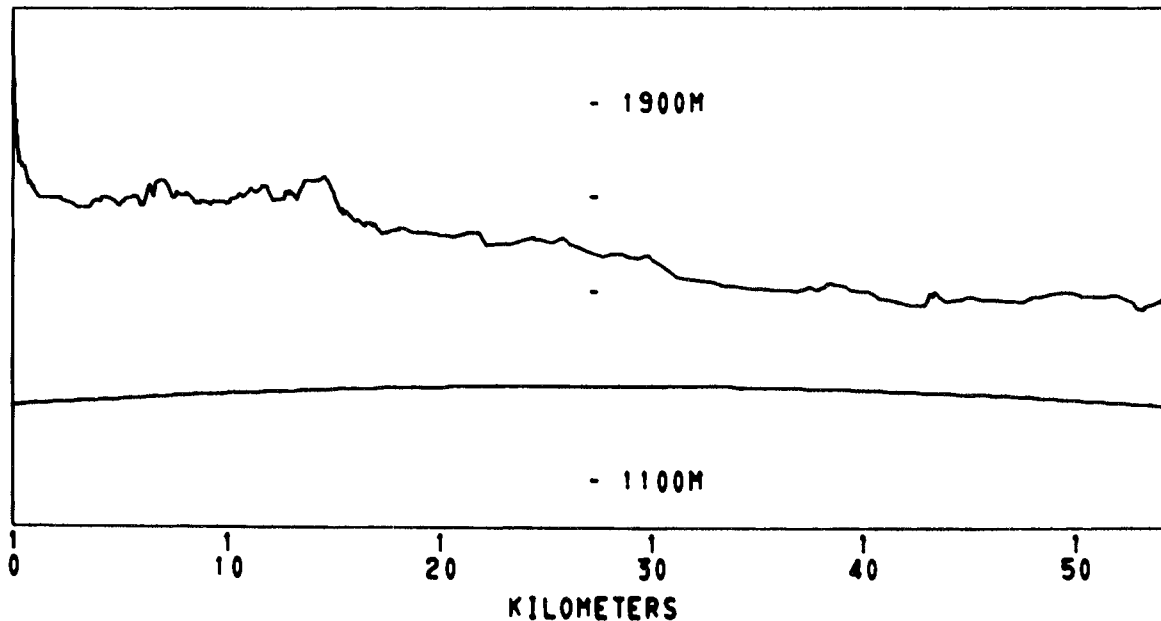
- 230 MHz 9/26/66
- 410 MHz
- 751 MHz
- - - 910 MHz 7/ 6/66
- 1846 MHz
- - - 4595 MHz
- 9190 MHz



RCVR. ELEV.
1995 M

R3-50-T4 OPEN
PATH LENGTH 54.32 km

XMTR. ELEV.
1529 M



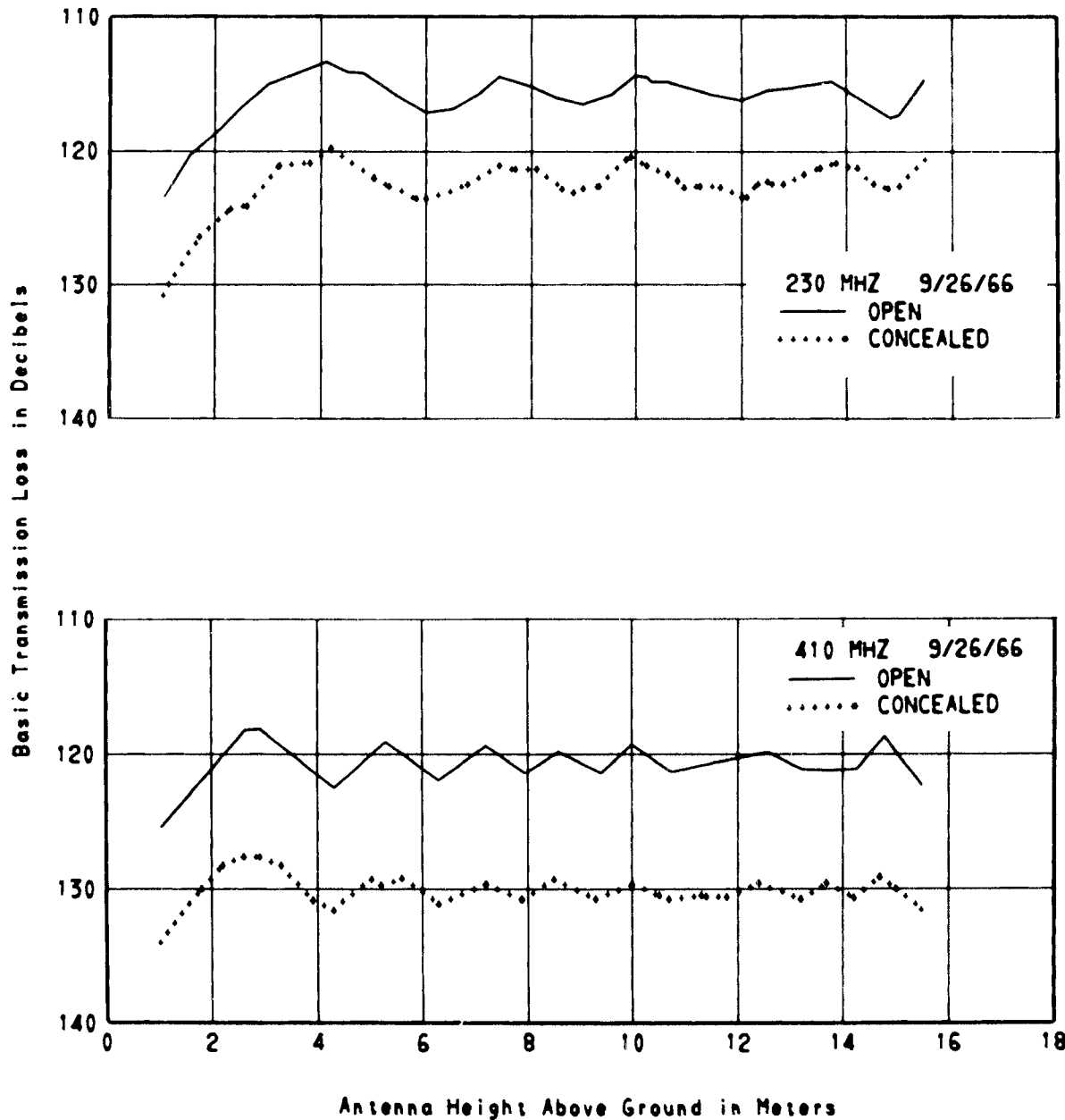
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-26-66 at 15 M				7-6-66 at 15 M		
50%	113.5	120.9	128.0	125.7	131.2	141.5	149.9
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					7-6-66 at 7.3 M		
50%				127.6	131.8	137.8	147.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					7-6-66 at 1 M		
50%				127.4	131.9	138.5	146.0
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The ground covering of the path is weeds and hay. A fence runs beside the van and crosses the path at 100 m. At 440 m, a house and 16-m high trees are on the edge of the path. At 0.8 km, a fence, a telephone line, and an interstate highway cross the path.

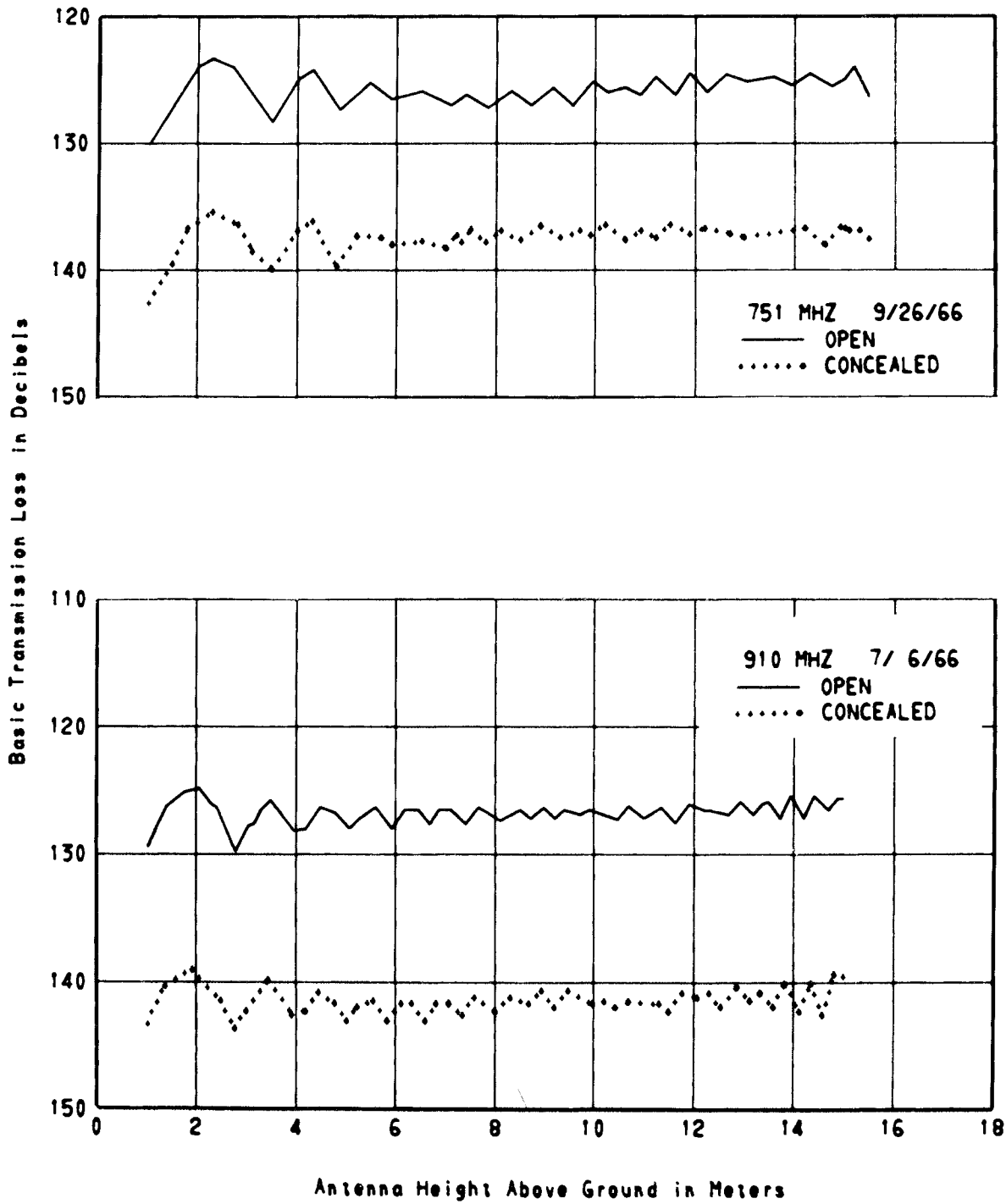
R3-50-T4 O&C

MEAD NE1



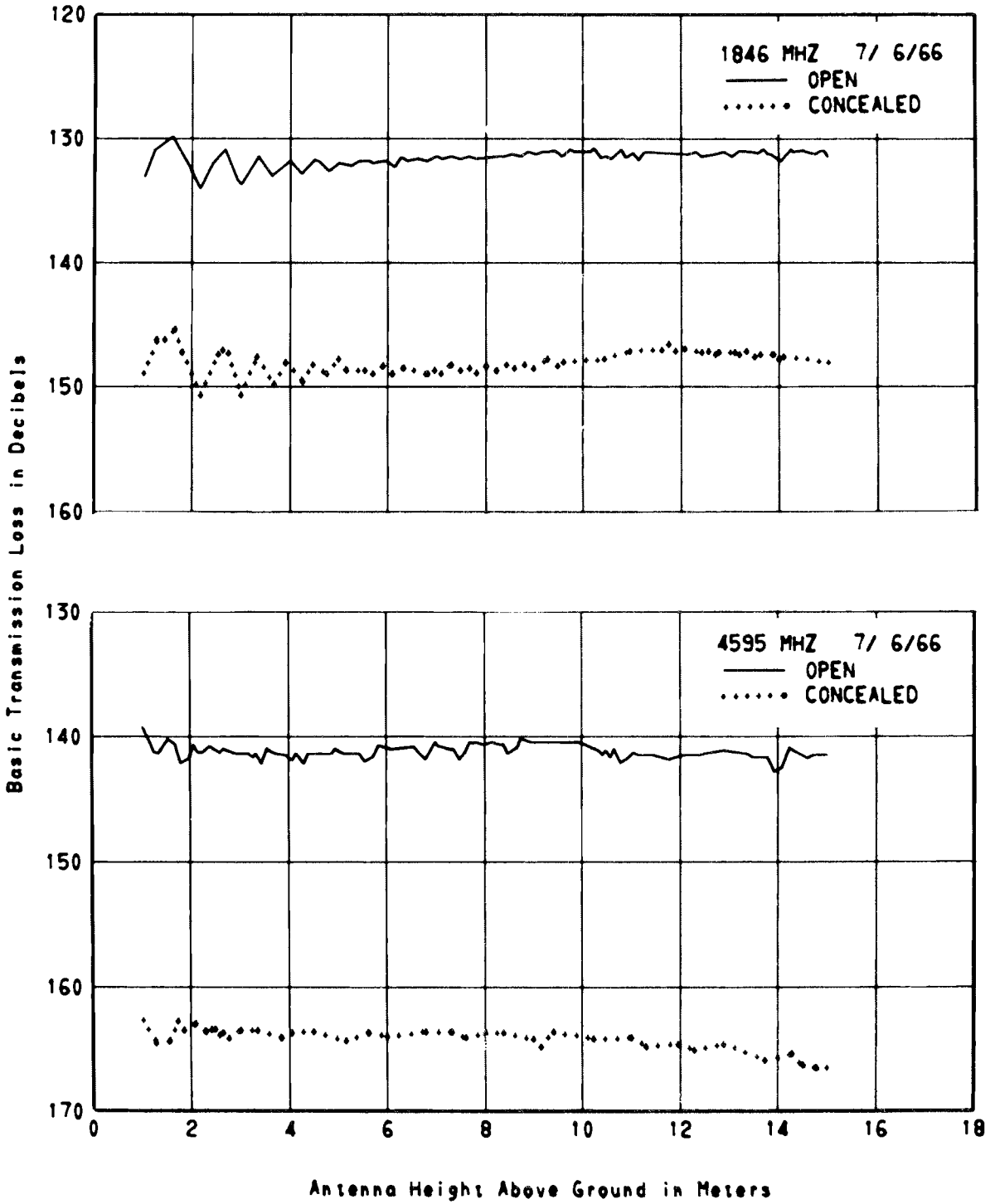
R3-50-T4 O&C

MEAD NE1



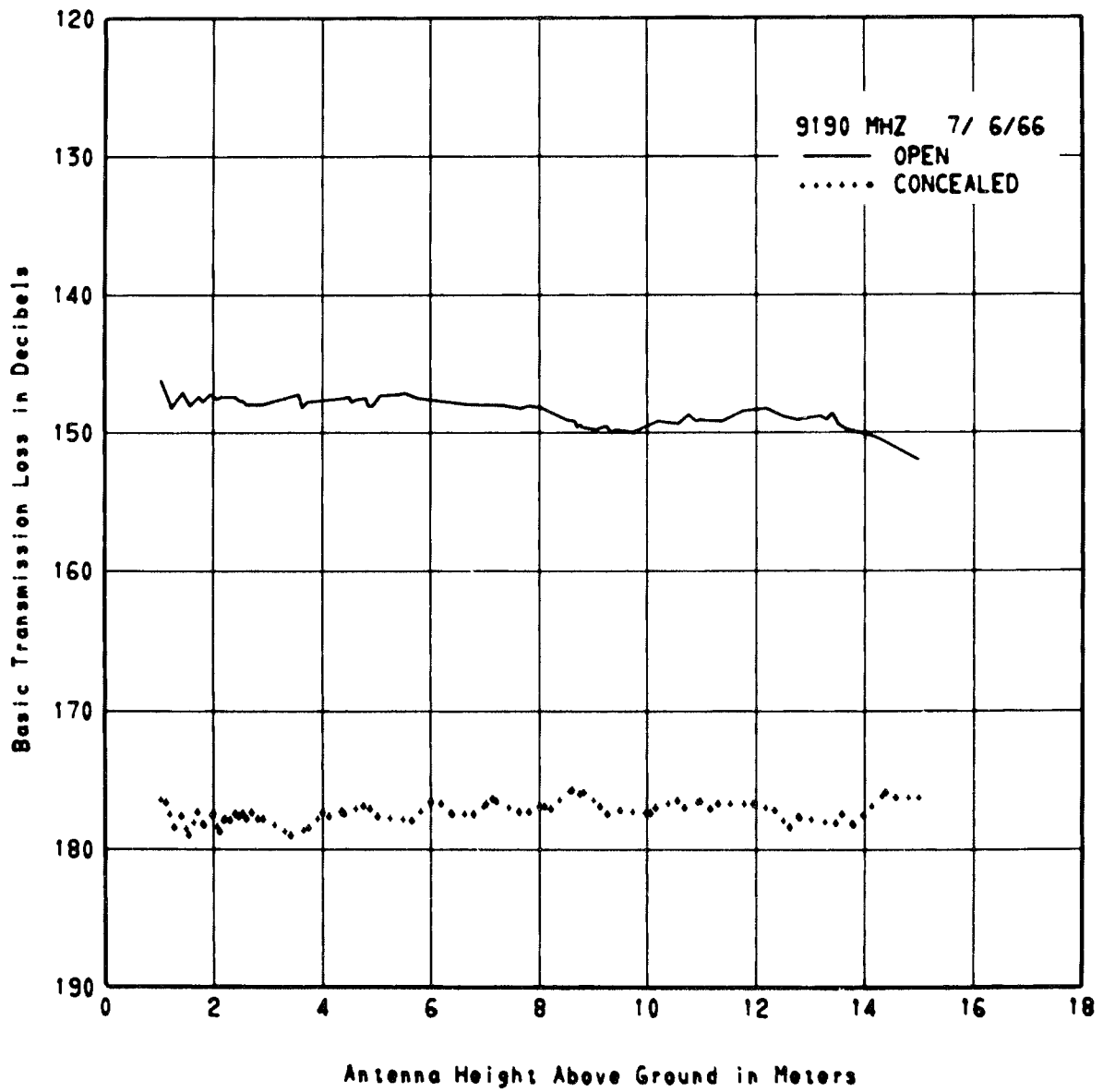
R3-50-T4 O&C

MEAD NE1



R3-50-T4 O&C

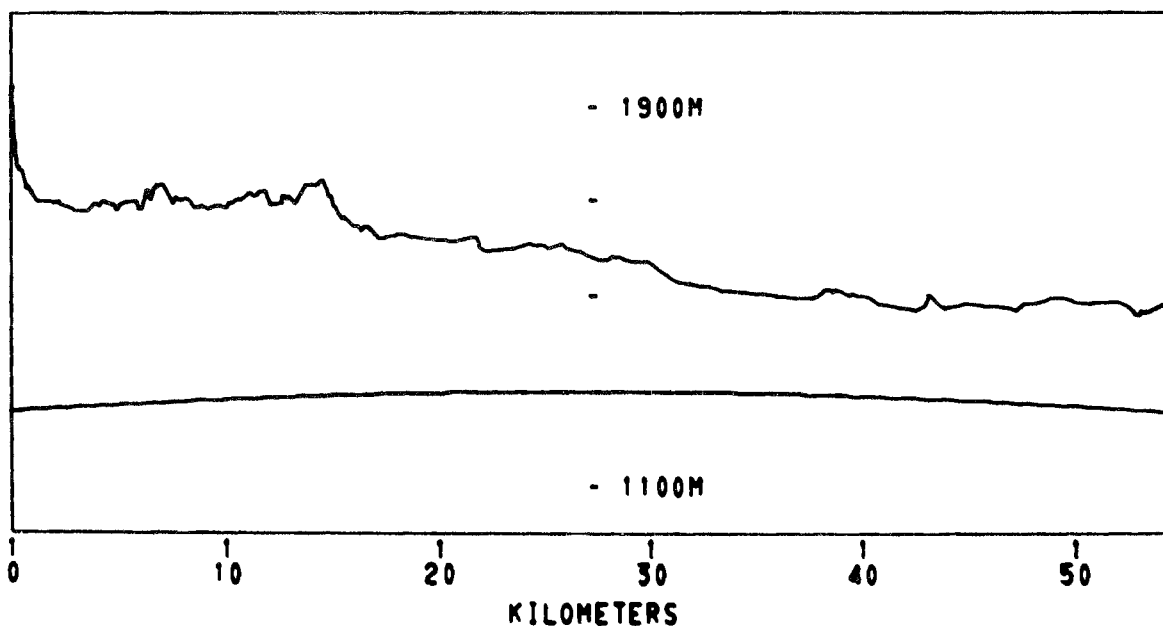
MEAD NE1



RCVR. ELEV.
1995 M

R3-50-T4 CONCEALED
PATH LENGTH 54.40 km

XMTR. ELEV.
1528 M

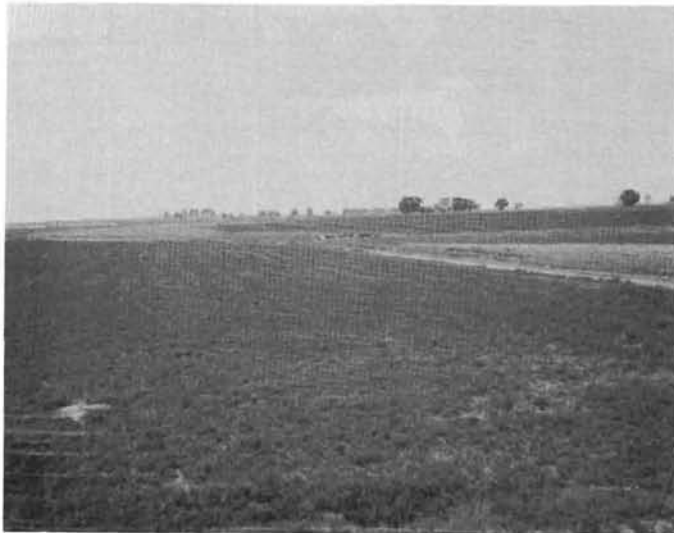


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq (MHz)	230	410	751	910	1846	4595	9190
	9-26-66 at 15 M				7-6-66 at 15 M		
50%	122.9	129.8	136.8	138.9		166.5	178.3
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3		8.5	4.9
					7-6-66 at 7.3 M		
50%				140.6	145.2	164.3	176.9
$\Delta 10\% - 90\%$				< 3	3.2	< 3	3.8
					7-6-66 at 1 M		
50%				143.6	144.8	162.1	177.4
$\Delta 10\% - 90\%$				< 3	6.0	< 3	4.2

Trees, 16-m high and 3- to 440-m deep, are on the path. The path also crosses marsh land and the edge of the lake.

R3-50-T5
MEAD S4E5



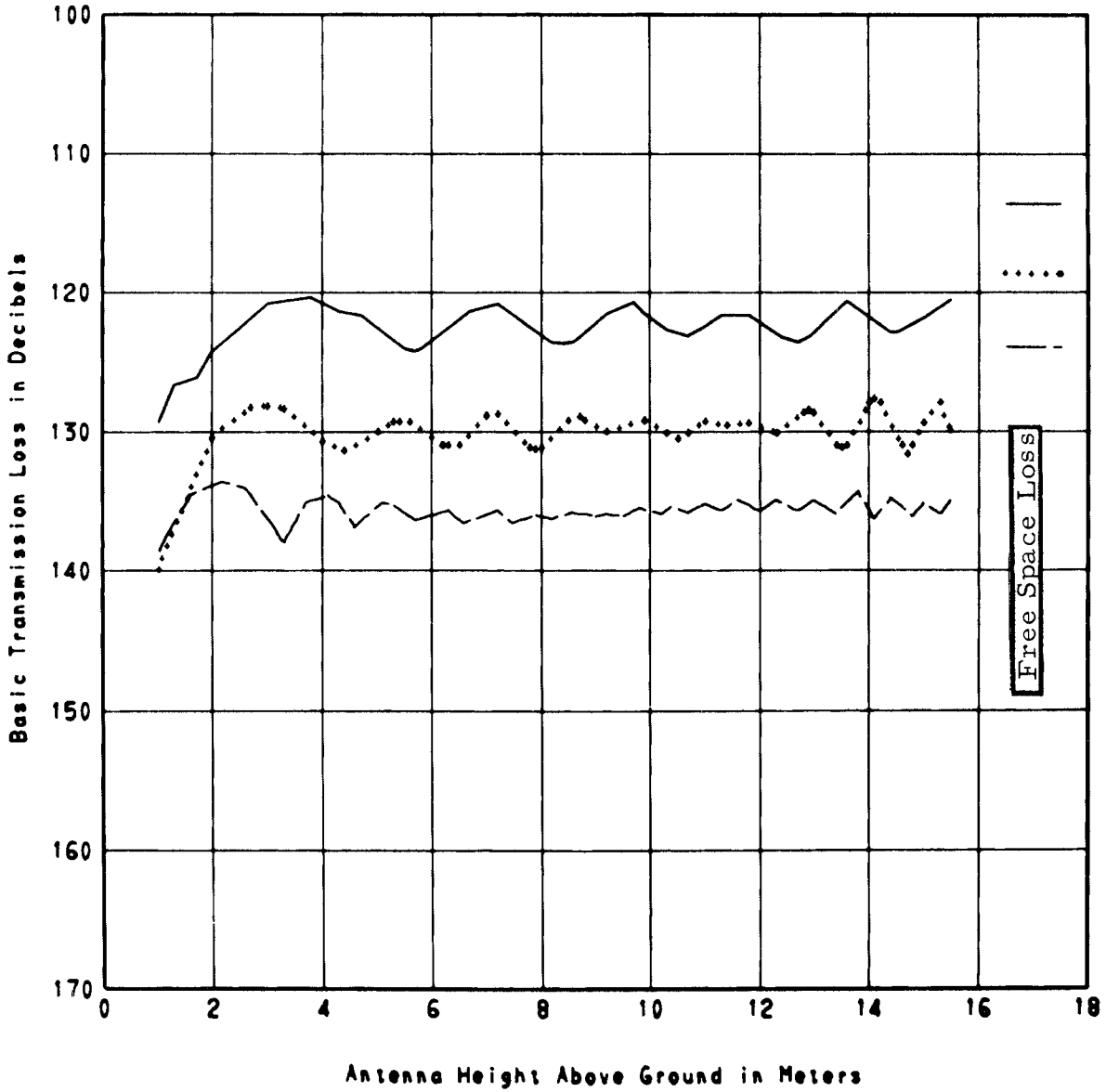
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $30^{\circ} 50' 08''$ T.

R3-50-T5

MEAD S4 E5

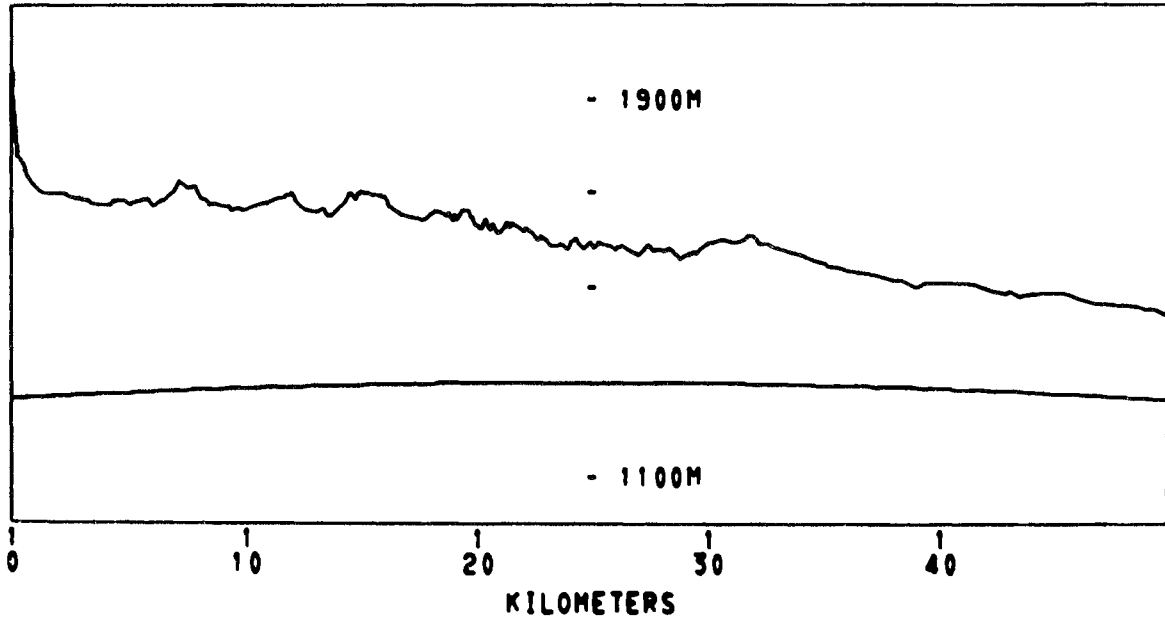
— 230 MHz 10/ 5/66
..... 410 MHz
- - - 751 MHz



RCVR. ELEV.
1995 M

R3-50-T5
PATH LENGTH 49.70 km

XMTR. ELEV.
1482 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
10-5-66 at 15 M							
50%	121.0	130.0	134.4				
$\Delta 10\% - 90\%$	< 3	< 3	< 3				

The path extends over open terrain and hay fields. There are 16-m high trees at 0.8 km.

R3-50-T7
FORT LUPTON E3



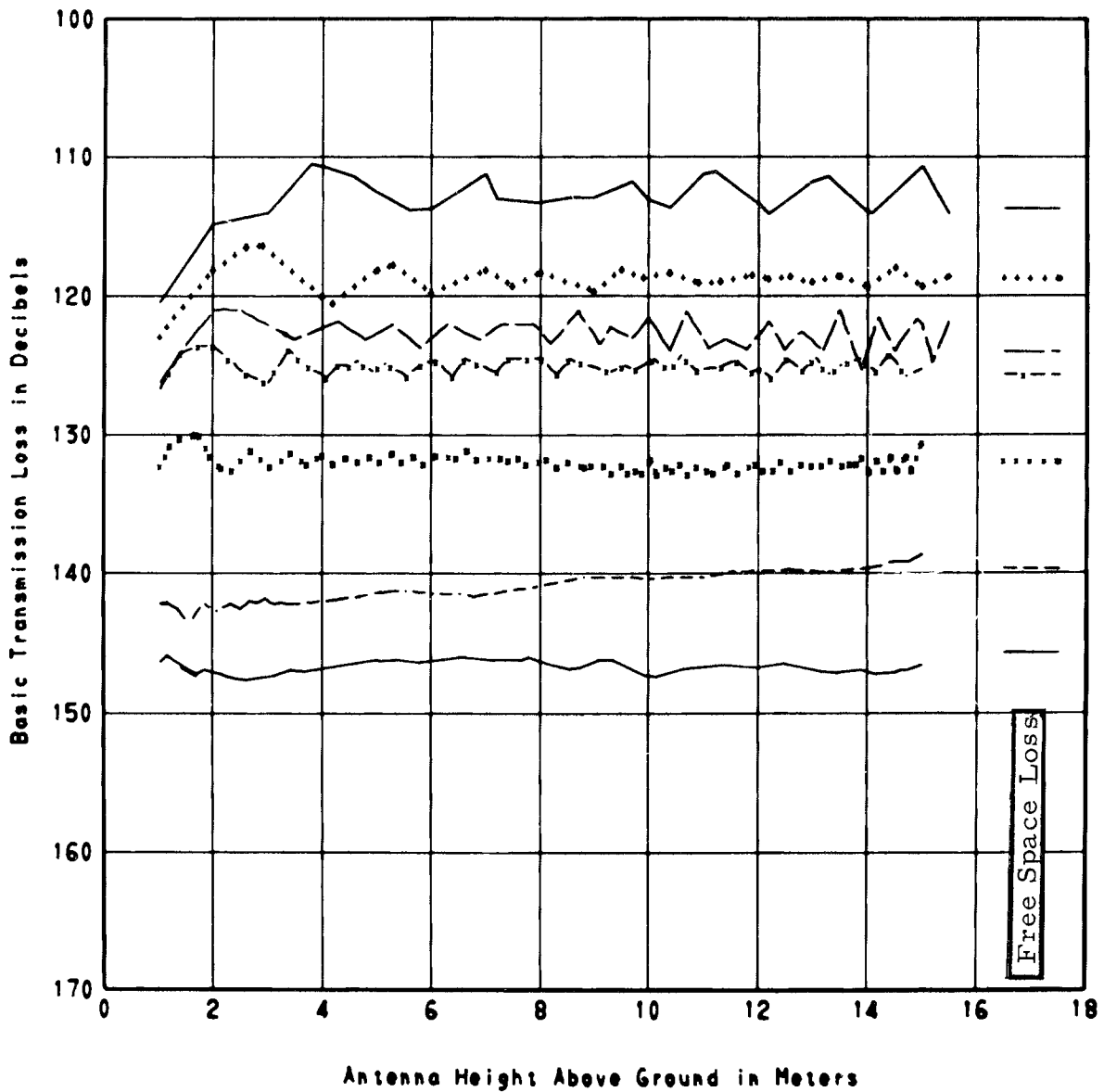
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $48^{\circ} 59' 47''$ T.

R3-50-T7

FORT LUPTON E3

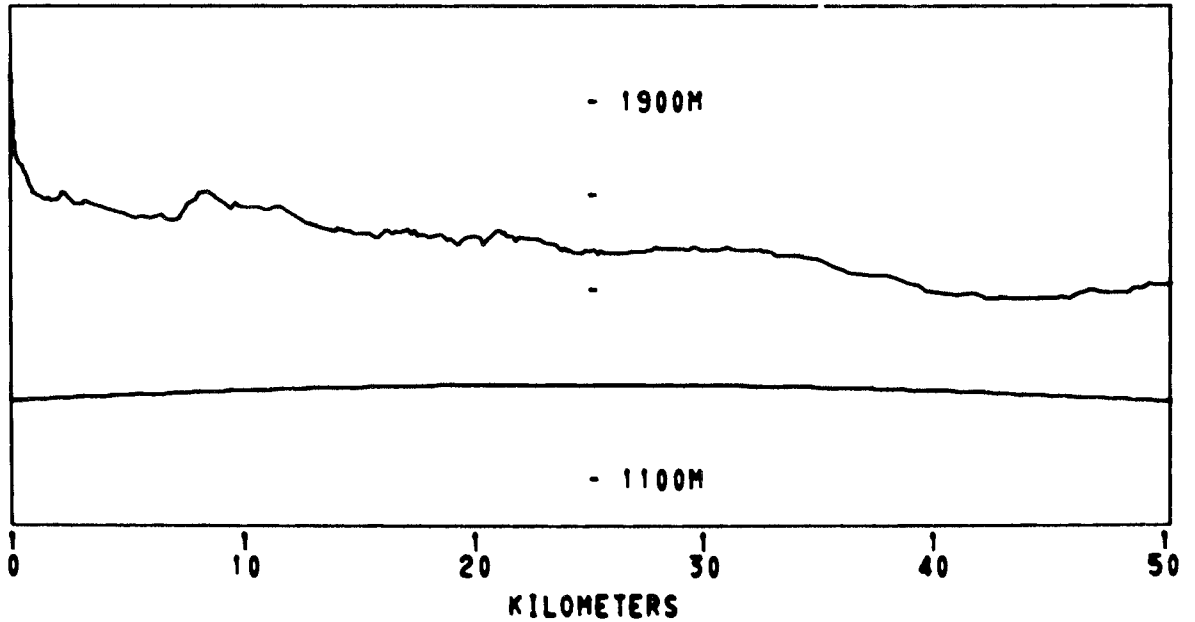
- 230 MHZ 9/28/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 7/ 8/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-50-T7
PATH LENGTH 50.24 km

XMTR. ELEV.
1548 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-28-66 at 15 M				7-8-66 at 7.3 M		
50%	114.1	116.2	122.5	124.8	131.0	141.3	146.2
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3

The path extends over dry-weed fields for 1.6 km. At this point, there are 16-m high trees.

R3-50-T8
BARR LAKE E4N3



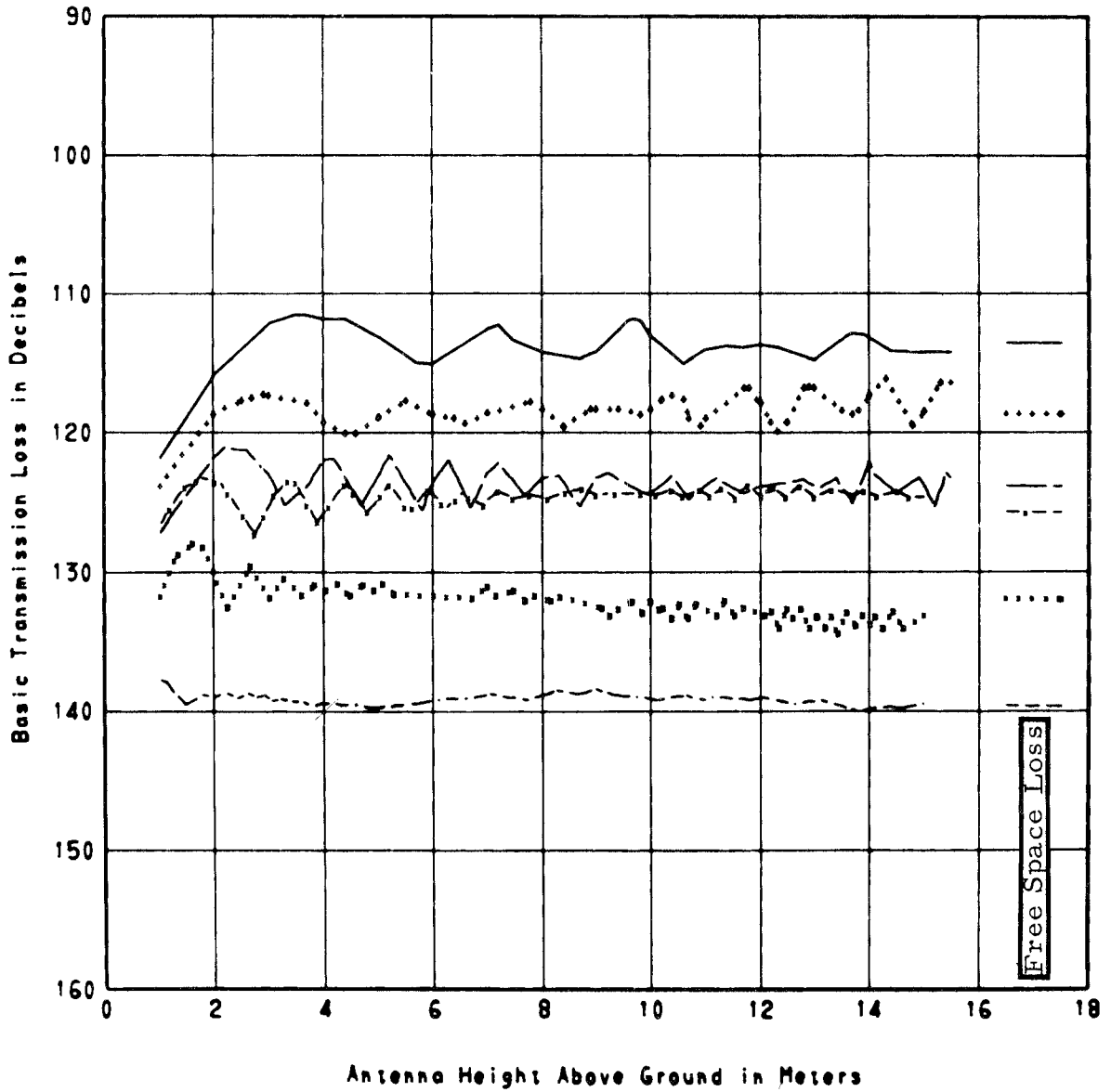
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $63^{\circ} 50' 19''$ T.

R3-50-T8

BARR LAKE E4 N3

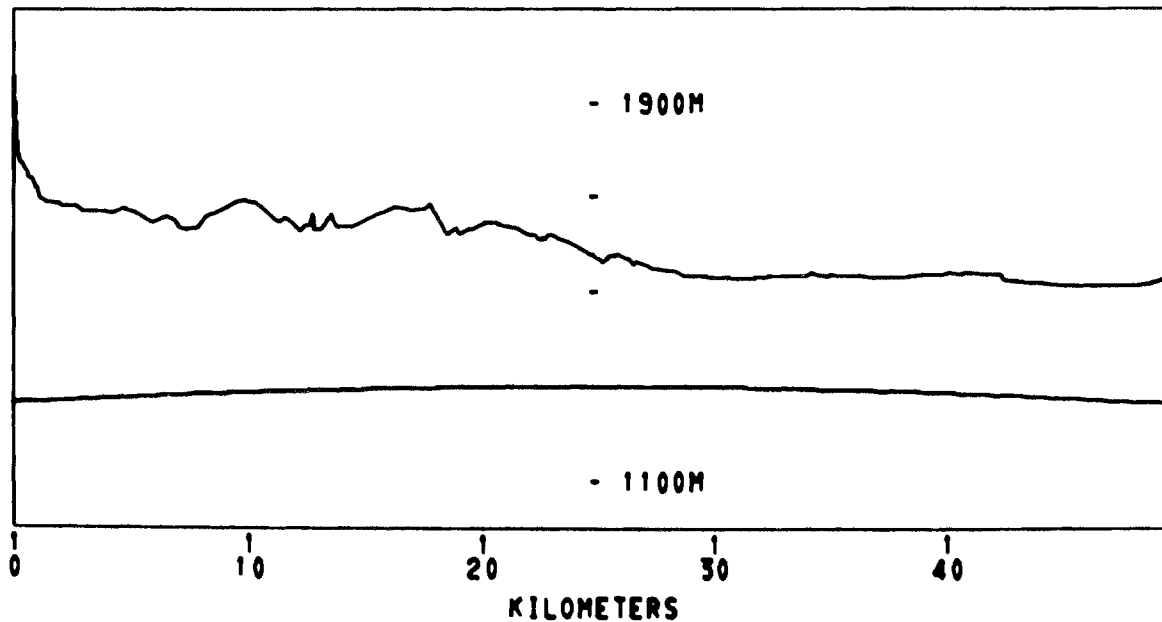
- 230 MHZ 10/ 6/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 7/ 8/66
- 1846 MHZ
- - - 4595 MHZ



RCVR. ELEV.
1995 M

R3-50-T8
PATH LENGTH 49.50 km

XMTR. ELEV.
1567 M

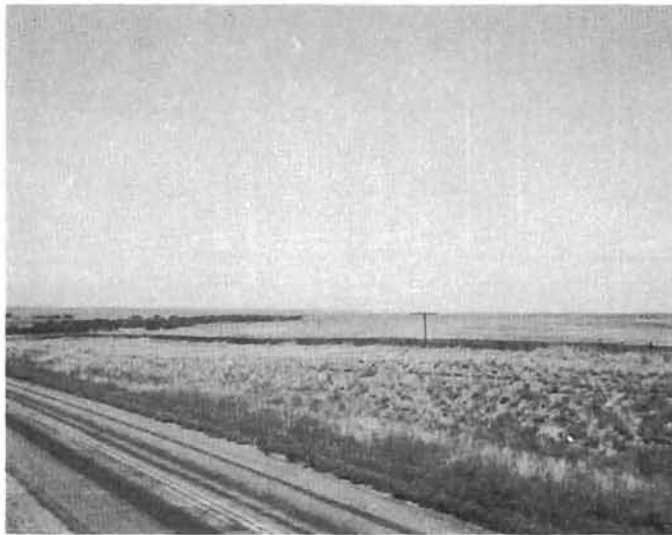


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-6-66 at 15 M				7-8-66 at 15 M		
50%	114.1	116.9	126.8	126.2	127.0	140.9	
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	5.9	< 3	
					7-8-66 at 7.3 M		
50%				126.4	126.1	143.0	
$\Delta 10\% - 90\%$				< 3	5.0	5.0	
					7-8-66 at 1 M		
50%				128.9	129.9	142.1	
$\Delta 10\% - 90\%$				< 3	< 3	5.0	

The ground is covered with stubble for 2.3 km. At this point, there are 16-m high trees.

R3-50-T9
LOWRY BOMBING RANGE N



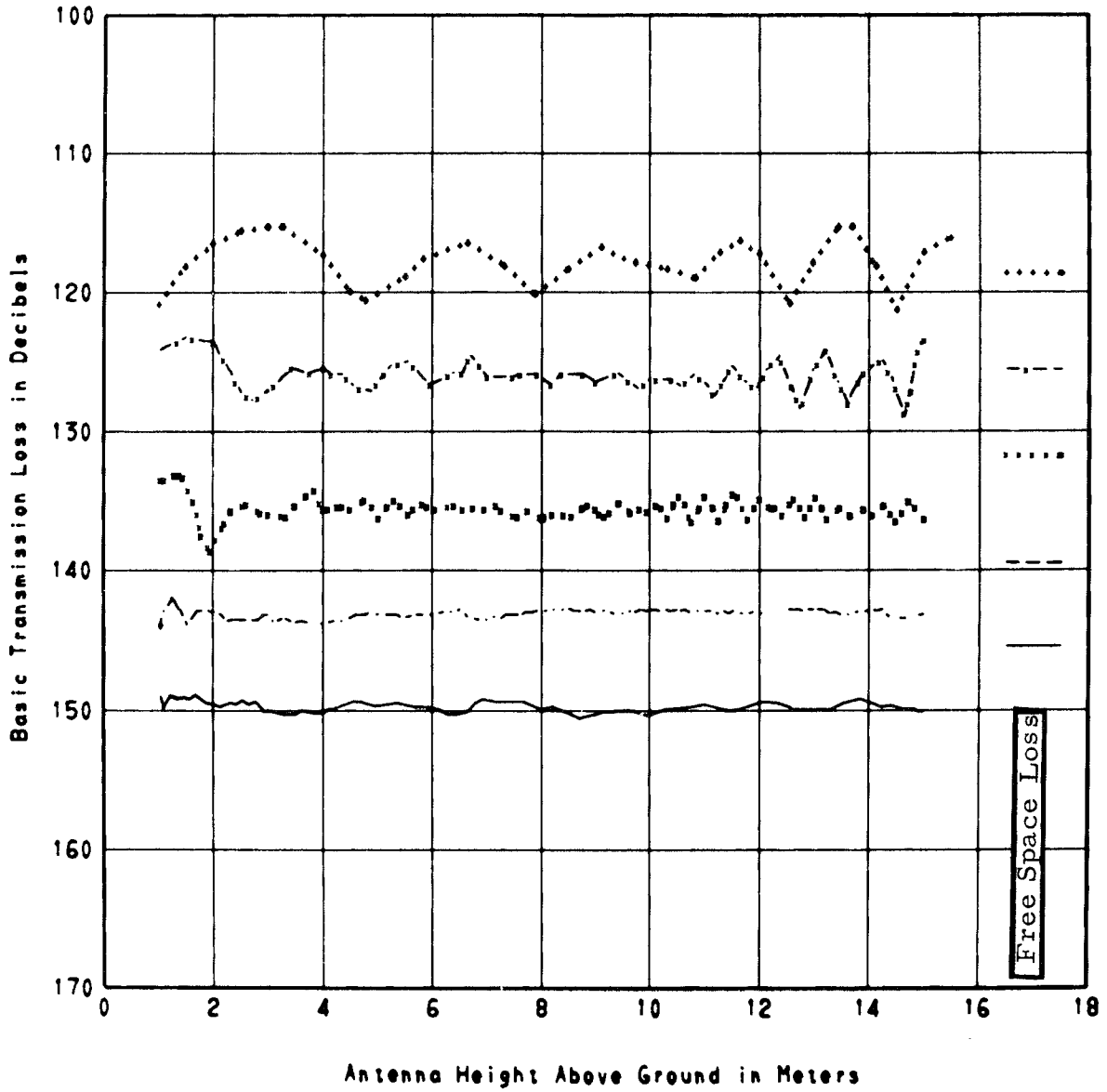
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $109^{\circ} 55' 43''$ T.

R3-50-T9

LOWRY BOMBING RANGE N

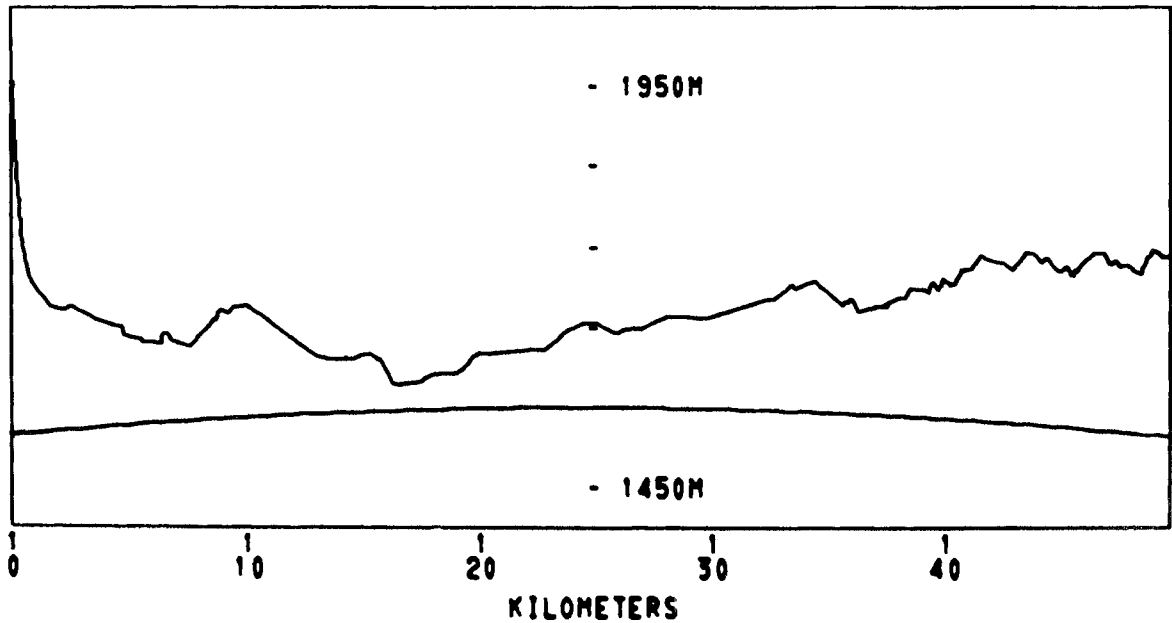
.....	410 MHZ	9/13/66
- - - -	910 MHZ	8/ 4/66
.....	1846 MHZ	
- - - -	4595 MHZ	
————	9190 MHZ	



RCVR. ELEV.
1995 M

R3-50-T9
PATH LENGTH 49.60 km

XMTR. ELEV.
1776 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-13-66 at 15 M			8-4-66 at 15 M			
50%		114.8		125.8	135.2	142.8	149.2
$\Delta 10\% - 90\%$		<3		<3	<3	<3	<3
				8-4-66 at 7.3 M			
50%				126.2	135.6	142.4	149.4
$\Delta 10\% - 90\%$				<3	<3	<3	<3
				8-4-66 at 1 M			
50%				126.6	132.9	144.8	150.2
$\Delta 10\% - 90\%$				<3	<3	<3	<3

A road and weeds occupy the immediate foreground. At 100 m, a snow fence and a telephone line cross the path. The path then crosses a valley that is covered with grass.

R3-50-T10
LOWRY BOMBING RANGE S



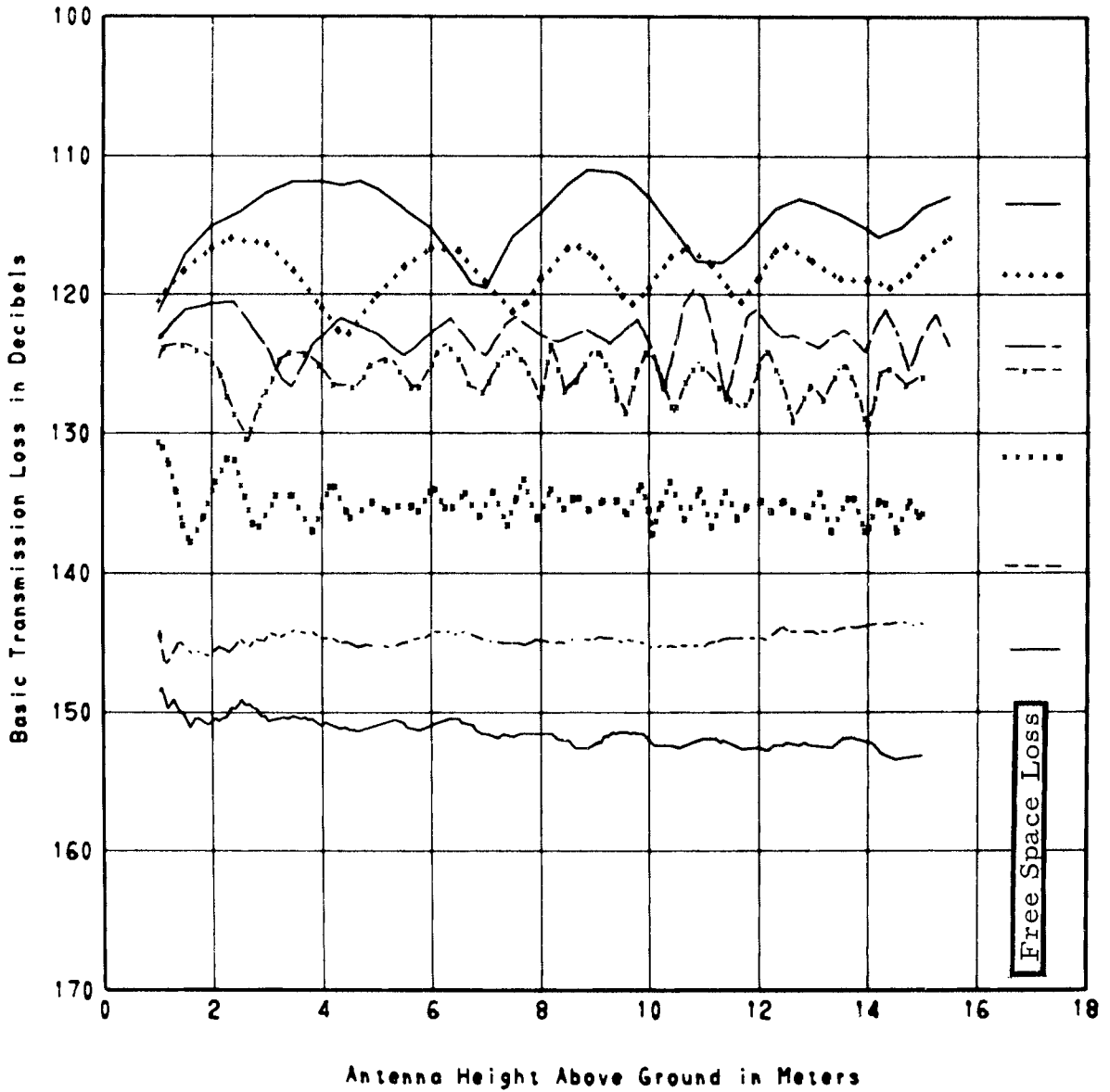
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $117^{\circ} 04' 54''$ T.

R3-50-T10

LOWRY BOMBING RANGE S

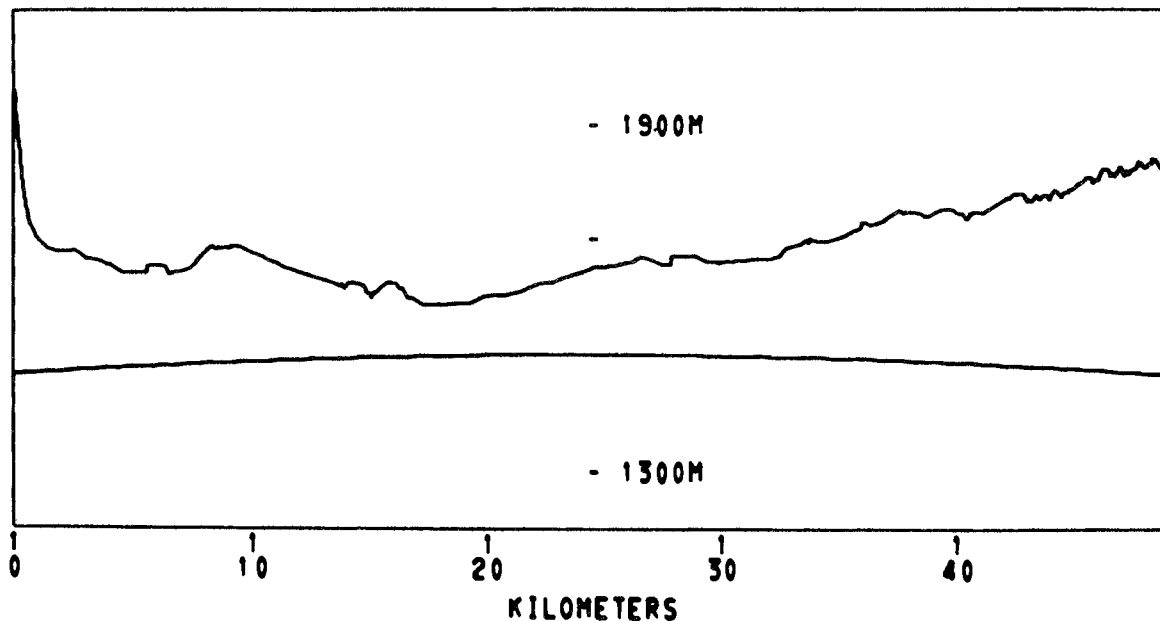
- 230 MHZ 9/13/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 8/ 4/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-50-T10
PATH LENGTH 48.92 km

XMTR. ELEV.
1875 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-13-66 at 15 M				8-4-66 at 15 M		
50%	112.6	114.3	124.5	125.6	134.7	144.9	152.0
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					8-4-66 at 7.3 M		
50%				124.9	136.3	144.1	151.2
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					8-4-66 at 1 M		
50%				124.9	131.2	141.9	148.8
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The immediate foreground is a road with a fence and a telephone line at 15 m. There is pasture land with farm buildings at 0.5 km. Just beyond the horizon (0.8 km) and to the right of the path is a microwave relay station, with power poles near the station.

R3-50-T11
PARKER S1



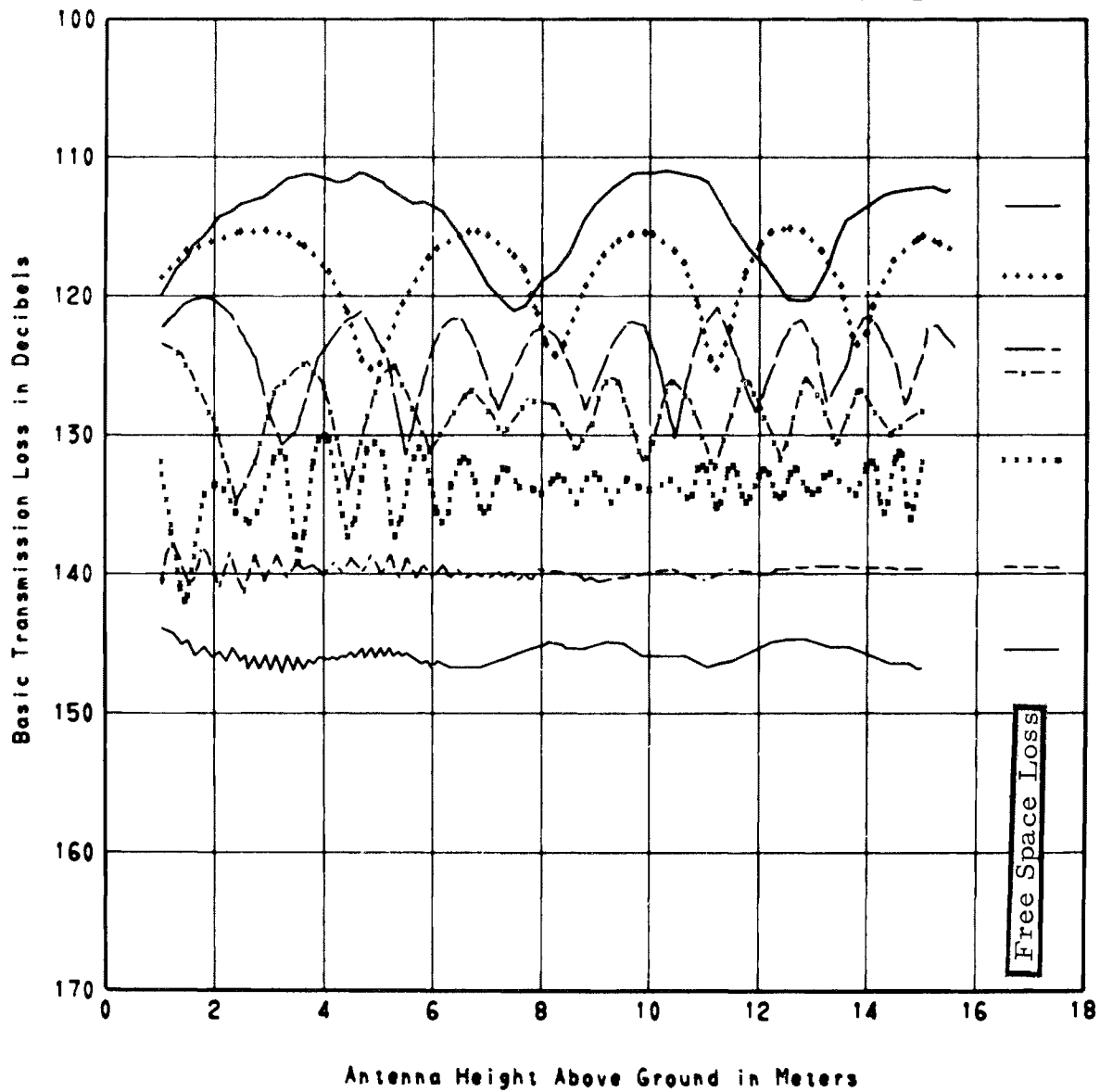
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $127^{\circ} 47' 29''$ T.

R3-50-T11

PARKER S1

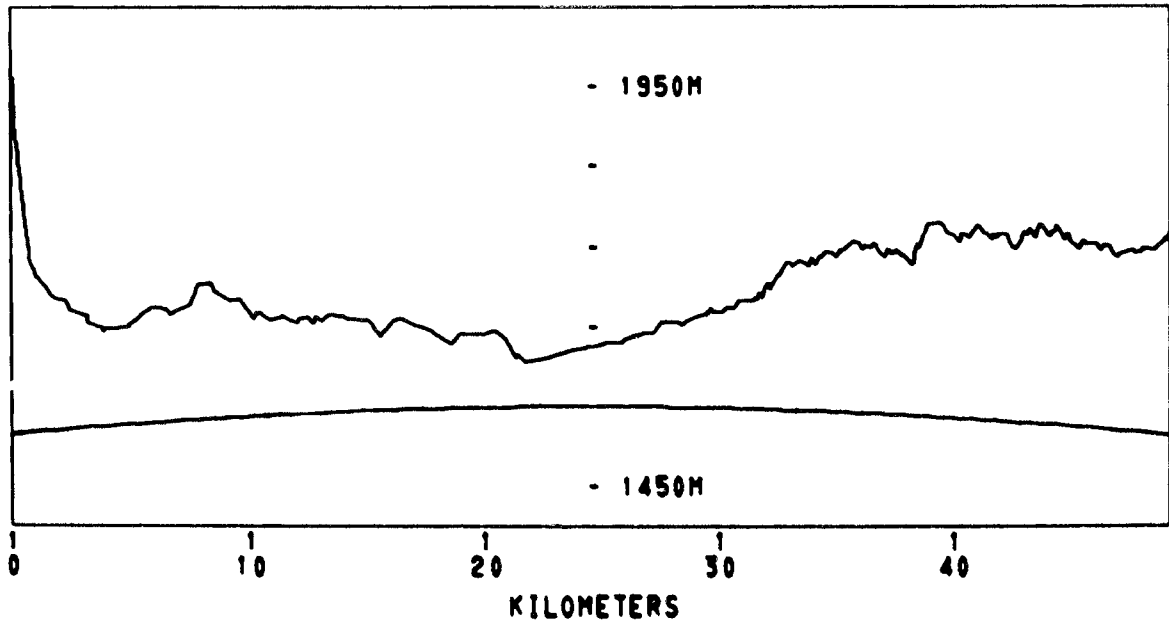
- 230 MHZ 9/12/66
- 410 MHZ
- - - 751 MHZ
- · - · 910 MHZ 8/ 3/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-50-T11
PATH LENGTH 49.15 km

XMTR. ELEV.
1804 M

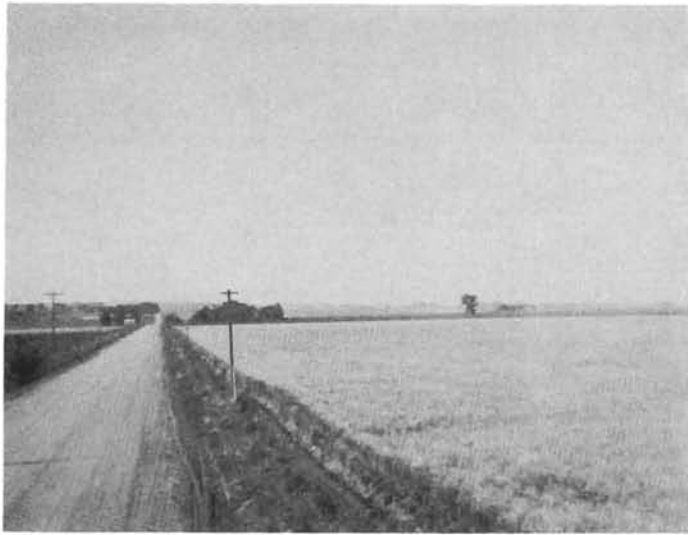


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-12-66 at 15 M				8-3-66 at 15 M		
50%	112.8	118.9	122.5	128.0	133.1	139.6	145.6
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					8-3-66 at 7.3 M		
50%				129.8	132.1	138.8	144.6
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					8-3-66 at 1 M		
50%				124.0	131.3	140.1	144.0
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The site is located on a gravel road. Wild grass covers the path for 400 m. Then, the path is crossed by a highway, and power and telephone lines. There are metal buildings and nursery buildings at 500 m. There is low grass for the next 1.6 km, and then a stream and a row of 20-m high trees.

R3-55-T1
ISH RESERVOIR NE2



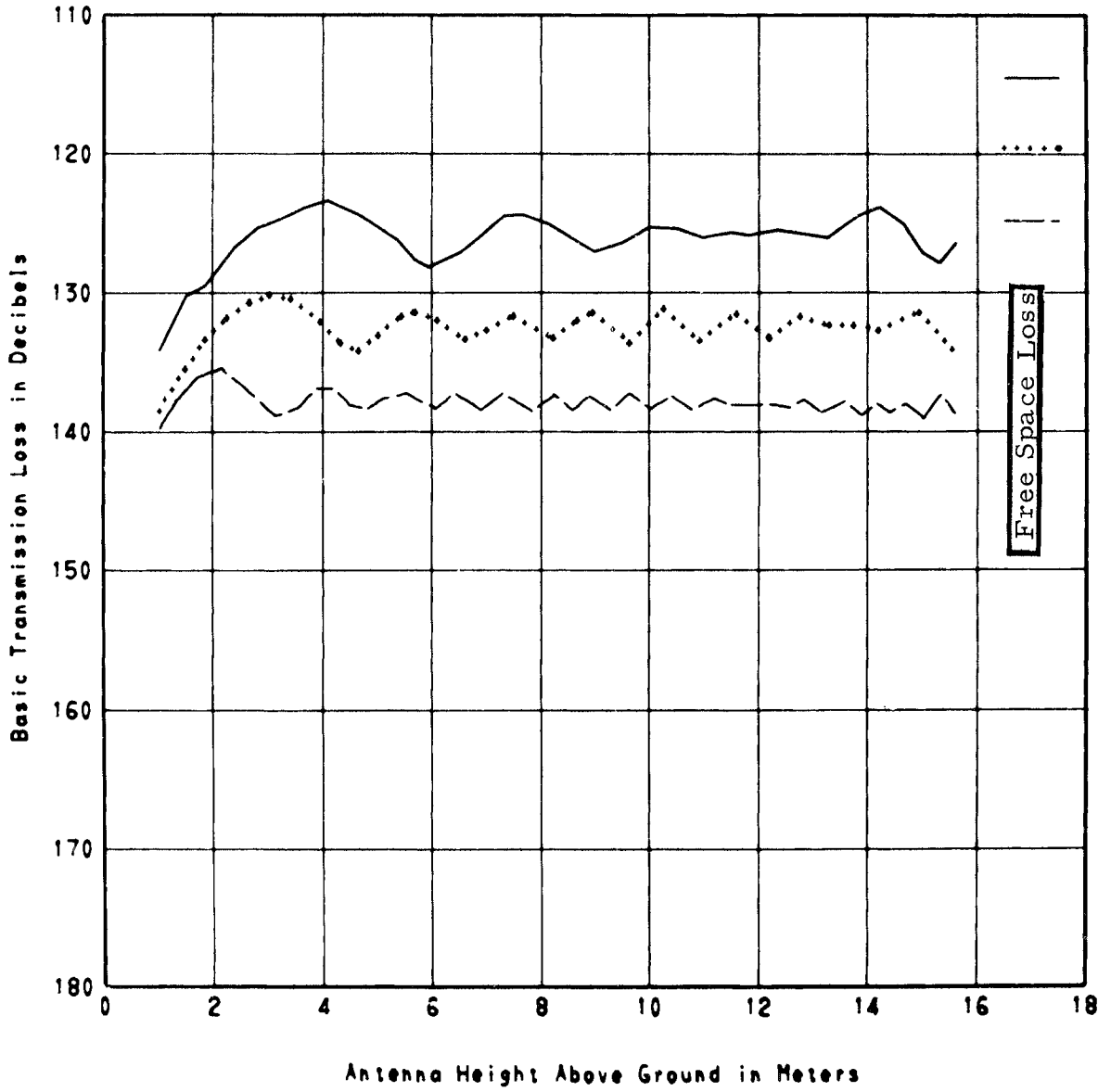
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $12^{\circ} 52' 08''$ T.

R3-55-T1

ISH RESERVOIR NE2

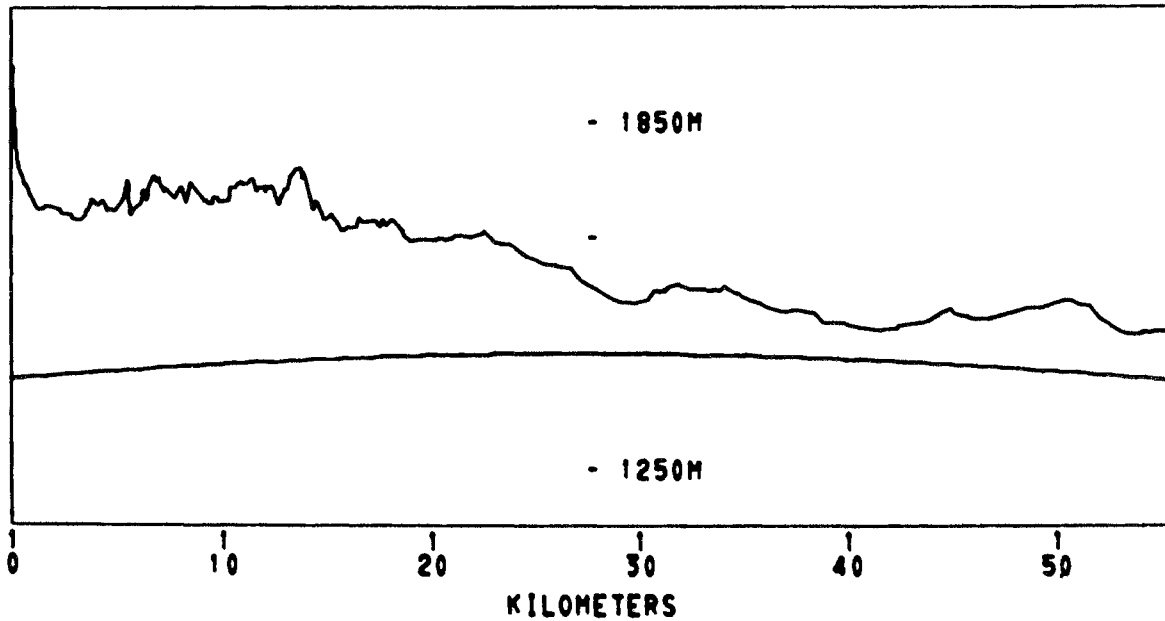
— 230 MHZ 10/ 4/66
..... 410 MHZ
- - - 751 MHZ



RCVR. ELEV.
1995 M

R3-55-T1
PATH LENGTH 55.23 km

XMTR. ELEV.
1533 M

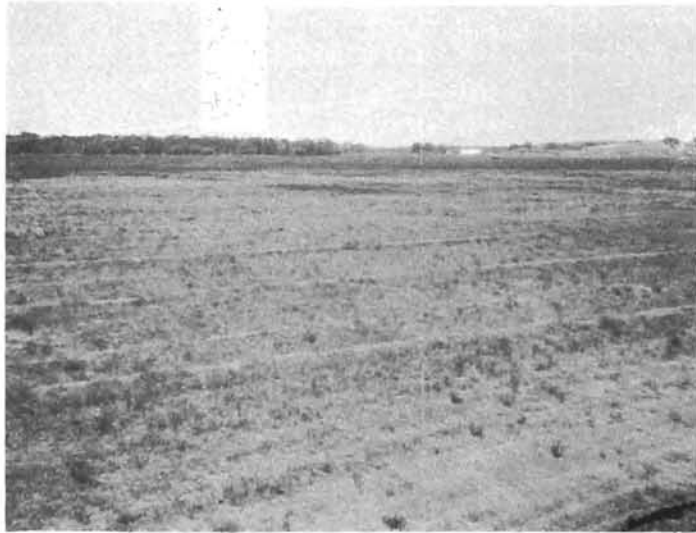


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
10-4-66 at 15 M							
50%	128.1	134.3	138.2				
$\Delta 10\% - 90\%$	< 3	< 3	< 3				

The path extends over a wheat field for 2.4 km. A telephone line crosses the path at 65 m.

R3-60-T2 OPEN AND CONCEALED
MILLIKEN E2



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $28^{\circ} 52' 39''$ T.



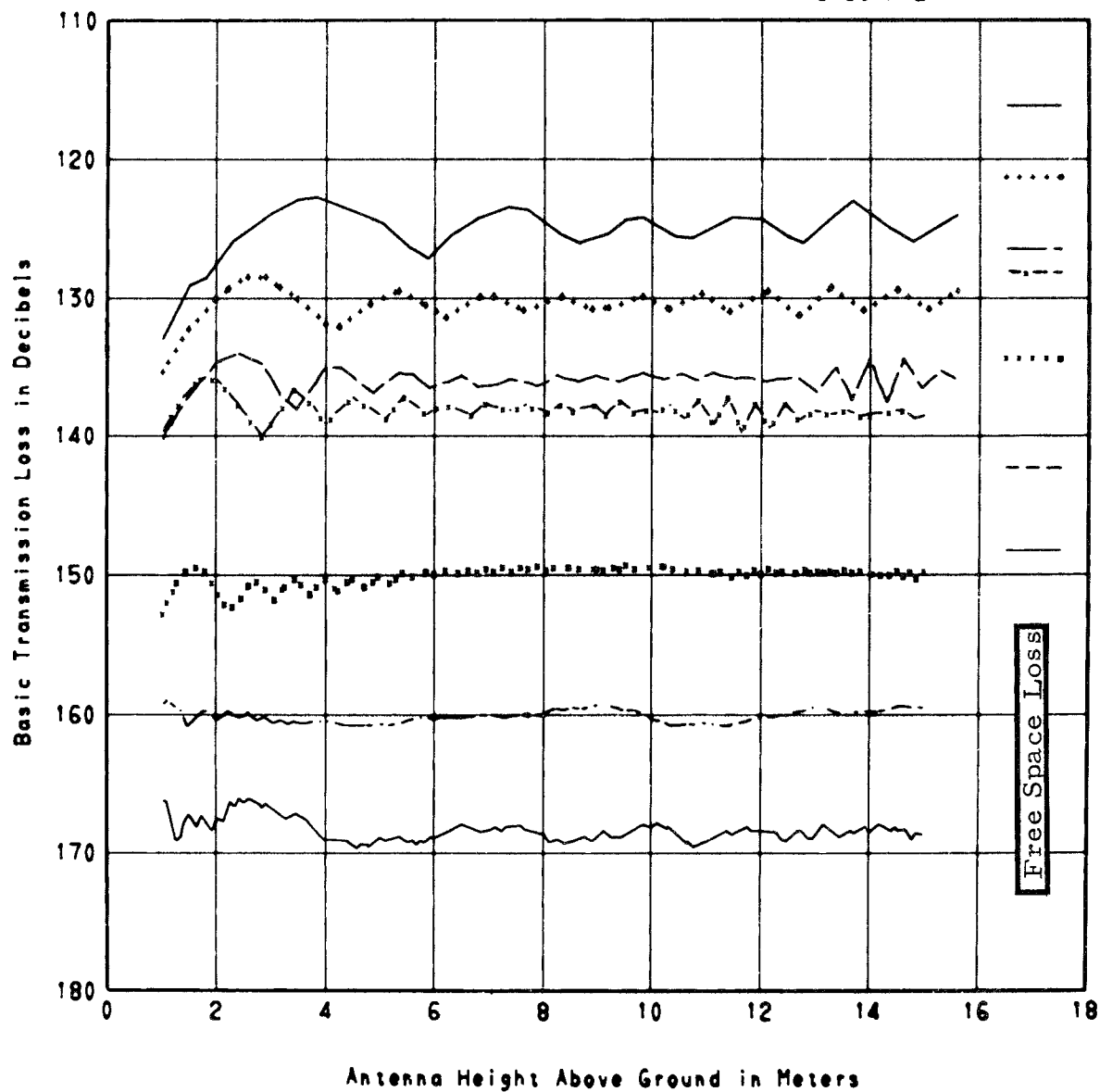
PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $29^{\circ} 00' 24''$ T.

R3-60-T2 OPEN

MILLIKEN E2

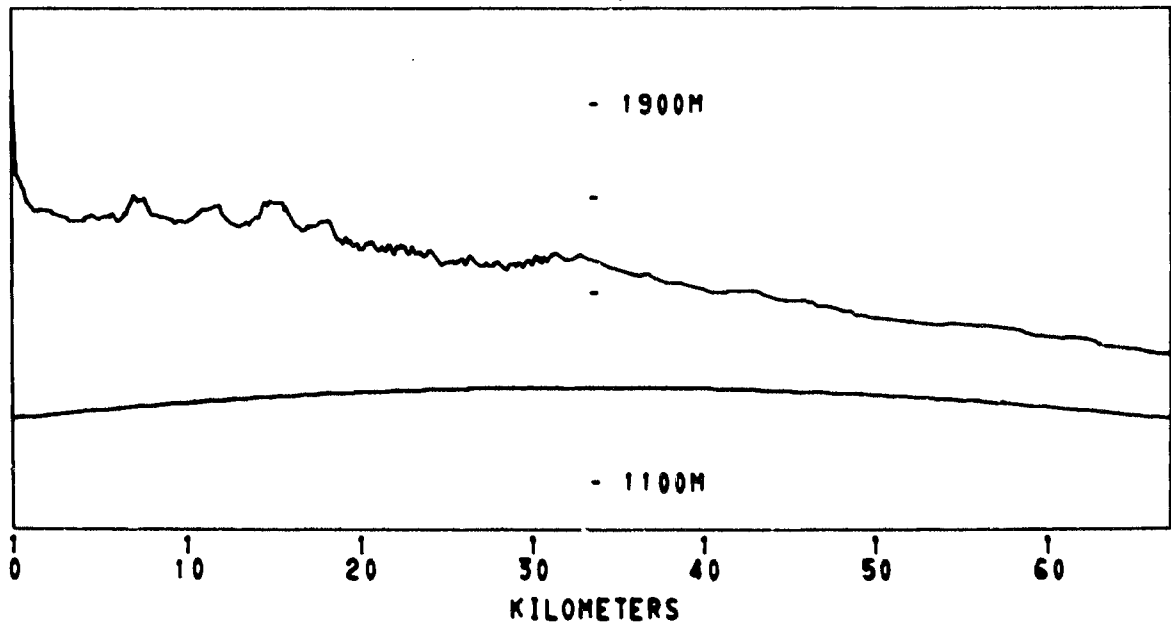
- 230 MHZ 10/ 5/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 7/13/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-60-T2 OPEN
PATH LENGTH 67.05 km

XMTR. ELEV.
1436 M



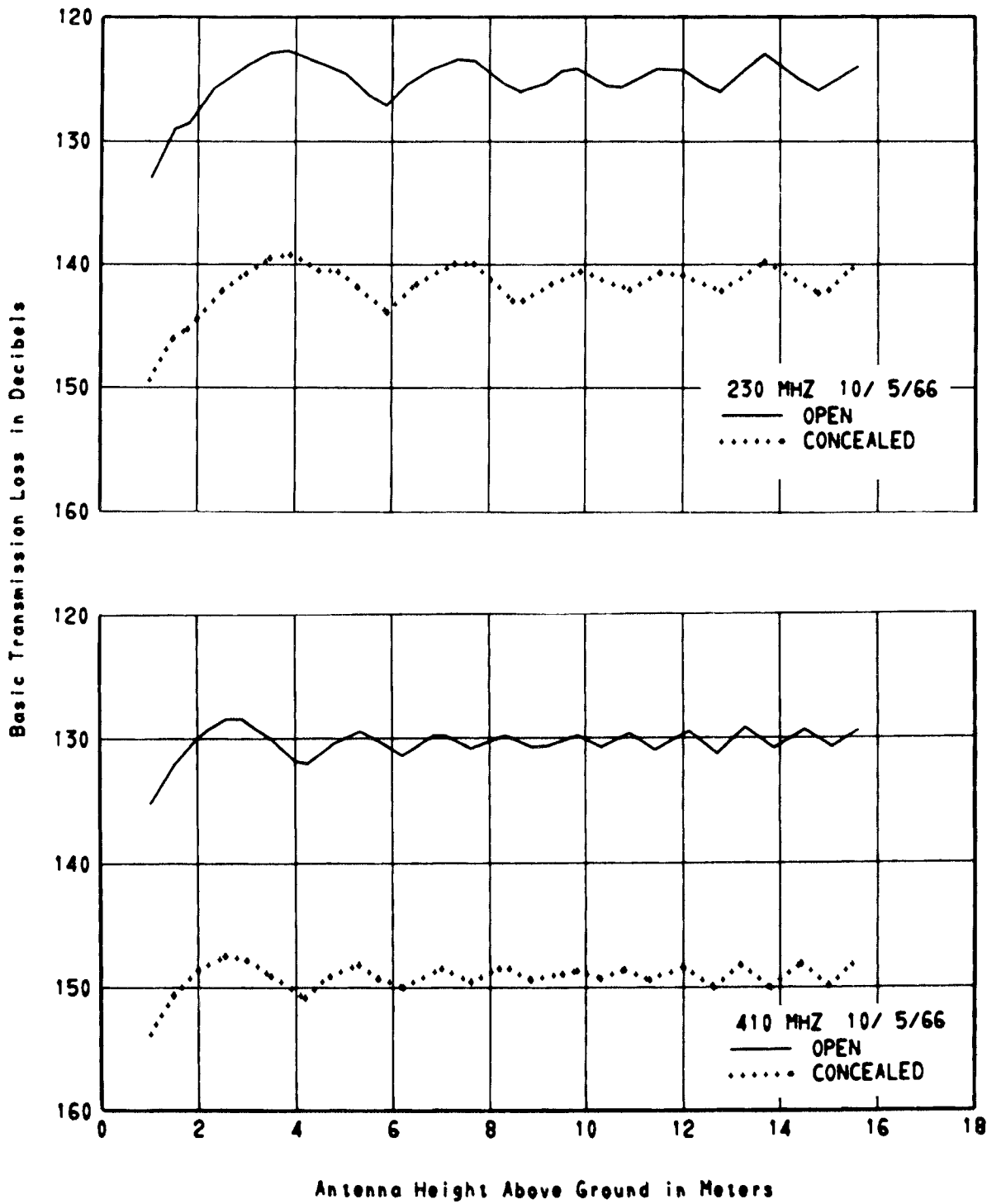
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-5-66 at 15 M				7-13-66 at 15 M		
50%	123.6	129.6	136.4	138.5	150.1	159.8	168.9
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					7-13-66 at 7.3 M		
50%				137.5	150.8	160.0	169.1
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					7-13-66 at 1 M		
50%				140.0	150.8	158.8	166.1
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

A semi-dry field occupies the first 0.8 km of the path. Then there is a large barn with a metal roof. The 17-m high trees behind the barn extend to the horizon.

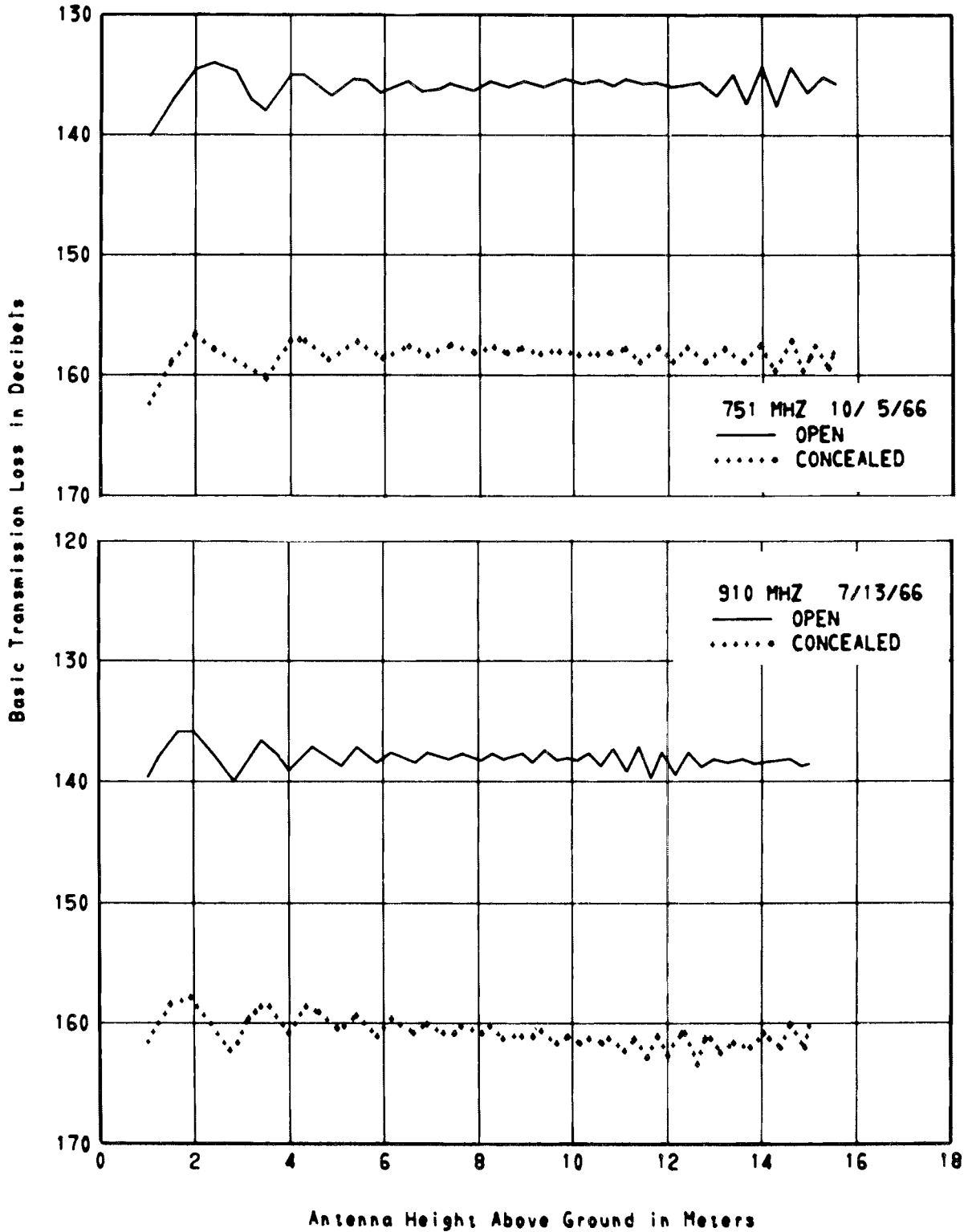
R3-60-T2 O&C

MILLIKEN E2



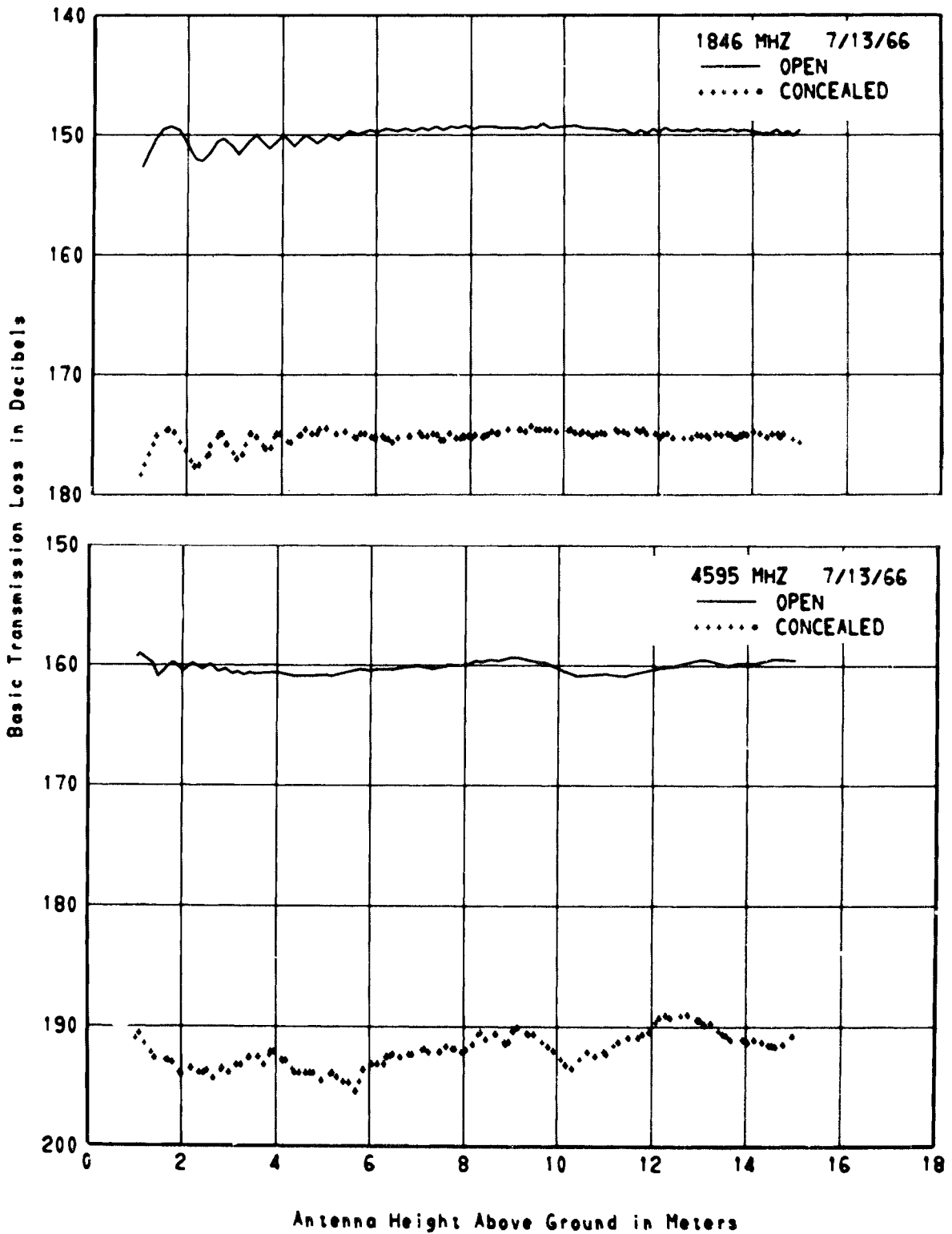
R3-60-T2 O&C

MILLIKEN E2



R3-60-T2 O&C

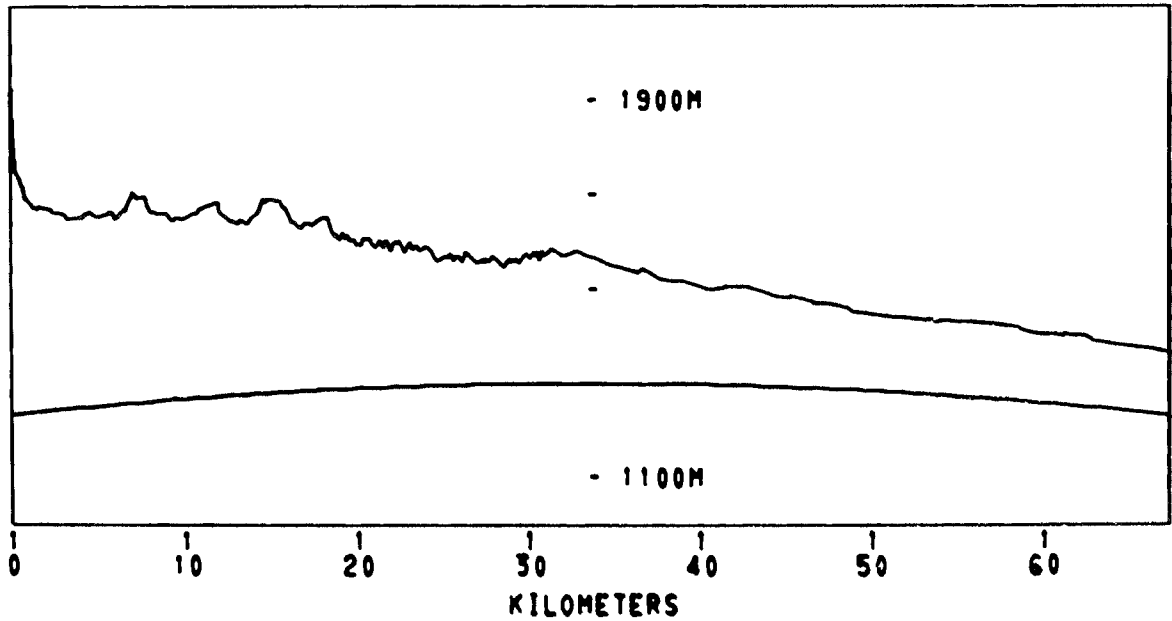
MILLIKEN E2



RCVR. ELEV.
1995 M

R3-60-T2 CONCEALED
PATH LENGTH 67.27 km

XMTR. ELEV.
1435 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	10-5-66 at 15 M			7-13-66 at 15 M			
50%	139.9	148.1	159.9	162.5	174.7	193.0	
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	8.5	
				7-13-66 at 7.3 M			
50%				162.2	176.1	193.3	
$\Delta 10\% - 90\%$				< 3	< 3	11.6	
				7-13-66 at 1 M			
50%				164.2	176.3	190.5	
$\Delta 10\% - 90\%$				< 3	< 3	6.0	

The immediate foreground of the path is covered by dense, 17-m high trees.

R3-80-T1
LOVELAND N4



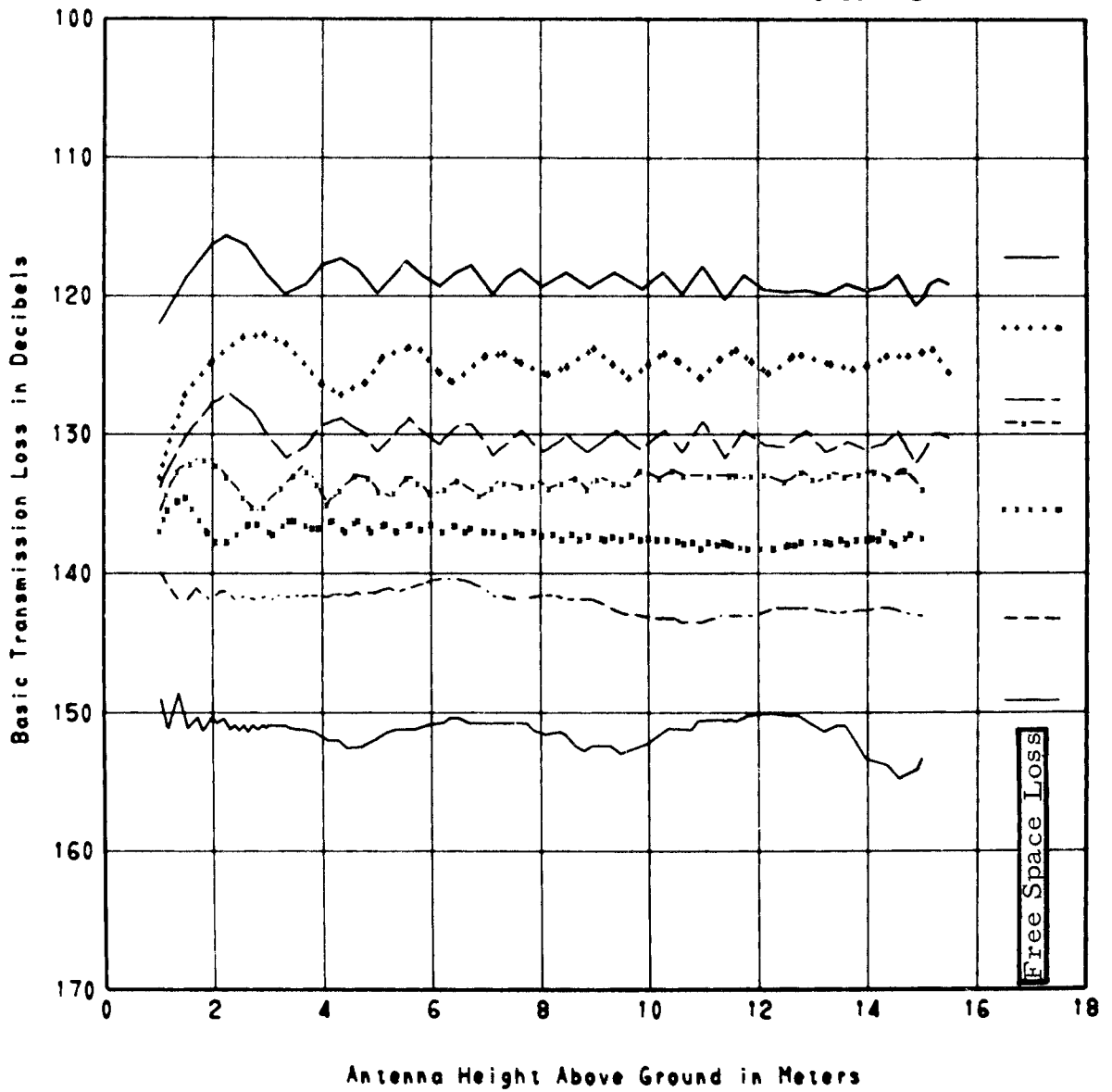
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $05^{\circ} 26' 40''$ T.

R3-80-T1

LOVELAND N4

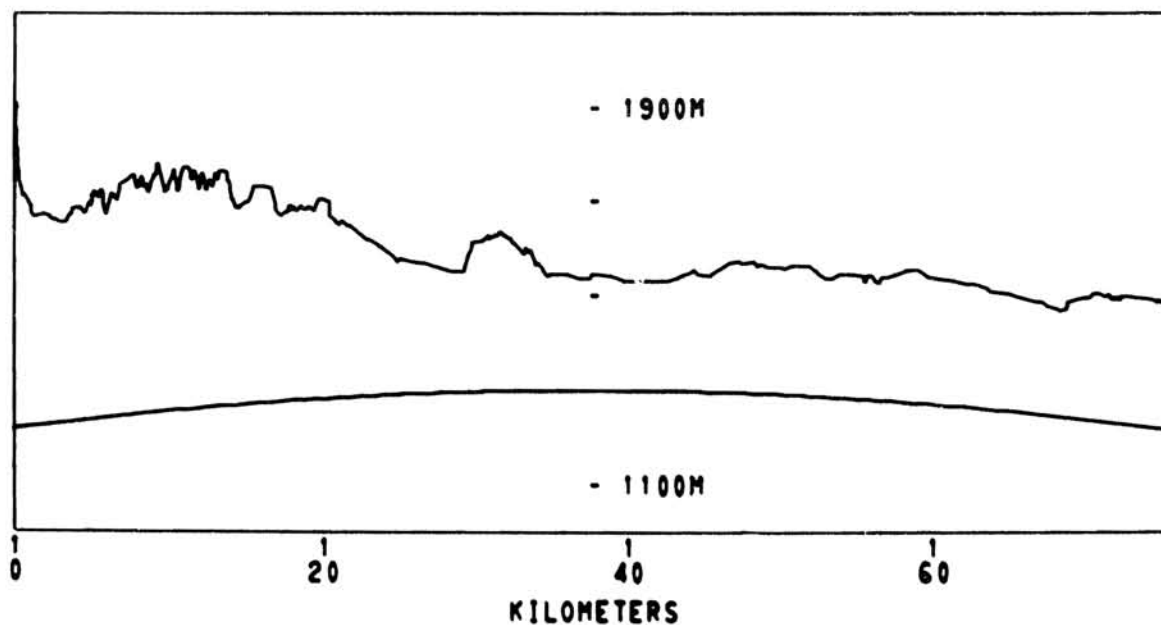
- 230 MHZ 9/29/66
- 410 MHZ
- 751 MHZ
- - - 910 MHZ 7/12/66
- 1846 MHZ
- - - 4595 MHZ
- 9190 MHZ



RCVR. ELEV.
1995 M

R3-80-T1
PATH LENGTH 75.82 km

XMTR. ELEV.
1576 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-29-66 at 15 M				7-12-66 at 15 M		
50%	117.2	125.2	131.4	133.6	136.5	142.1	150.9
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					7-12-66 at 7.3 M		
50%				134.5	136.9	140.9	151.5
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					7-12-66 at 1 M		
50%				137.2	135.7	140.4	152.5
$\Delta 10\% - 90\%$				< 3	< 3	< 3	3.6

The path extends over wheat and plowed fields for 3.2 km.
There is a fence in the immediate foreground. There are a few trees
at 3.2 km.

R3-80-T2 OPEN AND CONCEALED
FOSSIL CREEK RESERVOIR



PATH VIEW FROM OPEN SITE

Bearing from common receiver site to transmitter site is
 $12^{\circ} 41' 11''$ T.



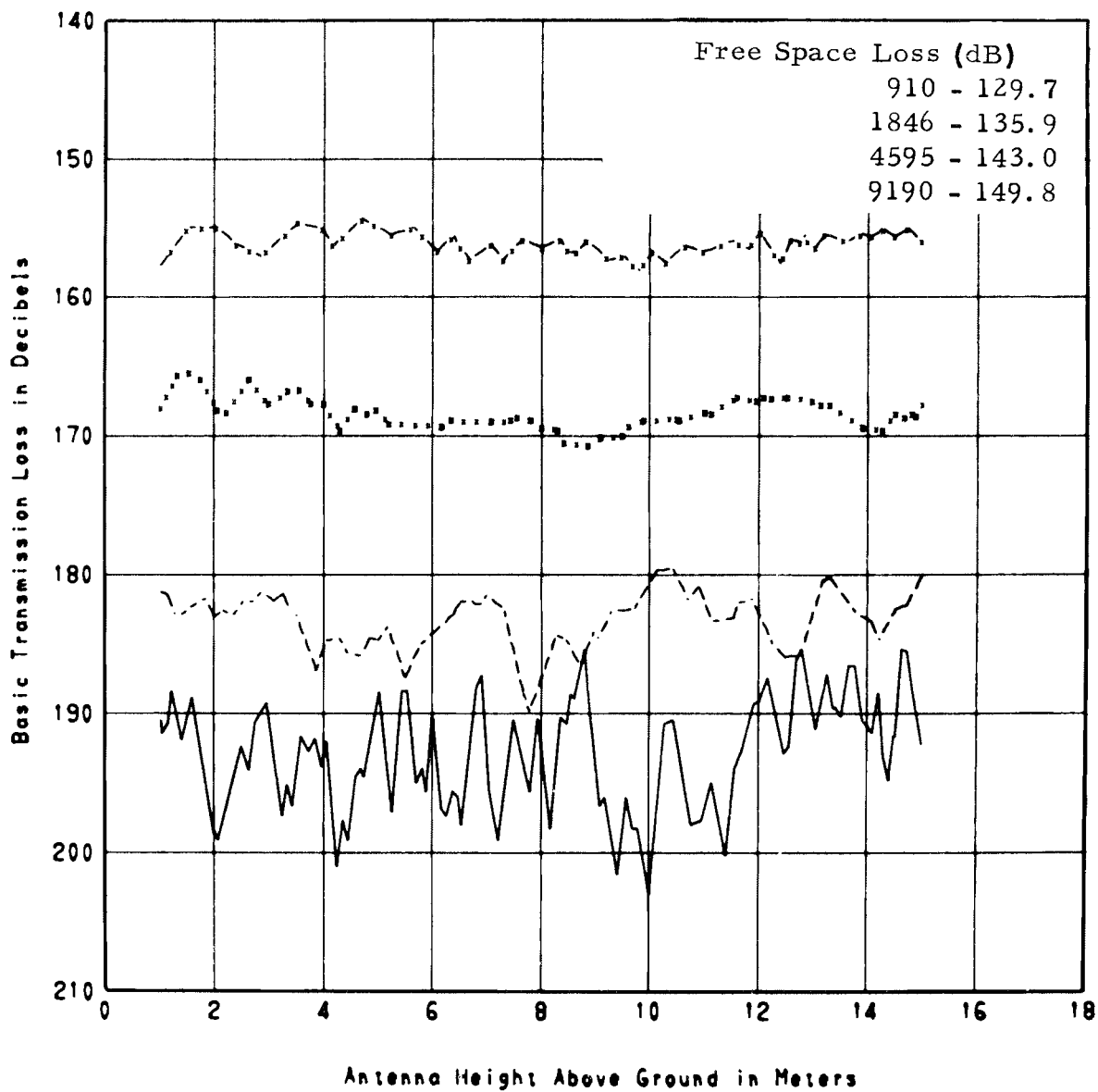
PATH VIEW FROM CONCEALED SITE

Bearing from common receiver site to transmitter site is
 $12^{\circ} 39' 01''$ T.

R3-80-T2 OPEN

FOSSIL CREEK RESERVOIR

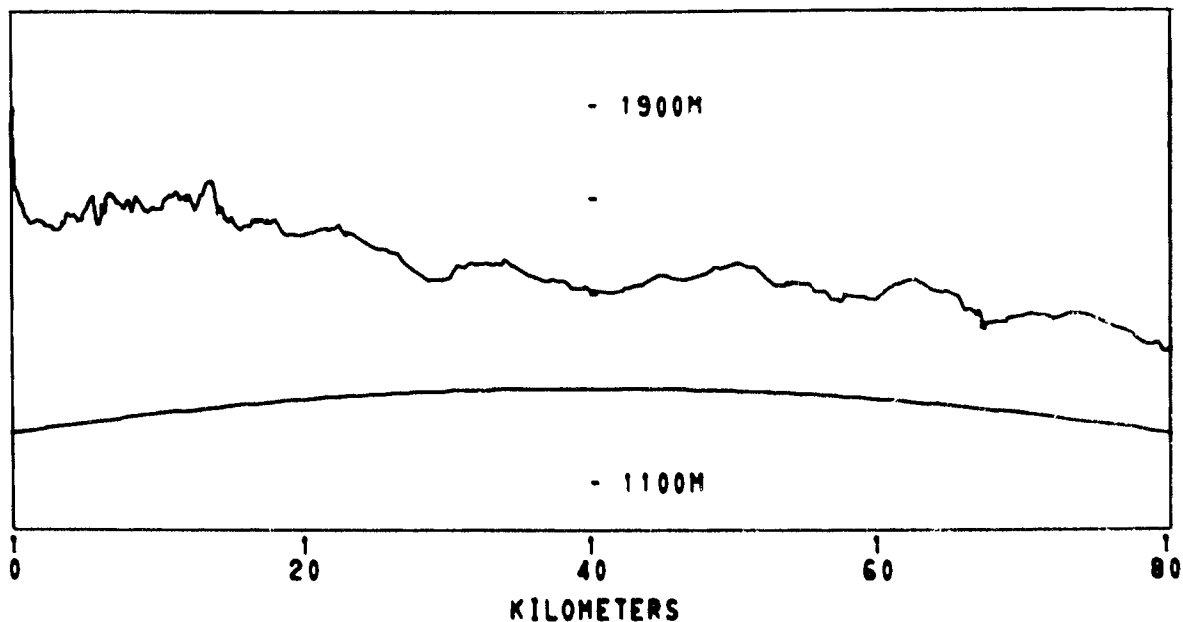
--- 910 MHZ 7/13/66
..... 1846 MHZ
- - - 4595 MHZ
— 9190 MHZ



RCVR. ELEV.
1995 M

R3-80-T2 OPEN
PATH LENGTH 80.27 km

XMTR. ELEV.
1481 M



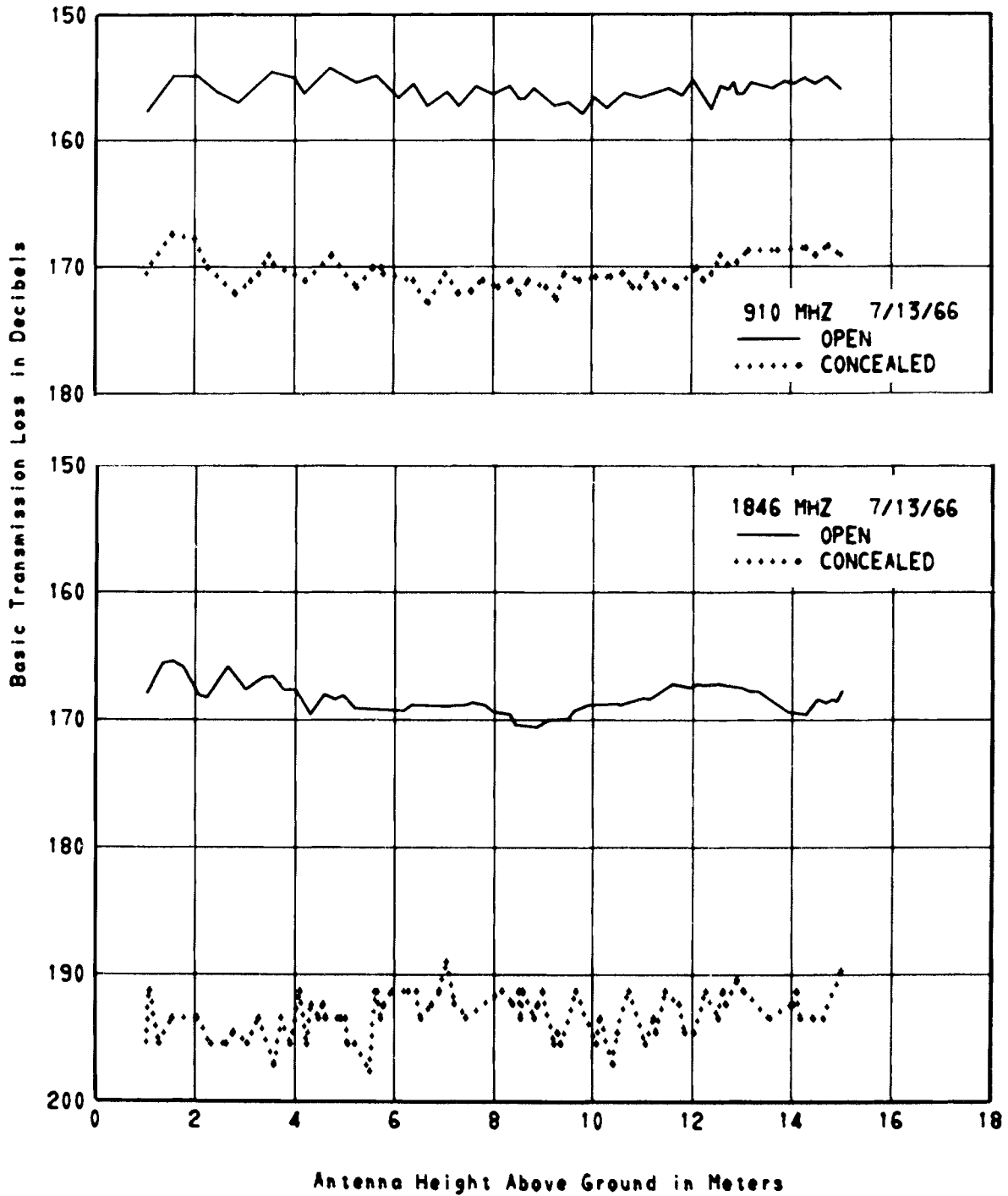
L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
					7-13-66 at 15 M		
50%				155.3	167.1	182.1	190.2
$\Delta 10\% - 90\%$				< 3	< 3	4.6	7.8
					7-13-66 at 7.3 M		
50%				156.6	168.3	183.0	190.5
$\Delta 10\% - 90\%$				< 3	< 3	4.6	8.0
					7-13-66 at 1 M		
50%				158.0	167.5	181.1	192.6
$\Delta 10\% - 90\%$				< 3	< 3	5.0	8.6

At 100 m, there is a 10-m high tree to the left of the path. On the right of the path is a dam, which is 5 m high. Plowed fields and scattered trees extend beyond this to the horizon.

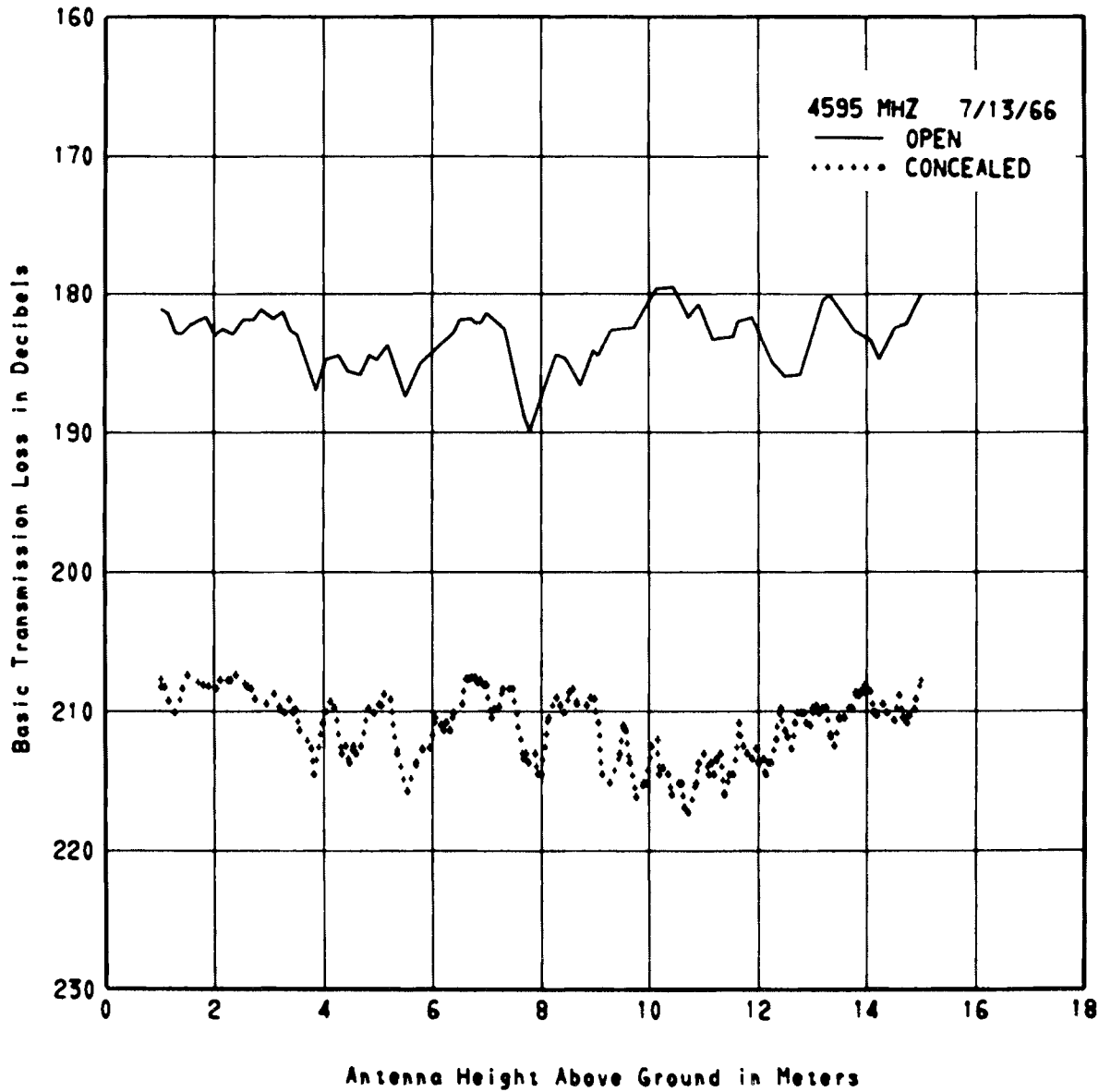
R3-80-T2 O&C

FOSSIL CREEK RESERVOIR



R3-80-T2 O&C

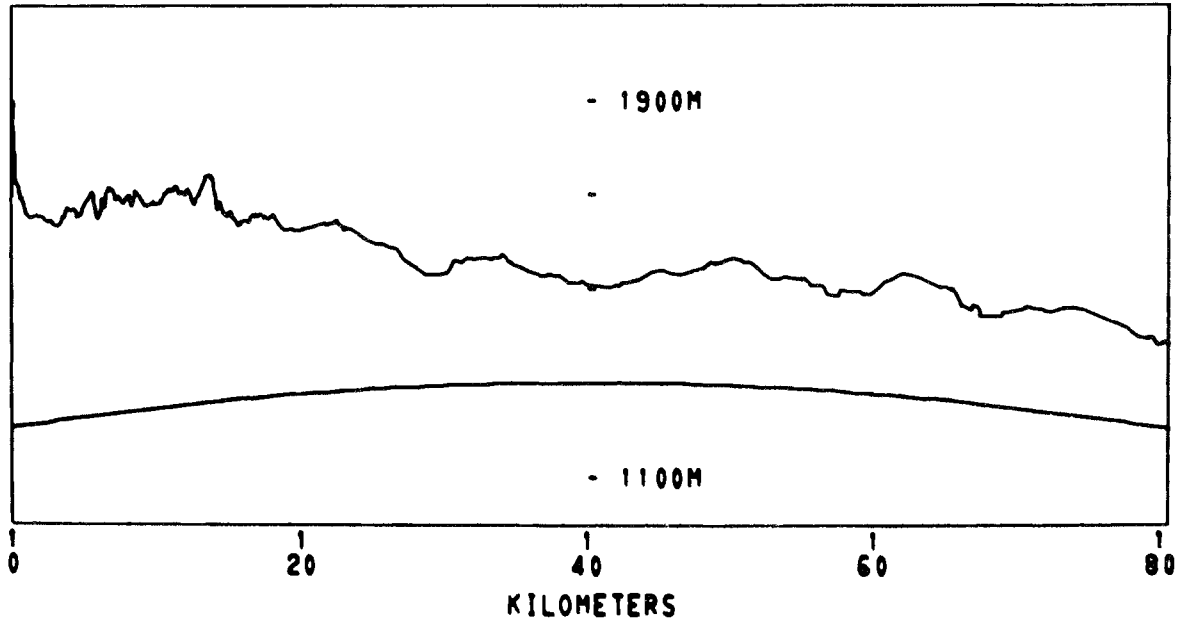
FOSSIL CREEK RESERVOIR



RCVR. ELEV.
1995 M

R3-80-T2 CONCEALED
PATH LENGTH 80.50 km

XMTR. ELEV.
1480 M

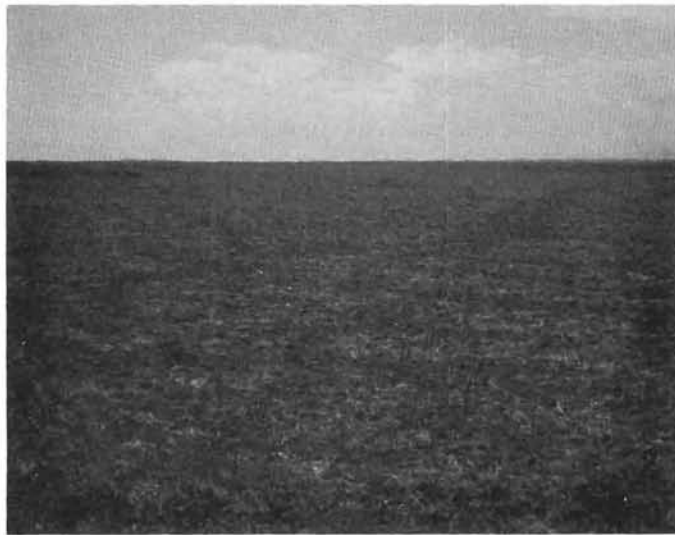


L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	7-13-66 at 15 M						
50%				170.8	188.3	208.7	
$\Delta 10\% - 90\%$				3.4	< 3	7.2	
	7-13-66 at 7.3 M						
50%				171.9	189.3	206.2	
$\Delta 10\% - 90\%$				< 3	< 3	6.8	
	7-13-66 at 1 M						
50%				170.5	193.3	207.8	
$\Delta 10\% - 90\%$				< 3	< 3	9.4	

Marsh lands and 15-m high trees extend for 70 m to a 5-m high bank at the edge of a lake. The path crosses the lake for 0.80 km.

R3-80-T3
WINDSOR SE3

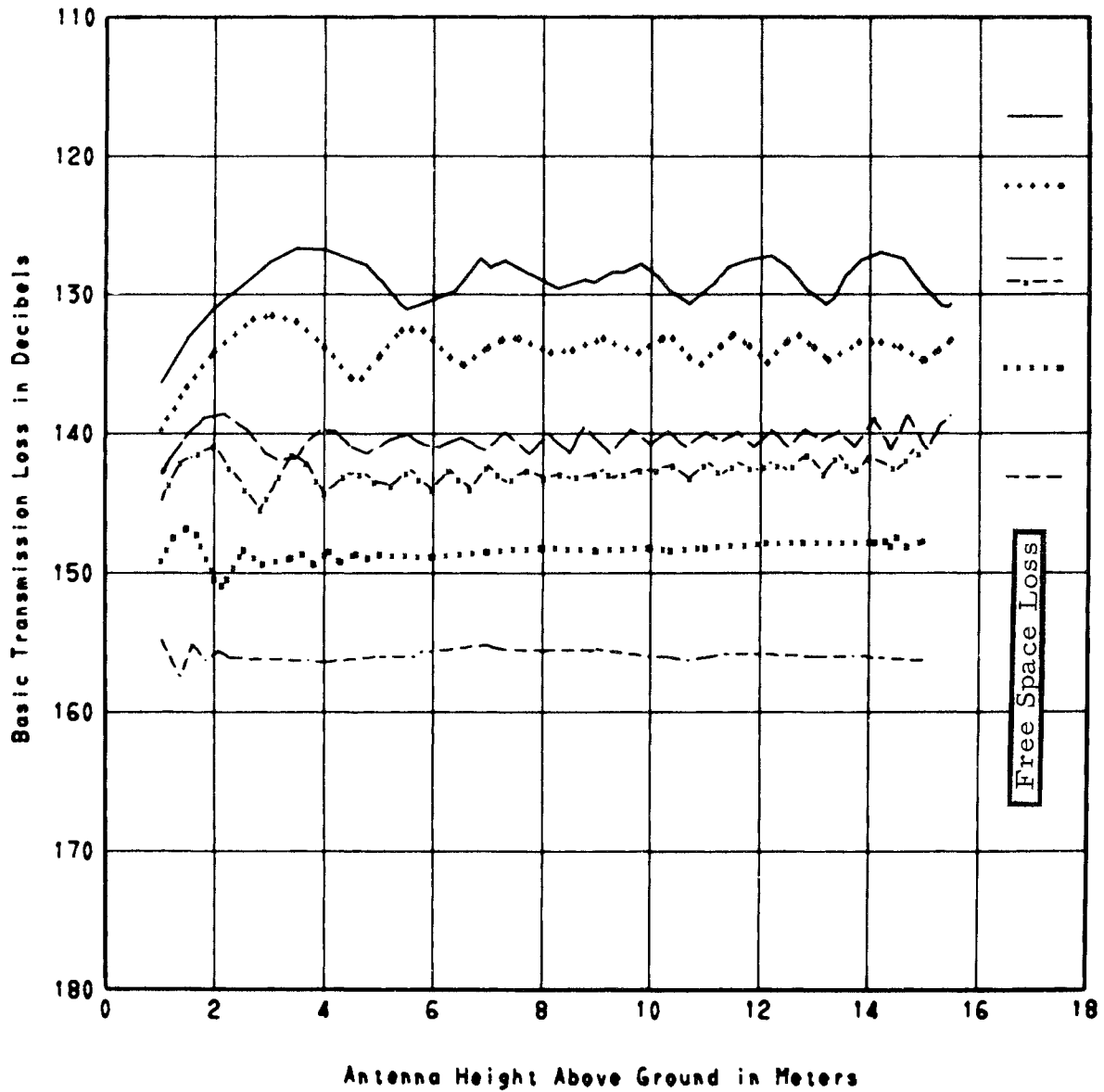


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $15^{\circ} 14' 13''$ T.

R3-80-T3
 WINDSOR SE3

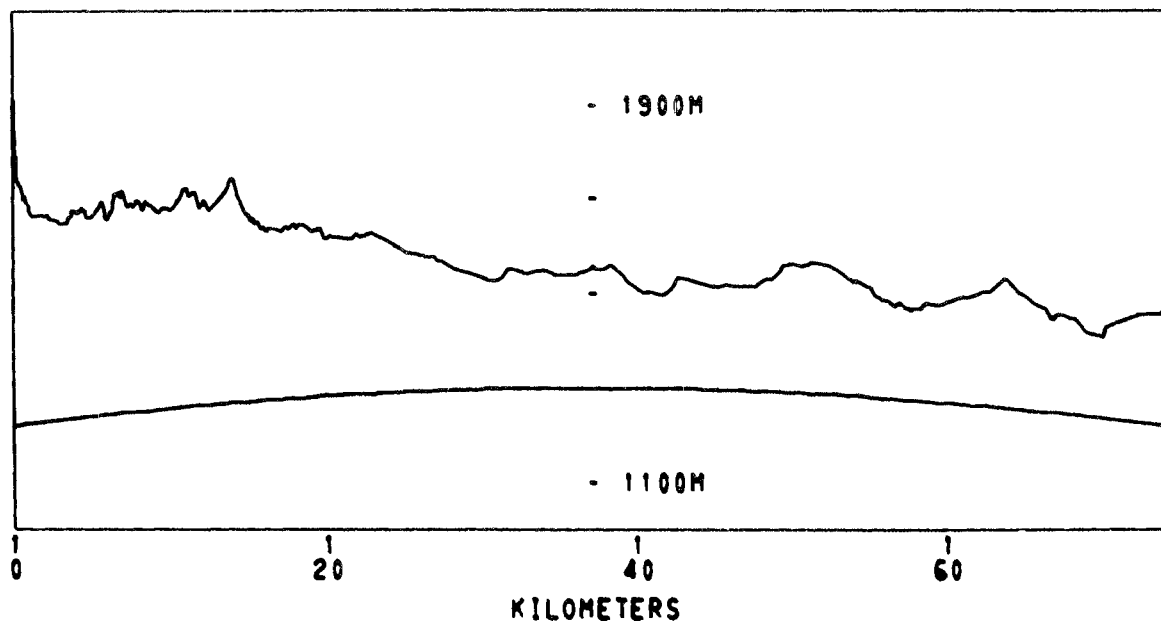
—	230 MHZ	9/29/66
.....	410 MHZ	
—	751 MHZ	
-.-.-	910 MHZ	7/12/66
.....	1846 MHZ	
- - - -	4595 MHZ	



RCVR. ELEV.
1995 M

R3-80-T3
PATH LENGTH 74.26 km

XMTR. ELEV.
1540 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-29-66 at 15 M				7-12-66 at 15 M		
50%	130.5	132.5	138.2	141.5	147.2	157.1	
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	
					7-12-66 at 7.3 M		
50%				142.8	147.4	154.2	
$\Delta 10\% - 90\%$				< 3	< 3	< 3	
					7-12-66 at 1 M		
50%				145.3	148.7	153.6	
$\Delta 10\% - 90\%$				< 3	< 3	< 3	

The first 19 km of the path is dry and bare land. Then there are a few trees. A highway crosses the path at 8 km.

R3-80-T5
LOWER LATHAM RESERVOIR E1



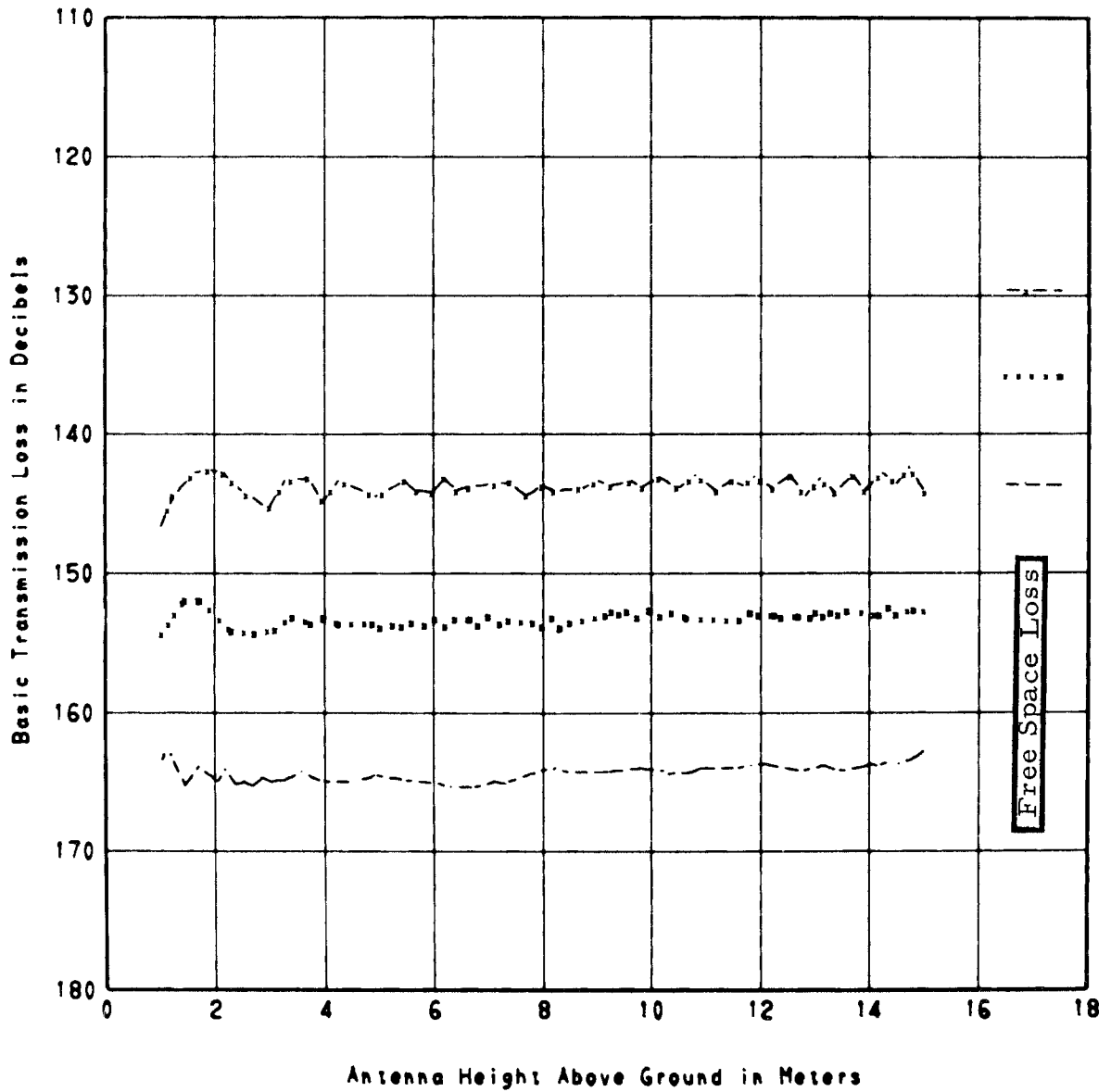
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $38^{\circ} 29' 26''$ T.

R3-80-T5

910 MHZ 7/11/66
1846 MHZ
4595 MHZ

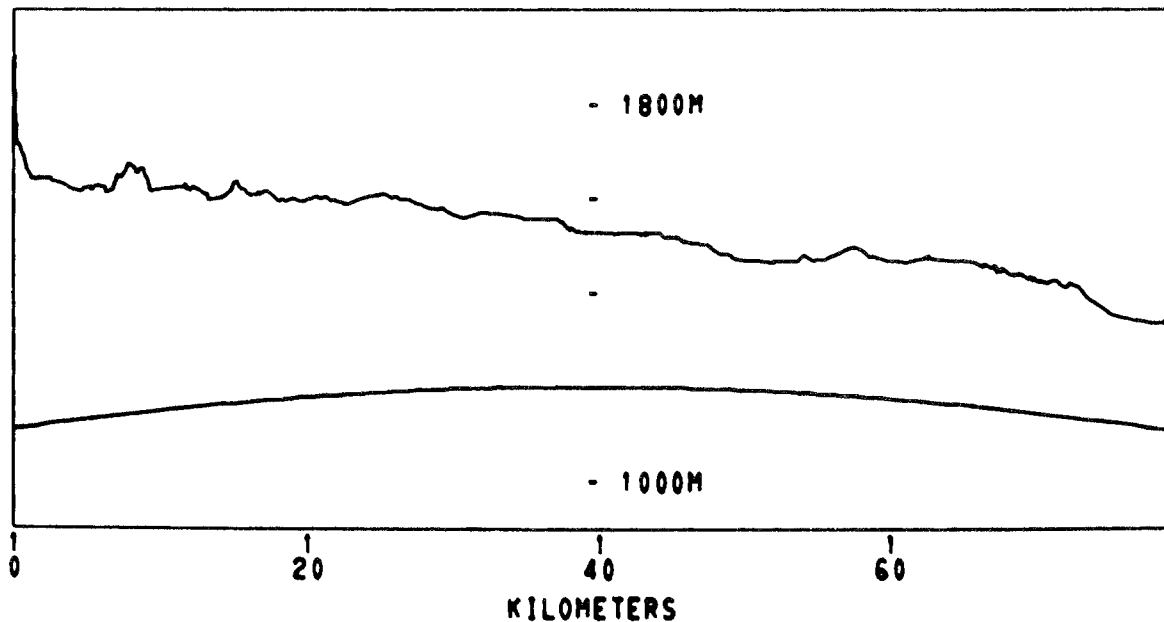
LOWER LATHAM RESERVOIR E1



RCVR. ELEV.
1995 M

R3-80-T5
PATH LENGTH 78.86 km

XMTR. ELEV.
1442 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	7-11-66 at 15 M						
50%				144.4	151.3	164.6	
$\Delta 10\% - 90\%$				< 3	< 3	< 3	
	7-11-66 at 7.3 M						
50%				143.6	152.2	165.5	
$\Delta 10\% - 90\%$				< 3	< 3	< 3	
	7-11-66 at 1 M						
50%				147.5	152.5	163.8	
$\Delta 10\% - 90\%$				< 3	< 3	4.0	

The path extends over dry, wheat stubble for 8 km. There are 15-m high trees at 0.8 km.

R3-80-T6
ERICKSON RESERVOIR NE2



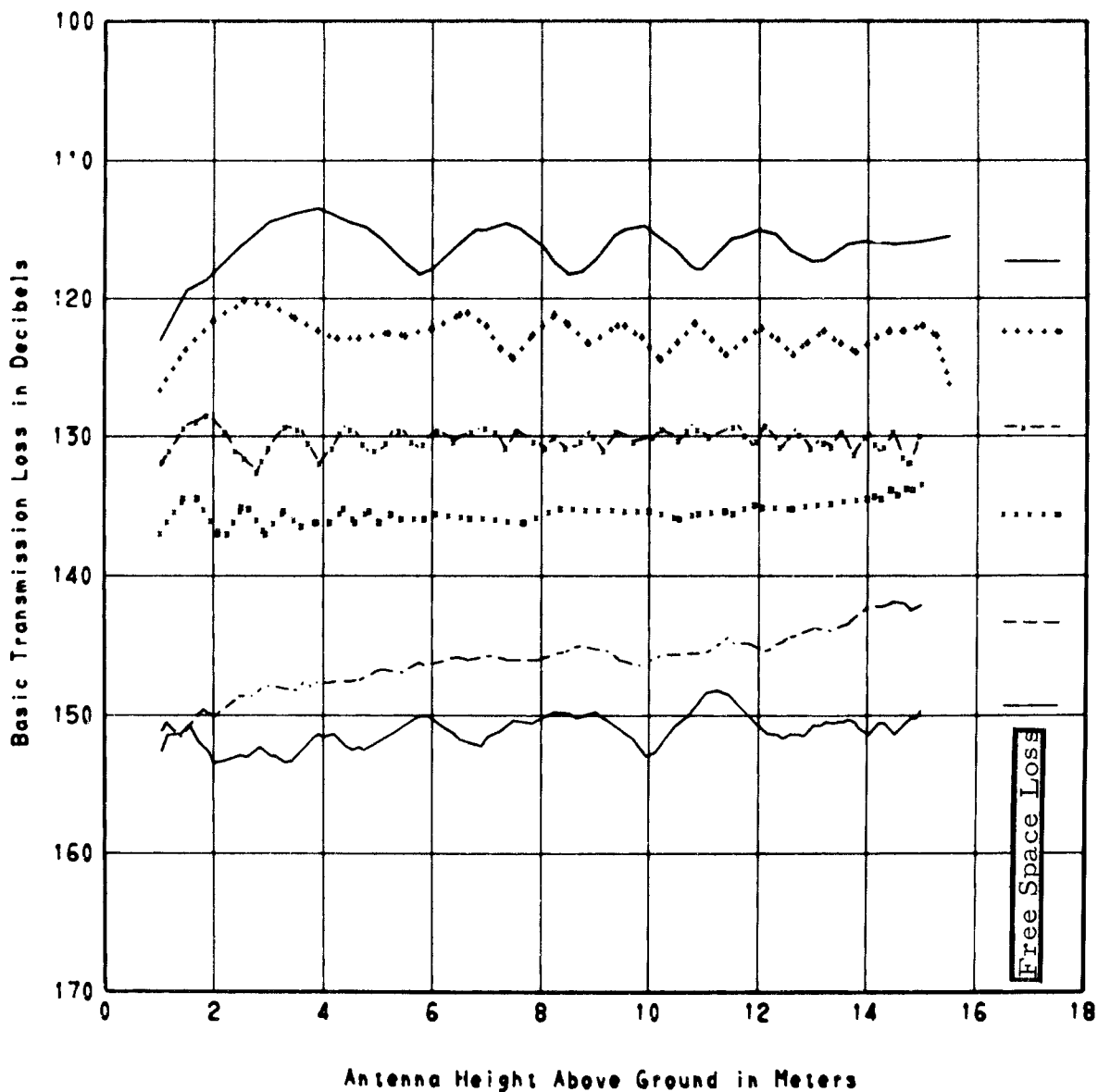
PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $29^{\circ} 30' 10''$ T.

R3-80-T6

ERICKSON RESERVOIR NNE2

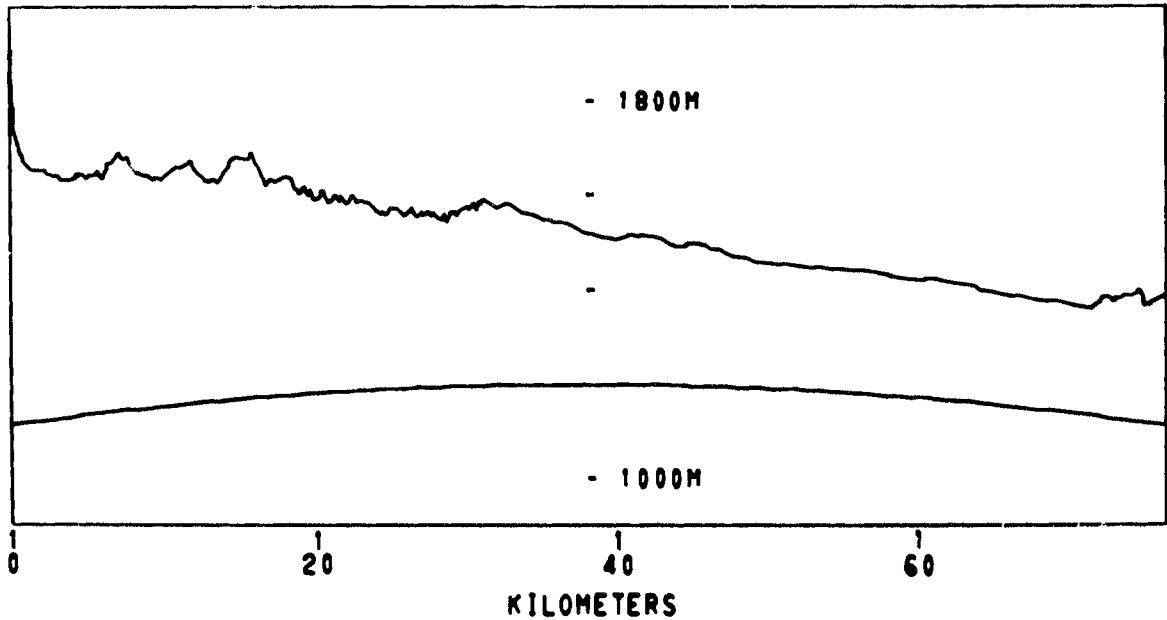
—	230 MHz	9/29/66
.....	410 MHz	
- - - -	910 MHz	7/12/66
.....	1846 MHz	
- - - -	4595 MHz	
—	9190 MHz	



RCVR. ELEV.
1995 M

R3-80-T6
PATH LENGTH 76.35 km

XMTR. ELEV.
1479 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-29-66 at 15 M			7-12-66 at 15 M			
50%	115.2	121.9		125.7	134.3	138.3	151.4
$\Delta 10\% - 90\%$	< 3	< 3		5.0	< 3	4.0	6.4
				7-12-66 at 7.3 M			
50%				130.5	136.3	145.9	153.7
$\Delta 10\% - 90\%$				< 3	< 3	5.9	7.0
				7-12-66 at 1 M			
50%				132.0	133.3	139.9	149.7
$\Delta 10\% - 90\%$				< 3	4.0	6.8	4.5

In the immediate foreground, there is a low fence and a 1-m high corn field which extends for 0.8 km. There are 15-m high trees on either side of the path at 0.4 km.

R3-80-T7
SOUTH ROGGEN S2

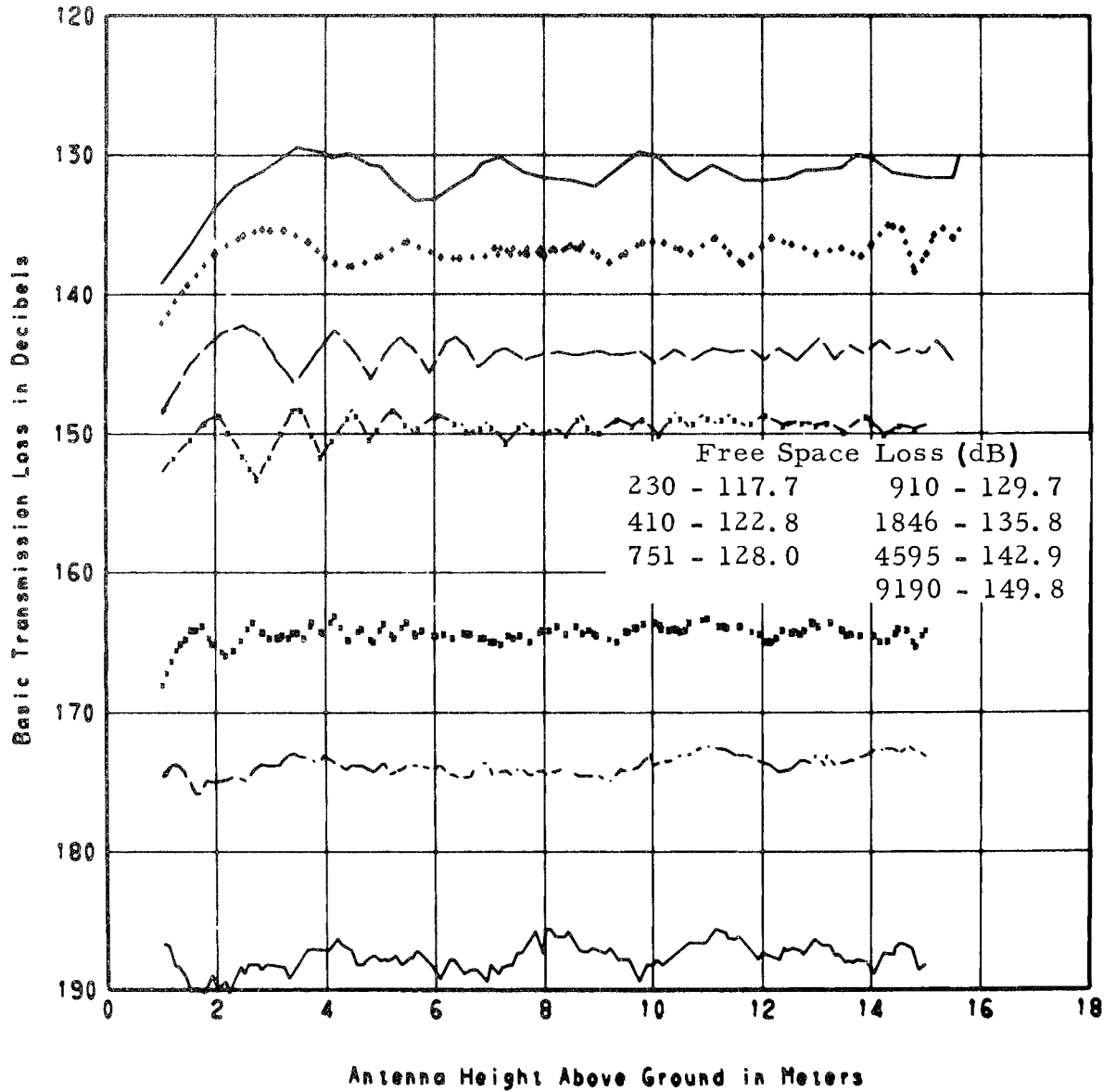


PATH VIEW FROM TRANSMITTER

Bearing from common receiver site to transmitter site is
 $66^{\circ} 40' 12''$ T.

R3-80-T7
 SOUTH ROGGEN S2

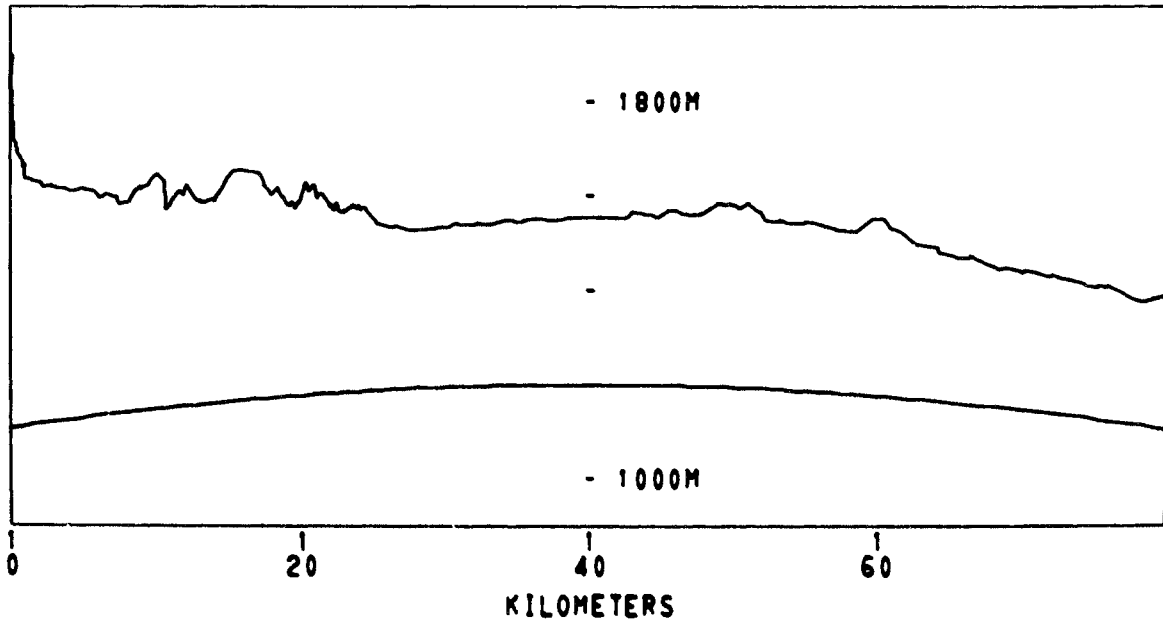
——— 230 MHZ 9/28/66
 410 MHZ
 - - - 751 MHZ
 - · - · 910 MHZ 7/11/66
 ····· 1846 MHZ
 - - - 4595 MHZ
 ——— 9190 MHZ



RCVR. ELEV.
1995 M

R3-80-T7
PATH LENGTH 78.86 km

XMTR. ELEV.
1442 M



L_b (dB) SHORT TERM SIGNAL VARIABILITY

Freq(MHz)	230	410	751	910	1846	4595	9190
	9-28-66 at 15 M				7-11-66 at 15 M		
50%	129.9	134.4	143.5	148.3	165.3	174.1	188.6
$\Delta 10\% - 90\%$	< 3	< 3	< 3	< 3	< 3	< 3	< 3
					7-11-66 at 7.3 M		
50%				150.3	160.3	174.6	188.4
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3
					7-11-66 at 1 M		
50%				152.8	166.6	173.9	186.4
$\Delta 10\% - 90\%$				< 3	< 3	< 3	< 3

The path extends over dry, stubbled, wheat fields for approximately 8 km.

9. Meteorological Information

This section of the report presents a comprehensive listing of meteorological parameters for each path that was obtained simultaneously with the path loss measurements. Wet and dry bulb temperatures were obtained by reading electrically operated psychrometers; atmospheric pressures were indicated on high-grade aneroid barometers; percent relative humidity was calculated from meteorological data obtained at the site. Cloud types were based upon the U.S. Weather Bureau cloud code classification, and percent cloud cover, wind speed, and wind direction were estimated.

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-0.5-T1 Easley Road N

UHF October 10, 1966

OPEN	20.0	7.1	816.5	13	- -	0	5	Rcvr
	No data available							Xmtr

SHF July 25, 1966

OPEN	28.9	17.2	803.2	33	L1	30	5 S	Rcvr
	32.2	20.3	823.7	36	L1, L2	30	5 SE	Xmtr

R3-0.5-T2 Easley Road S

UHF September 16, 1966

OPEN	14.4	8.3	803.0	47	L2, H2	40	0-30 W	Rcvr
	17.2	13.0	816.5	65	L1	10	Calm	Xmtr

SHF July 26, 1966

OPEN	28.9	15.0	803.9	24	L1	5	3 S	Rcvr
	31.7	16.7	826.4	23	L1	10	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-3-T1 Church Lake

UHF September 20, 1966

OPEN	21.7	12.2	808.5	35	L1	5	Calm	Rcvr
	24.6	18.8	820.2	60	L1	5	0-5 N	Xmtr

SHF June 21, 1966

OPEN	25.0	13.6	801.2	30	M1	70	Calm	Rcvr
	26.9	15.0	824.9	29	L1, L5	40	5 NW	Xmtr

R3-3-T2 64th and North Quaker

UHF September 20, 1966

OPEN	21.7	12.2	808.0	35	L1	5	Calm	Rcvr
	- -	- -	825.9	- -	L1	5	3 E	Xmtr

SHF June 21, 1966

OPEN	25.3	13.9	800.2	30	M1	70	Calm	Rcvr
	27.8	15.7	830.5	29	L2, L3, H6	80	5 ESE	Xmtr

R3-3-T3-O 64th and Quaker E

UHF September 20, 1966

OPEN	22.2	12.8	808.0	36	L1	5	Calm	Rcvr
	- -	- -	825.9	- -	L1	10	5 E	Xmtr

SHF June 22, 1966

OPEN	28.1	14.2	795.1	23	L2	35	Calm	Rcvr
	26.7	16.1	825.5	35	L2	10	5 E	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-3-T3-C 64th and Quaker E

UHF September 20, 1966

CONC	21.7	12.2	808.0	35	L1	5	Calm	Rcvr
	- -	- -	825.9	- -	L1	10	5 E	Xmtr

SHF June 22, 1966

CONC	24.7	13.3	795.8	29	L1, M3	30	3 SE	Rcvr
	23.9	15.6	826.0	44	L2	15	10 NNE	Xmtr

R3-3-T4 64th and MacIntyre S

UHF September 20, 1966

OPEN	23.9	12.8	807.5	29	L1	5	Calm	Rcvr
	- -	- -	823.9	- -	L1, L2	20	1 E	Xmtr

SHF June 22, 1966

OPEN	28.3	15.0	793.4	26	L9	85	Calm	Rcvr
	31.1	15.0	822.5	18	L2	70	15-20 SW	Xmtr

R3-3-T5 Loveland Street

UHF September 16, 1966

OPEN	12.8	8.9	803.5	63	L1	10	Calm	Rcvr
	16.3	14.3	831.0	82	L1	10	2 E	Xmtr

SHF July 27, 1966

OPEN	26.7	16.1	802.6	36	L1	10	2-3 S	Rcvr
	29.4	18.3	834.5	36	L1	10	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-5-T1 Pattridge East

UHF October 7, 1966

OPEN	19.6	10.2	804.0	32	L2, M6	50	Calm	Rcvr
	22.8	10.0	811.0	19	L1, H6	40	15 W	Xmtr

SHF June 23, 1966

OPEN	18.9	11.7	797.8	45	L2	60	6 SE	Rcvr
	21.1	13.3	816.0	44	L2	20	10-15 S	Xmtr

R3-5-T2 Pattridge E1

UHF October 7, 1966

OPEN	18.2	11.6	804.6	48	L1	20	Calm	Rcvr
	21.1	9.4	813.4	21	H1, H6	10	10	Xmtr

SHF June 23, 1966

OPEN	22.5	12.2	792.4	32	L1, L9	60	Calm	Rcvr
	23.1	13.9	818.2	38	L2, L5	85	5-10 S	Xmtr

R3-5-T3 Tucker Lake NE1

UHF September 20, 1966

OPEN	23.9	12.8	807.5	29	L1	5	Calm	Rcvr
	- -	- -	825.3	- -	L1, L2	30	0-5 W	Xmtr

SHF June 24, 1966

OPEN	26.1	13.6	792.4	26	- -	- -	- -	Rcvr
	30.0	16.1	819.0	25	- -	- -	- -	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-5-T4 74th and McIntvre

UHF September 22, 1966

OPEN	23.9	12.8	812.0	29	L1	2	Calm	Rcvr
	20.2	14.2	831.4	54	- -	- -	Calm	Xmtr

SHF June 24, 1966

OPEN	23.1	14.2	793.4	40	L1	0.5	Calm	Rcvr
	25.0	17.2	824.0	48	L1	1	Calm	Xmtr

R3-5-T5 Ralston Church

UHF September 22, 1966

OPEN	25.6	15.6	812.5	37	L1	2	Calm	Rcvr
	22.8	15.4	832.0	48	L1	1	Calm	Xmtr

SHF June 24, 1966

OPEN	20.3	13.9	793.8	52	L1	1	Calm	Rcvr
	22.2	15.7	825.8	53	- -	- -	Calm	Xmtr

R3-5-T6 Mount Olivet

UHF September 9, 1966

OPEN	24.4	11.1	810.0	19	L2, H2	70	0-5 W	Rcvr
	28.2	24.8	832.0	77	L1	20	Calm	Xmtr

SHF July 28, 1966

OPEN	26.7	17.2	803.2	41	L1, L5	15	6 S	Rcvr
	27.8	18.9	837.8	45	L1, L2	10	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-5-T7 Rolling Hills NE1

UHF September 12, 1966

OPEN	21.7	12.2	804.0	35	L2	20	Calm	Rcvr
	22.0	16.0	822.9	56	L1	20	Calm	Xmtr

SHF July 28, 1966

OPEN	23.1	14.7	803.6	43	L1	5	Calm	Rcvr
	25.6	17.8	838.8	49	L1, L2	10	- -	Xmtr

R3-10-T1 Rocky Flats Clay Pit

UHF September 22, 1966

OPEN	25.0	13.9	811.7	31	L1	40	Calm	Rcvr
	28.2	16.8	812.1	34	L1, L2	25	0-7 NNW	Xmtr

SHF June 24, 1966

OPEN	29.4	12.8	791.7	14	L1	1	Calm	Rcvr
	30.0	15.0	805.0	21	L1	20	Calm	Xmtr

R3-10-T2 Pole Corral

UHF September 22, 1966

OPEN	25.0	13.9	811.7	31	L1	25	Calm	Rcvr
	28.0	15.2	824.9	27	L1, L2	20	0-7 NNE	Xmtr

SHF June 27, 1966

OPEN	26.1	10.0	802.9	10	L1	20	Calm	Rcvr
	27.2	15.7	828.2	31	L1, L2	10	5 SE	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-10-T3 Pole Corral E1

UHF September 22, 1966

OPEN	25.0	13.9	811.7	31	L1	5	Calm	Rcvr
	31.0	16.8	829.3	25	L1	20	0-7 NNE	Xmtr

SHF June 27, 1966

OPEN	23.3	14.2	803.2	39	L1, M4	1	Calm	Rcvr
	23.3	14.2	831.8	40	L1, L2	2	Calm	Xmtr

R3-10-T4 80th and Kipling N

UHF September 22, 1966

OPEN	23.3	14.4	812.3	40	L1	2	Calm	Rcvr
	25.2	15.6	833.4	38	L1	10	6 NE	Xmtr

SHF June 27, 1966

OPEN	28.9	13.3	802.2	17	L1	10	0-7	Rcvr
	30.6	15.4	835.4	20	L1	20	10 NE	Xmtr

R3-10-T5 73rd and Field

UHF September 15, 1966

OPEN	8.9	8.9	803.0	100	L6	100	Calm	Rcvr
	11.6	10.2	823.6	85	L2	100	Calm	Xmtr

SHF June 28, 1966

OPEN	25.6	13.3	804.3	26	L1	15	Calm	Rcvr
	26.7	14.9	836.5	29	L1	10	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-10-T6 Russell School S

UHF September 15, 1966

OPEN	8.9	8.9	802.0	100	L6	100	Calm	Rcvr
	11.8	10.4	829.7	86	L2	100	Calm	Xmtr

SHF July 28, 1966

OPEN	27.2	18.1	801.9	44	L2	30	5 S	Rcvr
	31.7	18.9	840.6	31	L1, L2	25	Calm	Xmtr

R3-20-T1 Marshall Road

UHF September 22, 1966

OPEN	28.3	13.9	810.0	21	L2, H2	70	Calm	Rcvr
	30.4	18.4	833.4	33	L1, L2	35	0-5 N	Xmtr

SHF June 30, 1966

OPEN	25.8	15.0	799.5	34	L1, L9, H2	90	Calm	Rcvr
	21.1	16.7	835.4	66	L9	96	Calm	Xmtr

R3-20-T2 Cherryvale Road

UHF September 22, 1966

OPEN	27.2	14.4	811.0	26	L1, H2	80	Calm	Rcvr
	28.1	19.0	833.1	44	L1, L2	30	0-5 N	Xmtr

SHF June 30, 1966

OPEN	25.0	14.4	798.9	34	L1, L5	80	Calm	Rcvr
	26.1	18.3	834.4	39	L2	50	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-20-T3 Great Western Reservoir SW1

UHF September 23, 1966

OPEN	23.0	17.0	809.0	57	L1	15	Calm	Rcvr
	29.4	17.2	824.3	31	L1	20	0-5 E	Xmtr

SHF June 30, 1966

OPEN	25.6	15.0	798.5	34	L2	75	Calm	Rcvr
	28.3	16.9	826.8	33	L2	80	5 E	Xmtr

R3-20-T4 Louisville SW1

UHF September 23, 1966

OPEN	23.0	17.0	809.0	57	L1	0	10	Rcvr
	27.8	16.7	833.4	34	L1	20	0-5 NE	Xmtr

SHF June 29, 1966

OPEN	29.2	12.5	799.2	13	L1, H6, M1	70	Calm	Rcvr
	34.4	16.7	835.8	16	H6, L2	95	0-5 SSE	Xmtr

R3-20-T5 Louisville S2

UHF September 23, 1966

OPEN	22.8	17.3	810.3	60	L1	15	Calm	Rcvr
	29.4	17.2	824.3	31	L1	20	0-5 NE	Xmtr

SHF June 29, 1966

OPEN	28.9	12.5	800.2	14	L1, H6, M2	90	Calm	Rcvr
	30.6	15.0	837.3	18	H6, L2	75	5 E	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-20-T6 Stearns Lake N1

UHF September 23, 1966

OPEN	22.8	17.3	810.3	60	L1	20	Calm	Rcvr
	27.2	15.6	837.5	31	L1	20	0-5 N	Xmtr

SHF June 29, 1966

OPEN	26.1	14.4	800.5	30	M1	100	Calm	Rcvr
	29.4	16.7	839.8	29	H6, L2	85	0-5 E	Xmtr

R3-20-T8-O 124th and Carbon Road

UHF September 23, 1966

OPEN	19.8	14.5	811.0	59	- -	- -	- -	Rcvr
	23.3	13.9	836.1	37	L1	20	0-5 N	Xmtr

SHF June 29, 1966

OPEN	23.3	12.2	801.9	29	L1, H7	90	Calm	Rcvr
	24.4	14.4	839.0	35	H6	70	Calm	Xmtr

R3-20-T8-C 124th and Carbon Road

UHF September 23, 1966

CONC	22.8	17.2	810.3	60	L1	20	Calm	Rcvr
	23.3	13.9	836.1	37	L1	20	0-5 N	Xmtr

SHF June 29, 1966

CONC	26.7	13.3	801.9	23	L1, H7	90	Calm	Rcvr
	28.1	15.8	838.8	29	H6	75	5 E	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-20-T9 120th and Lowell Boulevard N

UHF September 23, 1966

OPEN	19.8	14.5	811.0	59	L1	15	Calm	Rcvr
	20.0	12.8	840.5	46	L1	5	0-5 N	Xmtr

SHF June 28, 1966

OPEN	29.7	13.1	803.2	14	M4, L1	40	0-5 E	Rcvr
	33.9	16.9	844.2	18	L1	25	5 WSW	Xmtr

R3-20-T10 100th and Pecos

UHF September 23, 1966

OPEN	18.2	13.4	811.1	61	L1	1	Calm	Rcvr
	18.3	12.2	832.4	51	- -	- -	5 N	Xmtr

SHF June 28, 1966

OPEN	30.8	13.1	803.9	12	L1	25	Calm	Rcvr
	32.8	15.6	836.8	16	L1	20	Calm	Xmtr

R3-20-T11 Thornton S1

UHF September 15, 1966

OPEN	8.9	8.9	803.0	100	L6	100	Calm	Rcvr
	12.5	11.5	834.7	90	L2	100	Calm	Xmtr

SHF July 29, 1966

OPEN	26.7	18.3	805.6	47	L1	15	7 S	Rcvr
	30.0	20.0	847.4	41	L1	15	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-20-T12 Western Hills SE1

UHF September 15, 1966

OPEN	9.4	8.9	804.0	94	L6	100	Calm	Rcvr
	12.6	10.8	838.1	82	L2	100	Calm	Xmtr

SHF July 29, 1966

OPEN	19.4	16.1	803.2	73	L1	70	5 SE	Rcvr
	21.7	18.3	850.5	73	L1, L2	80	Calm	Xmtr

R3-20-T13 Riverside Cemetery

UHF September 15, 1966

OPEN	8.9	8.9	804.5	100	L6	100	Calm	Rcvr
	10.4	9.8	838.8	93	L2	100	Calm	Xmtr

SHF July 29, 1966

OPEN	22.8	17.2	805.9	60	L1	15	5 SE	Rcvr
	25.3	19.4	851.0	59	L1	35	Calm	Xmtr

R3-20-T14 Marston Lake NW

UHF September 12, 1966

OPEN	23.3	14.4	804.0	40	L1, H2	50	0-5 W	Rcvr
	24.4	16.0	822.2	44	L1, L2	50	2 E	Xmtr

SHF August 5, 1966

OPEN	20.6	14.4	803.9	54	L1	5	5 S	Rcvr
	24.4	15.8	834.9	43	L1	10	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-30-T1

Leggett Reservoir NE2

UHF September 26, 1966

OPEN	19.4	16.0	802.5	73	L2, H2	30	Calm	Rcvr
	21.7	15.0	833.4	51	L1, L2, H2	40	5-10 N	Xmtr

SHF July 22, 1966

OPEN	24.2	17.7	806.3	55	L2, L9	85	Calm	Rcvr
	25.6	18.9	850.0	55	L1, L2	65	5 NE	Xmtr

R3-30-T2

East Lake Reservoir N3

UHF October 6, 1966

OPEN	18.0	12.0	807.1	52	L1	15	Calm	Rcvr
	22.8	11.1	835.1	24	L1	5	3 E	Xmtr

SHF August 1, 1966

OPEN	20.0	17.2	843.2	77	L5	100	5 SW	Rcvr
	26.7	18.2	850.3	46	L1, L2	96	5-10 NE	Xmtr

R3-30-T3-O Webster Lake

UHF October 6, 1966

OPEN	20.2	12.0	805.8	40	L1	40	Calm	Rcvr
	26.1	12.8	830.3	21	L2	10	1 E	Xmtr

SHF August 1, 1966

OPEN	23.9	16.7	842.5	50	L1	90	3 S	Rcvr
	25.0	18.6	847.0	56	L1	60	5 NE	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-30-T3-C Webster Lake

UHF October 6, 1966

CONC	20.2	12.0	805.8	40	L1	40	Calm	Rcvr
	23.3	12.2	830.3	28	L1	5	1 E	Xmtr

SHF August 1, 1966

CONC	22.2	16.1	843.2	55	L1	90	3 S	Rcvr
	26.1	18.9	847.5	52	L1	20	Calm	Xmtr

R3-40-T1-O Longmont S1

UHF September 26, 1966

OPEN	17.6	14.2	801.5	71	L2, H2	70	Calm	Rcvr
	22.8	15.6	840.5	49	L1, L2	40	0-5 SE	Xmtr

SHF July 18, 1966

OPEN	28.9	19.7	839.2	44	L1	20	Calm	Rcvr
	30.6	19.4	855.8	36	L2	30	Calm	Xmtr

R3-40-T1-C Longmont S1

UHF September 26, 1966

CONC	17.6	14.2	801.5	71	L2, H2	70	Calm	Rcvr
	20.6	15.0	839.8	57	L1, L2, H2	40	0-5 SE	Xmtr

SHF July 18, 1966

CONC	30.6	17.2	838.8	27	L1, L9	40	6 W	Rcvr
	31.7	20.0	855.4	35	L2	35	5 SE	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-40-T2 Longmont SE3

UHF October 5, 1955

OPEN	16.5	12.4	808.0	65	L1	20	Calm	Rcvr
	18.9	10.0	846.9	33	L1	5	5 E	Xmtr

SHF August 15, 1966

OPEN	30.3	13.9	838.8	15	L1	30	Calm	Rcvr
	32.2	21.1	855.1	39	L2	10	Calm	Xmtr

R3-40-T3-O Lowry Bombing Range W

UHF September 13, 1966

OPEN	18.3	11.7	805.5	48	L2, M6	80	Calm	Rcvr
	23.4	16.2	818.8	50	L1, L2	40	Calm	Xmtr

SHF August 3, 1966

OPEN	20.3	16.1	837.8	67	L9	100	5 W	Rcvr
	27.8	17.8	828.2	39	L1, L2	85	- -	Xmtr

R3-40-T3-C Lowry Bombing Range W

UHF September 13, 1966

CONC	18.3	11.7	805.5	48	L2, M6	80	Calm	Rcvr
	21.2	17.4	818.8	71	L1	15	Calm	Xmtr

SHF August 3, 1966

CONC	26.7	16.7	837.8	38	L1, L9, M2	70	2 W	Rcvr
	28.1	18.3	828.5	41	L1	30	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-50-T1 Dowe Flats

UHF October 4, 1966

OPEN	6.0	5.4	807.7	92	L1	1	0-5 NW	Rcvr
	9.4	5.6	832.4	59	- -	- -	3 SW	Xmtr

SHF July 1, 1966

OPEN	23.6	15.6	798.5	46	L1	20	Calm	Rcvr
	25.0	17.5	832.5	50	L2, H6	50	Calm	Xmtr

R3-50-T2 Highland No. 2 Reservoir

UHF October 4, 1966

OPEN	10.5	8.2	807.5	76	L1	5	Calm	Rcvr
	12.2	6.7	840.8	47	- -	- -	3 S	Xmtr

SHF July 6, 1966

OPEN	29.4	15.0	802.9	22	L1	15	5 S	Rcvr
	29.4	19.4	845.6	41	L1	10	0-5 E	Xmtr

R3-50-T3 Mead SW1

UHF September 26, 1966

OPEN	18.0	14.0	802.0	67	L2, M2	90	Calm	Rcvr
	23.9	15.6	837.1	44	L2, L1	75	0-10 NNE	Xmtr

SHF July 1, 1966

OPEN	23.9	15.8	798.5	46	L1, L9	90	Calm	Rcvr
	32.2	20.0	845.4	34	L2	50	0-5 E	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-50-T4-O Mead NE1

UHF September 26, 1966

OPEN	16.0	13.2	802.0	75	L2, M9	80	Calm	Rcvr
	20.6	14.4	837.8	53	L1, L2	75	5 NE	Xmtr

SHF July 6, 1966

OPEN	29.4	14.2	801.2	19	L1	60	Calm	Rcvr
	32.2	18.9	848.8	29	L2	10	0-5 N	Xmtr

R3-50-T4-C Mead NE1

UHF September 26, 1966

CONC	16.0	13.2	802.0	75	L2, M9	80	Calm	Rcvr
	20.0	15.6	837.8	65	L1, L2	75	5 NE	Xmtr

SHF July 6, 1966

CONC	29.4	15.6	801.6	25	L1	15	Calm	Rcvr
	30.0	20.6	849.8	44	L2	1	0-5 N	Xmtr

R3-50-T5 Mead S4E5

UHF October 5, 1966

OPEN	16.4	12.2	808.4	64	L1	20	Calm	Rcvr
	14.4	7.2	851.3	37	- -	- -	2 NE	Xmtr

SHF July 8, 1966

OPEN	31.1	14.2	799.2	15	- -	60	5 N	Rcvr
	31.1	16.7	851.2	24	H6, L2	75	0-5 E	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-50-T7 Fort Lupton E3

UHF September 28, 1966

OPEN	23.0	14.2	802.0	41	L1	60	Calm	Rcvr
	30.6	15.0	835.4	19	H1, H6	30	5 E	Xmtr

SHF July 8, 1966

OPEN	27.8	16.1	799.5	32	L9	99	Calm	Rcvr
	36.1	17.2	844.9	14	H6, L9	75	0-5 E	Xmtr

R3-50-T8 Barr Lake E4N3

UHF October 6, 1966

OPEN	16.4	11.8	807.4	61	L1	5	Calm	Rcvr
	17.2	9.4	840.5	38	- -	- -	3 E	Xmtr

SHF July 8, 1966

OPEN	27.8	15.0	761.9	28	L9	100	5 W	Rcvr
	33.3	16.7	843.1	18	L2, L5	80	0-5 SW	Xmtr

R3-50-T9 Lowry Bombing Range N

UHF September 13, 1966

OPEN	20.0	12.2	803.5	43	L1	20	Calm	Rcvr
	22.0	13.8	814.4	43	L2	60	2 NNW	Xmtr

SHF August 4, 1966

OPEN	21.9	15.6	802.2	54	L1, L9	70	Calm	Rcvr
	22.8	16.2	824.5	53	L1	20	25 NNW	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-50-T10 Lowry Bombing Range S

UHF September 13, 1966

OPEN	18.3	11.7	803.5	48	L1	20	Calm	Rcvr
	20.6	12.6	808.0	42	L1, L2	65	Calm	Xmtr

SHF August 4, 1966

OPEN	22.2	14.4	802.6	45	L9	80	3 W	Rcvr
	24.4	15.8	817.2	43	L1, L2	60	25 NNW	Xmtr

R3-50-T11 Parker S1

UHF September 12, 1966

OPEN	21.1	12.8	803.5	41	L1, L9	60	Calm	Rcvr
	24.4	14.2	813.4	35	L1, L2	65	2 N	Xmtr

SHF August 3, 1966

OPEN	23.9	16.7	804.6	51	L1, M1	50	Calm	Rcvr
	24.4	18.3	826.4	58	L1	40	5 N	Xmtr

R3-55-T1 Ish Reservoir NE2

UHF October 4, 1966

OPEN	14.2	9.8	807.4	60	L1	15	Calm	Rcvr
	16.7	7.8	844.6	29	- -	- -	2 S	Xmtr

SHF July 15, 1966

OPEN	26.7	17.5	806.0	43	L1	20	Calm	Rcvr
	24.4	20.0	853.5	68	L2	5	Calm	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-60-T2-O Milliken E2

UHF October 5, 1966

OPEN	11.8	8.1	808.1	64	L1	5	Calm	Rcvr
	6.7	3.9	822.2	67	- -	- -	1 N	Xmtr

SHF July 13, 1966

OPEN	27.2	15.0	801.6	29	L9, M1	80	5-10 W	Rcvr
	30.0	20.0	858.4	41	L2	10	- -	Xmtr

R3-60-T2-C Milliken E2

UHF October 5, 1966

CONC	11.8	8.6	808.1	68	L1	5	Calm	Rcvr
	11.7	6.7	822.2	51	- -	- -	3 NE	Xmtr

SHF July 13, 1966

CONC	28.9	14.2	801.2	20	L9	90	Calm	Rcvr
S	32.2	21.1	857.6	38	- -	- -	- -	Xmtr

R3-80-T1 Loveland N4

UHF September 29, 1966

OPEN	25.6	15.6	797.0	37	H2	20	0-20	Rcvr
	29.4	14.4	827.0	19	H6	1	5 SE	Xmtr

SHF July 12, 1966

OPEN	25.6	14.7	803.2	32	L1, L5, L9	90	Calm	Rcvr
	29.4	17.2	846.5	31	L1, L2	50	0-5 E	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-80-T2-O Fossil Creek Reservoir

UHF September 29, 1966

OPEN	19.0	15.0	799.0	68	H2	20	0-5	Rcvr
	21.7	13.9	839.2	44	H6	15	2 SE	Xmtr

SHF July 13, 1966

OPEN	25.6	15.8	801.6	38	L1	15	Calm	Rcvr
	22.2	17.2	854.2	63	H2	10	- -	Xmtr

R3-80-T2-C Fossil Creek Reservoir

UHF September 29, 1966

CONC	22.5	16.5	799.0	57	H2	20	0-5	Rcvr
	21.7	13.9	839.2	44	H6	15	2 SE	Xmtr

SHF July 13, 1966

CONC	26.7	15.6	801.6	33	L1	25	Calm	Rcvr
	26.7	19.4	854.2	52	H2	10	- -	Xmtr

R3-80-T3 Windsor SE3

UHF September 29, 1966

OPEN	23.0	17.0	797.0	57	H2	20	0-10 W	Rcvr
	26.7	13.3	831.4	25	H6	15	5 SE	Xmtr

SHF July 12, 1966

OPEN	25.3	15.6	803.6	39	L9, M1	60	Calm	Rcvr
	29.4	18.3	850.5	36	L2	10	5-10 S	Xmtr

Type of Site	Dry Bulb Temp C	Wet Bulb Temp C	Atmos. Press. mb	% Rel. Humid.	Cloud Type	% Cloud Cover	Wind Speed & Dir.	Terminal
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R3-80-T5 Lower Latham Reservoir E1

UHF September 28, 1966

OPEN	22.2	14.0	801.8	43	L1	70	Calm	Rcvr
	25.0	15.0	842.2	36	H1, H6	40	3 NW	Xmtr

SHF July 12, 1966

OPEN	29.4	15.8	802.6	26	L1, L9	60	5 S	Rcvr
	36.1	19.4	854.4	21	L2	50	0-5 NNE	Xmtr

R3-80-T6 Erickson Reservoir NE2

UHF September 29, 1966

OPEN	19.0	14.0	799.0	60	H2	20	Calm	Rcvr
	10.0	7.2	840.5	70	H6	5	1 N	Xmtr

SHF July 11, 1966

OPEN	23.1	15.3	800.2	56	H1, L1	20	Calm	Rcvr
	21.1	16.1	857.0	66	L1	50	0-5 E	Xmtr

R3-80-T7 South Roggen S2

UHF September 28, 1966

OPEN	20.0	12.0	801.6	41	M1	15	0-10 W	Rcvr
	25.6	13.3	842.9	25	H1, M6	30	5 NW	Xmtr

SHF July 11, 1966

OPEN	29.4	15.6	802.2	41	L1	30	Calm	Rcvr
	29.4	17.2	854.5	51	H1, L2	10	0-5 NE	Xmtr