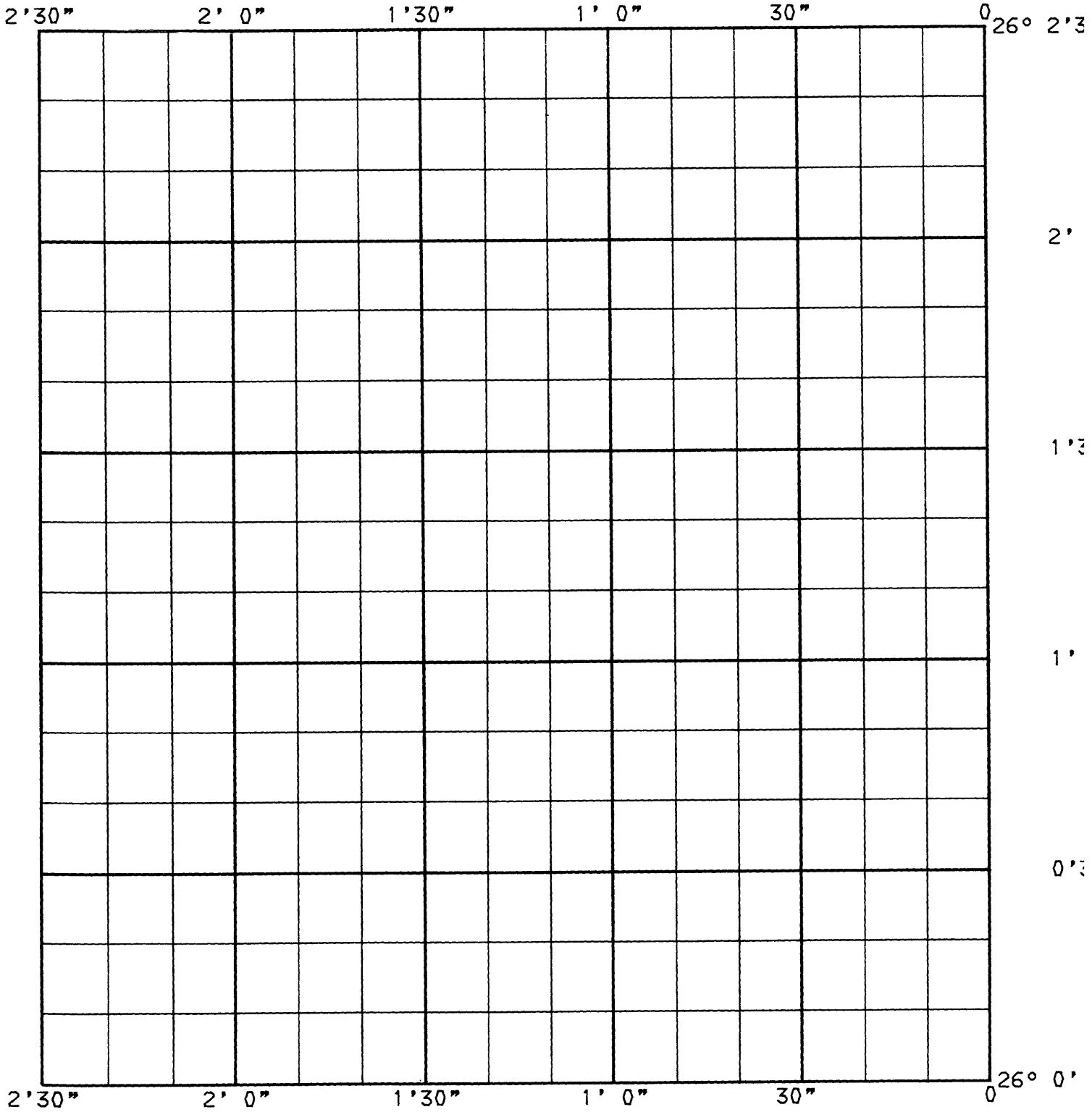
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 26° 0' 0" to 26° 2'30"
Scale = 1/24,000



DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

Clear mylar templates used to measure latitude and longitude of sample localities at scales of 1:24,000, 1:62,500, 1:100,000 and 1:250,000 between the latitudes of 25° 30' and 49° 00' N. or S. latitude

By

W. L. Campbell and G. VanTrump, Jr.

Open-File Report 81-747
1981

This report is preliminary and has not been edited or reviewed for conformity with U.S. Geological Survey standards.

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ABSTRACT

Computer-generated clear mylar overlays to plot latitude and longitude at various map scales will expedite hand transfer work. The paper presented here is a booklet of 138 overlays available as individual pages from U.S. Open-File Report Services. This will allow plotting at scales of 1:24,000, 1:62,500, 1:100,000, and 1:250,000 for latitudes starting at 25°30'00" N. or S. to 49°00'00" N. or S.

INTRODUCTION

The use of computer-generated map plotting with a digitizer is rapid and relatively accurate, if diligent and careful control in handling is maintained. However, the computer-generated points should be spot checked to insure proper alignment to the proper latitude and longitude. This process is expedited if a clear mylar overlay at the proper scale is used.

The following book of computer-generated clear mylar overlays will allow the hand checking or the transfer of points from one map to another at various scales with a minimum loss in accuracy.

DISCUSSION

Although computer plotting of sample localities is faster than hand plotting, not everyone who has the need to plot locations has the use of a computer. The hand plotting using the appropriate overlay is relatively fast and the accuracy should be within one second of the overlay area coverage for 1:24,000 and 1:62,500 scale, and five seconds for 1:100,000 or 1:250,000. The overlays will also allow the transfer of points between any of the given scales. If a different size map scale is to be used, a scale ratio of latitude-longitude is determined at each latitude given or the clear mylars can be copied by a variable reduction copier to achieve the desired scale reduction.

As the distance between degrees latitude is constant from south to north, and as the distance between degrees longitude decreases from south to north, several sets of overlays will be required to cover the areas worked.

To cover all latitudes starting at 25°30' N. or S. through 49°00' N. or S. on a scale of 1:24,000, fifty-four clear mylar templates are needed. If these are plotted at every degree latitude from 26°00' N. or S. latitude to 31°00' N. or S. latitude, at every 30 minutes from 31°30' N. or S. latitude to 43°00' N. or S. latitude, and at every 15 minutes from 43°15' N. or S. latitude to 49°00' N. or S. latitude, less than one to five seconds error occurs in reading a point.

To cover the same area at the same relative accuracy at a scale of 1:62,500, thirty-six clear mylars are needed. These are to be plotted at every degree from 26°00' N. or S. latitude to 37°00' N. or S. latitude, at every 30 minutes from 37°30' N. or S. latitude to 39°00' N. or S. latitude.

To cover the area at a scale of 1:100,000, twenty-four clear mylar templates are required. These are to be plotted at one degree intervals, starting at 25°30' N. or S. latitude to 48°30' N. or S. latitude.

To cover the area at a scale of 1:250,000, twenty-four clear mylar templates are required. These are to be plotted at one degree intervals, starting at 25°30' N. or S. latitude to 48°30' N. or S. latitude.

CONCLUSIONS

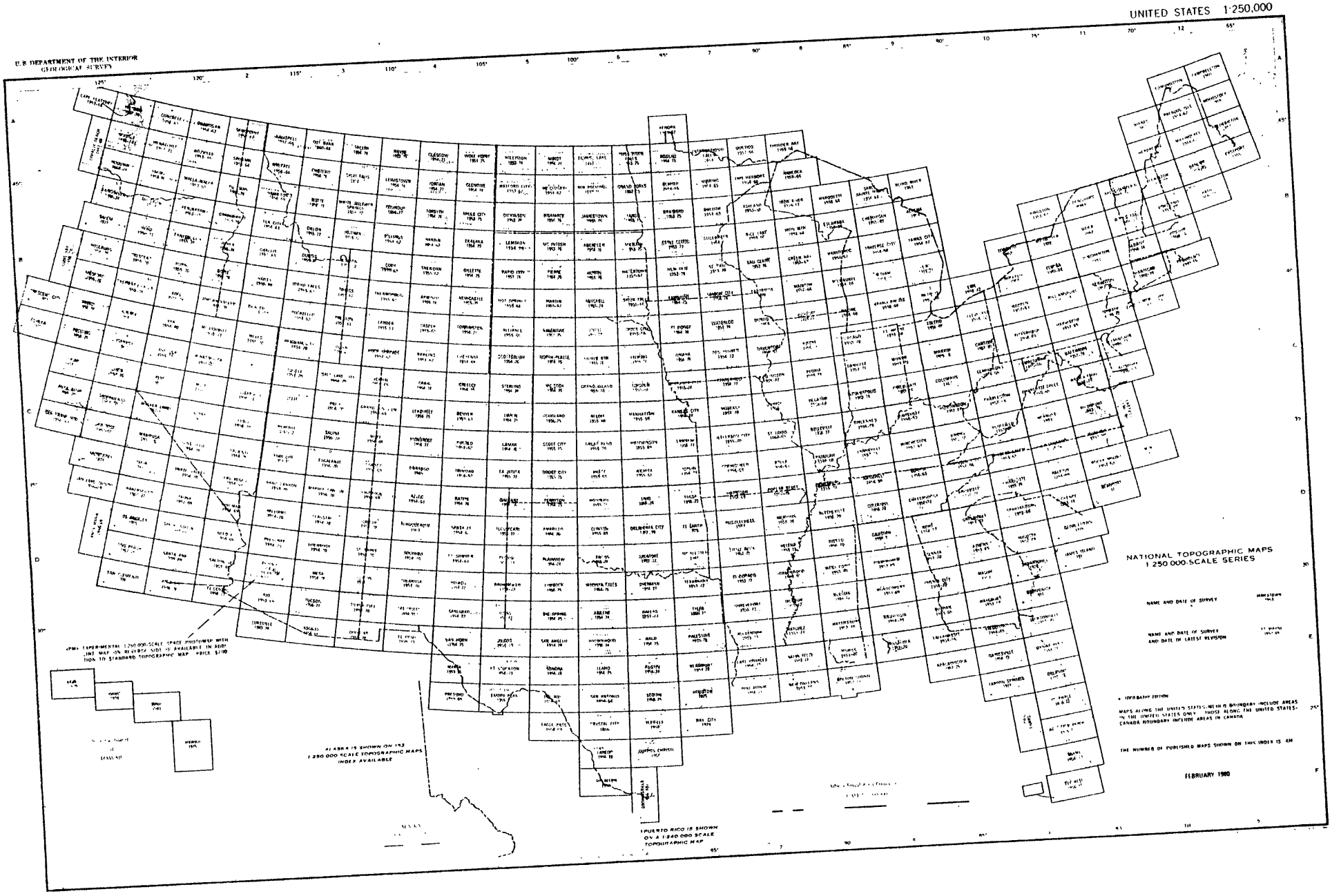
The use of clear mylar overlays to expedite the location or transfer of points from one map scale to another is now feasible thanks to the advent of computer-generated templates. Overlays at any map scale can be generated within minutes using a computer and plotter (VanTrump, 1981). A substantial saving in time and accuracy can be achieved through used of this booklet of computer-generated templates.

The error in locations is small (less than one to five seconds) if the templates are used properly. For more precise locations the extra mylar templates may be generated at the intermediate positions, in which case the error is halved.

REFERENCES CITED

Campbell, W. L., and VanTrump, G., 1981, Catalog of available clear mylar templates used to determine latitude and longitude of sample localities at scales of 1:24,000, 1:62,500, 1:100,000, and 1:250,000 between the latitudes of 25°30' and 49°00' north or south latitude: U.S. Geological Survey Open-File Report 81-746.

Area map


UNITED STATES 1:250,000
U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
NATIONAL TOPOGRAPHIC MAPS
1:250,000-SCALE SERIES
NAME AND DATE OF SURVEY
NAME AND DATE OF SURVEY
AND DATE OF LATEST REVISION
FEBRUARY 1980
ALASKA IS SHOWN ON 193
1:250,000-SCALE TOPOGRAPHIC MAPS
INDEX AVAILABLE
PUERTO RICO IS SHOWN
ON A 1:240,000 SCALE
TOPOGRAPHIC MAP

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Range of latitude = 27° 0' 0" to 27° 2'30"
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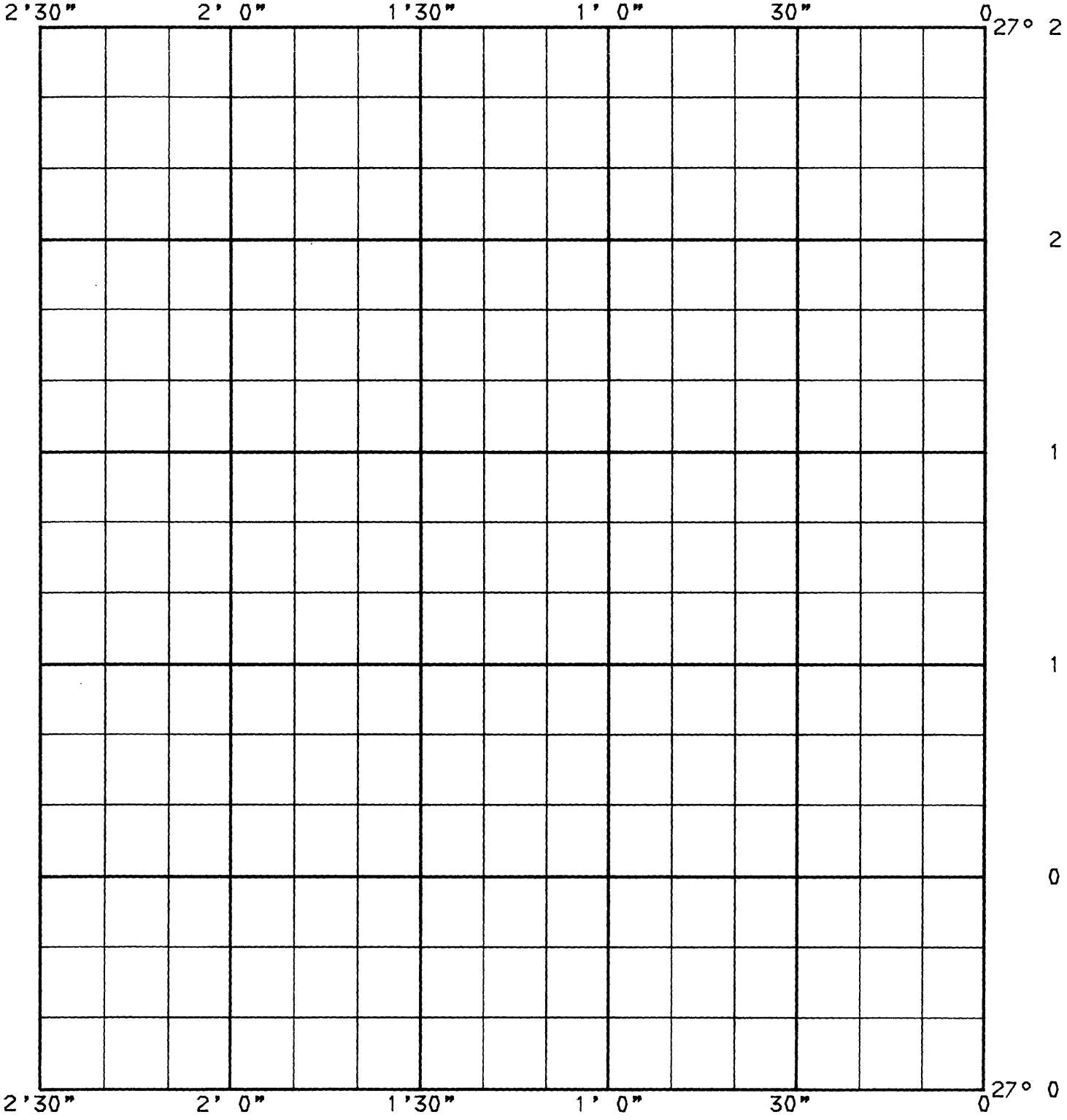

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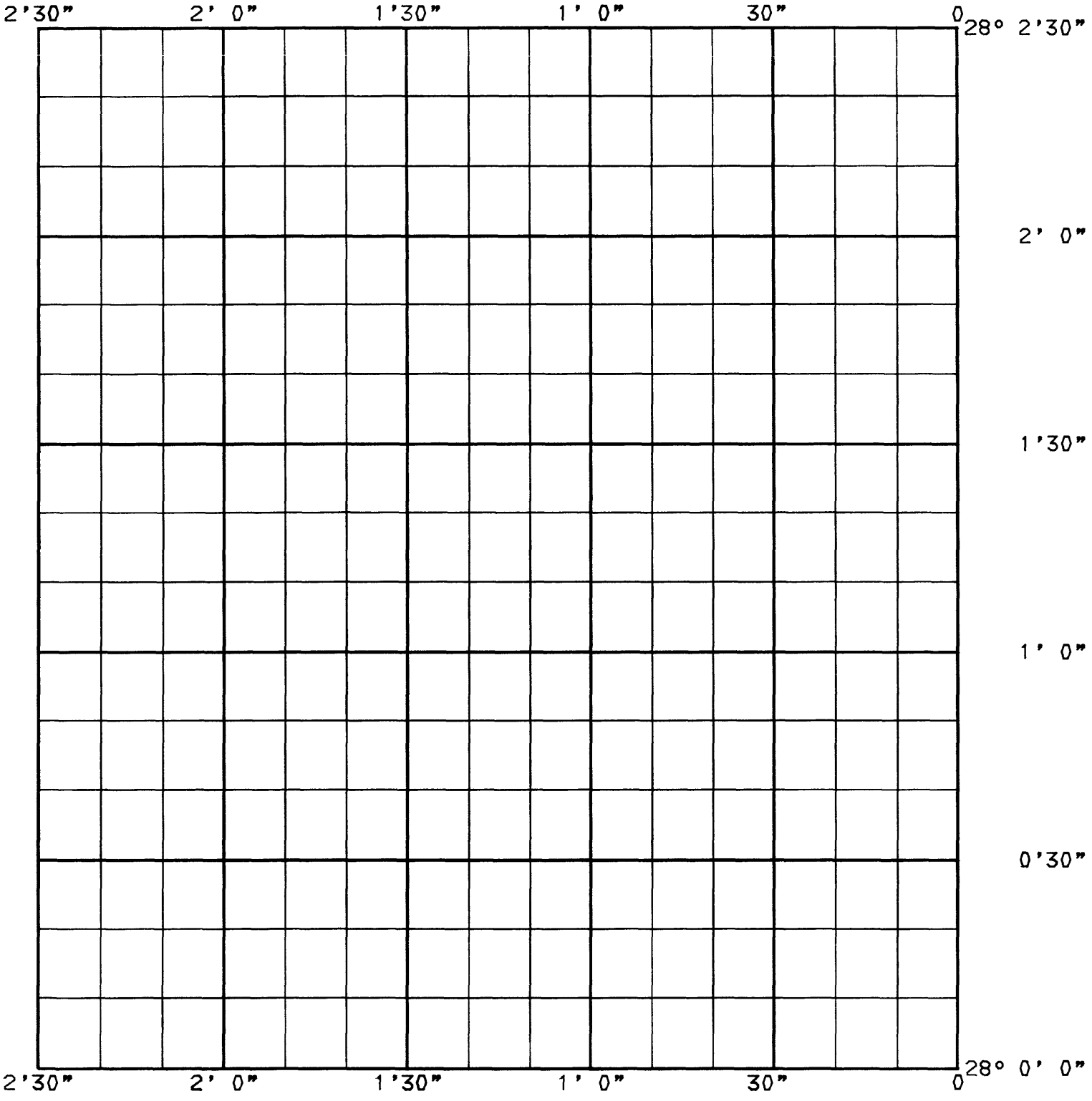

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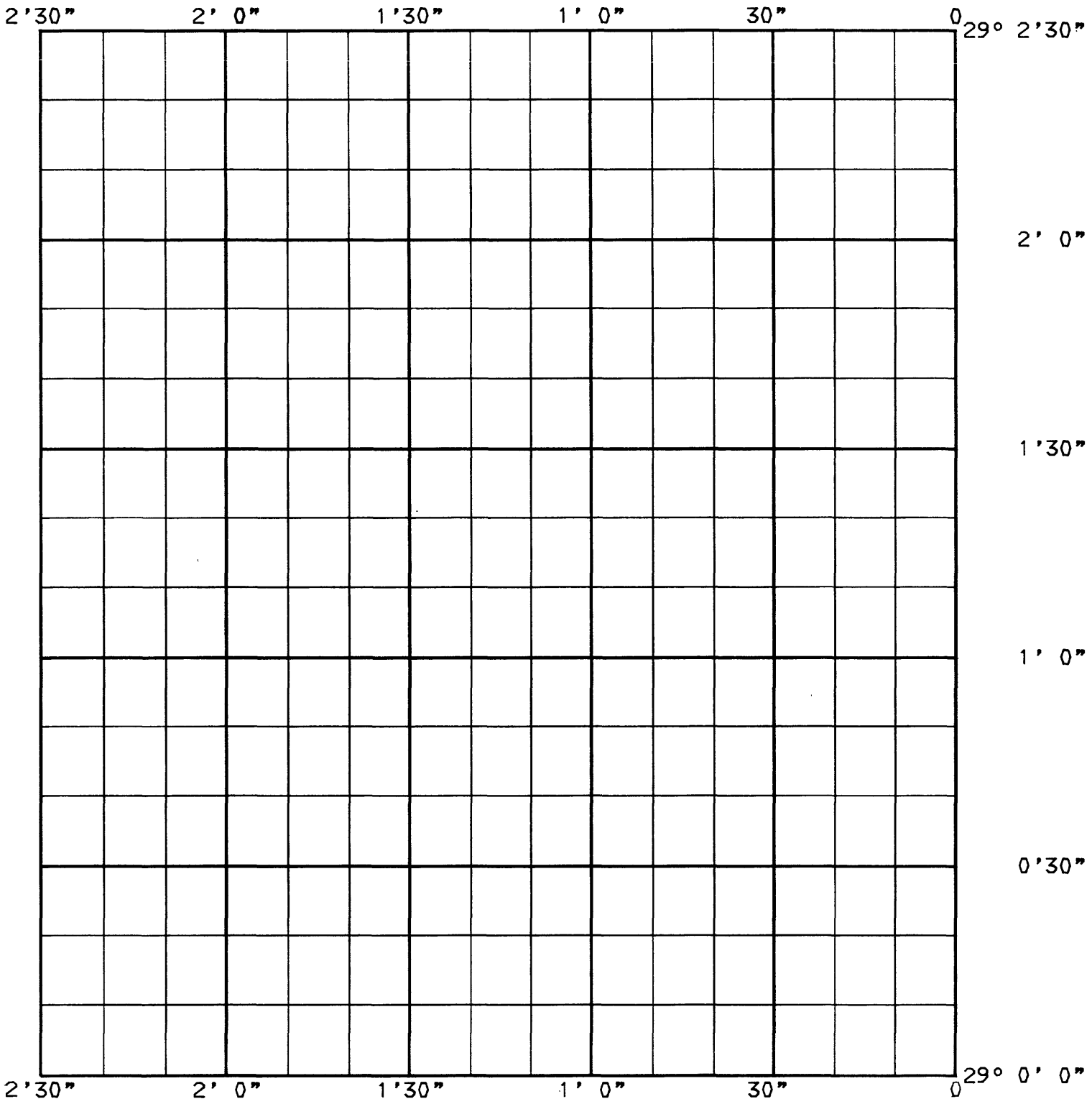

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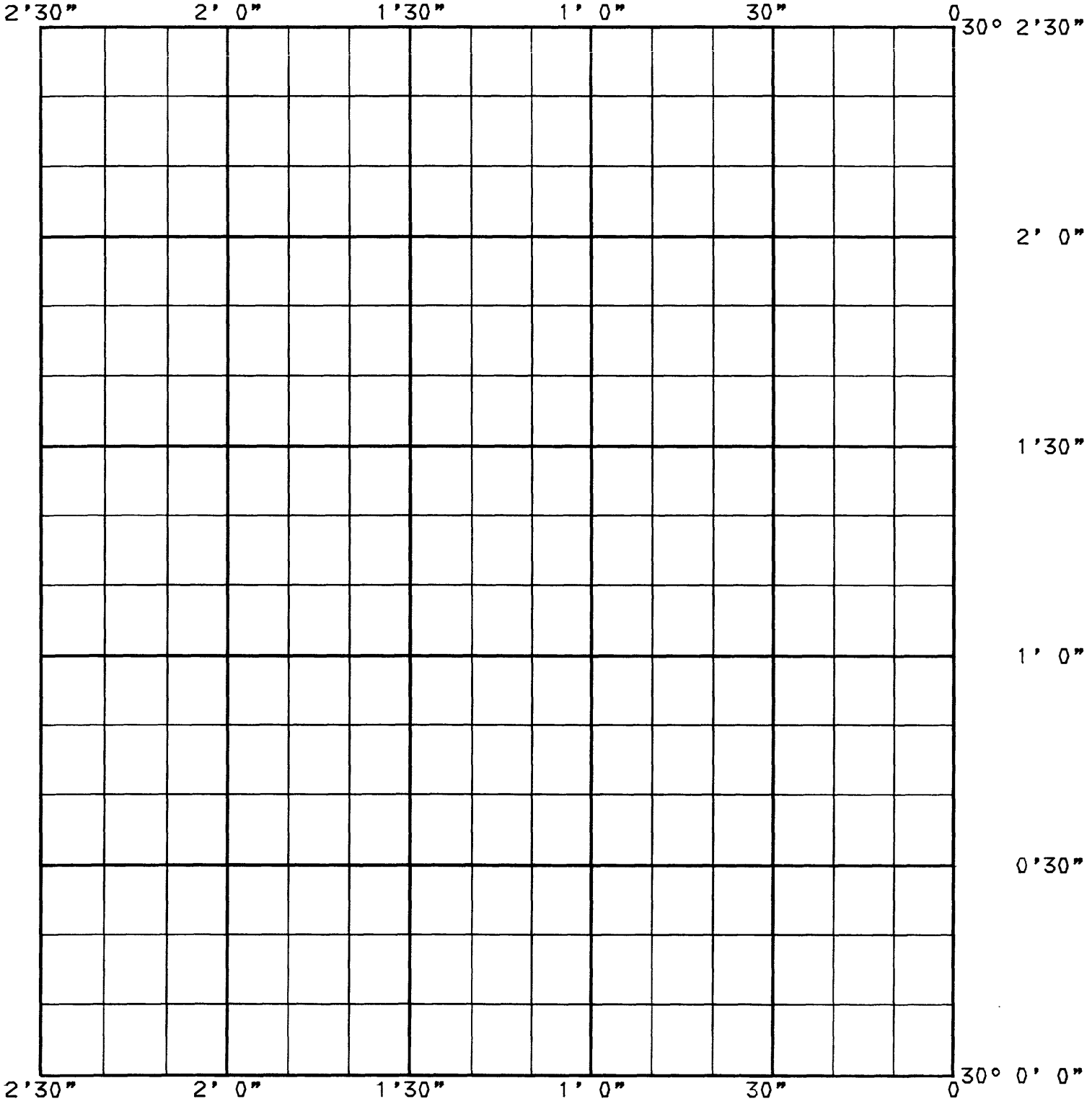

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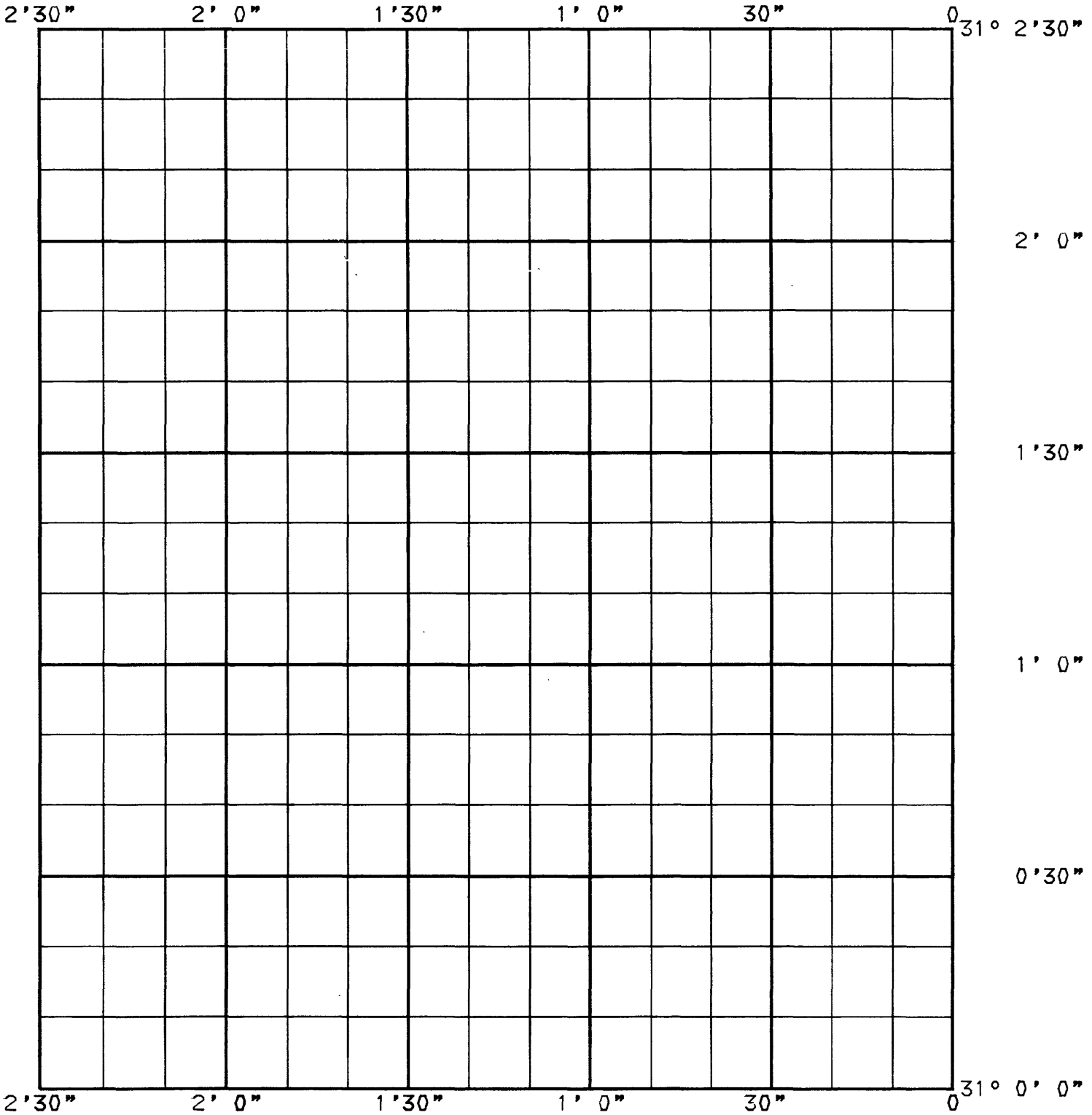

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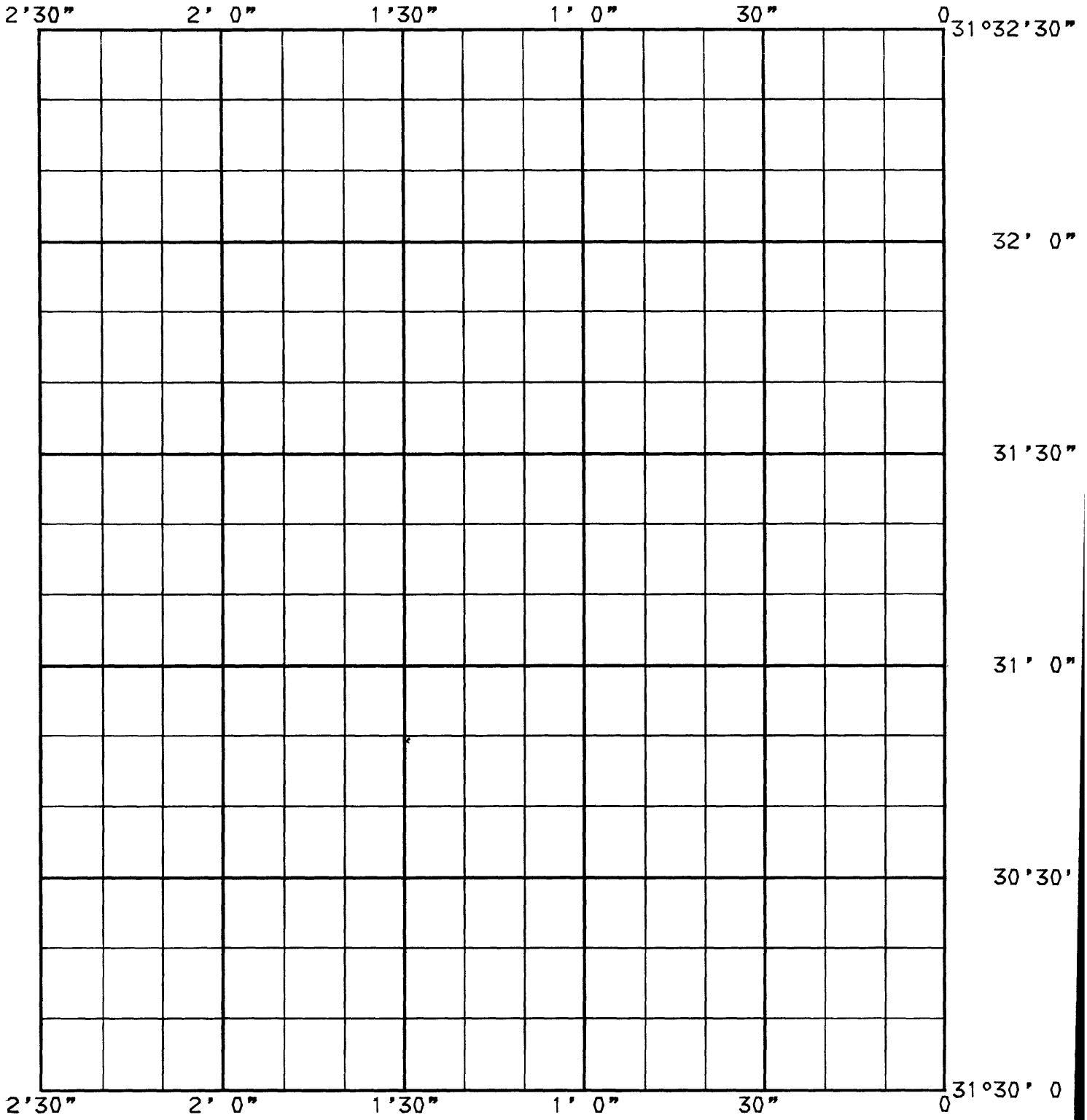

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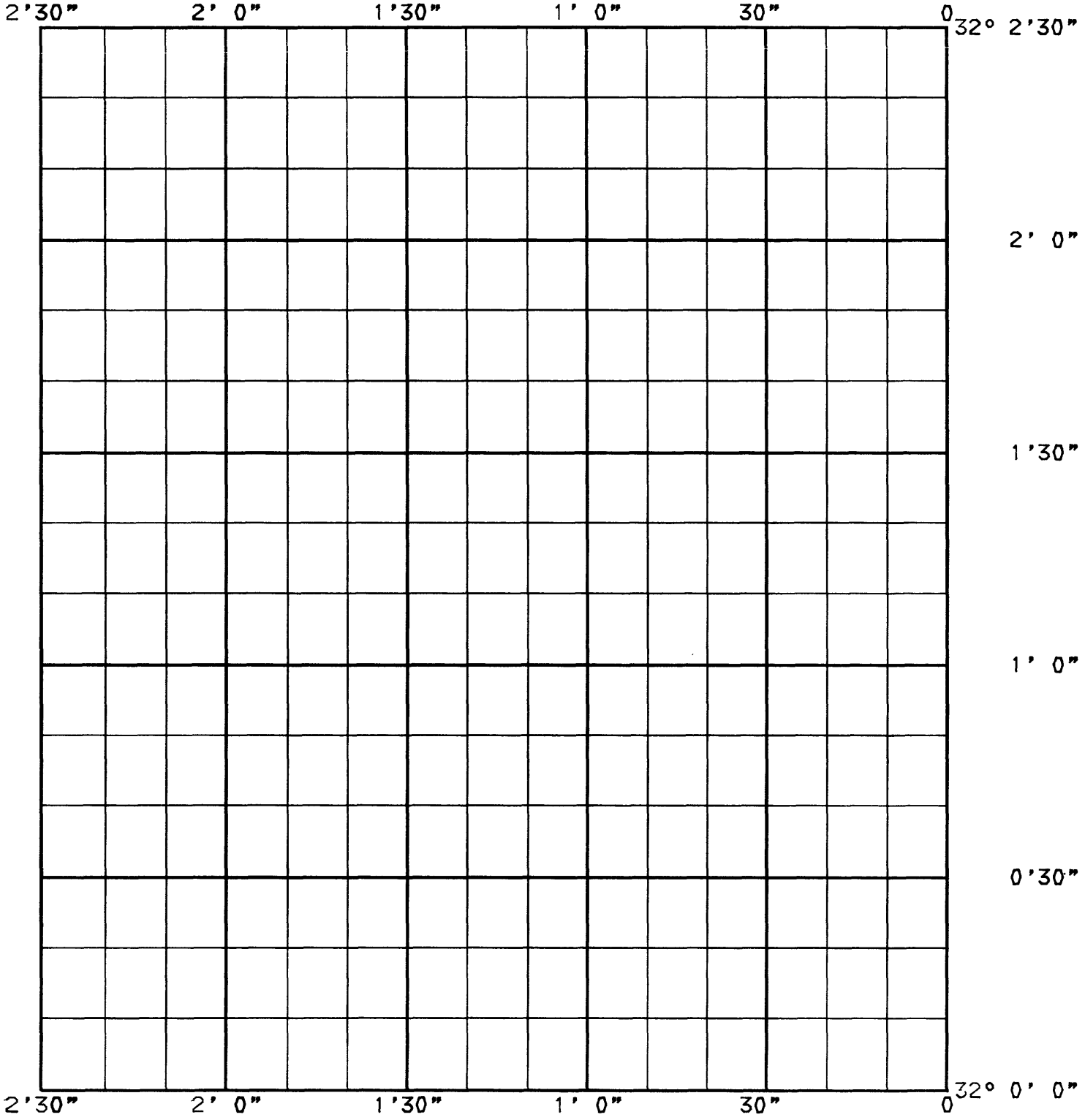

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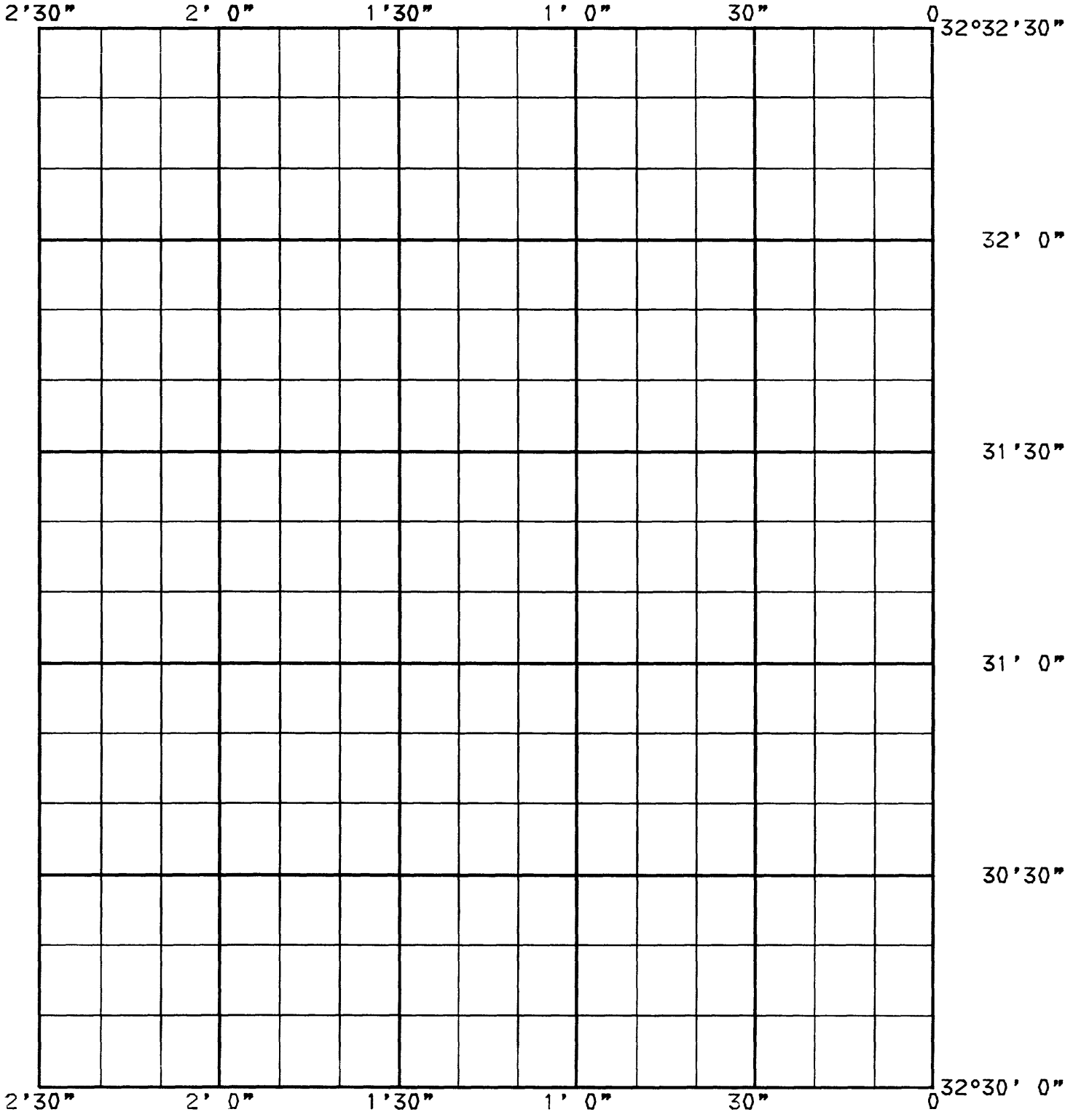

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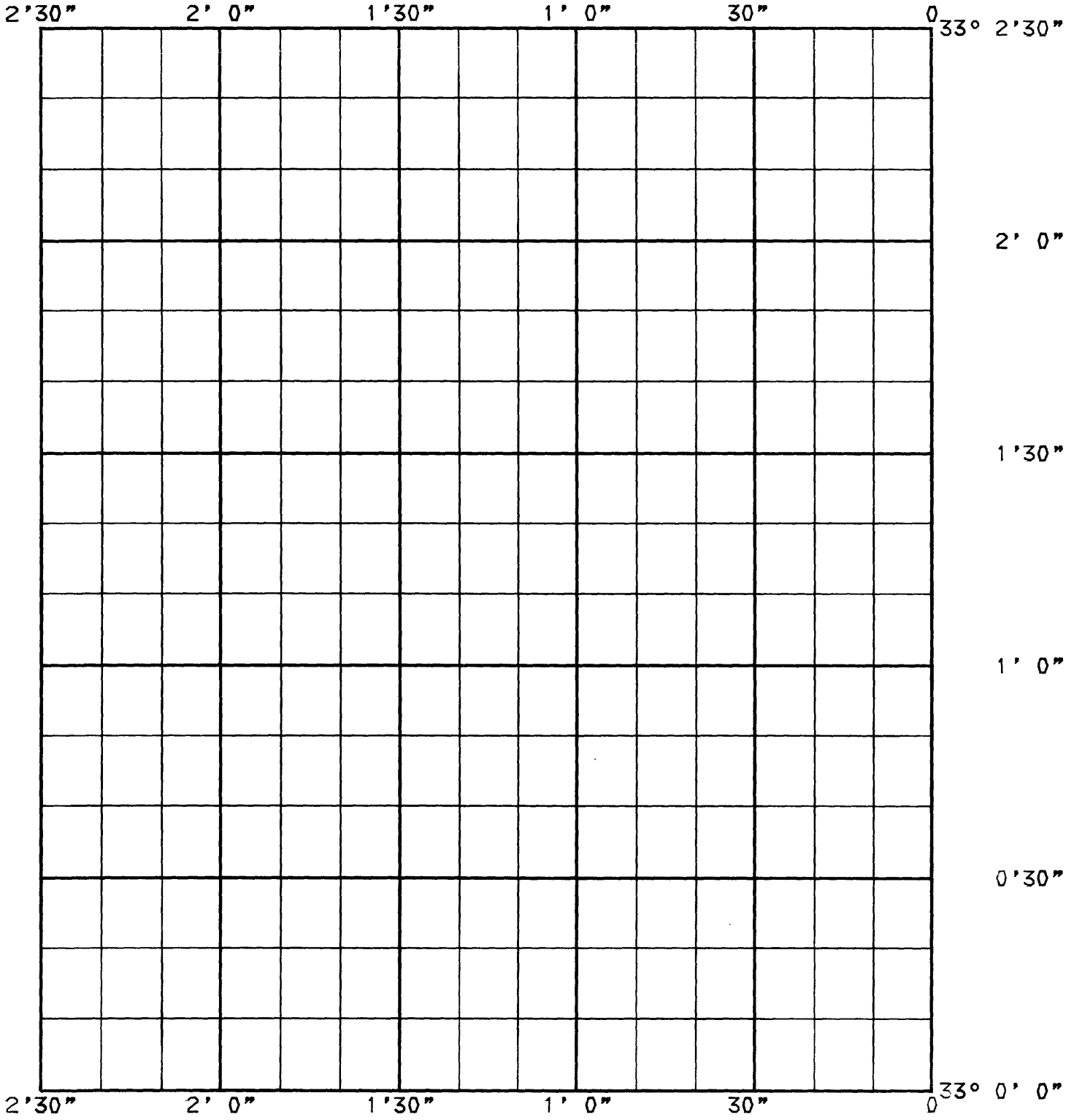

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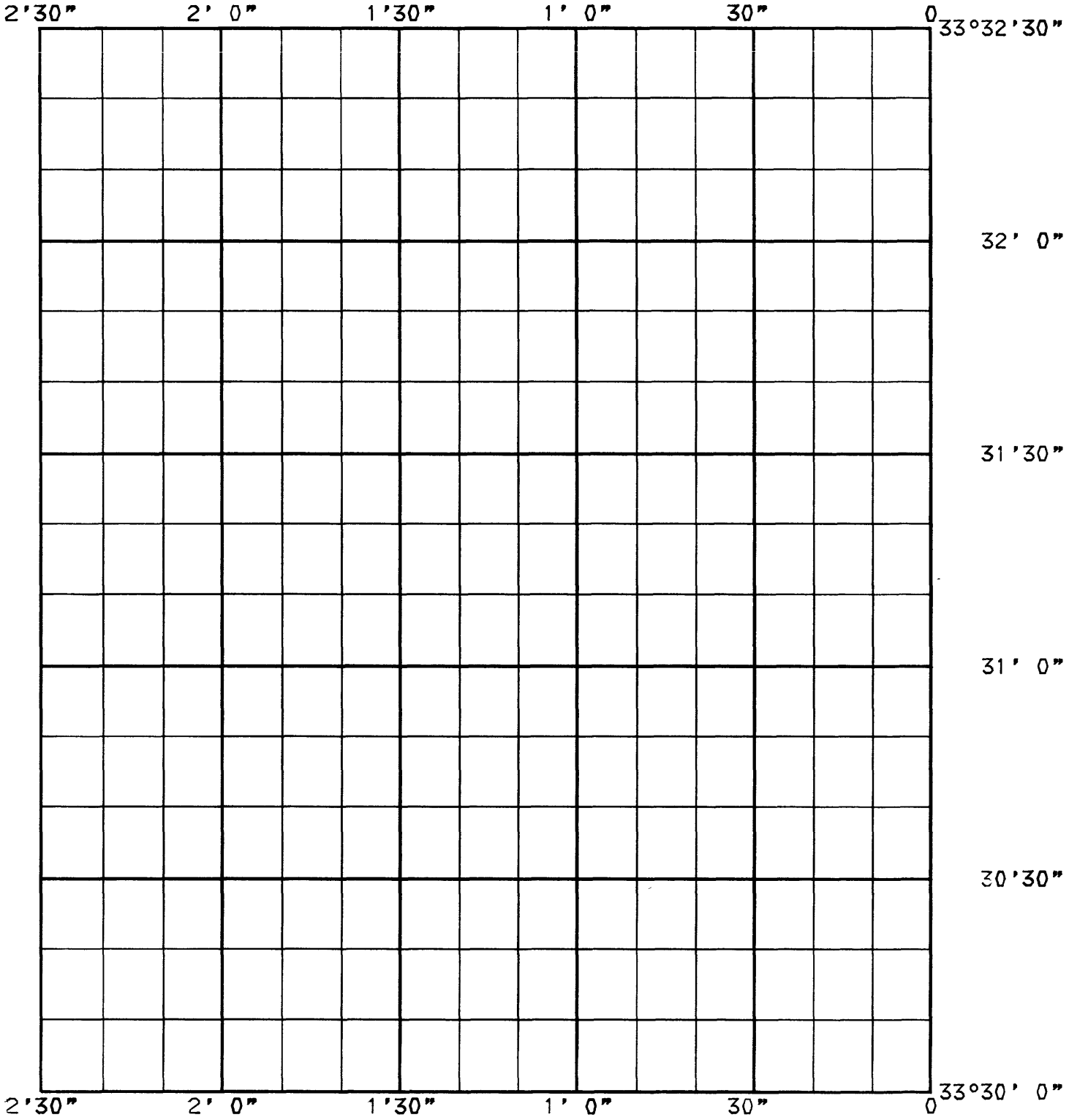

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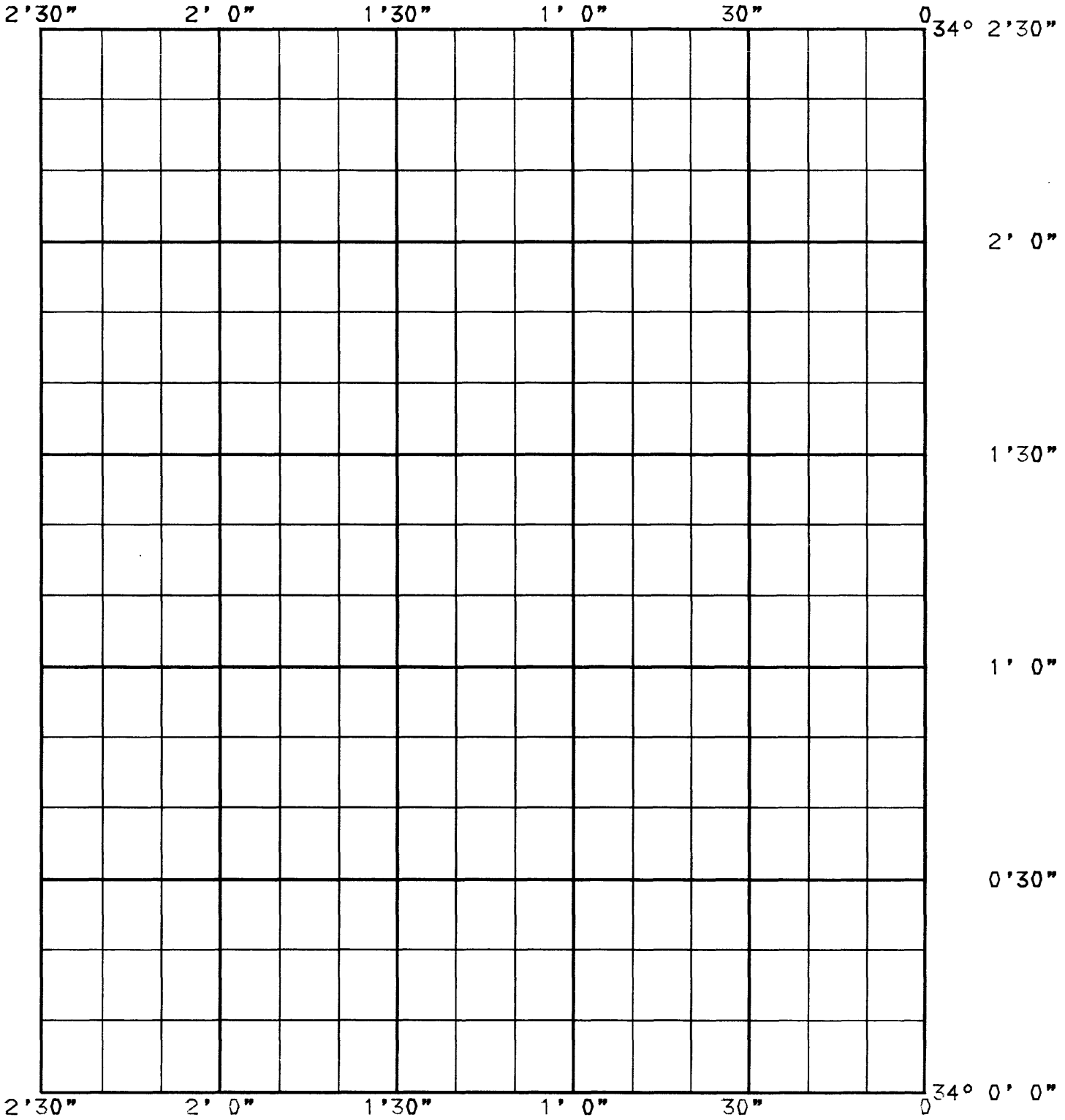

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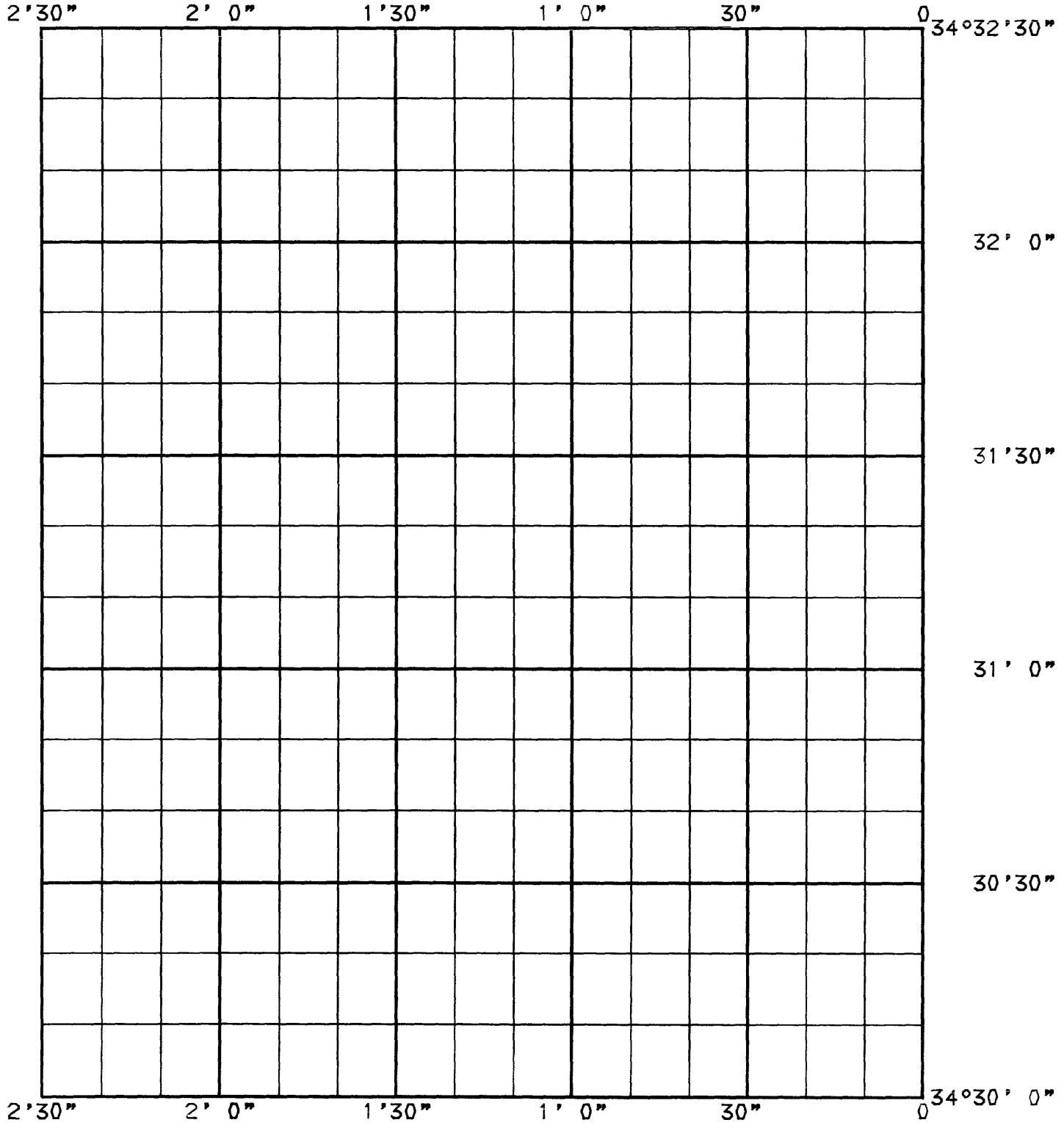

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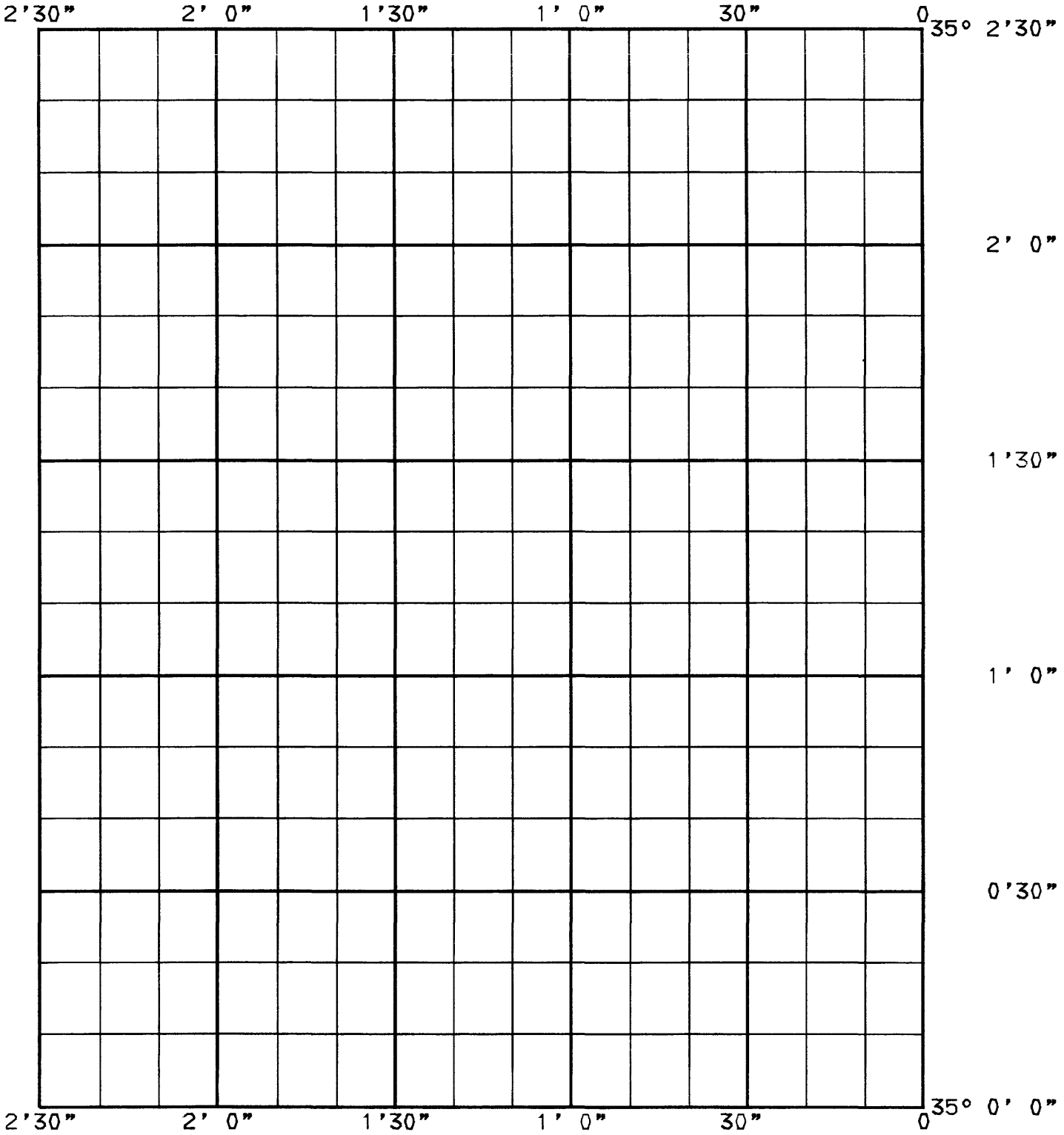

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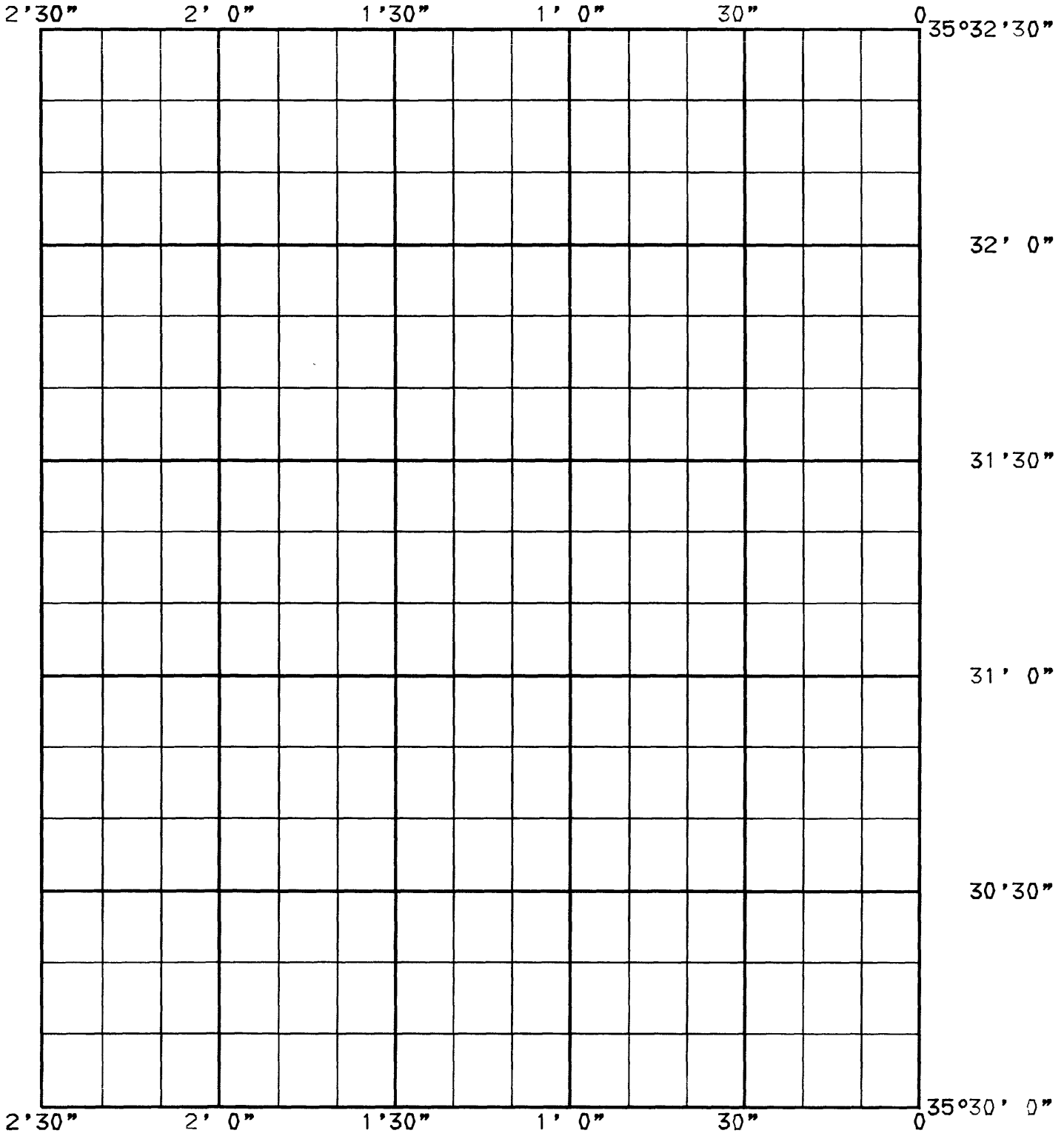

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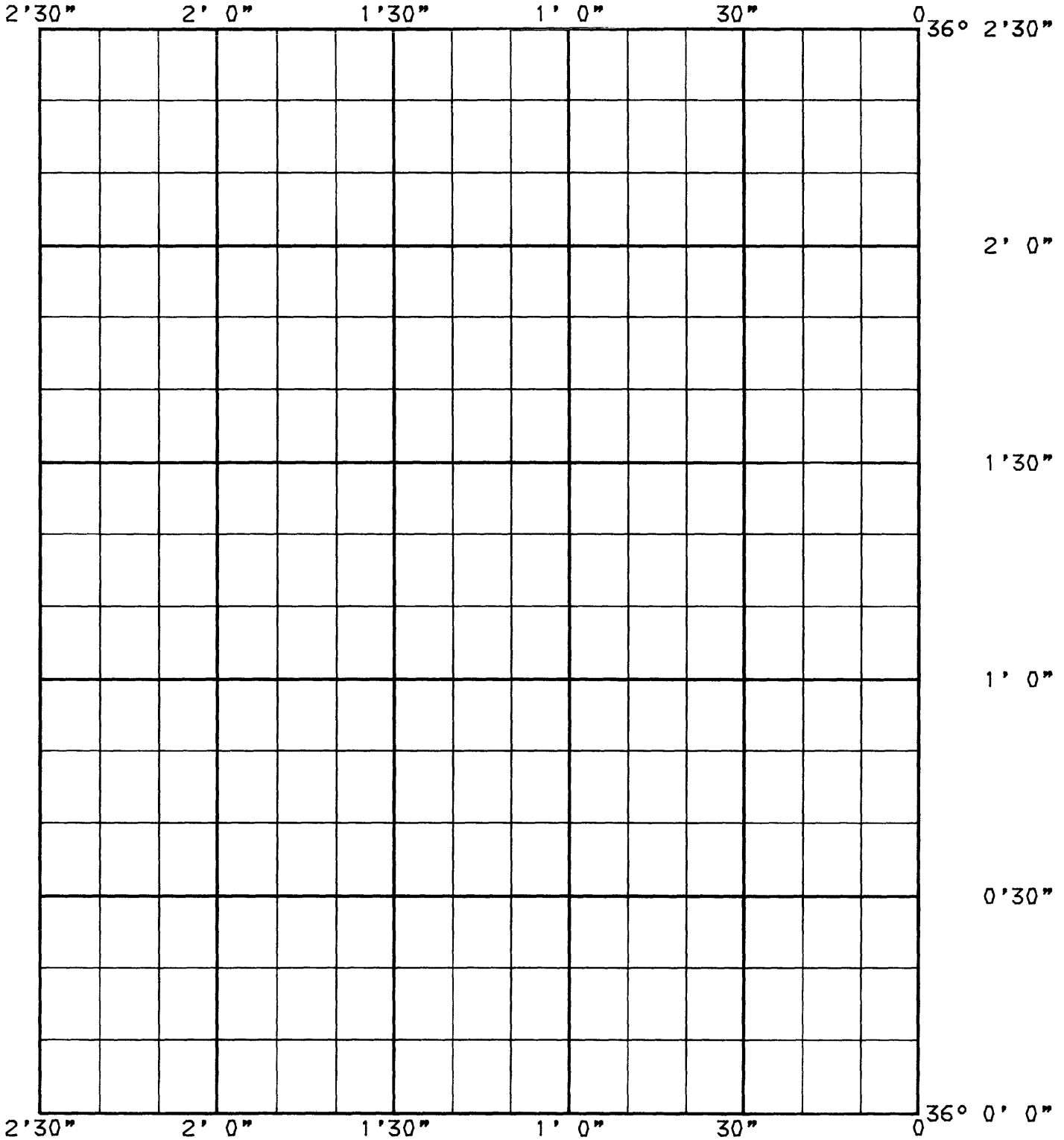

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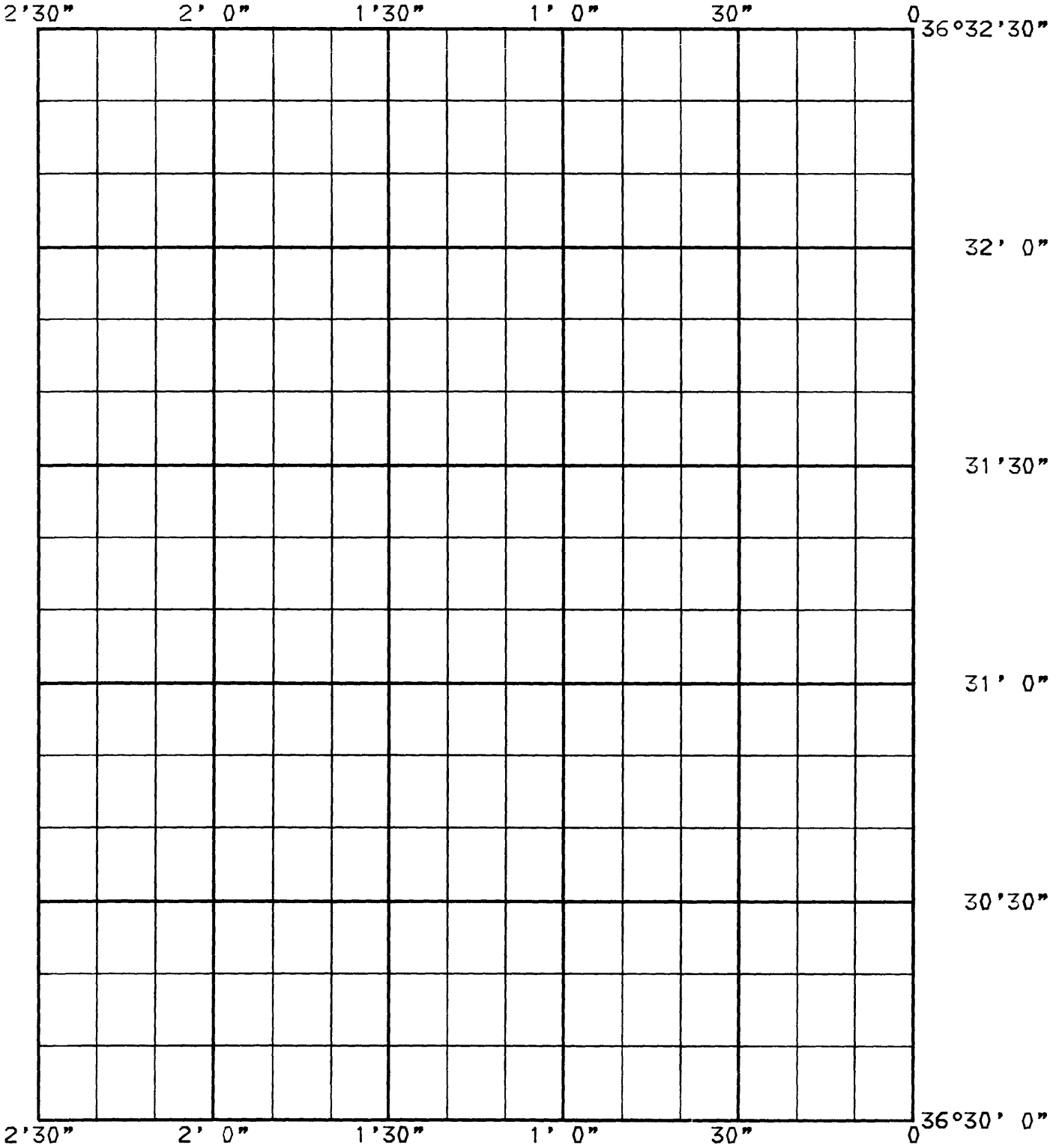

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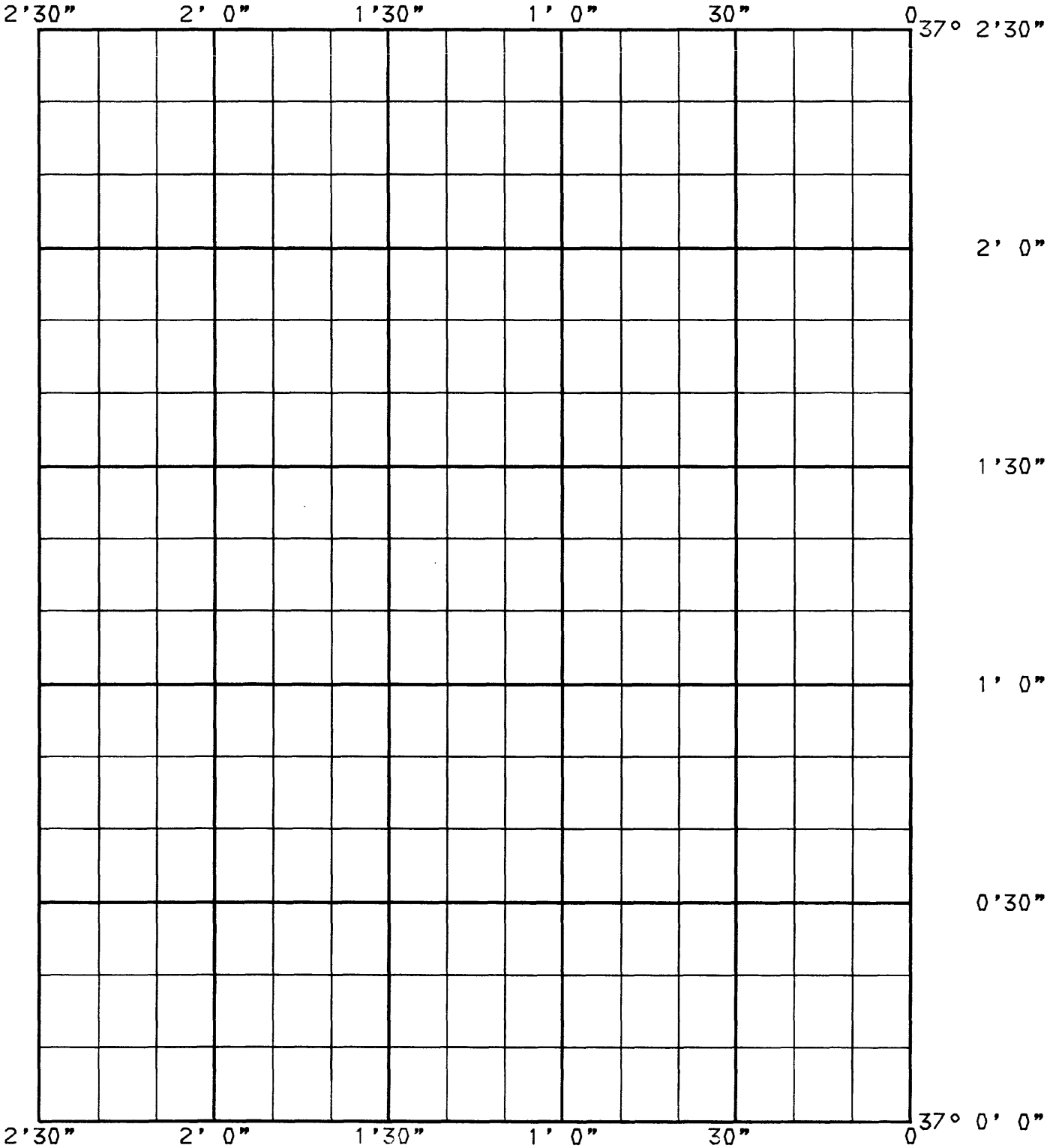

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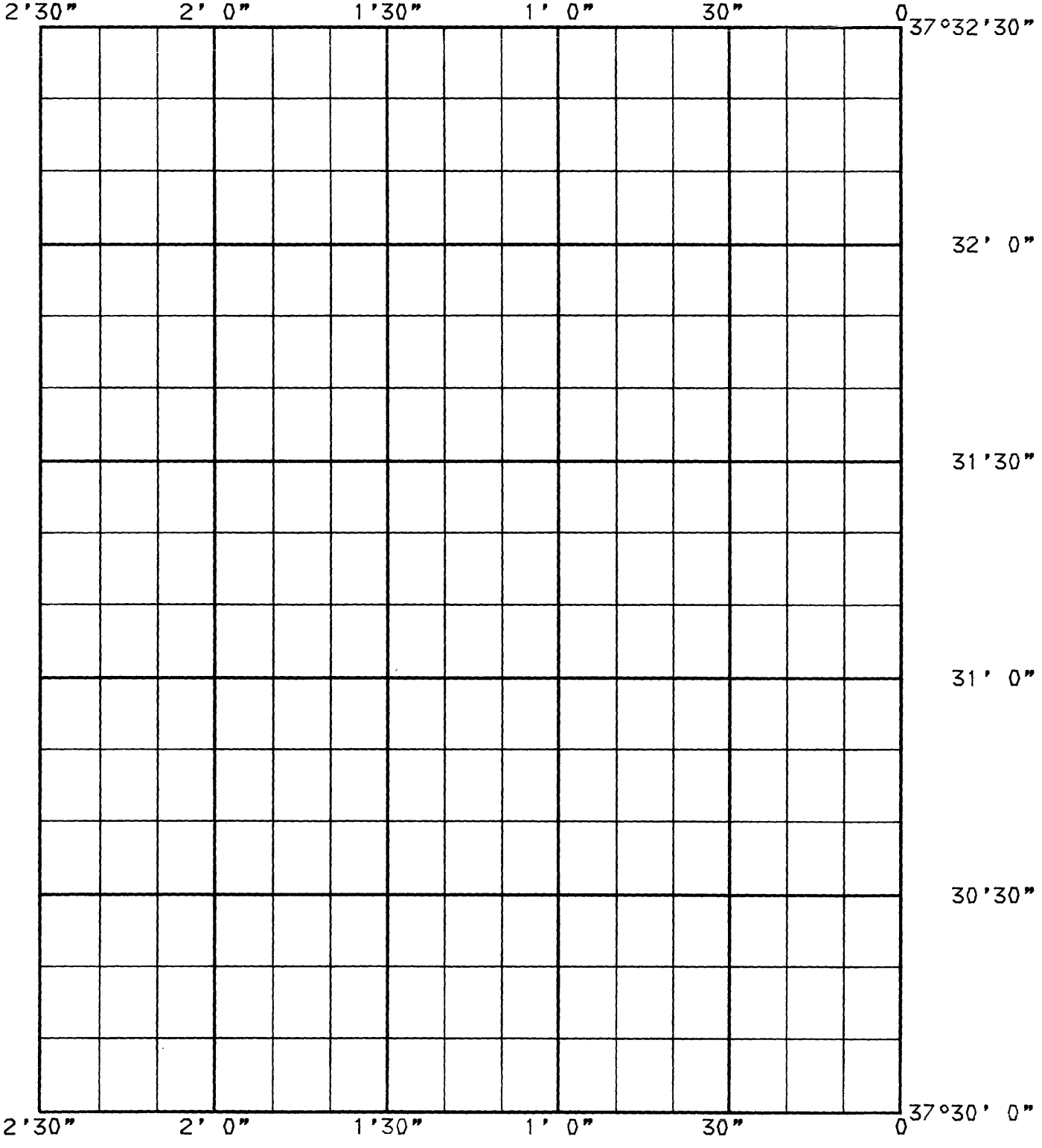

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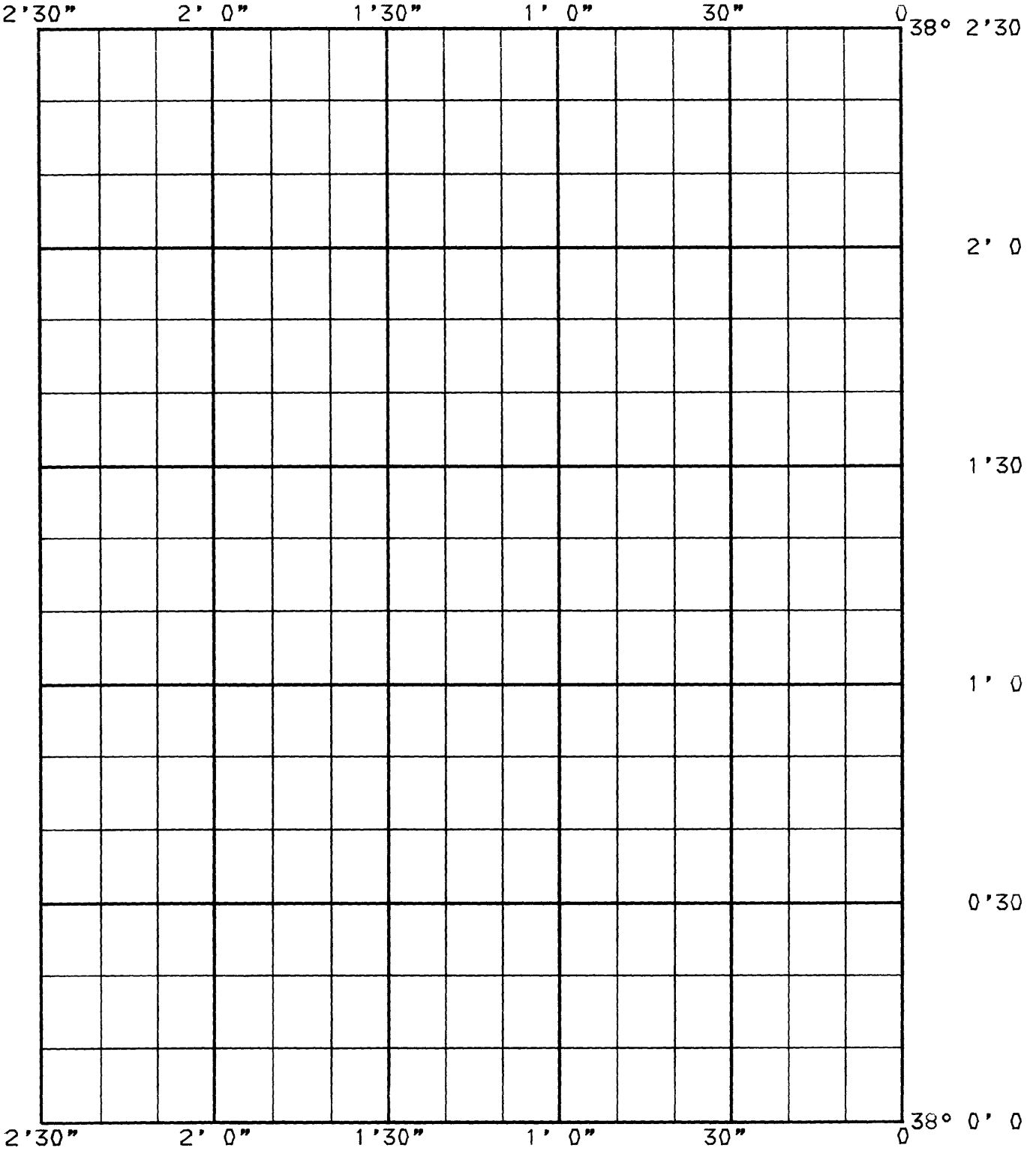

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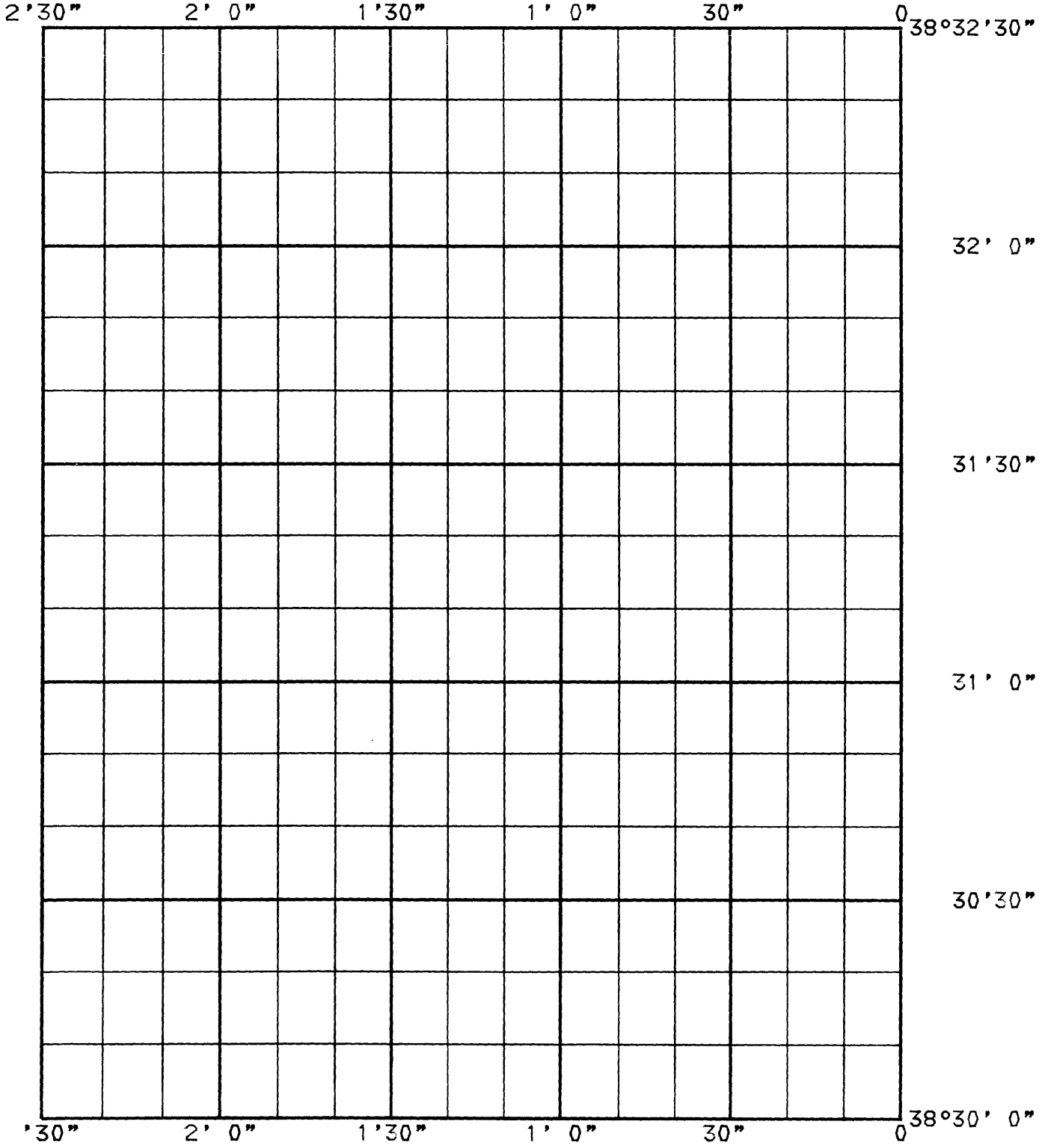

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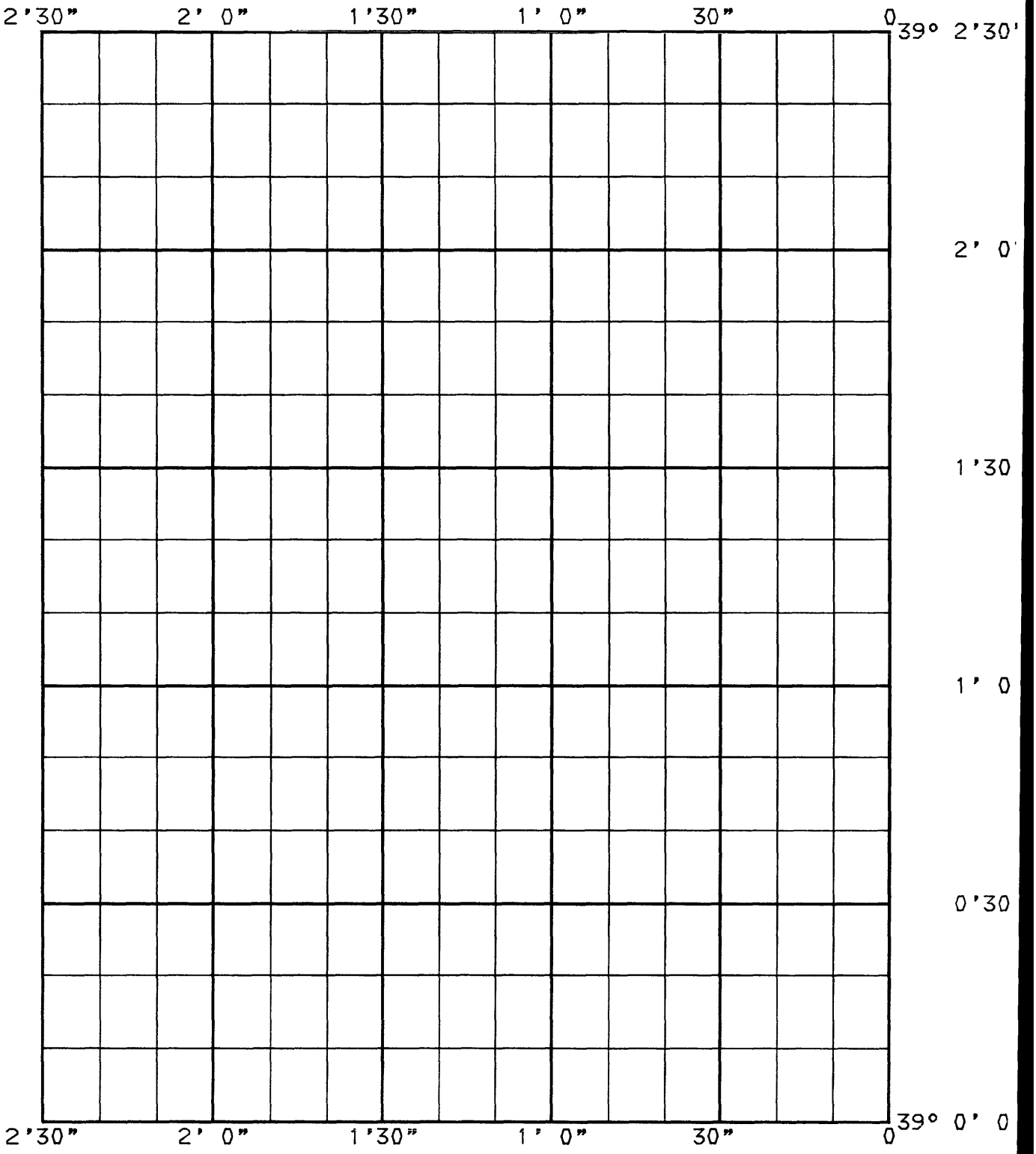

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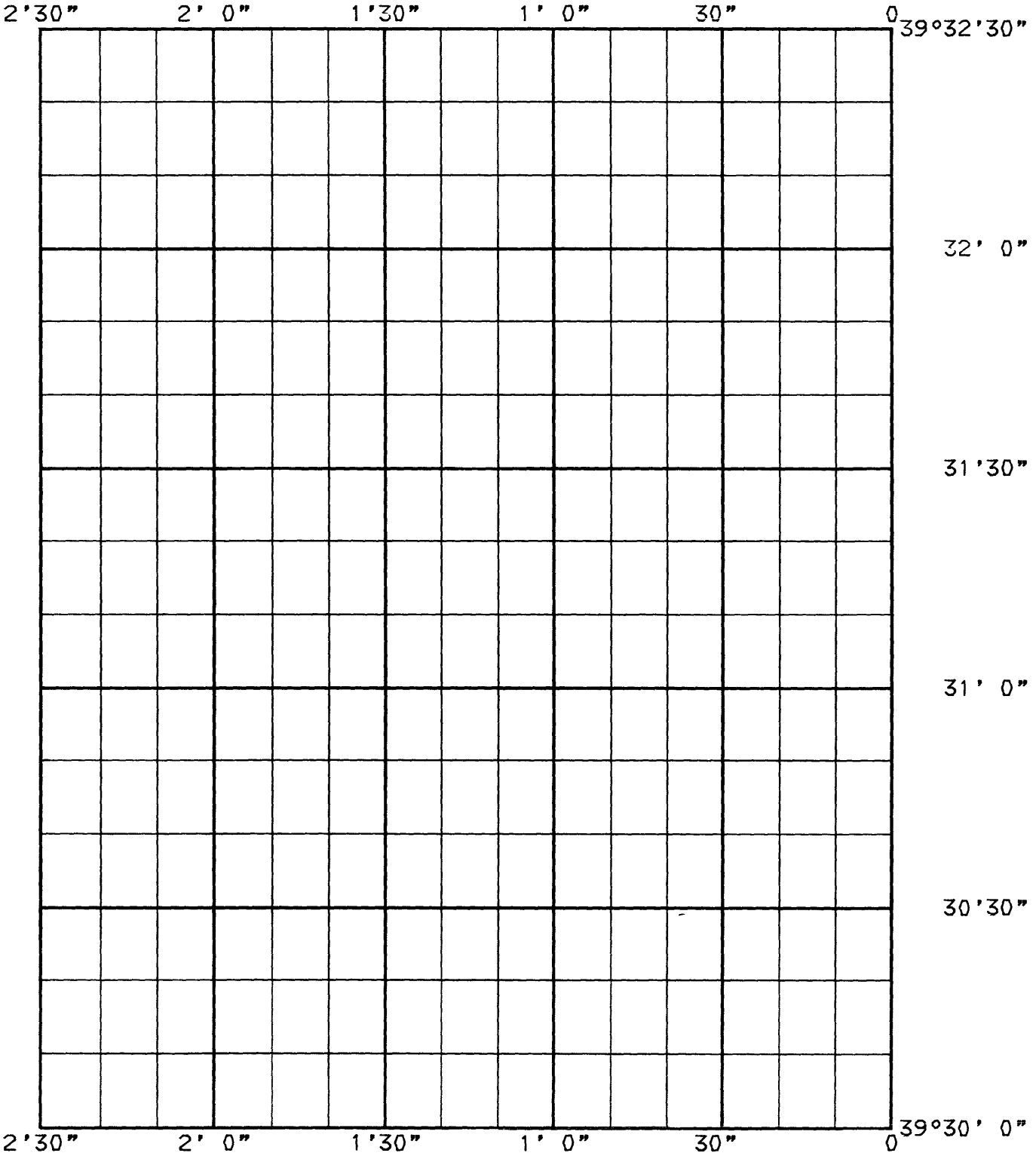

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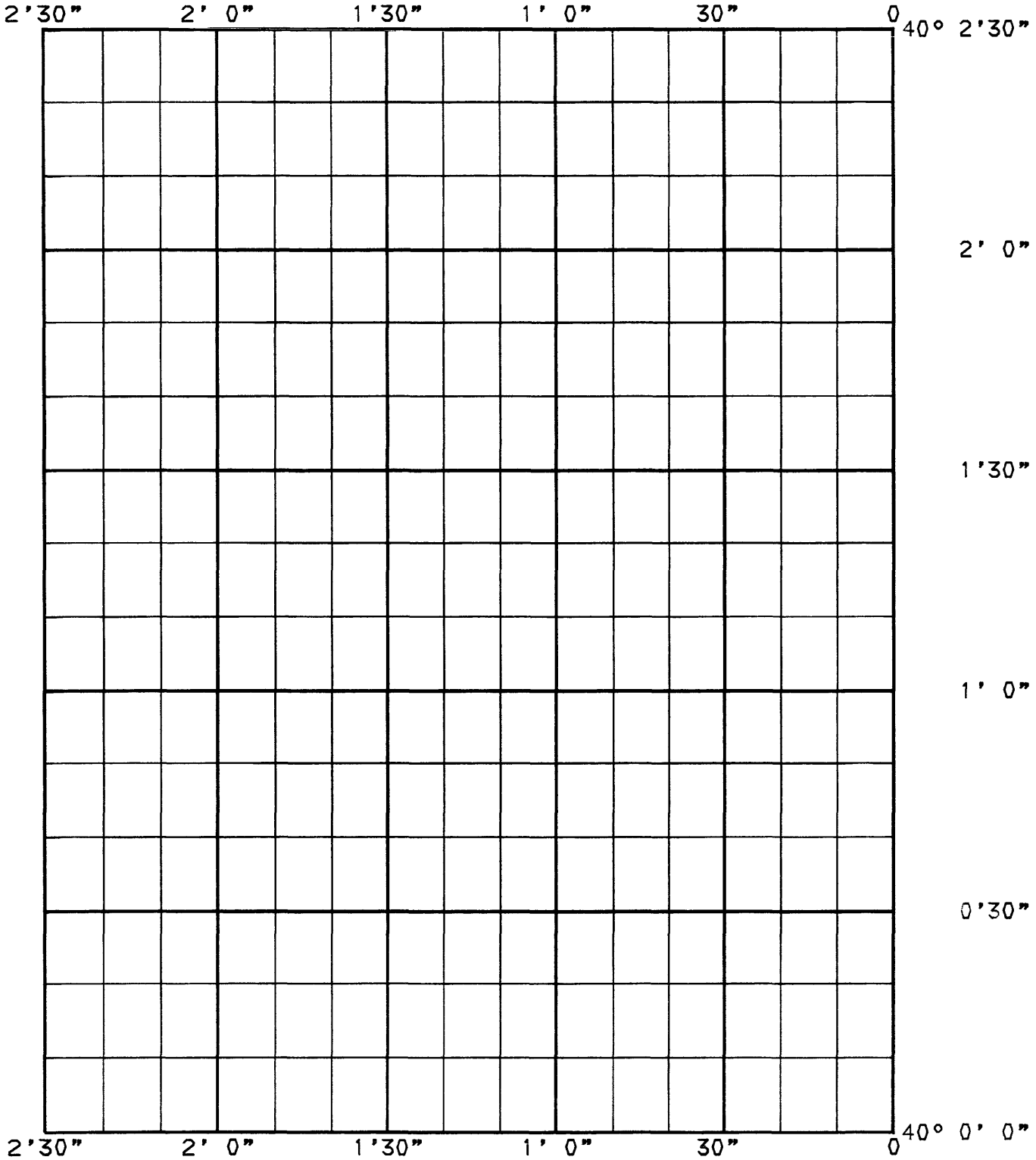

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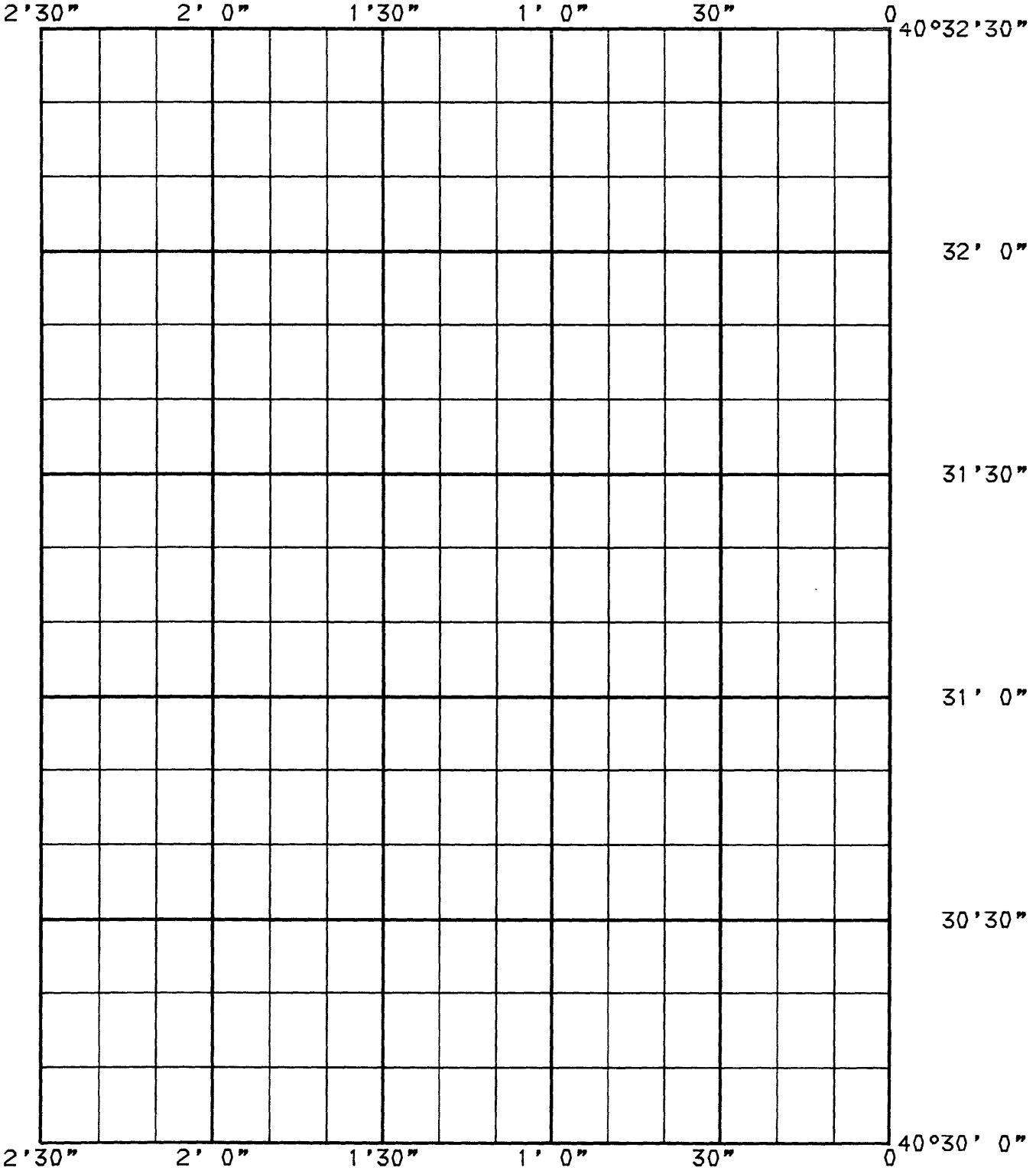

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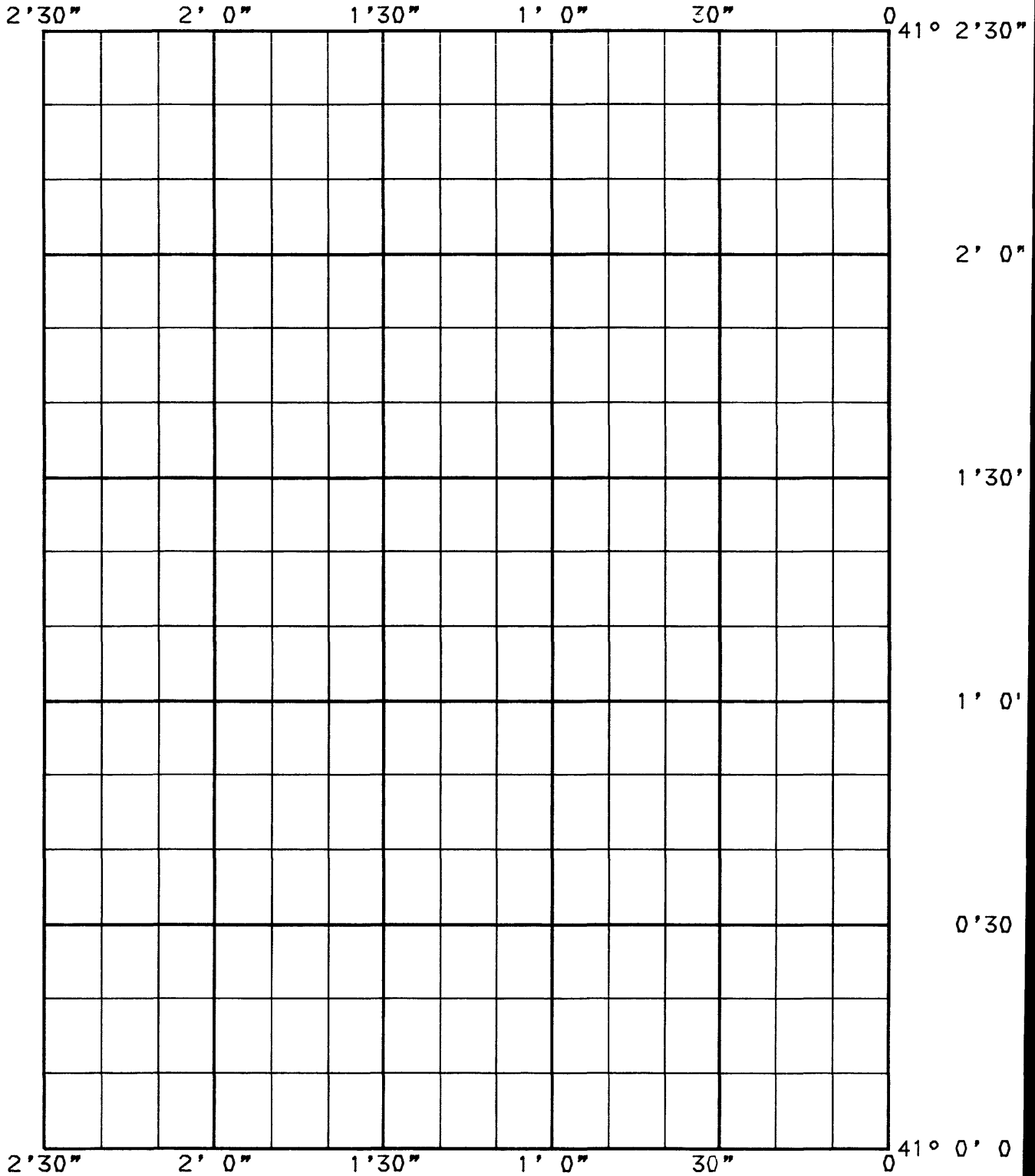

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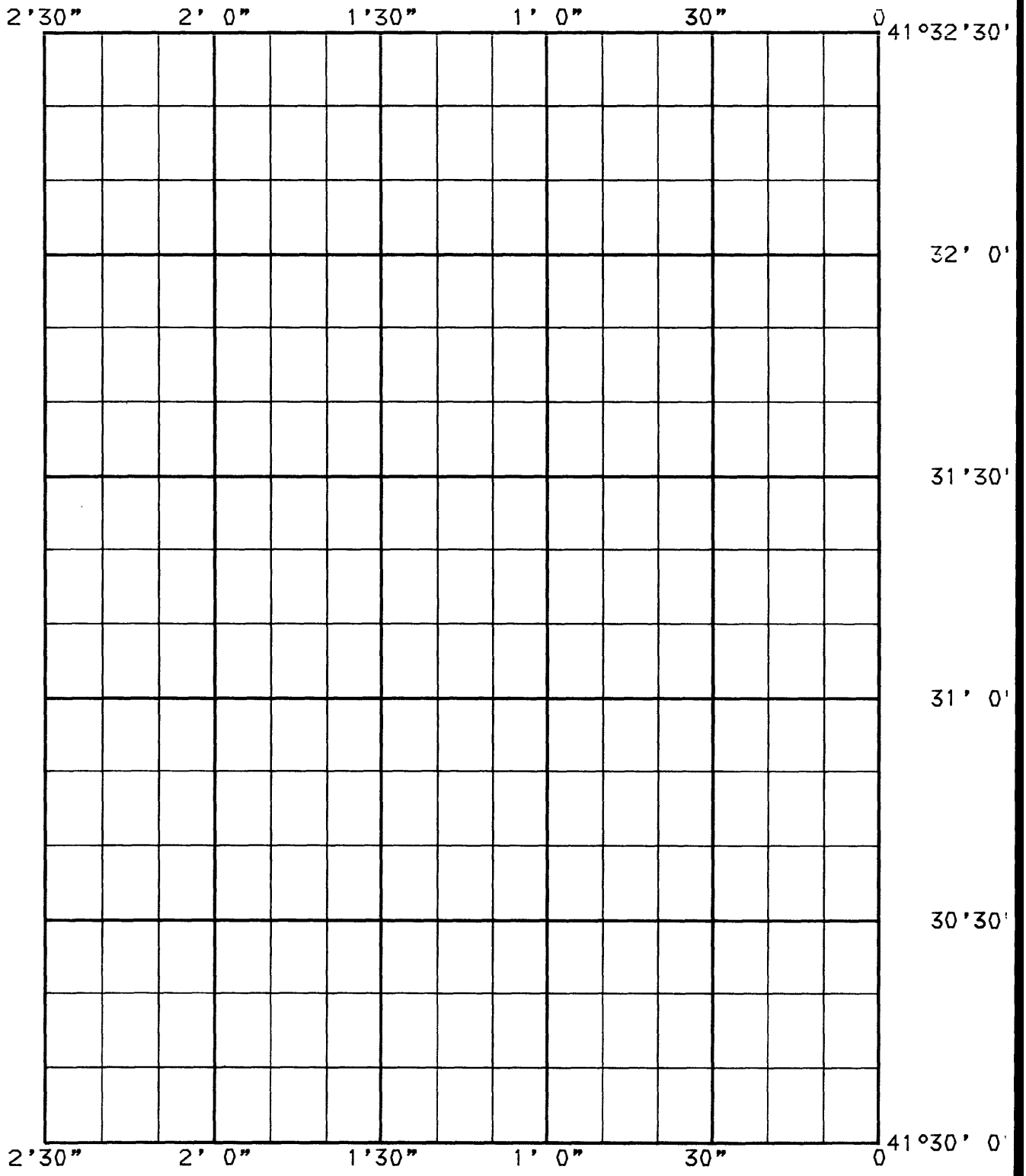

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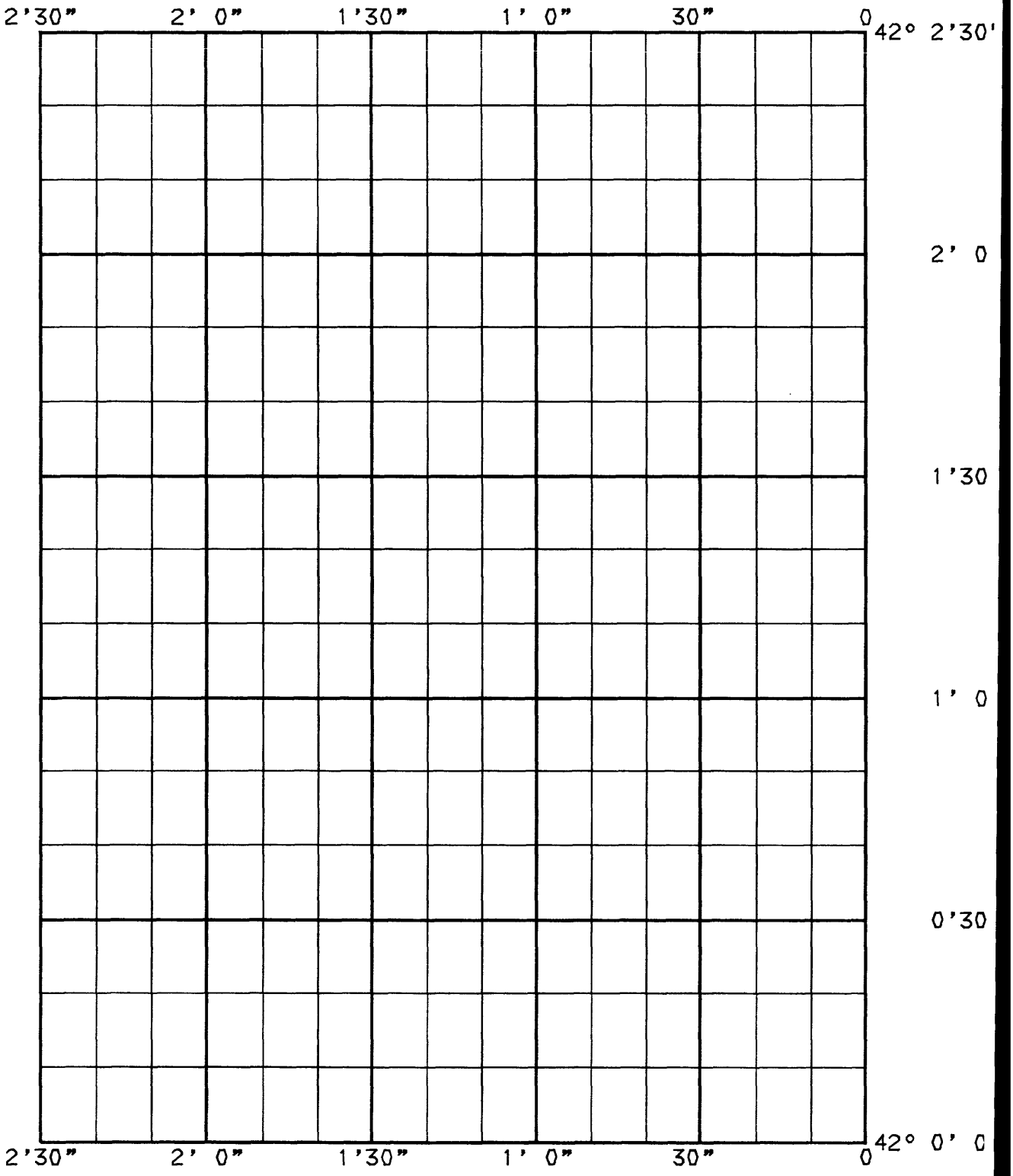

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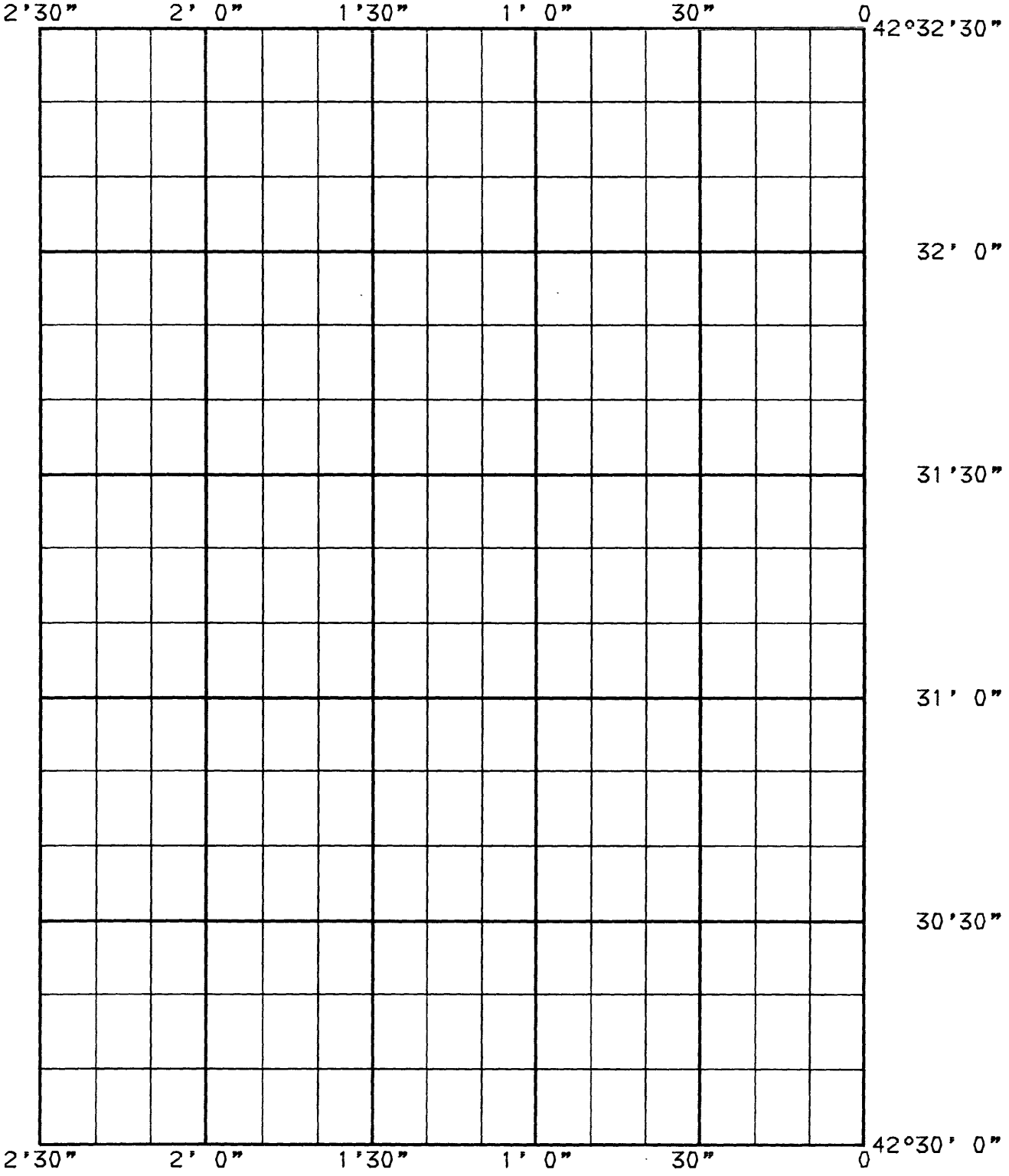

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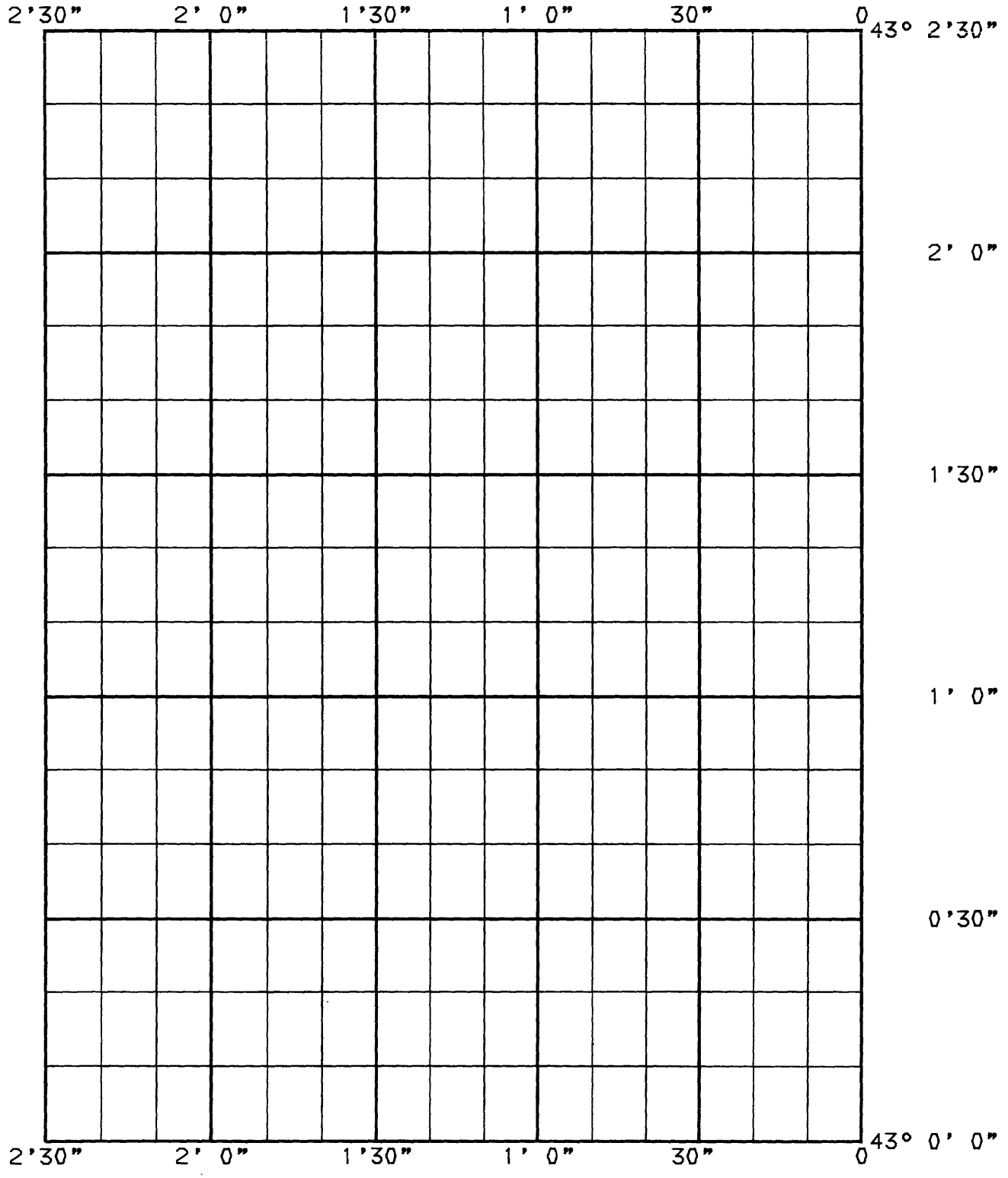

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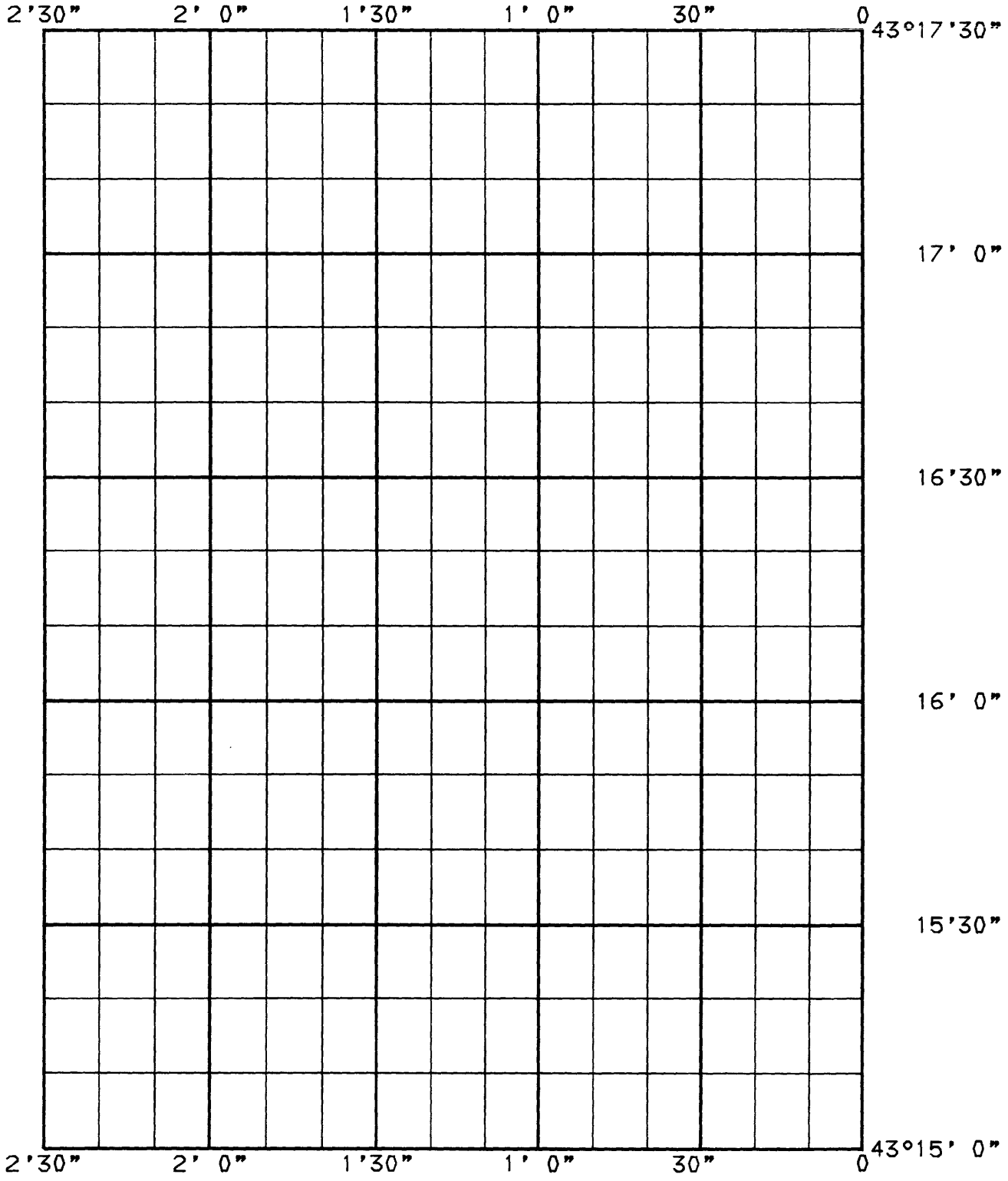

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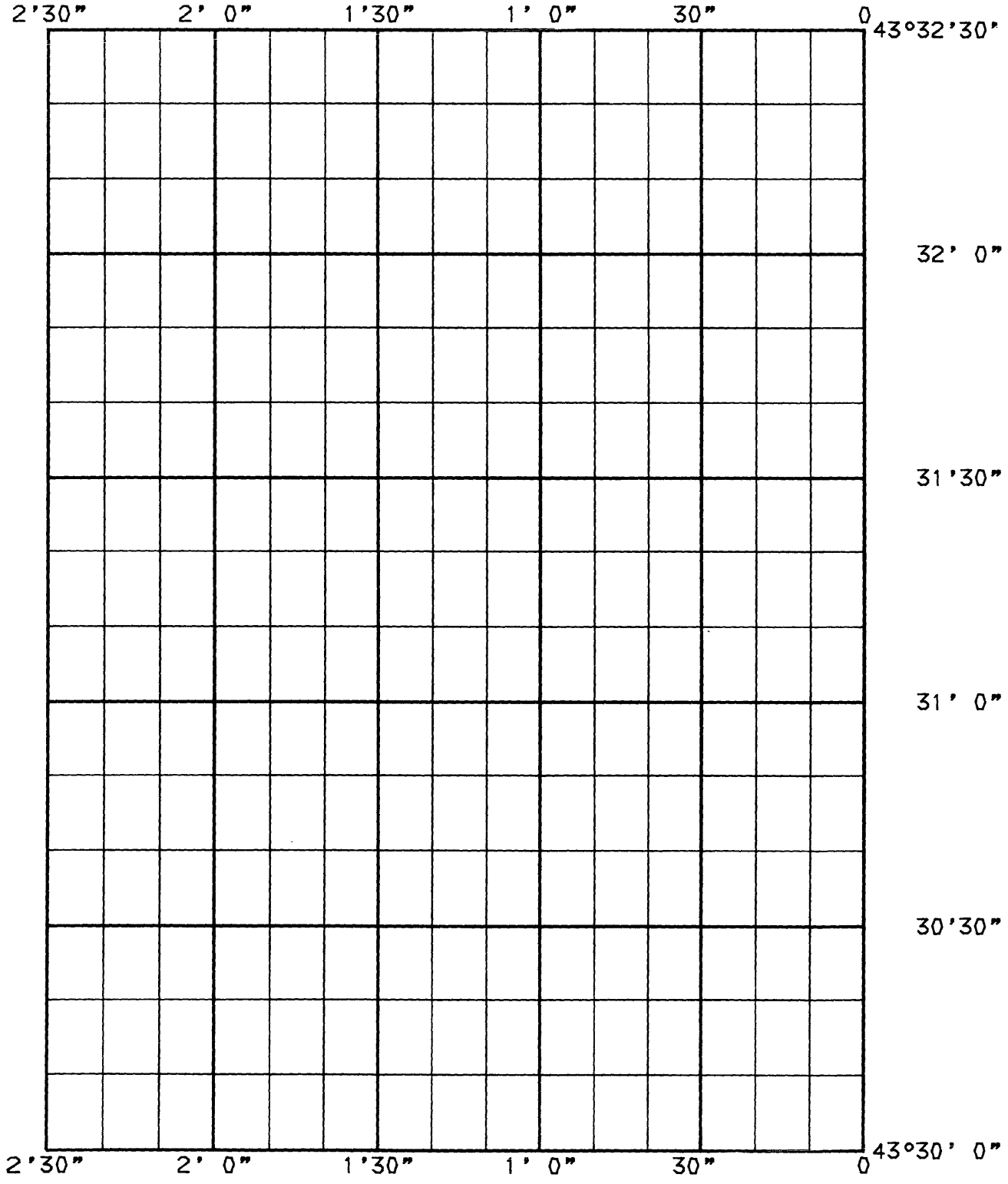

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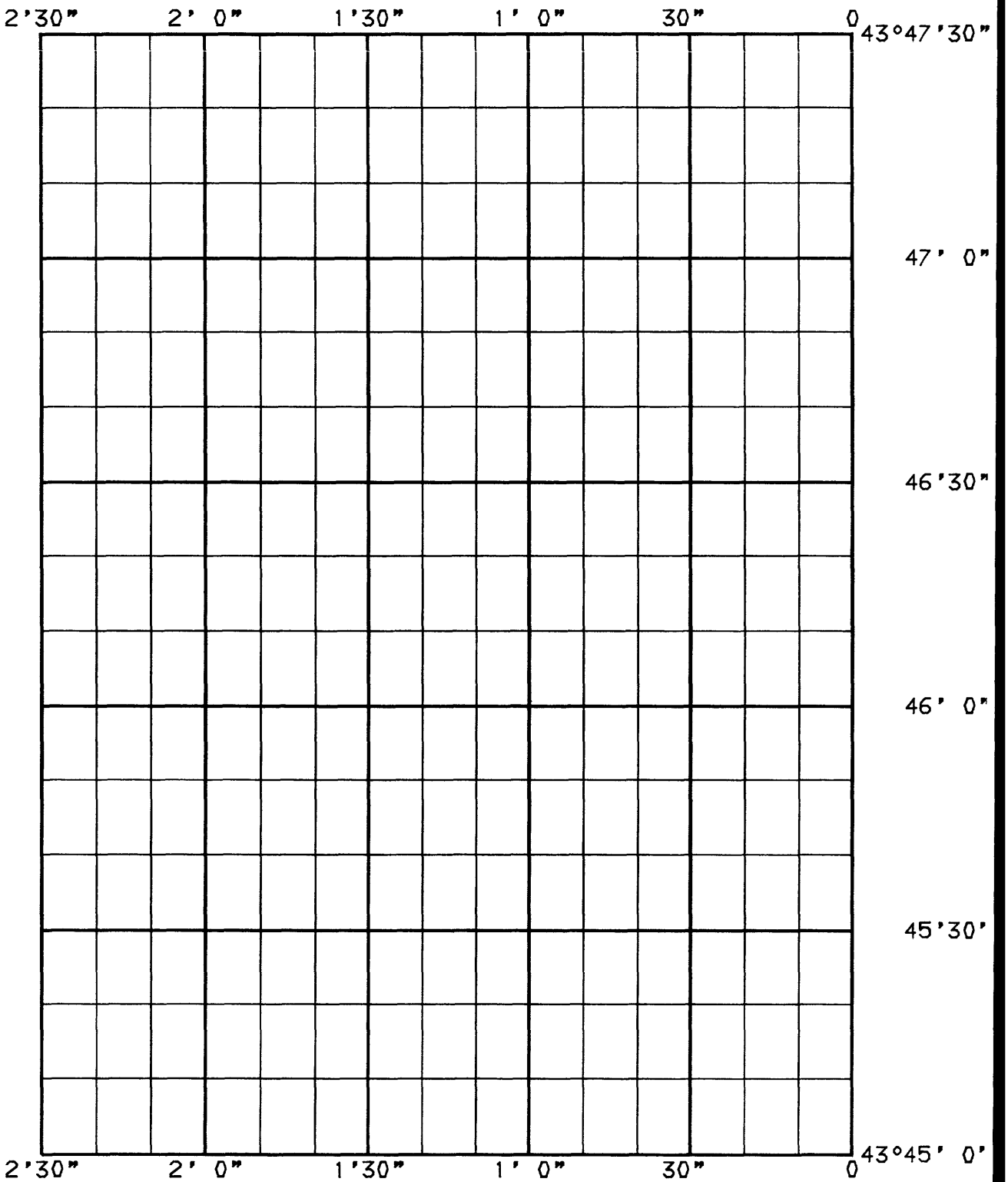

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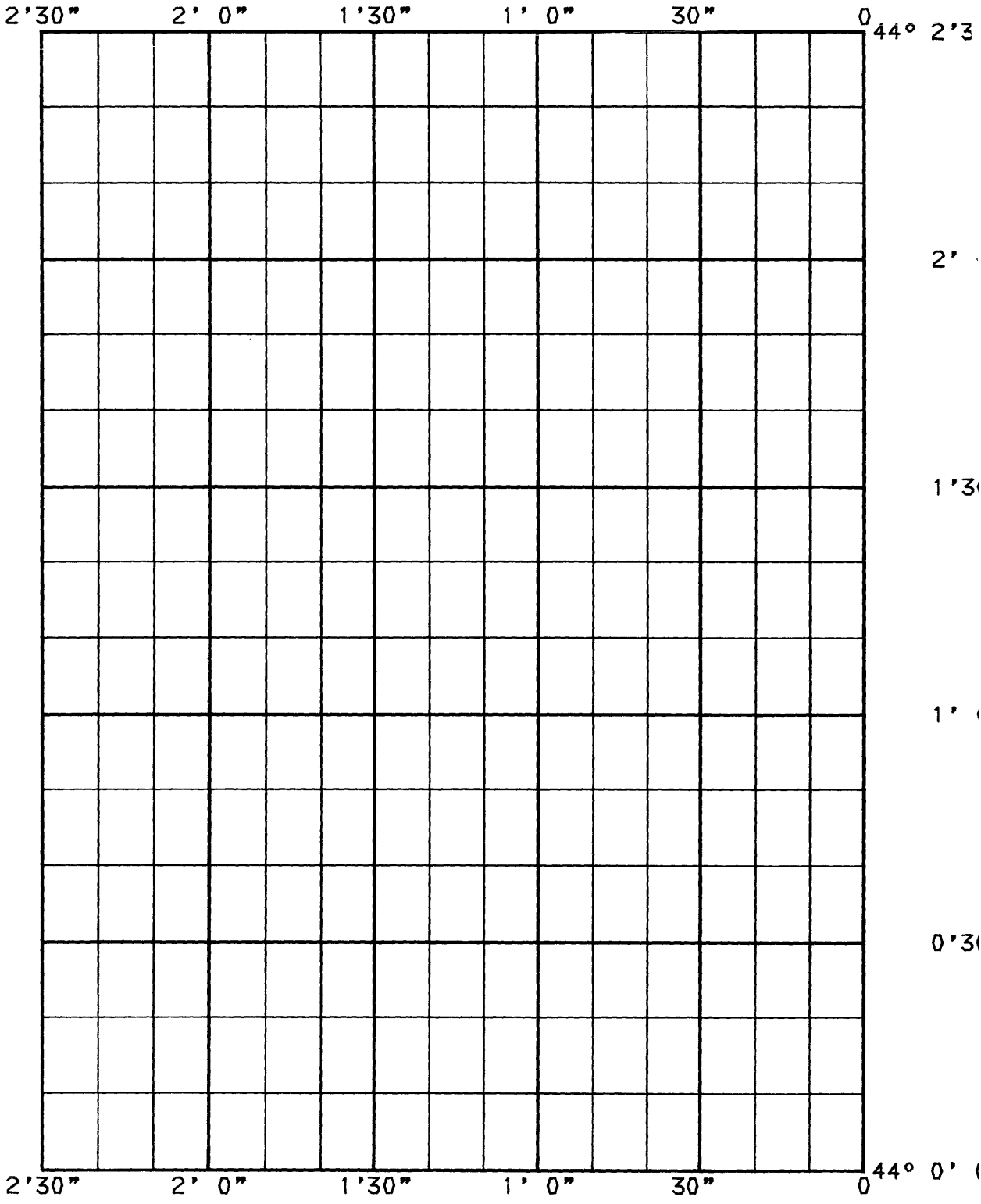
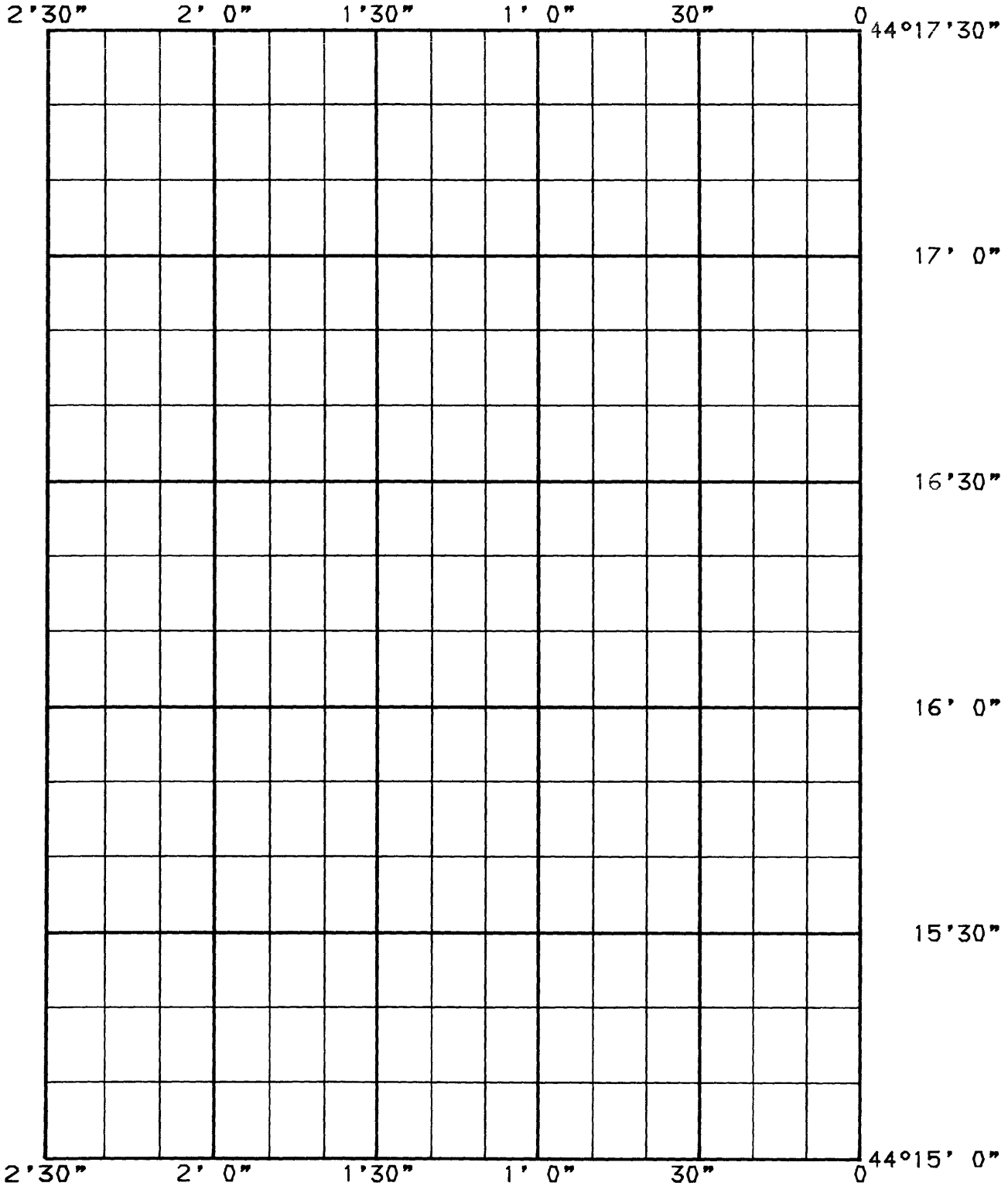
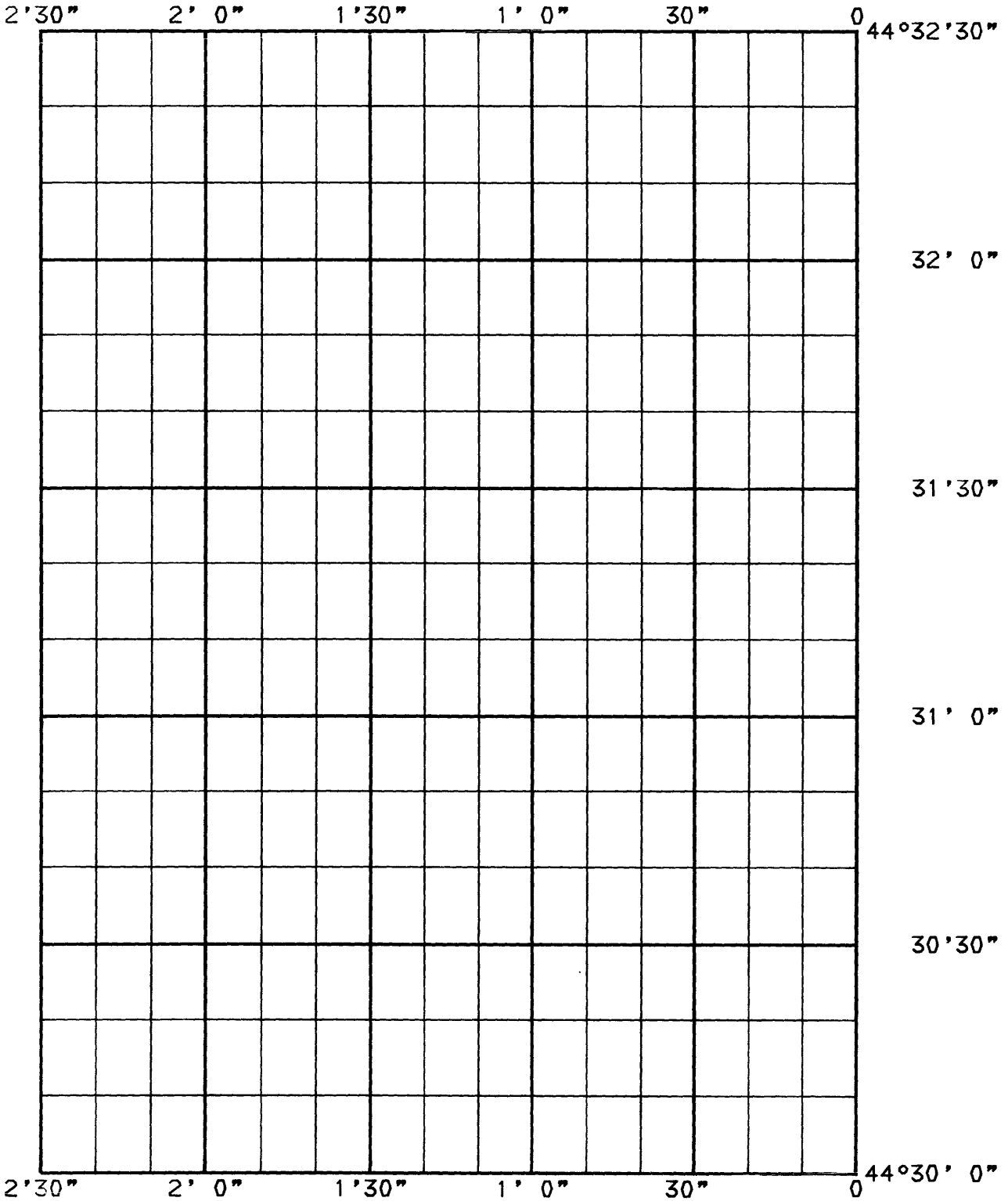
Scale = 1/24,000



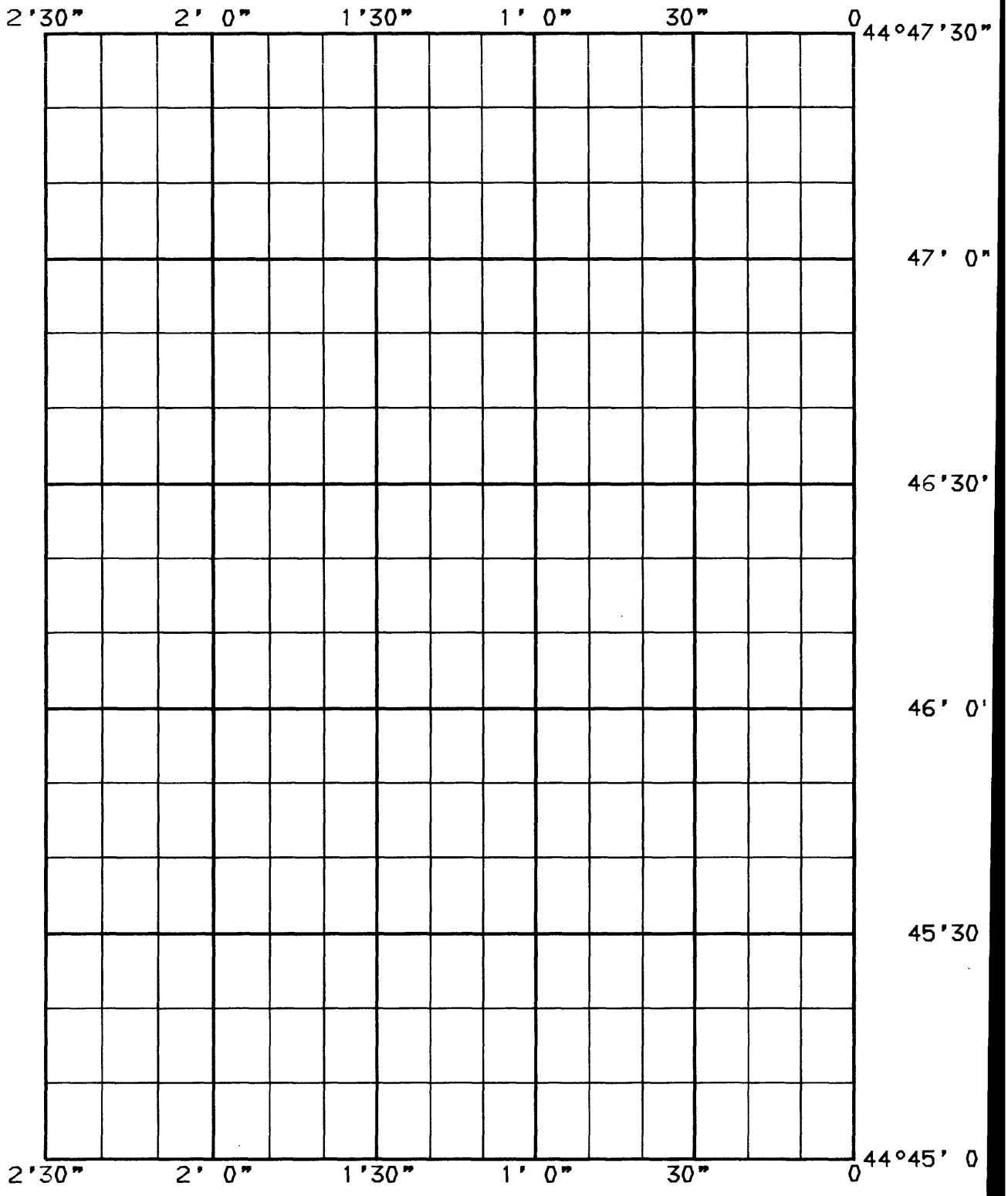
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44°15' 0" to 44°17'30"
Scale = 1/24,000



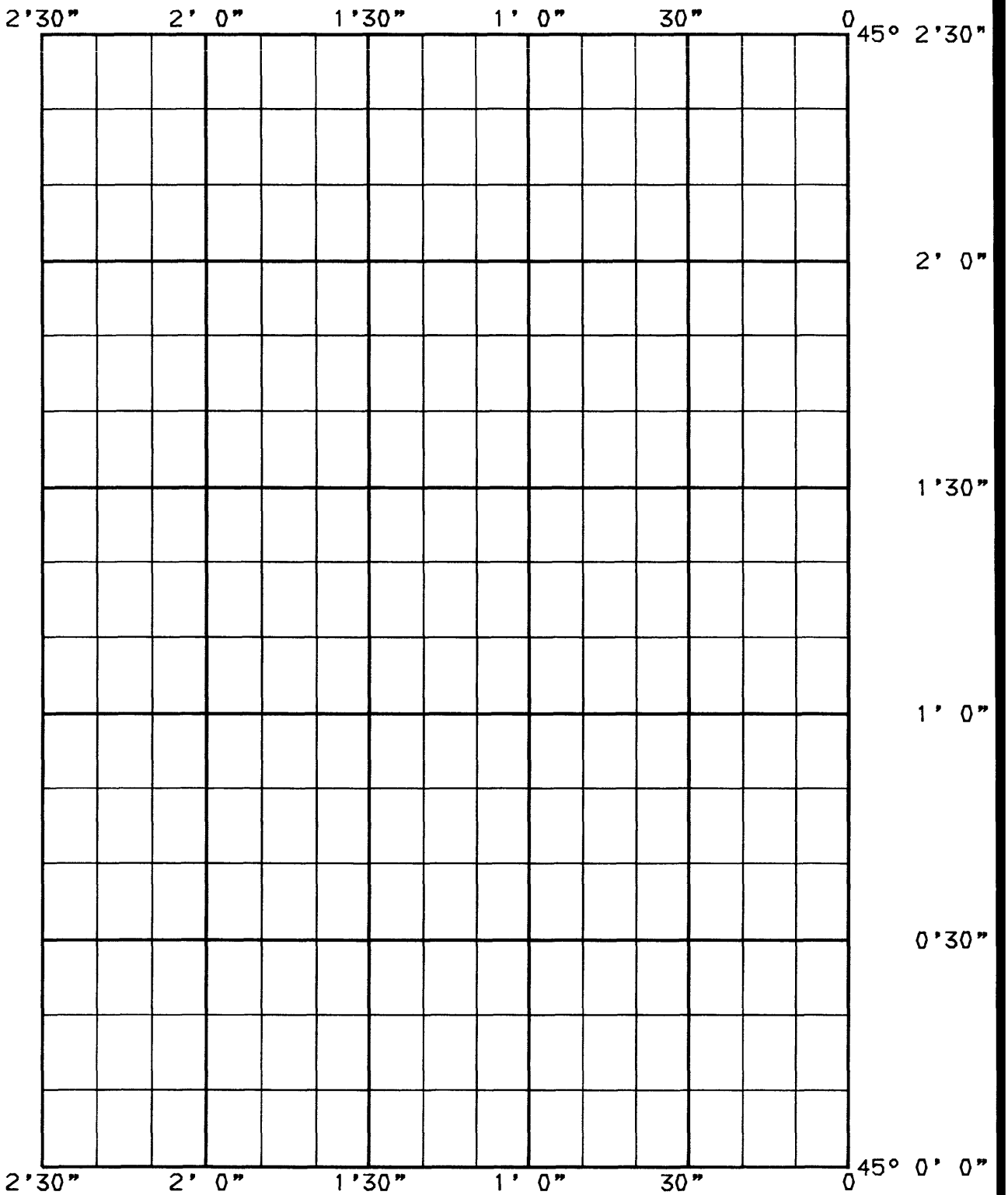
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44°30' 0" to 44°32'30"
Scale = 1/24,000



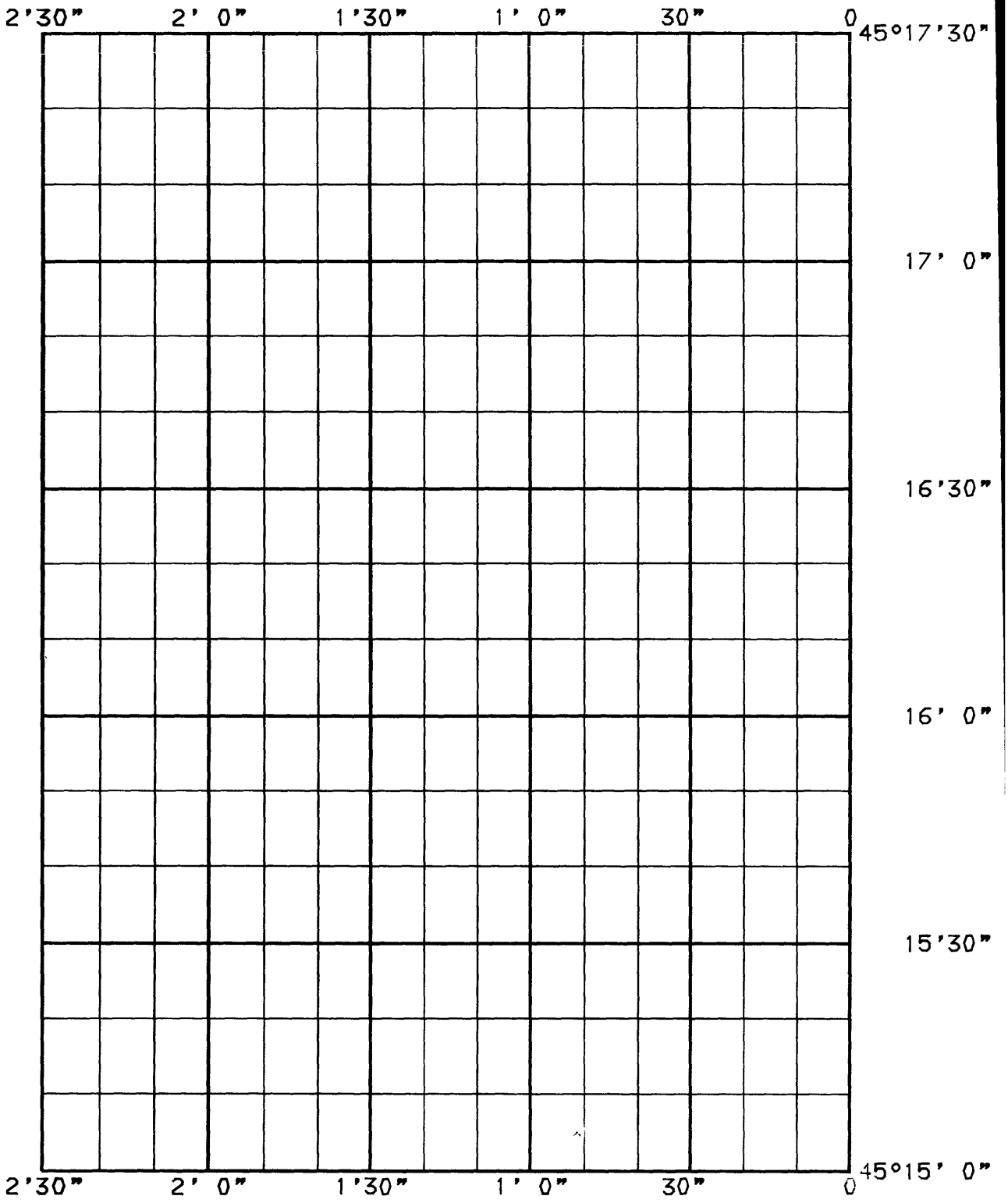
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44°45' 0" to 44°47'30"
Scale = 1/24,000



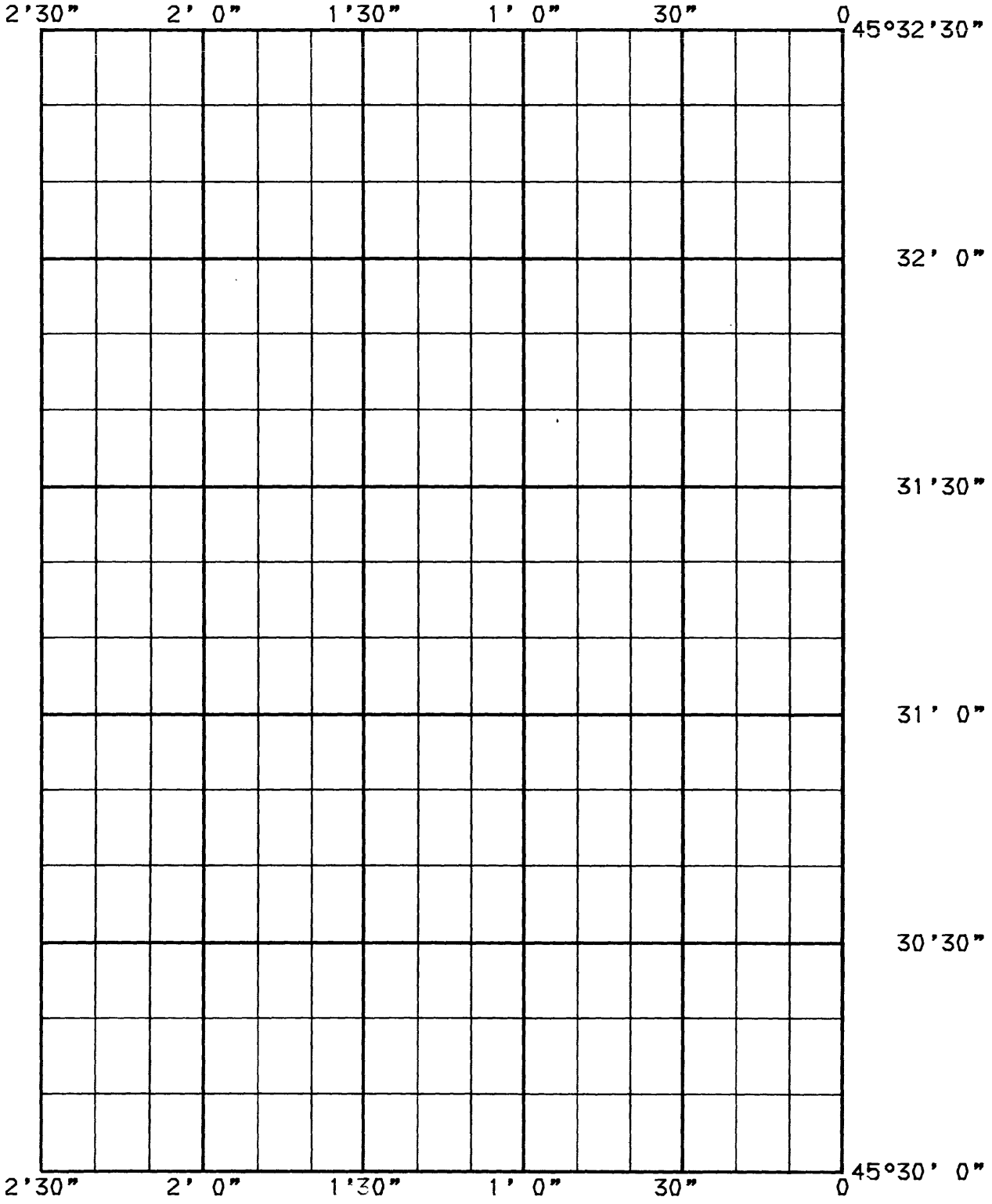
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45° 0' 0" to 45° 2'30"
Scale = 1/24,000



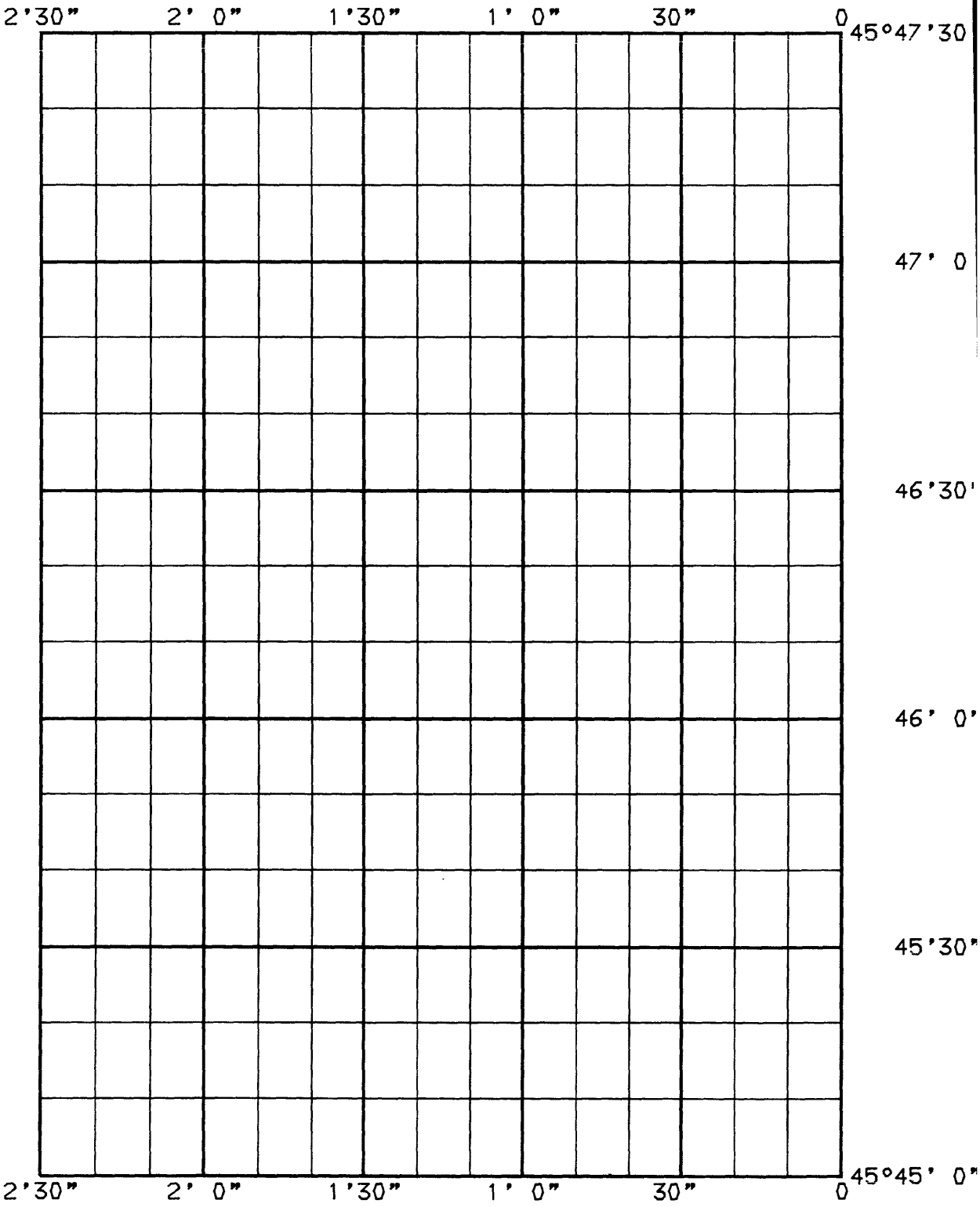
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45°15' 0" to 45°17'30"
Scale = 1/24,000



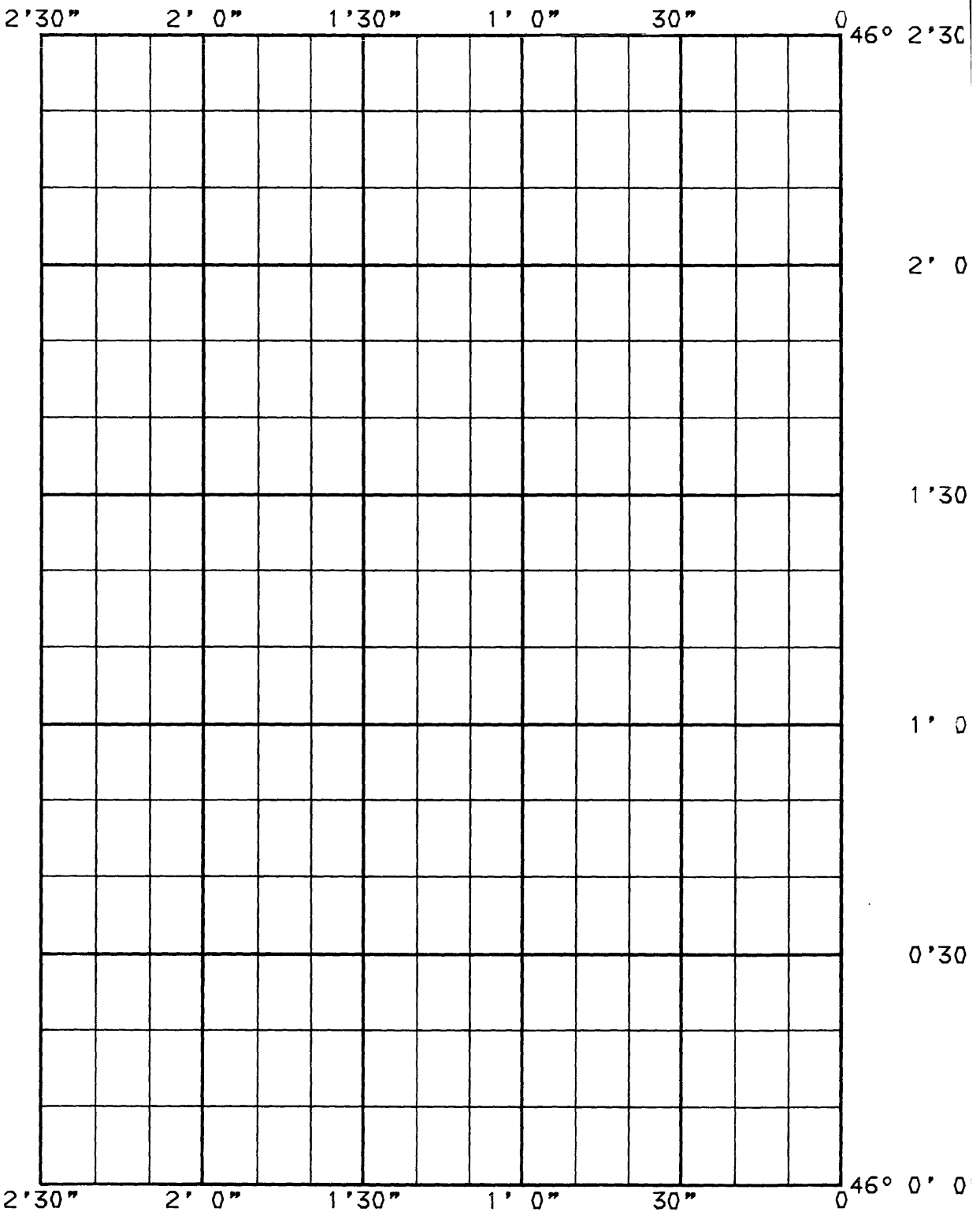
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45°30' 0" to 45°32'30"
Scale = 1/24,000



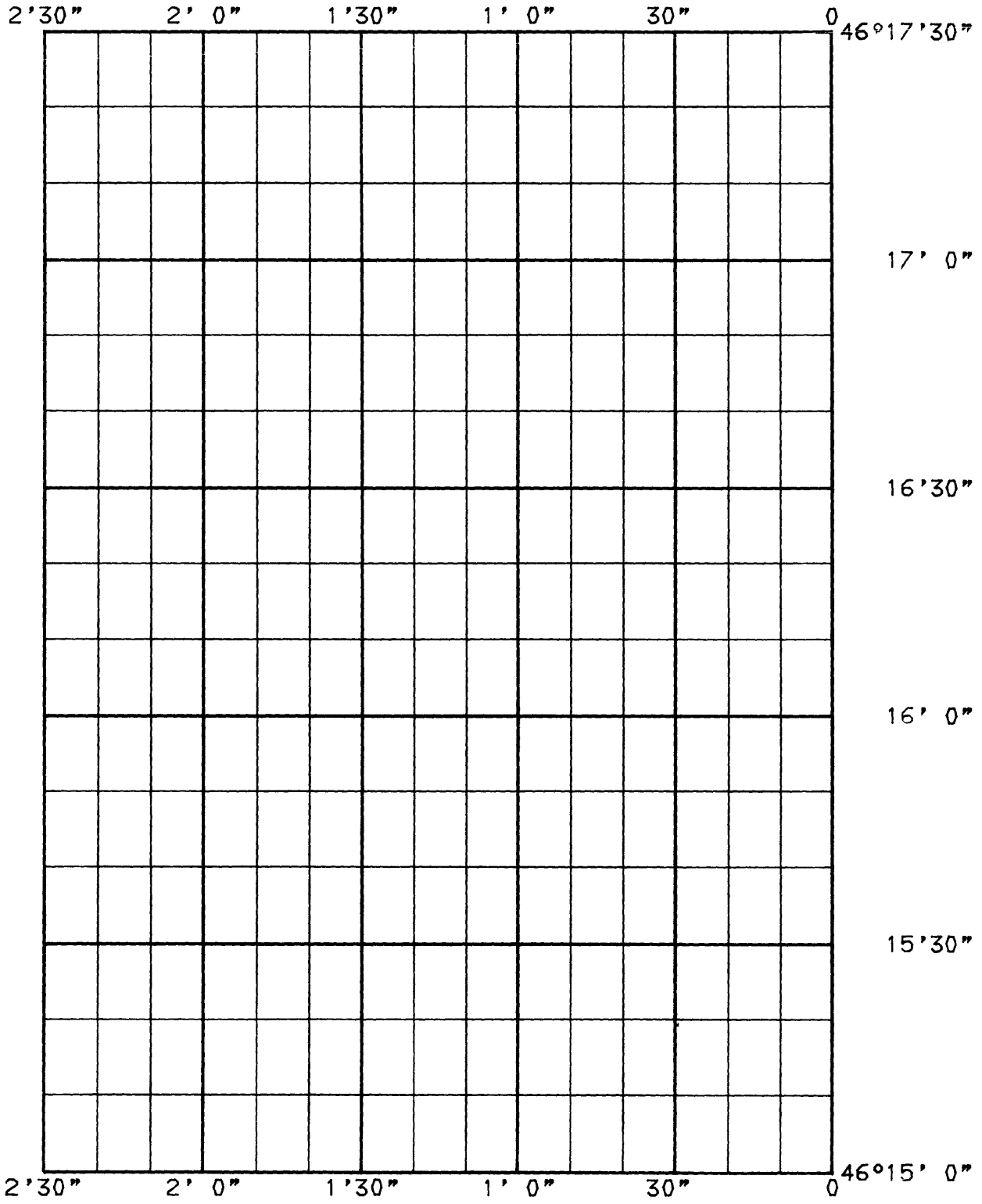
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45°45' 0" to 45°47'30"
Scale = 1/24,000



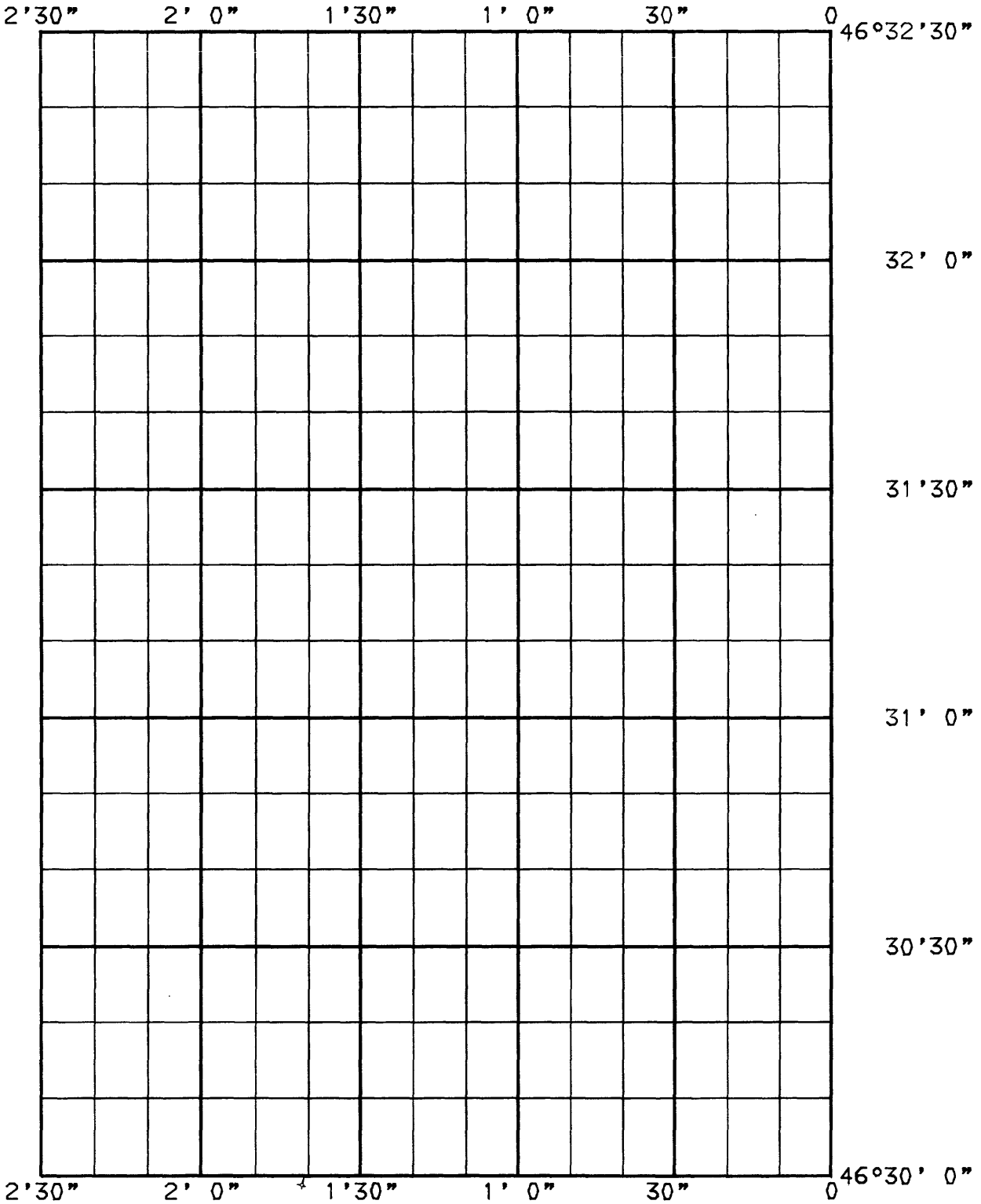
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46° 0' 0" to 46° 2'30"
Scale = 1/24,000



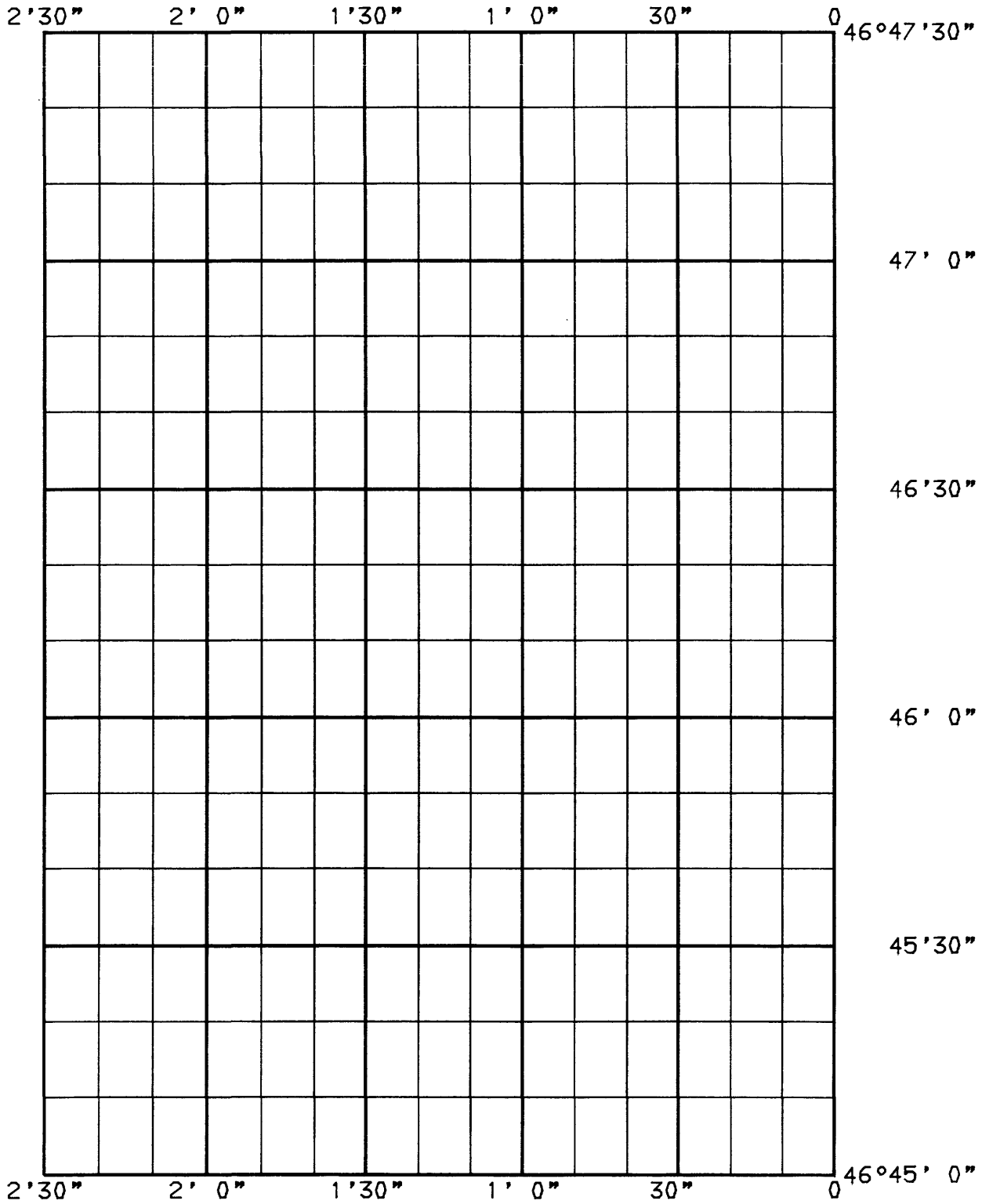
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46°15' 0" to 46°17'30"
Scale = 1/24,000



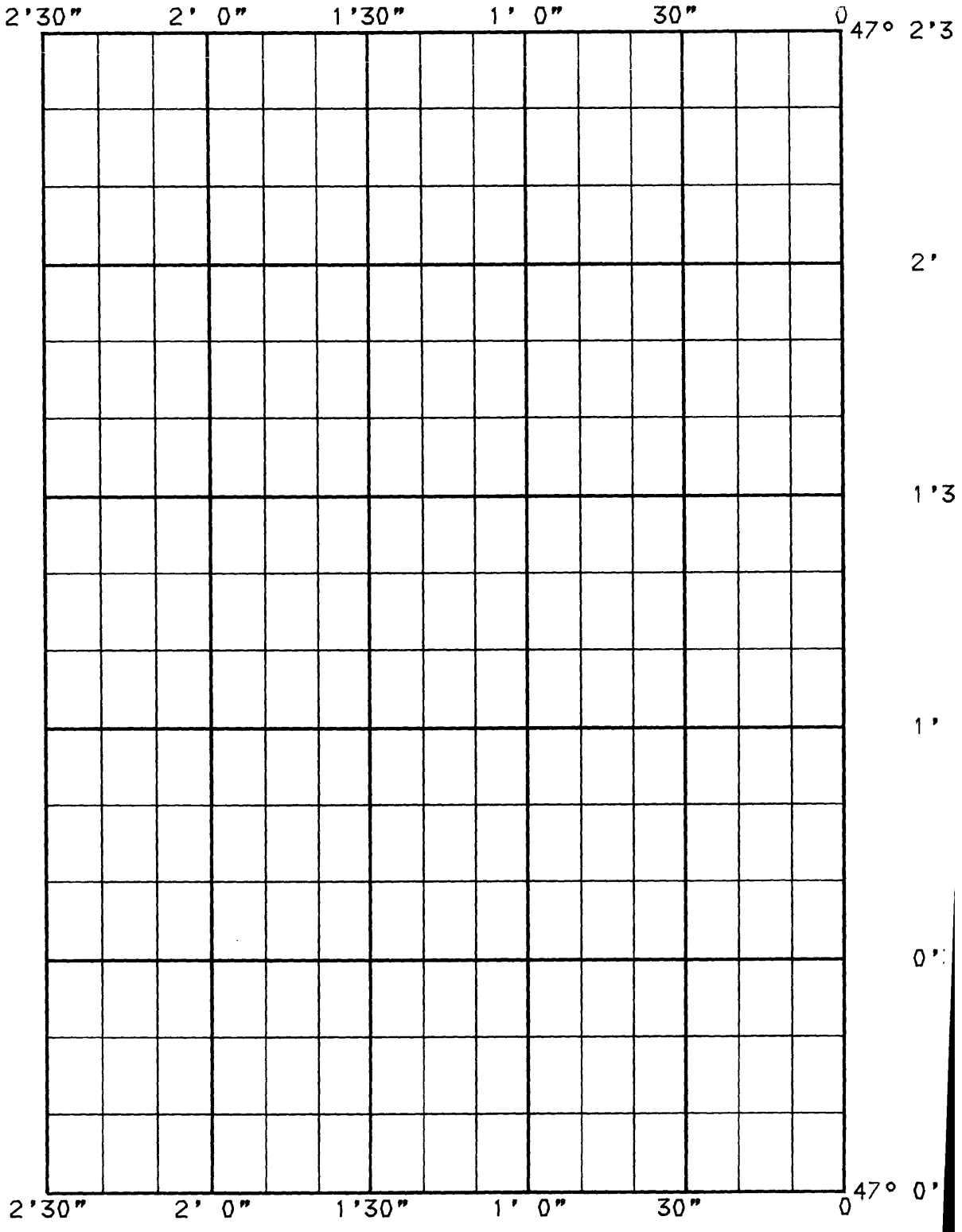
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46°30' 0" to 46°32'30"
Scale = 1/24,000



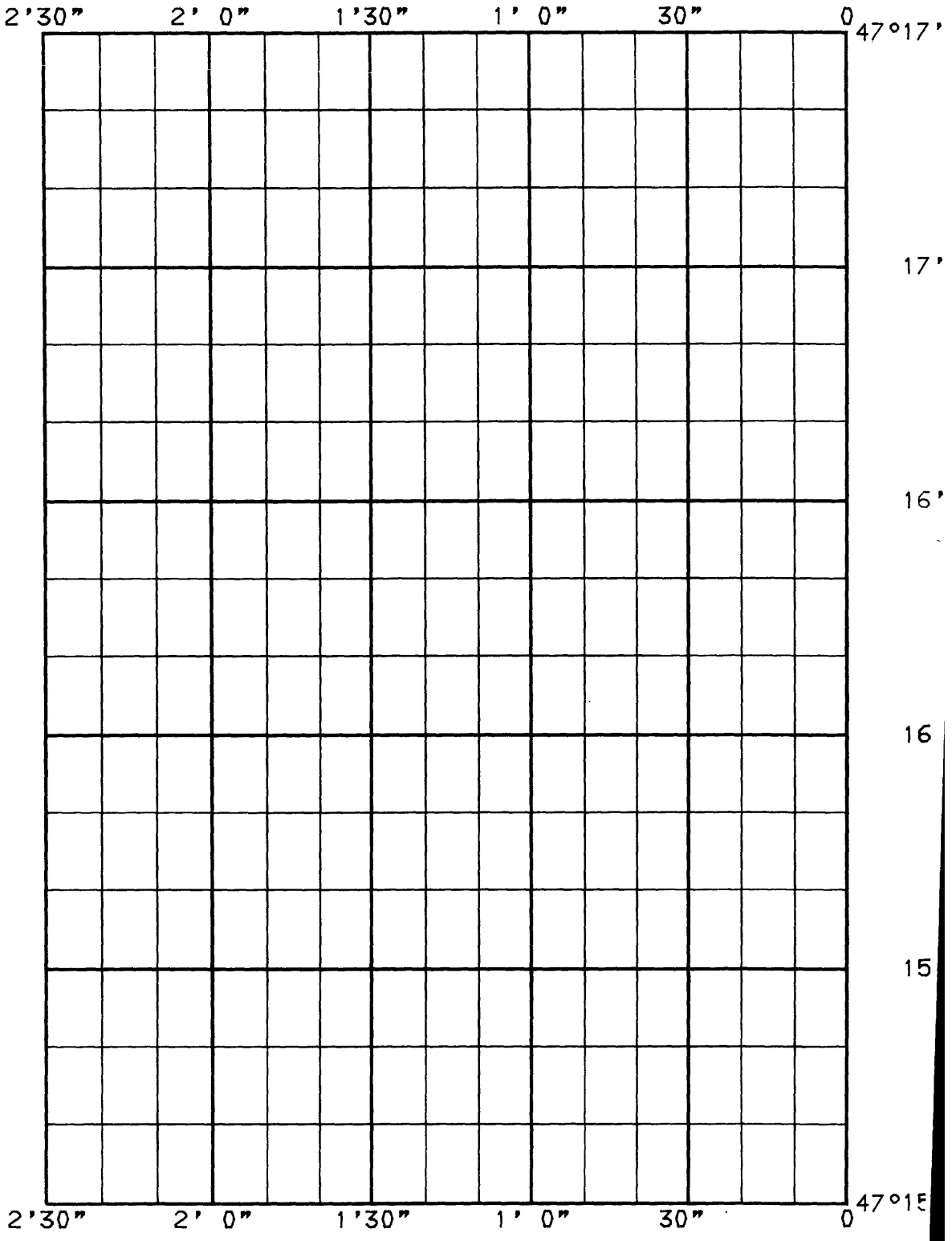
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46°45' 0" to 46°47'30"
Scale = 1/24,000



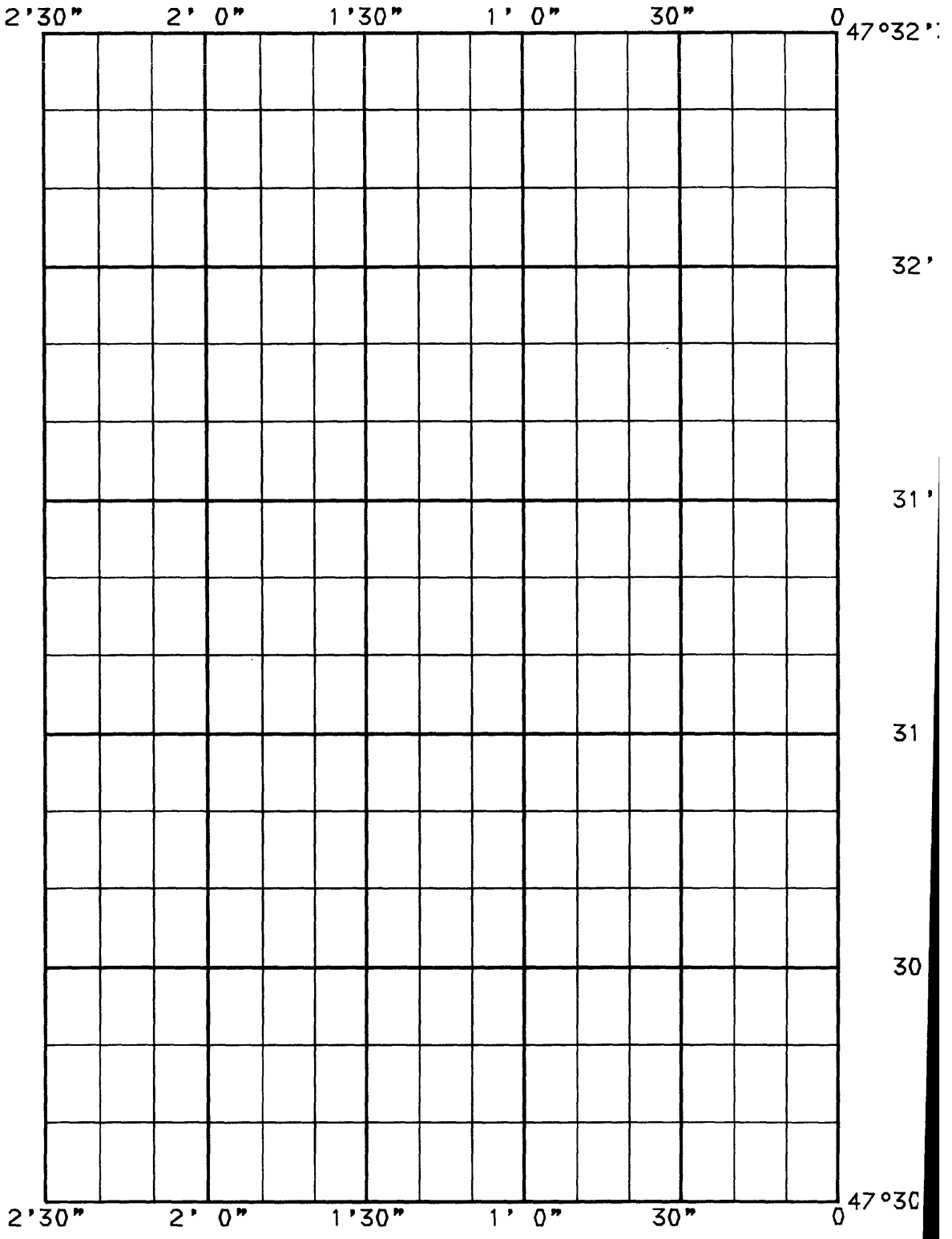
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47° 0' 0" to 47° 2'30"
Scale = 1/24,000



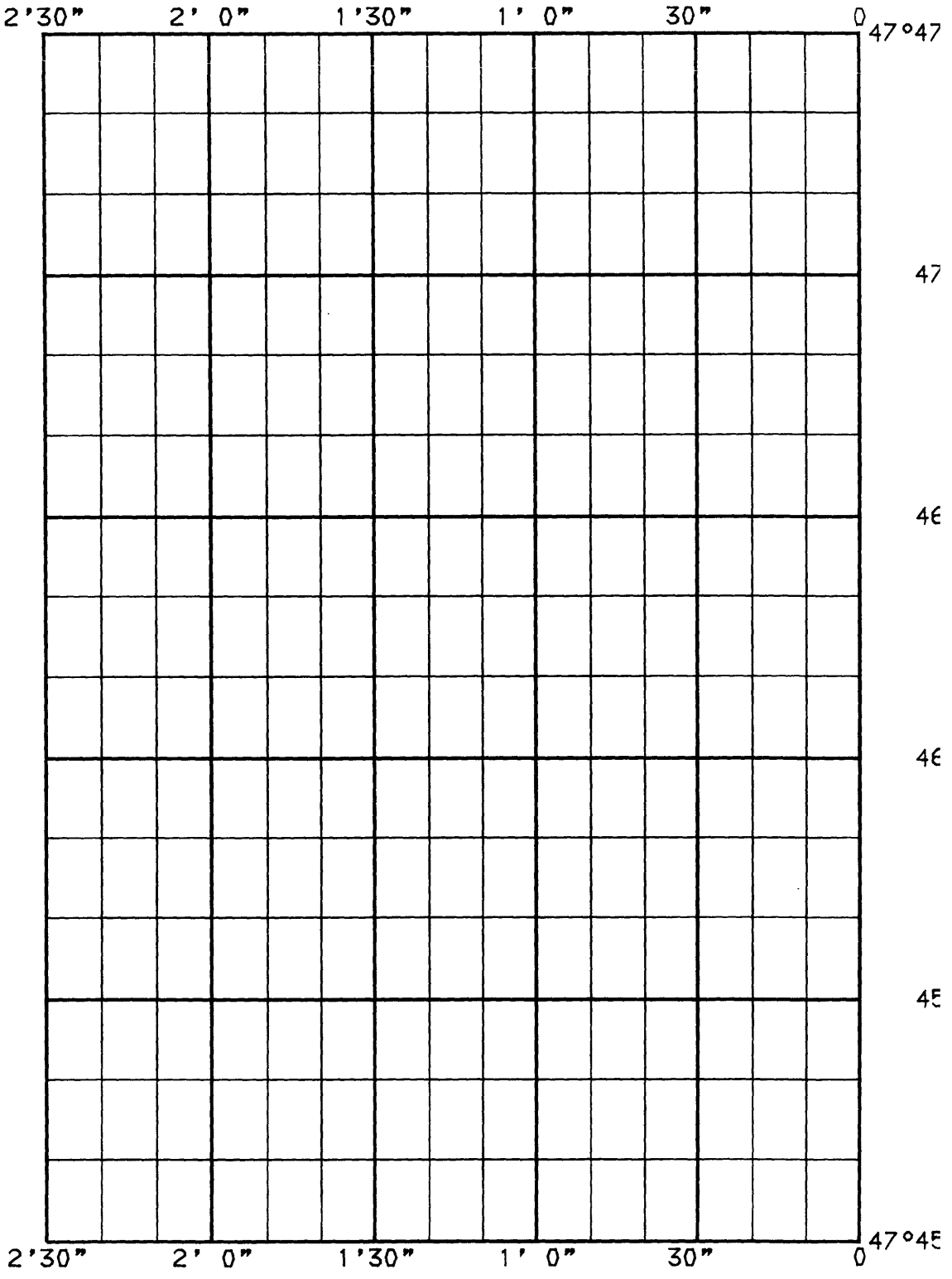
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47°15' 0" to 47°17'30"
Scale = 1/24,000



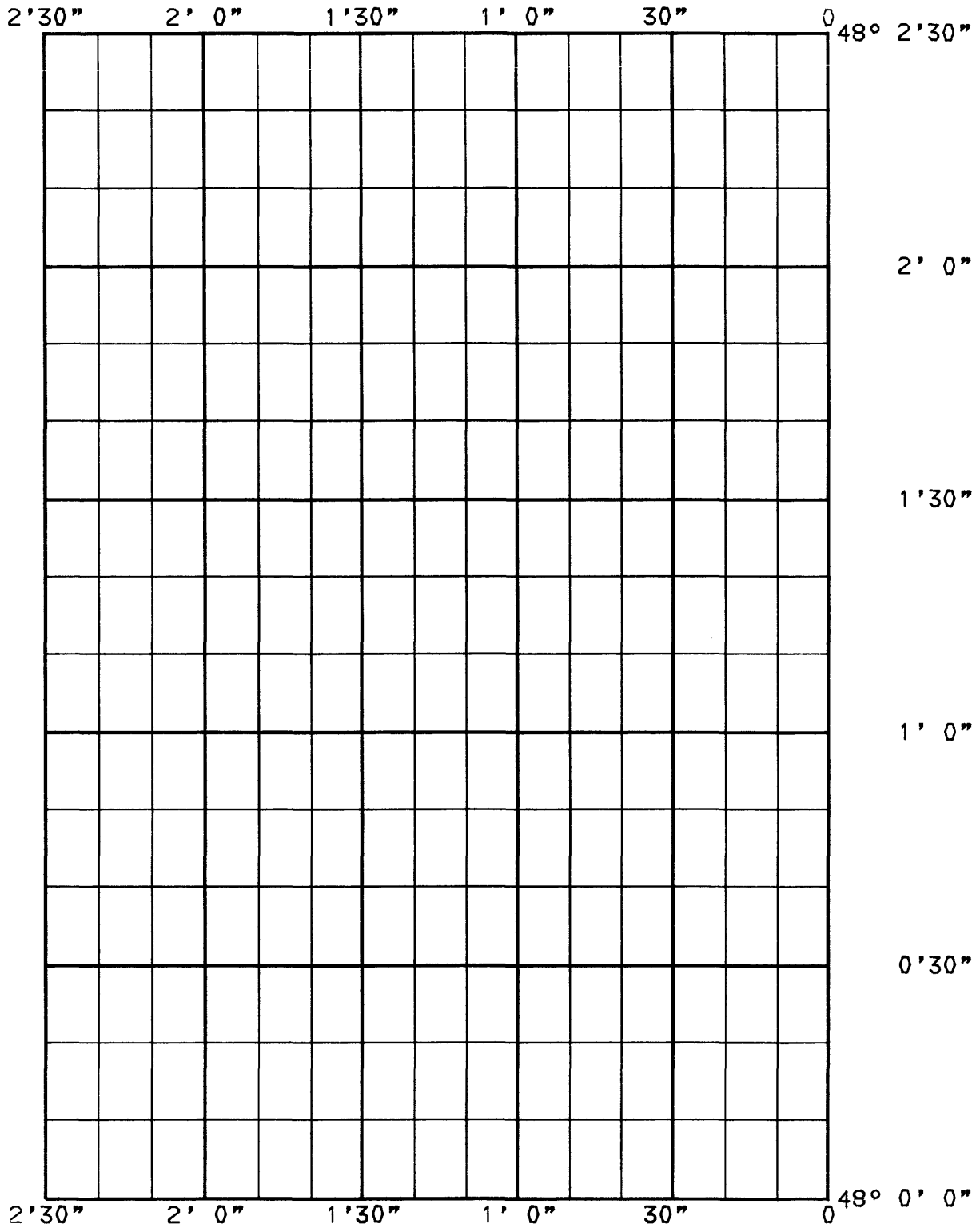
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47°30' 0" to 47°32'30"
Scale = 1/24,000



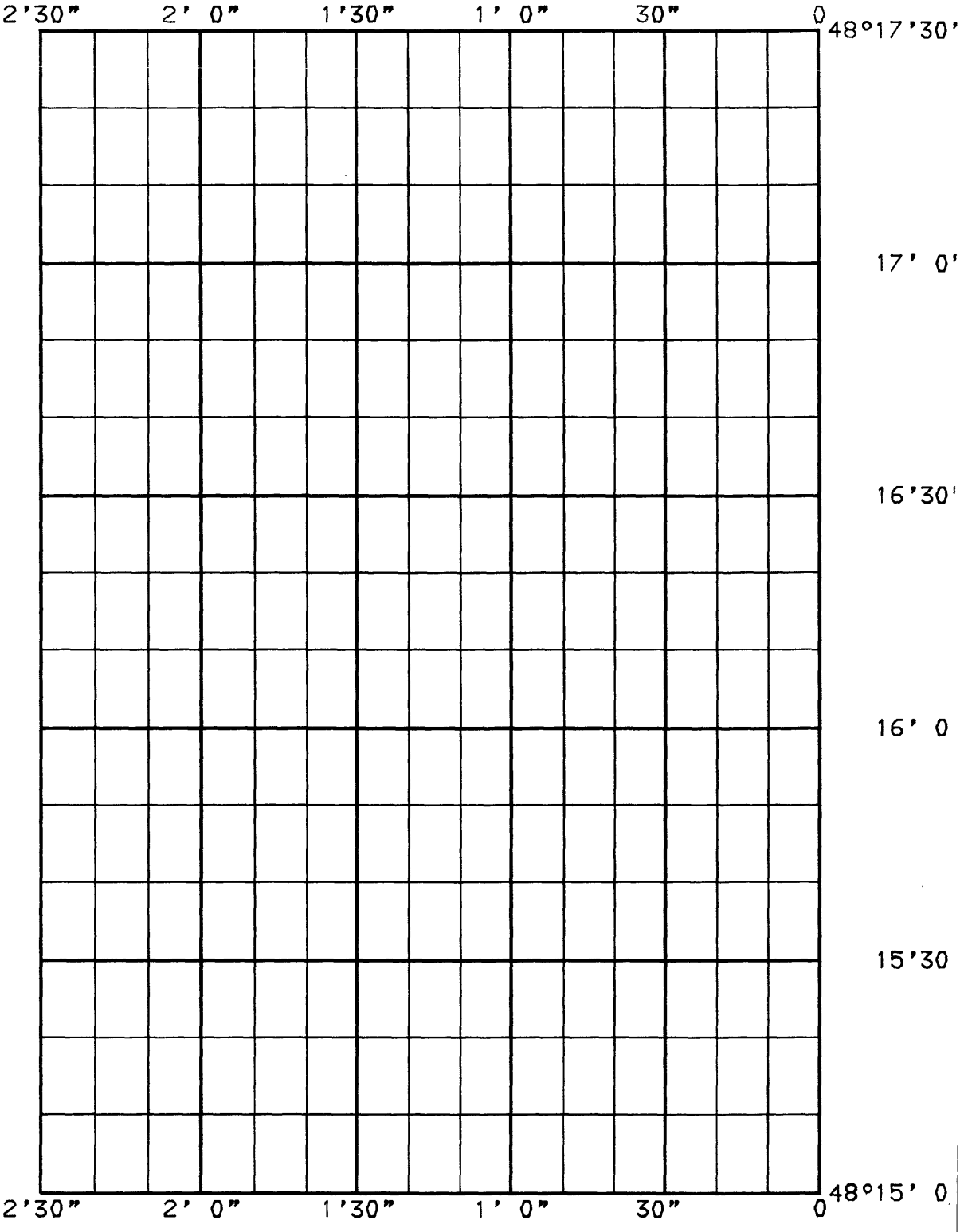
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47°45' 0" to 47°47'30"
Scale = 1/24,000



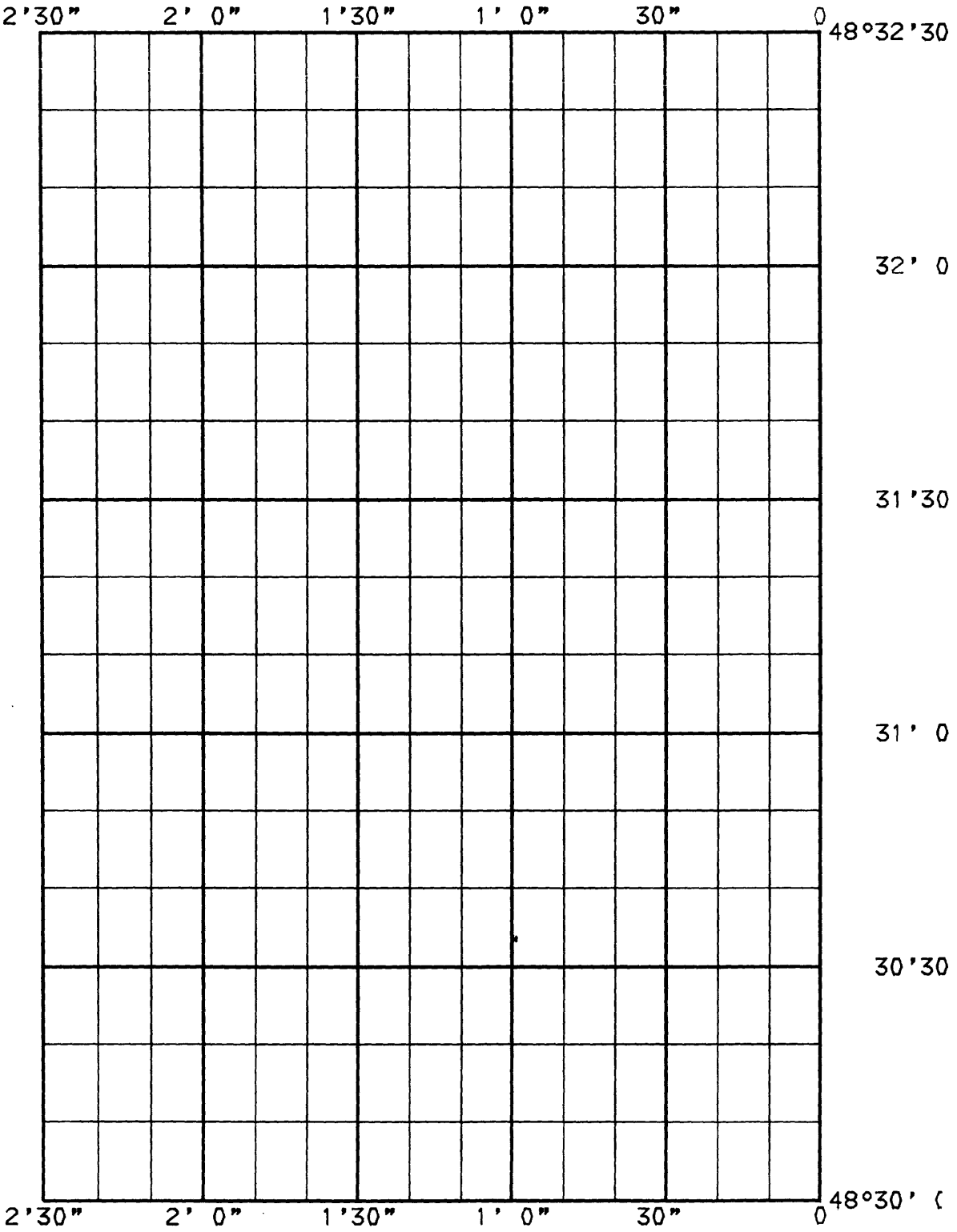
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48° 0' 0" to 48° 2'30"
Scale = 1/24,000



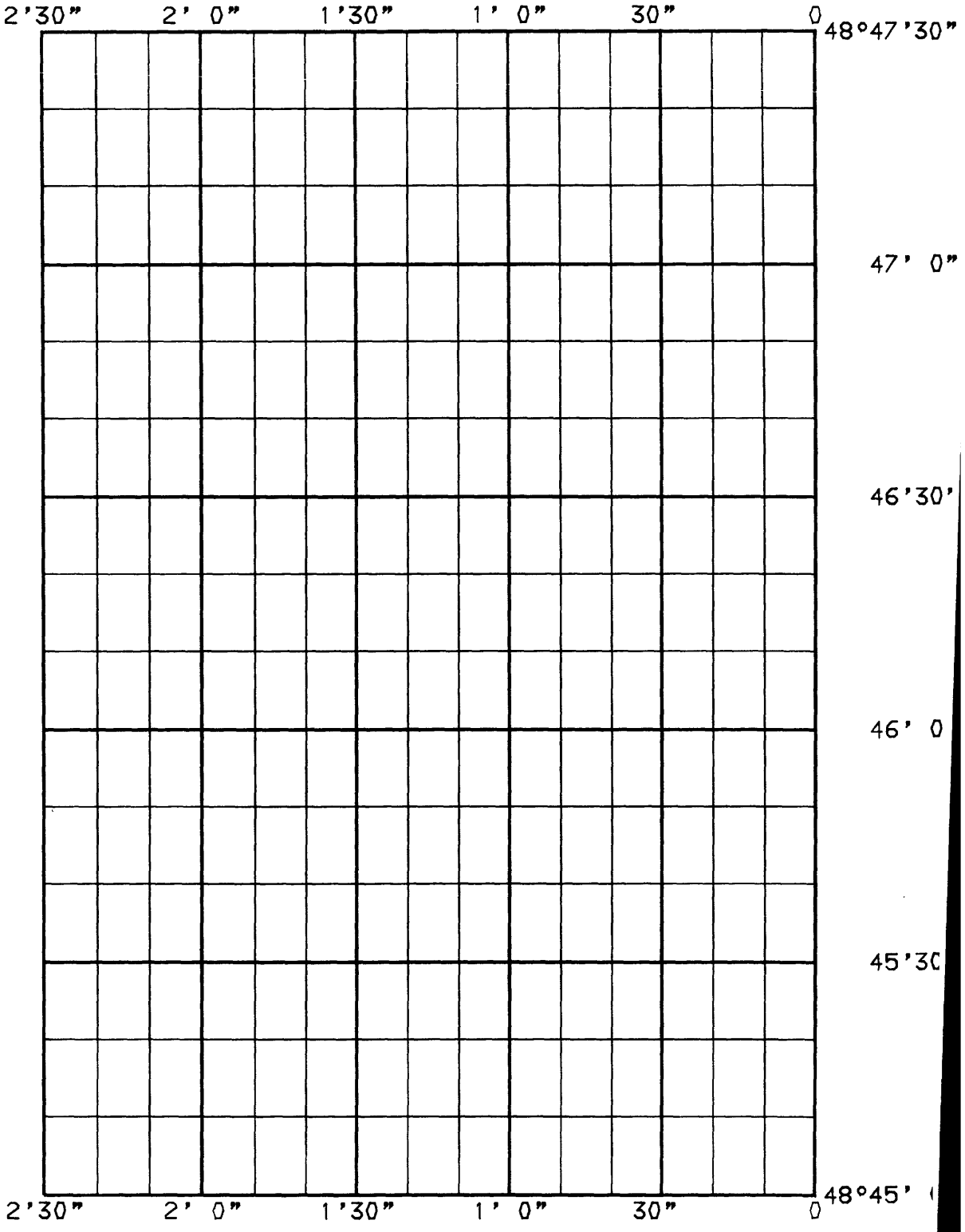
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48°15' 0" to 48°17'30"
Scale = 1/24,000



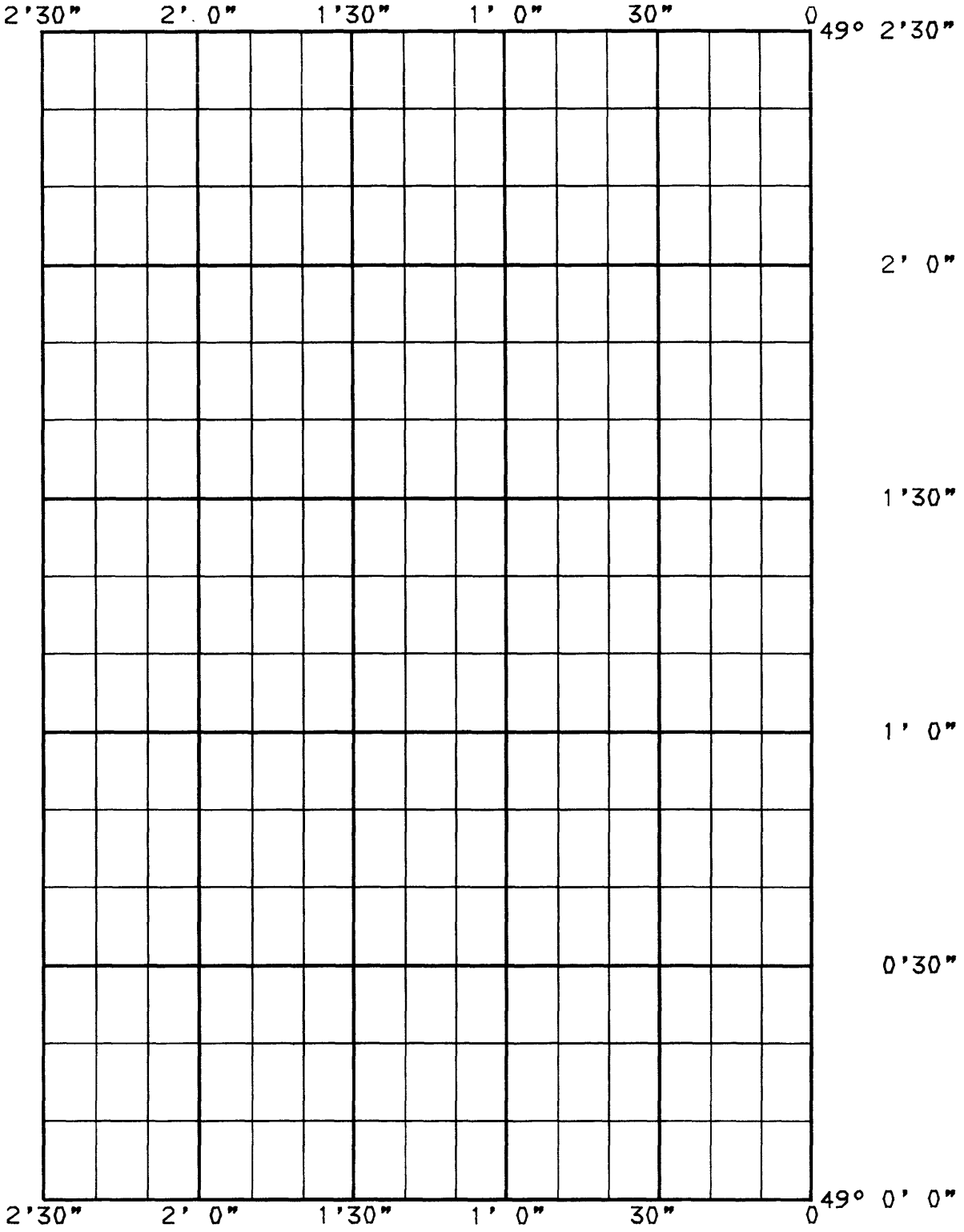
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48°30' 0" to 48°32'30"
Scale = 1/24,000



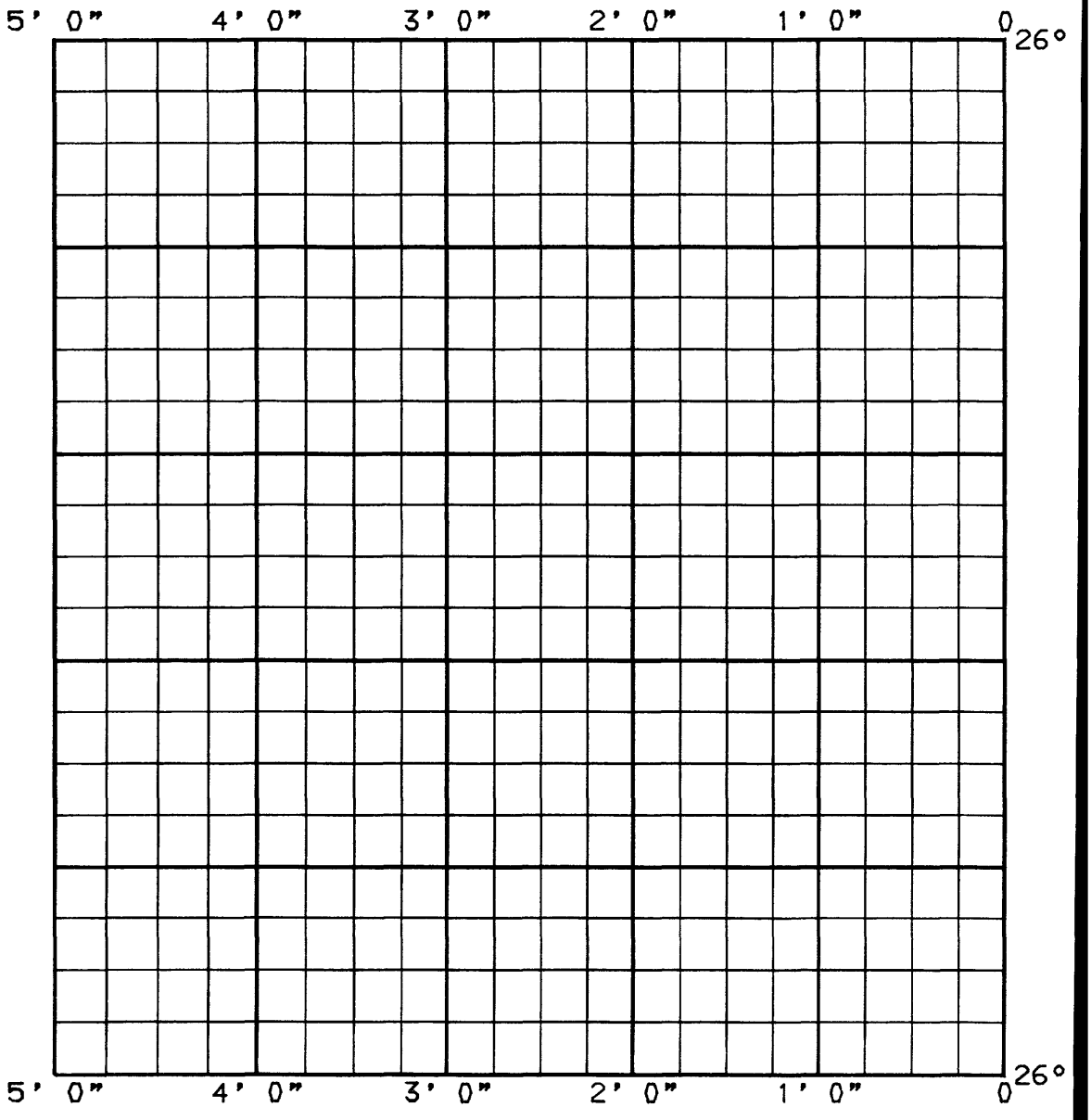
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48°45' 0" to 48°47'30"
Scale = 1/24,000



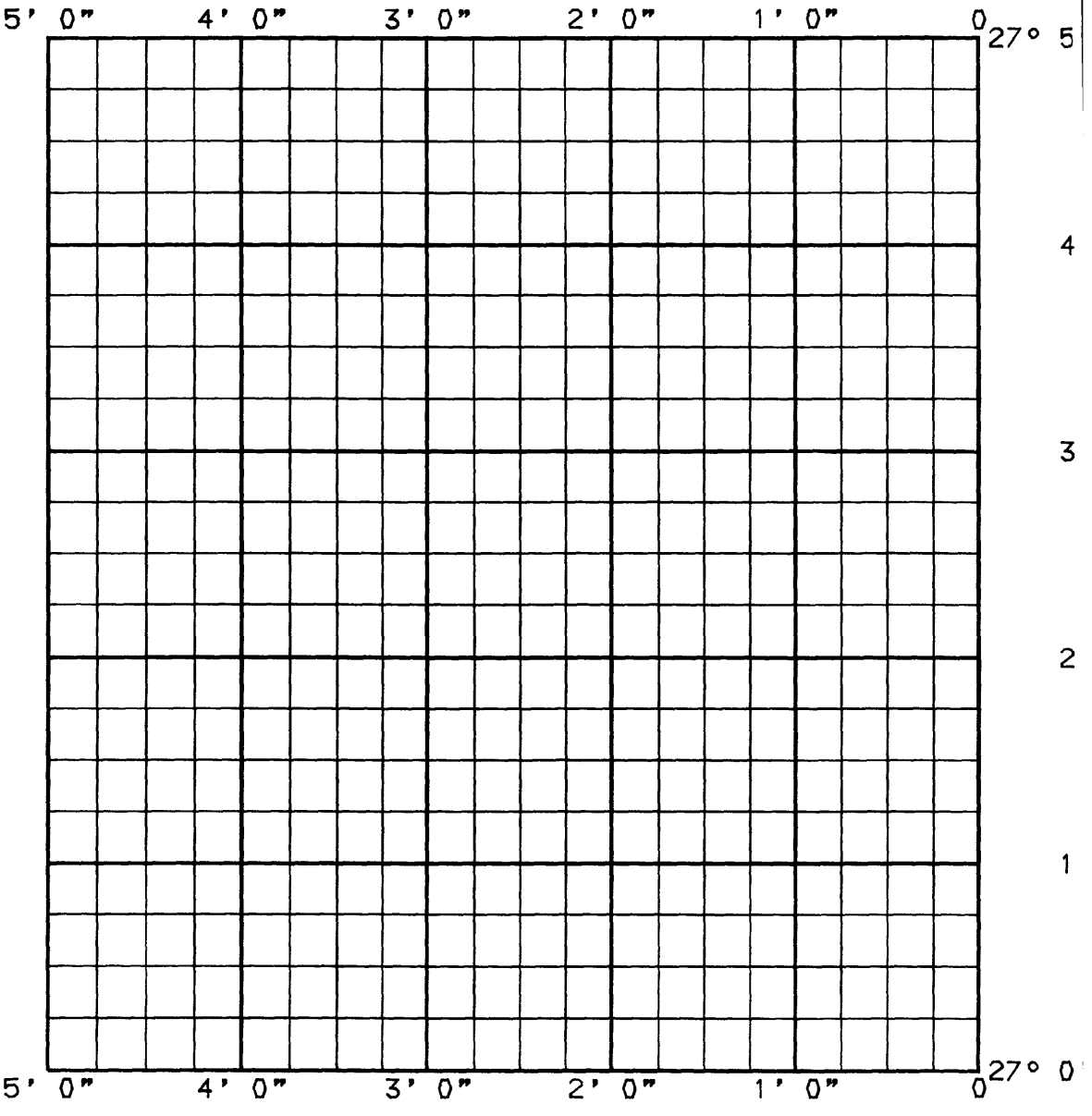
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 49° 0' 0" to 49° 2'30"
Scale = 1/24,000



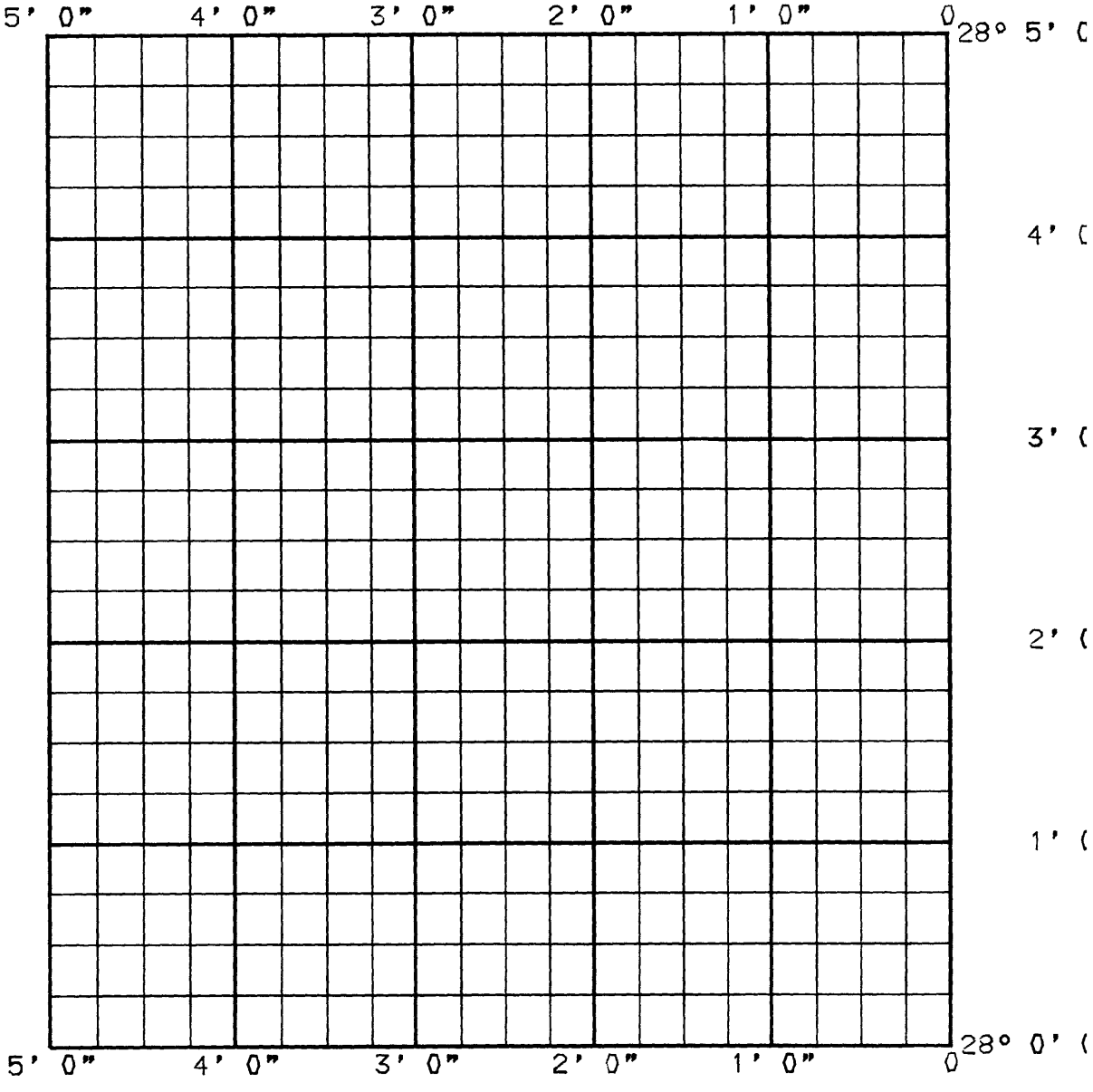
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 26° 0' 0" to 26° 5' 0"
Scale = 1/62,500



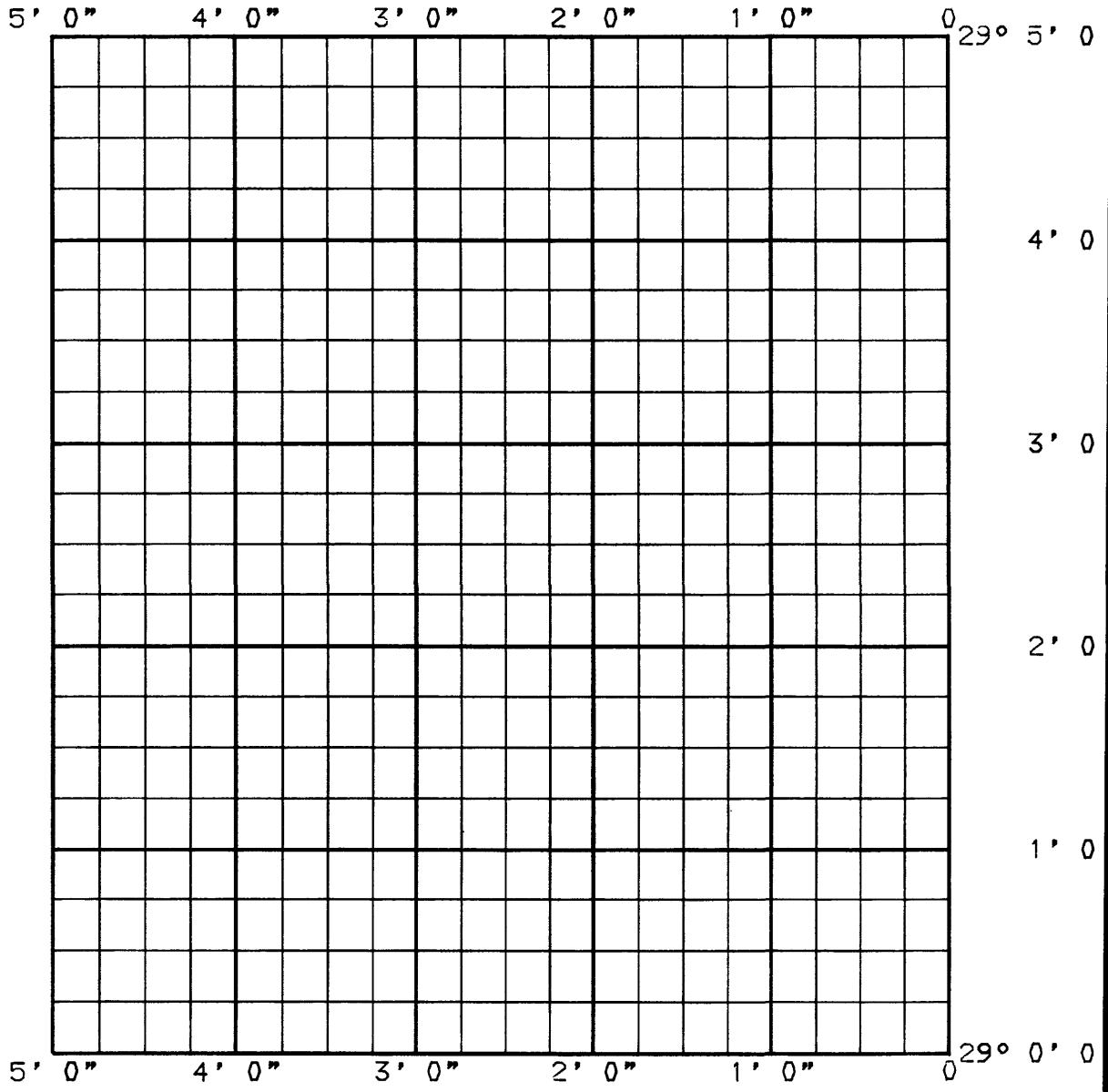
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 27° 0' 0" to 27° 5' 0"
Scale = 1/62,500



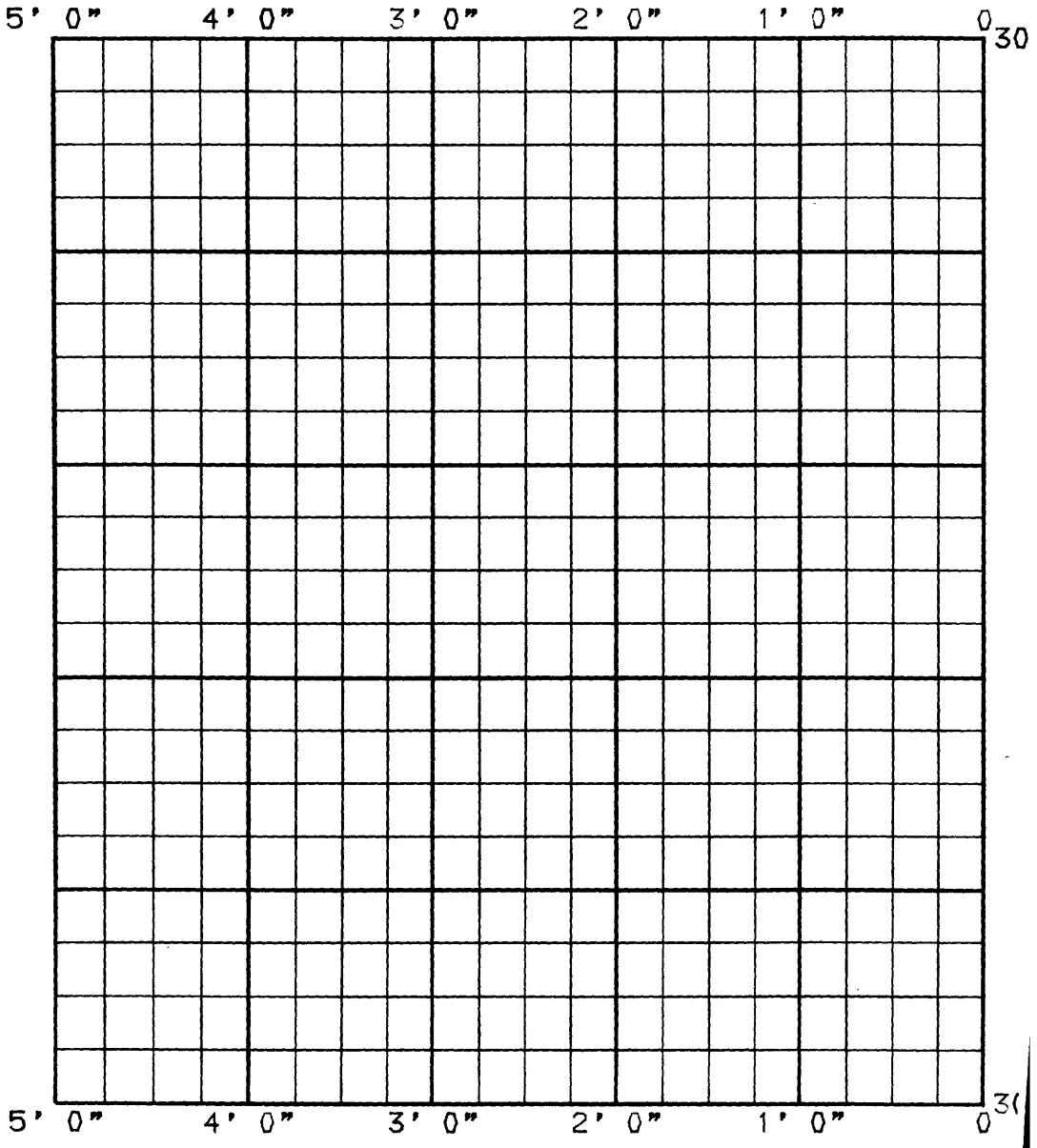
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 28° 0' 0" to 28° 5' 0"
Scale = 1/62,500



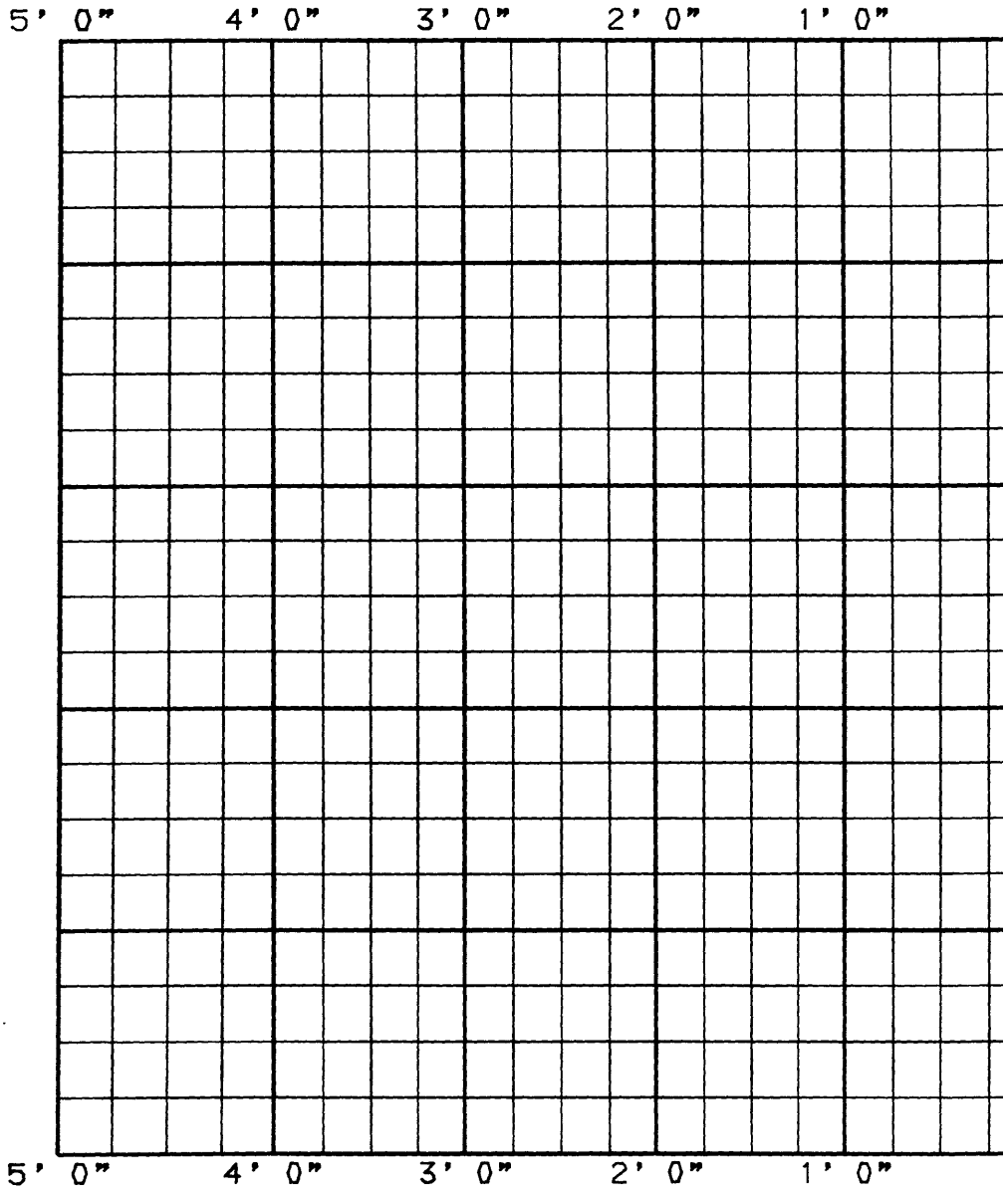
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 29° 0' 0" to 29° 5' 0"
Scale = 1/62,500



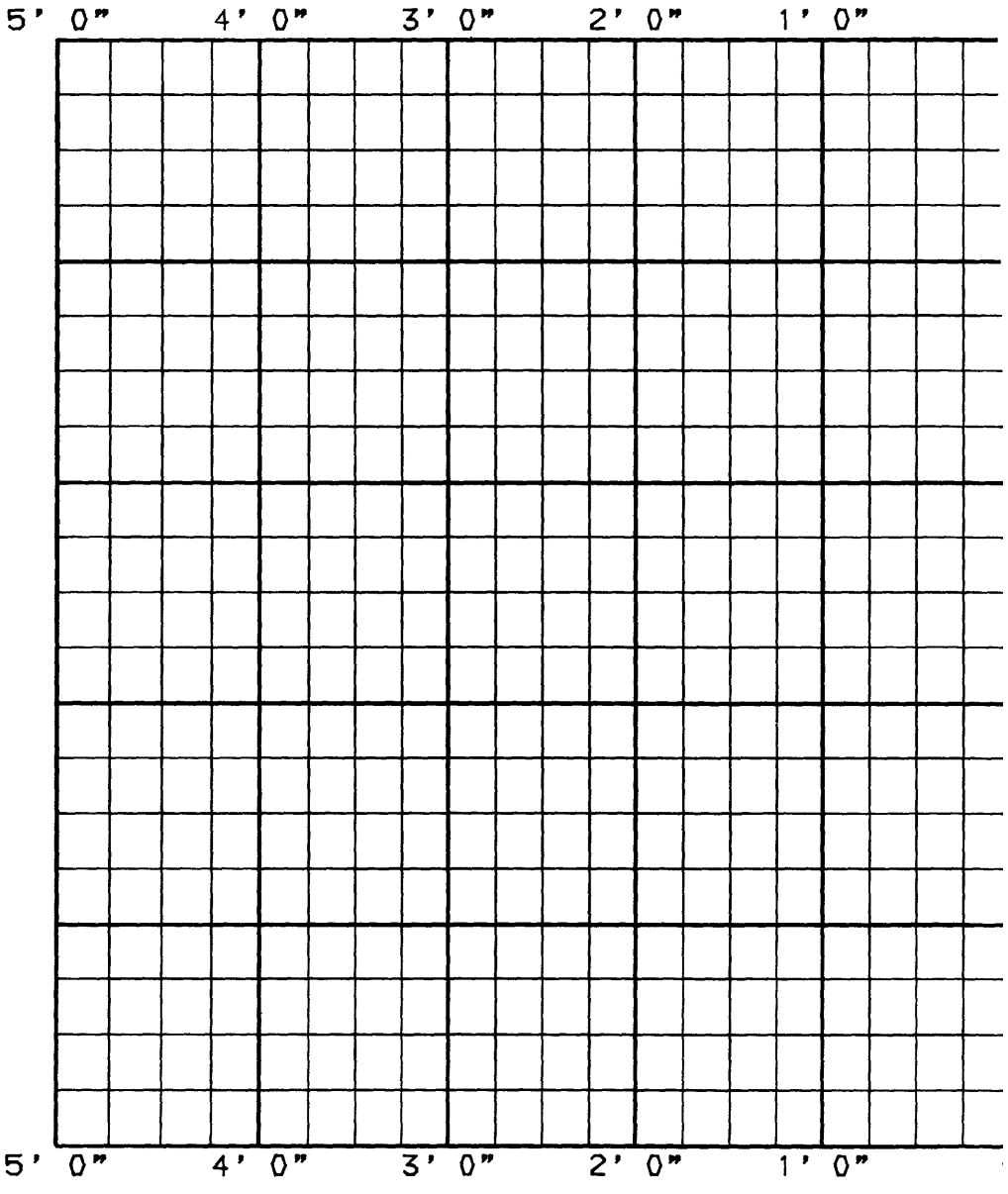
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 30° 0' 0" to 30° 5'
Scale = 1/62,500



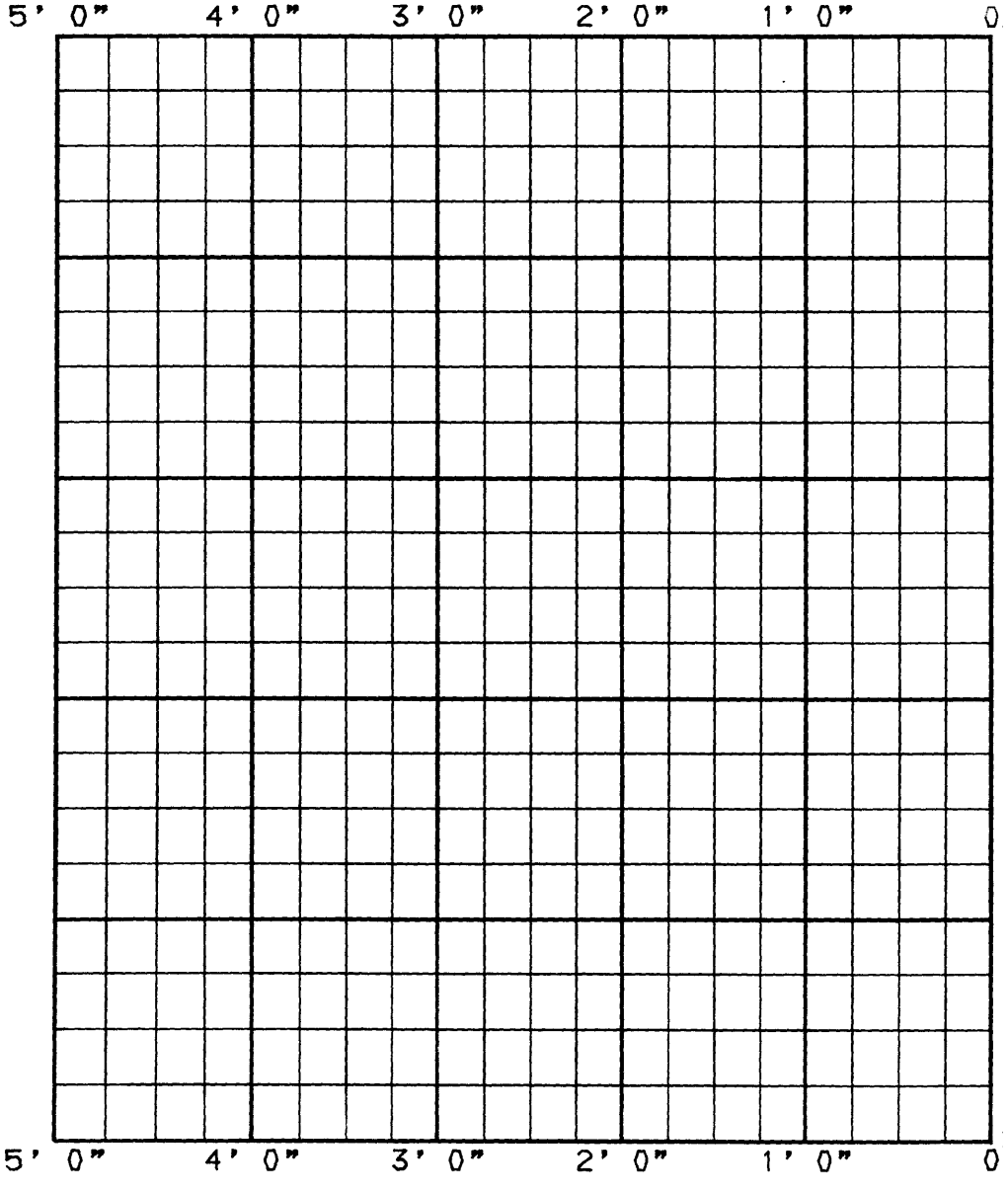
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump J
Range of latitude = 31° 0' 0" to 31°
Scale = 1/62,500



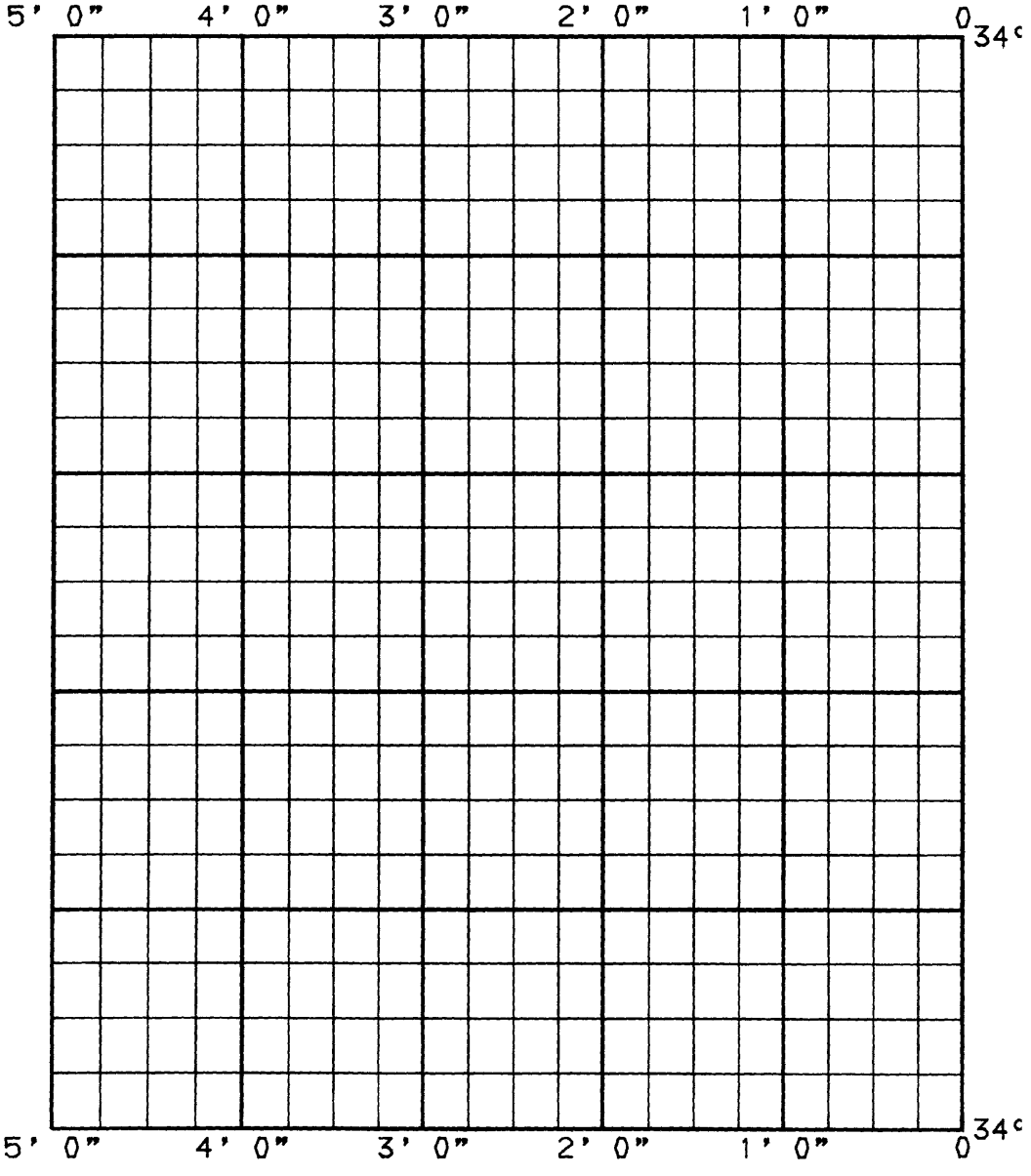
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 32° 0' 0" to 32° 5
Scale = 1/62,500



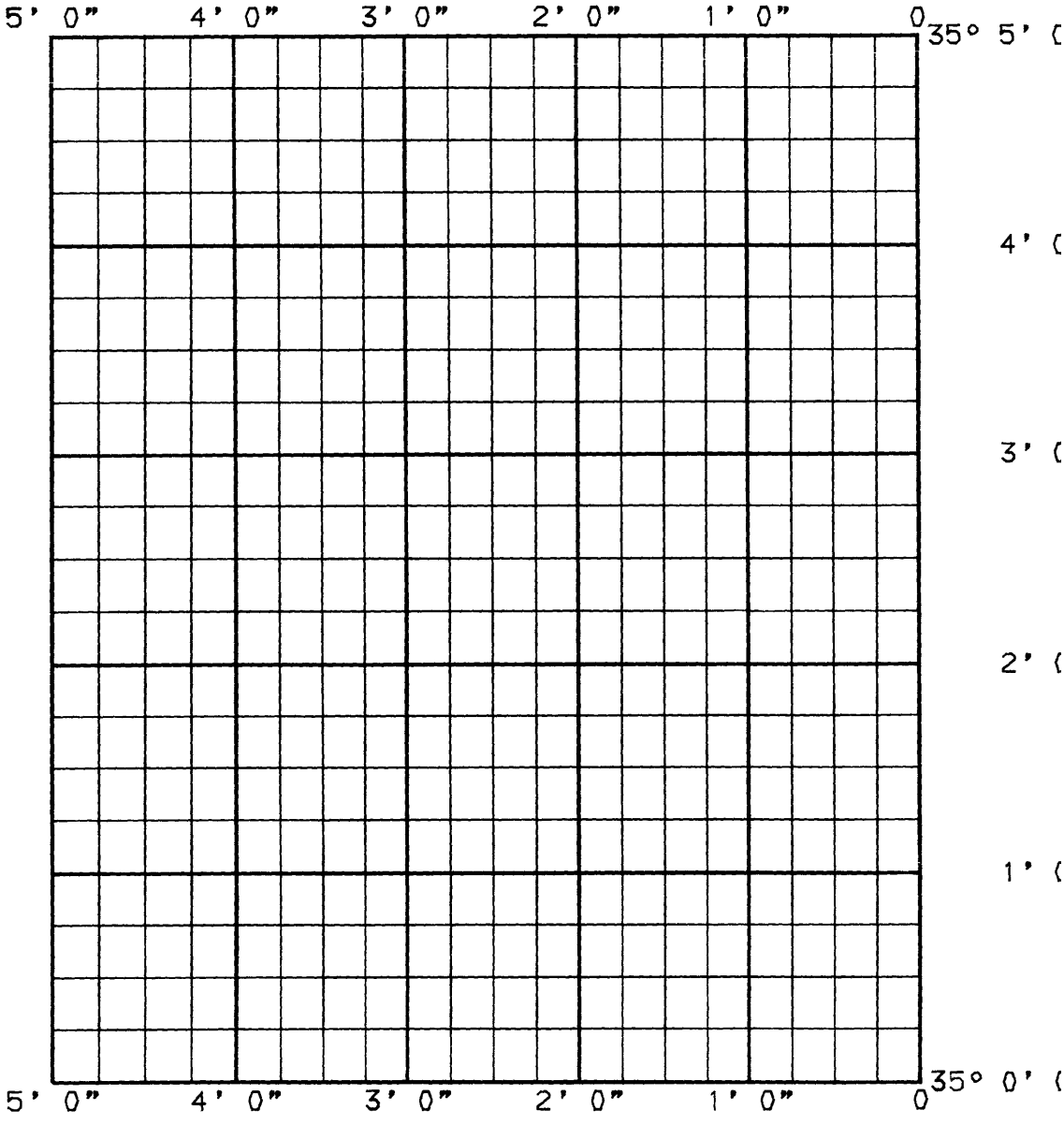
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 33° 0' 0" to 33° 5
Scale = 1/62,500



U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 34° 0' 0" to 34° 5'
Scale = 1/62,500

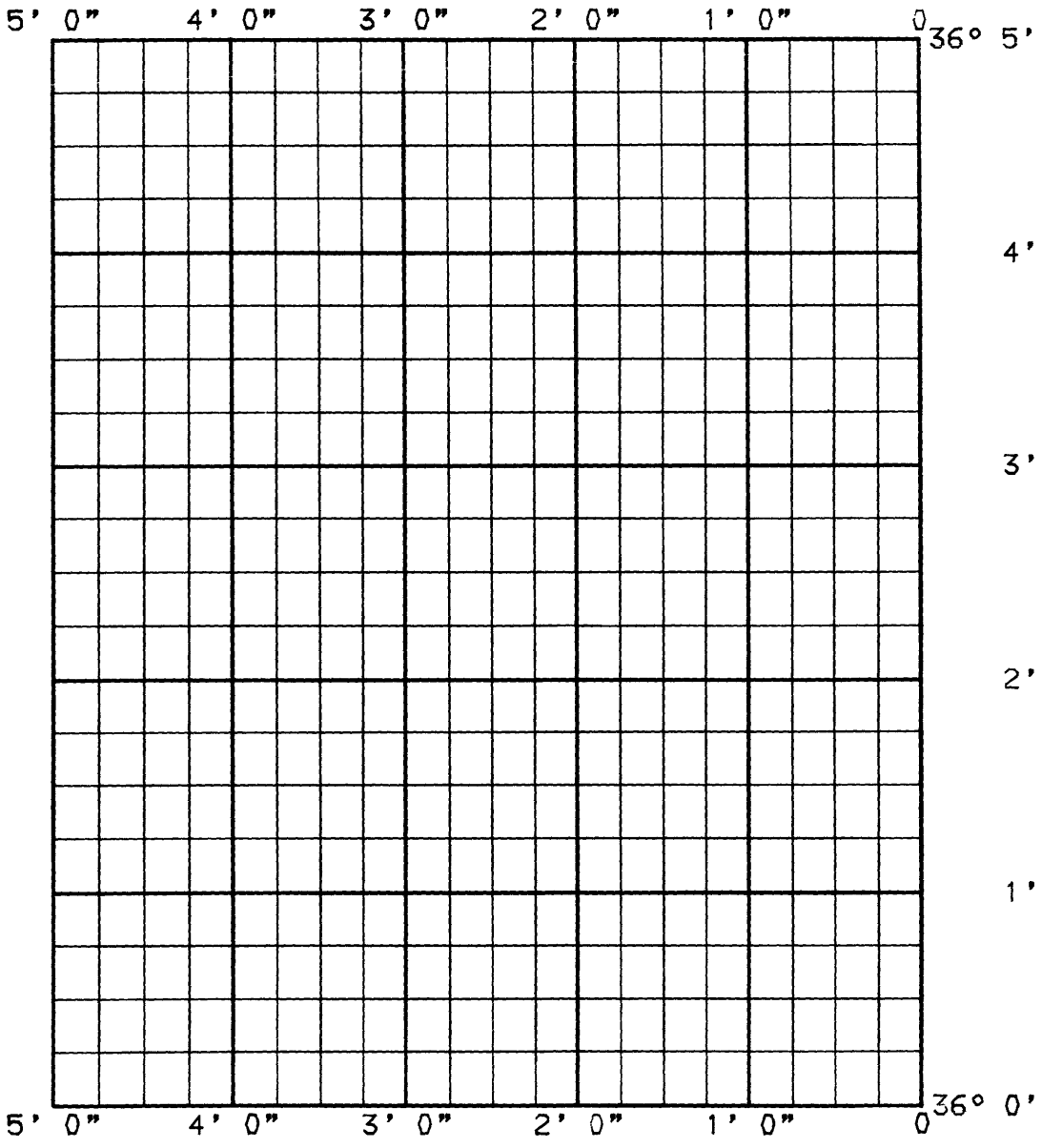


U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 35° 0' 0" to 35° 5' 0"
Scale = 1/62,500

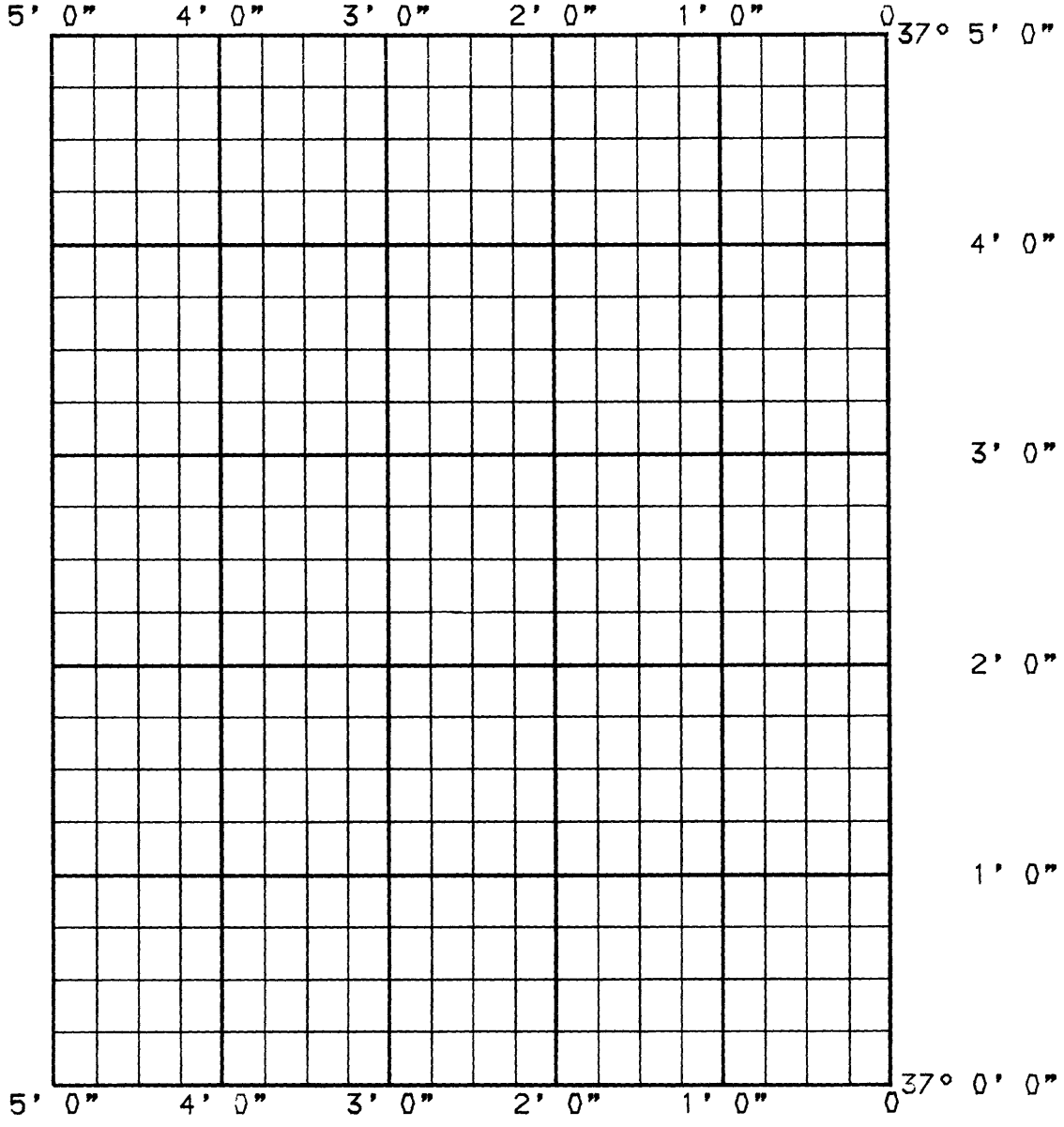


*

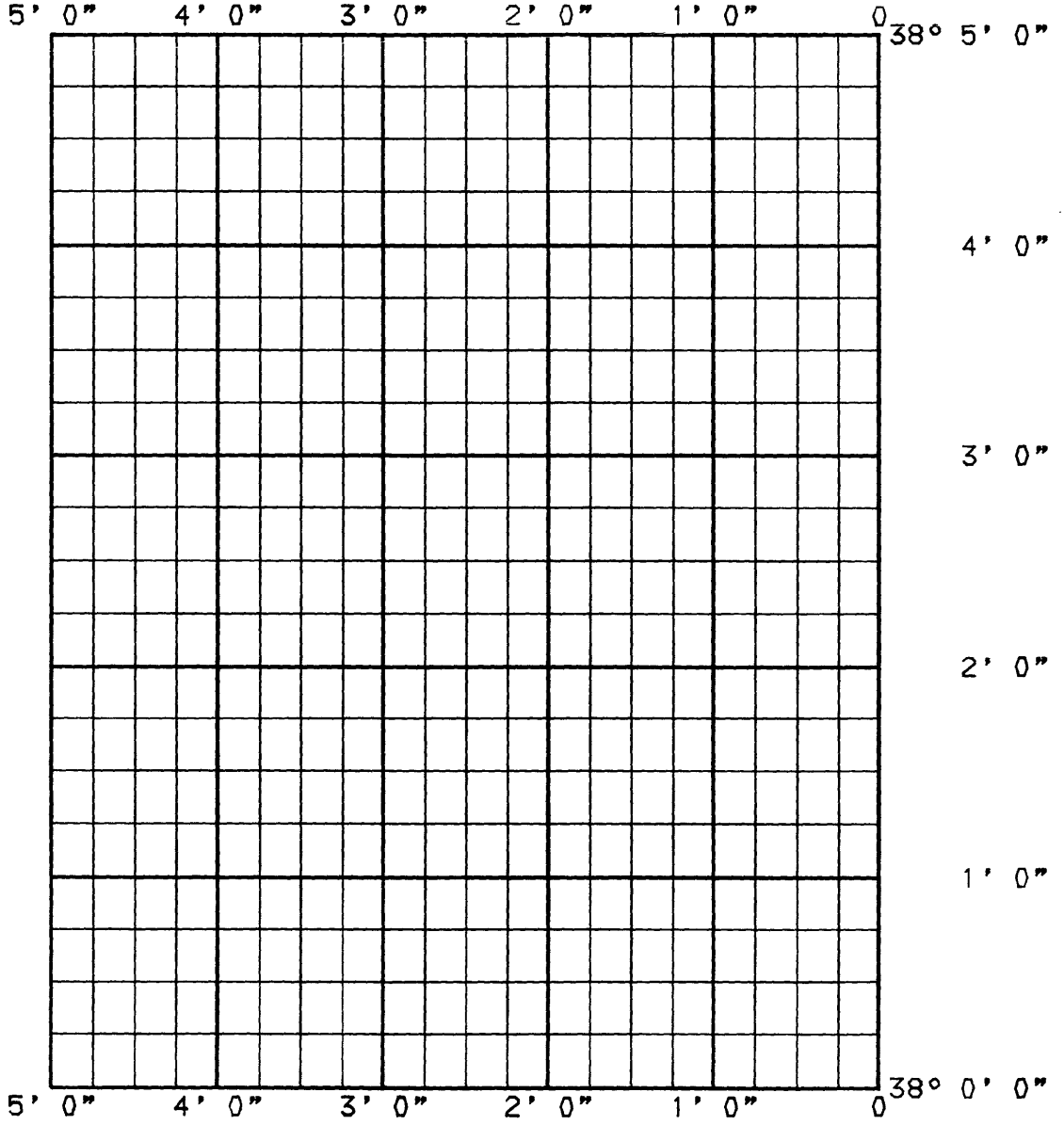
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 36° 0' 0" to 36° 5' 0"
Scale = 1/62,500



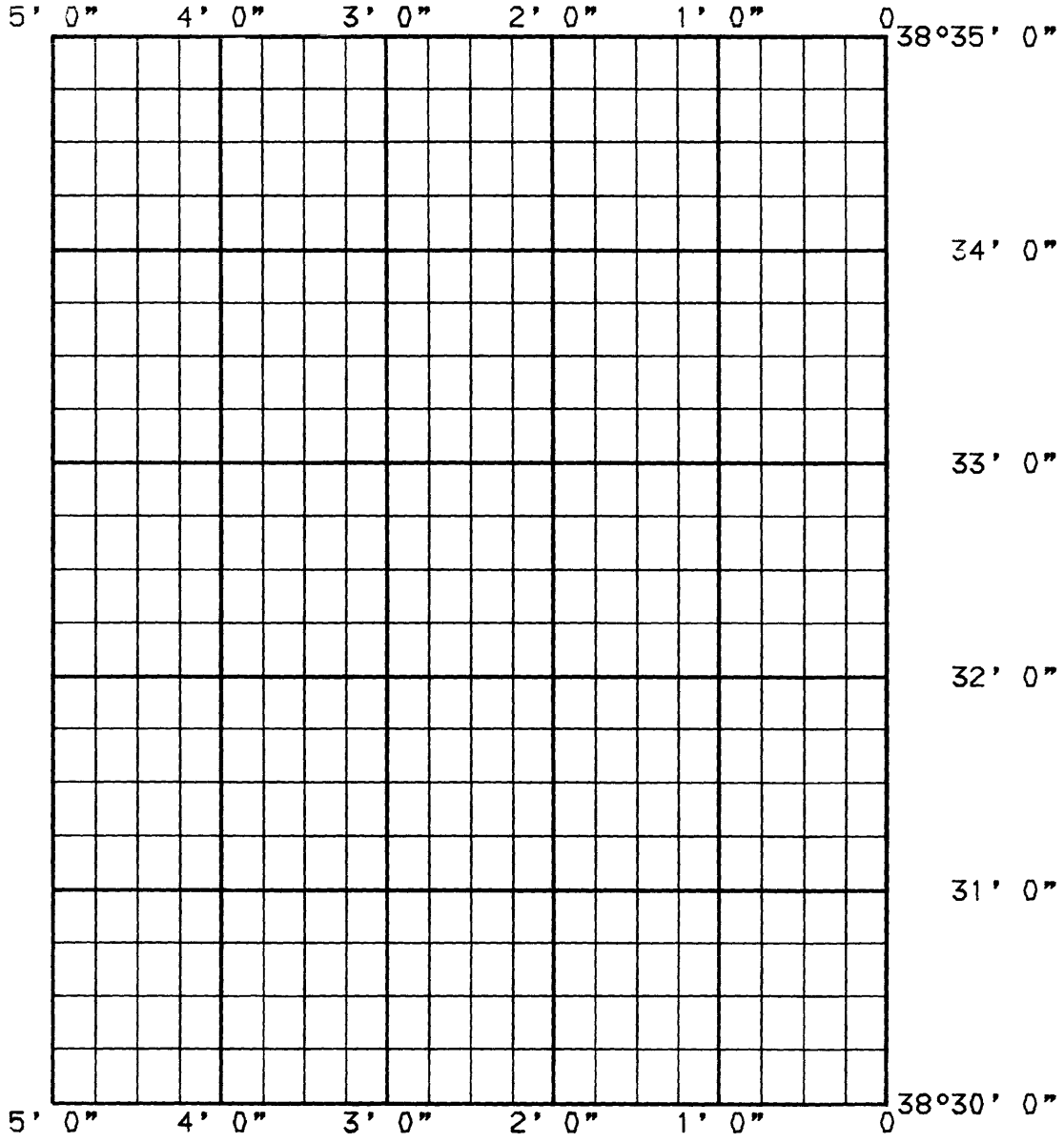
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 37° 0' 0" to 37° 5' 0"
Scale = 1/62,500



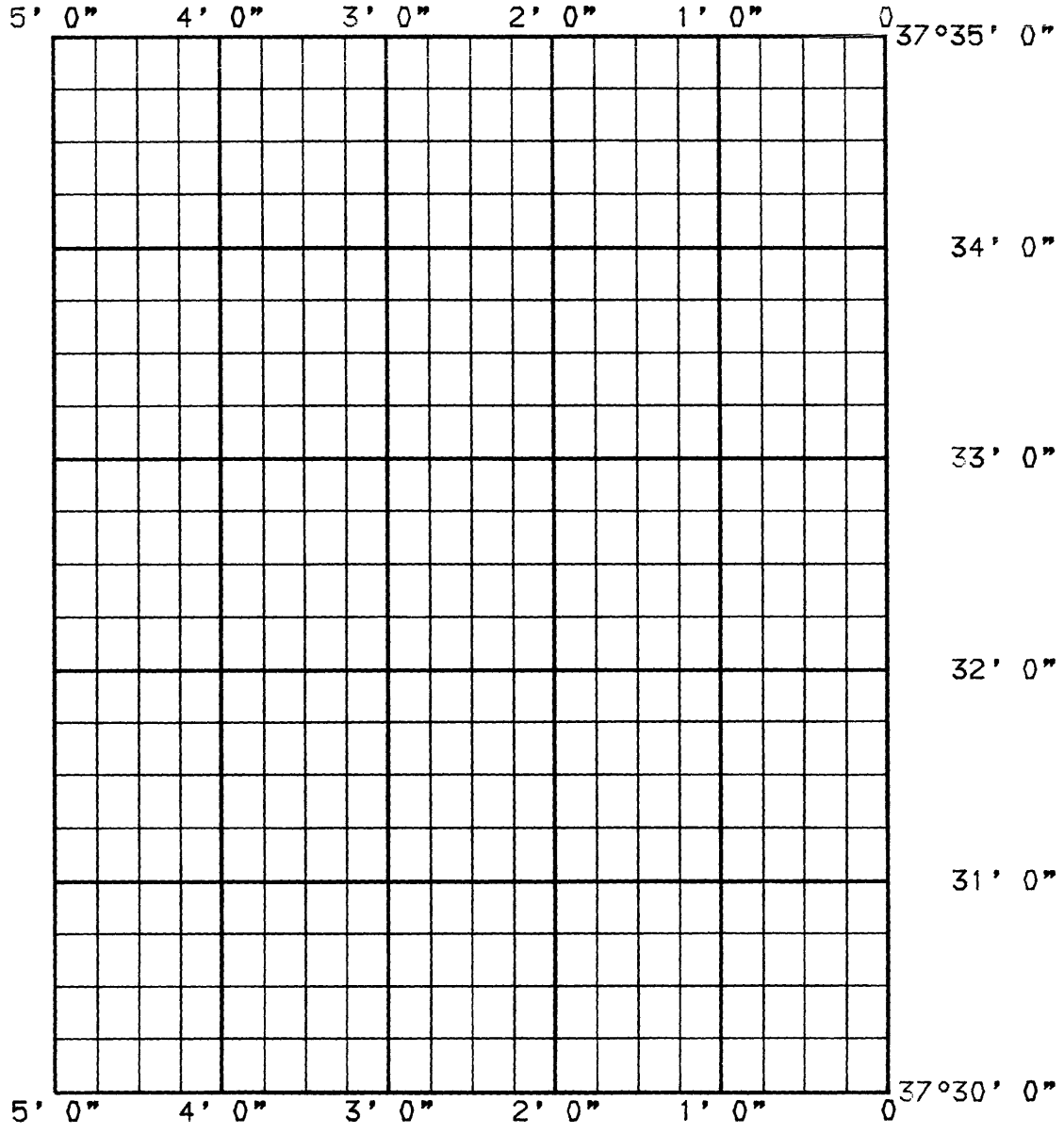
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 38° 0' 0" to 38° 5' 0"
Scale = 1/62,500



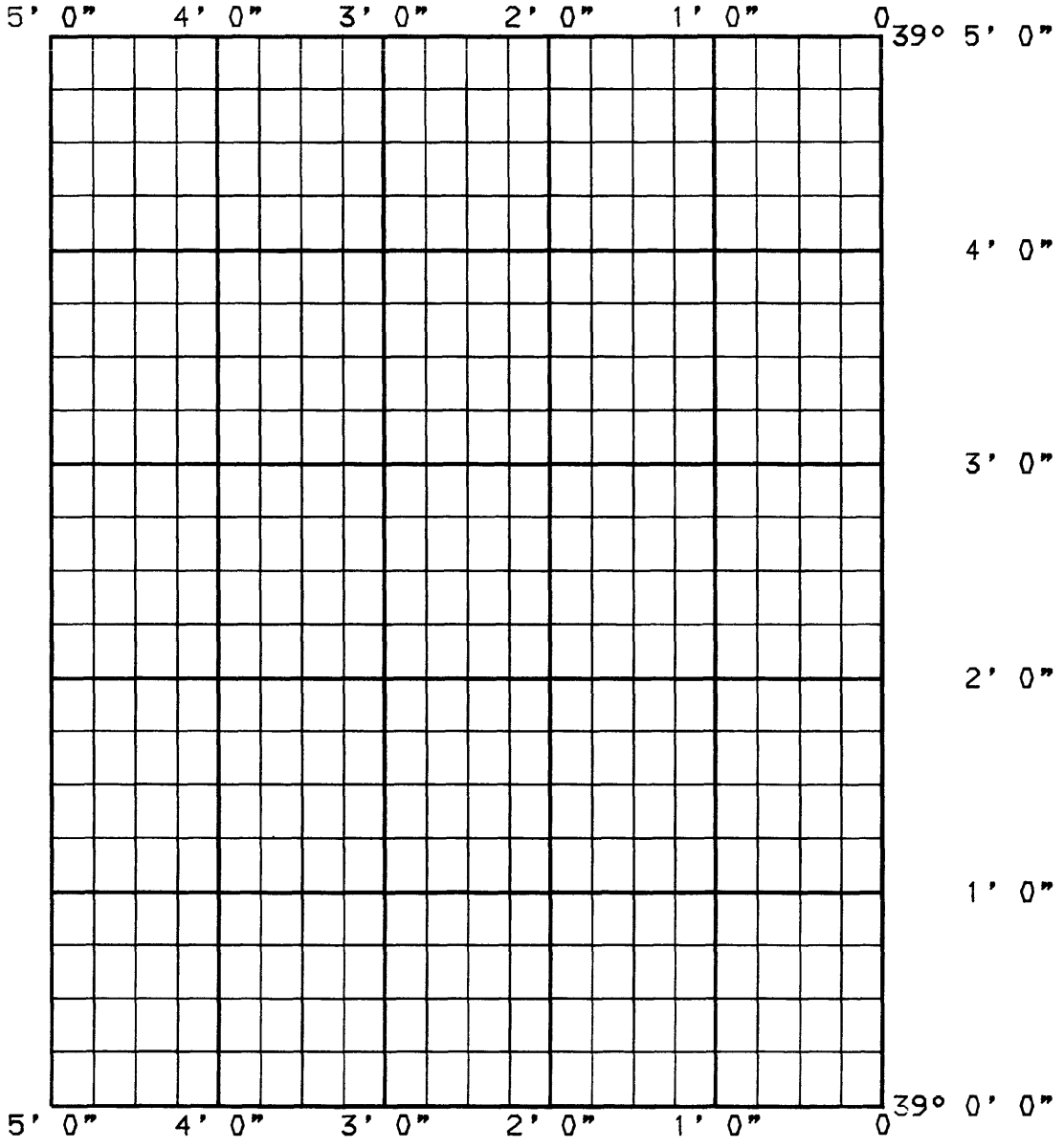
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 38°30' 0" to 38°35' 0"
Scale = 1/62,500



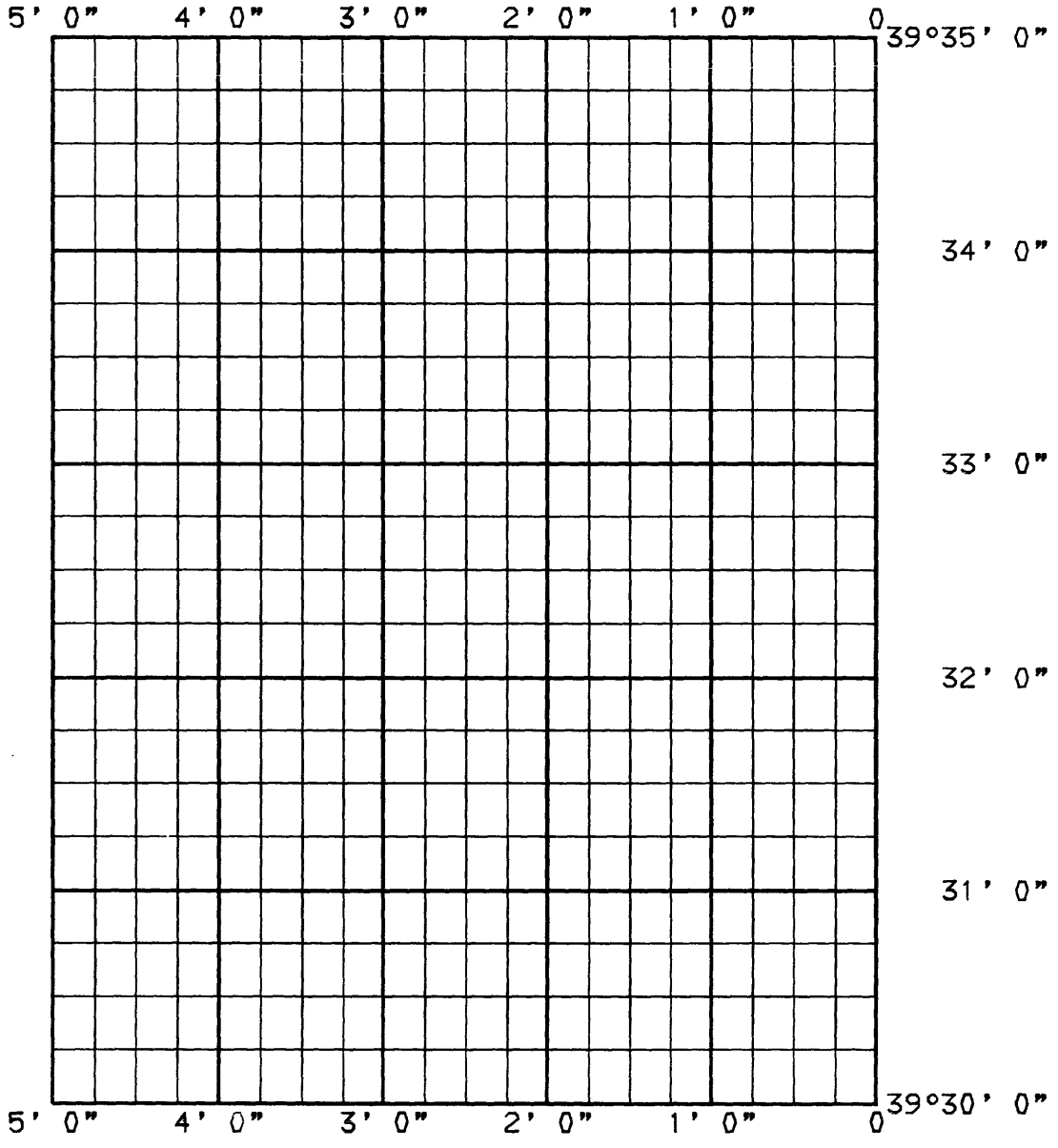
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 37°30' 0" to 37°35' 0"
Scale = 1/62,500



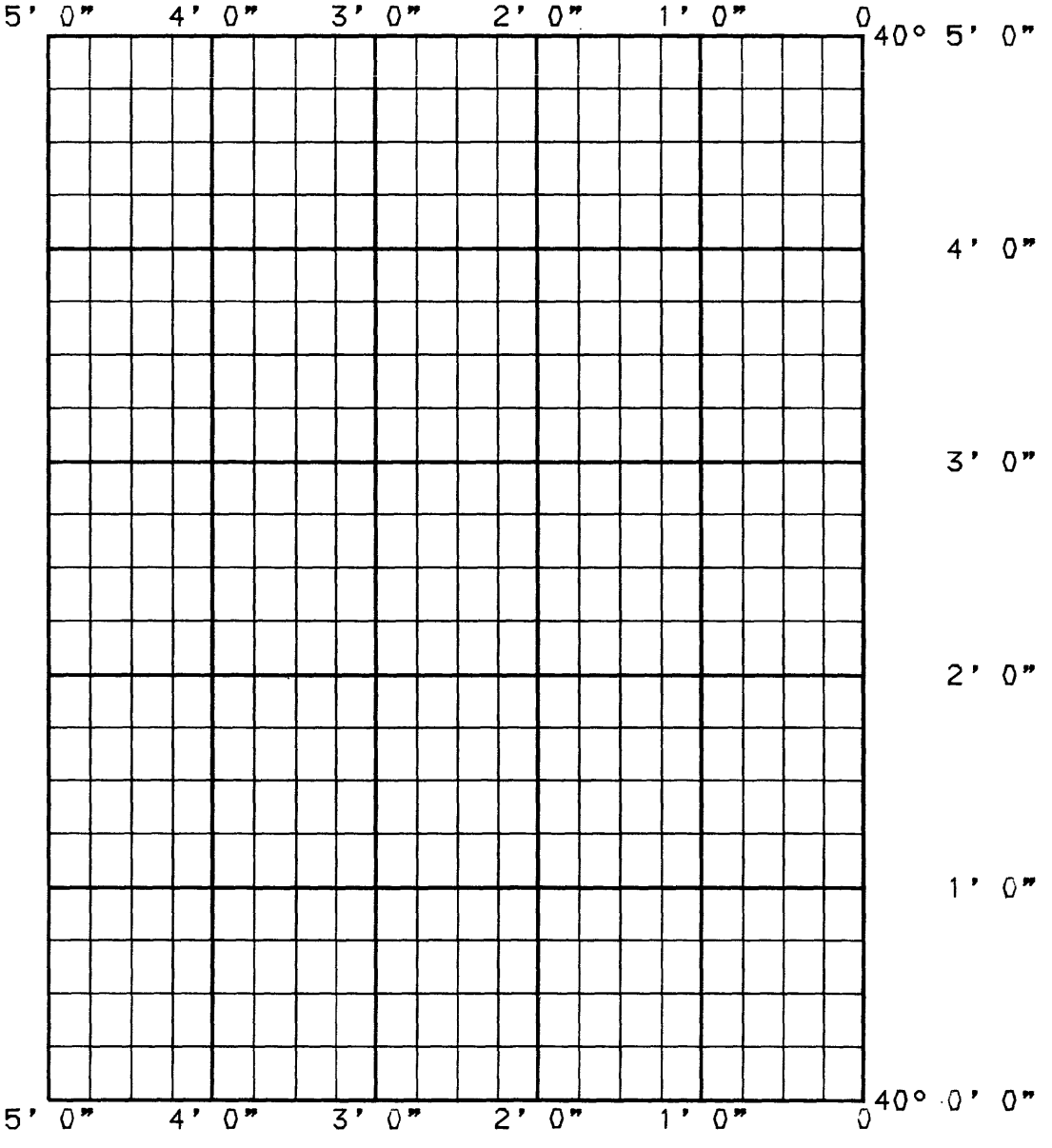
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 39° 0' 0" to 39° 5' 0"
Scale = 1/62,500



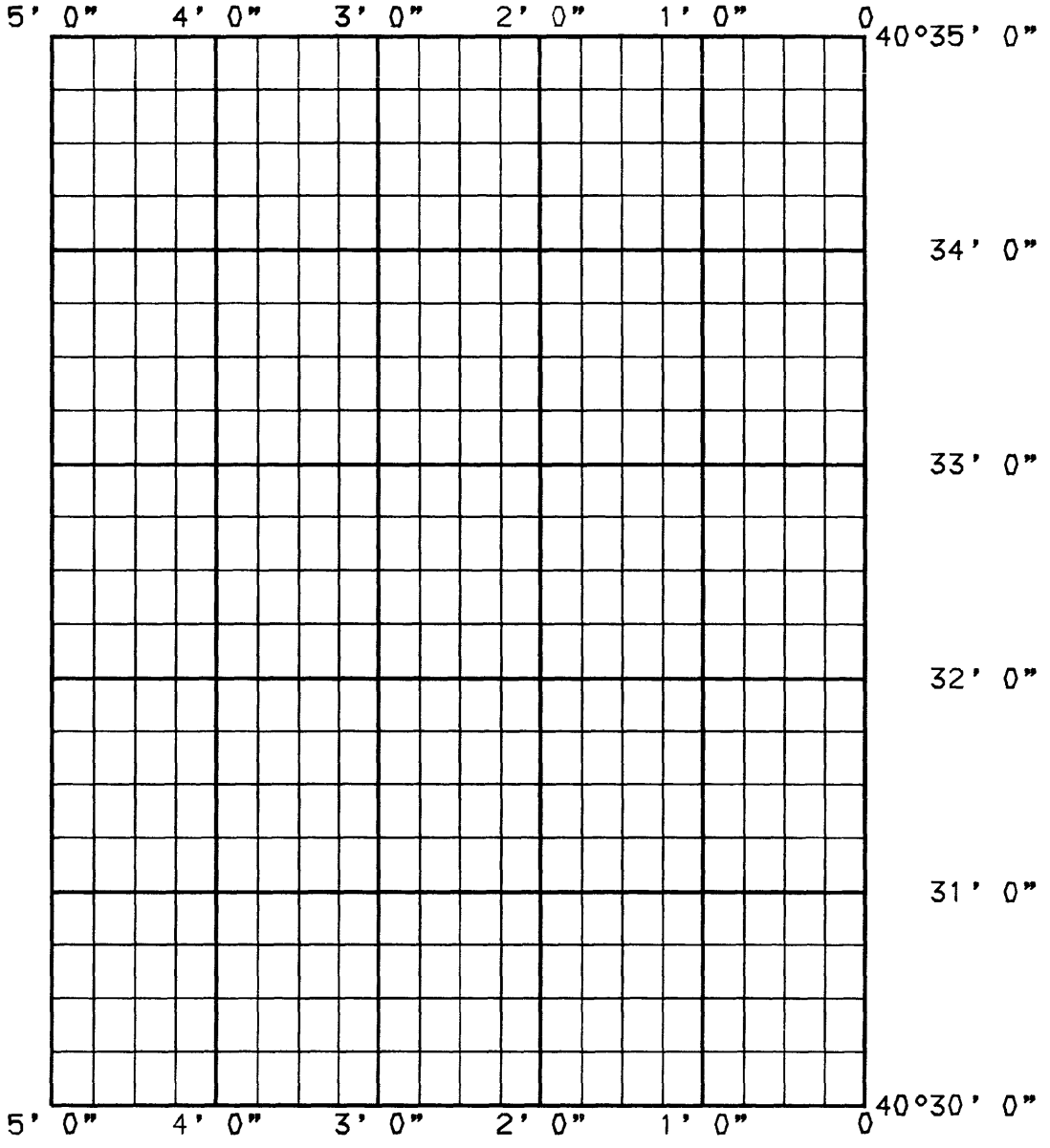
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 39°30' 0" to 39°35' 0"
Scale = 1/62,500



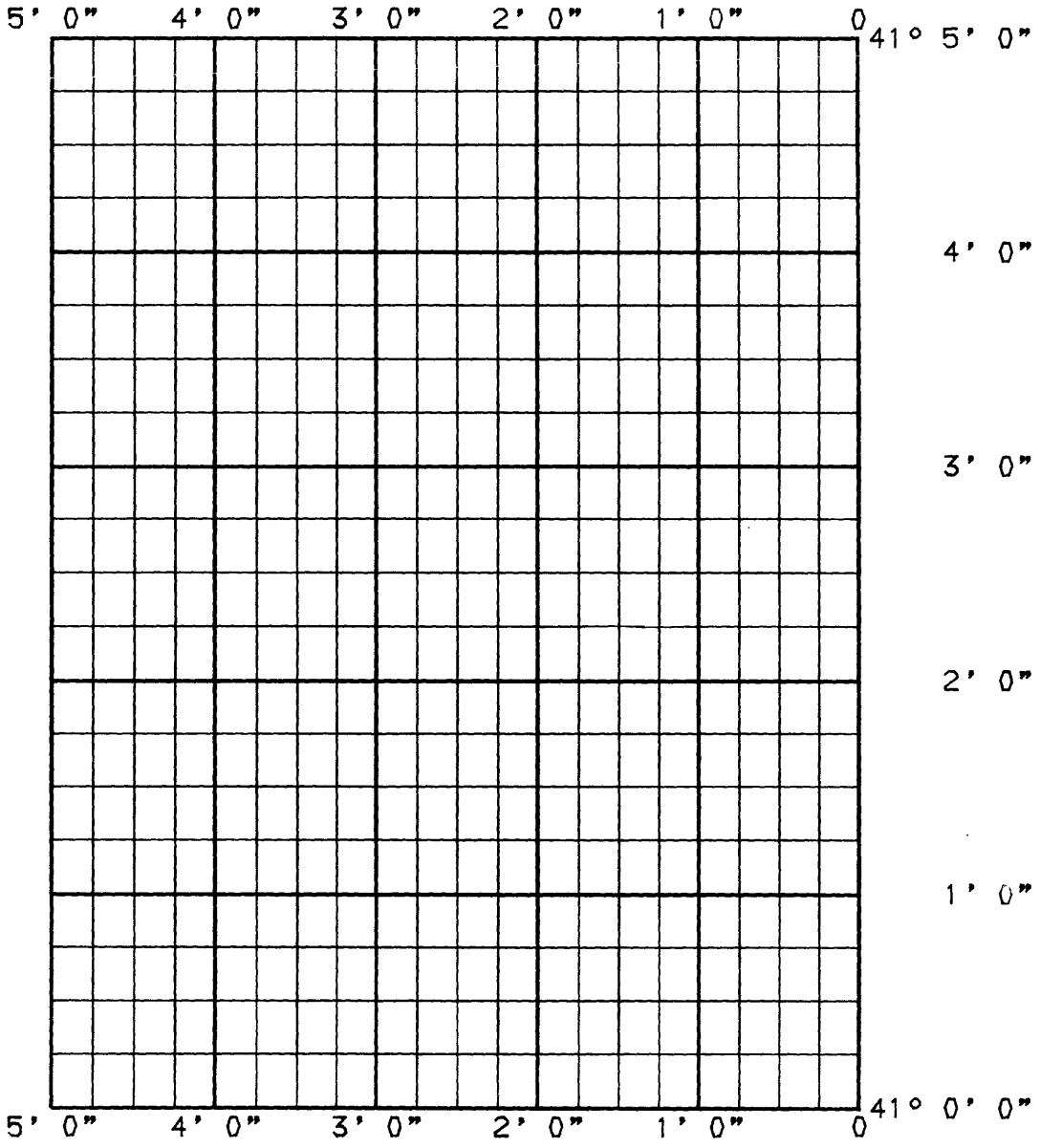
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 40° 0' 0" to 40° 5' 0"
Scale = 1/62,500



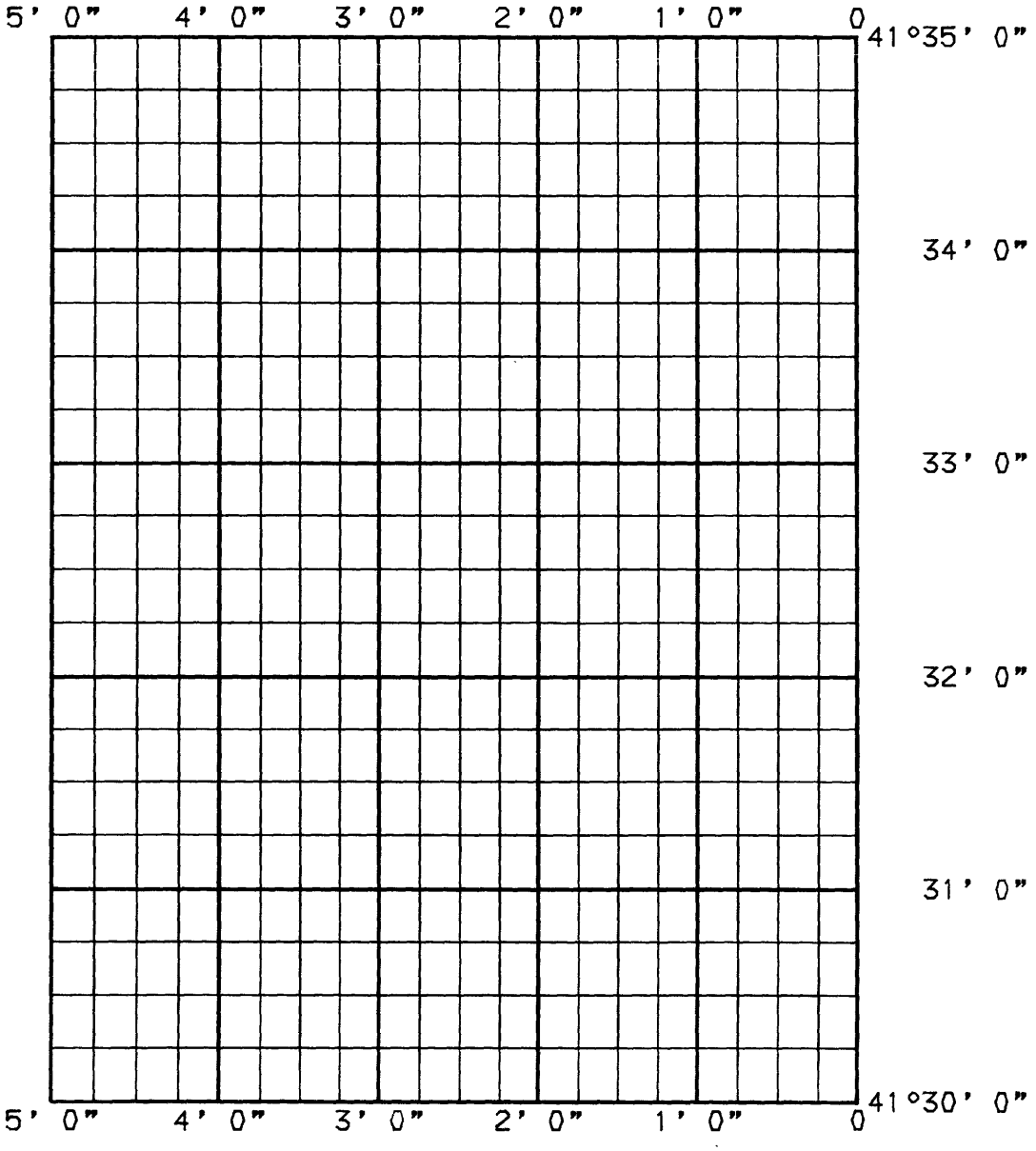
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 40°30' 0" to 40°35' 0"
Scale = 1/62,500



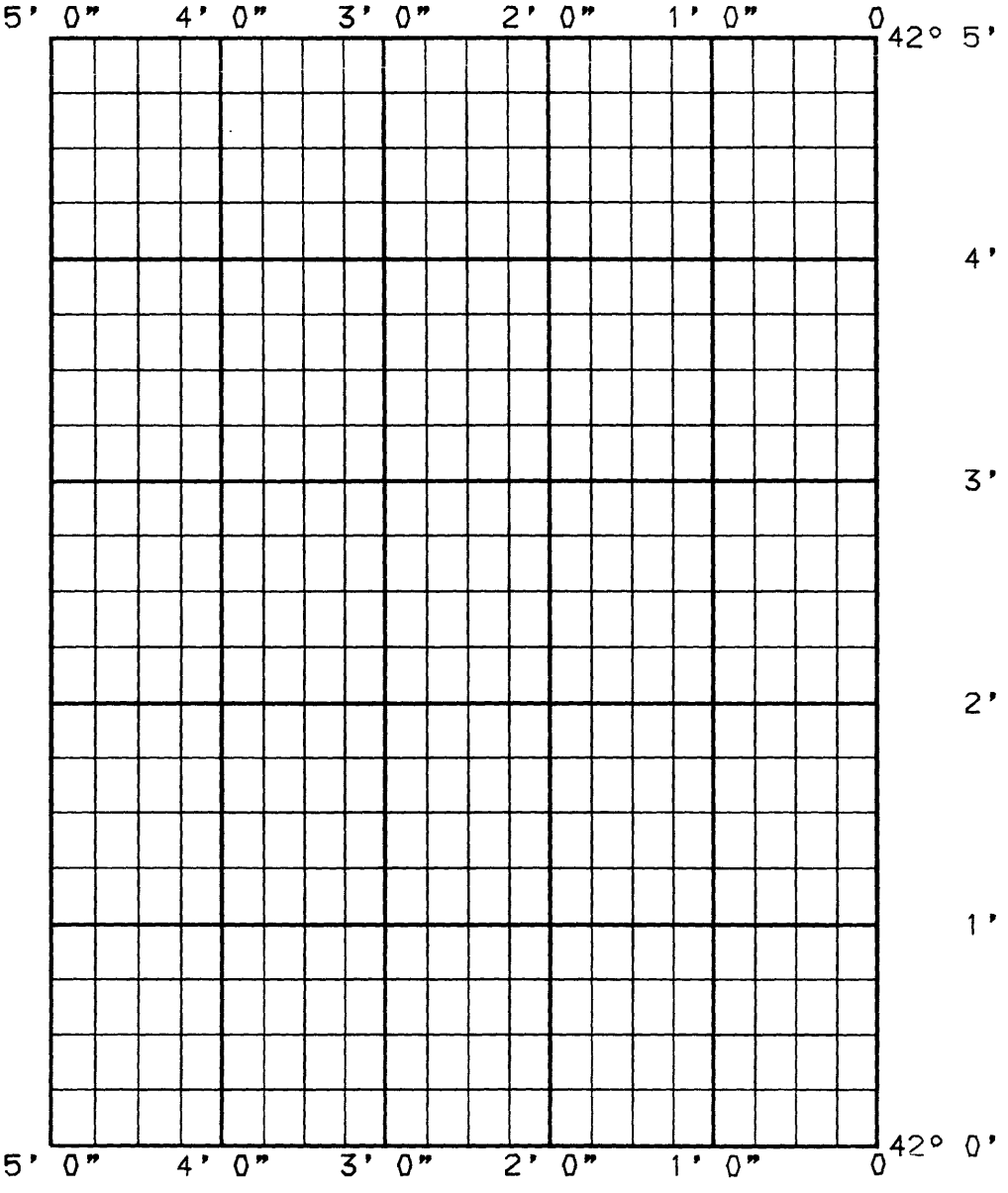
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 41° 0' 0" to 41° 5' 0"
Scale = 1/62,500



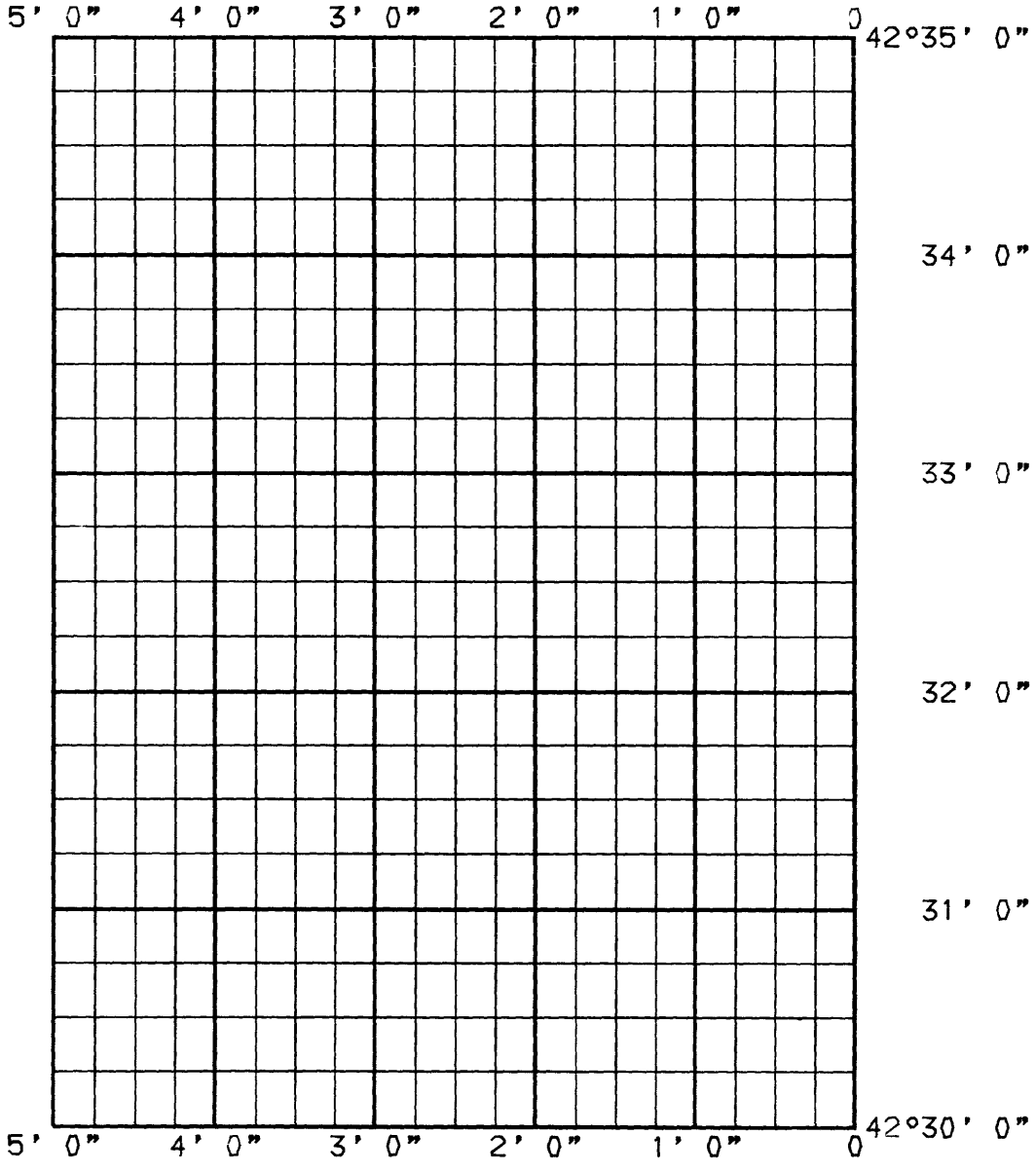
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 41°30' 0" to 41°35' 0"
Scale = 1/62,500



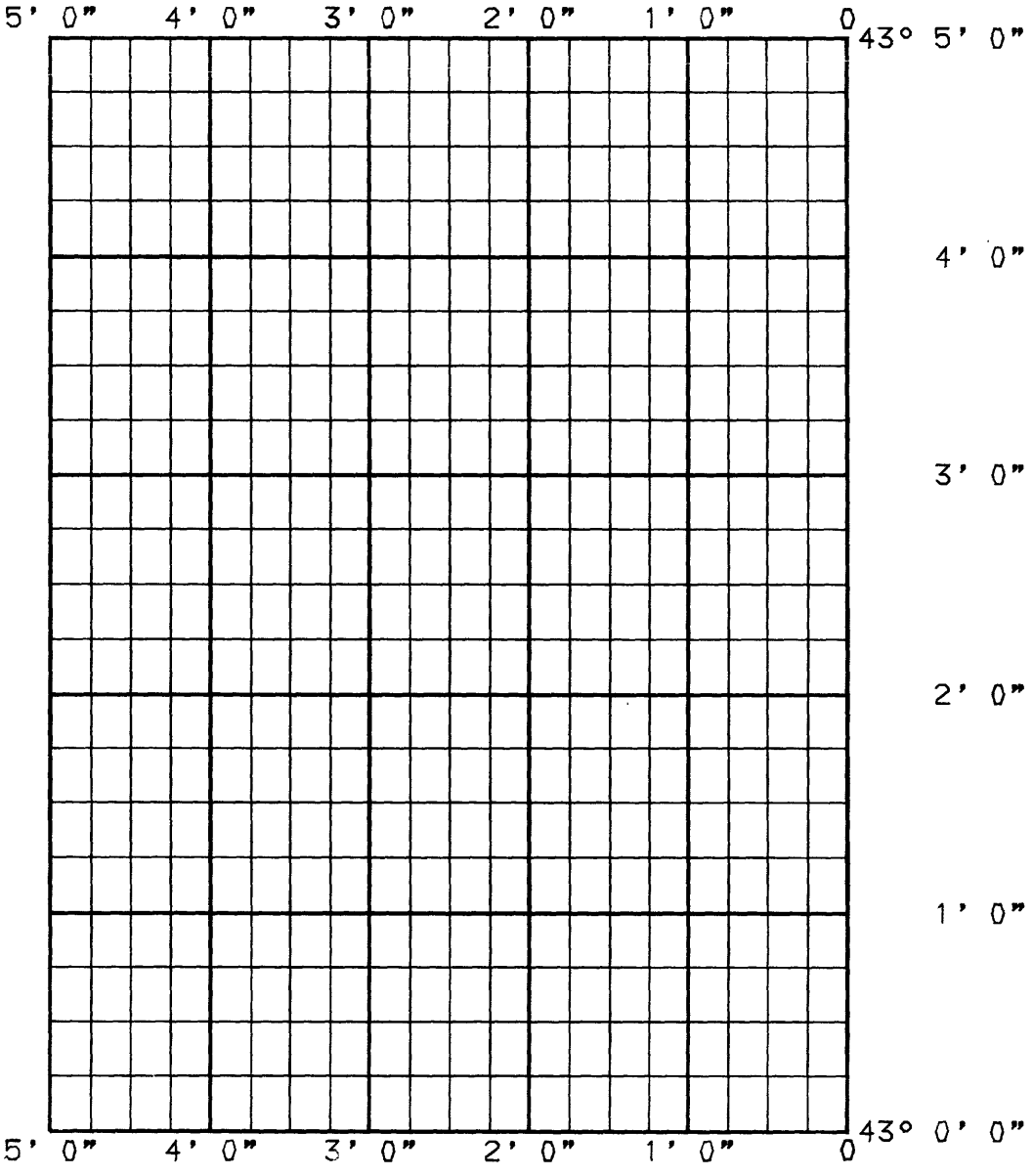
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 42° 0' 0" to 42° 5' 0
Scale = 1/62,500



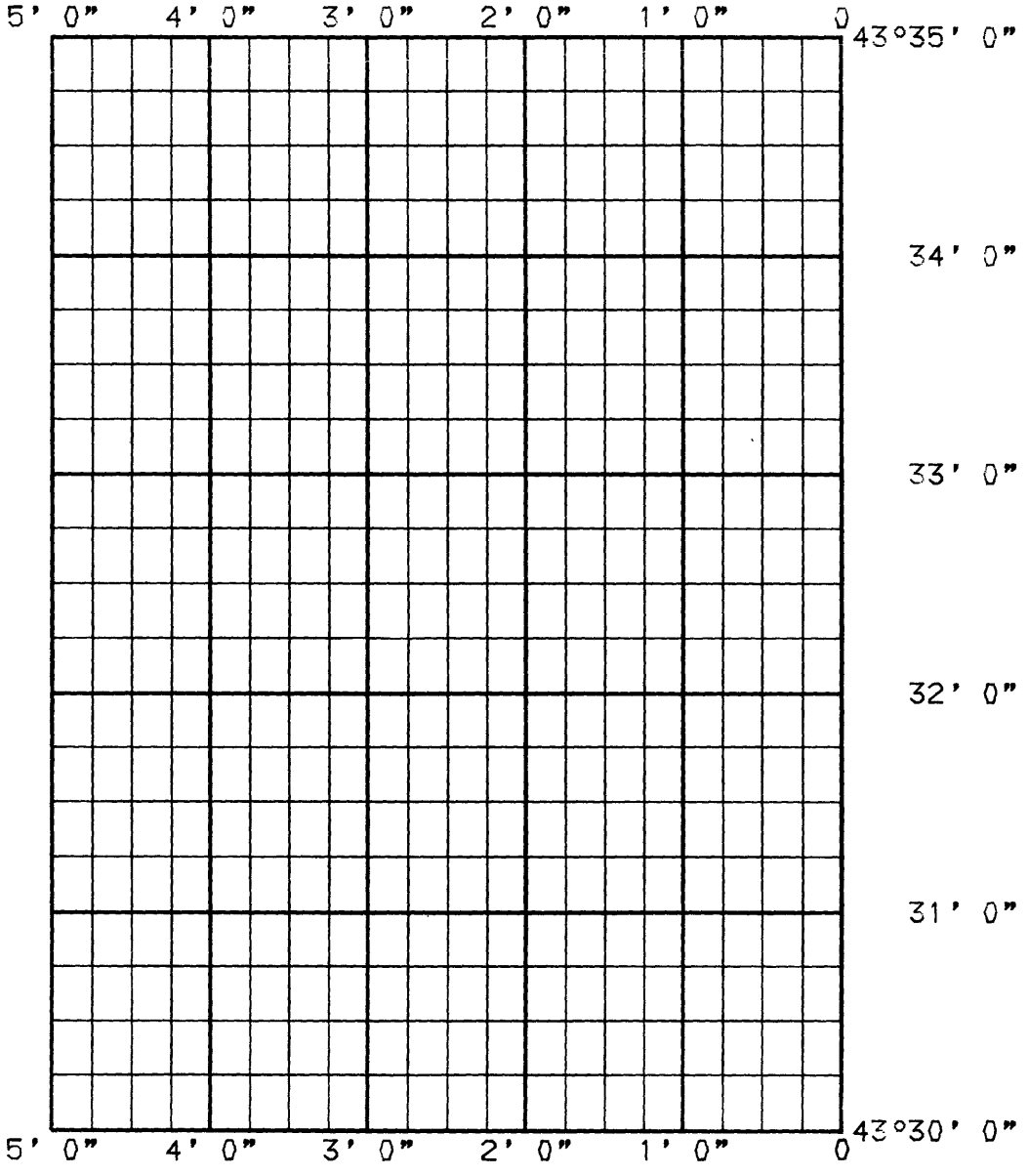
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 42°30' 0" to 42°35' 0"
Scale = 1/62,500



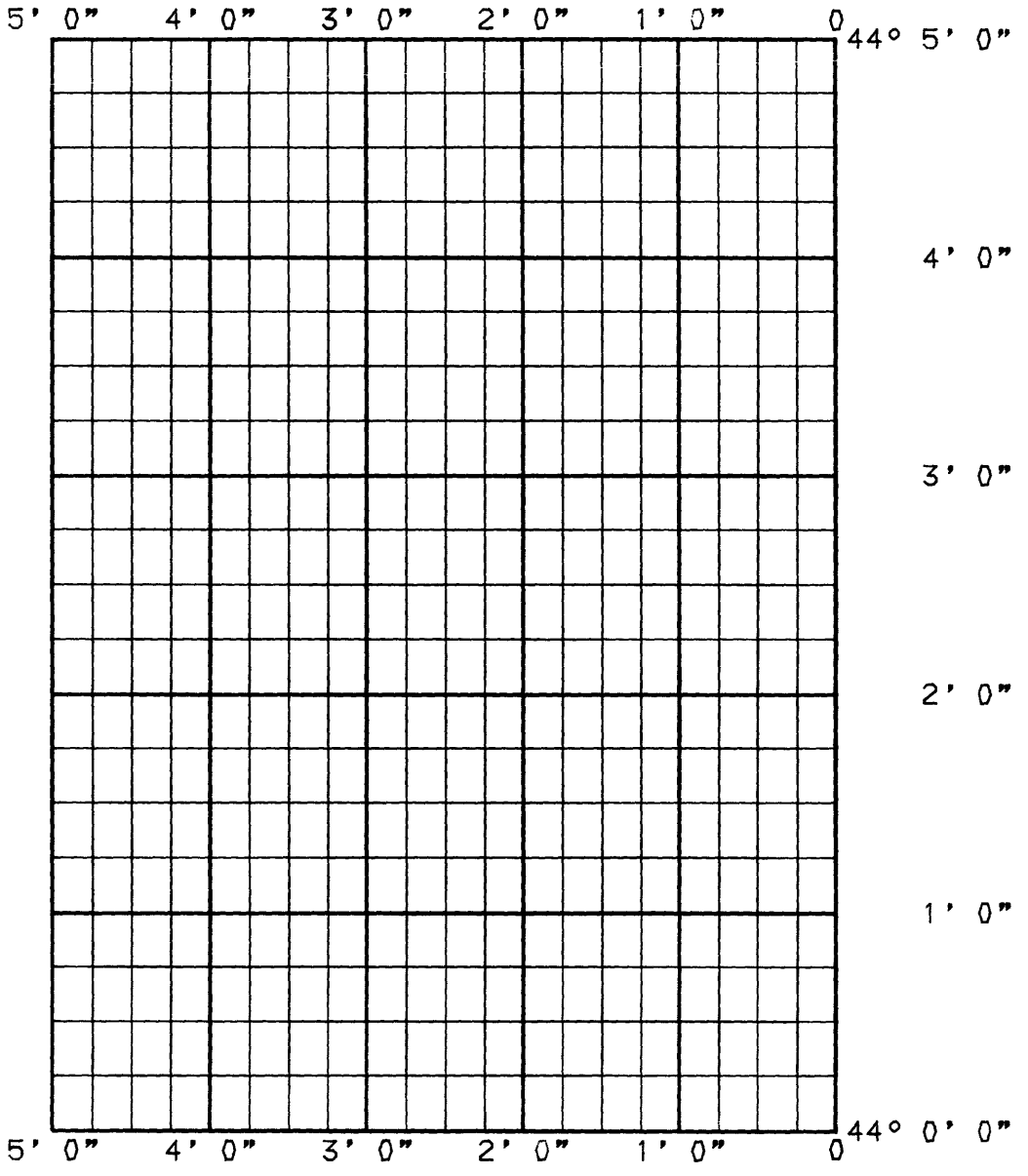
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 43° 0' 0" to 43° 5' 0"
Scale = 1/62,500



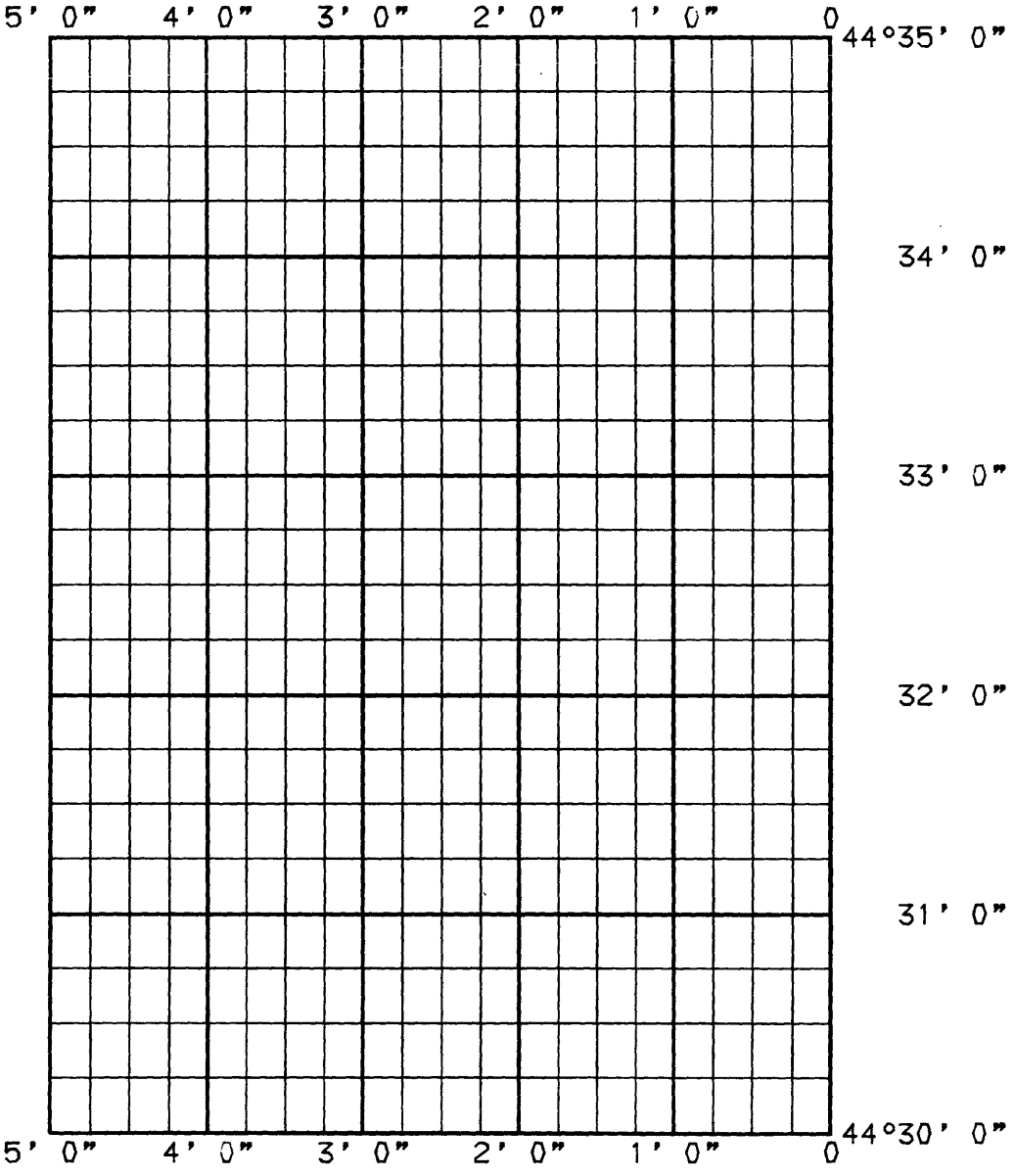
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 43°30' 0" to 43°35' 0"
Scale = 1/62,500



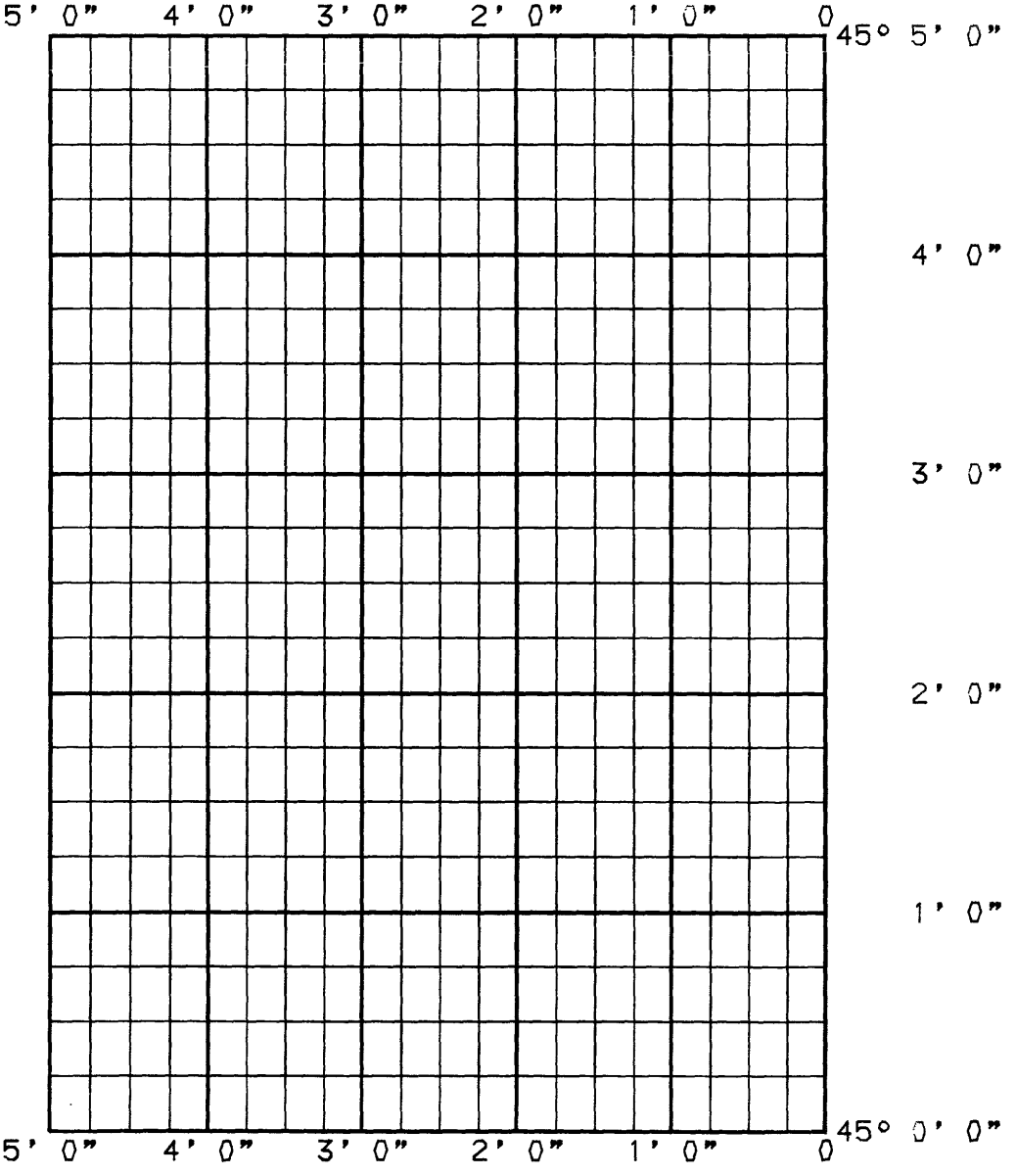
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44° 0' 0" to 44° 5' 0"
Scale = 1/62,500



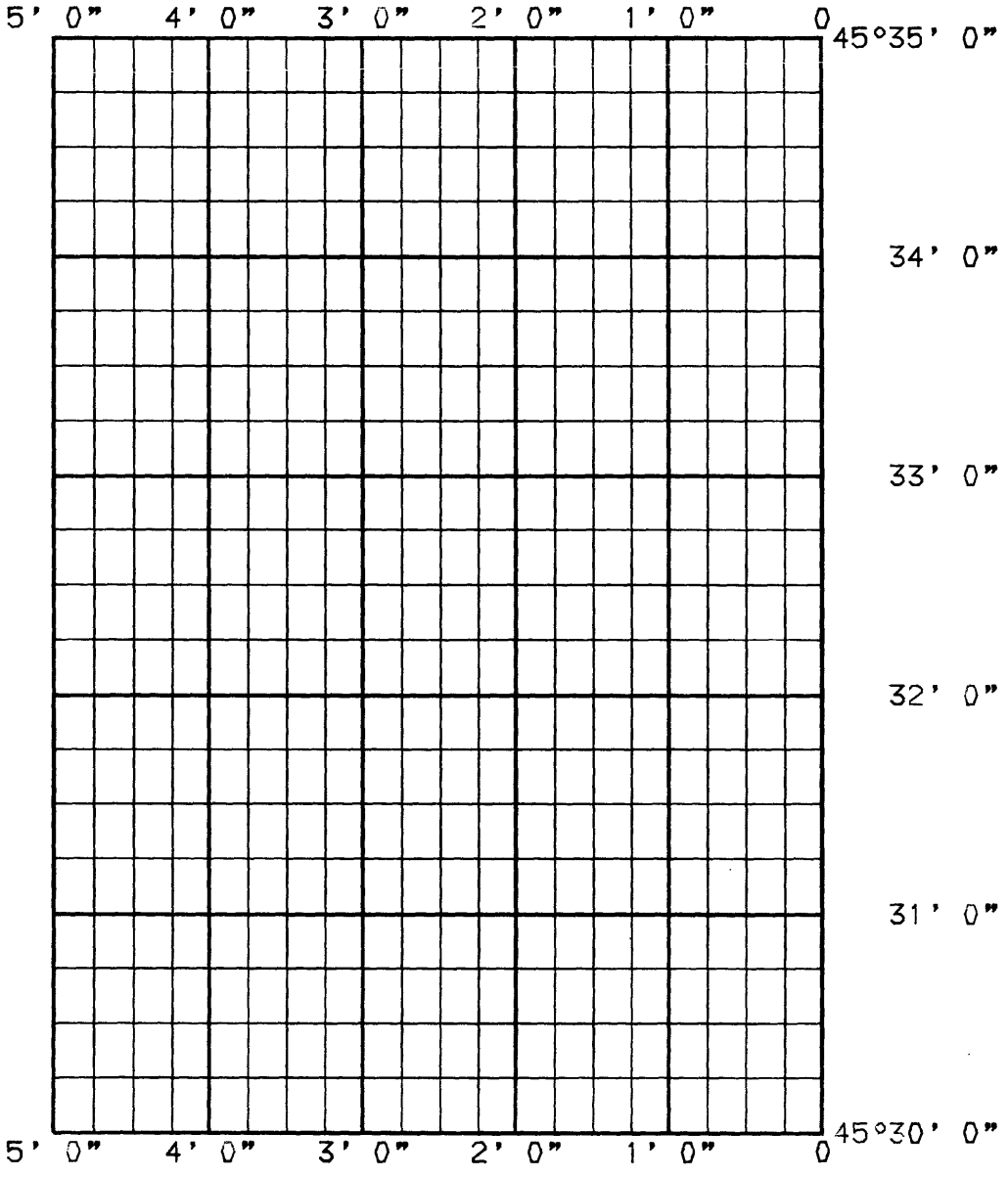
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44°30' 0" to 44°35' 0"
Scale = 1/62,500



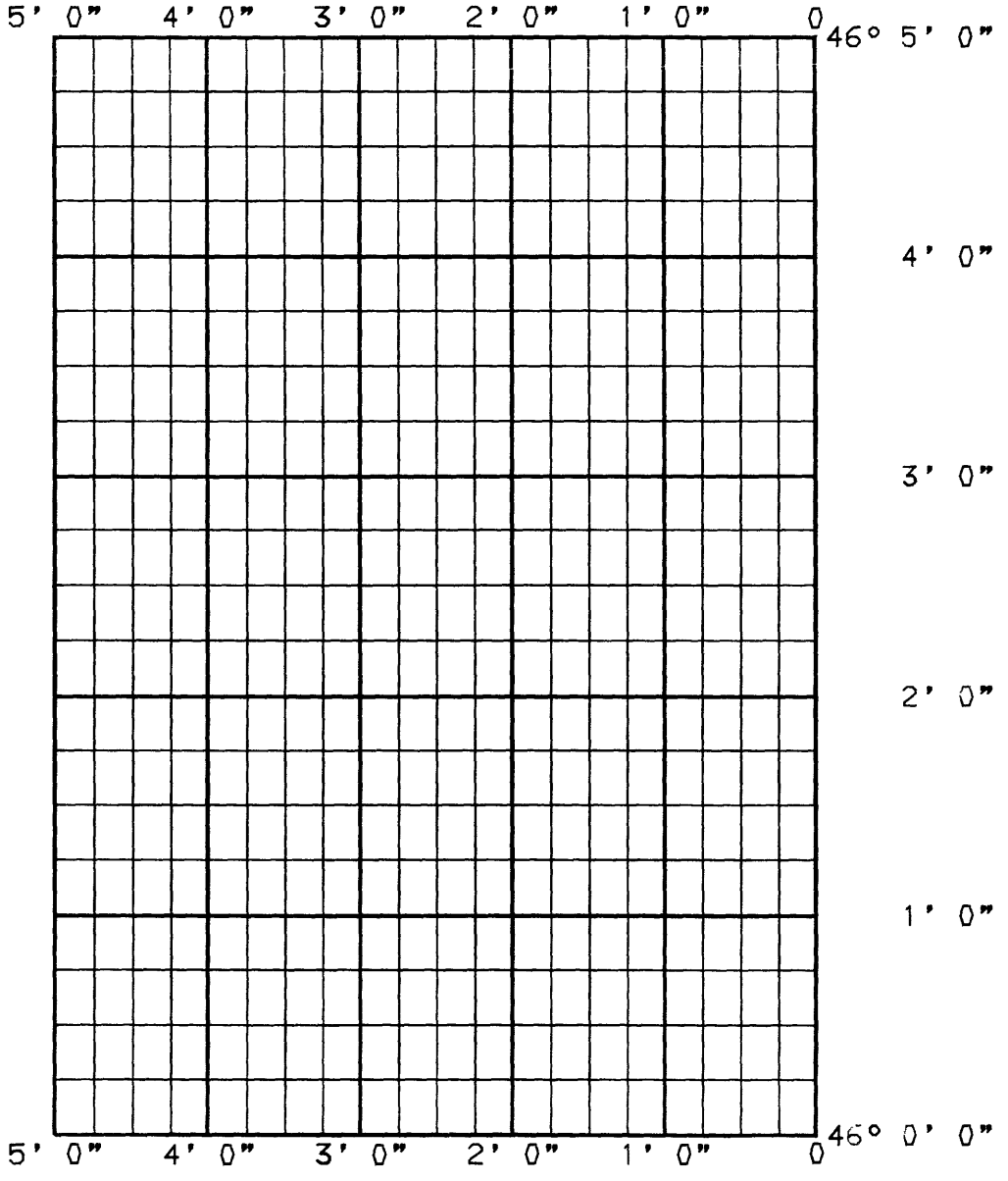
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45° 0' 0" to 45° 5' 0"
Scale = 1/62,500



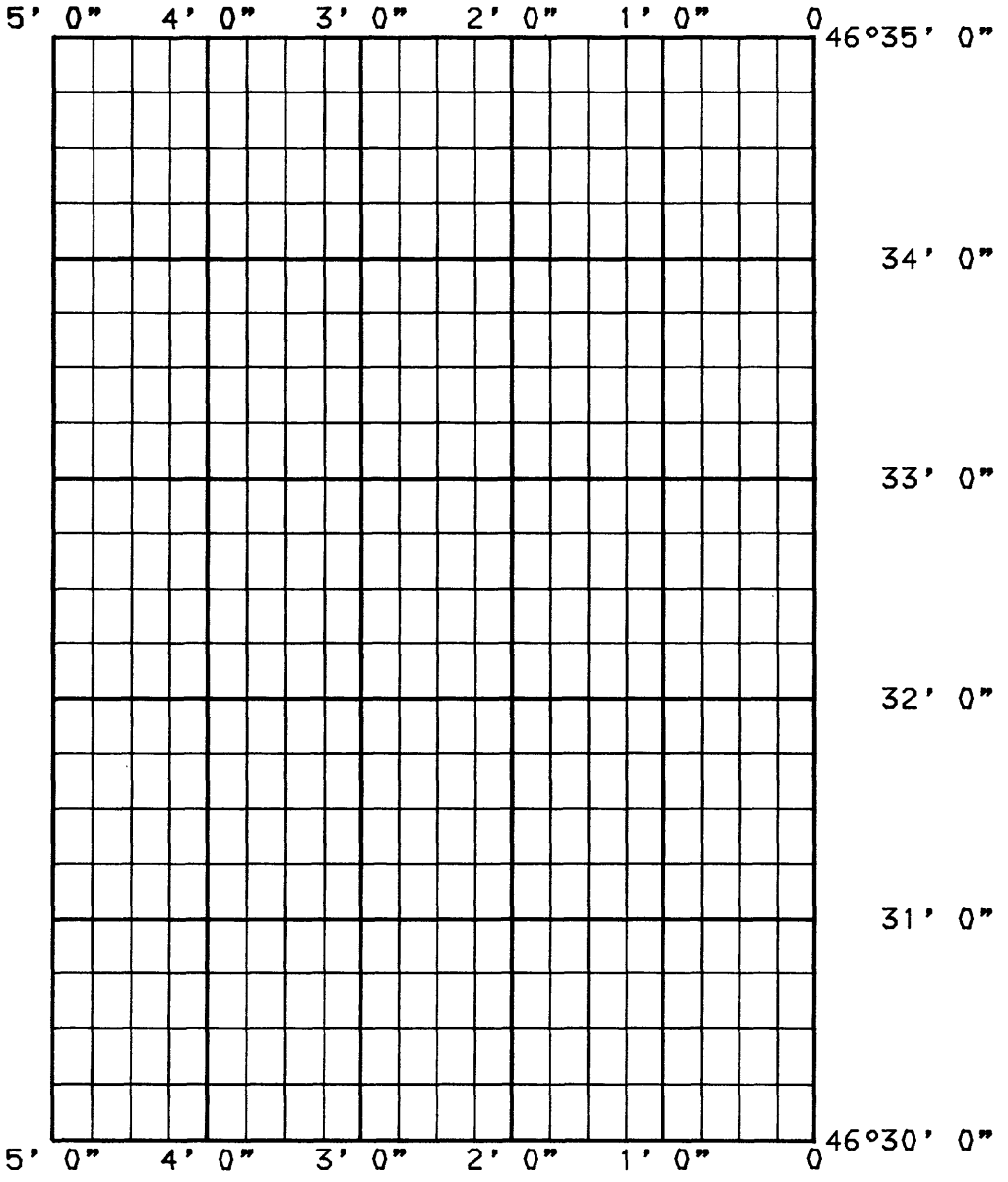
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45°30' 0" to 45°35' 0"
Scale = 1/62,500



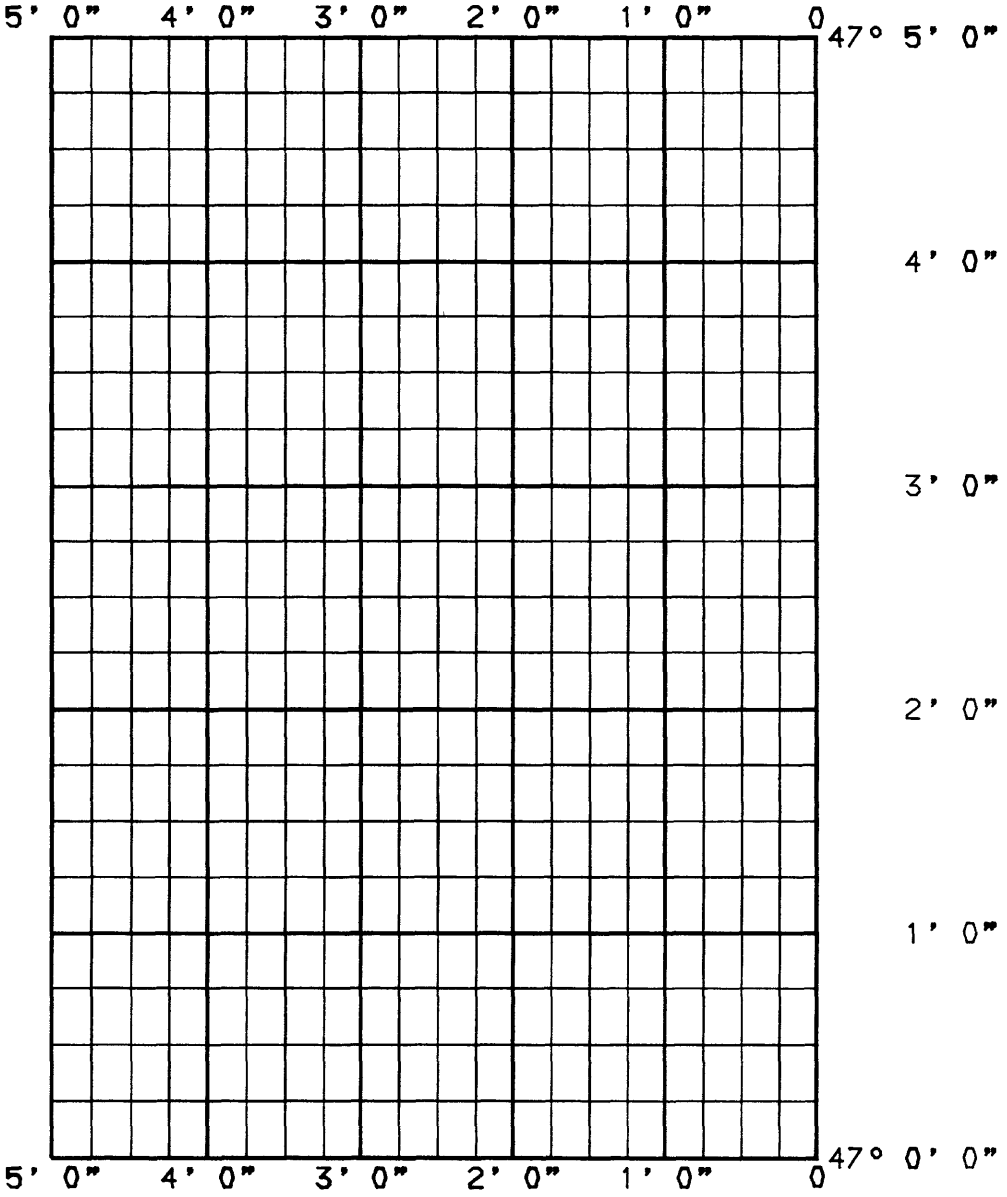
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46° 0' 0" to 46° 5' 0"
Scale = 1/62,500



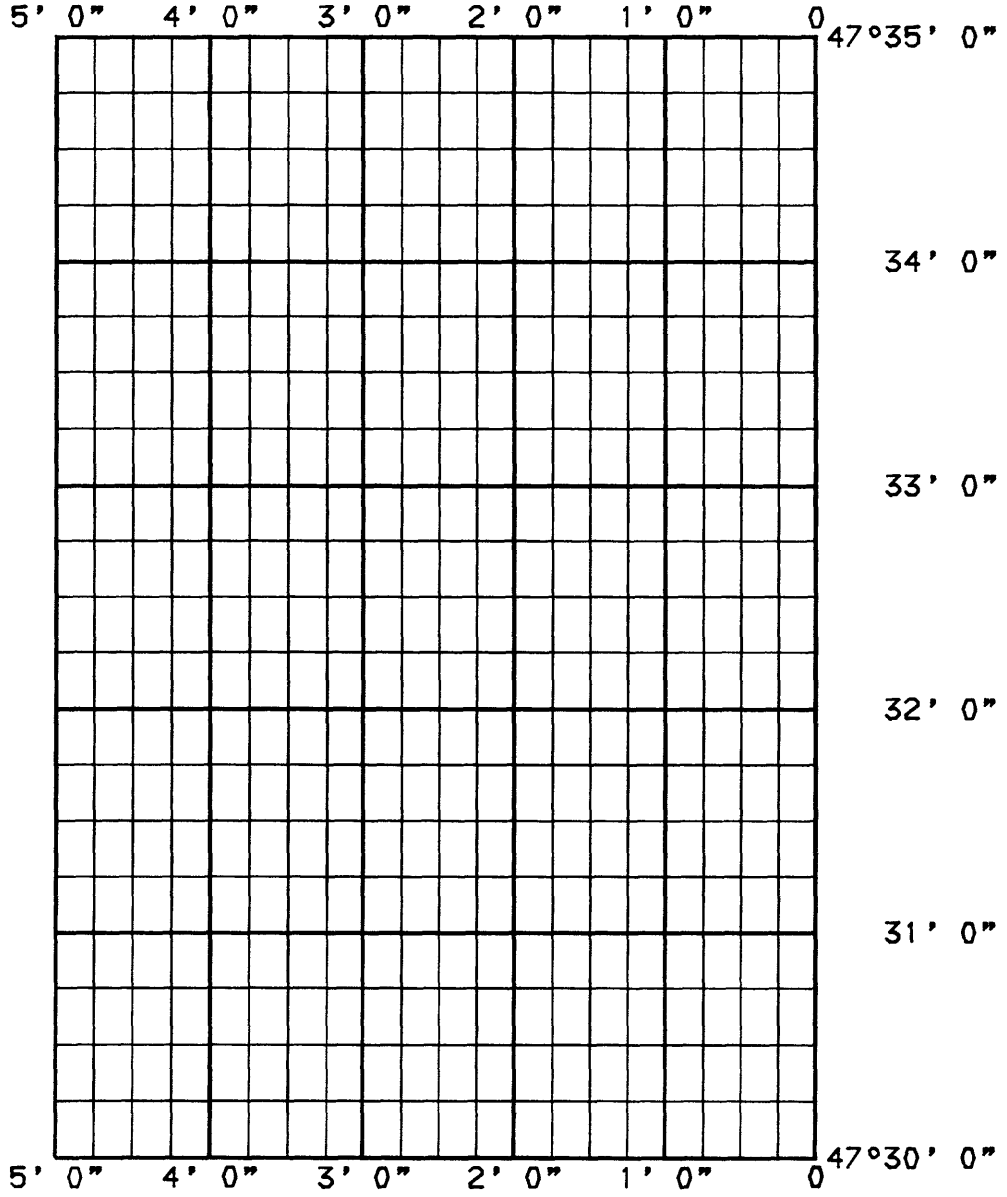
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46°30' 0" to 46°35' 0"
Scale = 1/62,500



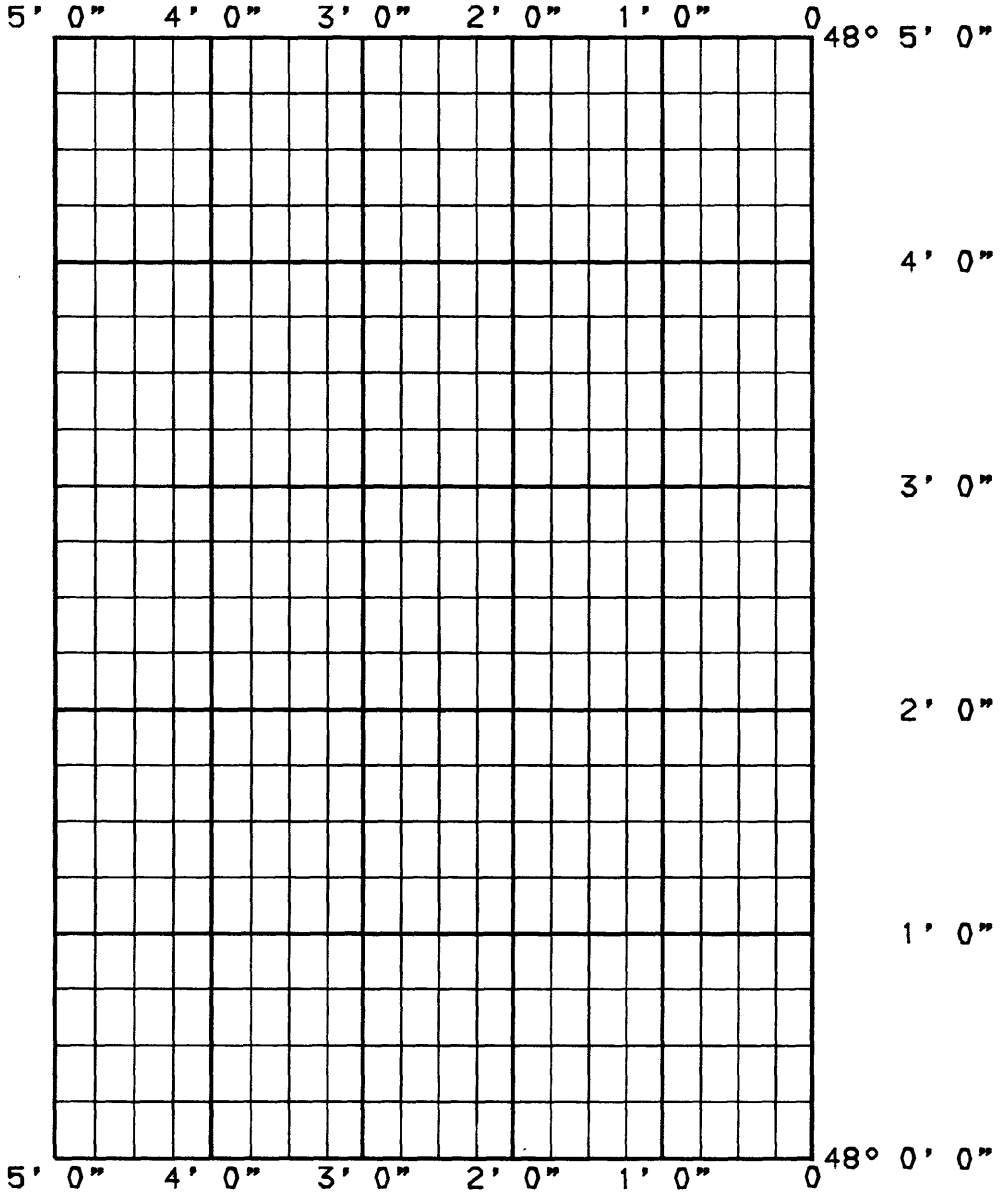
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47° 0' 0" to 47° 5' 0"
Scale = 1/62,500



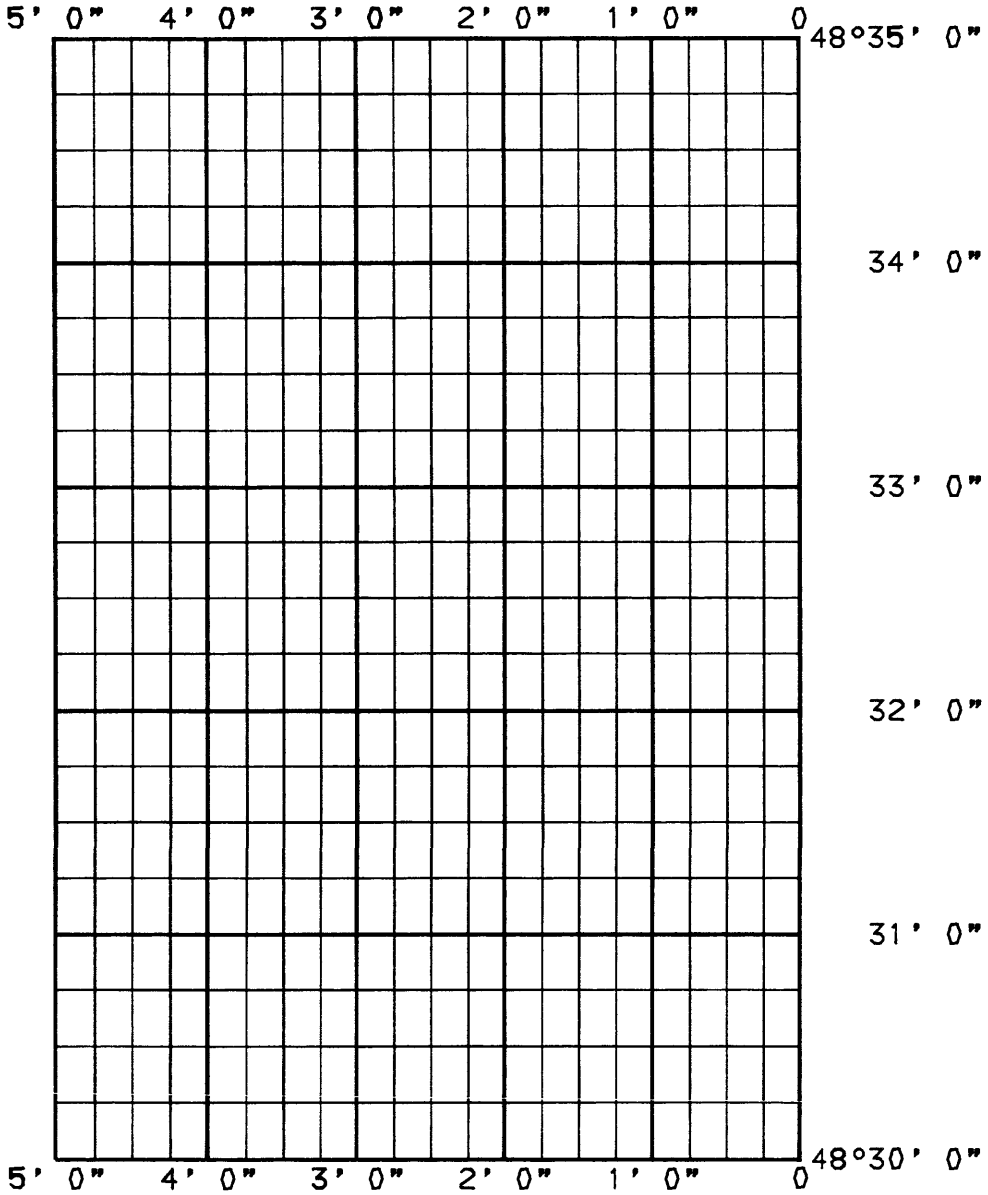
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47°30' 0" to 47°35' 0"
Scale = 1/62,500



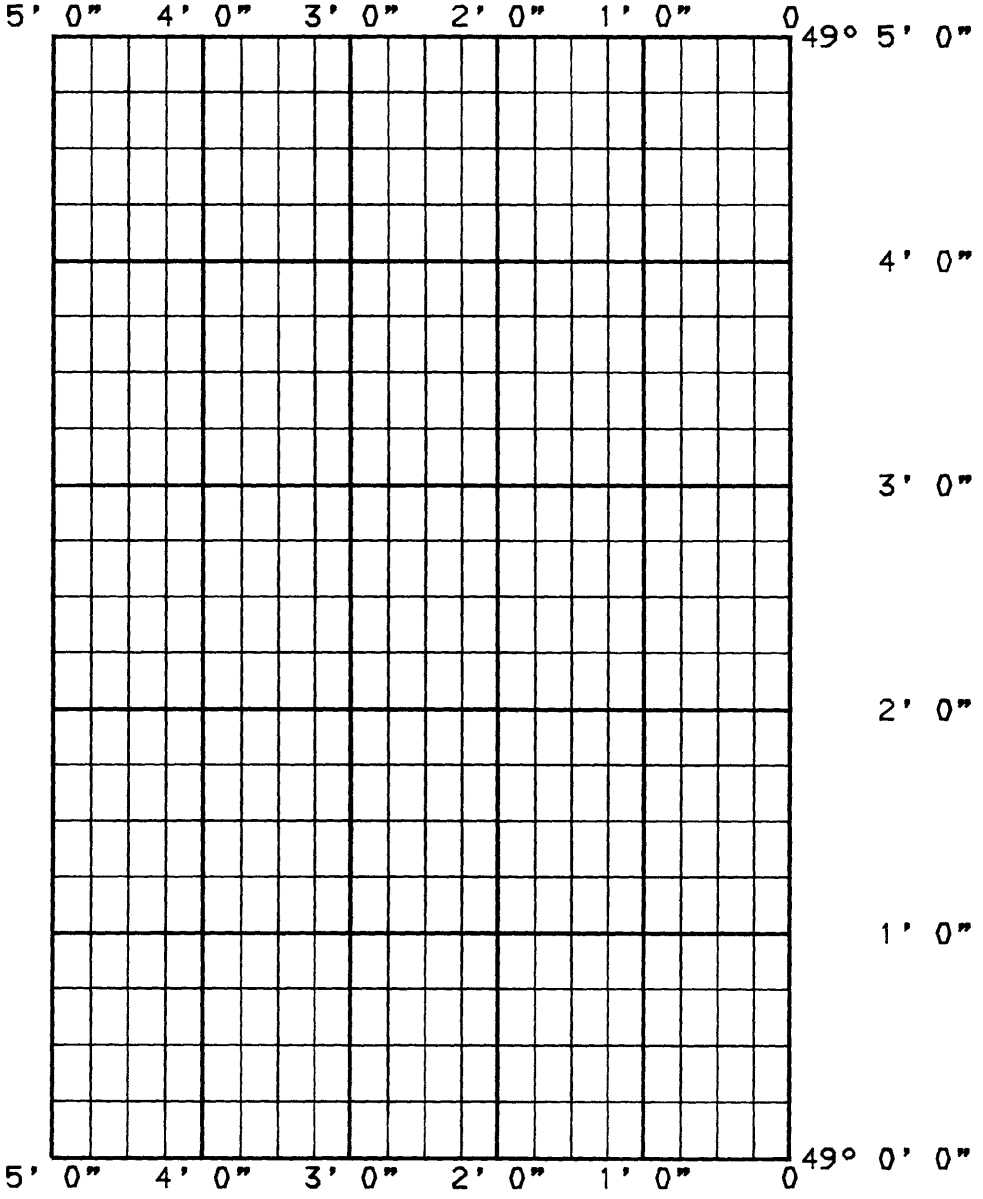
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48° 0' 0" to 48° 5' 0"
Scale = 1/62,500



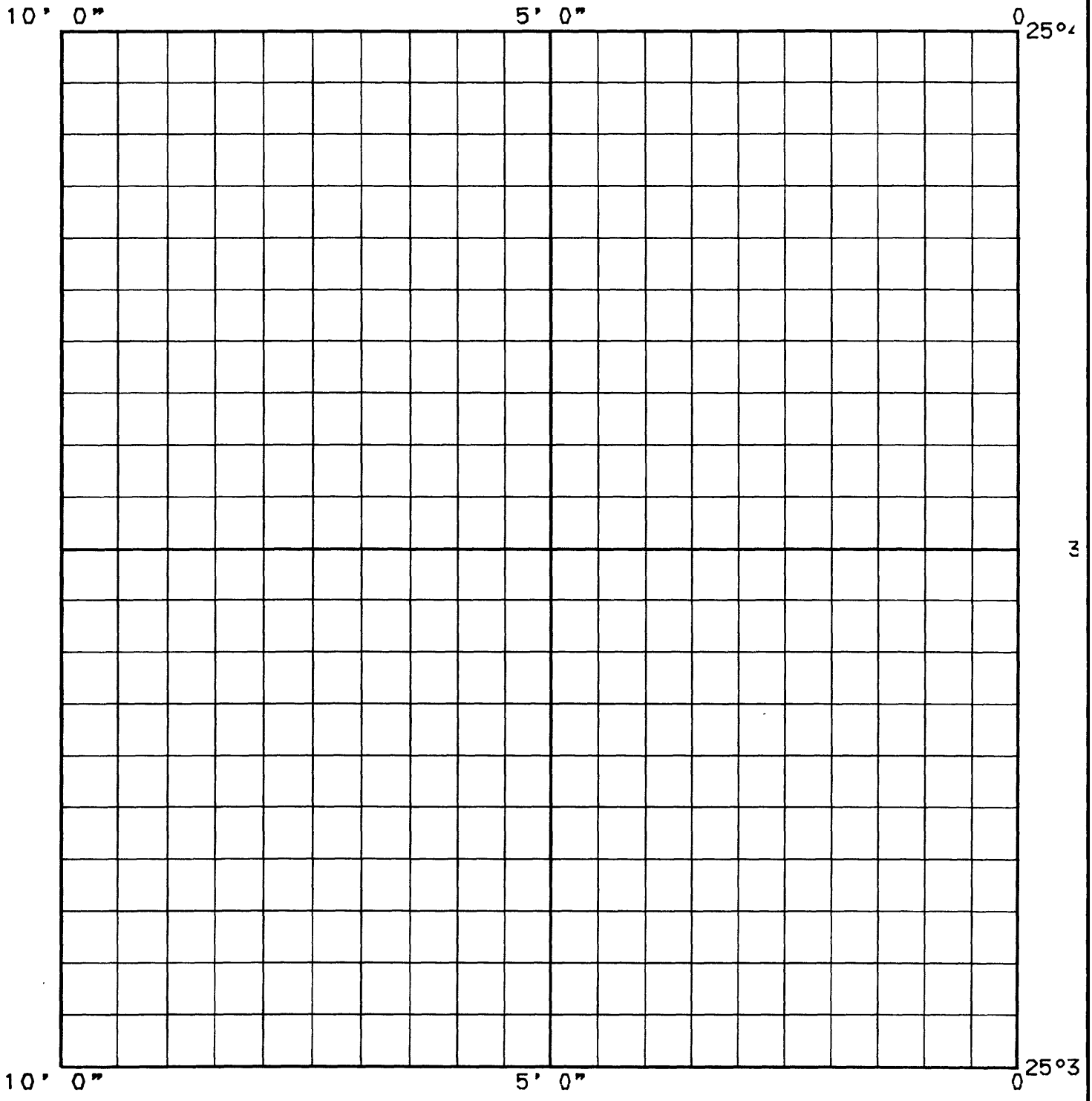
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48°30' 0" to 48°35' 0"
Scale = 1/62,500



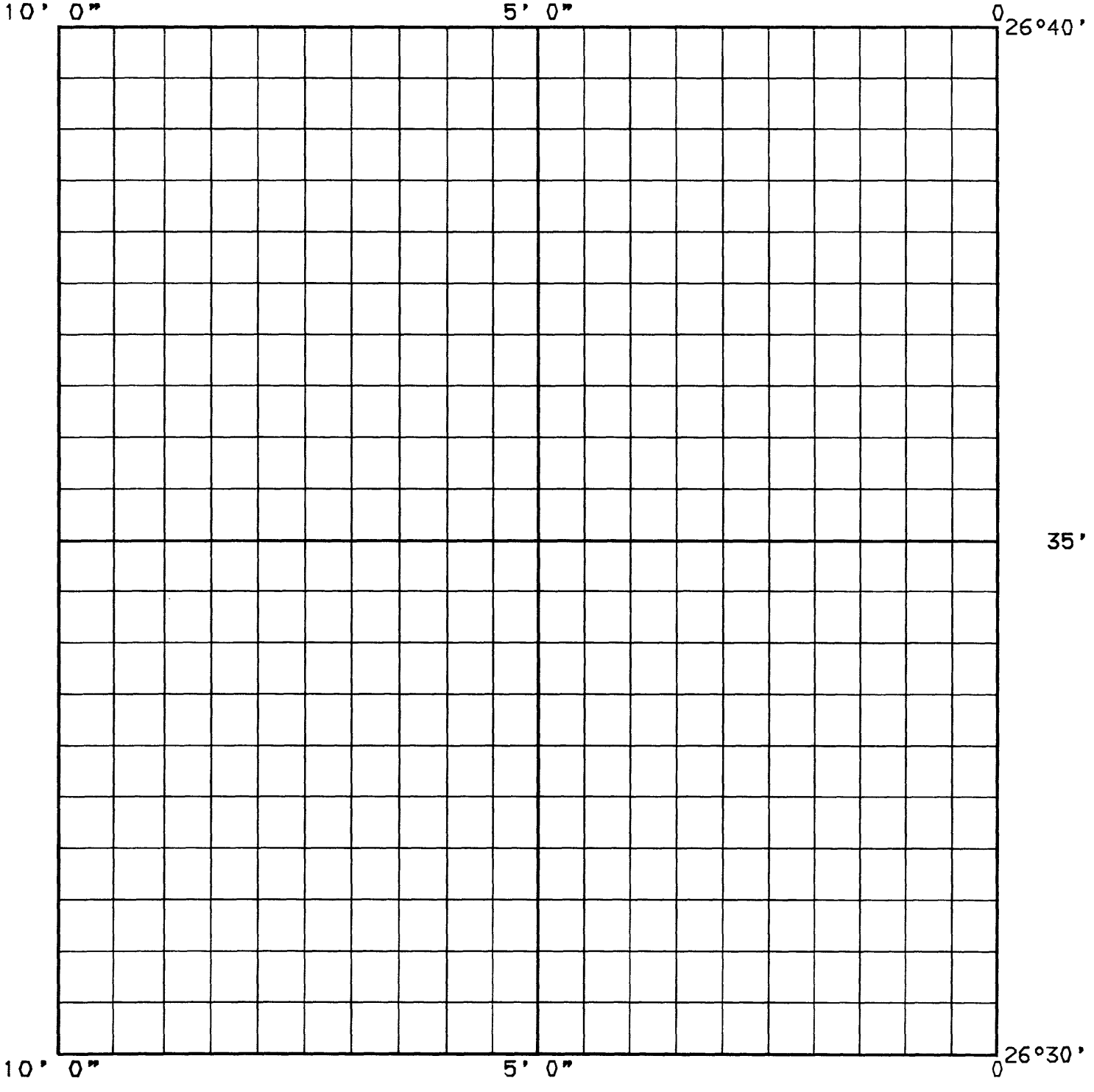
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 49° 0' 0" to 49° 5' 0"
Scale = 1/62,500



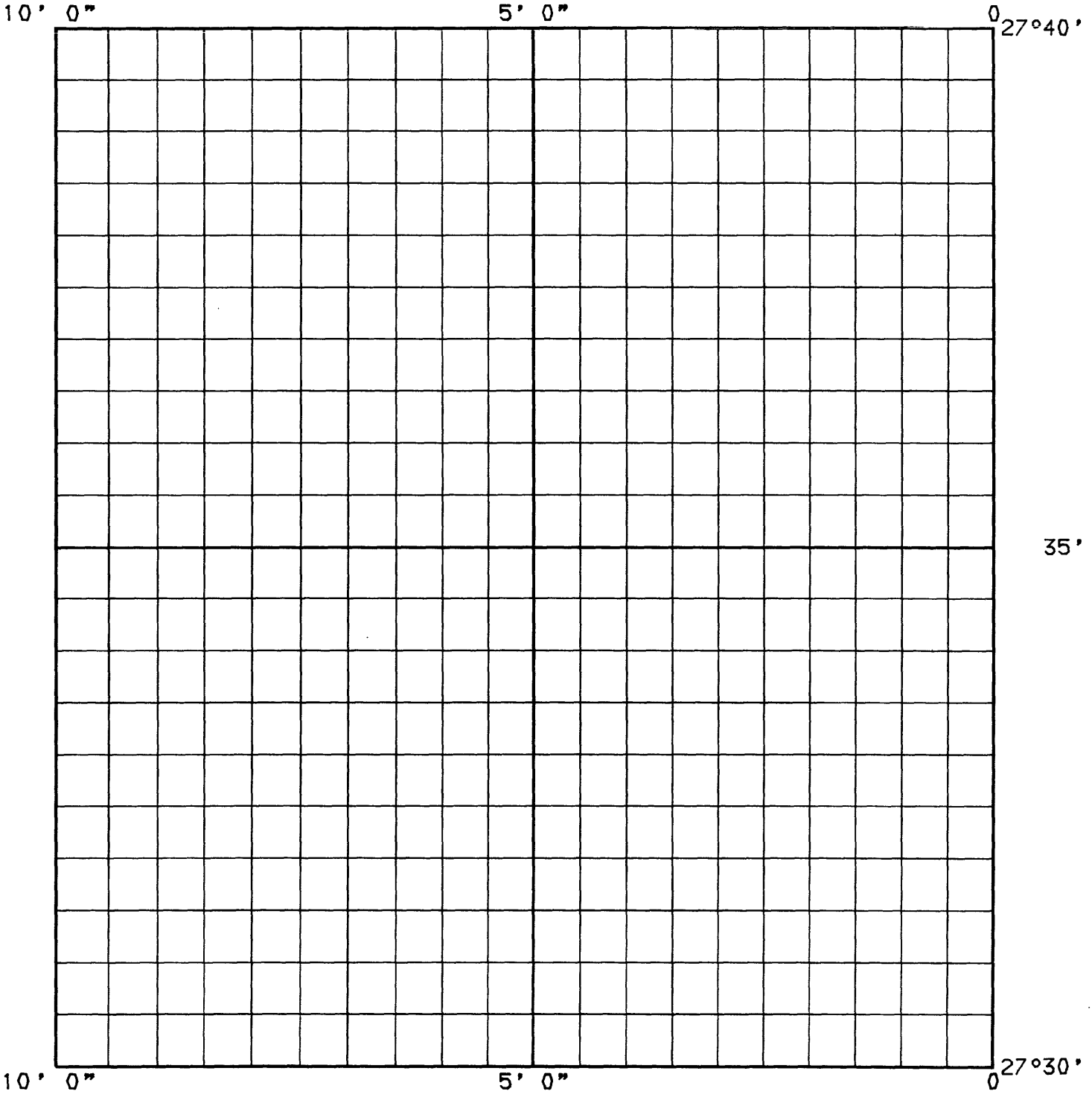
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 25°30' 0" to 25°40' 0"
Scale = 1/100,000



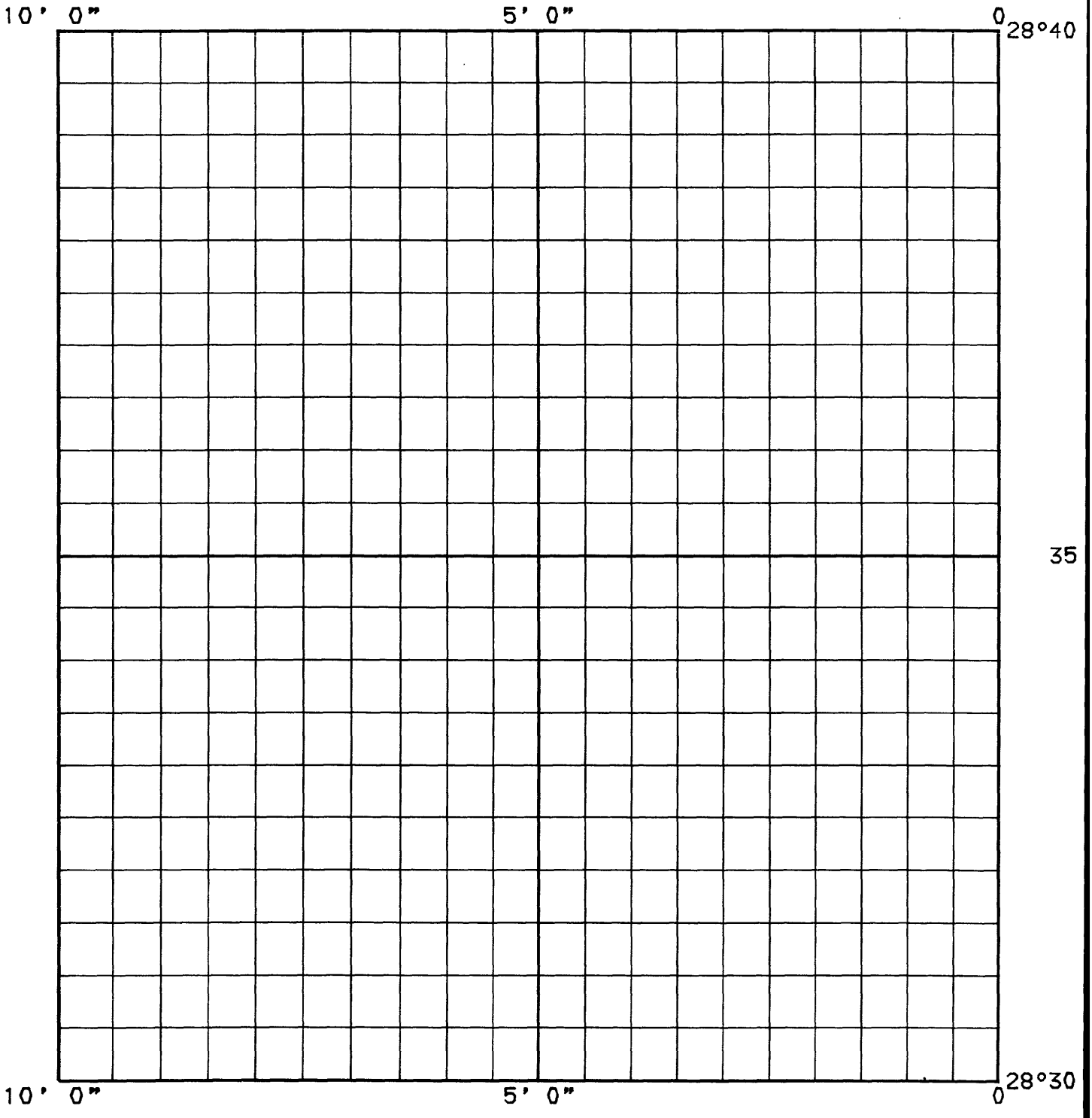
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 26°30' 0" to 26°40' 0"
Scale = 1/100,000



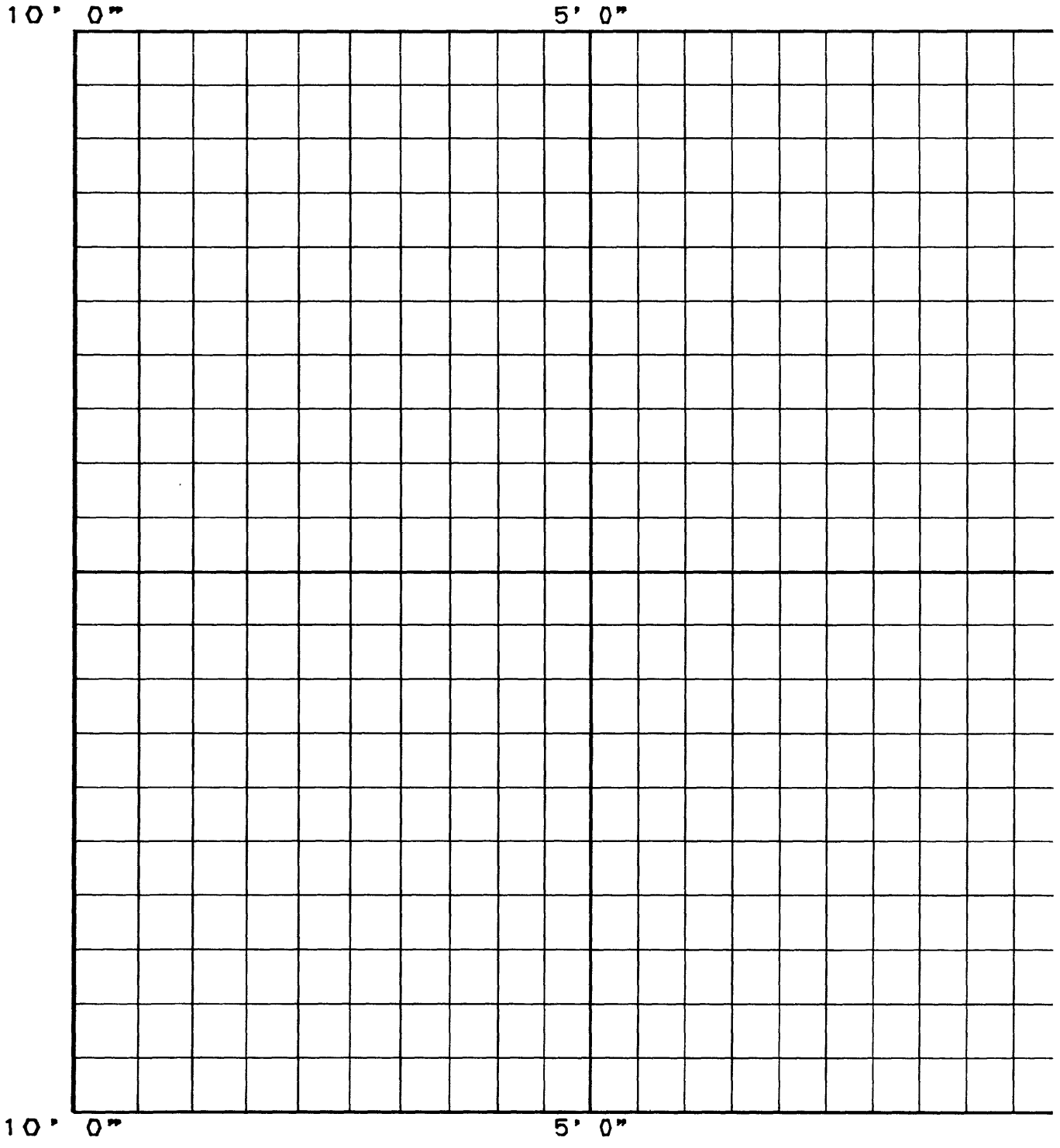
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 27°30' 0" to 27°40' 0"
Scale = 1/100,000



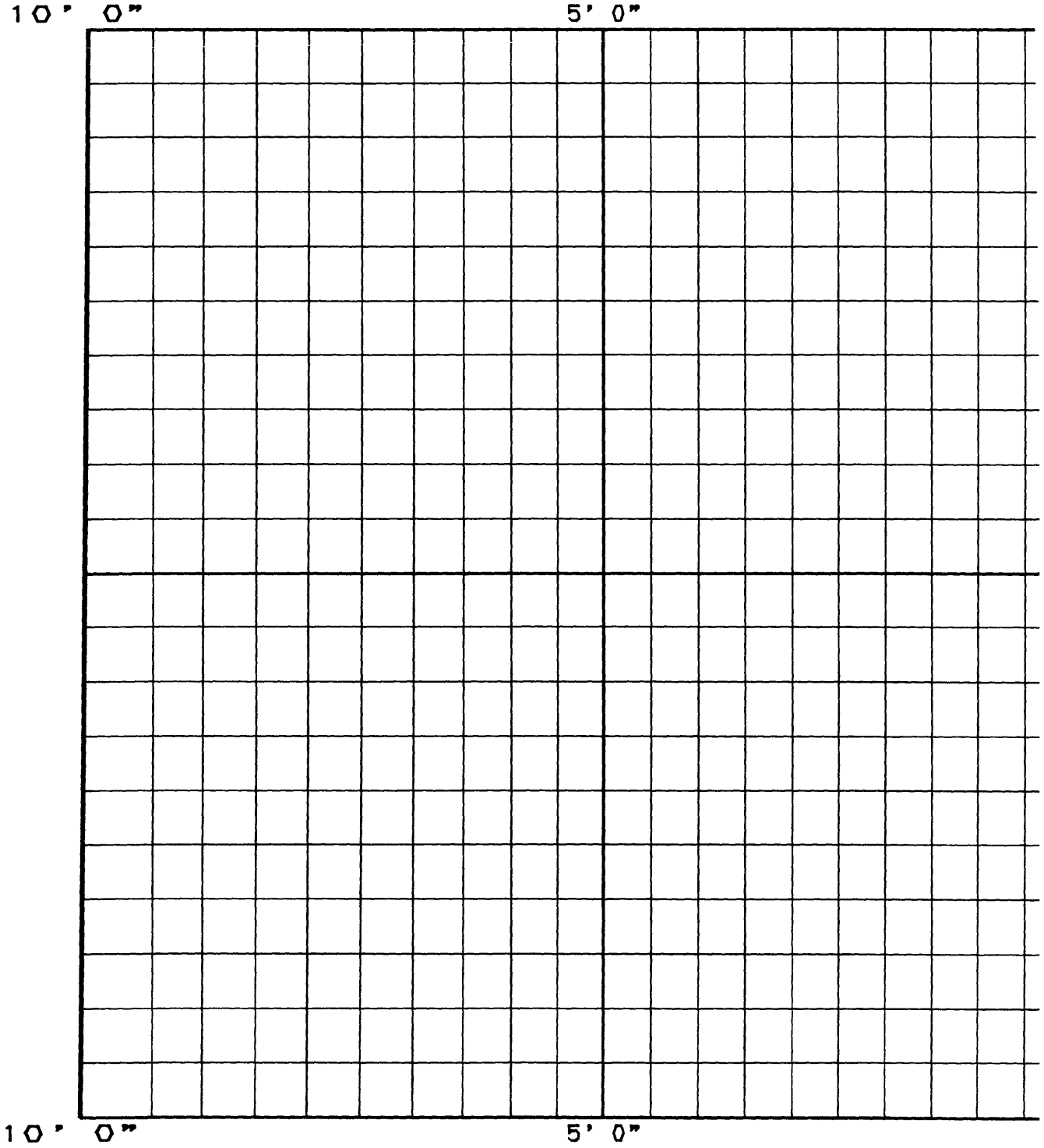
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 28°30' 0" to 28°40' 0"
Scale = 1/100,000



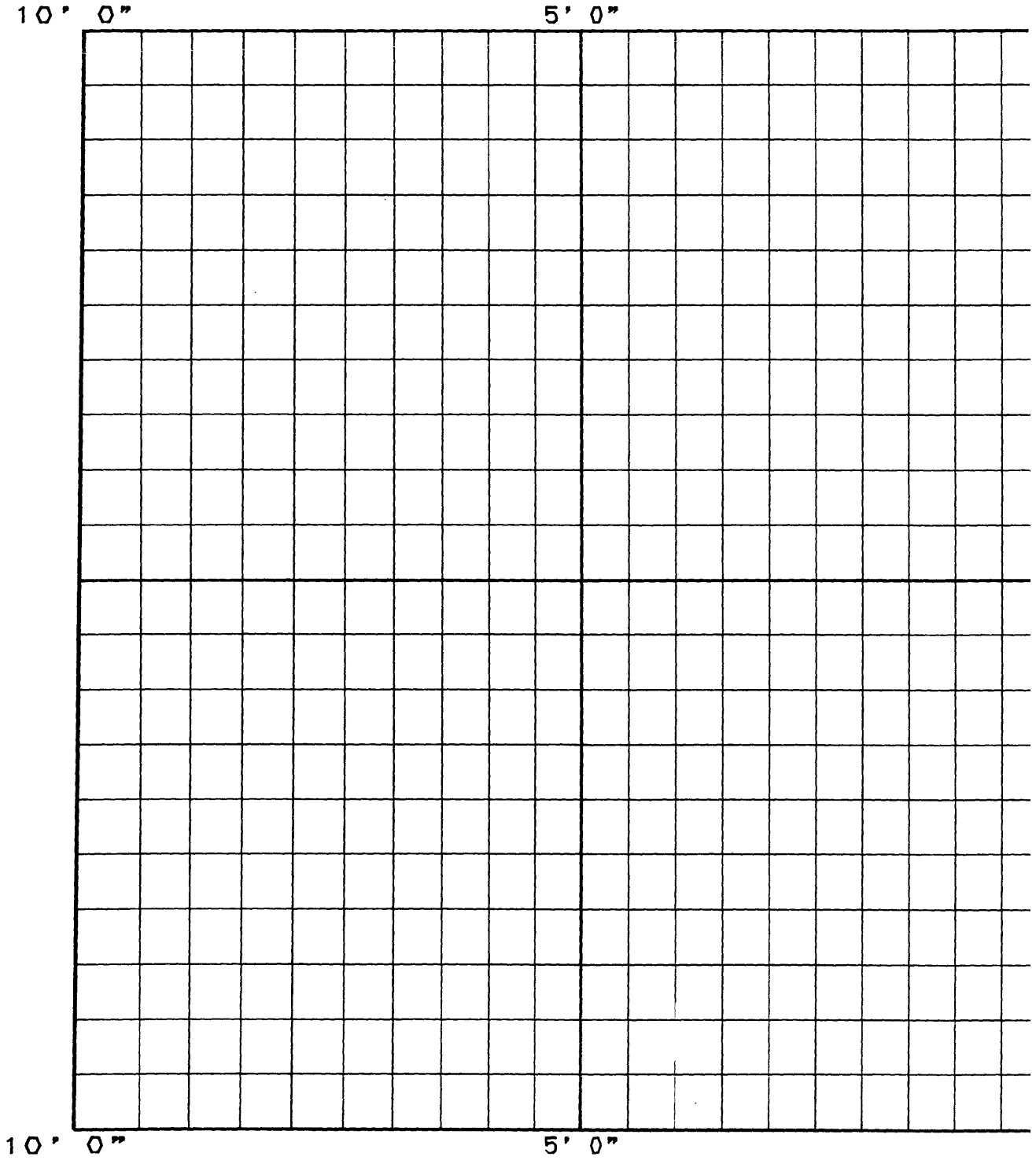
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 29°30' 0" to 29°40' 0"
Scale = 1/100,000



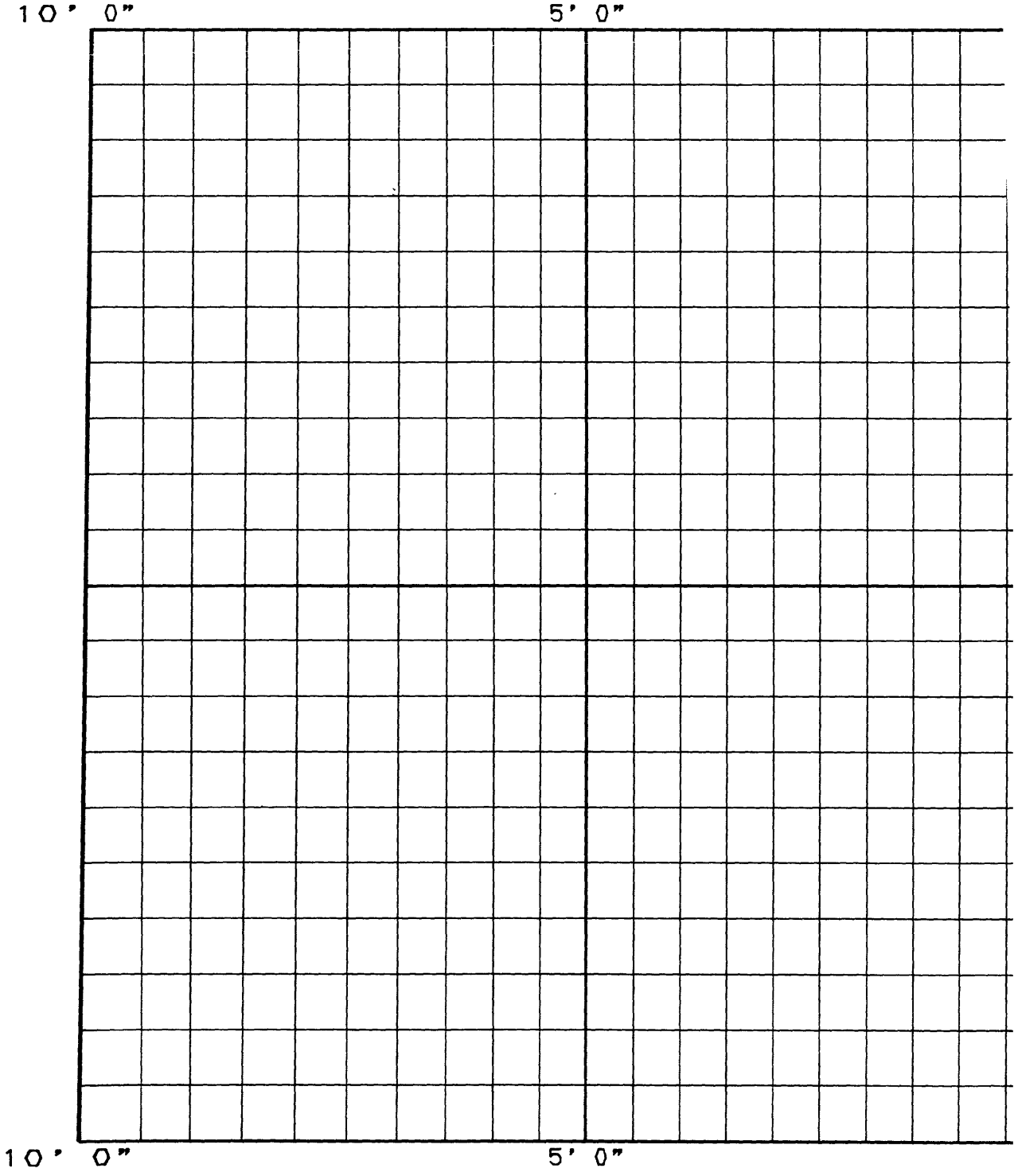
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 30°30' 0" to 30°40' 0
Scale = 1/100,000



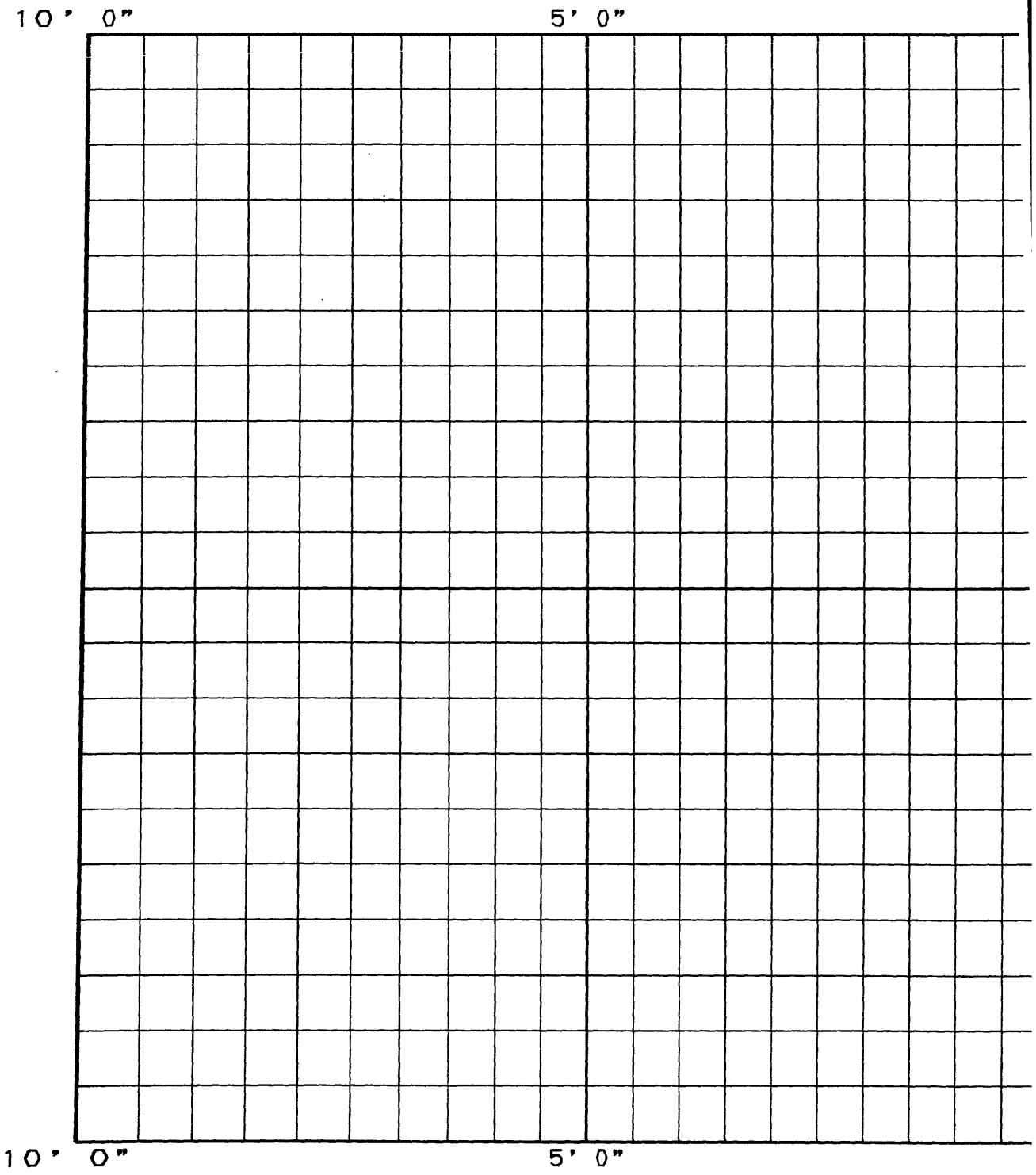
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 31°30' 0" to 31°40' 0
Scale = 1/100,000



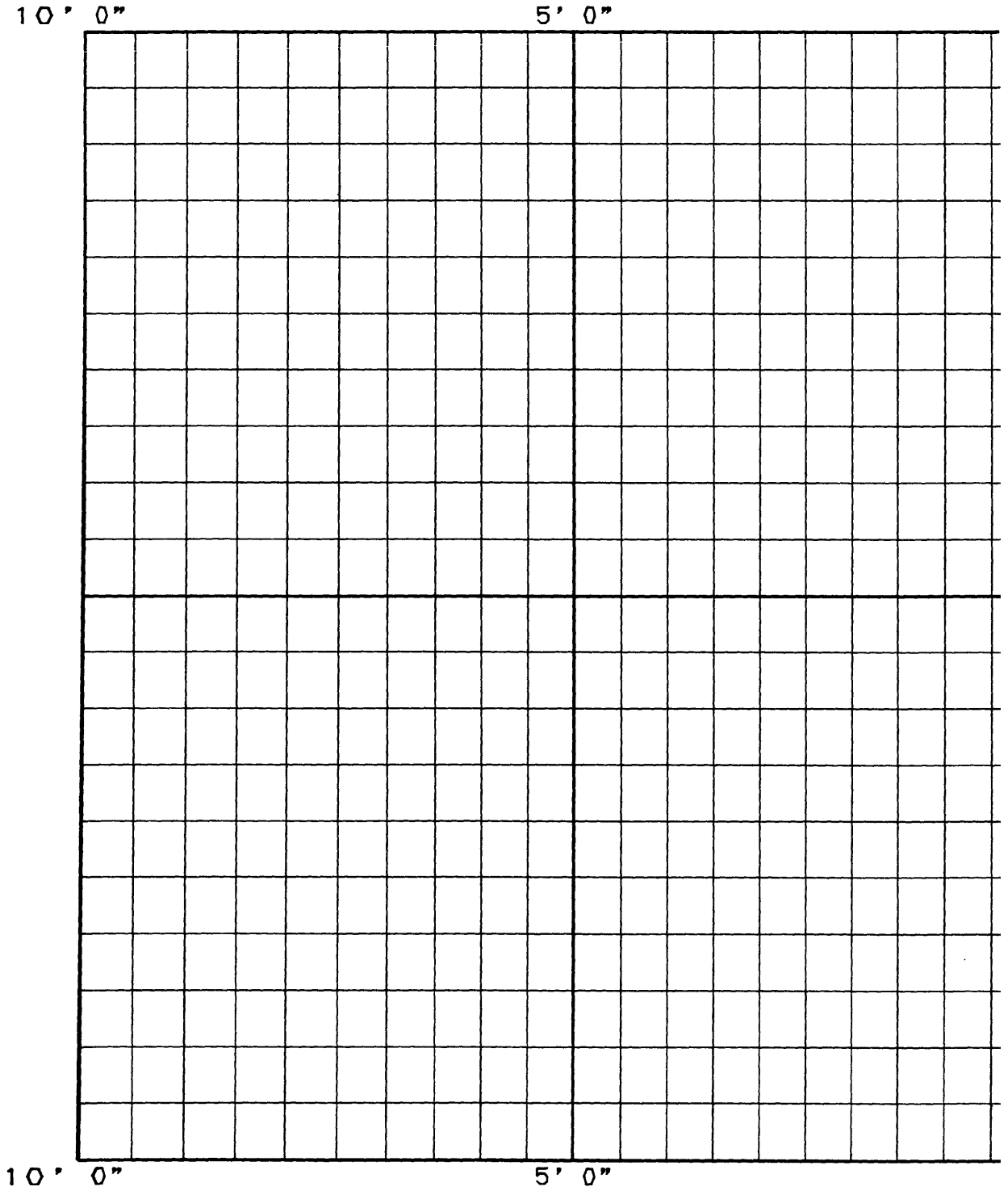
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 32°30' 0" to 32°40'
Scale = 1/100,000



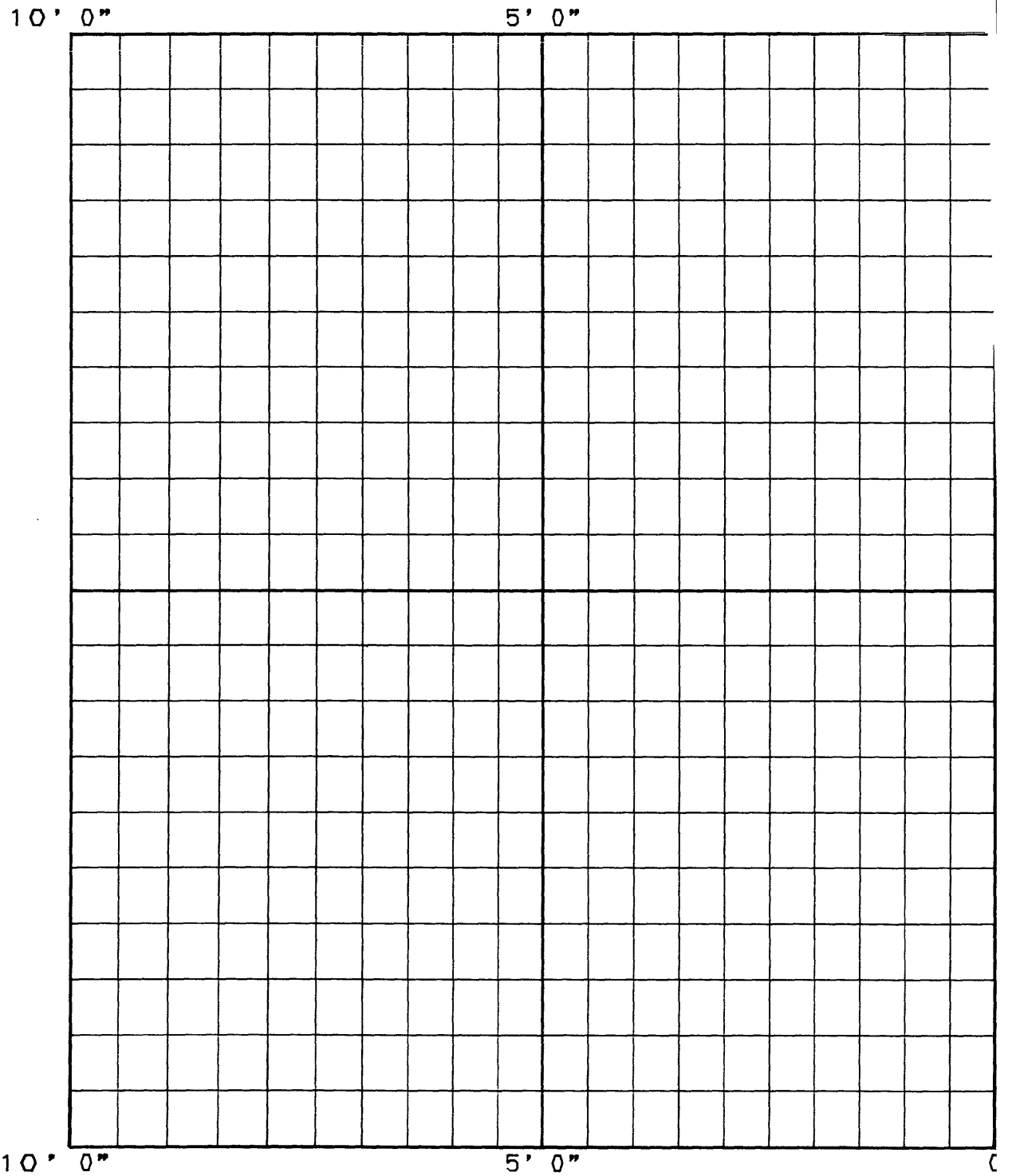
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 33°30' 0" to 33°40' (
Scale = 1/100,000



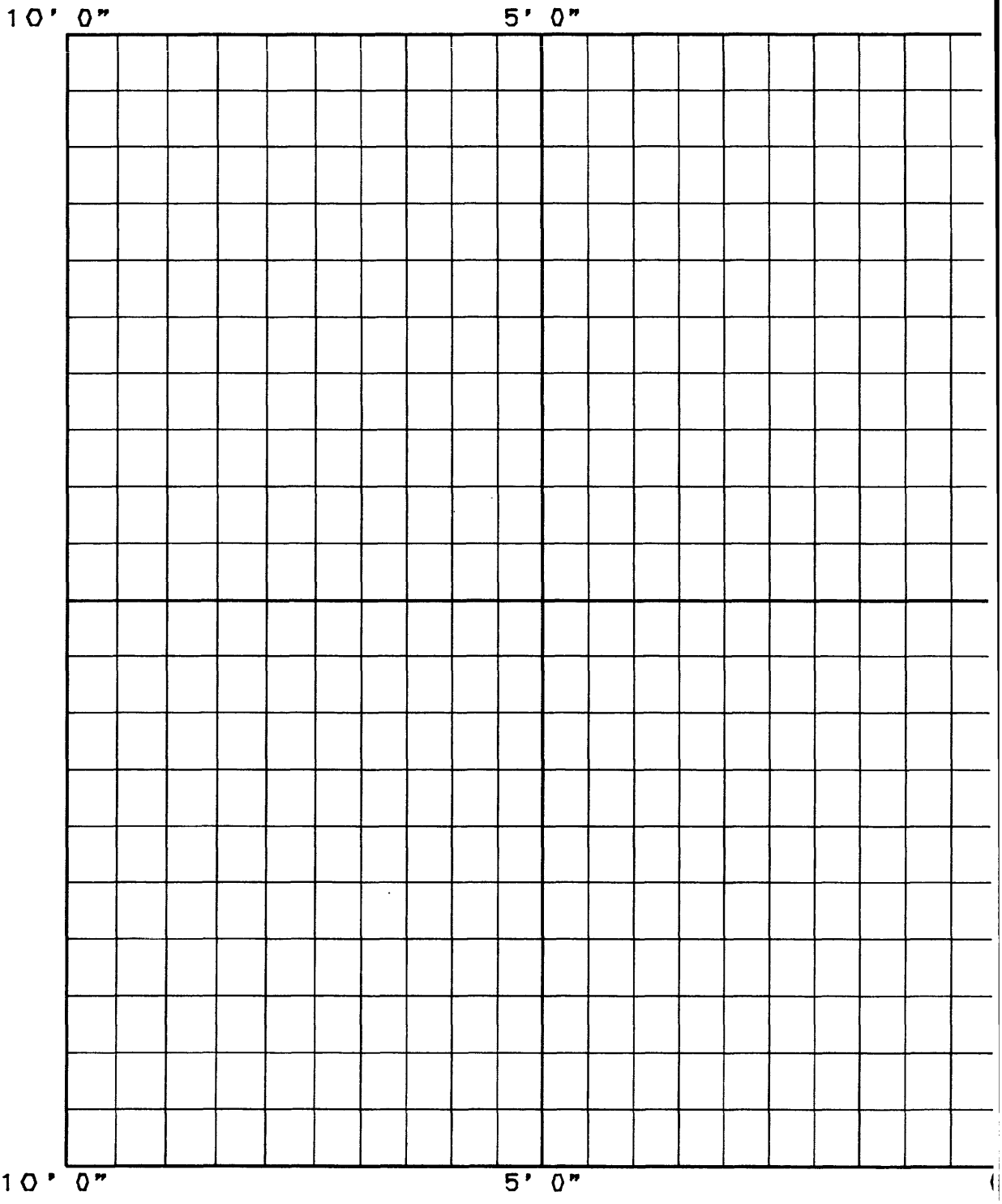
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 34°30' 0" to 34°40'
Scale = 1/100,000



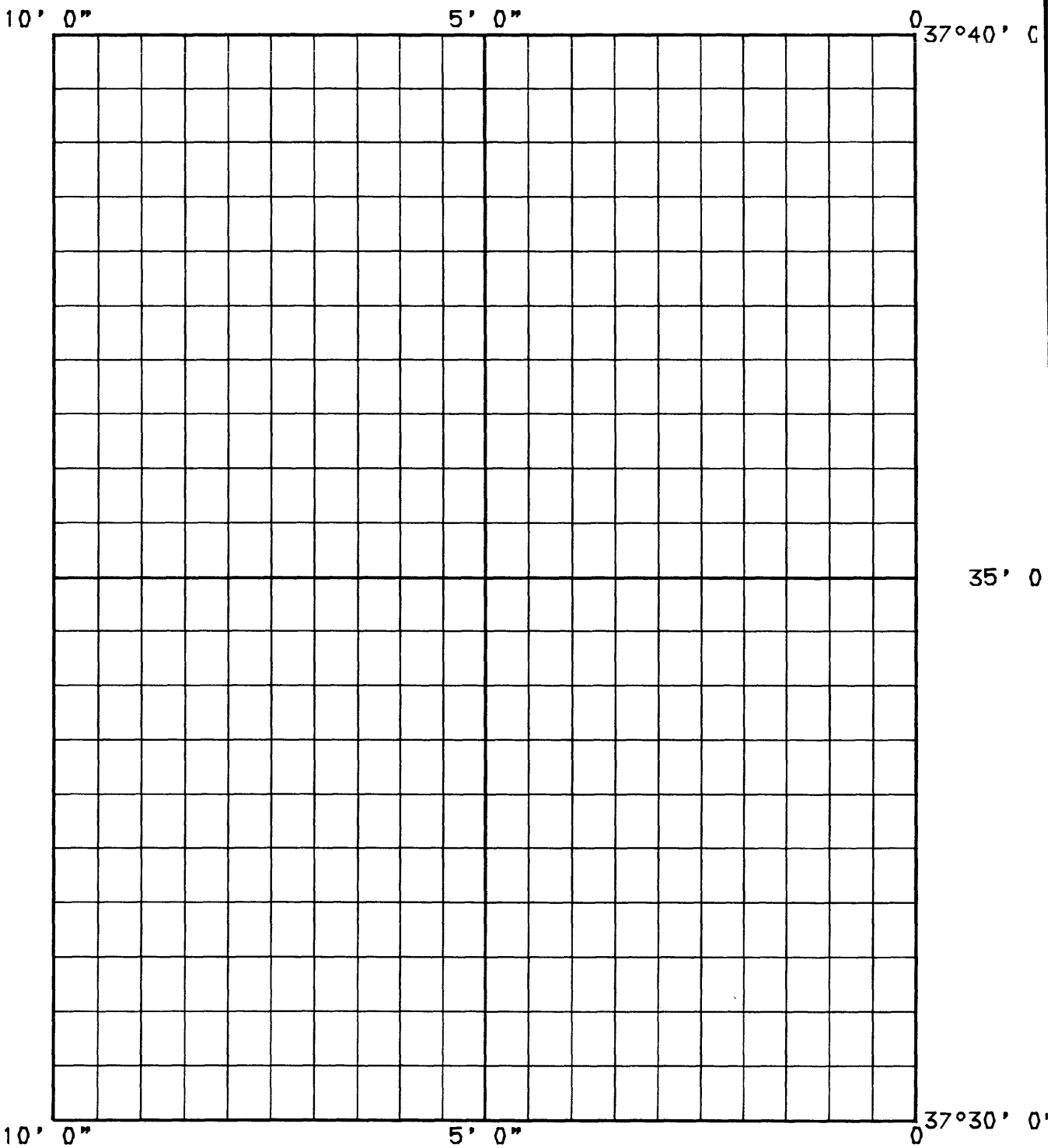
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 35°30' 0" to 35°40' 0
Scale = 1/100,000



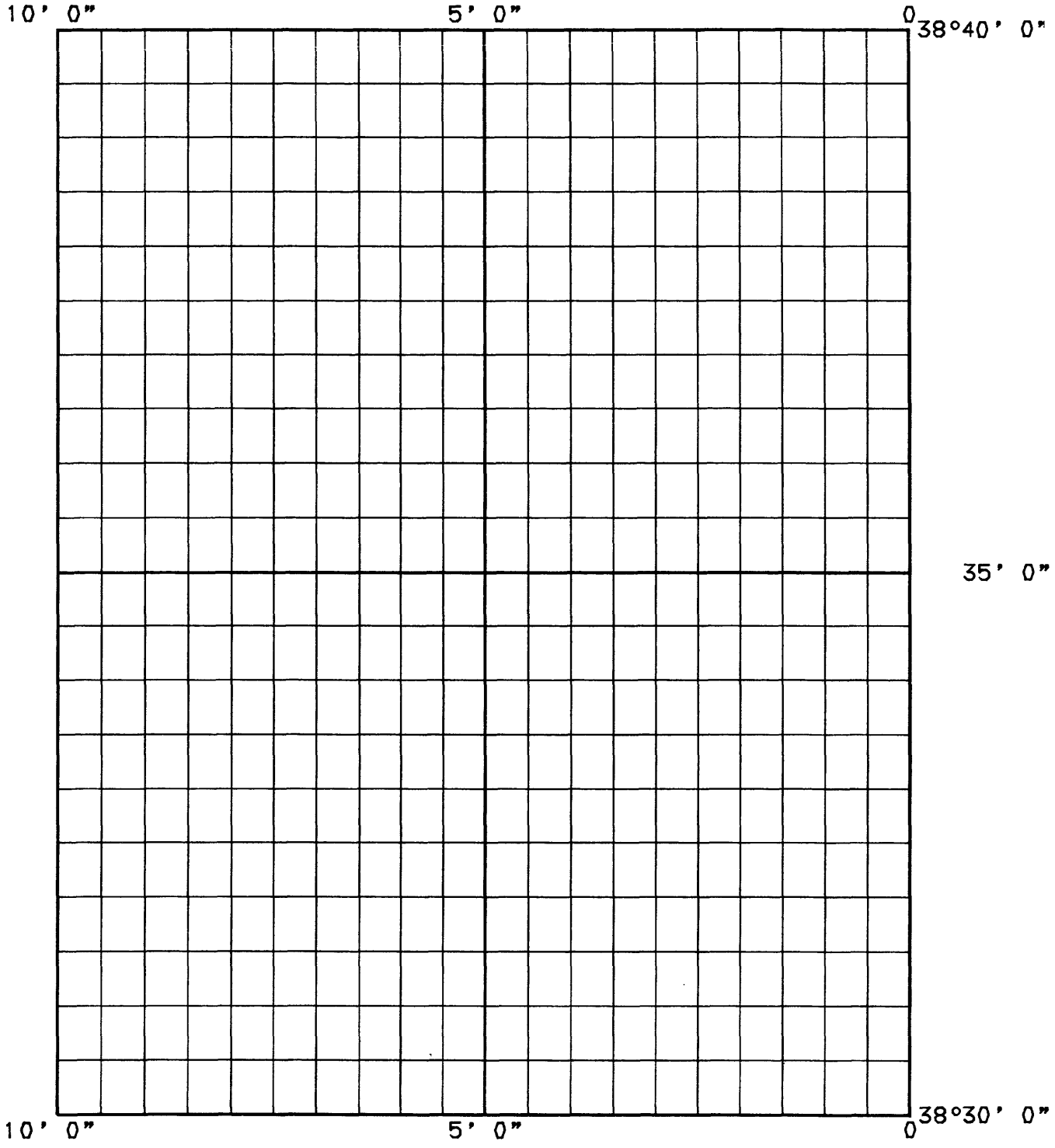
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 36°30' 0" to 36°40' (
Scale = 1/100,000



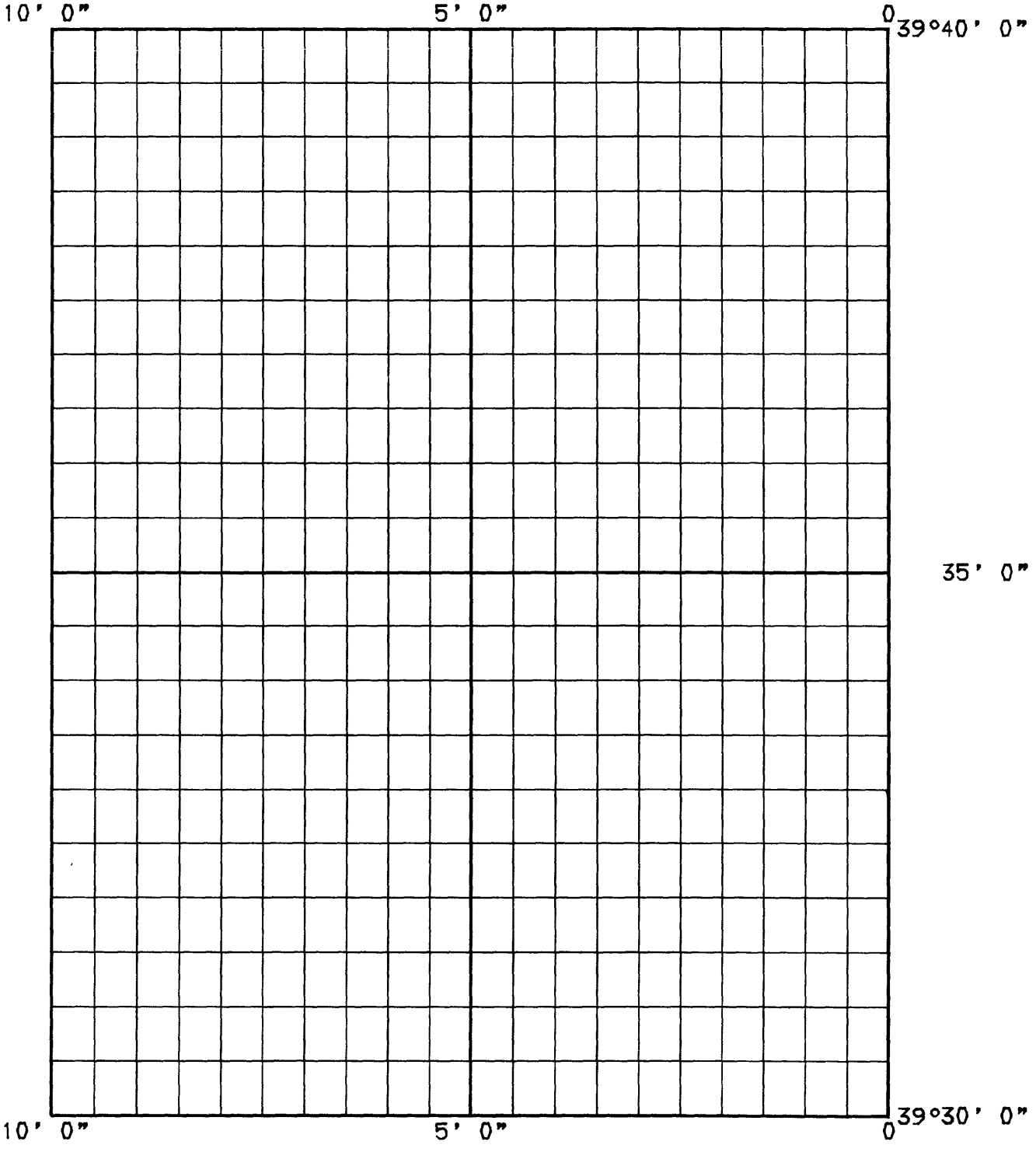
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 37°30' 0" to 37°40' 0"
Scale = 1/100,000



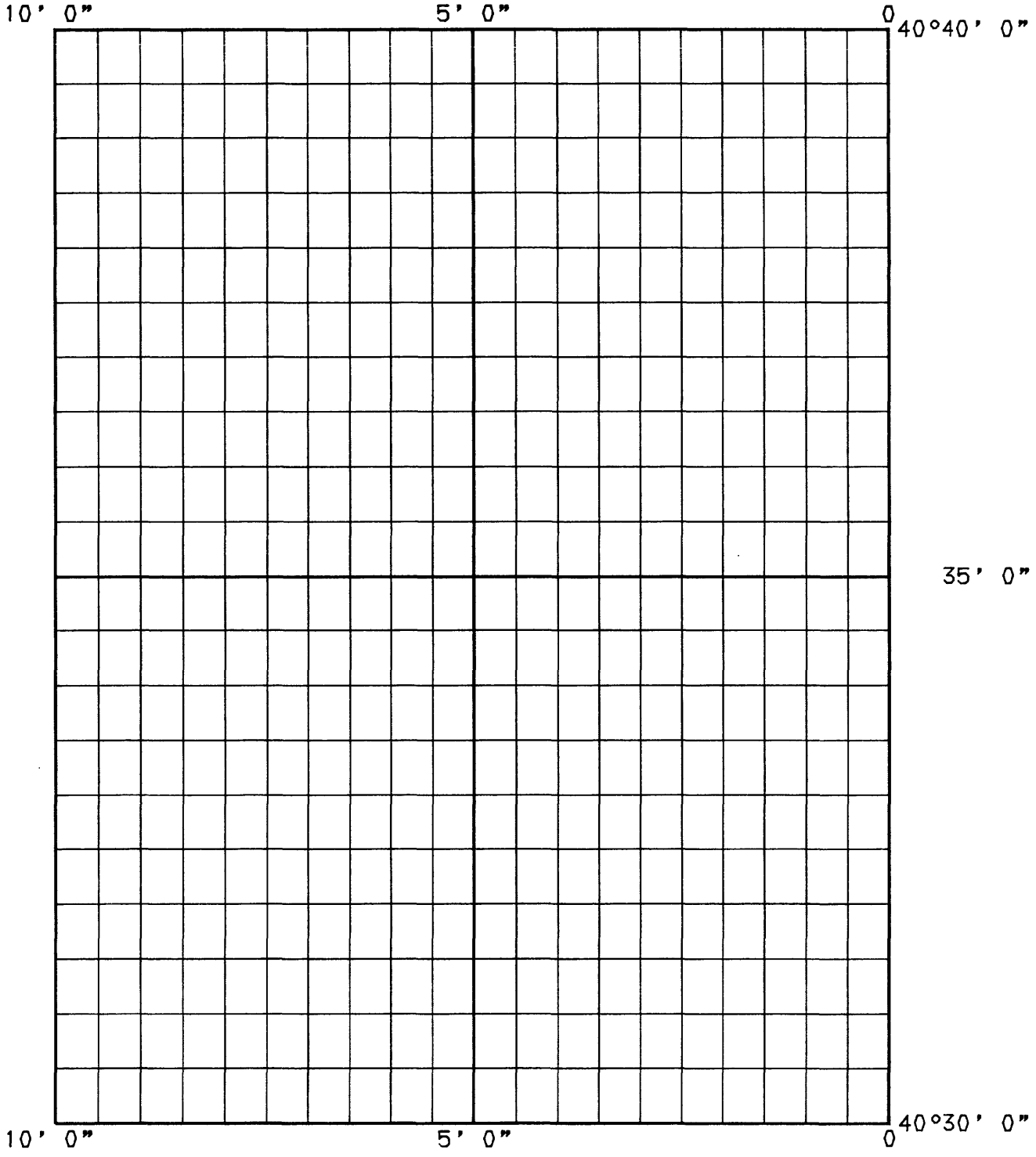
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 38°30' 0" to 38°40' 0"
Scale = 1/100,000



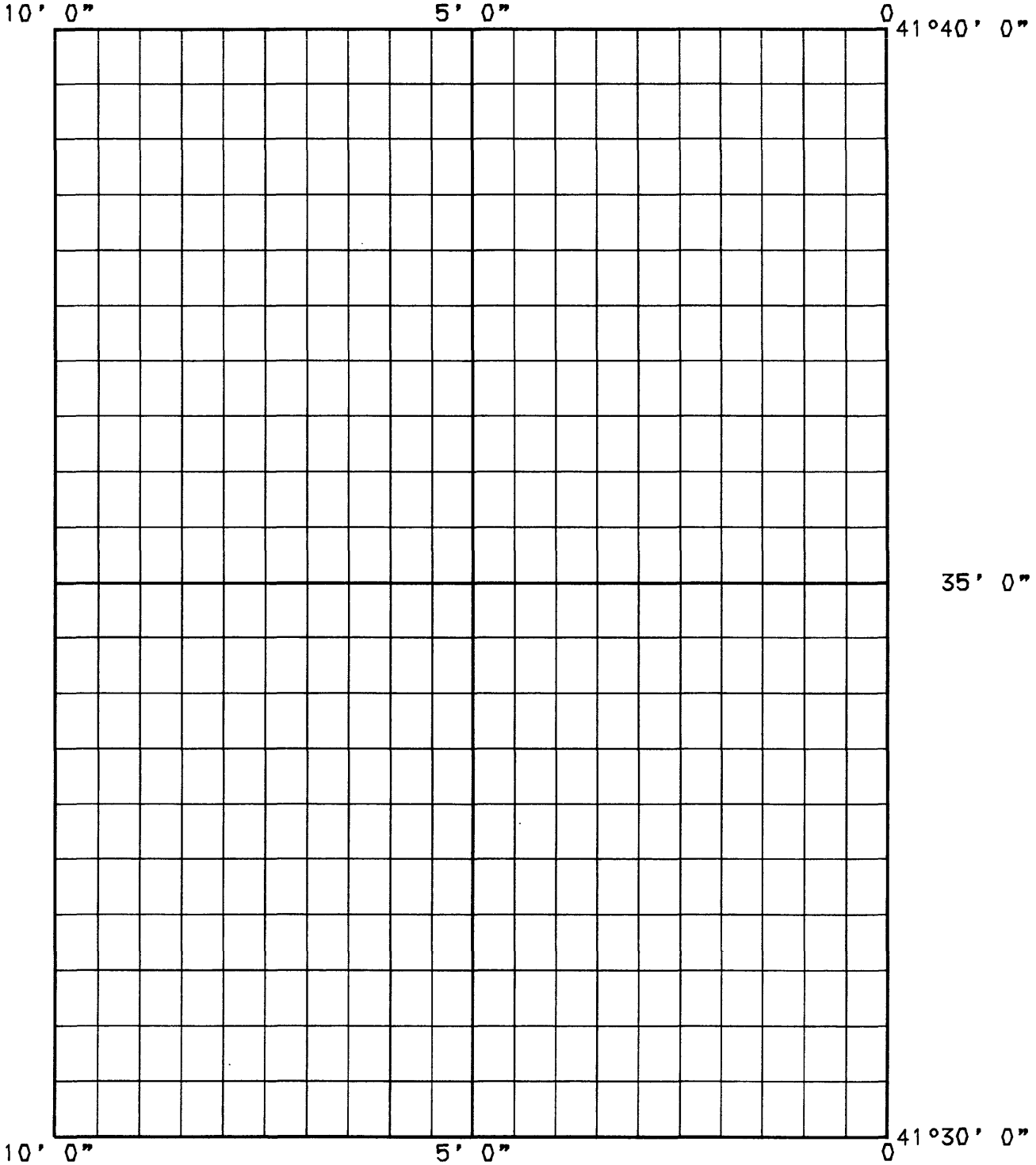
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 39°30' 0" to 39°40' 0"
Scale = 1/100,000



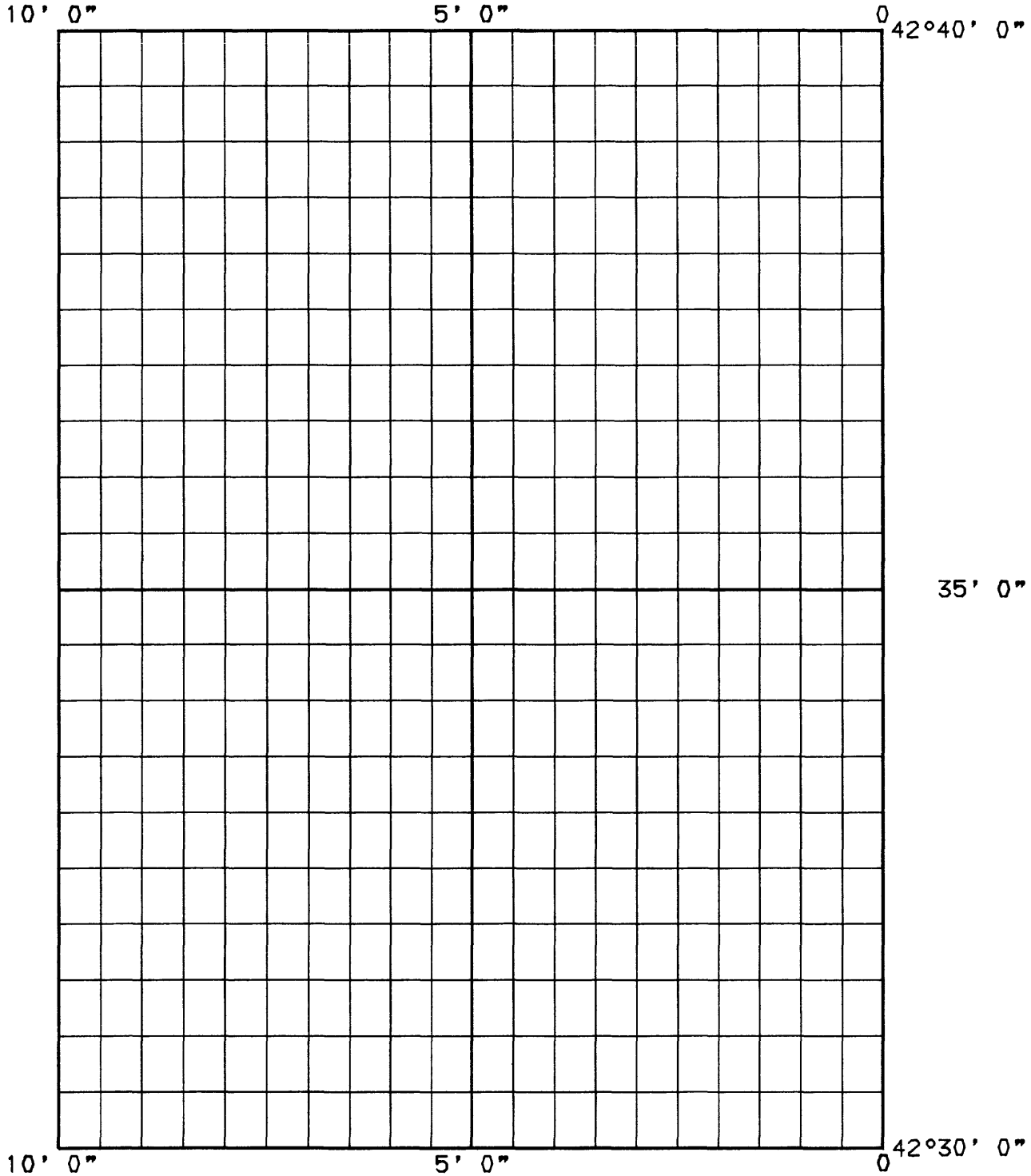
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 40°30' 0" to 40°40' 0"
Scale = 1/100,000



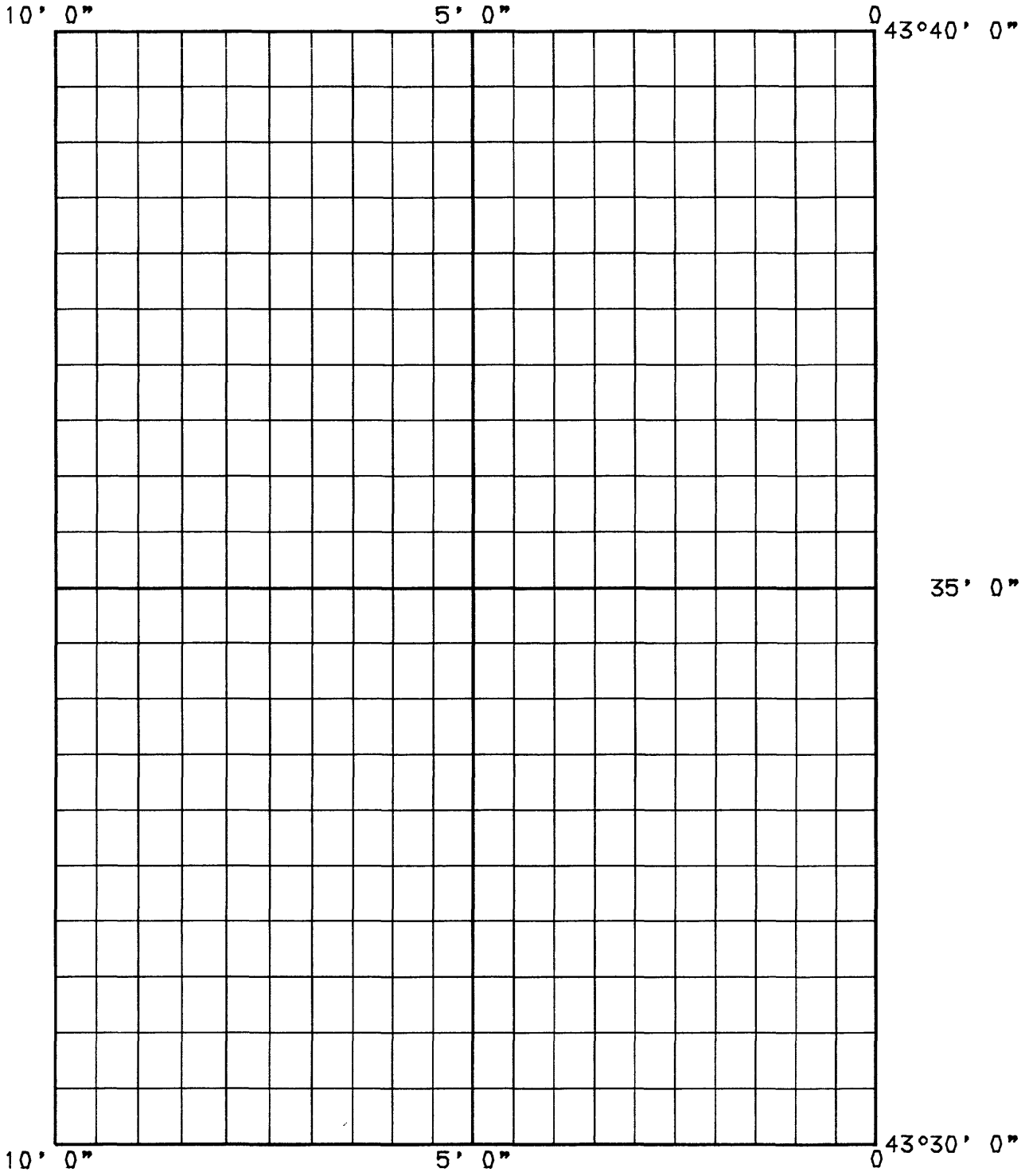
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 41°30' 0" to 41°40' 0"
Scale = 1/100,000



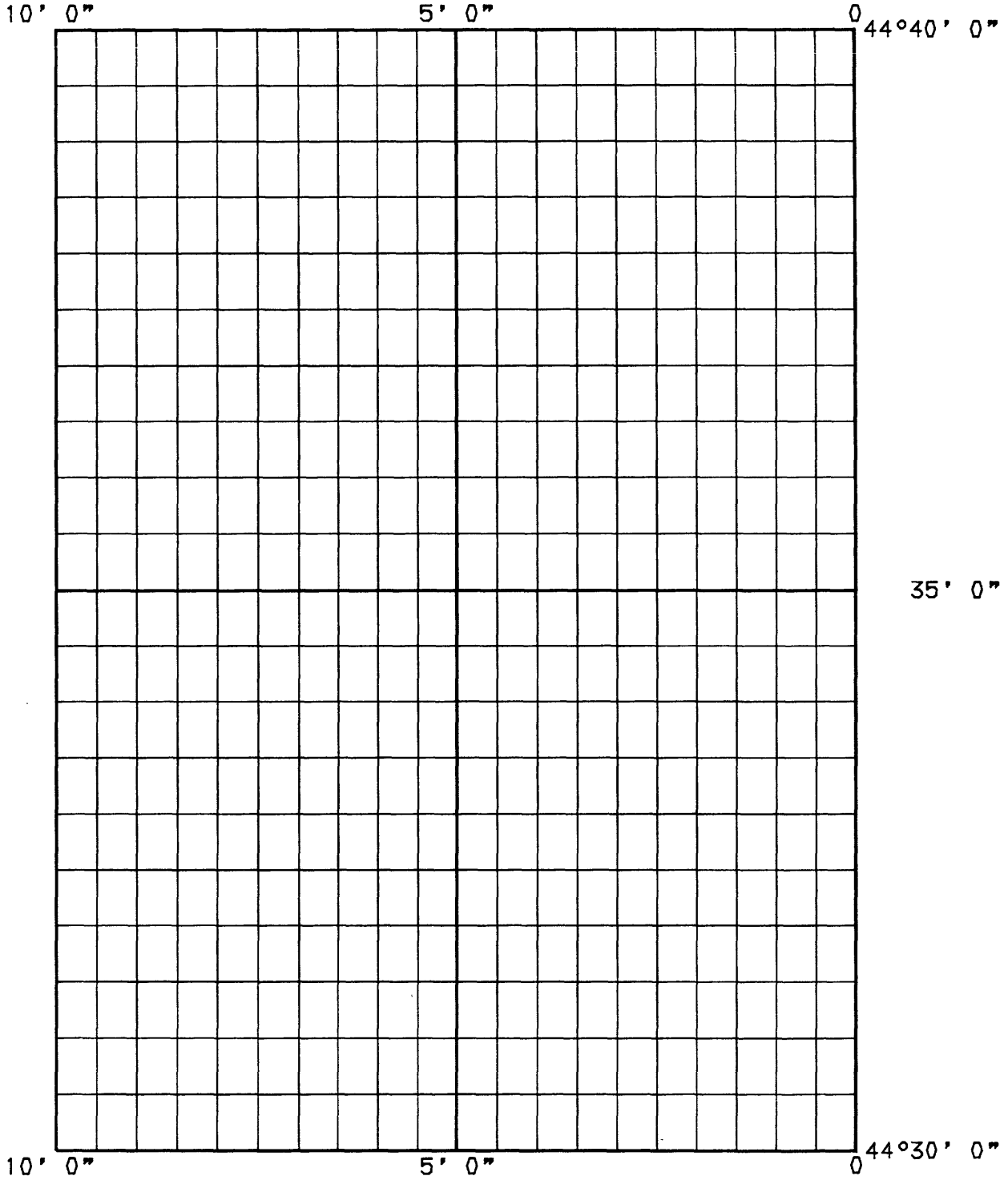
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 42°30' 0" to 42°40' 0"
Scale = 1/100,000



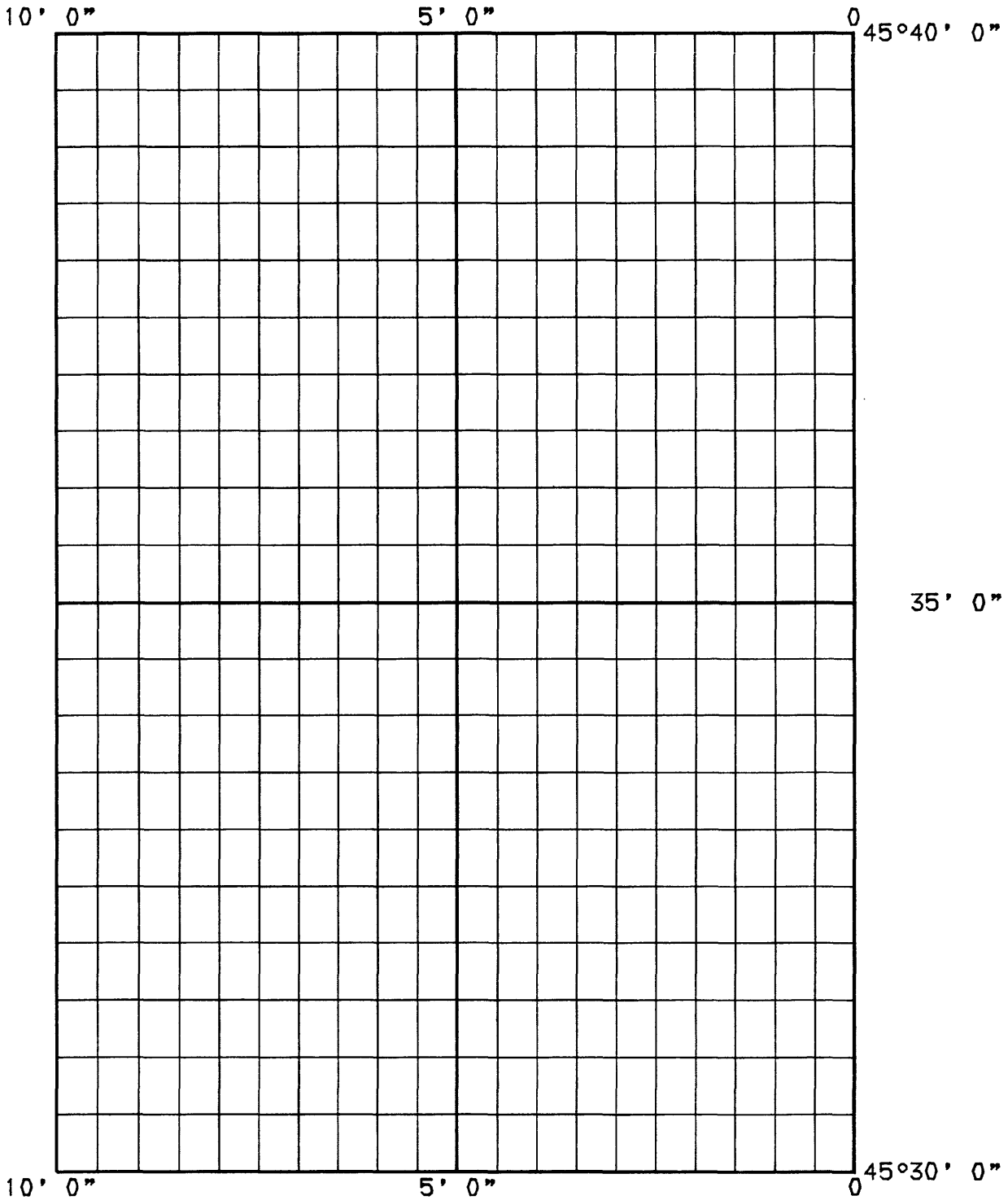
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 43°30' 0" to 43°40' 0"
Scale = 1/100,000



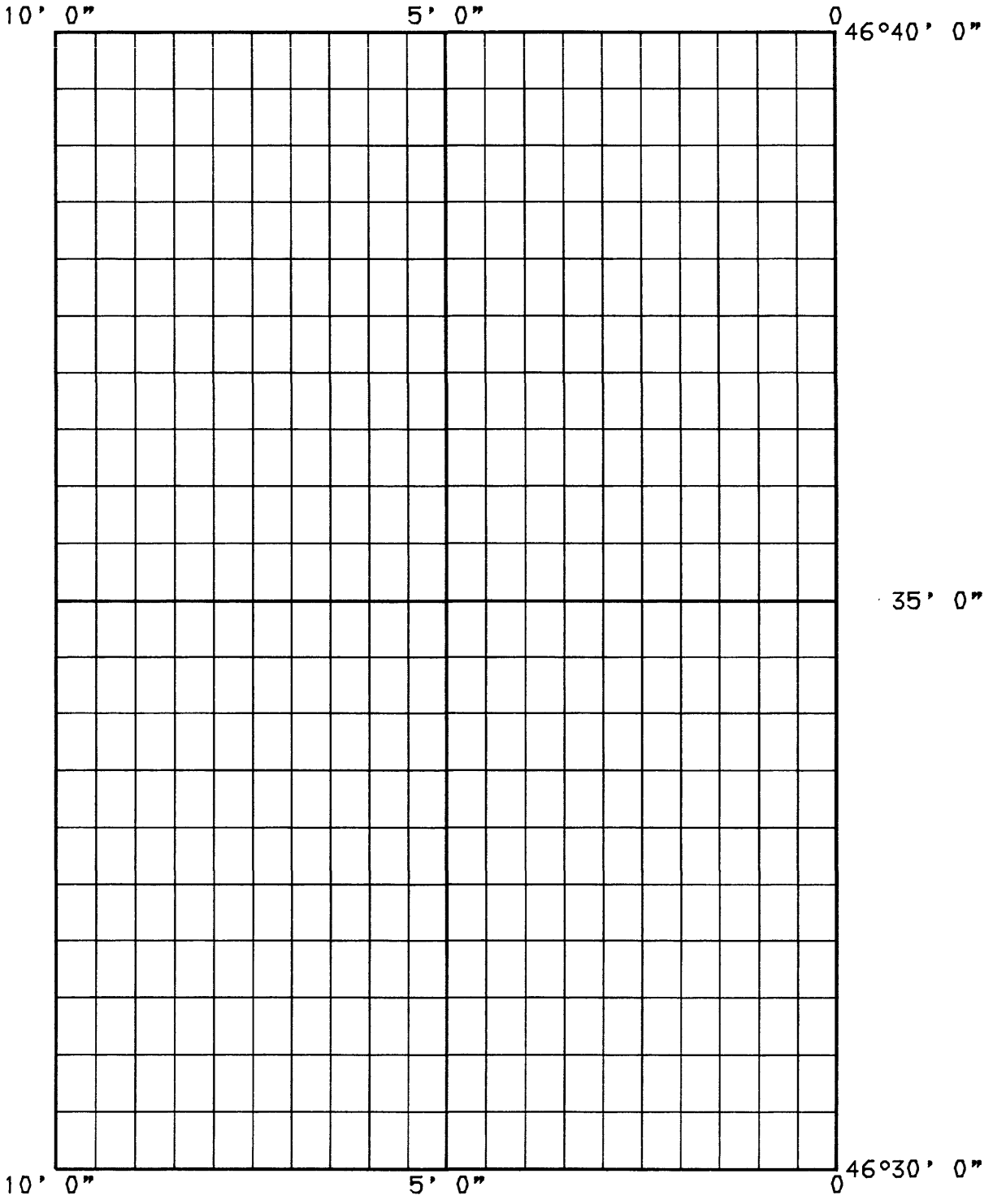
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44°30' 0" to 44°40' 0"
Scale = 1/100,000



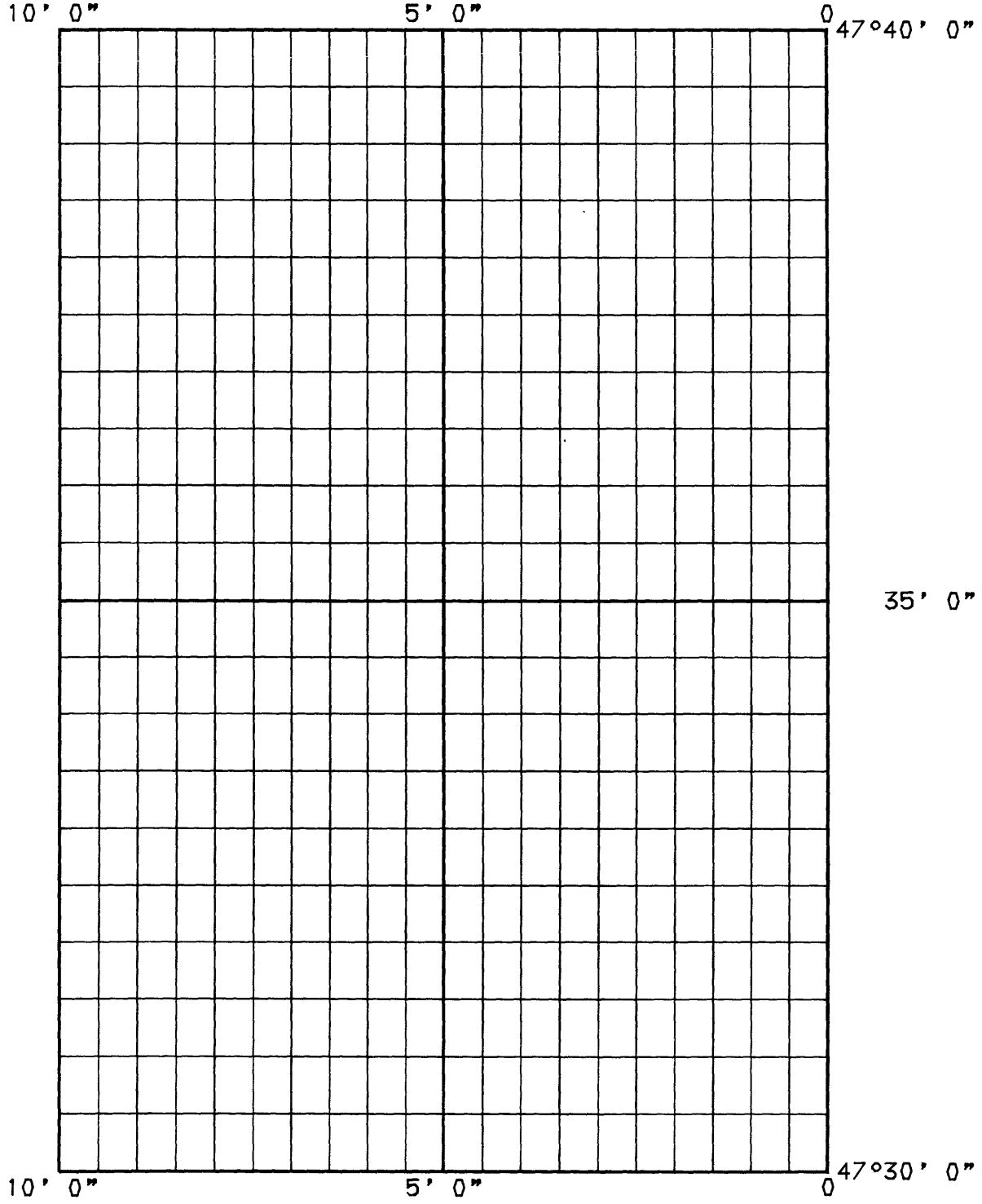
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45°30' 0" to 45°40' 0"
Scale = 1/100,000



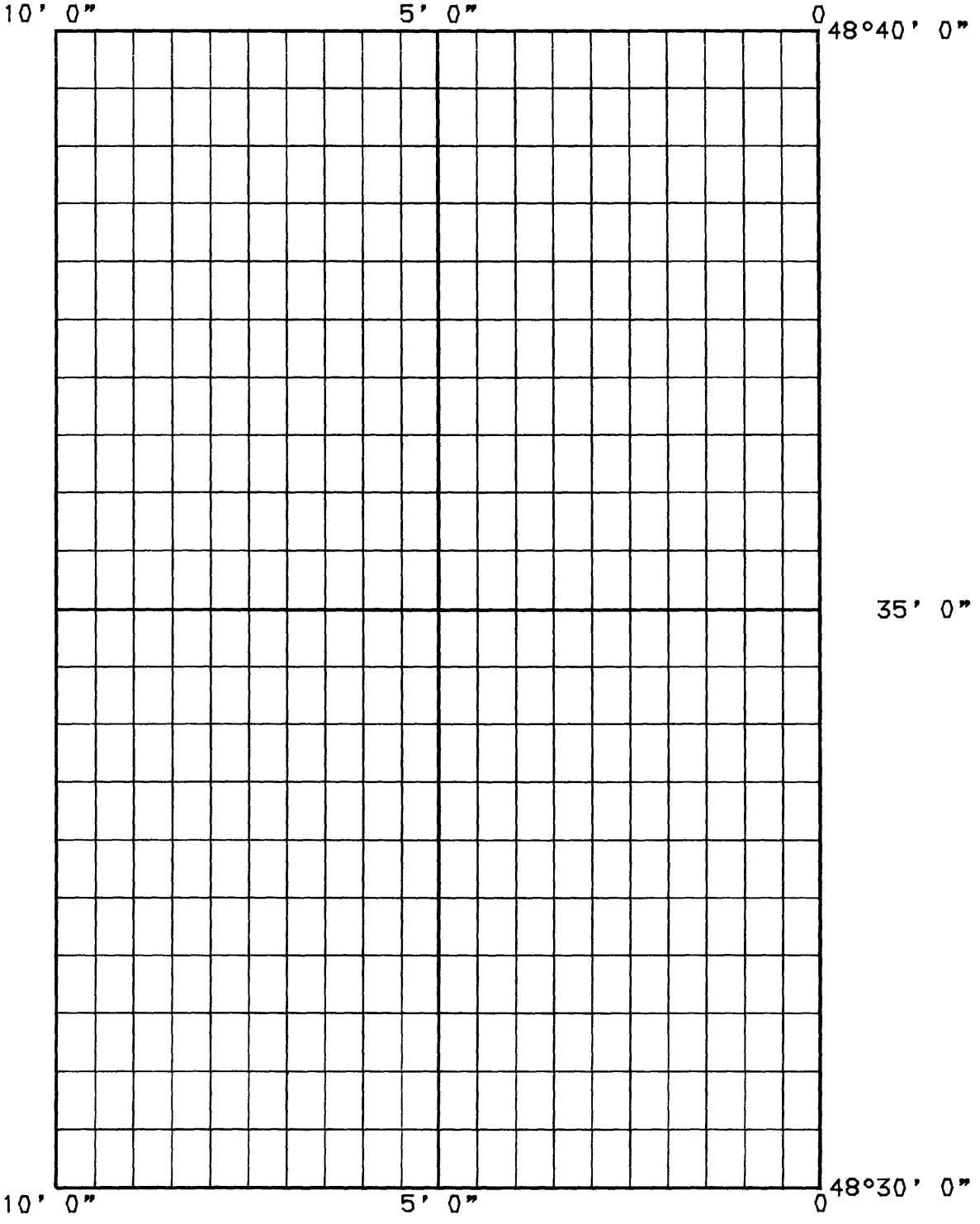
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46°30' 0" to 46°40' 0"
Scale = 1/100,000



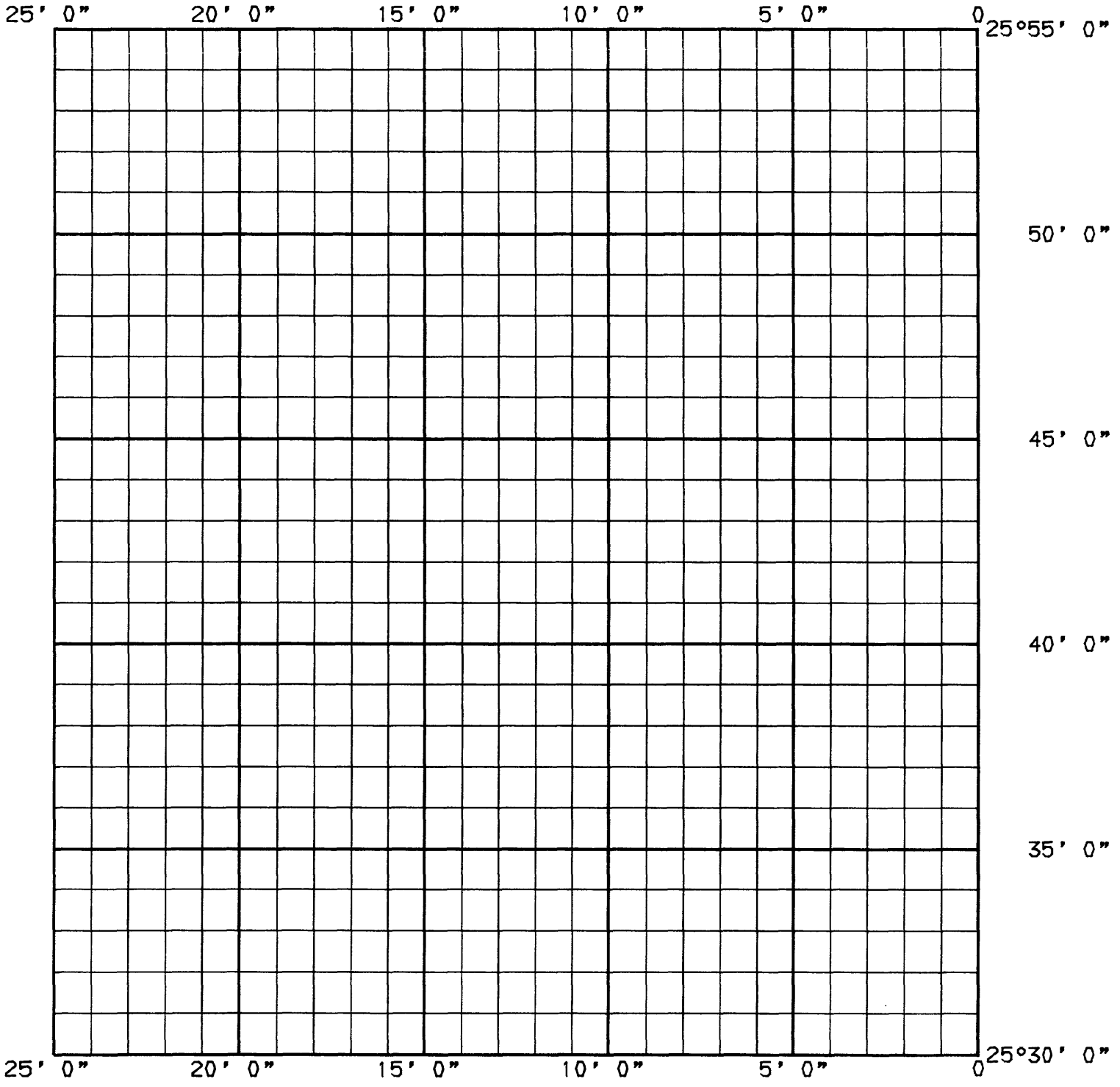
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47°30' 0" to 47°40' 0"
Scale = 1/100,000



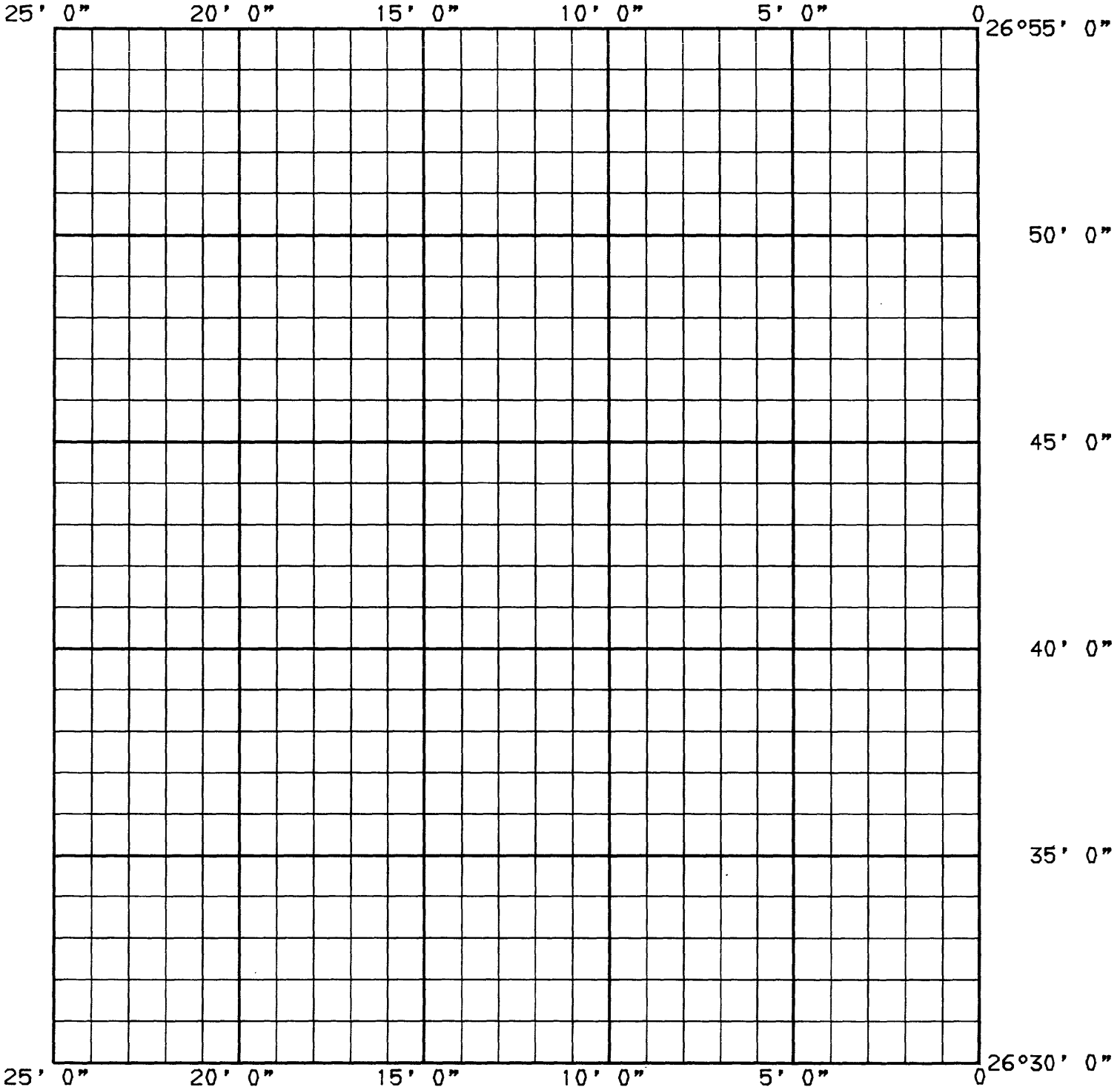
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48°30' 0" to 48°40' 0"
Scale = 1/100,000



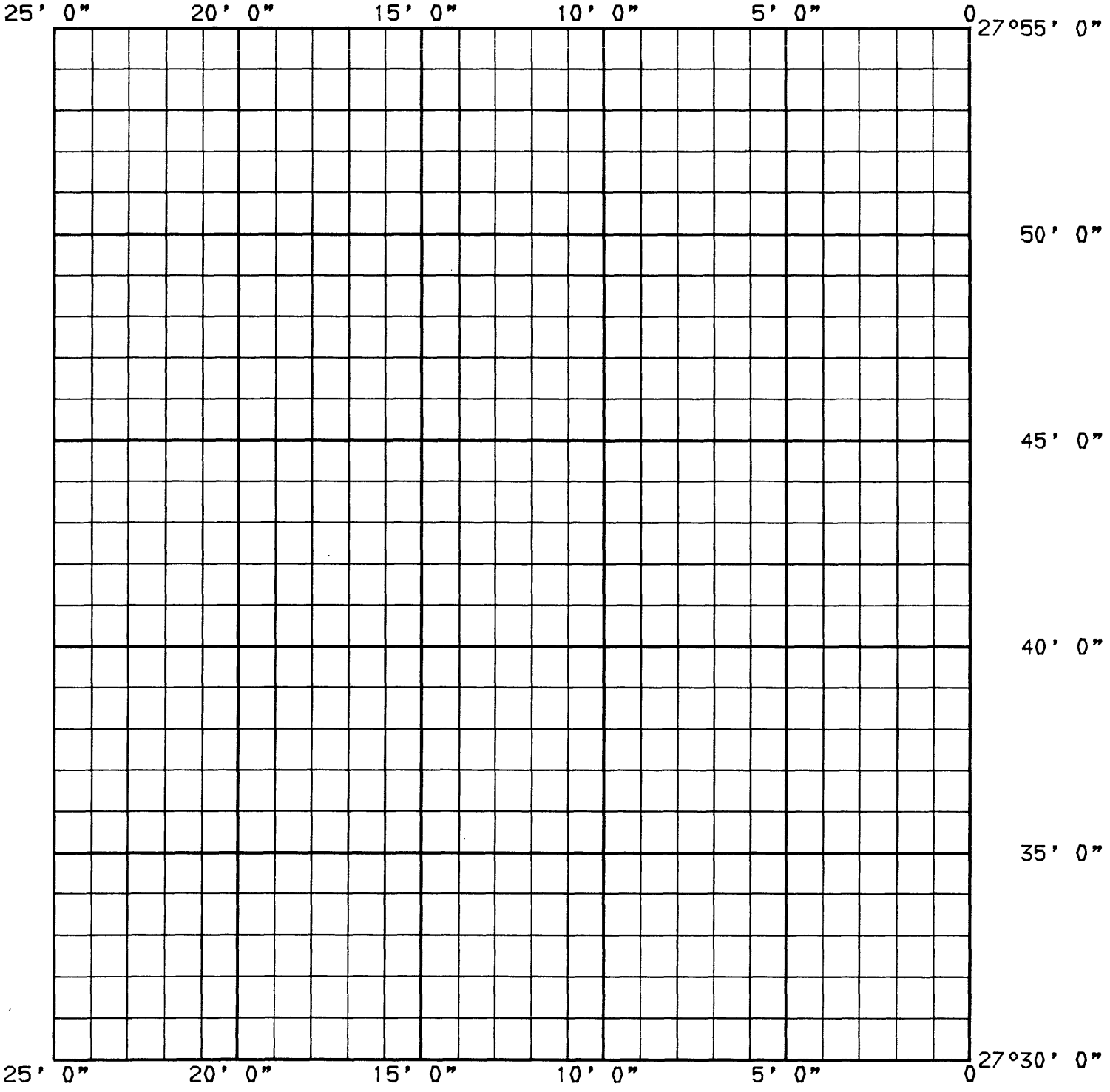
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 25°30' 0" to 25°55' 0"
Scale = 1/250,000



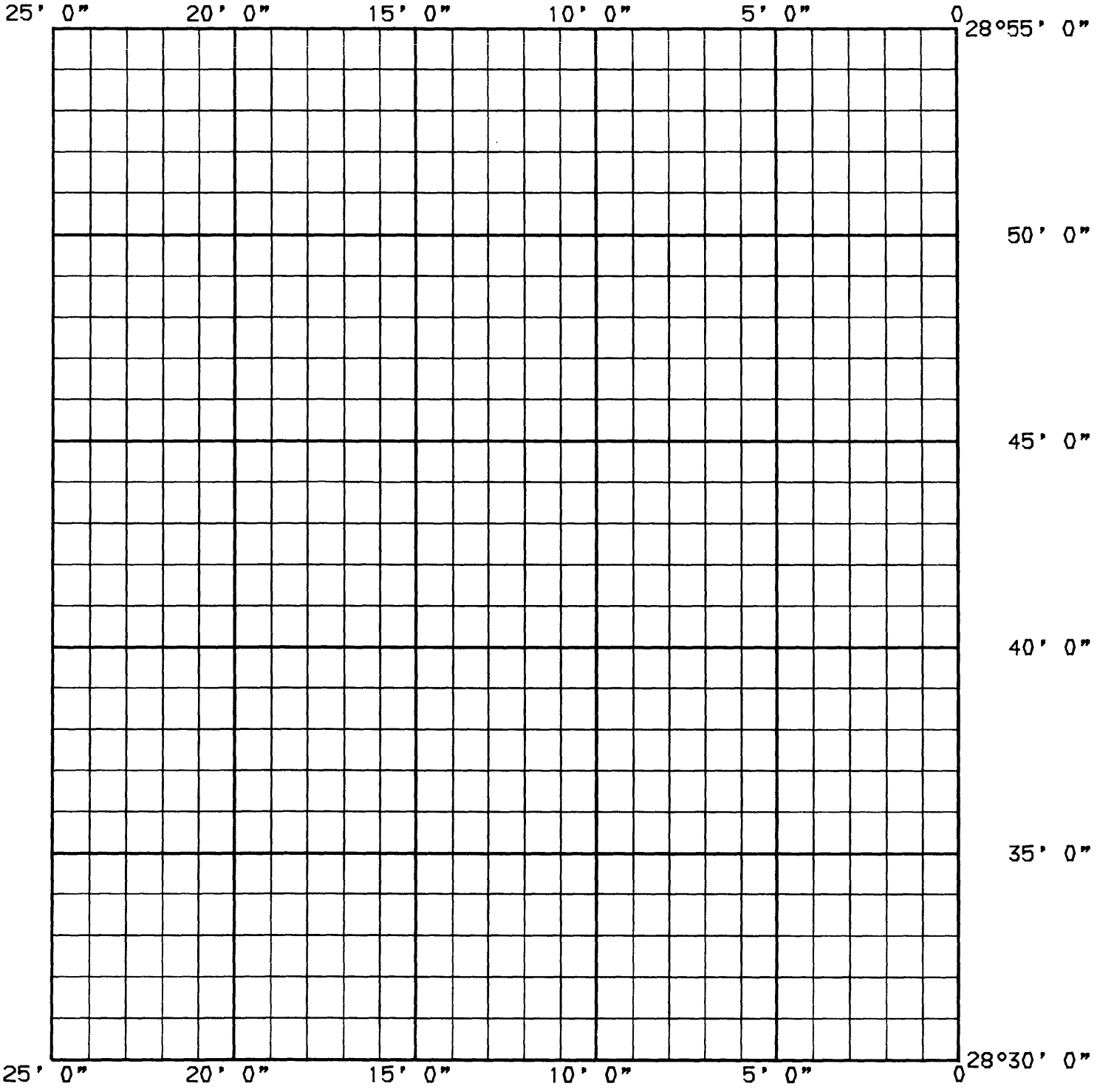
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 26°30' 0" to 26°55' 0"
Scale = 1/250,000



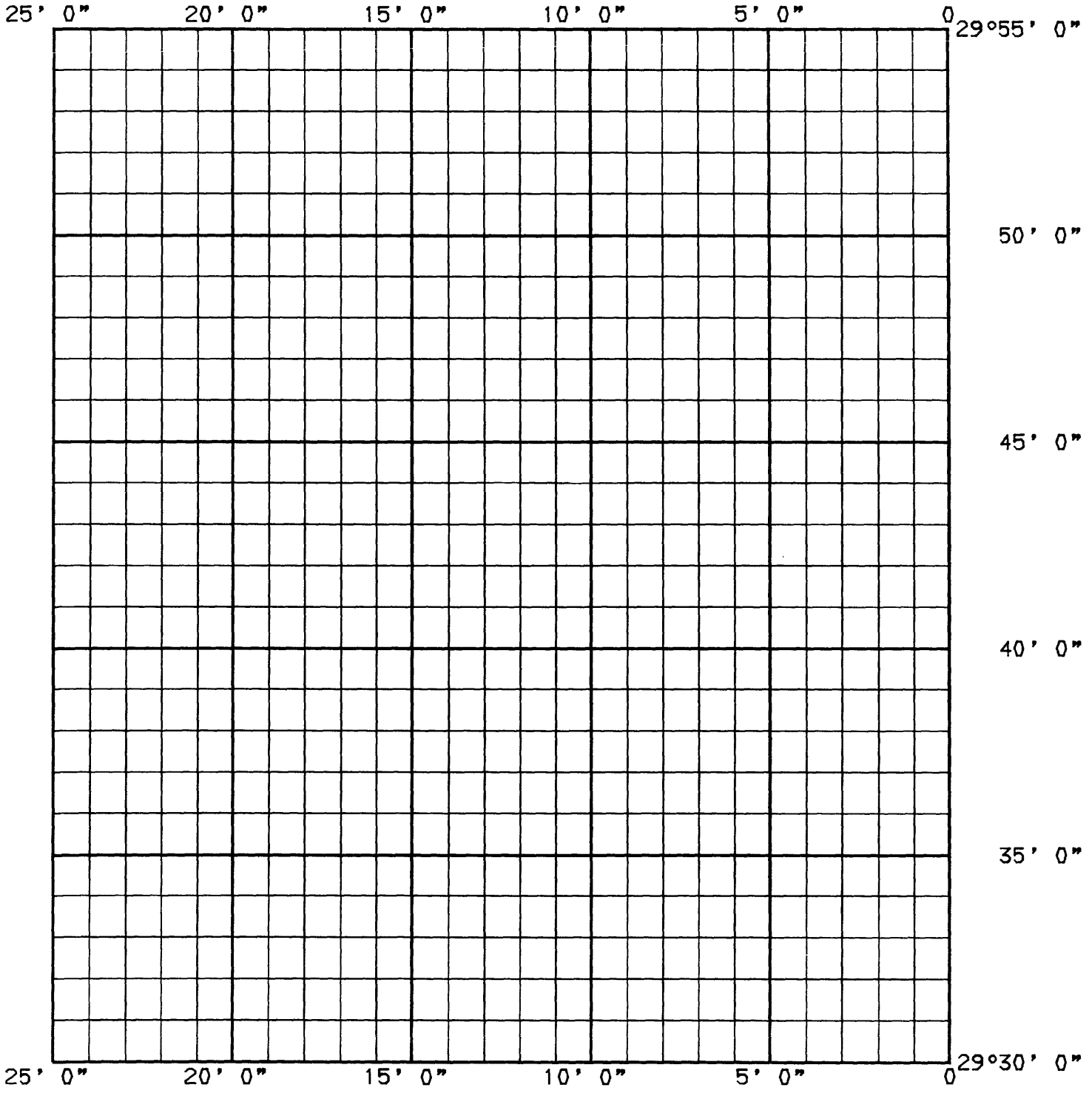
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 27°30' 0" to 27°55' 0"
Scale = 1/250,000



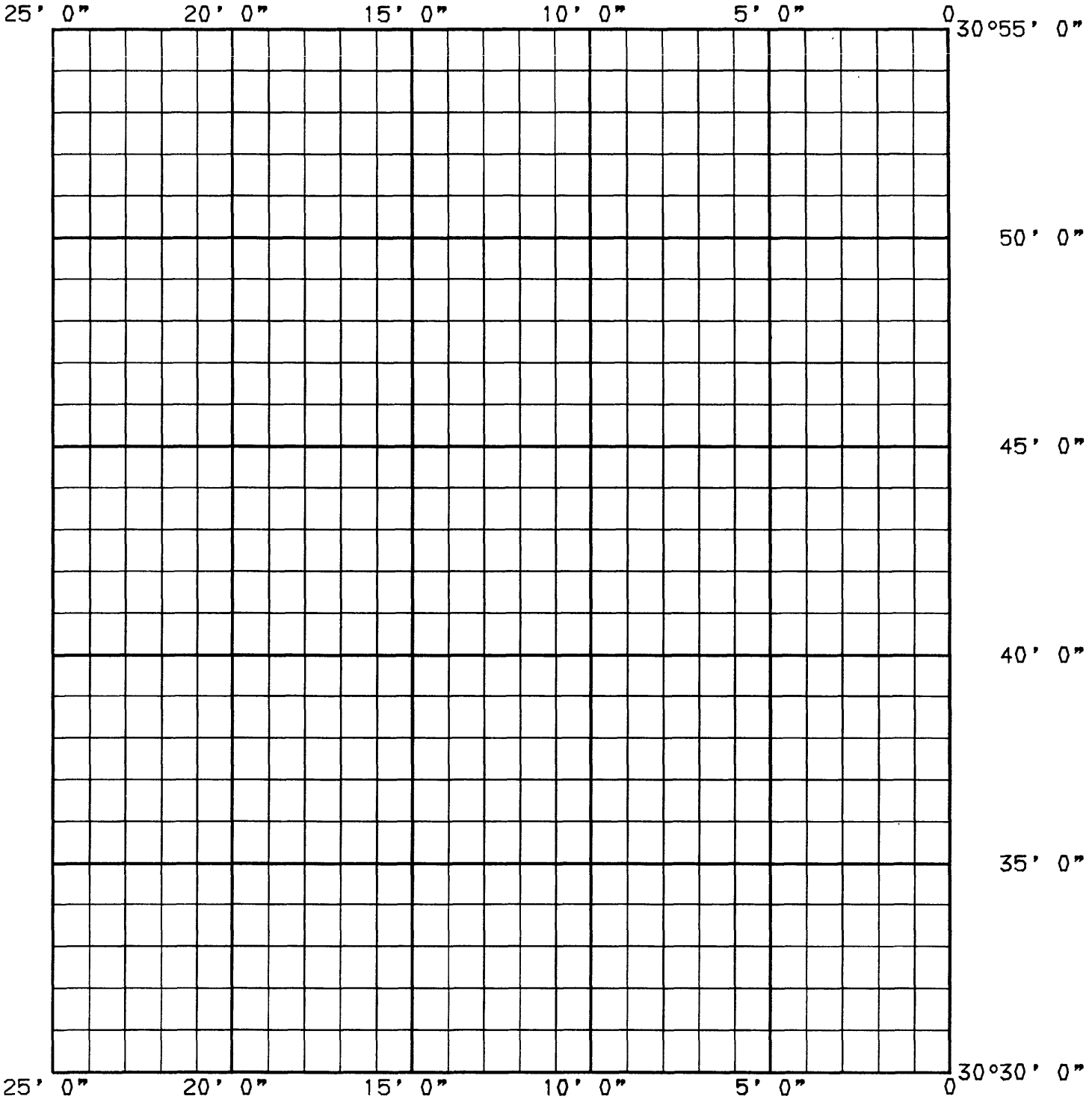
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 28°30' 0" to 28°55' 0"
Scale = 1/250,000



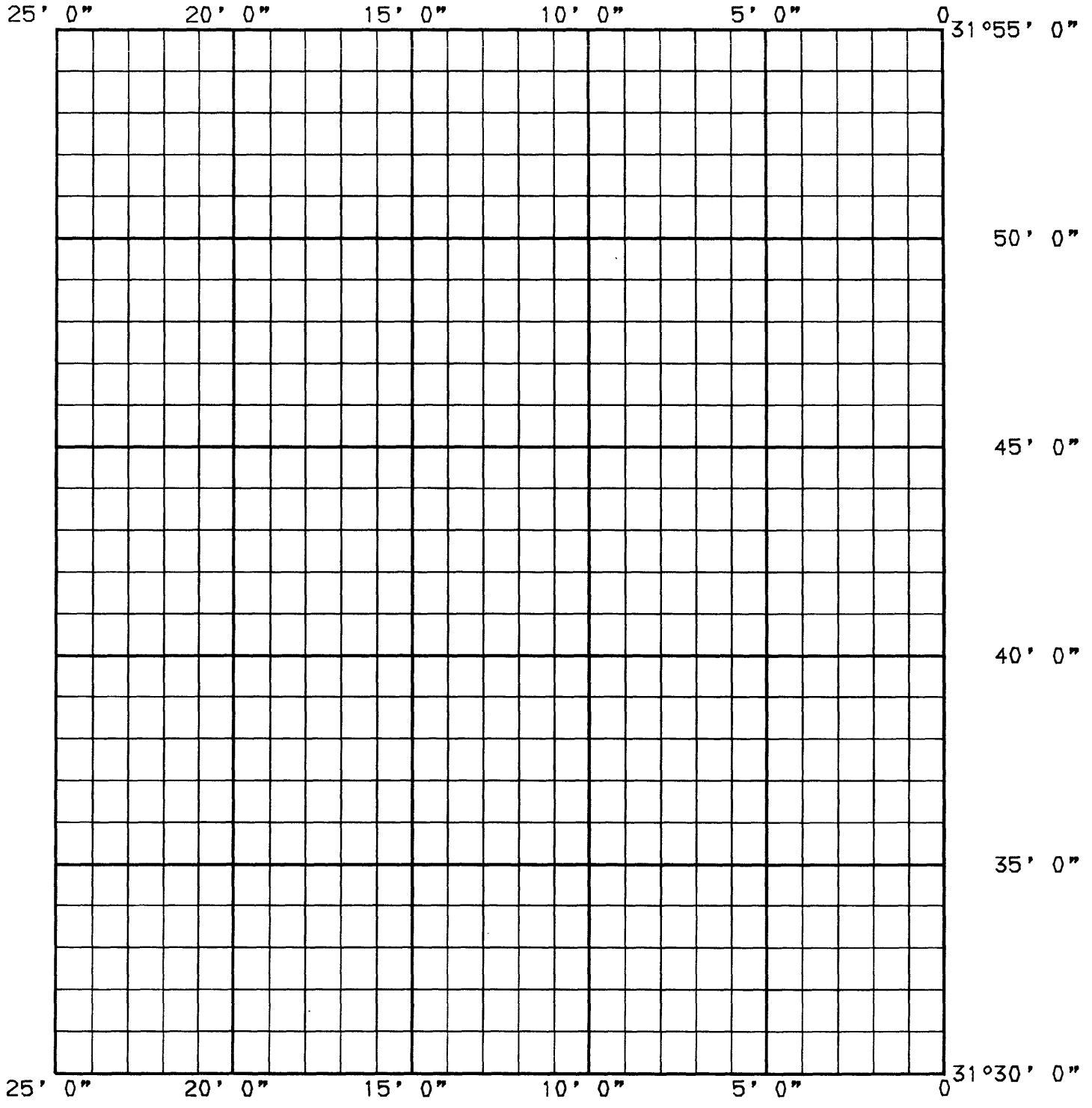
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 29°30' 0" to 29°55' 0"
Scale = 1/250,000



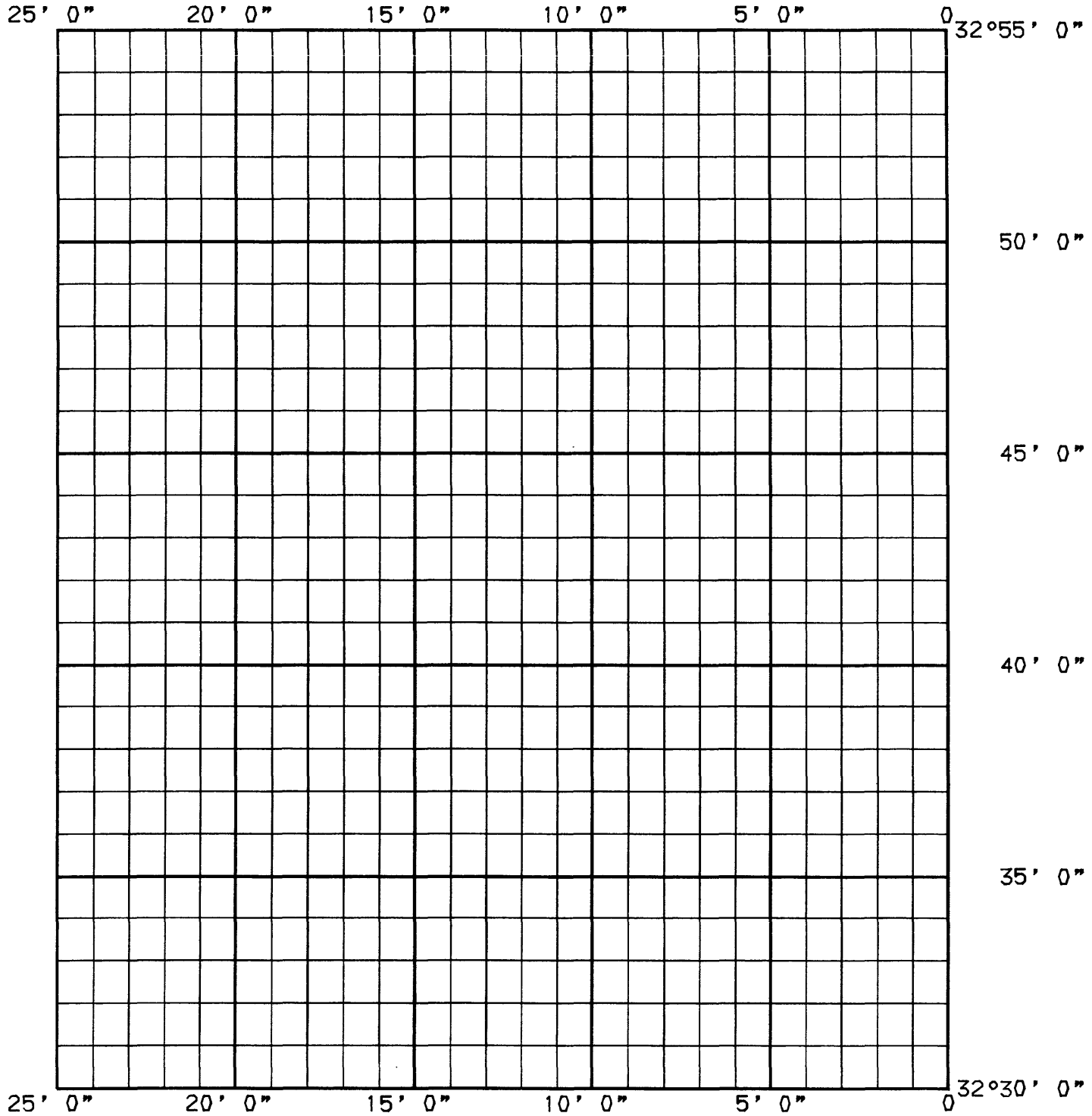
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 30°30' 0" to 30°55' 0"
Scale = 1/250,000



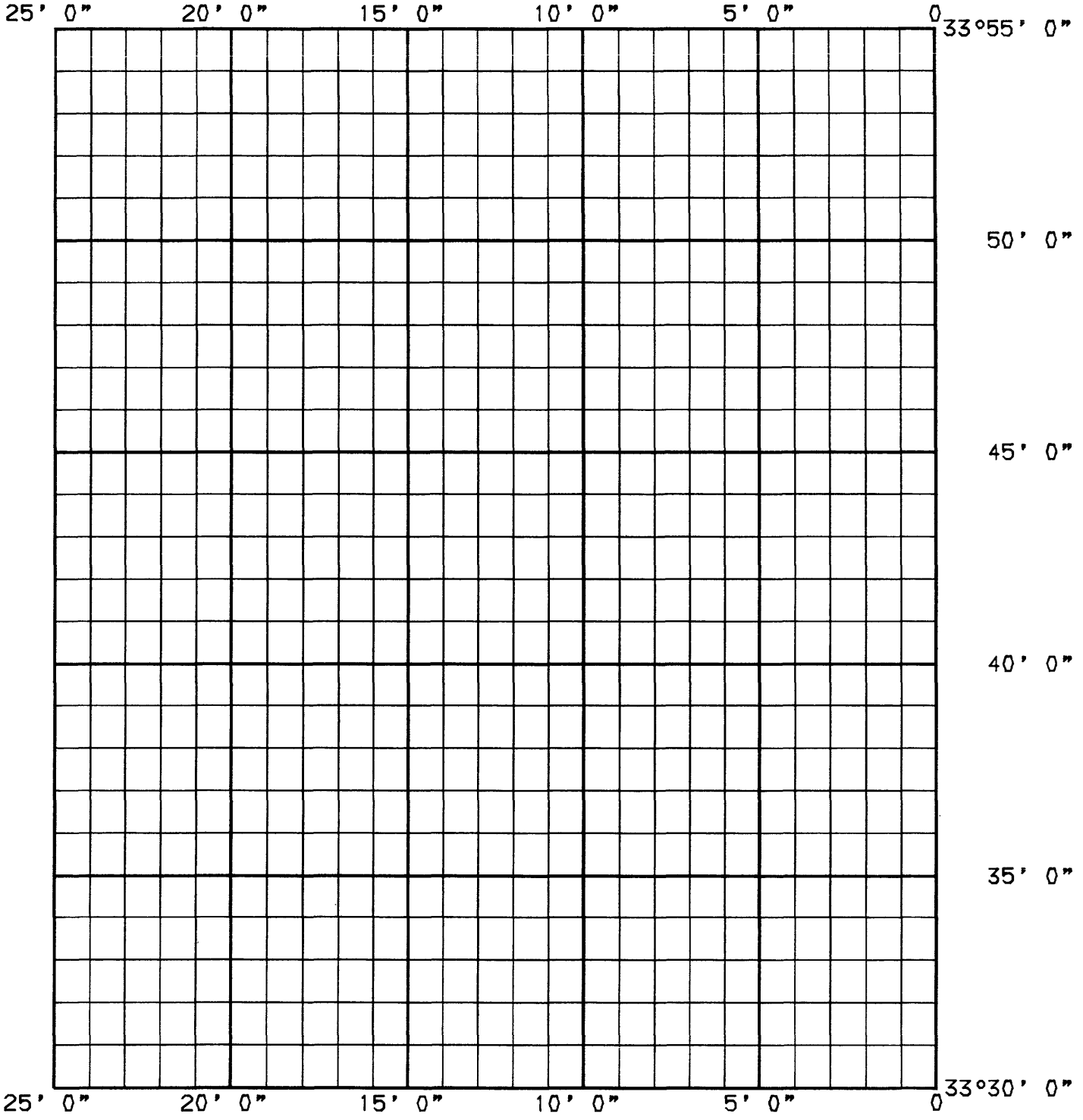
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 31°30' 0" to 31°55' 0"
Scale = 1/250,000



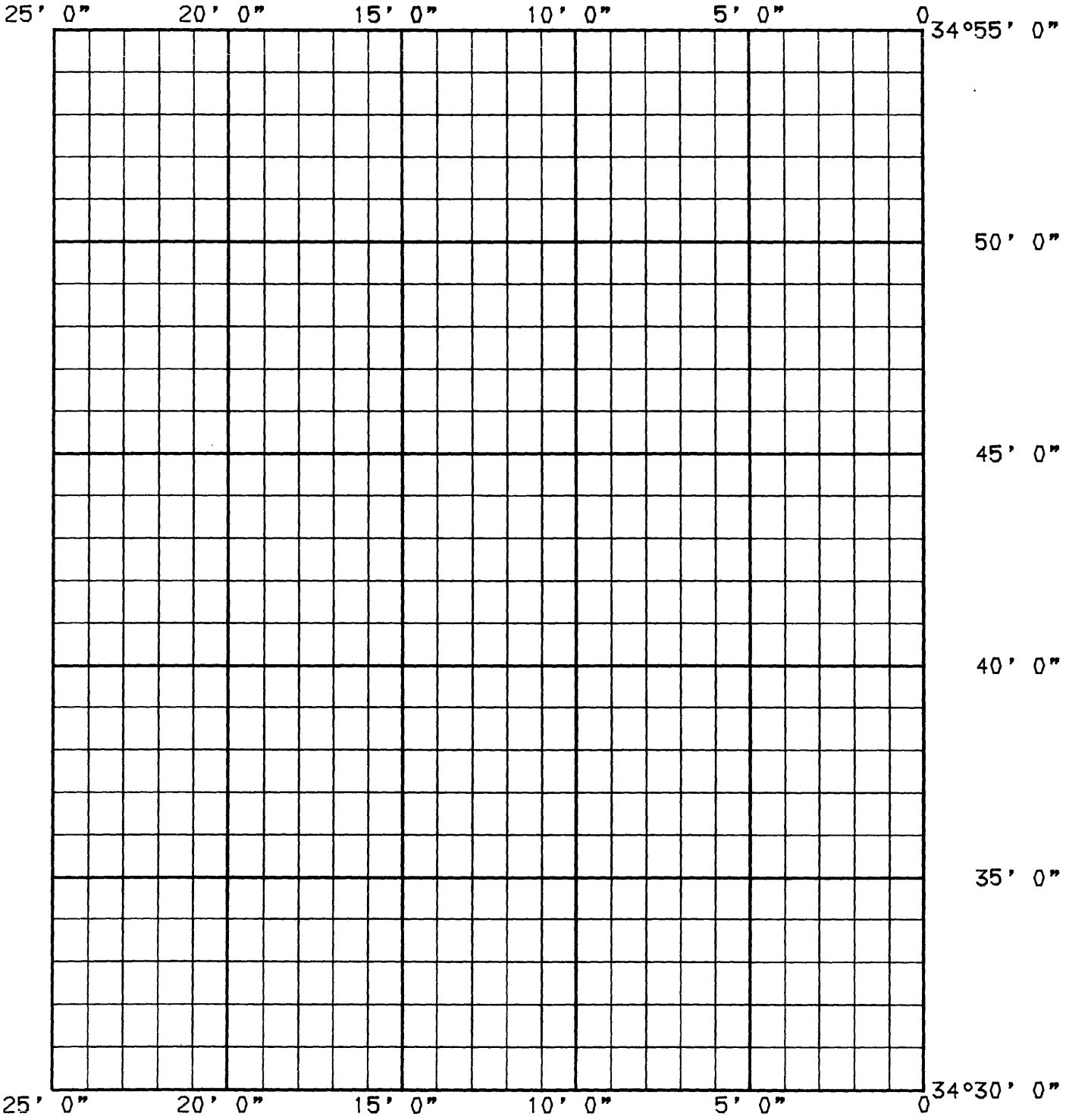
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 32°30' 0" to 32°55' 0"
Scale = 1/250,000



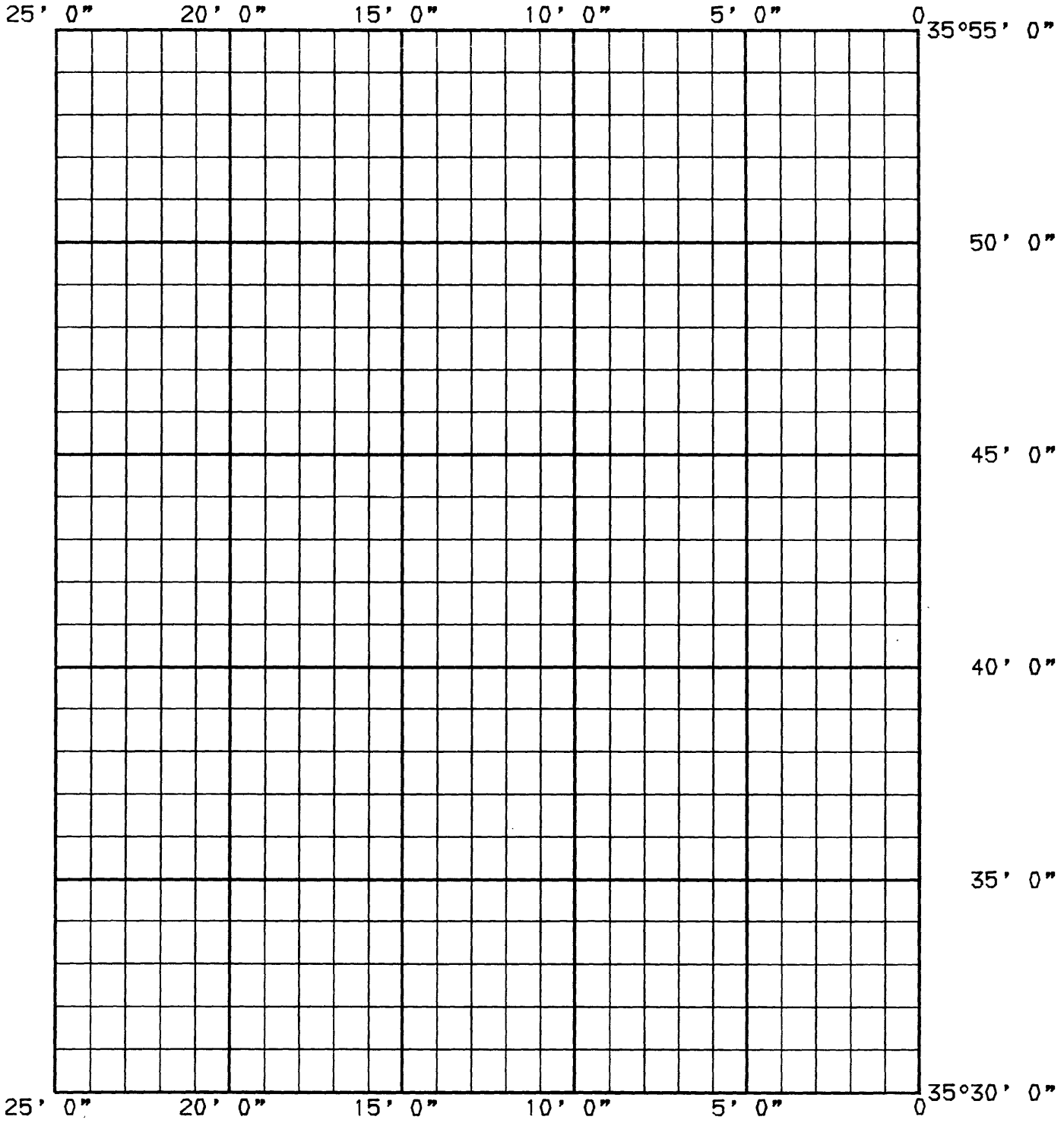
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 33°30' 0" to 33°55' 0"
Scale = 1/250,000



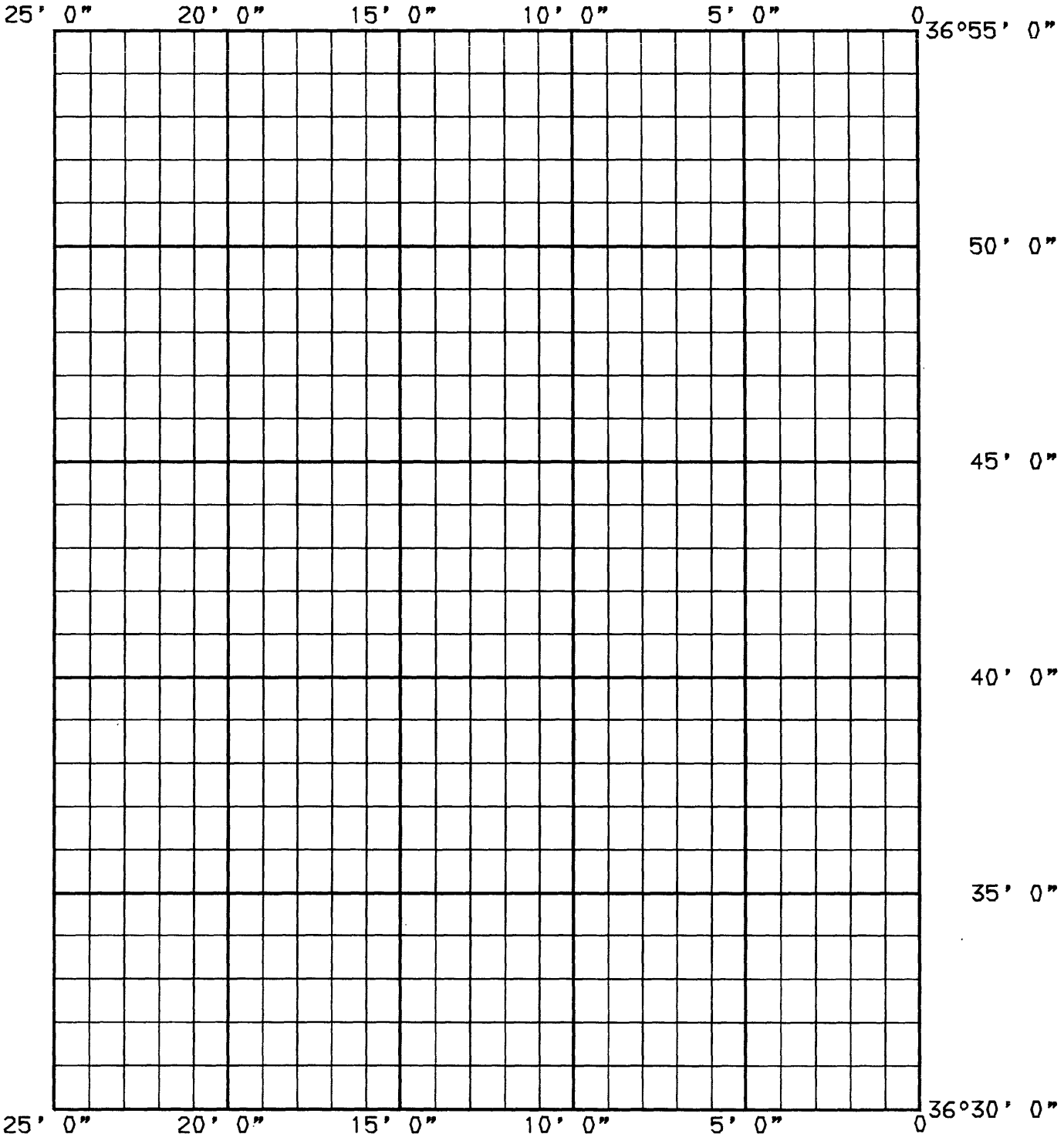
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 34°30' 0" to 34°55' 0"
Scale = 1/250,000



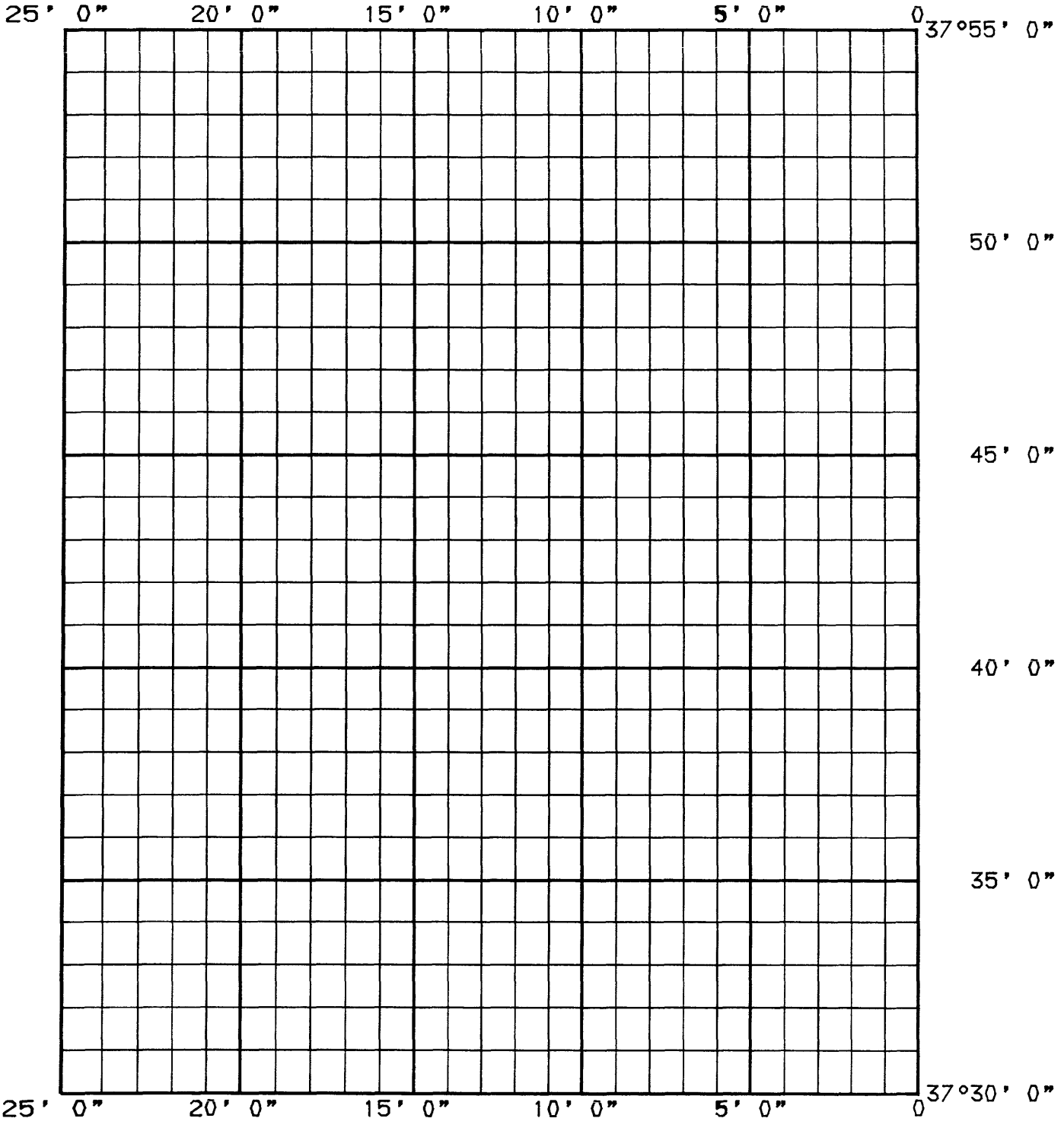
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 35°30' 0" to 35°55' 0"
Scale = 1/250,000



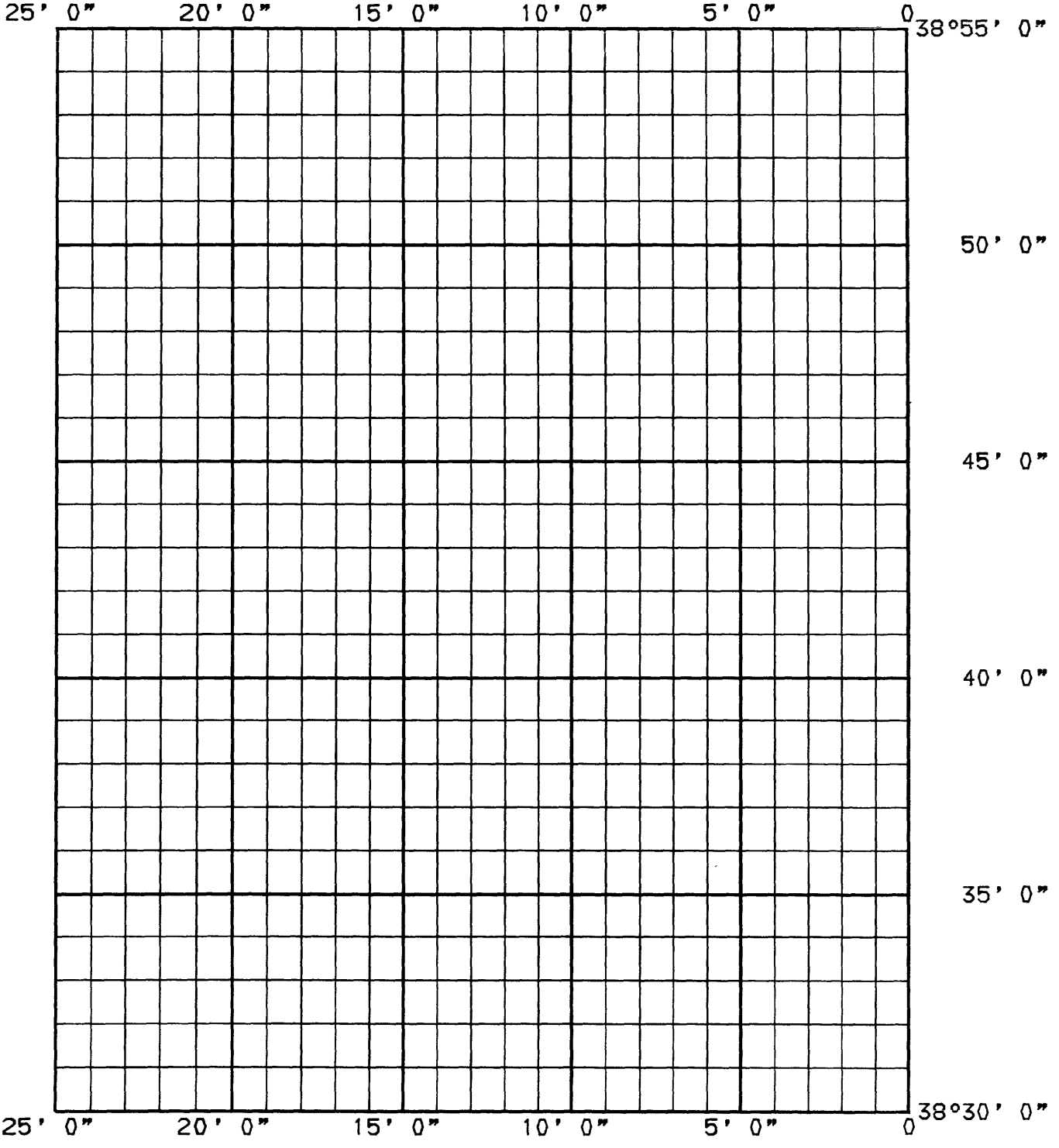
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 36°30' 0" to 36°55' 0"
Scale = 1/250,000



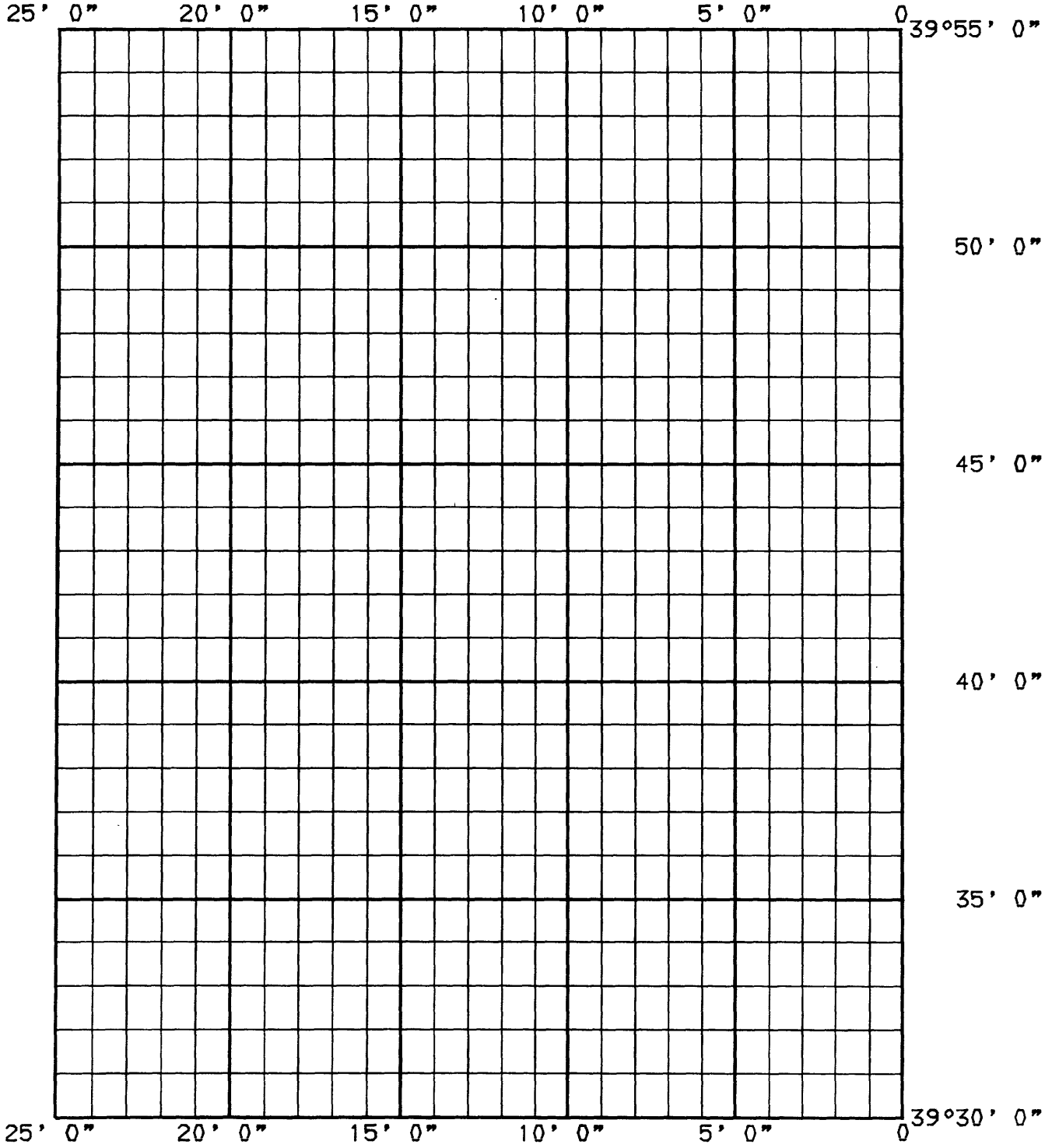
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 37°30' 0" to 37°55' 0"
Scale = 1/250,000



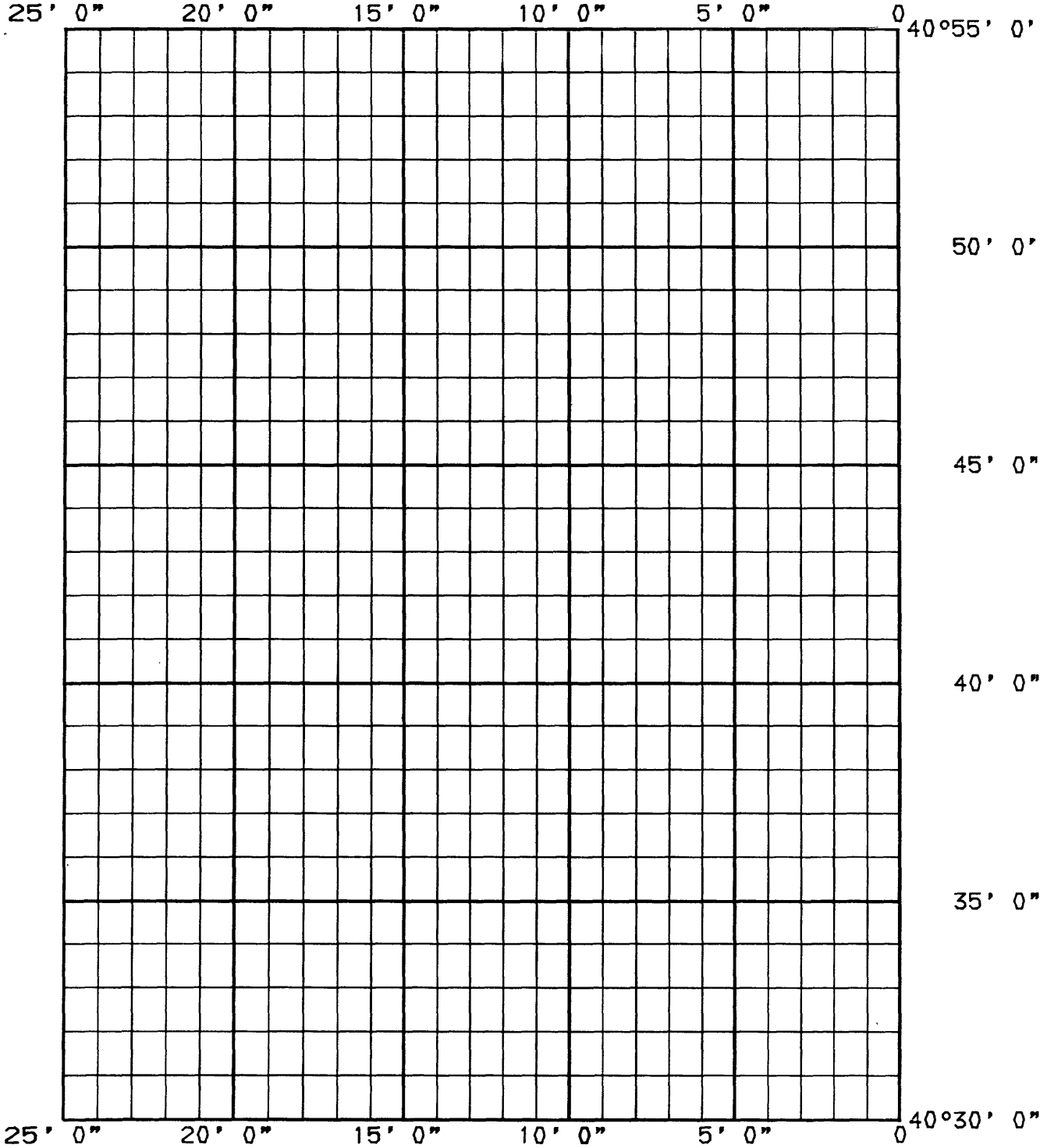
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 38°30' 0" to 38°55' 0"
Scale = 1/250,000



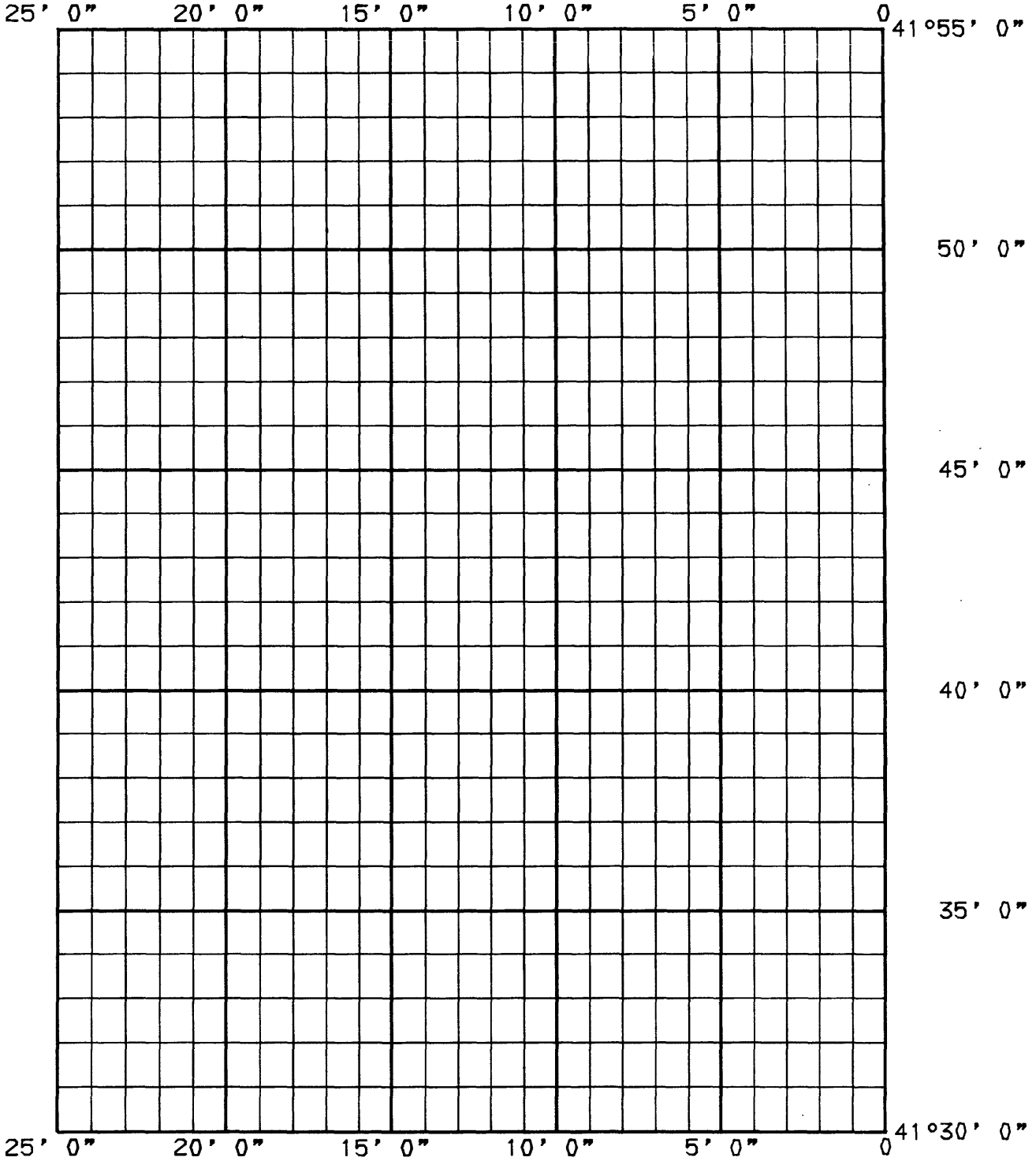
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 39°30' 0" to 39°55' 0"
Scale = 1/250,000



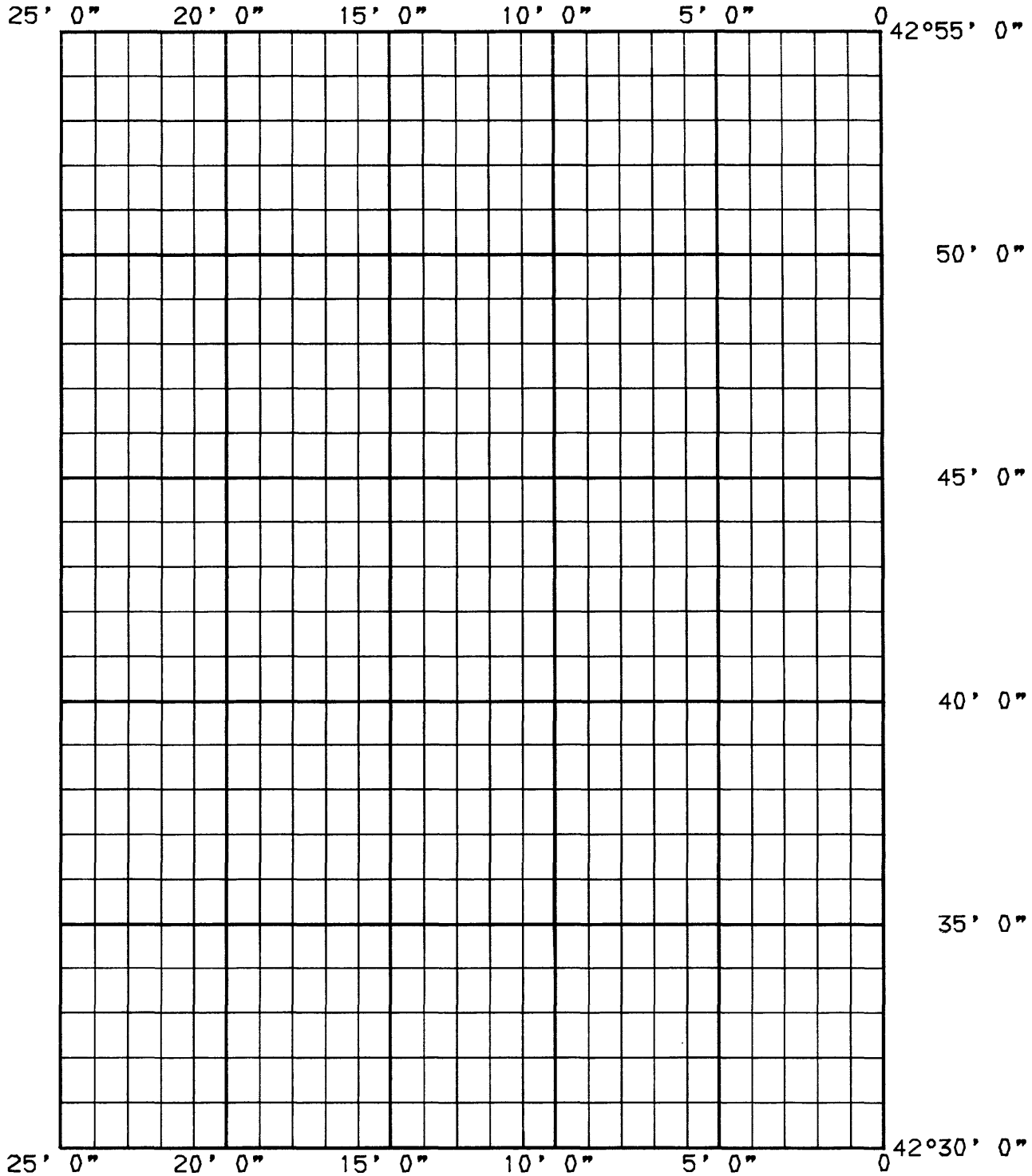
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 40°30' 0" to 40°55' 0"
Scale = 1/250,000



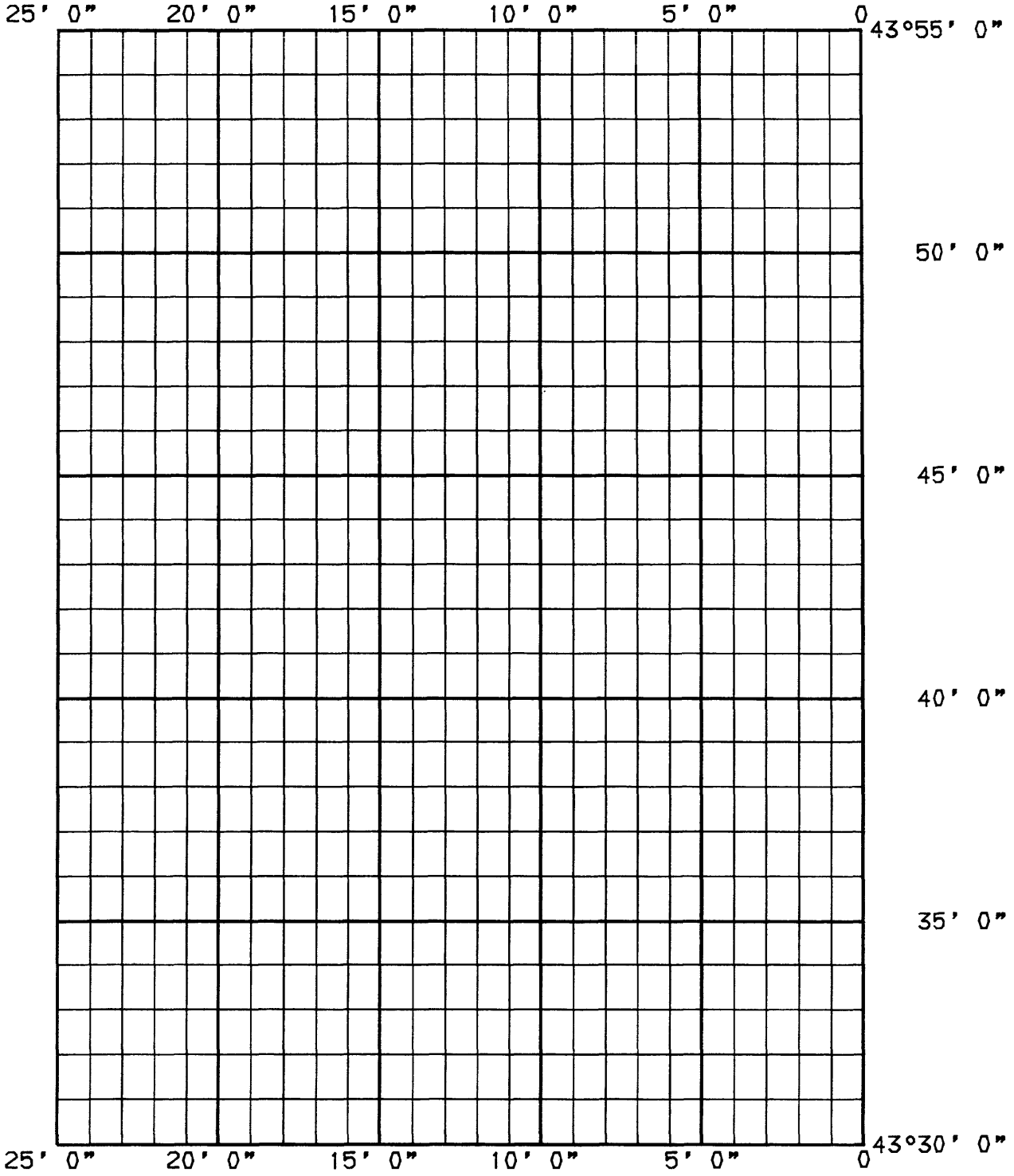
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 41°30' 0" to 41°55' 0"
Scale = 1/250,000



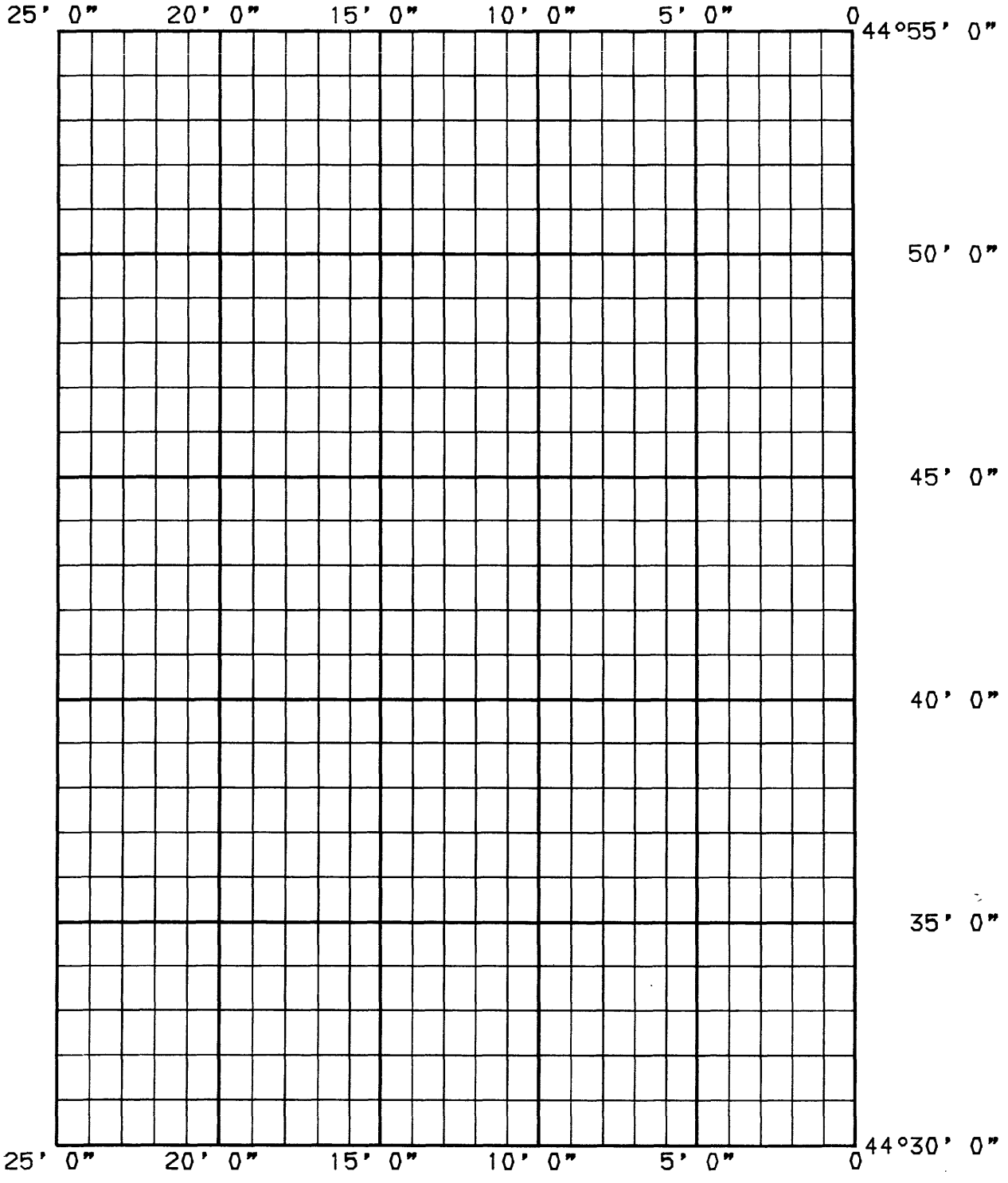
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 42°30' 0" to 42°55' 0"
Scale = 1/250,000



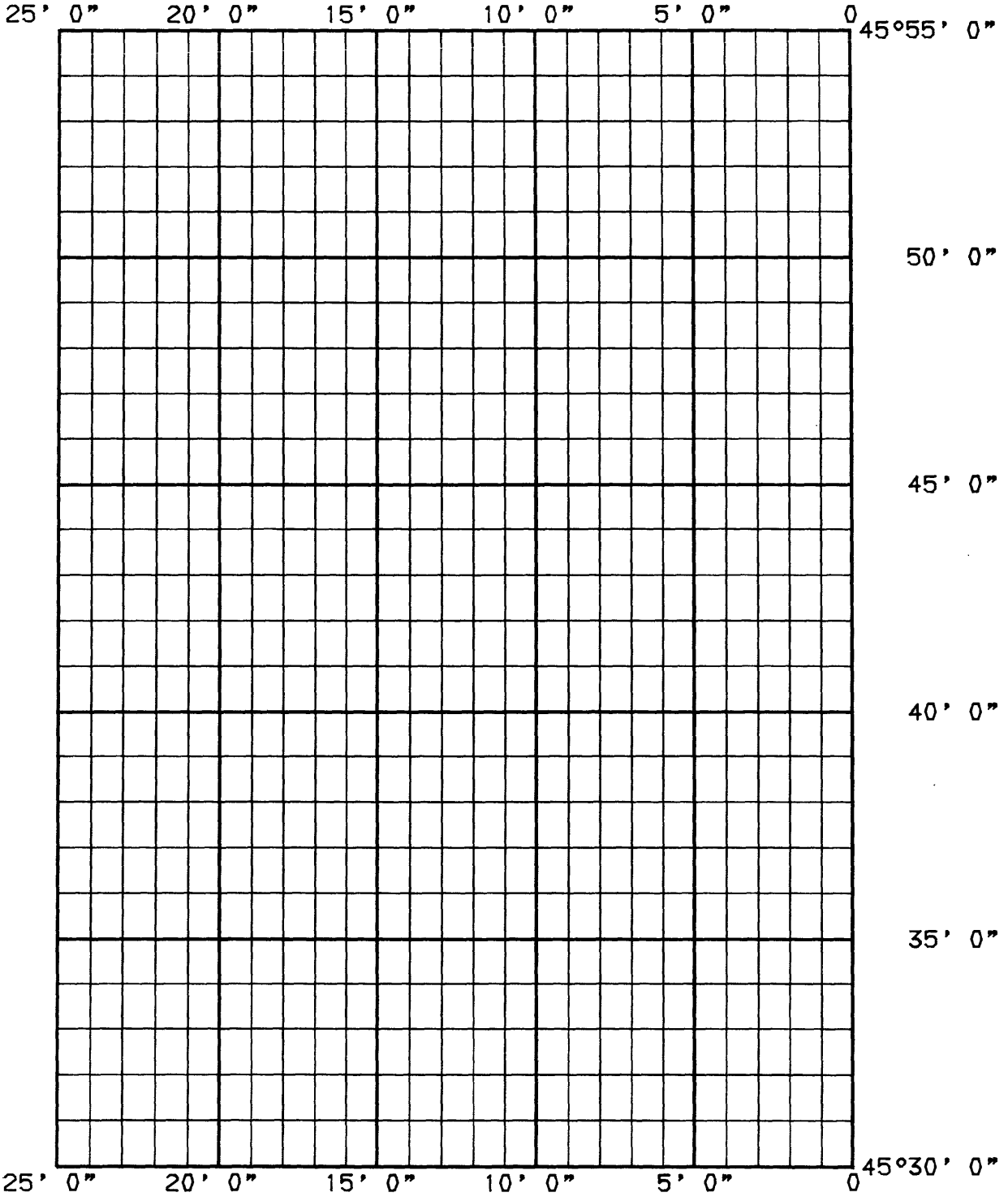
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 43°30' 0" to 43°55' 0"
Scale = 1/250,000



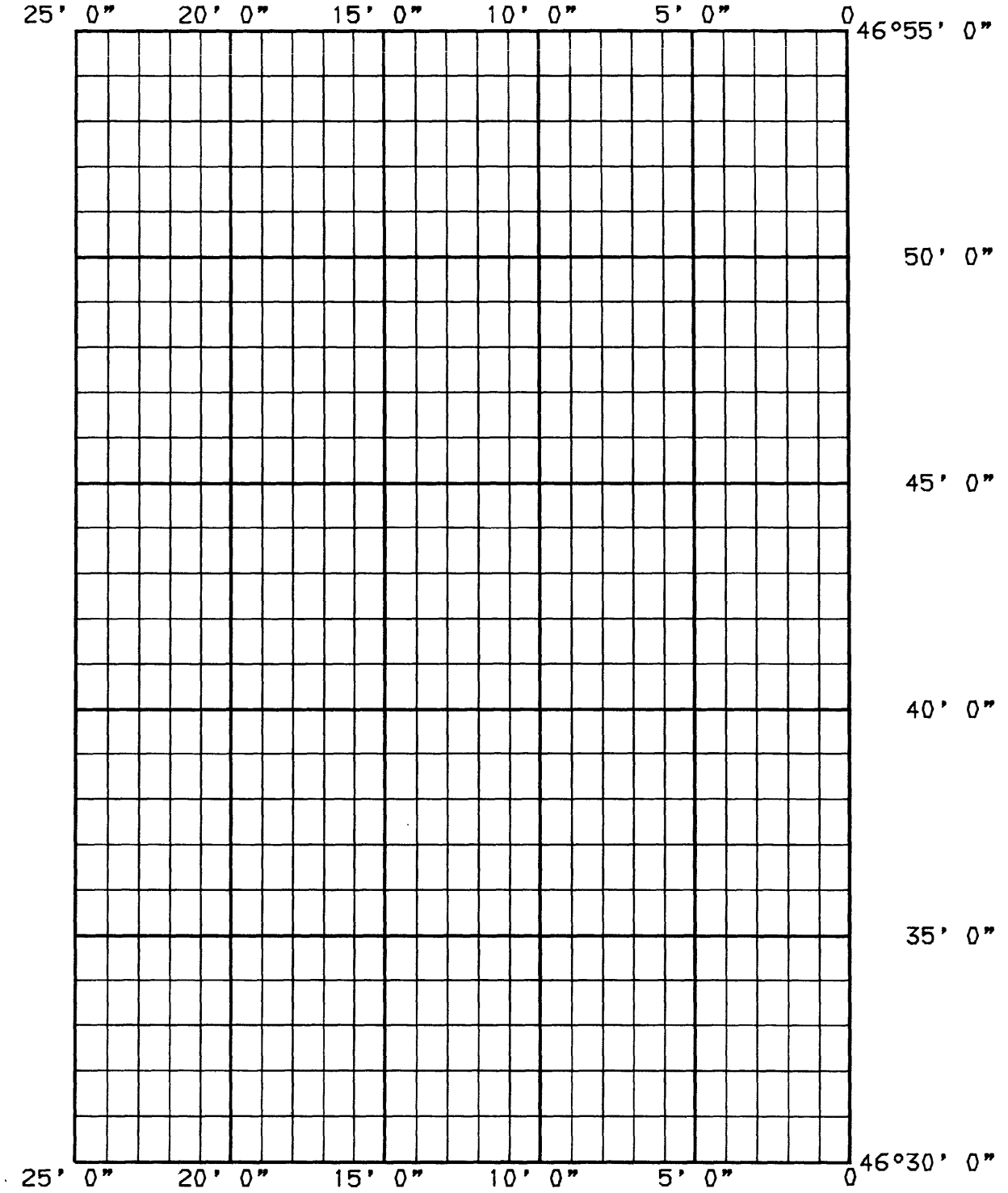
U.S. Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 44°30' 0" to 44°55' 0"
Scale = 1/250,000



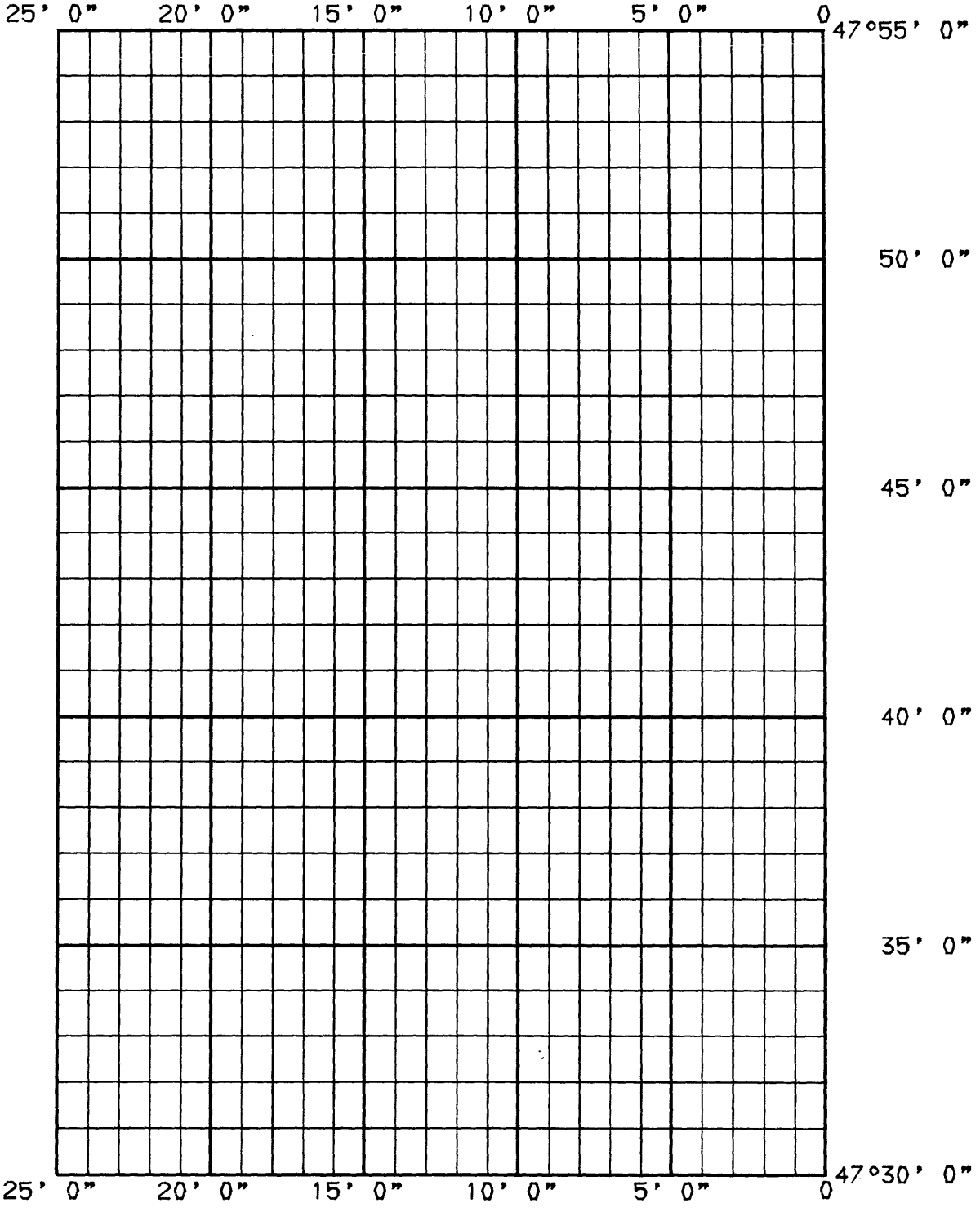
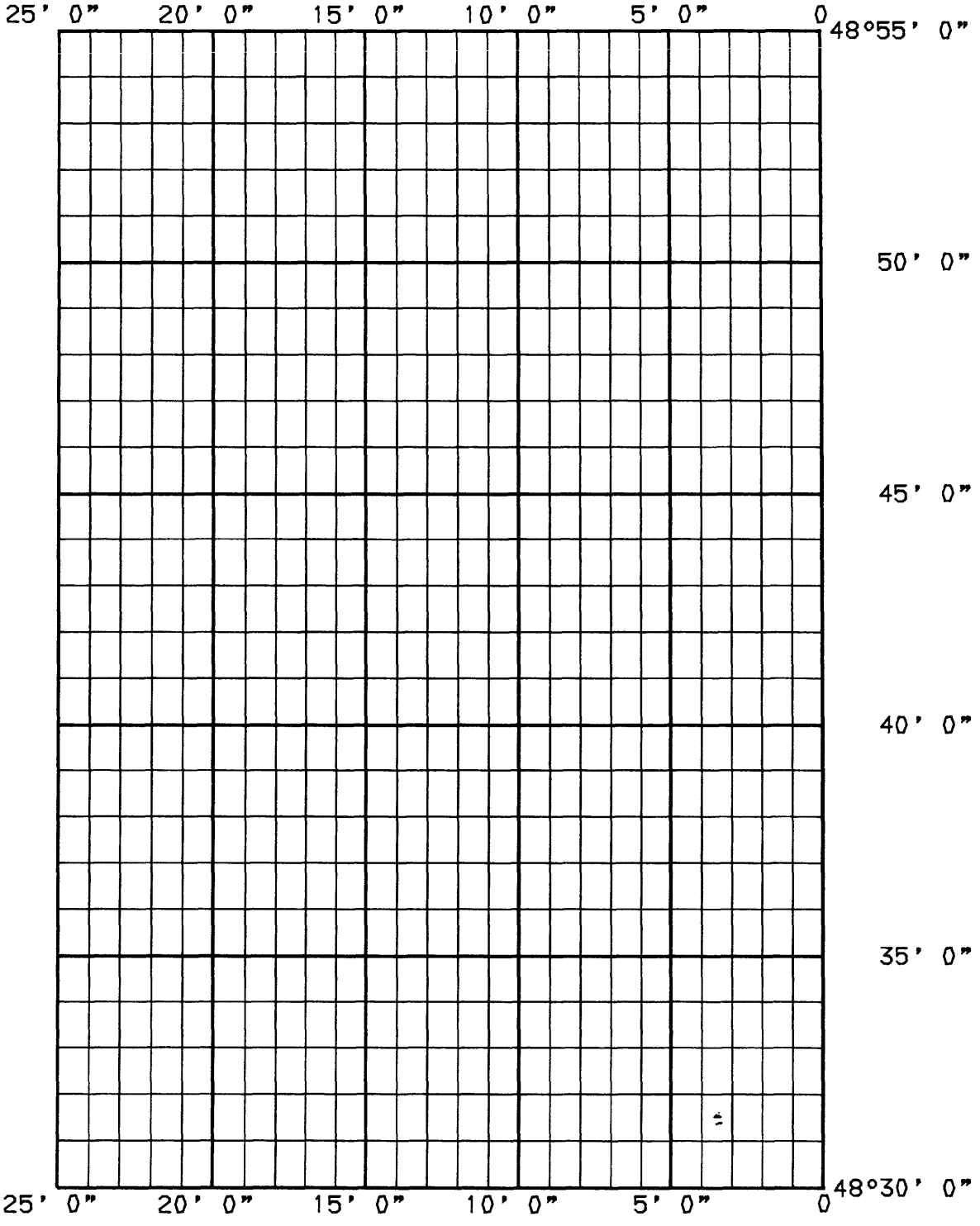
U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 45°30' 0" to 45°55' 0"
Scale = 1/250,000



U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 46°30' 0" to 46°55' 0"
Scale = 1/250,000



U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 47°30' 0" to 47°55' 0"
Scale = 1/250,000



U.S.Geological Survey
Open-File Report 81-747
W.L. Campbell & George VanTrump Jr
Range of latitude = 48°30' 0" to 48°55' 0"
Scale = 1/250,000