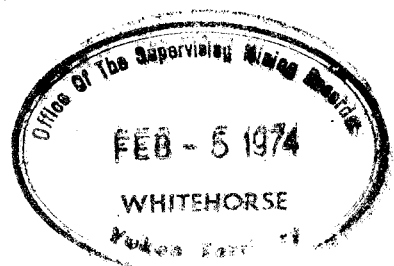


**D. I. T. HOLDINGS LTD.**

SUITE 102 · 2222 BELLEVUE AVENUE  
WEST VANCOUVER, B. C.



REPORT ON A

PRELIMINARY MAGNETOMETER SURVEY

ON THE

DOG CLAIMS 1-48, Y-72236-72283 INCLUSIVE  
BAT CLAIMS 1-32, Y-72172-72203 INCLUSIVE  
SUMMIT LAKE AREA  
WATSON LAKE MINING DISTRICT  
YUKON TERRITORY

N.LAT. 62°-40'

N. LONG. 129°-58'

FOR

9014.91

SONESTA RESOURCES LTD.  
1840-777 HORNBY STREET  
VANCOUVER, BRITISH COLUMBIA

BY

DONALD W. TULLY, P.ENG.

DECEMBER 7, 1973

WEST VANCOUVER, B.C.

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$2014.91

Resident Geologist or  
Resident Mining Engineer

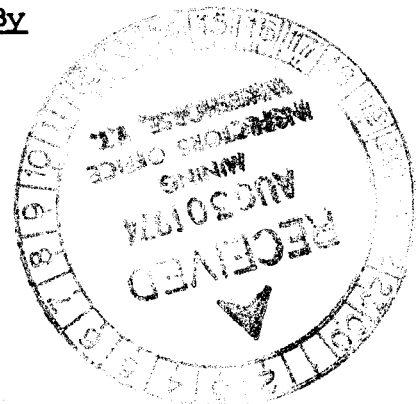
Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Commissioner of Yukon Territory

With APPENDIX Dated December 5, 1973 By

Mr. Uno Leis, Manager  
Strato Geological Ltd.  
19-448 Seymour Street  
Vancouver 2, British Columbia

700100



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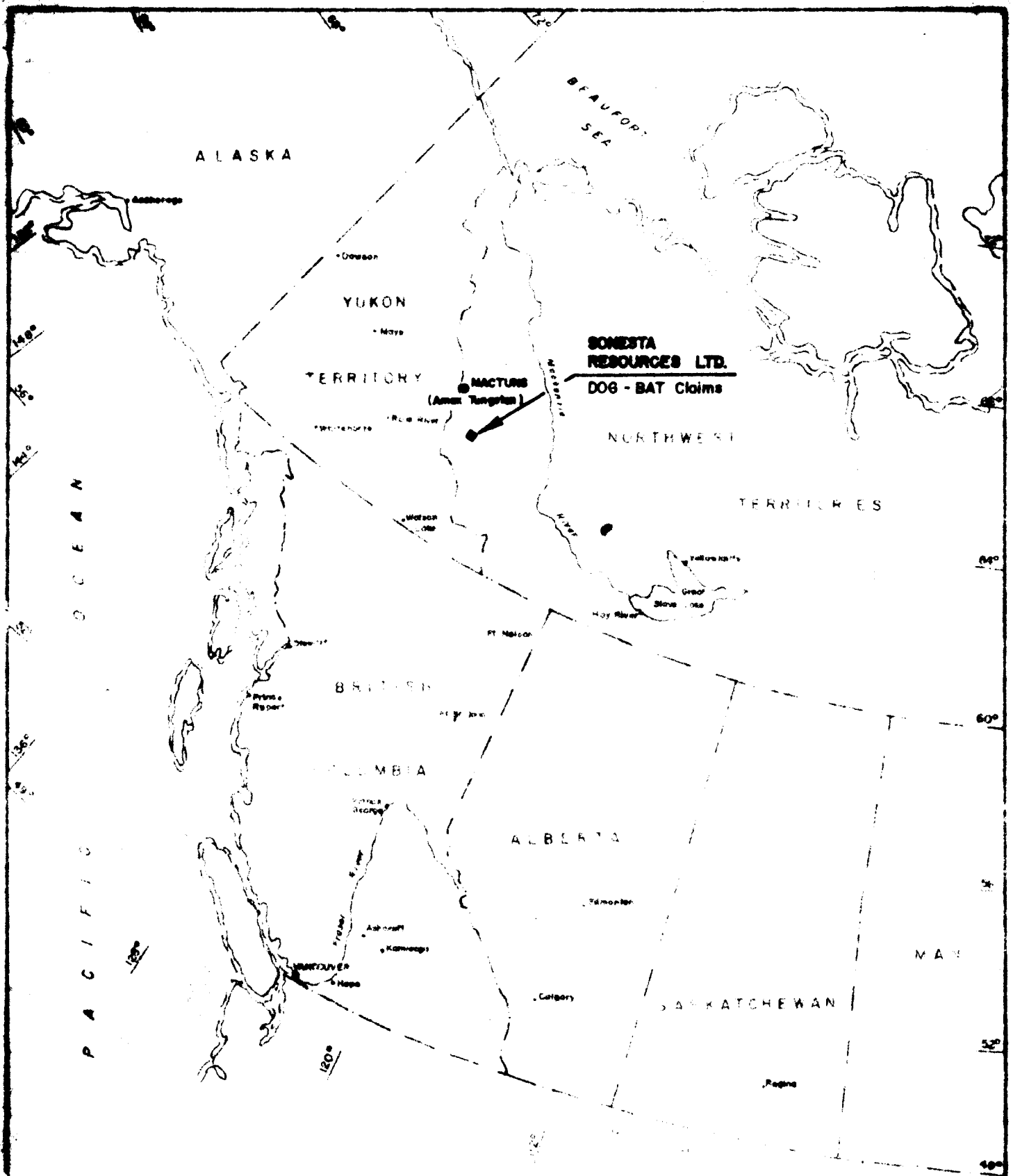
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## APPENDIX

- REPORT ON A MAGNETOMETER SURVEY by Uno Leis, Manager,  
Strato Geological Ltd.
- TIME DISTRIBUTION

## MAPS

LOCATION MAP.....	Frontispiece
CLAIM MAP.....	Following Page 2
PRELIMINARY MAGNETOMETER SURVEY PLAN (Scale 1" = 500').....	(In Pocket)



ALASKA

BEAUFORT SEA

YUKON

TERRITORY

**SONESTA RESOURCES LTD.**  
**DOG - BAT Claims**

NORTHWEST

TERRITORIES

PACIFIC OCEAN

BRITISH

COLUMBIA

ALBERTA

MANIT

SASKATCHEWAN

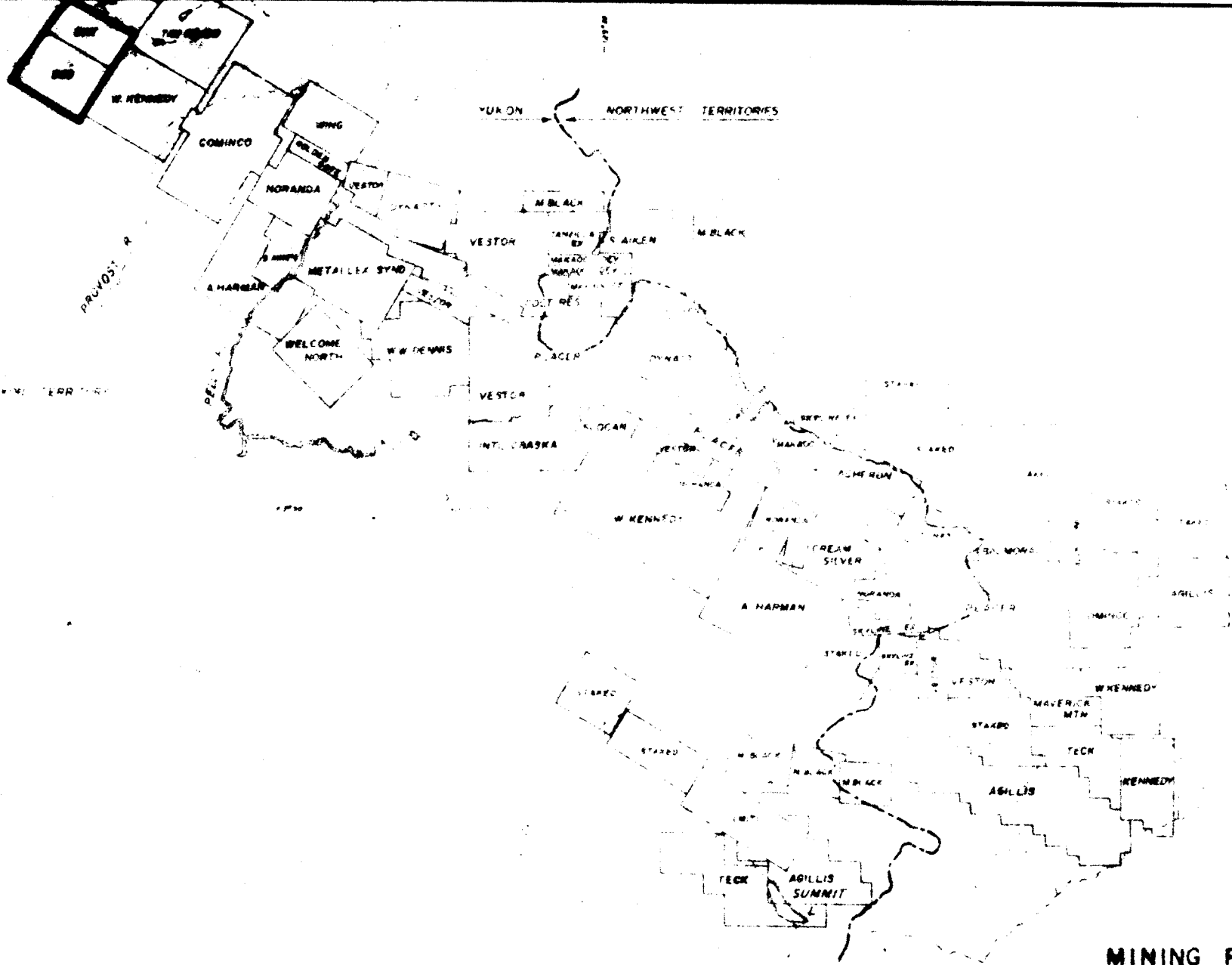
PROPERTY LOCATION MAP



YUKON N.W.T.

GENERAL AREA  
OF  
PLACER DEVELOPMENT DISCOVERIES

TOPO MAP 105-1  
1 inch = 4 miles



**MINING PROPERTIES  
SUMMIT LAKE AREA  
YUKON - NORTHWEST TERRITORIES**

DRAWN FROM INFORMATION BELIEVED TO BE RELIABLE BUT NOT GUARANTEED

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WEST VANCOUVER, B.C.

SUMMARY AND CONCLUSIONS

The base metal mineral potential of the DOG and BAT claims deserves further testing. This 80 claim basic prospect is an excellent exploration bet in a favourable geological environment.

Geologic structures in the area of the Canex (Placer Development) lead-zinc discovery strike northwestward towards the DOG and BAT claims. This is confirmed in part from the results of the preliminary magnetometer survey done on lines spaced at 800-foot intervals in a southwest direction.

Geological mapping to search for graptolitic shale horizons and geochemical soil sampling, both on survey control lines 400 feet apart, are firm recommendations.

Any indications of base metals should be followed up with a gravity survey. Such a survey reads directly the comparative differences in specific gravity between heavy base metals and lighter host rocks.

A work program estimated to cost \$42,665.00 is recommended to test the mineral potential of this property.

INTRODUCTION

At the request of Mr. Murray Pezim, President of Sonesta Resources Ltd., an examination was made of the property on November 21, 1973 and the results of a preliminary magnetometer survey

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conducted over the claim group by Strato Geological Ltd.

Snow conditions prevailed at the time of the property examination.

PROPERTY - LOCATION, ACCESS, TOPOGRAPHY

The property consists of 80 unpatented mining claims located in the Summit Lake area of the northeast Yukon near the headwaters of the Prevost River. Summit Lake is about 35 miles to the southeast while Cominco Lake is about 6 miles distant.

Access is by helicopter from Ross River. Small fixed-wing aircraft can land on Cominco Lake near the south boundary of the claim group when water or ice conditions permit.

Topography is relatively flat to gently rolling. Elevations vary between 3800 and 4200 feet above sea-level. Numerous small pothole lakes and swamps with interconnecting creeks occupy much of the western and central portions of the claim group.

CLAIMS

The following information is on file at the Mining Recorder's Office, Department of Indian Affairs and Northern Development, Watson Lake, Yukon Territory:

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<u>CLAIM NAME</u>	<u>LOCATOR'S NAME</u>	<u>DATE RECORDED</u>	<u>RECORDED HOLDER</u>	<u>RECORD NUMBER</u>
DOG 1- 8	Wallace Rich	1 Feb/73	SONESTA RESOURCES LTD.	Y-72236-43
9-16	Ray Davies	"	"	Y-72244-51
17-24	John Erickson	"	"	Y-72252-59
25-32	Dave Porter	"	"	Y-72260-67
33-40	Morris MacIntosh	"	"	Y-72268-75
41-48	John Lutz	"	"	Y-72276-83
BAT 1- 8	Edward Chambers	"	"	Y-72172-79
9-16	Fred Hartt	"	"	Y-72180-87
17-24	Barry Tonsaker	"	"	Y-72188-95
25-32	Ray Conant	"	"	Y-72196-203

I saw claim posts on the property during my field examination.

HISTORY - PREVIOUS DEVELOPMENT - REFERENCES

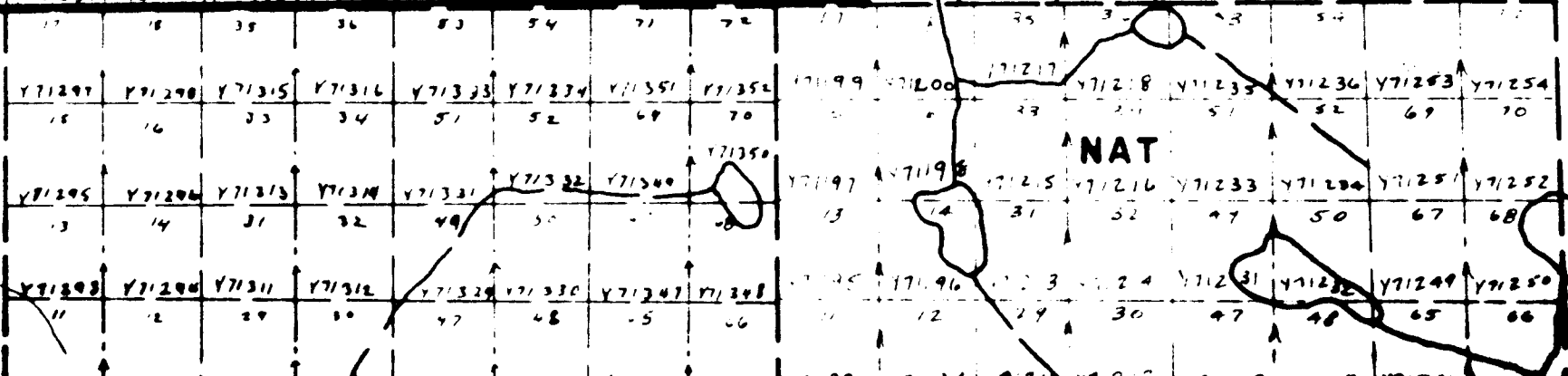
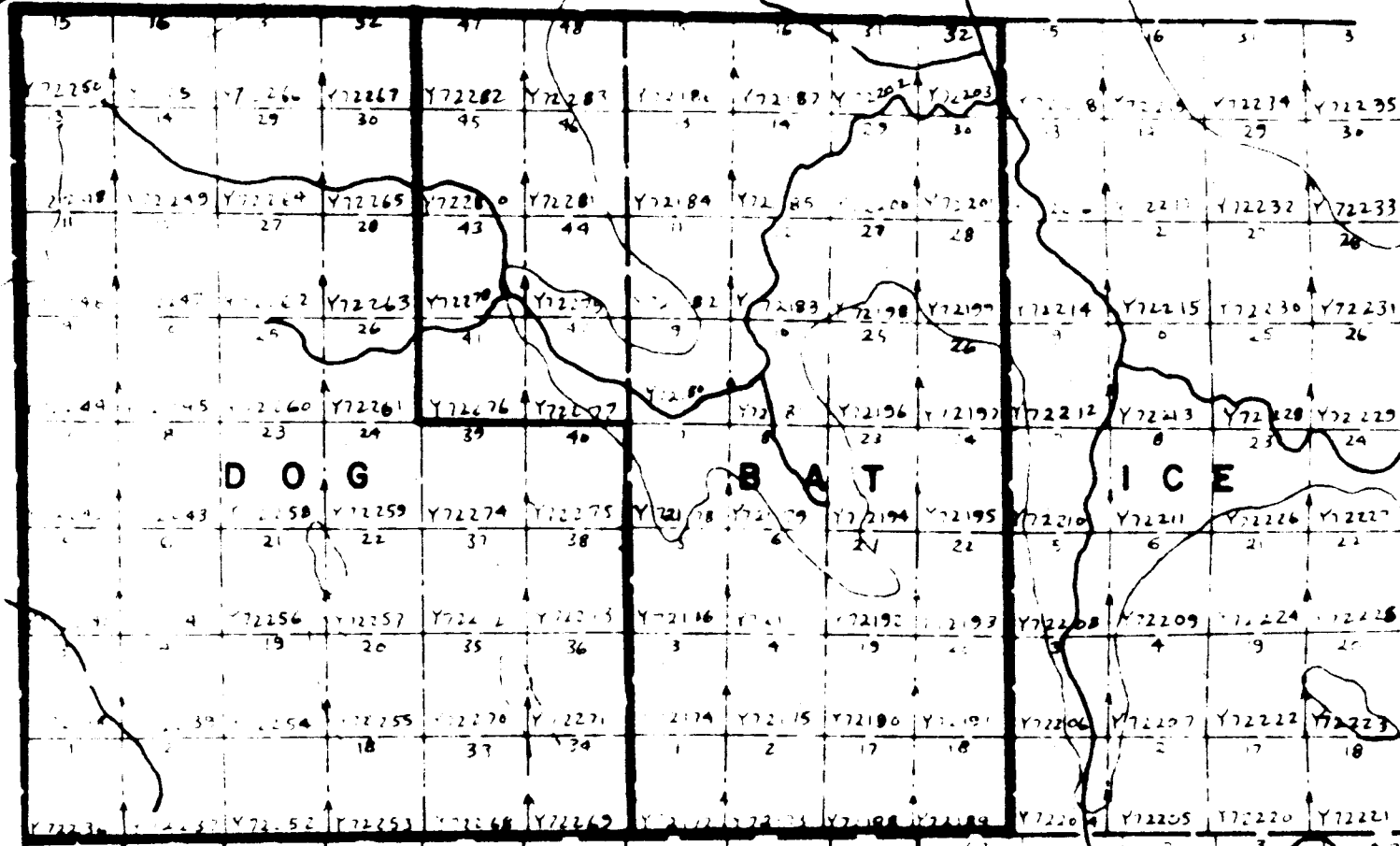
Government aeromagnetic maps have not yet been published for this area and no previous development is known on the claim group. The TARA copper showing formerly held by Yukon Copper lies about 40 miles to the southwest.

The following publications provide the available geological and topographical data relevant to this report.

1. N.T.S. Topographic Map 105-I (1" = 4 miles)
2. G.S.C. Geological Map 8-1967 (1" = 4 miles)
3. G.S.C. Geological Map 14-1961 (1" = 4 miles)
4. G.S.C. Mineral Showings - Yukon P67-36 (1" = 32 miles)
5. Yukon Claim Map 105-I-12 (2" = 1 mile)

SONESTA RESOURCES LTD

DOG CLAIMS 1-40  
SUMMIT LAKE AREA  
YUKON SHEET 05-1-12  
1973



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6. Report on the DOG 1-48 and BAT 1-32 claims, Summit Lake Area, Watson Lake Mining Division, Dated May 24, 1973 by Donald W. Tully, P.Eng.
7. National Airphoto Library Photos A12189-373, 374, 375 and A12185-281, 282, 283.

GENERAL GEOLOGY - MINERALIZATION

One lithological unit belonging to the Selwyn Basin suite of rocks is recognized on the claims. Devonian Age sandstones, siltstones and conglomerates (unit 18b) are exemplified on Geological Survey map 8-1967 (Nahanni).

Canex (Placer Development) are developing a substantial lead-zinc discovery in Cambro-Ordovician graptolitic shales about 12 miles southeast of the DOG and BAT claims. Diamond drilling was in progress during the 1973 field season.

Hydrozincite, a basic zinc carbonate, was reported to be one of the important minerals recognized at the Canex discovery area. Zinc is the major mineral.

Structurally, the favourable Cambrian-Ordovician rocks on the Placer ground should project westward and underlie the higher Devonian horizons on the DOG and BAT claims. There is a chance the favourable rocks on the Placer ground may sub-outcrop in the lower valley areas on the DOG and BAT claims. For this reason geological mapping is important. Strikes and dips suggest a general west to northwest continuity. Complex faulting and folding are reported to occur in the high-grade lead-zinc mineralized zones on the Canex ground.

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A section could be mapped across the geological structure along the Prevost River. This would provide valuable information on the underlying formations and the position of the granulitic (fossil) shales, cherts and limestones considered to be favourable on the Placer ground to the southeast.

Typically, the lead-zinc mineralization in the Yukon has associated barite minerals. This should be tested for when geochemical soil sampling analysis is done.

The property was snow covered at the time of the property examination. From personal observation of topographic features on the ground lineaments trend northwestward.

Rock outcrops of conglomerate are reported by the magnetometer operators to be few and poorly exposed.

MAGNETOMETER SURVEY - RESULTS

A preliminary magnetometer survey was performed by Strato Geological Ltd. during the period October 11 - 25, 1973 and November 6 - 21, 1973. The survey procedure and method ground control is described by Mr. Uno Leis, Manager, Strato Geological Ltd. in the appendix to this report.

Magnetic response, albeit very weak, does suggest a northwest trend on the claim group. The results of the magnetometer are typical of non-magnetic sedimentary environments and not uncommon in this area of the Selwyn Sedimentary Basin.

No further magnetometer work is proposed.

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RECOMMENDATIONS

A two-phase program of exploration is proposed to test this favourably located property. The initial phase is basic to assess the mineral potential of the claims.

1. Survey the location lines of the claim group and mound the posts to define the boundaries of the property.

2. Construct a grid of picket line control over the property with a baseline and picket lines every 400 feet apart chained at 100-foot intervals along each line.

3. Study air photos for evidence of continuity of favourable geological horizons on the Placer Development (Canex) property westward through the DOG and BAT claims.

4. Map the geological features on scale 1" = 400 feet.

5. Geochemical soil sample the claim groups on scale 1" = 400 feet.

6. Observe Land Use, Environment and Camp regulations promulgated by Yukon Territorial Government during performance of the proposed work program. Administration offices for this area are located at both Whitehorse and Ross River.

A Phase II program of gravity survey work is proposed to investigate any anomalous target areas resulting from the geochemical and geological surveys in the initial phase of exploration.

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Gravity surveys are direct reading in that differences in density of mass such as the relative weight of lead and zinc as compared to light weight shale are easily detected.

ESTIMATED COSTS OF THE PROPOSED WORK PROGRAM

PHASE I

1.	Mobilization and demobilization of men and supplies from Vancouver and return	\$1,500.00
2.	Helicopter transport and support from Ross River to property (10 trips x 3 hrs each x \$175/hr)	5,250.00
3.	Wages and supplies for 4 men for 30 days	9,500.00
4.	Geochemical assaying (80 claims x 15 samples/claim x \$2.50 each)	3,000.00
5.	Administration, engineering	1,000.00
6.	Contingency at 15%	3,037.50
	PHASE I SUB-TOTAL:	<u>\$23,287.50</u>

PHASE II

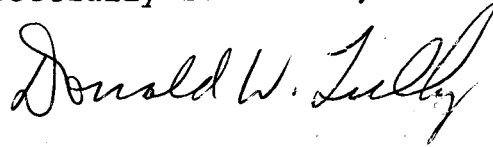
1.	Mobilization and demobilization	\$1,500.00
2.	Helicopter	5,250.00
3.	Transit and level survey control work and gravity program on a reconnaissance grid of 800 feet (130 readings x \$70/occupied survey station on contract)	9,100.00

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4.	Administration, engineering	\$1,000.00	
5.	Contingency at 15%	2,527.50	<hr/>
	PHASE II SUB-TOTAL:		\$19,377.50
			<hr/>
	ESTIMATED TOTAL PHASES I AND II:		\$42,665.00

Respectfully submitted,



December 7, 1973

Donald W. Tully, P.Eng.

**D. I. T. HOLDINGS LTD.**

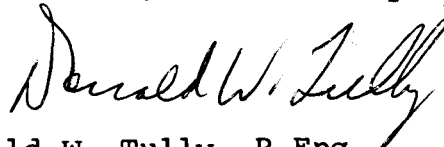
SUITE 102 · 2222 BELLEVUE AVENUE  
WEST VANCOUVER, B. C.

CERTIFICATE

I, DONALD WILLIAM TULLY, of the Municipality of West Vancouver, in the Province of British Columbia, hereby certify as follows:

1. I am a Consulting Geologist with an office at Suite 102, 2222 Bellevue Avenue, West Vancouver, British Columbia.
2. I am a registered Professional Engineer in the Provinces of British Columbia and Ontario.
3. I graduated with a degree of Bachelor of Science, Honours Geology, from McGill University in 1943.
4. I have practiced my profession for twenty-eight years.
5. I have no direct, indirect or contingent interest in the DOG and BAT claims or in the shares of Sonesta Resources Ltd., nor do I intend to receive any interest.
6. This report dated December 7, 1973, is based on a personal examination of the property on November 21, 1973, a study of the available published data on this particular area of the Yukon Territory and information gathered from personal communications.

DATED at West Vancouver, British Columbia, this 7th day of December, 1973.



Donald W. Tully, P.Eng.  
Consulting Geologist



REPORT  
ON  
MAGNETOMETER SURVEY  
OVER THE  
DOG 1-48 [Y72236-Y72283]  
and  
BAT 1-32 [Y72172-Y72203]  
MINERAL CLAIMS  
WATSON LAKE MINING DISTRICT  
MAP 105 I 12

For  
SONESTA RESOURCES LTD. [N.P.L.]

By  
STRATO GEOLOGICAL LTD.

October 11, 1973 to October 25, 1973  
November 6, 1973 to November 21, 1973

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## SUMMARY AND CONCLUSIONS

Strato Geological Ltd. carried out a magnetometer survey over the Dog 1-48 and the Bat 1-32 Mineral Claims for Sonesta Resources Ltd.

A total of 148,800 line feet of grid was established with readings taken at two hundred foot intervals.

The results indicate a high reading of +260 and a low reading of -241 with a general background level of approximately 60 gammas. The general trends of the magnetic contours appear to be north-south for the 200+ contour, north-west for the 100 contour, and north-east for the 0 contour. In general, the magnetic relief is not very great, and the contours may be reflecting geological structures.

## INTRODUCTION

At the request of Sonesta Resources Ltd. [NPL] a survey consisting of grid layout and magnetometric examination was conducted on the Dog and Bat Mineral claims. This property is a lead-zinc prospect.

## PROPERTY

These claims are located in the area of the Placer Development lead-zinc discovery, in the Watson Lake Mining District, Map 105-I-12, approximately Lat.  $62^{\circ}40'$ , Long.  $129^{\circ}55'$ . They consist of 80 contiguous mineral claims as listed below:

Dog 1 - 8	Y72236 - Y72243
Dog 9 - 16	Y72244 - Y72251
Dog 17 - 24	Y72252 - Y72259
Dog 25 - 32	Y72260 - Y72267
Dog 33 - 40	Y72268 - Y72275
Dog 41 - 48	Y72276 - Y72283
Bat 1 - 8	Y72172 - Y72179
Bat 9 - 16	Y72180 - Y72187
Bat 17 - 24	Y72188 - Y72195
Bat 25 - 32	Y72196 - Y72203

These mineral claims are grouped as follows:

Group I	Dog 1 - 4	Y72236 - Y72239
	Dog 17 - 20	Y72252 - Y72255
	Dog 33 - 36	Y72268 - Y72271
	Bat 1 - 2	Y72172 - Y72173
	Bat 17 - 18	Y72188 - Y72189
Group II	Dog 5 - 8	Y72240 - Y72243
	Dog 21 - 24	Y72256 - Y72259
	Dog 37 - 40	Y72272 - Y72275
	Bat 3 - 4	Y72174 - Y72175
	Bat 5 & 7	Y72176 & Y72178
Group III	Dog 9 - 12	Y72244 - Y72247
	Dog 25 - 28	Y72260 - Y72263
	Dog 41 - 44	Y72276 - Y72279
	Bat 9 - 12	Y72180 - Y72183
Group IV	Dog 13 - 16	Y72248 - Y72251
	Dog 29 - 32	Y72264 - Y72267
	Dog 45 - 48	Y72280 - Y72283
	Bat 13 - 16	Y72184 - Y72187
Group V	Bat 19 - 32	Y72190 - Y72203
	Bat 6 & 8	Y72177 & Y72179

Access to this area is primarily by helicopter and float plane. At the time of this work program, this mode of transportation was available from Ross River, Yukon Territory, approximately one hundred miles from the job site, except for the final demobilization which required a helicopter stationed at Whitehorse.

#### WORK PROGRAM

The duration of the work program was from October 11, 1973 to October 25, 1973 and November 6, 1973 to November 21, 1973. The crews consisted of Philip Zinchuk [Technician], Walter Van Fleet [Linecutter], and Steve Sersli [Supervisor], under the direction of Uno Leis [Manager of Strato Geological Ltd.].

The work consisted of establishing a grid totaling approximately 148,800 line feet. Grid stations were established every 200 feet, and identified with ribboning and location coordinates which were placed on the ribboning.

Subsequently a magnetometer survey was carried out over this grid with two hundred foot spacings between readings. These readings were recorded, and then corrected for diurnal variation. These corrected readings are plotted on the enclosed maps at the end of this report. Graphs of diurnals are plotted.

The instrument used for this survey was a McPhar M700 magnetometer. The range of the readings is from 0 to  $\pm 100,000$  gammas, with a maximum readability of  $\pm 5$  gammas on the 1K scale. The readings from the unit are read directly in gammas.

COSTS

The costs for this survey are broken down in the following categories:

Labour	\$ 3,775.00
Instrument Rental	400.00
Mobilization	3,663.00
Travel	952.95
Room & Board	461.32
Field Supplies	248.34
Engineering	350.00
Drafting & Assimilation	400.12
Miscellaneous	99.70
	<hr/>
Total	\$ 10,350.43
	<hr/> <hr/>

## RESULTS

General subtle trends were established which may be indicative of geological zones. The significance of these trends is yet to be determined.

## RECCMMENDATIONS

The trends which have been outlined from this survey require further testing so that target areas may be more definitely delineated.

A programme involving geochemistry, including soil sampling and silt sampling, may prove to be an effective tool for this purpose. In conjunction with such a survey, some geological mapping and chip sampling of outcrops should be carried out. The apparent difficulty of identifying the lead-zinc mineralization in this region with the naked eye would indicate the necessity for assaying any rock samples which show possibility of mineralization.

CERTIFICATE

I, UNO LEIS, do HEREBY CERTIFY THAT:

- [1] I am Manager of Strato Geological Ltd., with offices at #19-448 Seymour Street, Vancouver 2, B. C.
- [2] I am a graduate of Carleton University, 1969, with the Degree of Bachelor of Science.
- [3] I am not a registered Engineer in the Province of British Columbia or of any province.
- [4] I have been engaged in geological exploration for four and one-half years throughout British Columbia, parts of Yukon Territory, parts of Saskatchewan, and parts of the U.S.A.
- [5] I have no direct, indirect or contingent interest in the properties covered in this report, nor do I intend to receive any interest.
- [6] This report is based on examination of the data obtained as a result of this survey and personal field observations.

DATED at Vancouver, British Columbia, this 5th day of December, 1973.

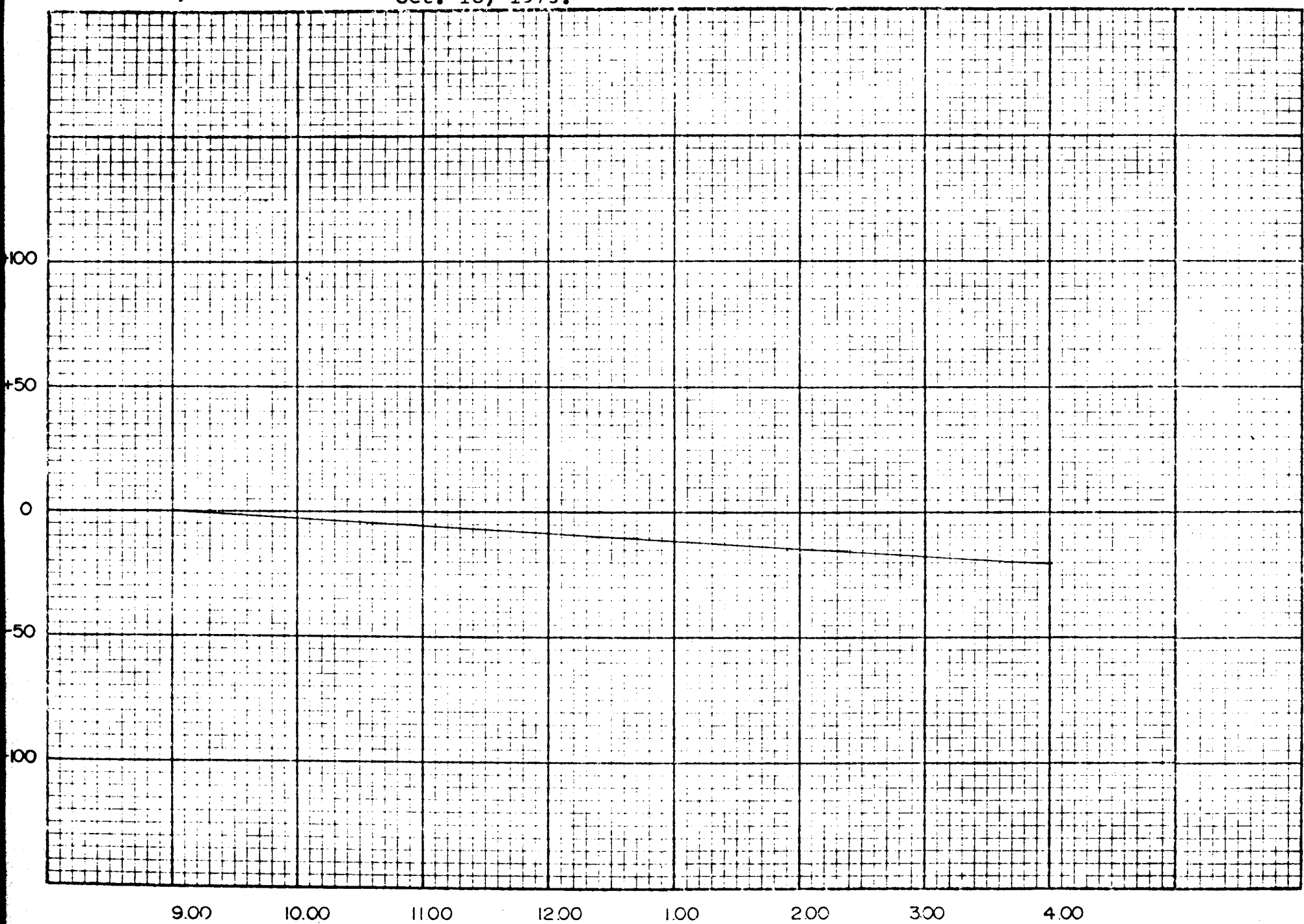
SIGNED: \_\_\_\_\_

*Uno Leis*

Uno Leis, B.Sc.

1st day

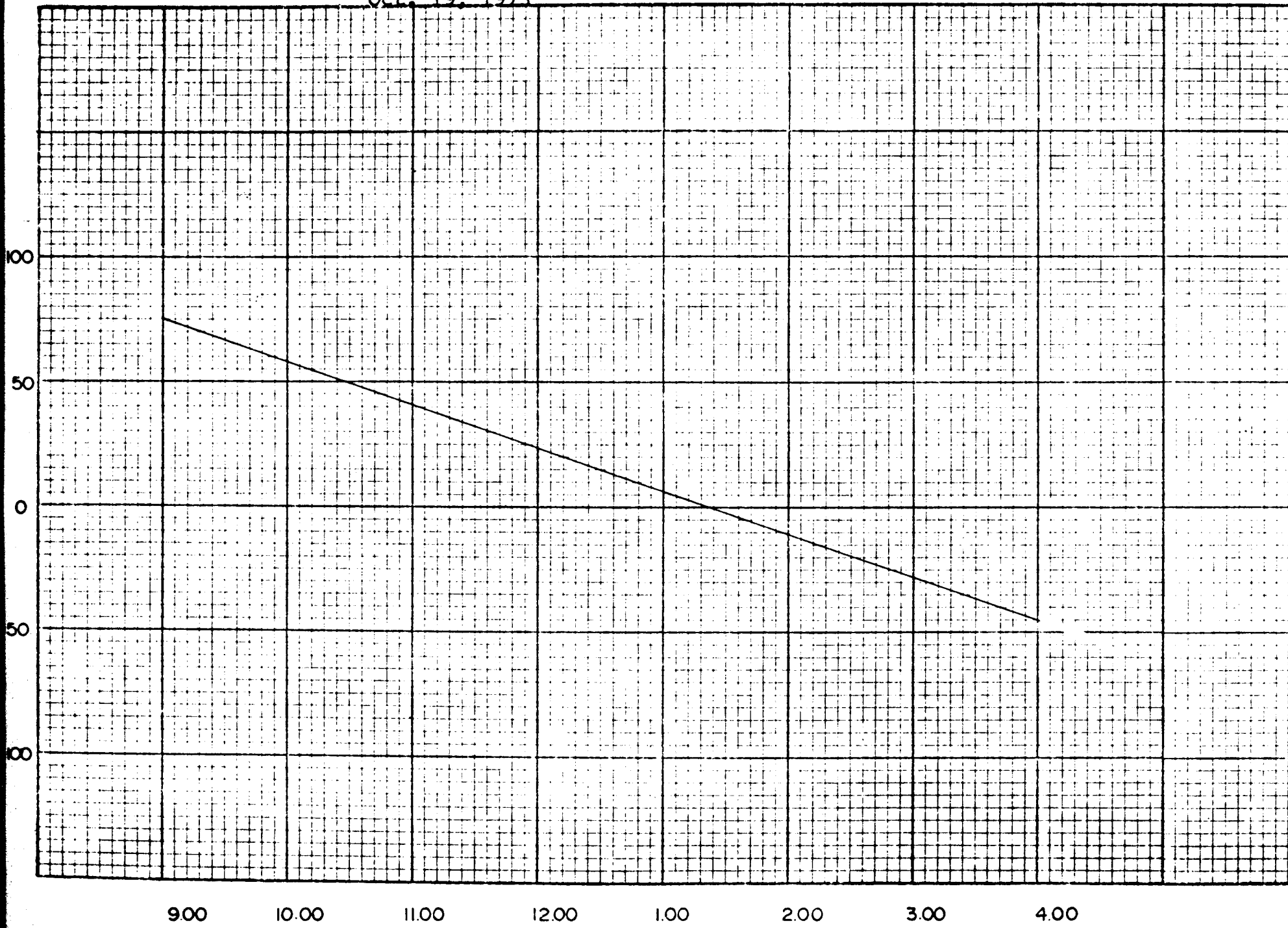
Oct. 18, 1973.



DIURNAL VARIATIONS (Gammas)

2nd day

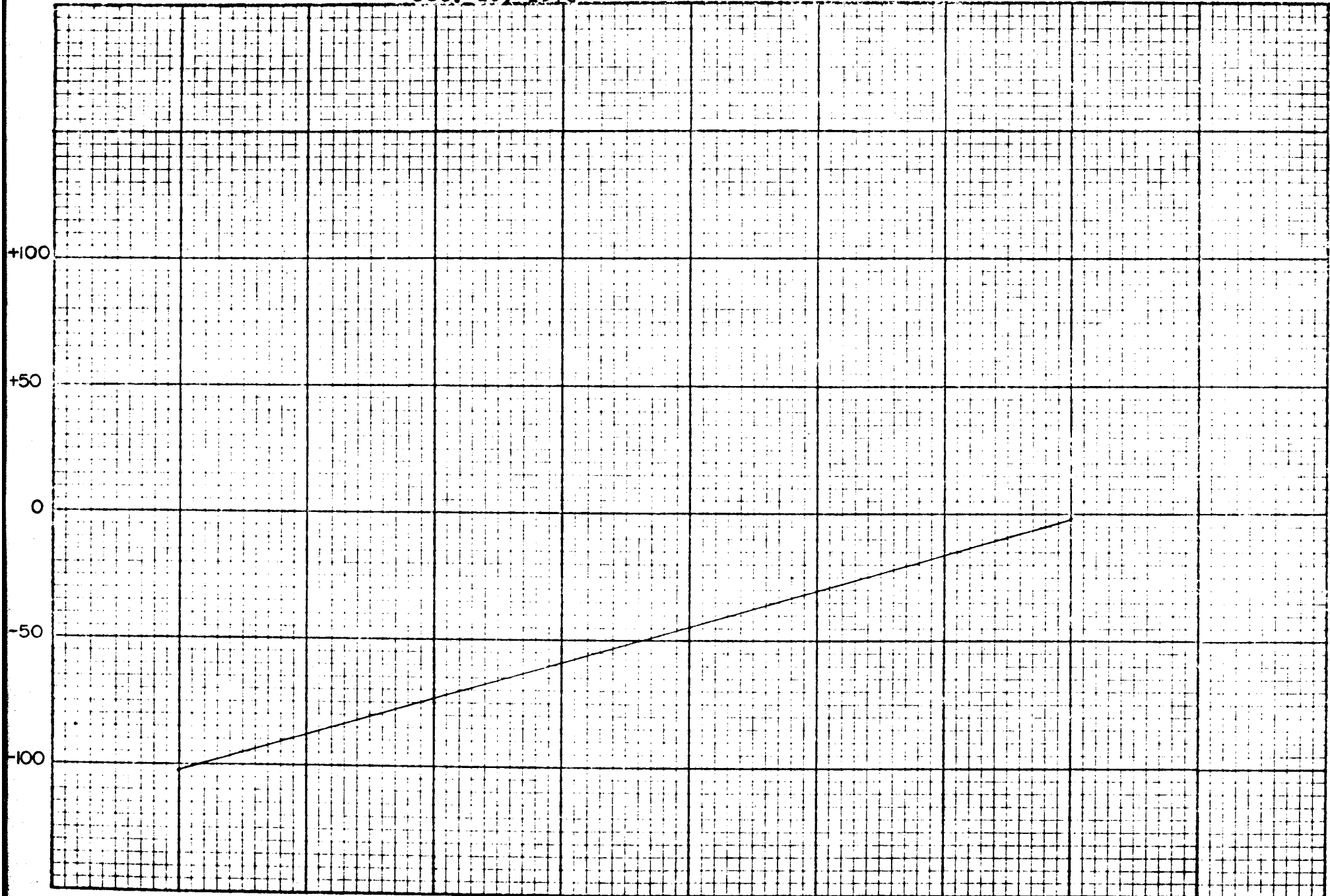
Oct. 19, 1973



DIURNAL VARIATIONS (Gammas)

3rd day

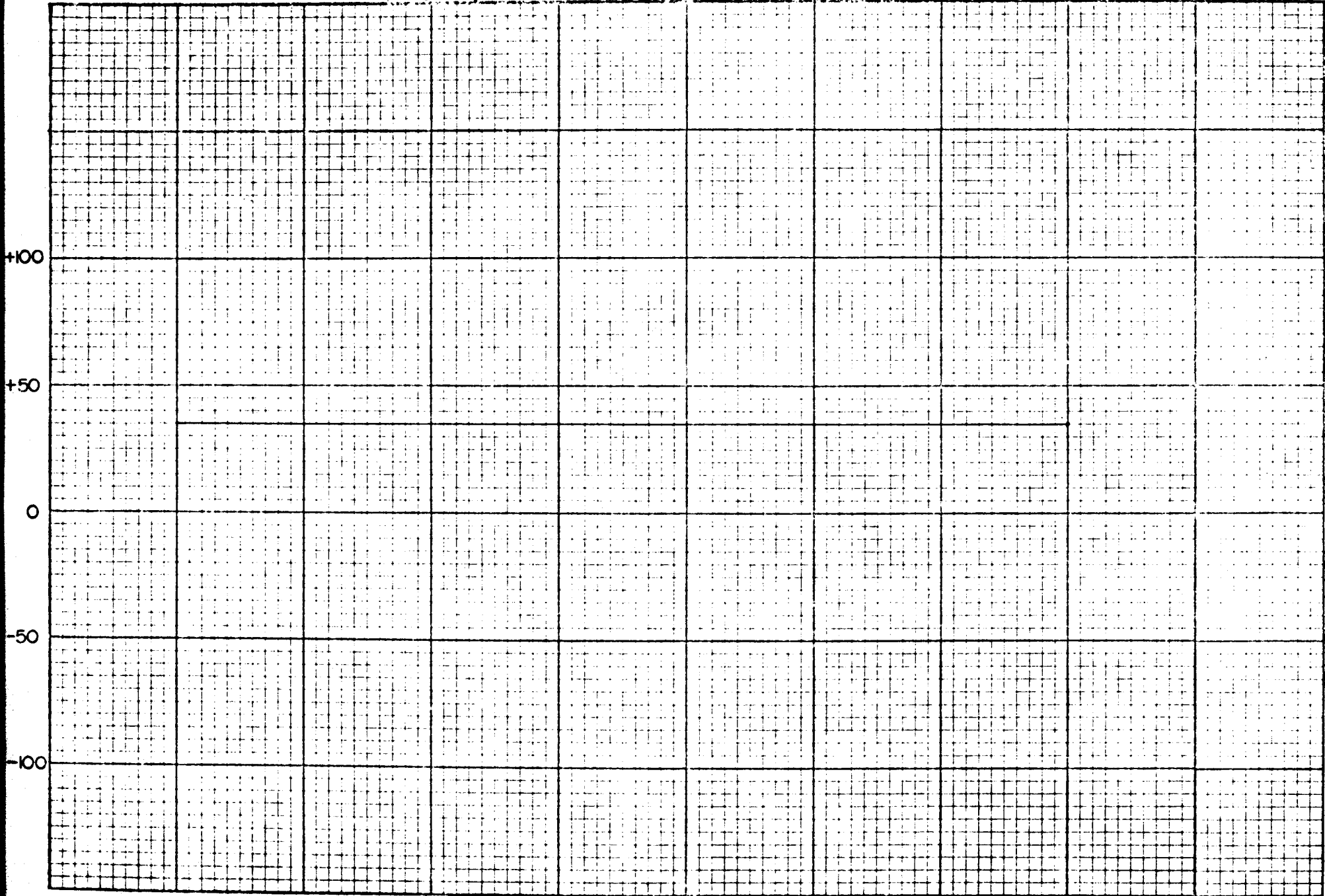
Oct. 20, 1973



DIURNAL VARIATIONS (Gamma rays)

4th day

Oct. 22, 1973



9.00

10.00

11.00

12.00

1.00

2.00

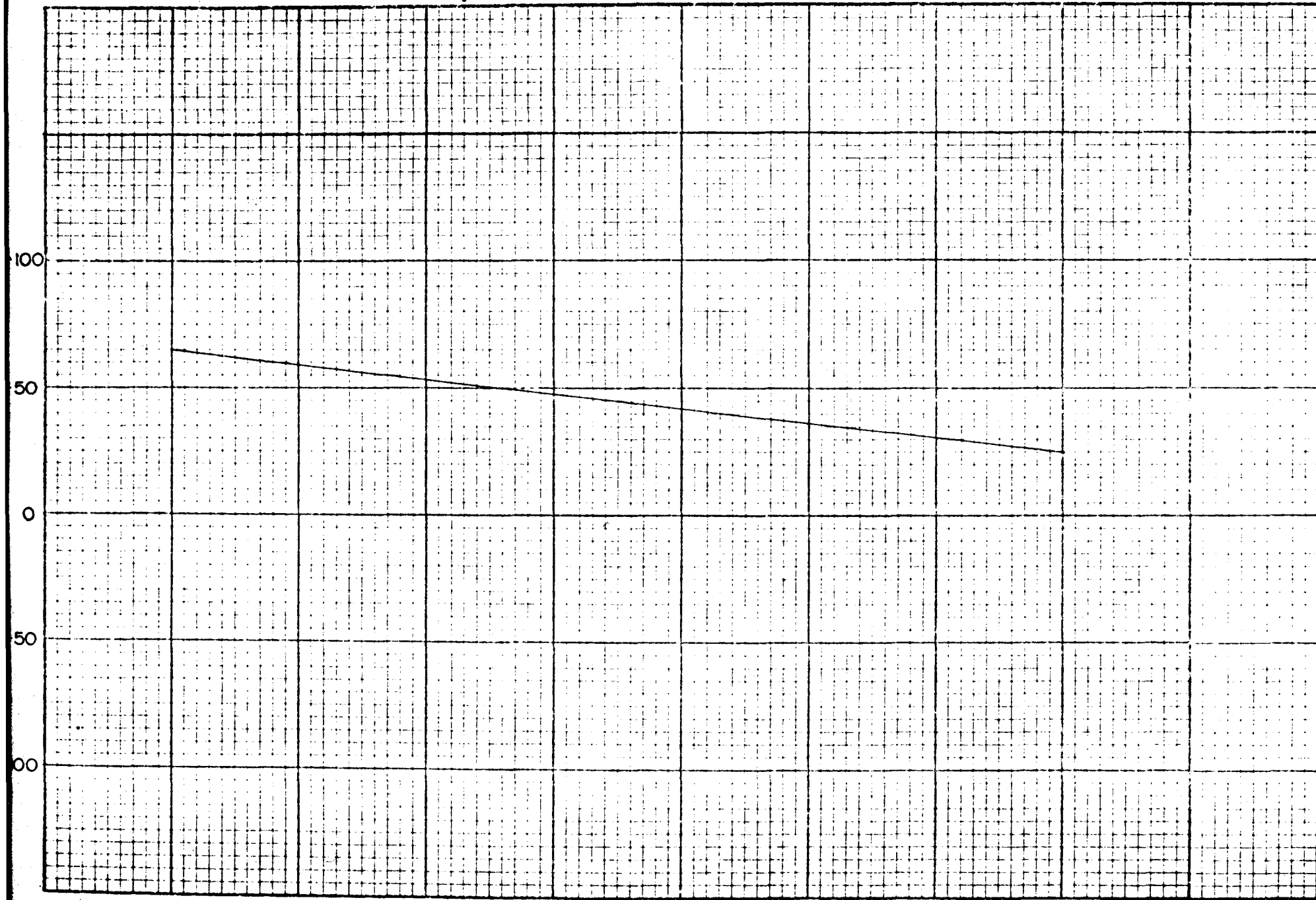
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4.00

DIURNAL VARIATIONS (Gamma)

5th day

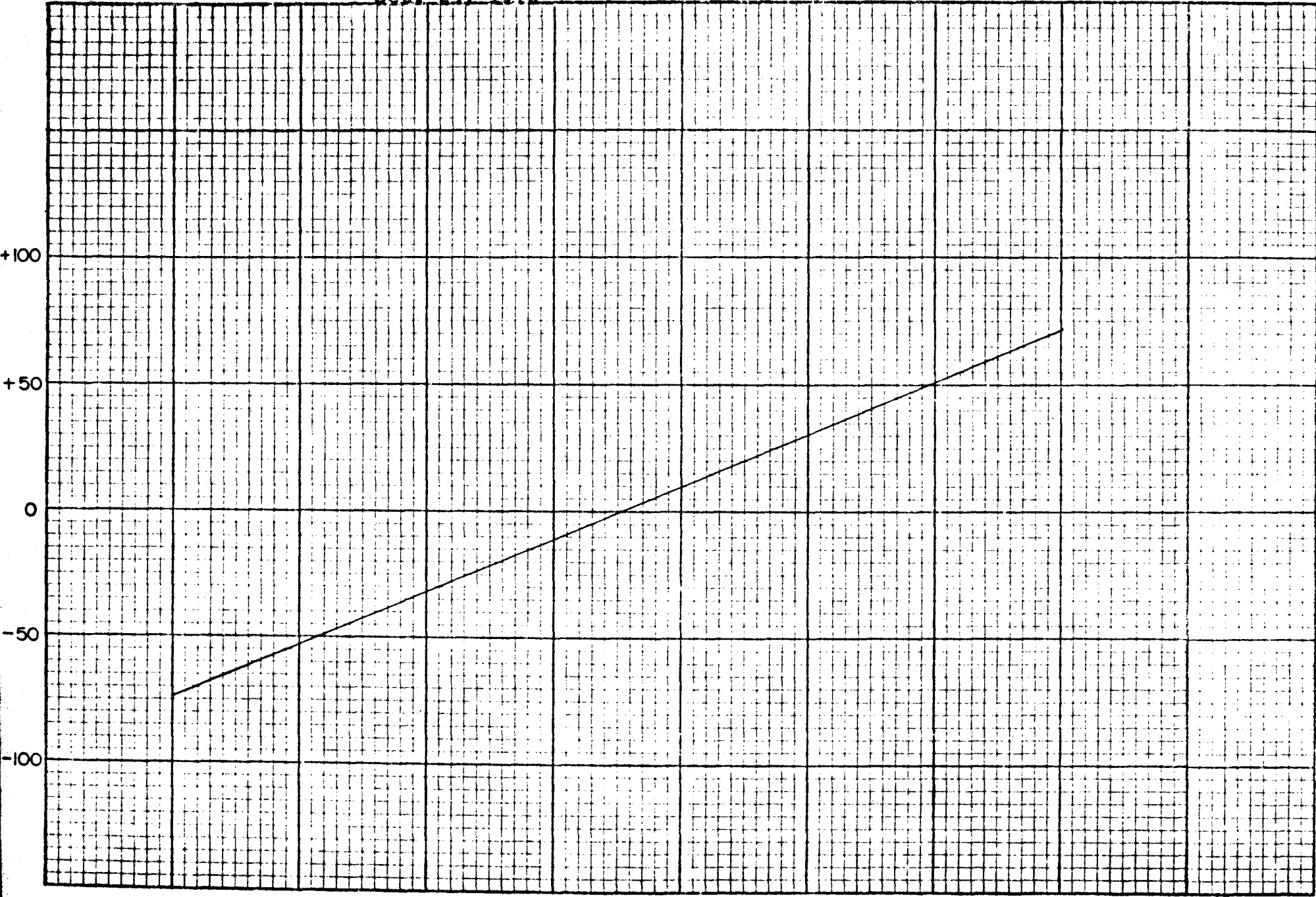
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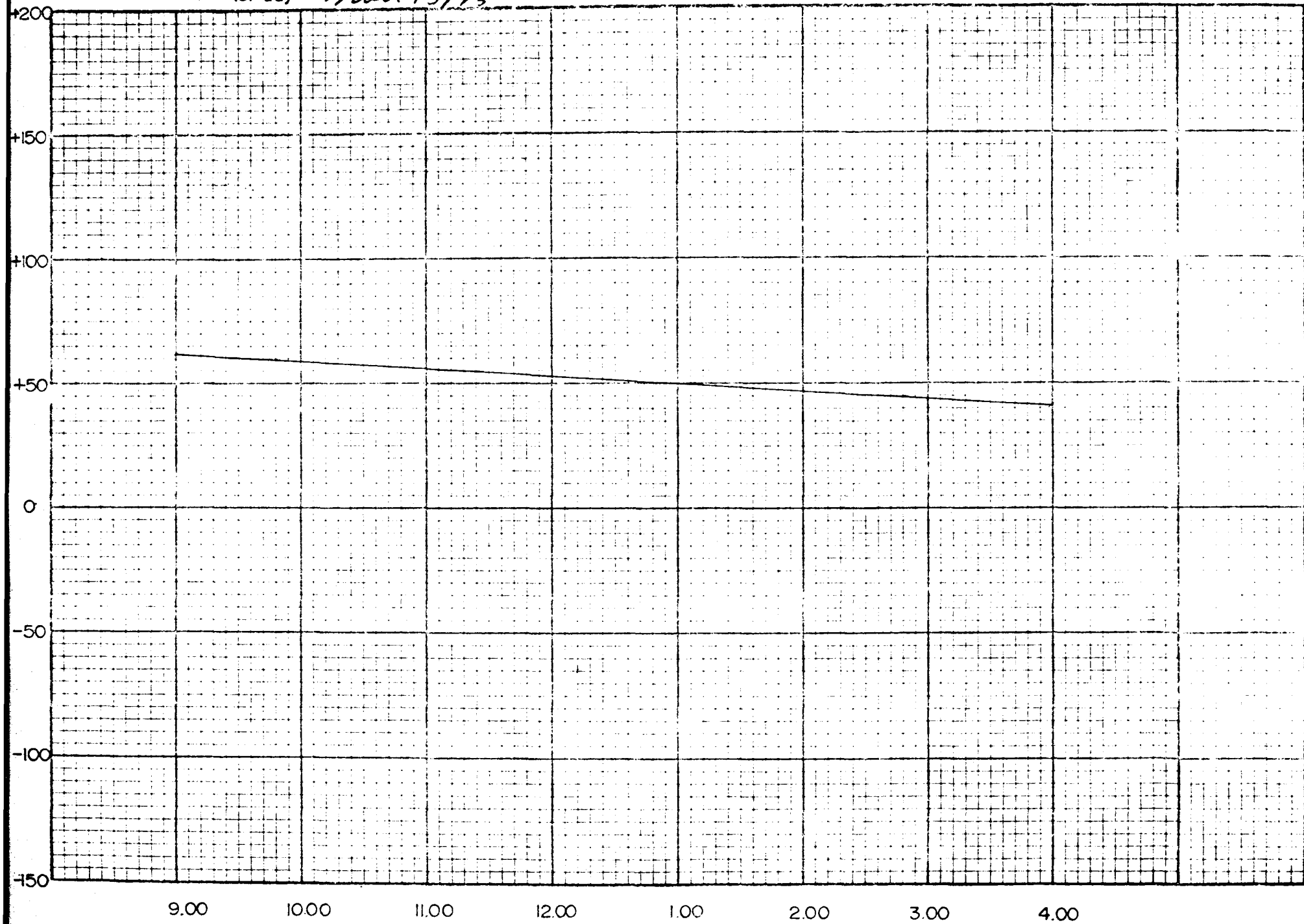
6th day

Oct. 24, 1973



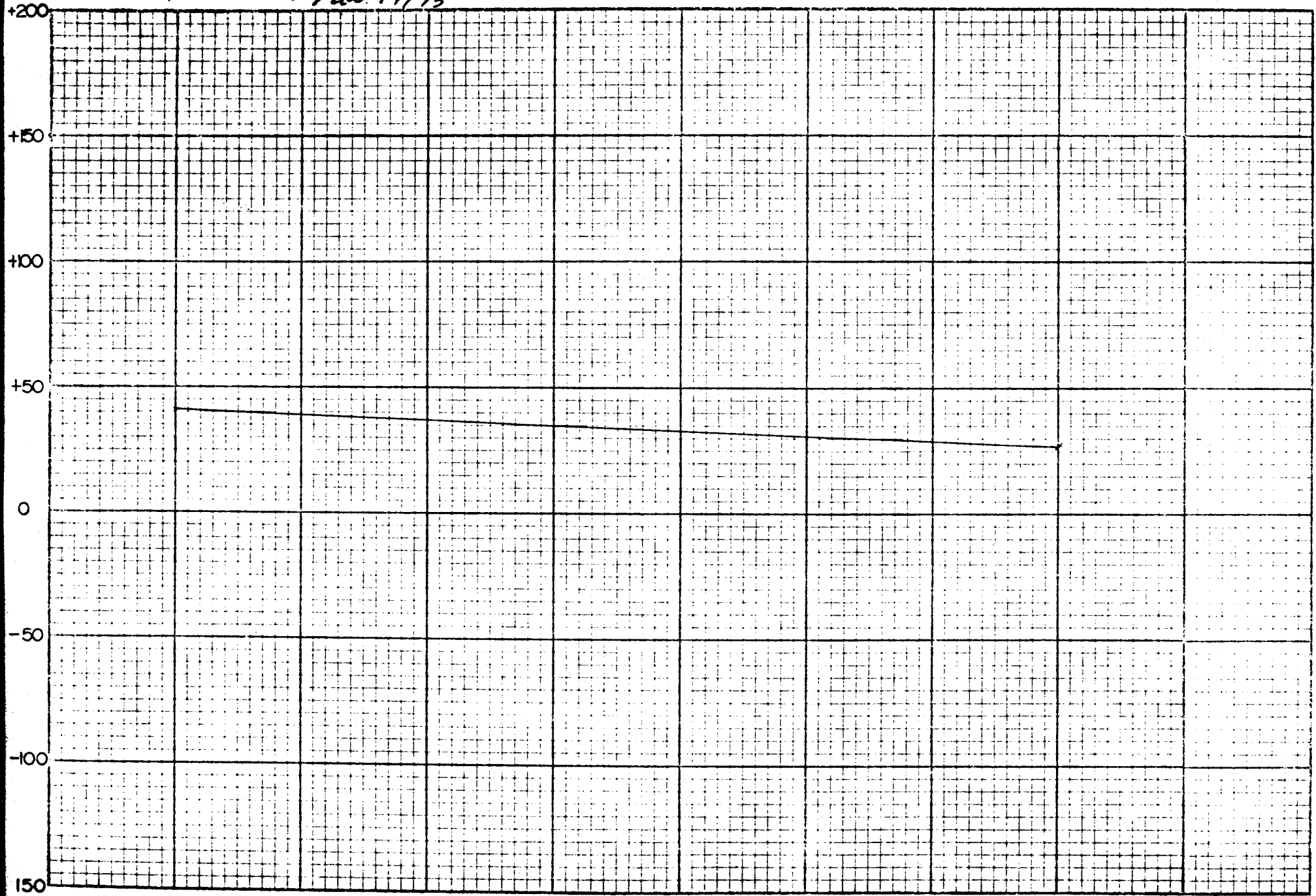
DIURNAL VARIATIONS (Gonimas)

1st day *Nov. 13/73*



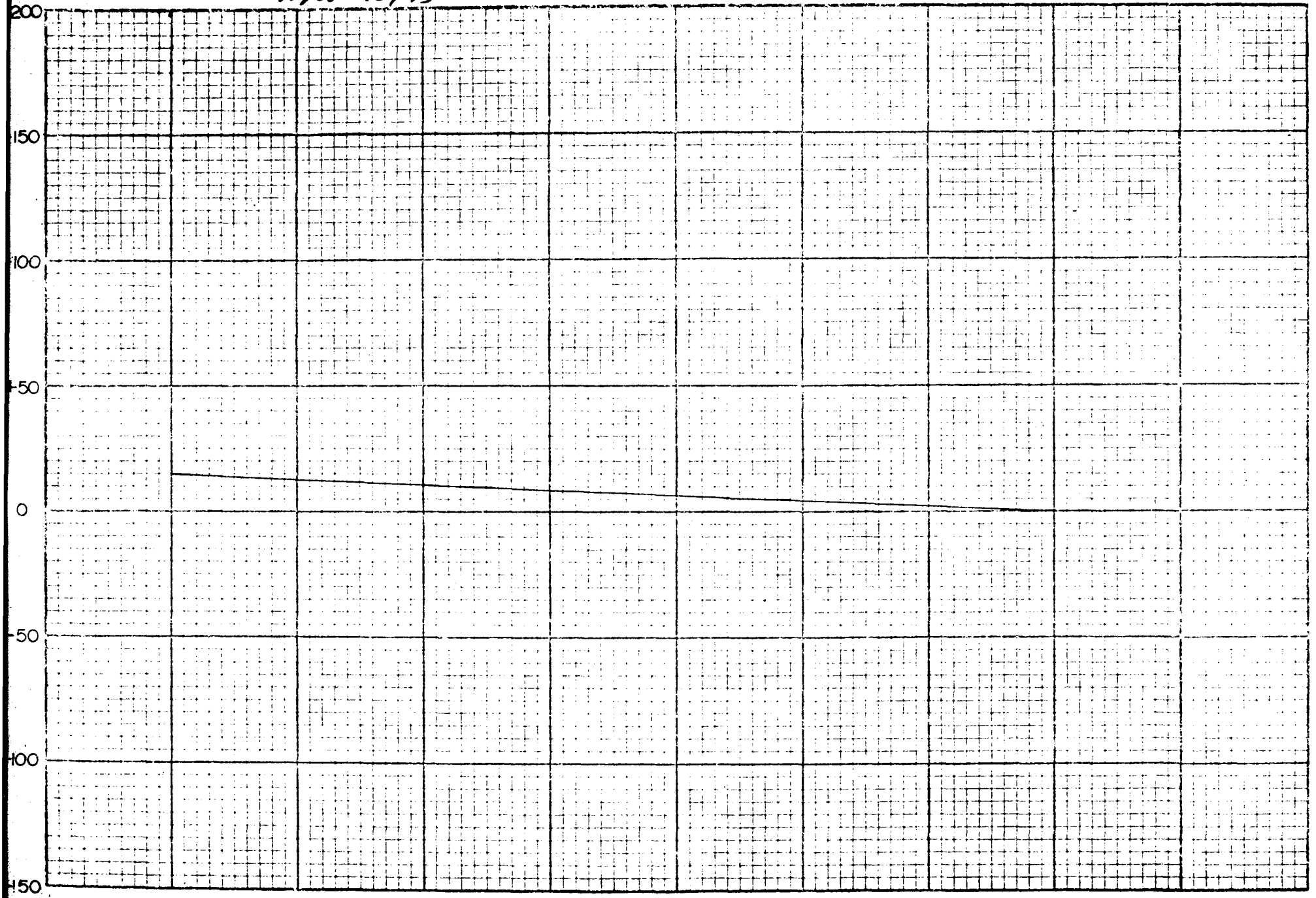
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2nd day Nov. 14/73



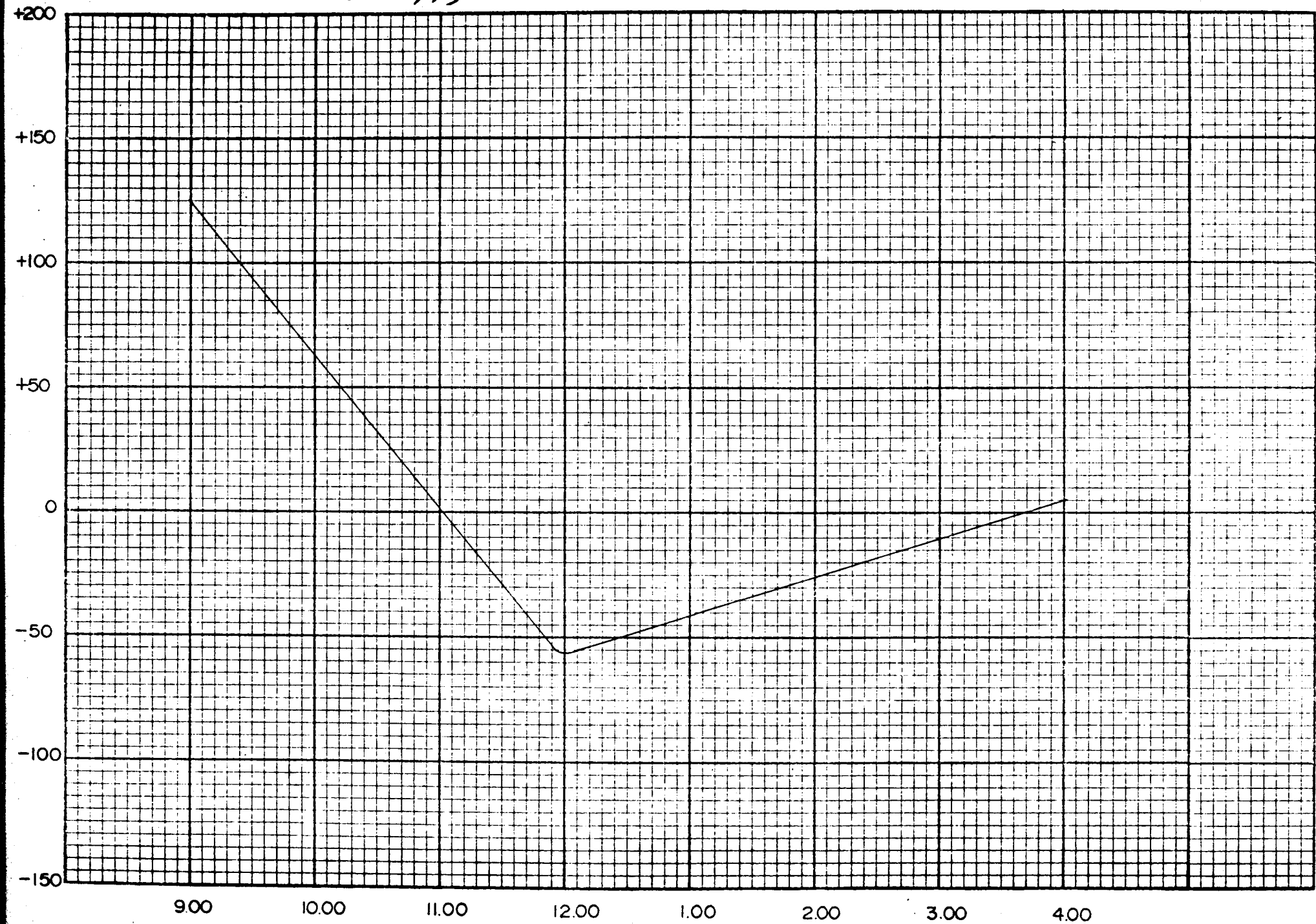
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3rd day Nov. 15/73



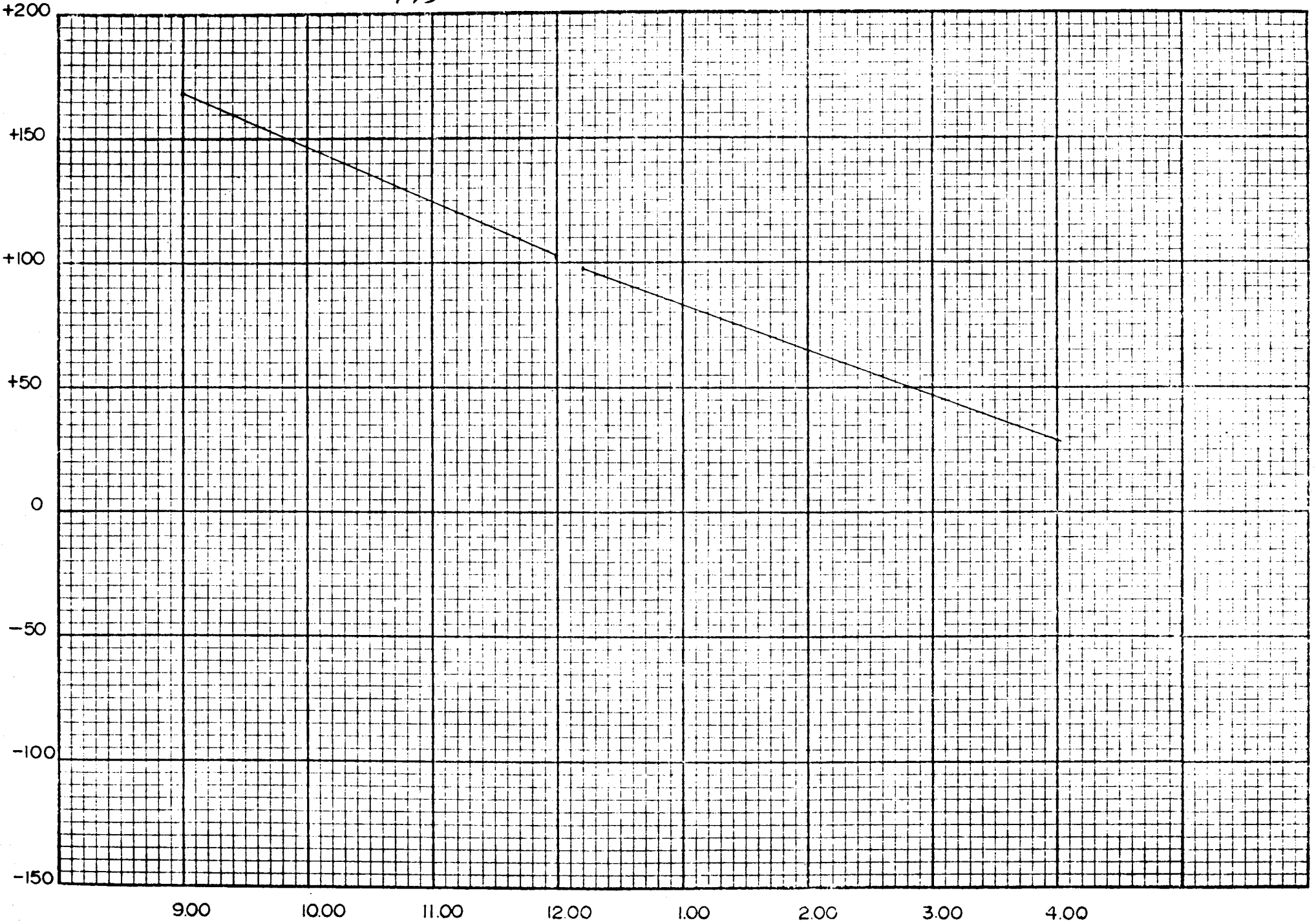
DIURNAL VARIATIONS. (Gammmas).

4th day Nov. 16/73



DIURNAL VARIATIONS. (Gammae)

5th day Nov. 17/73



DIURNAL VARIATIONS (Gammas)