

DRILLING LOG

HOLE NO. MBP-3

(5)

LOCATION : Palmeiropolis area
 DIRECTION : 285°
 FINAL DEPTH: 300.10 m

COORDINATES: E792.73 , N8550.82
 INCLINATION: -60°

DEPTH (m)	COLUMN	PRINCIPAL CONSTITUENTS							ACCESSORY MINERALS				ROCK NAME	ORE MINERALS				REMARKS
		quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	chlorite	garnet	staurolite	calcite	graphite		pyrrhotite	pyrite	chalcopyrite	magnetite	
162.50	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
170	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
180	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
190	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
	R	⊙			⊙	⊙						⊙						
200	R	⊙			⊙	⊙						⊙						

gnt - str - mv - br - qtz schist

x 165.00m ⊕
 165.00 ~ 165.05m ⊙

↑ 184.50 ~ 185.50m ⊕
 ↓ 185.50 ~ 185.55m ⊙

DRILLING LOG

HOLE NO. MBP- 3 (6)

LOCATION : Palmeiropolis area
 DIRECTION : 285°
 FINAL DEPTH: 300.10m

COORDINATES E792.73 , N8550.82
 INCLINATION: -60°

DEPTH(m)	COLUMN	PRINCIPAL CONSTITUENTS							ACCESSORY MINERALS				ROCK NAME				REMARKS
		quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	chlorite	garnet	staurolite	calcite	graphite	pyrrhotite	pyrite	chalcopyrite	magnetite	
210	~ / ~	○			○	○		○	○				·	·			
220	~ / ~	○	·		○	○		·	○	○		·	·	·			
225.50	~ / ~	○	○		○	○		·	○	○		·	·	·			
230	~ / ~	○	·		○	○		○	○			·	·	·			
240	~ / ~	○	·		○	○		·	○	○		·	·	·			
gnt - str - mv - bt - qtz schist																	
chi - bt - qtz schist																	
x 217.00m (P)																	
↕ 221.50~222.50m (O)																	
x 225.35m (P)																	
x 230.10~230.15m (S)																	

DRILLING LOG

HOLE NO. MBP-3

(7)

LOCATION : Palmeiropolis area

COORDINATES: E792.73 , N8550.82

DIRECTION : 285°

INCLINATION: -60°

FINAL DEPTH: 300.10 m

DEPTH(m)	COLUMN	PRINCIPAL CONSTITUENTS							ACCESSORY MINERALS				ORE MINERALS				REMARKS		
		quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	chlorite	garnet	staurolite	calcite	graphite	pyrrhotite	pyrite	chalcopyrite	magnetite			
		○	●	○	○	○	○	○	○	○	○	○	○	○	○	○			
250	~ / ~	○	●		○			○	○	○									
251.00	~ / ~	○	○		○			○	○	○									
260	V / V	○	○		○			○	○	○									
264.50	V / V	○	○		○			○	○	○									
270	~ / ~	○	○		○			○	○	○									
280	~ / ~	○	○		○			○	○	○									

DRILLING LOG

HOLE NO. MBP-3

(8)

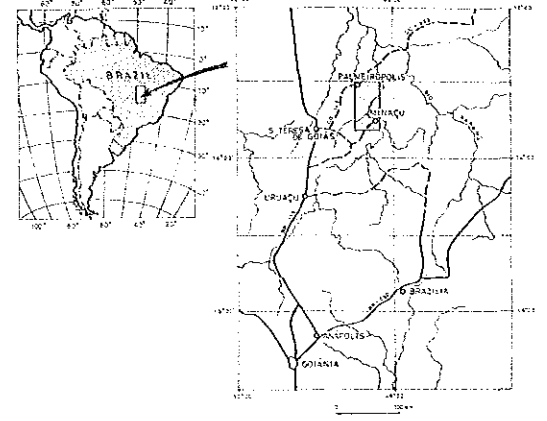
LOCATION : Palmeiropolis area
 DIRECTION : 285°
 FINAL DEPTH: 300.10 m

COORDINATES: E792.73 , N8550.82
 INCLINATION: -60°

DEPTH(m)	COLUMN	PRINCIPAL CONSTITUENTS							ACCESSORY MINERALS				ORE MINERALS				REMARKS
		quartz	plagioclase	K-feldspar	biotite	muscovite	amphibole	chlorite	garnet	staurolite	calcite	graphite	pyrrhotite	pyrite	chalcocopyrite	magnetite	
		ROCK NAME	pyrrhotite	pyrite	chalcocopyrite	magnetite											
284.00	V V V V V V V V V V	○	.		○	.	○	○				.				x 280.95m ①	
286.50	~ ~ ~ ~ ~ ~ ~ ~ ~ ~	○	○		○	○							
290	V V V V V V V V V V	○	○		○		x 290.00~290.05m ⑤	
295.00	V V V V V V V V V V	○	.		○			
300	~ ~ ~ ~ ~ ~ ~ ~ ~ ~	○	.		○	.		.	.	○				.			
300.10																	

GEOLOGICAL SURVEY
IN
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PHASE II

Location Map of the Soil Samples

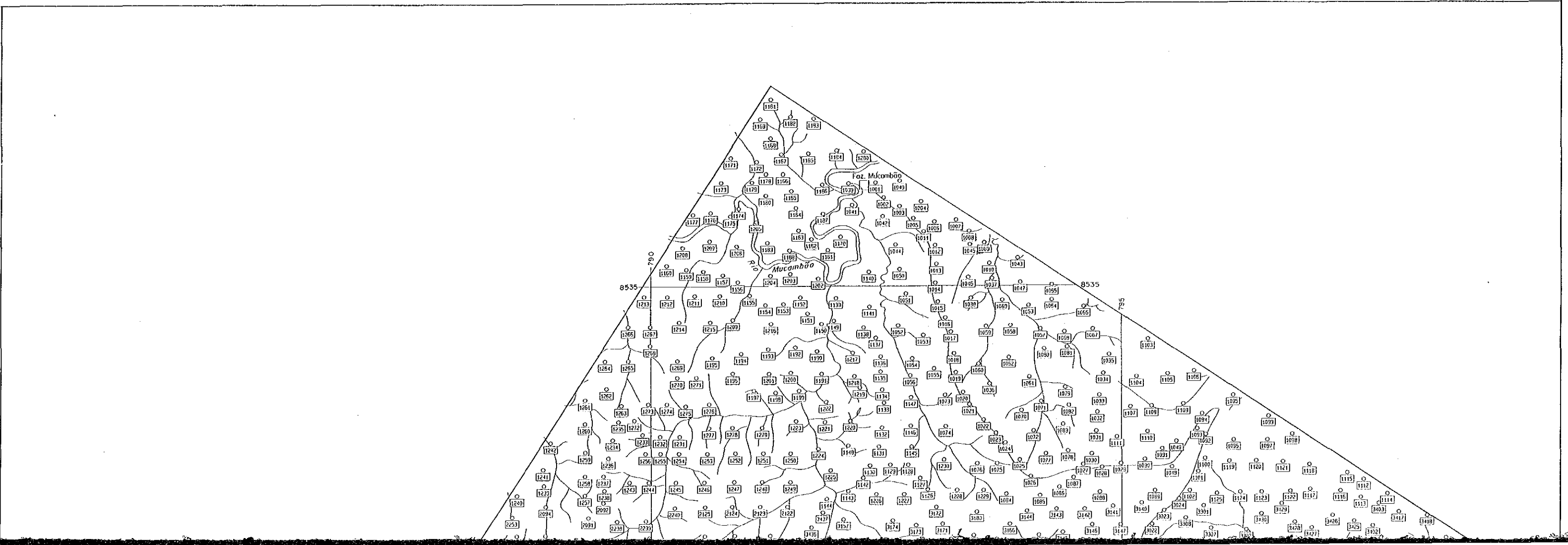


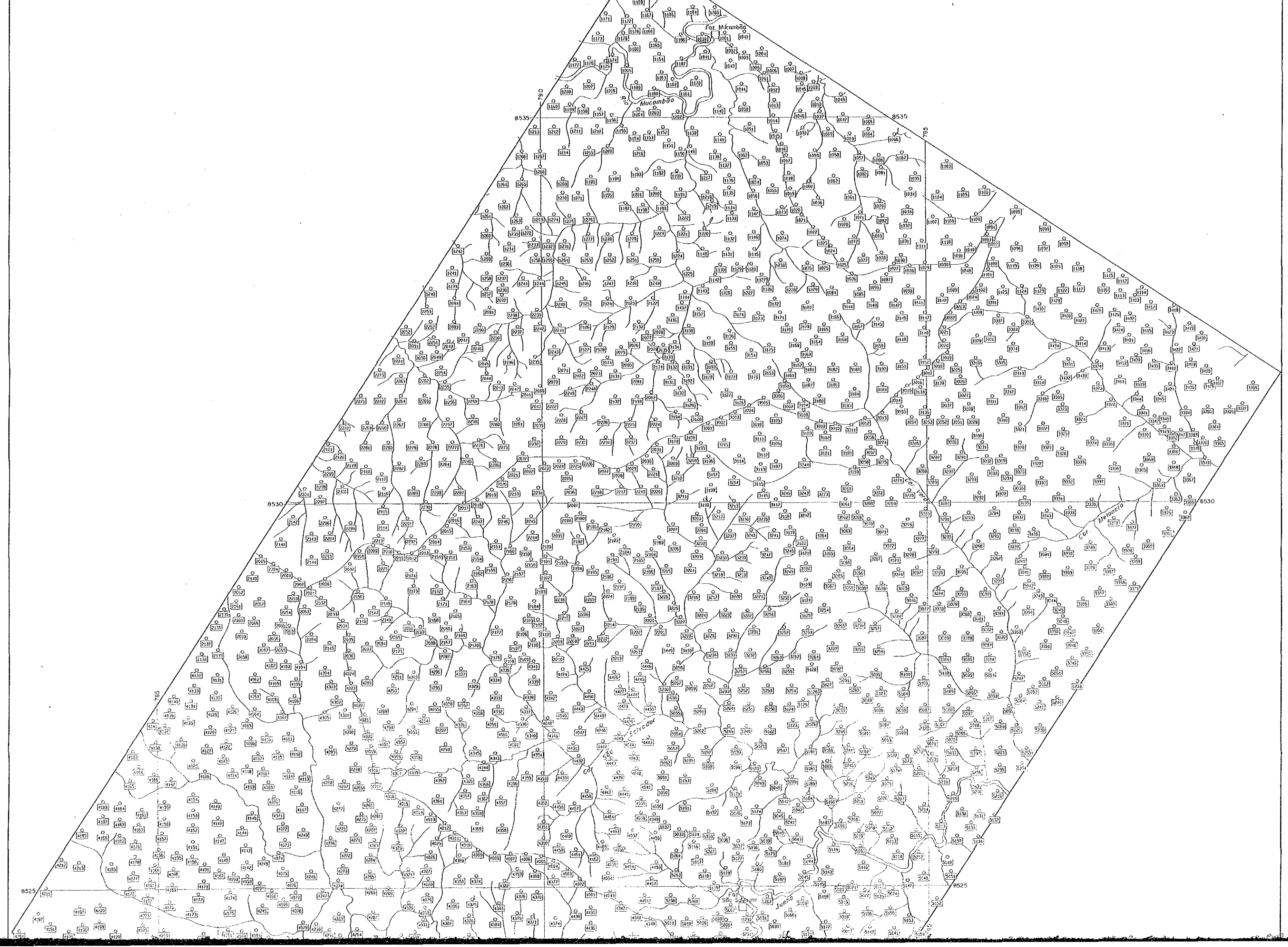
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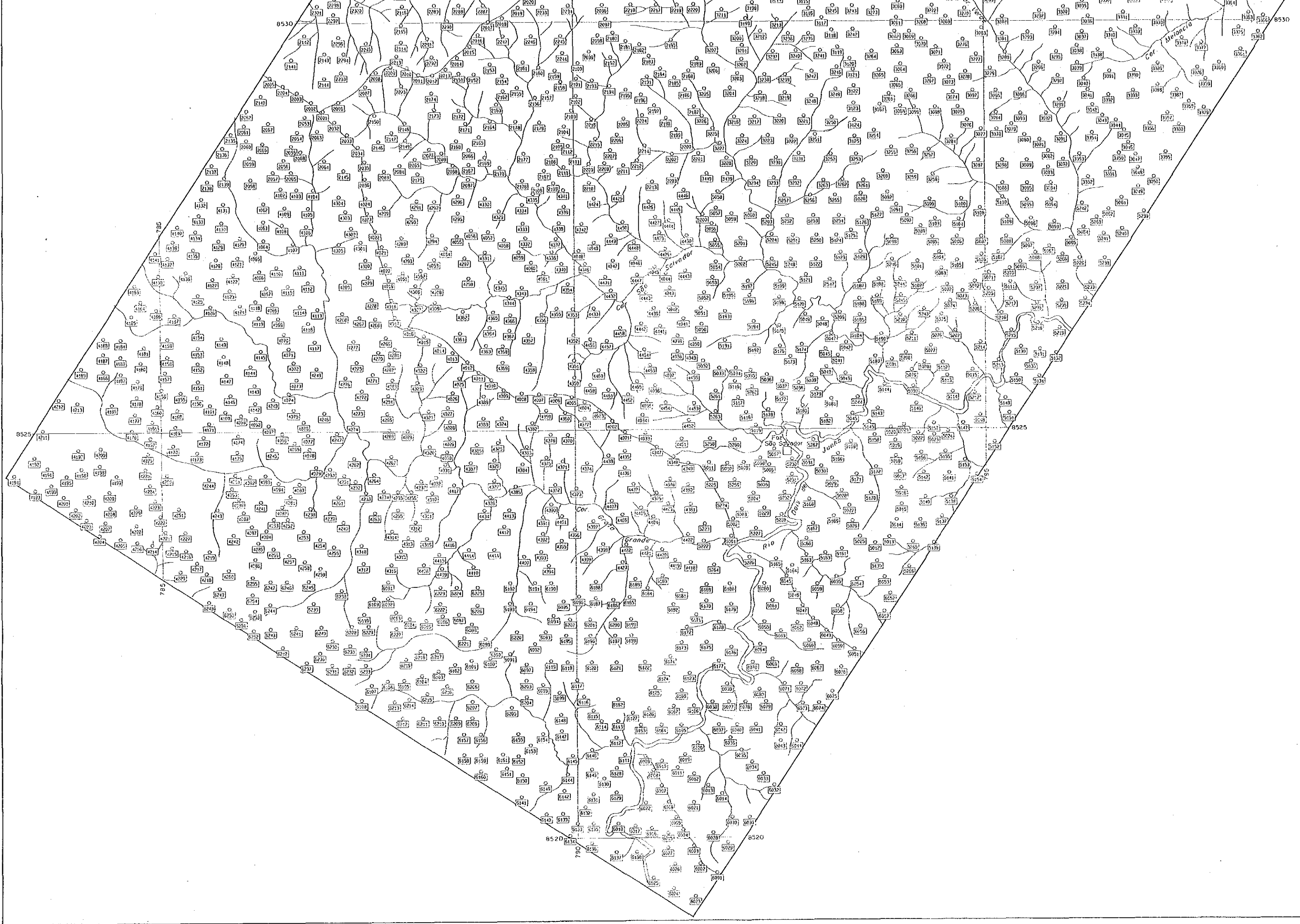
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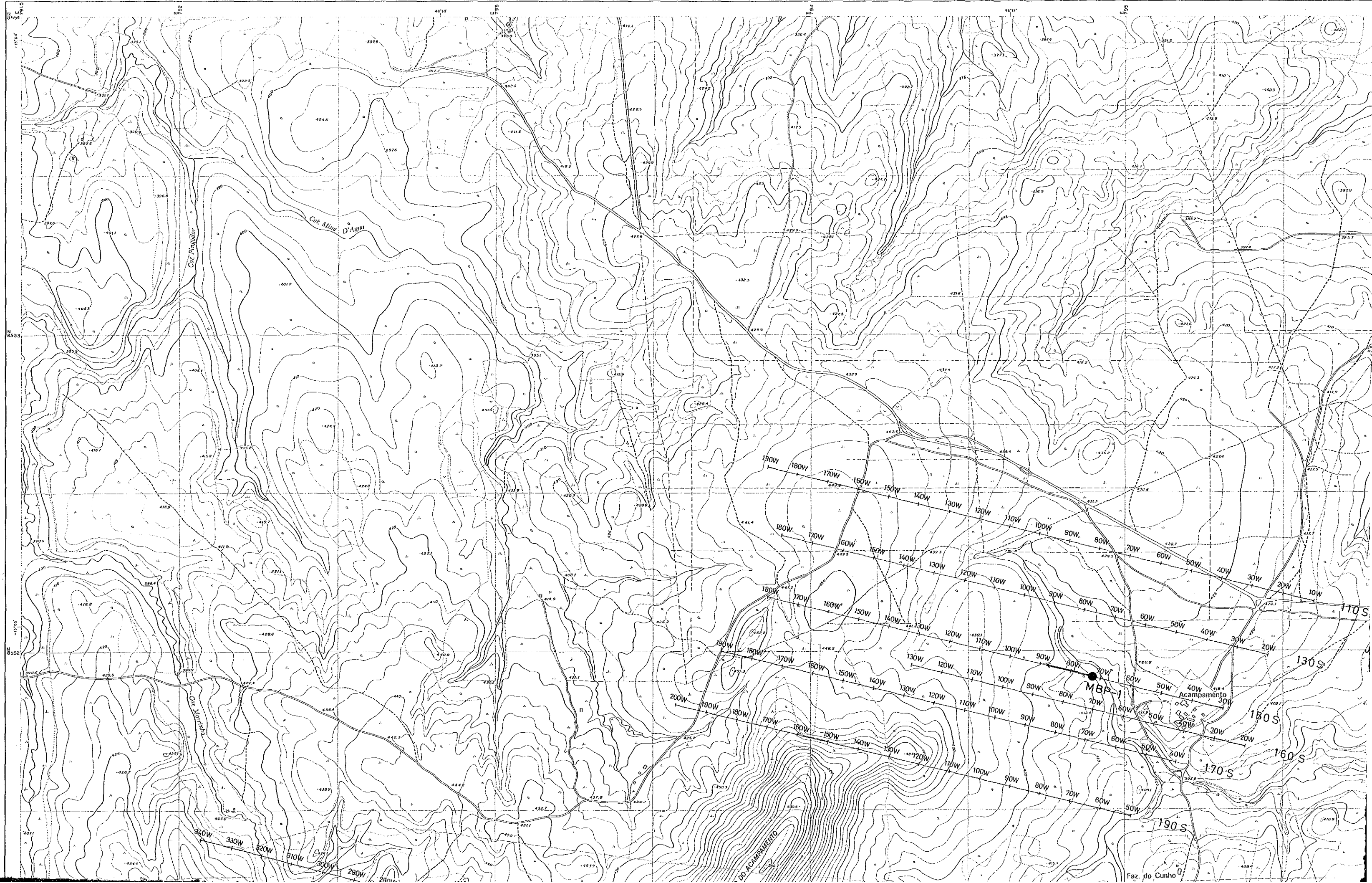
LEGEND
○ 1001 Sampling point and sample number



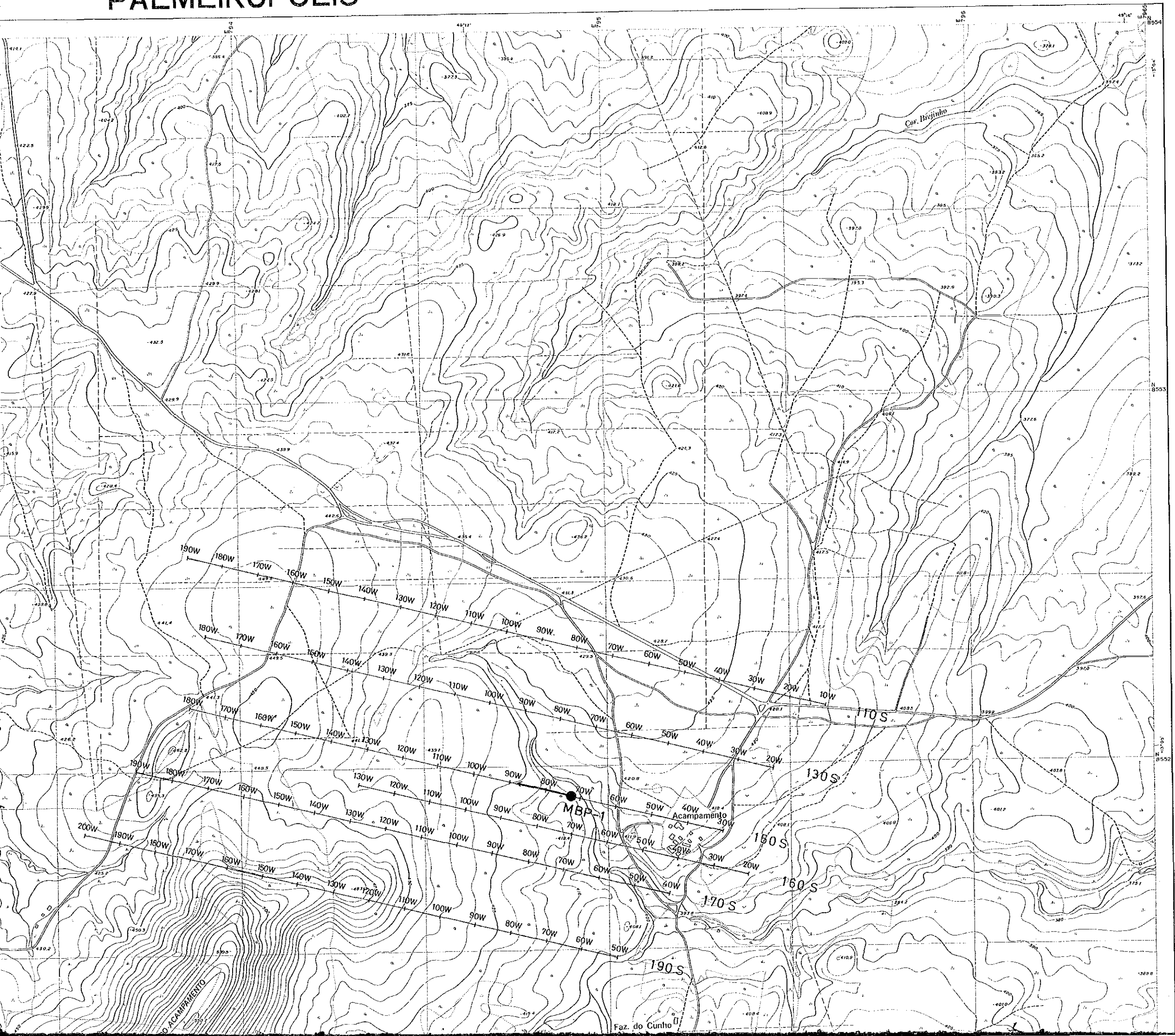




PALMEIRÓPOLIS



PALMEIRÓPOLIS



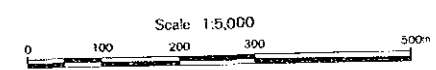
PL.II-1-2

GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

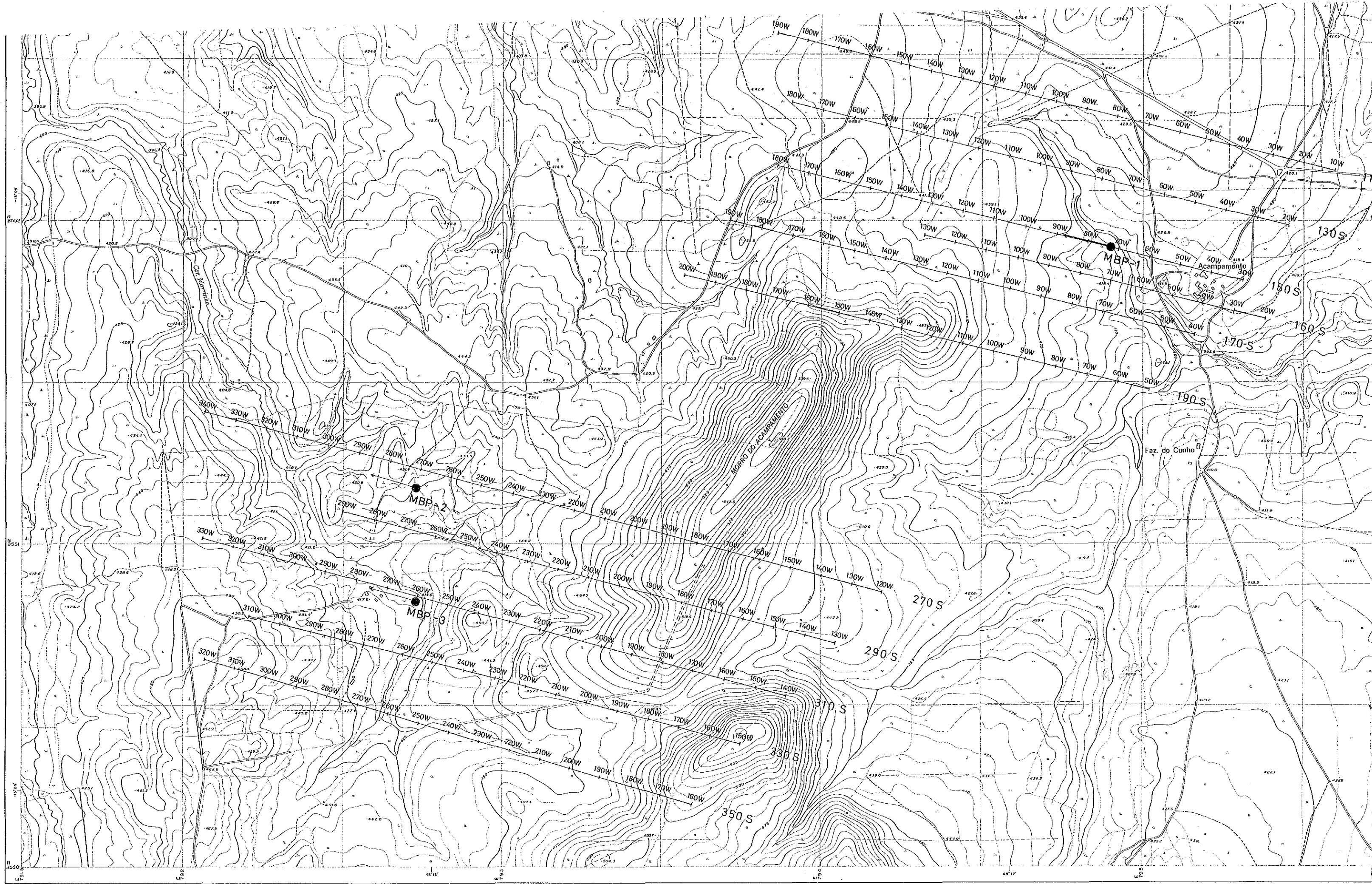
Location Map of SIP Survey

The location map consists of two parts. The left part shows a map of South America with Brazil highlighted. The right part shows a more detailed map of the state of Rio de Janeiro, with the study area in the northwestern part of the state highlighted. Major cities like Curitiba, São Paulo, and Brasília are also marked.

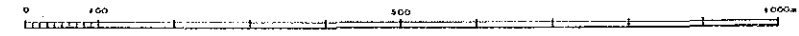
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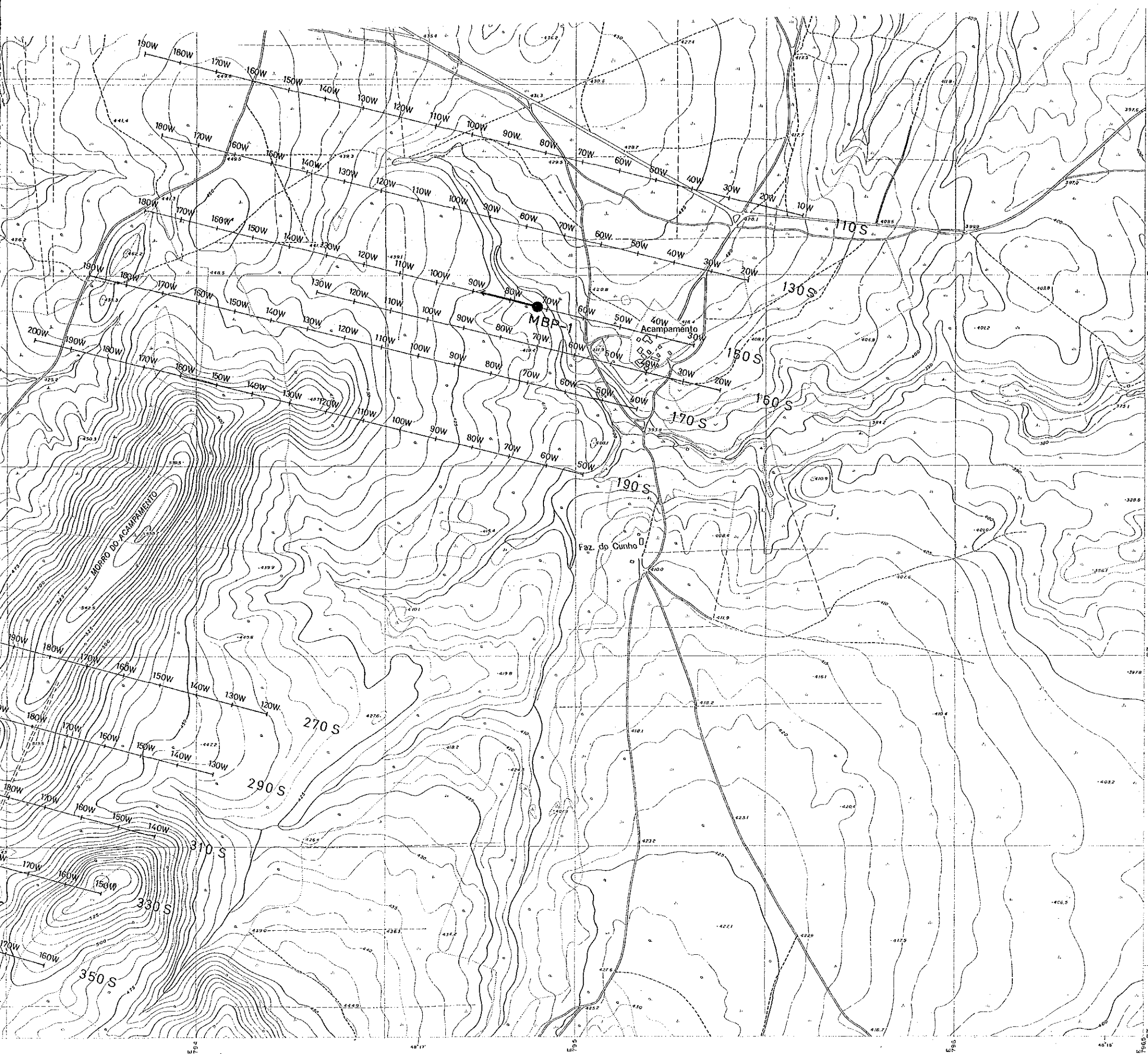


- LEGEND
- SIP LINE
 - DRILLING POINT



1:5,000

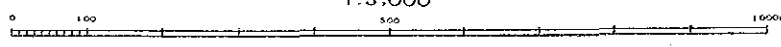




LEGEND

- SIP LINE
- ← ● DRILLING POINT

1:5,000

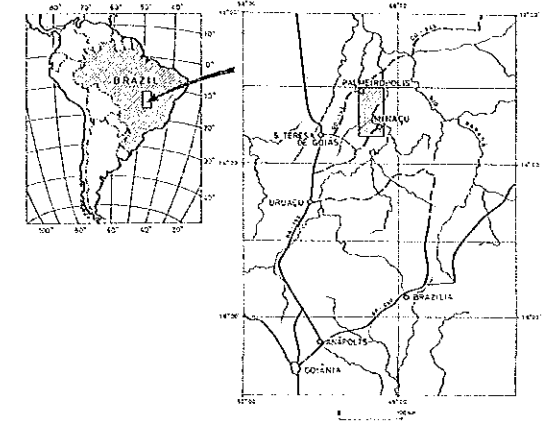


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GEOLOGICAL SURVEY
IN
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PHASE II

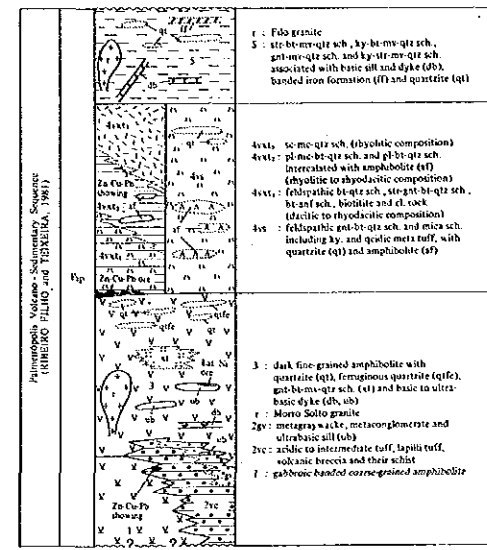
PL. II-2-1

Geological Map of the Rio Dois de Junho Area

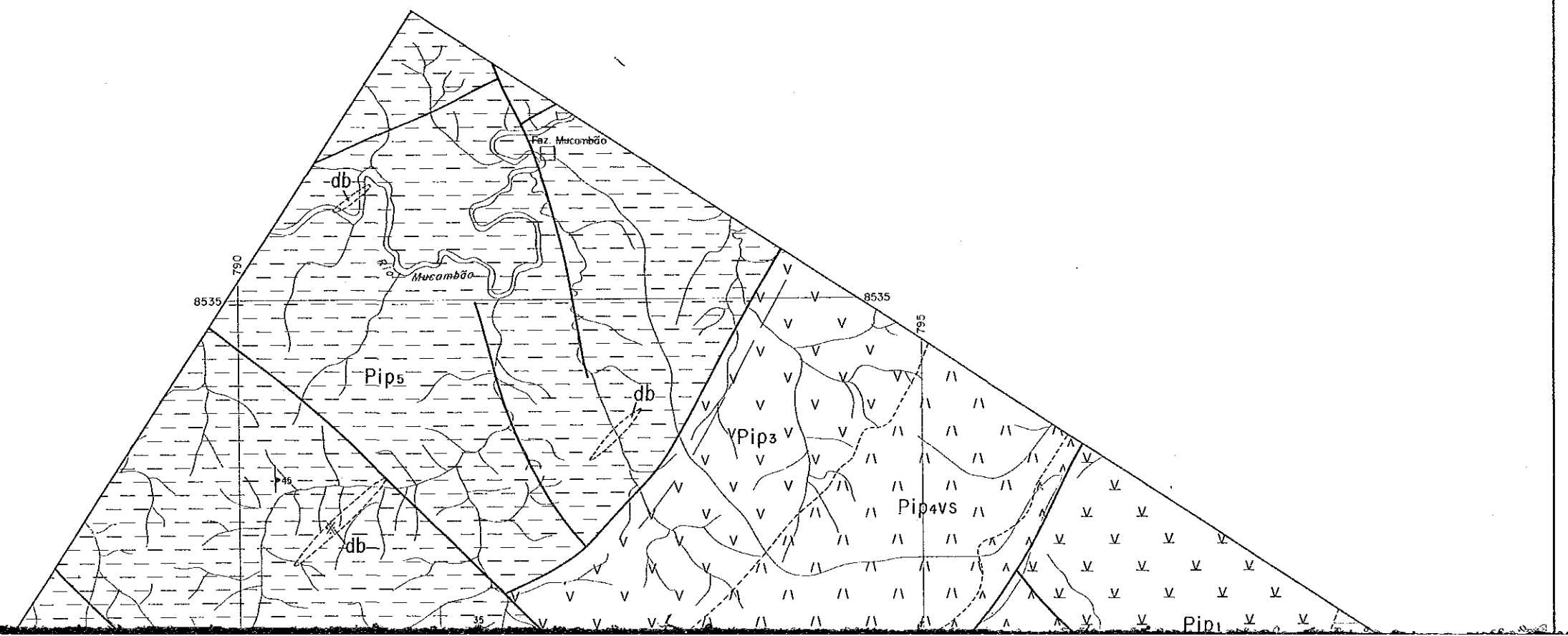


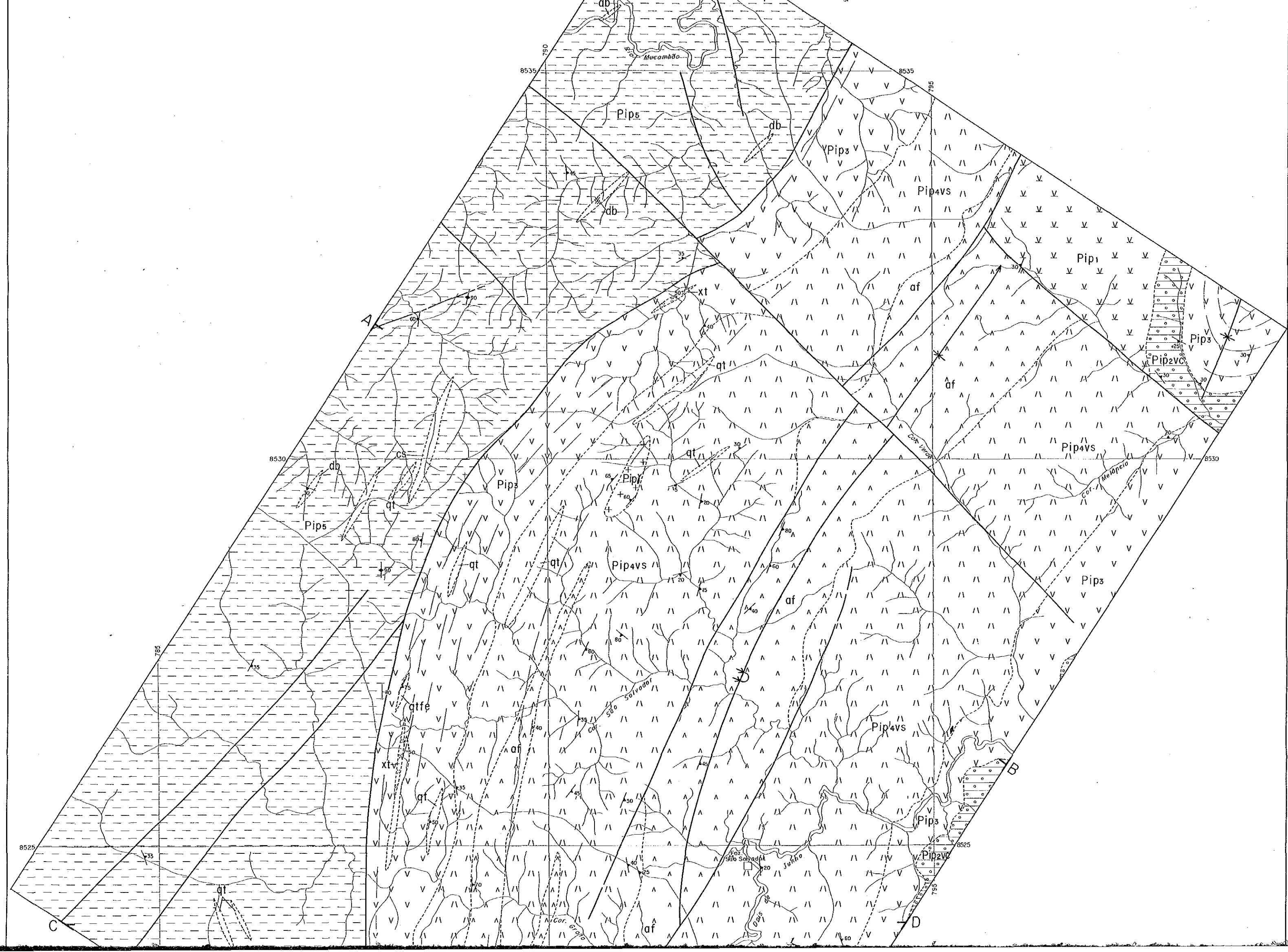
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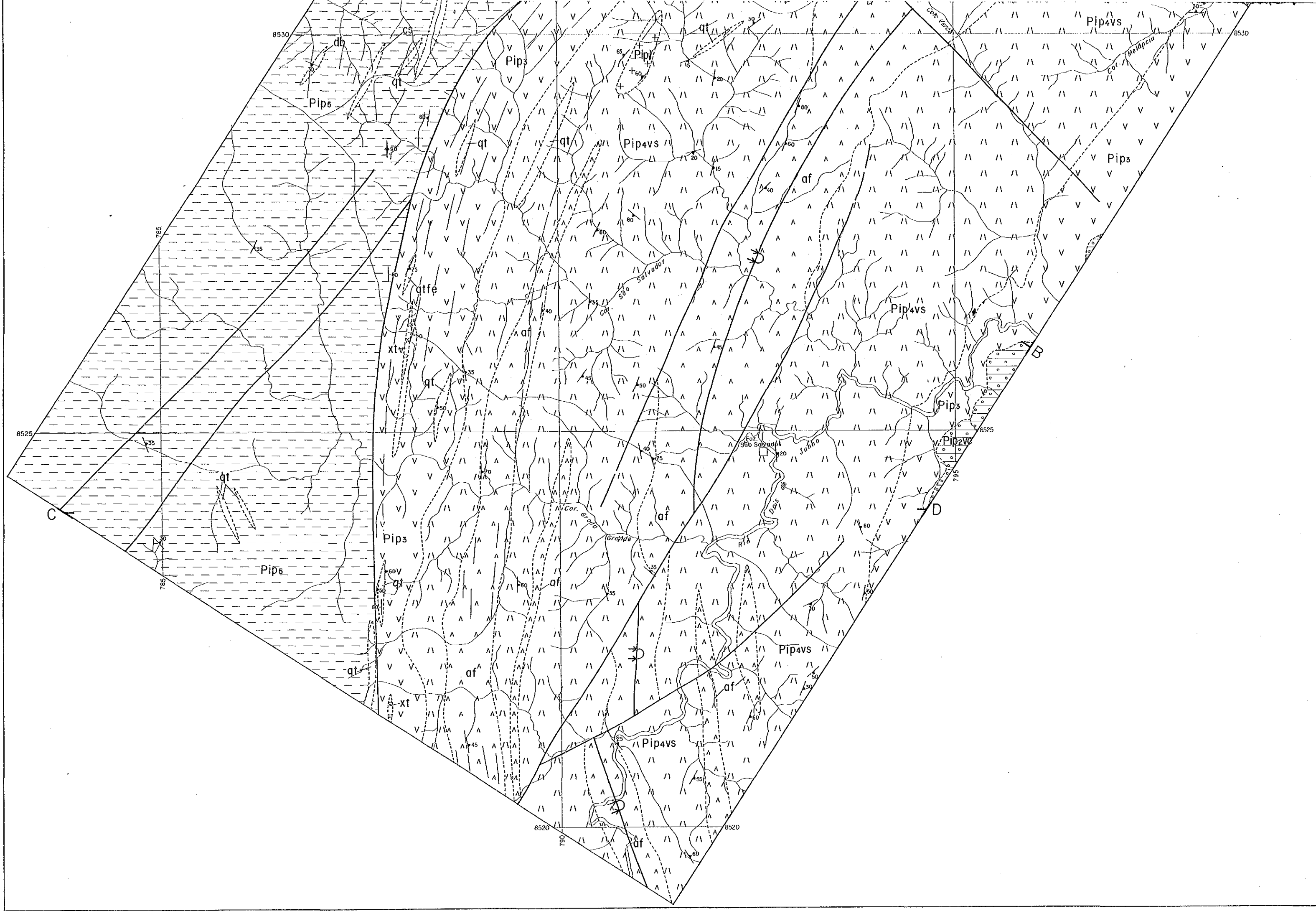
Scale 1:20,000

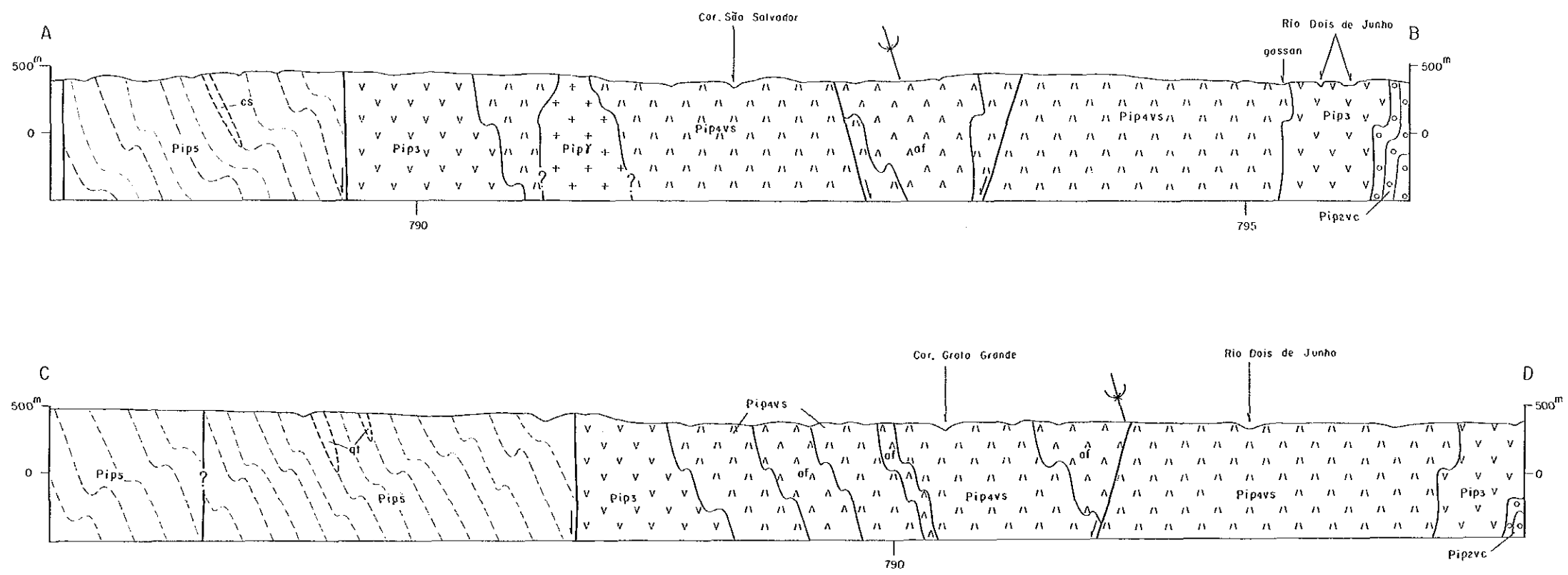


- Geological boundary
- - - Fault
- ~ ~ ~ Synclinal axis
- ~ ~ ~ Anticlinal axis
- Bedding plane
- 30° Schistosity (S1)
- 45° Schistosity (S2)
- Lineation
- Lineament
- A—B Section Line
- ◆ Gosses
- ※ Sulphide dissemination



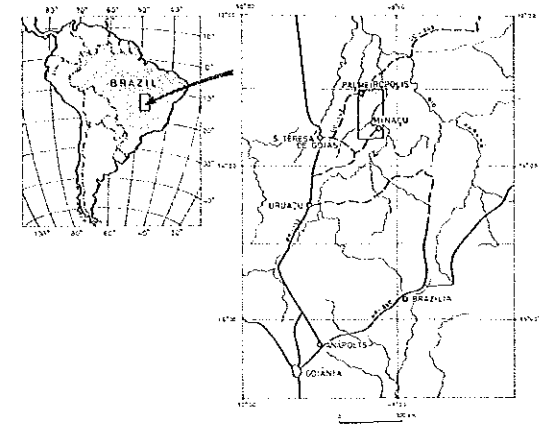






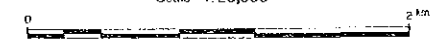
GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

Geological Profile of the Rio Dois de Junho Area



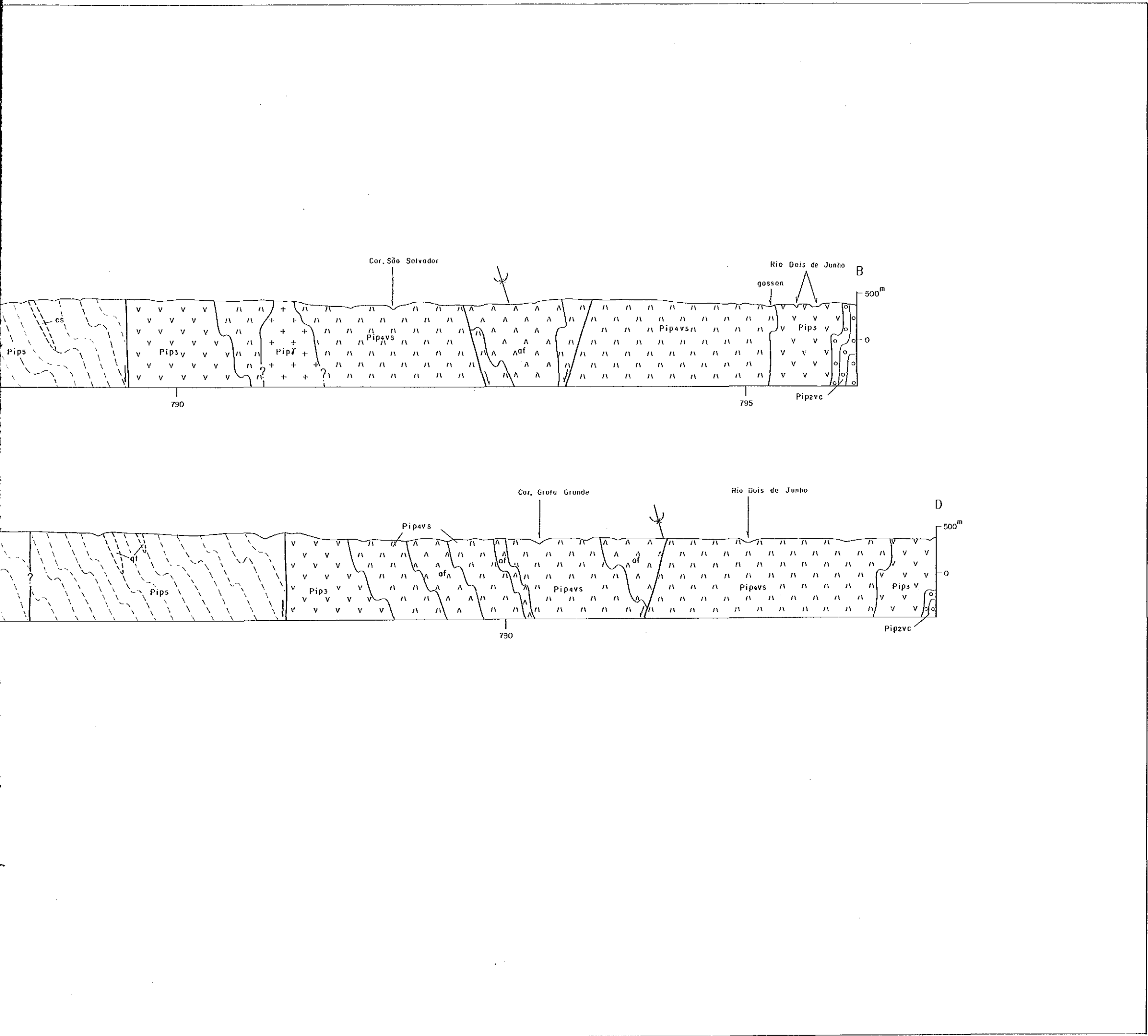
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Scale 1:20,000



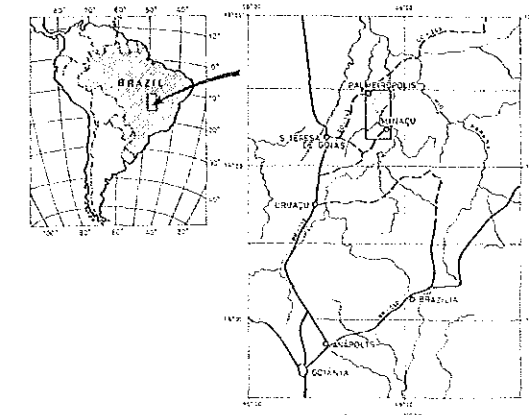
LEGEND

	F50 granite
	5: ste-bi-mv-qtz sch., ky-bi-mv-qtz sch., gnt-mv-qtz sch. and ky-ste-mv-qtz sch. associated with basic sill and dyke feldb. bar-and iron formation (ff) and quartzite (qt)
	4v1: so-mc-qtz sch. (rhynchitic composition)
	4v2: pl-mc-bi-qtz sch. and pl-bi-qtz sch. intercalated with amphibolite (af) (rhynchitic to rhyodacitic composition)
	4v3: feldspathic bi-qtz sch., str-pal-bi-qtz sch., bi and sch., biotite and cl rock (dacitic to rhyodacitic composition)
	4v4: feldspathic gm-bi-qtz sch. and mica sch. including ky. and quartzite (qt) and amphibolite (af)
	3: dark fine-grained amphibolite with quartzite (qt), ferruginous quartzite (qf), gnt-bi-mv-qtz sch., feld and basic to ultra-basic dyke (db), sill
	2: Marro Solto granite
	1: mafic to intermediate tuff, lignite (lf), volcanic breccia and tuff (bt)
	0: palegreen banded coarse-grained amphibolite



GEOLOGICAL SURVEY
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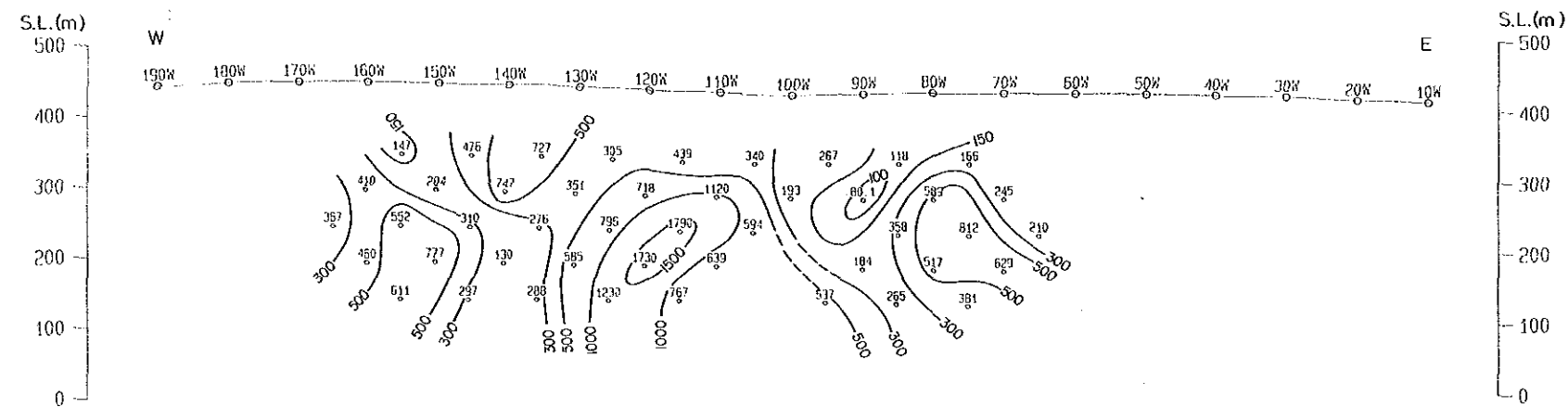
SIP Pseudo-Section (Line-110S)



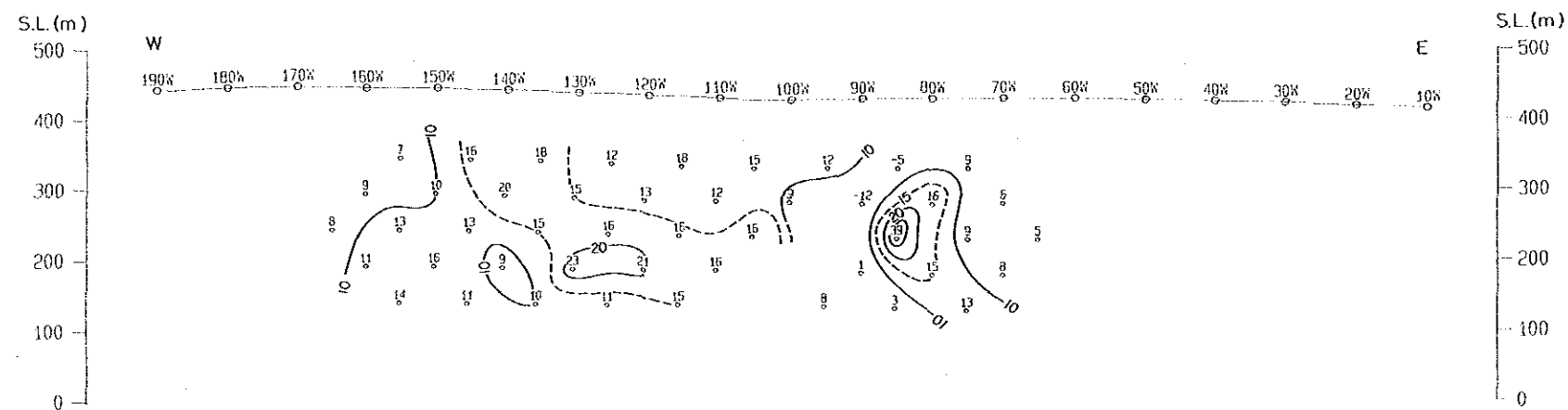
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LINE-110S

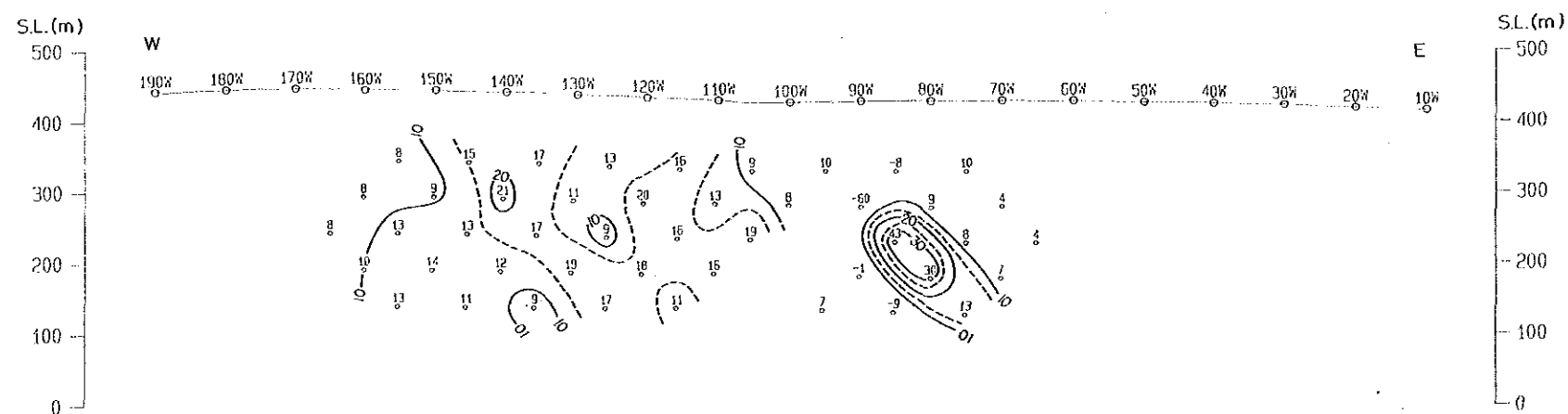
Apparent Resistivity (Ohm-m) [0.125Hz]



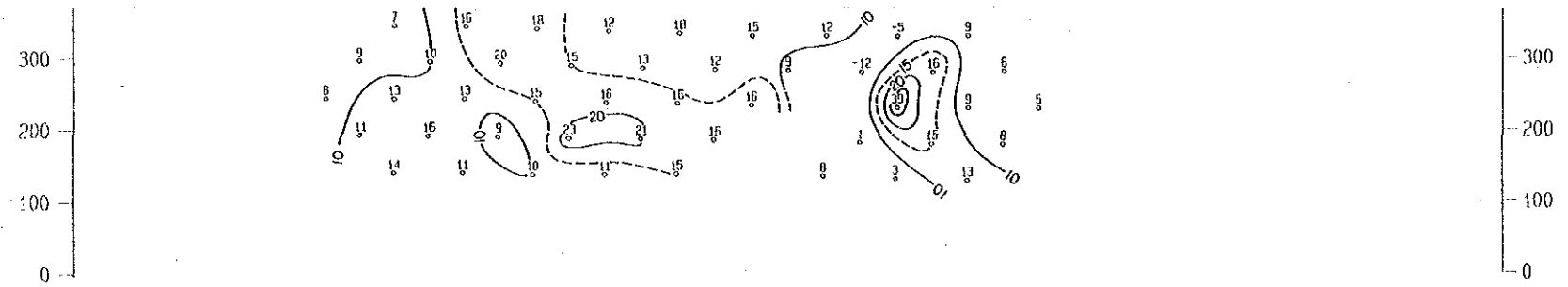
Raw Phase (-mrad) [0.125Hz]



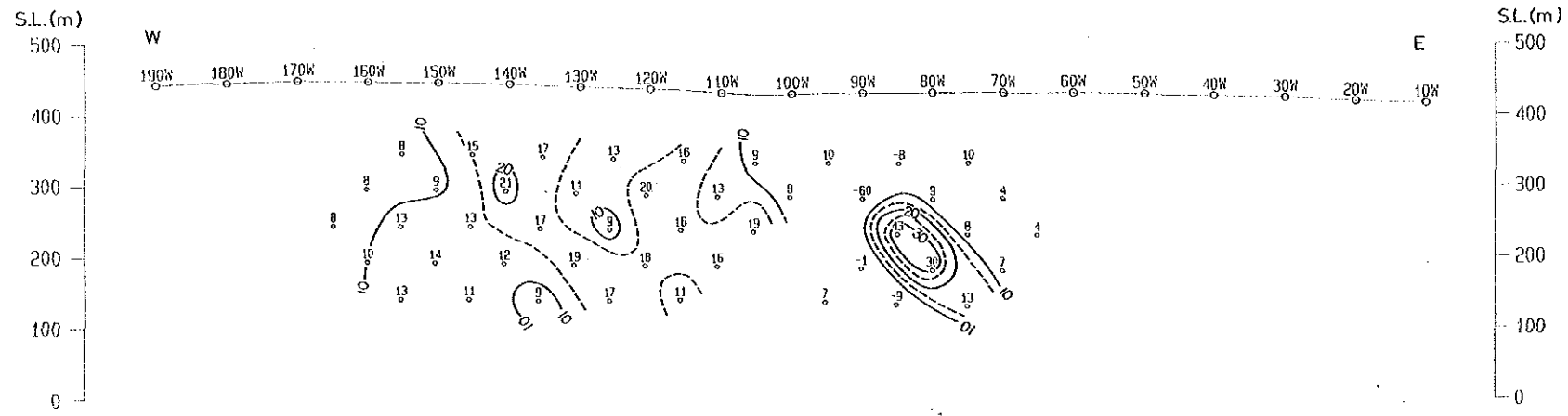
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



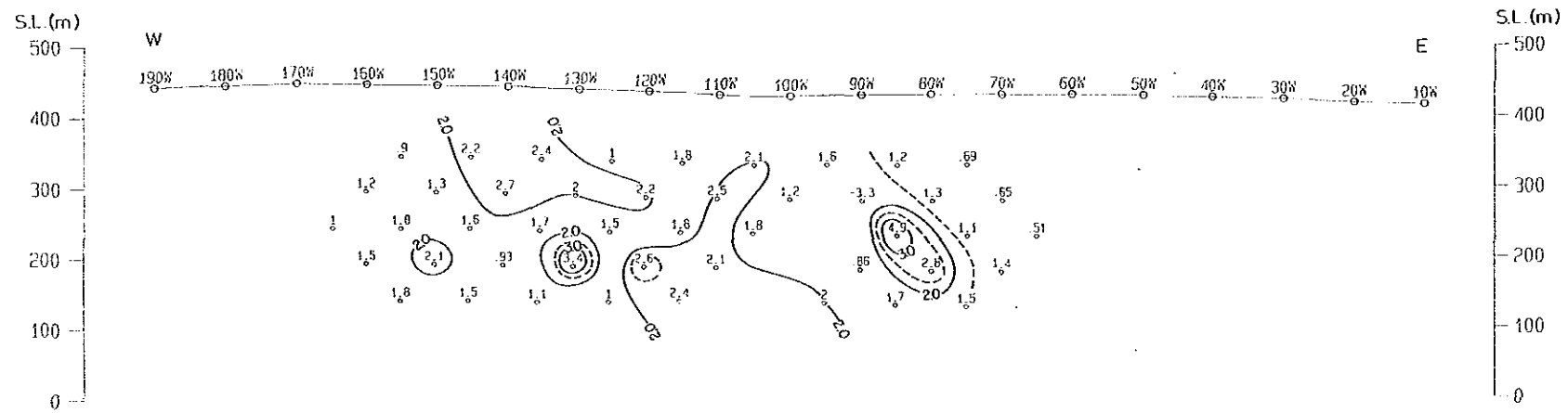
Percent Frequency Effect (%) [0.125-1.0Hz]



3-Point Decoupled Phase (-mrad) [0.125-0.625Hz]

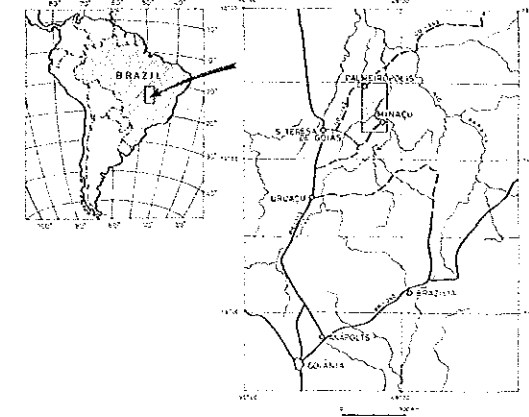


Percent Frequency Effect (%) [0.125-1.0Hz]

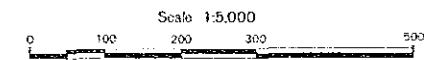


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SIP Pseudo-Section (Line-130S)

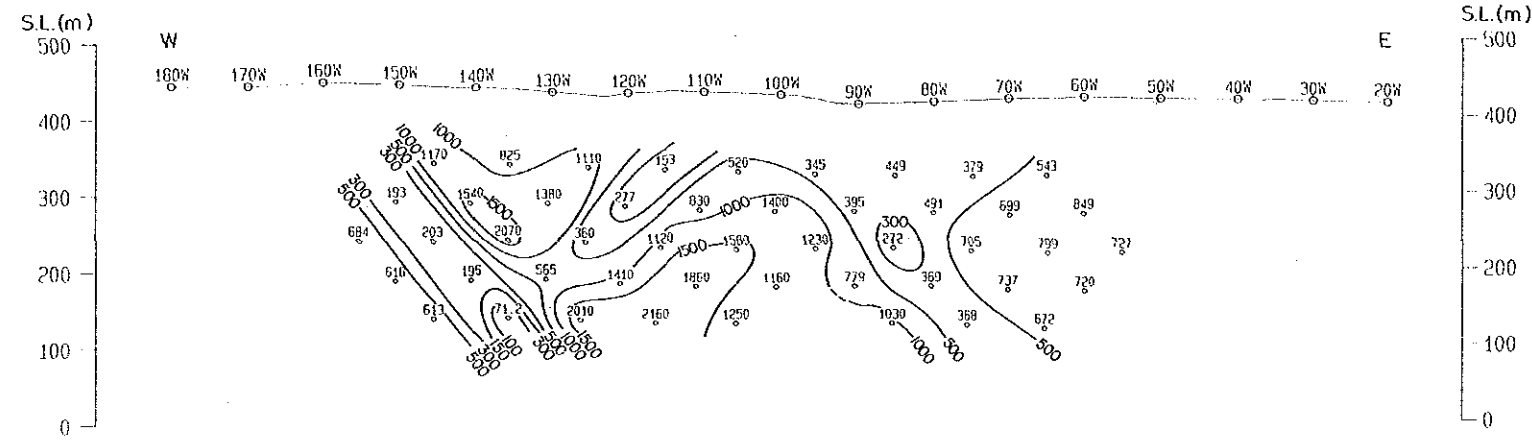


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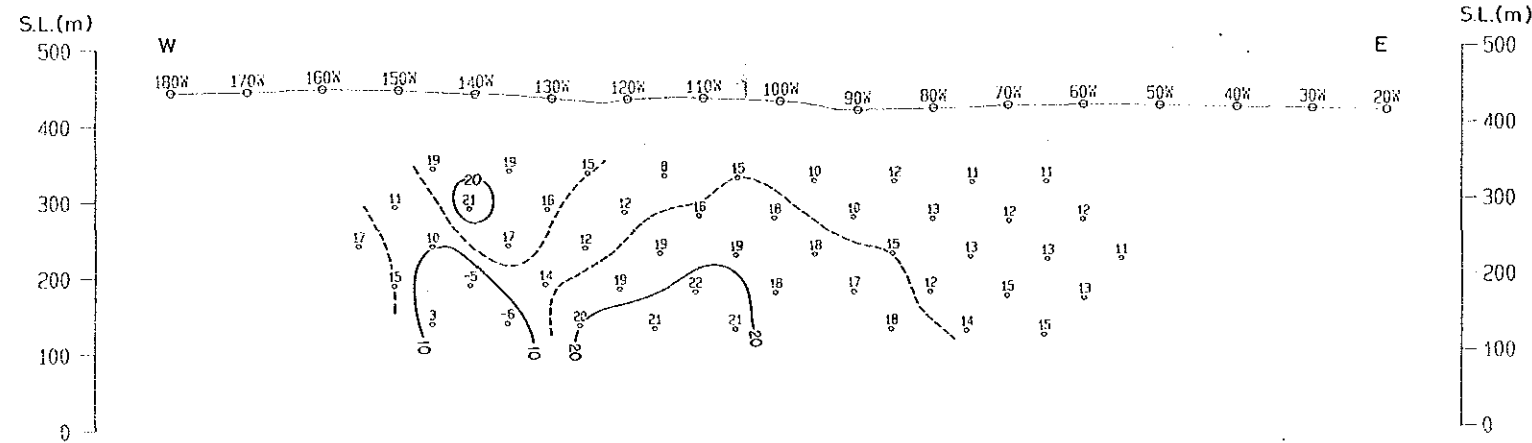


LINE-130S

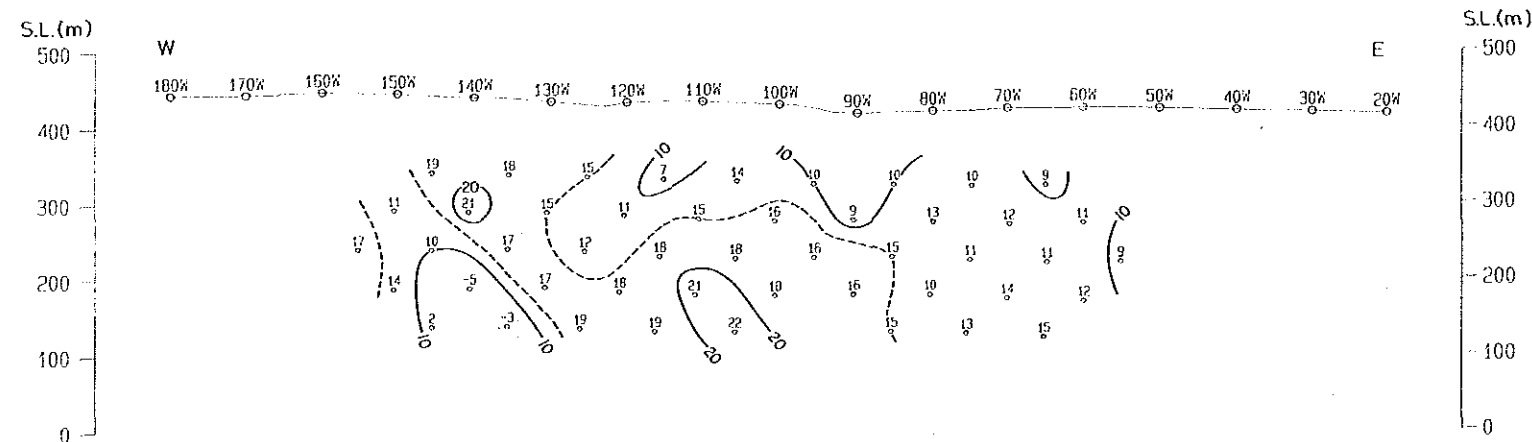
Apparent Resistivity (Ohm-m) [0.125Hz]



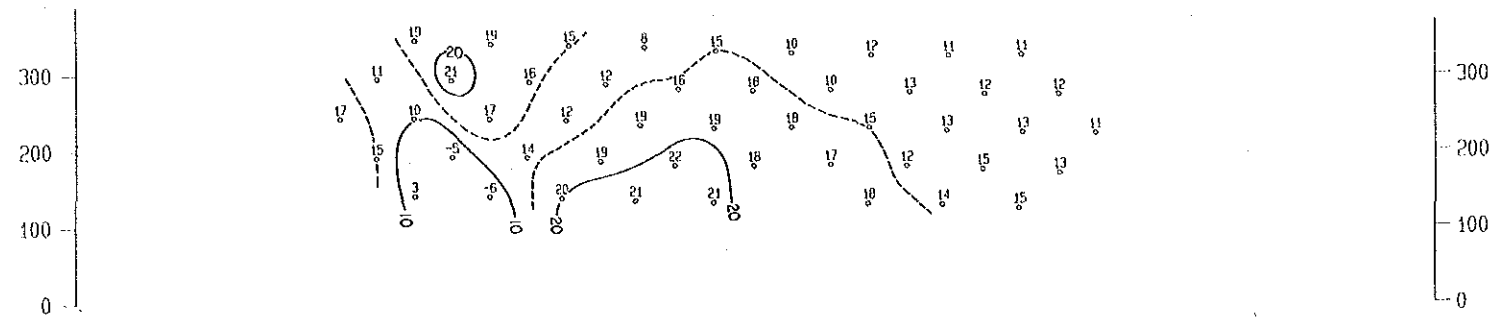
Raw Phase (-mrad) [0.125Hz]



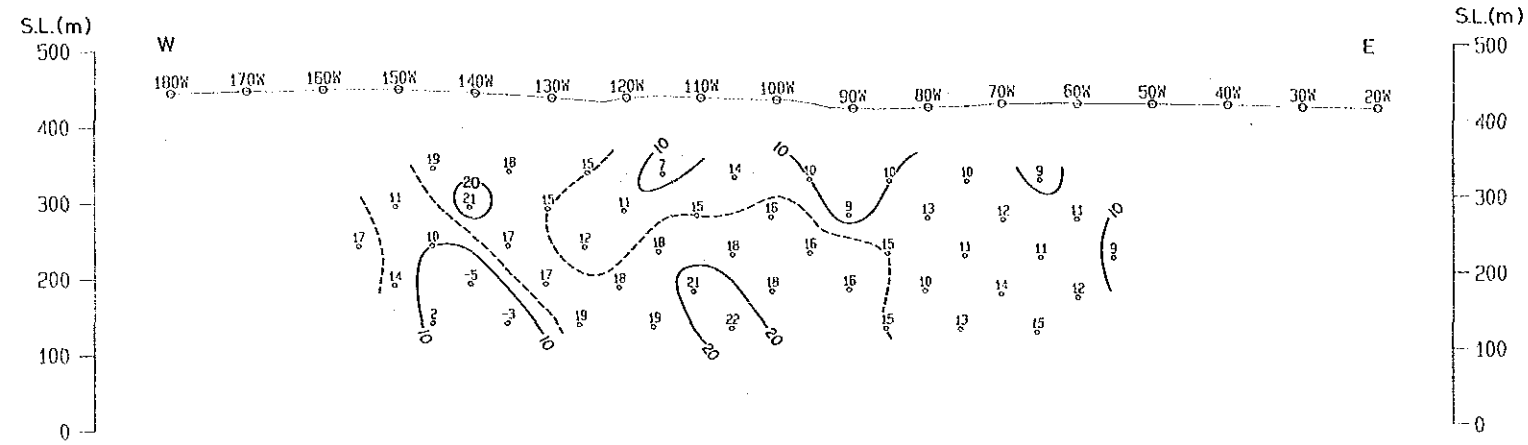
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



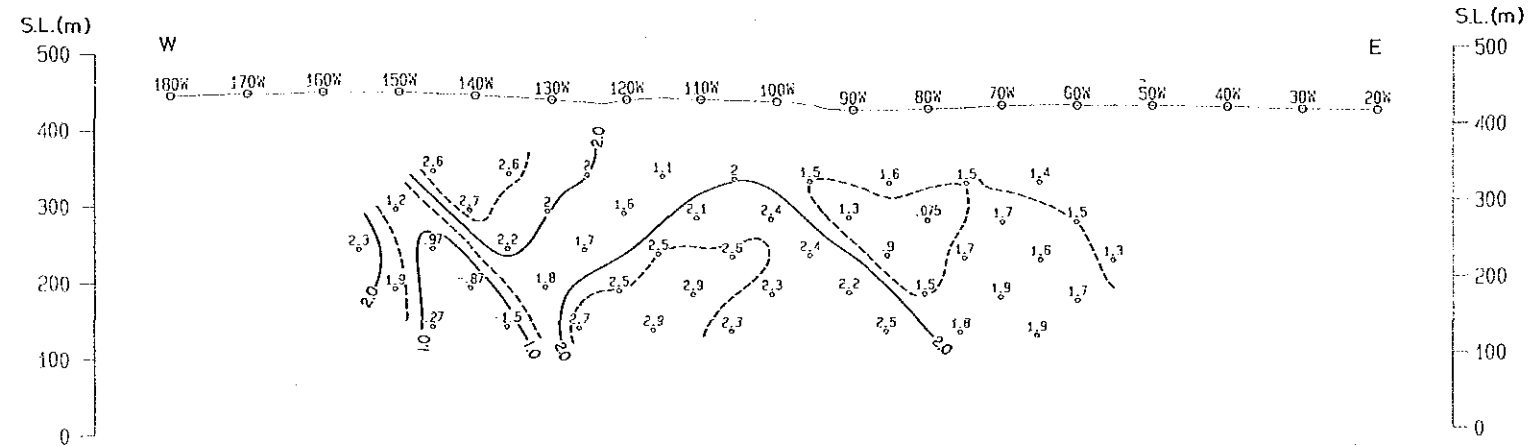
Percent Frequency Effect (%) [0.125-1.0Hz]



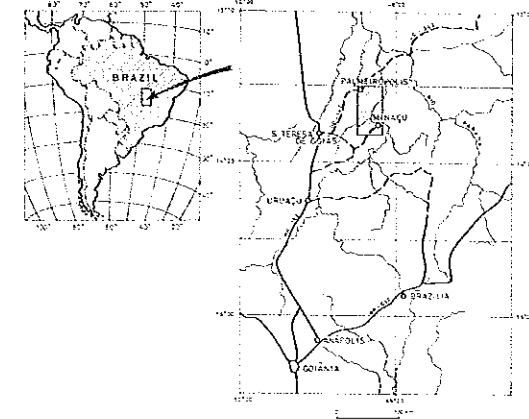
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



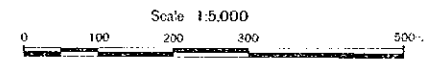
Percent Frequency Effect (%) [0.125-1.0Hz]



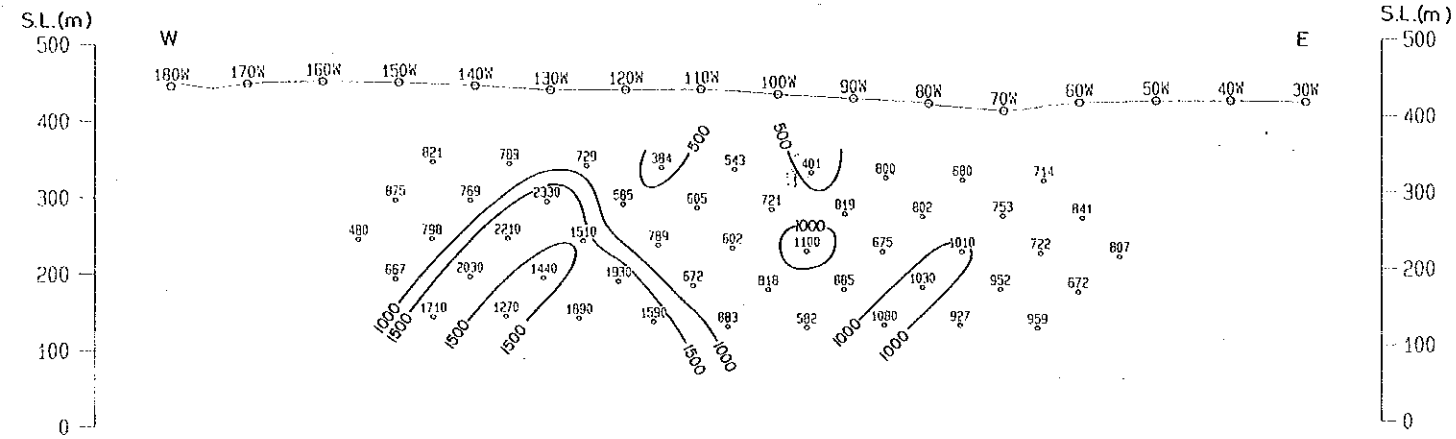
SIP Pseudo-Section (Line-150S)



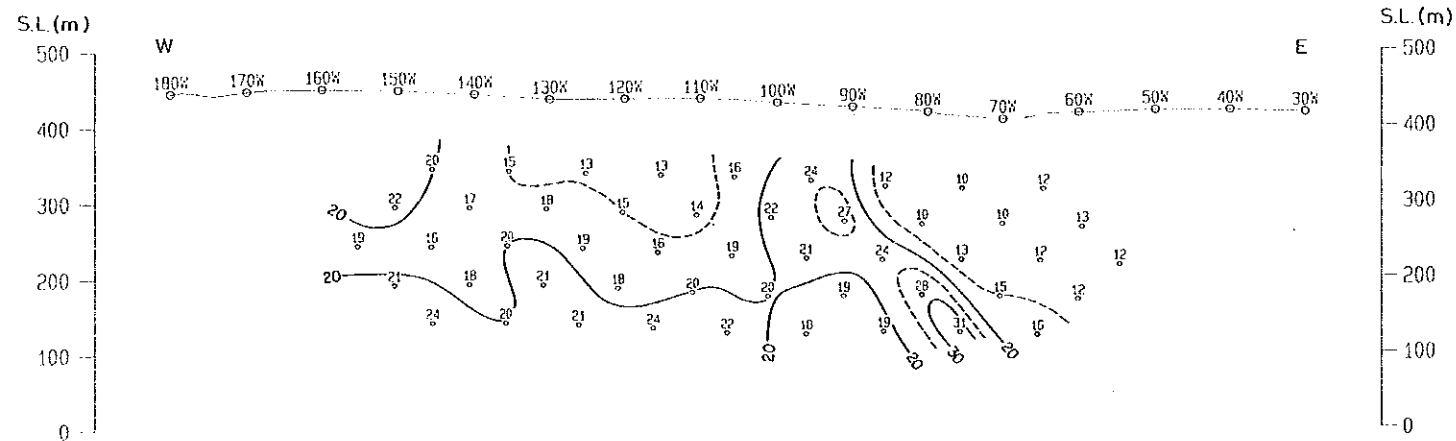
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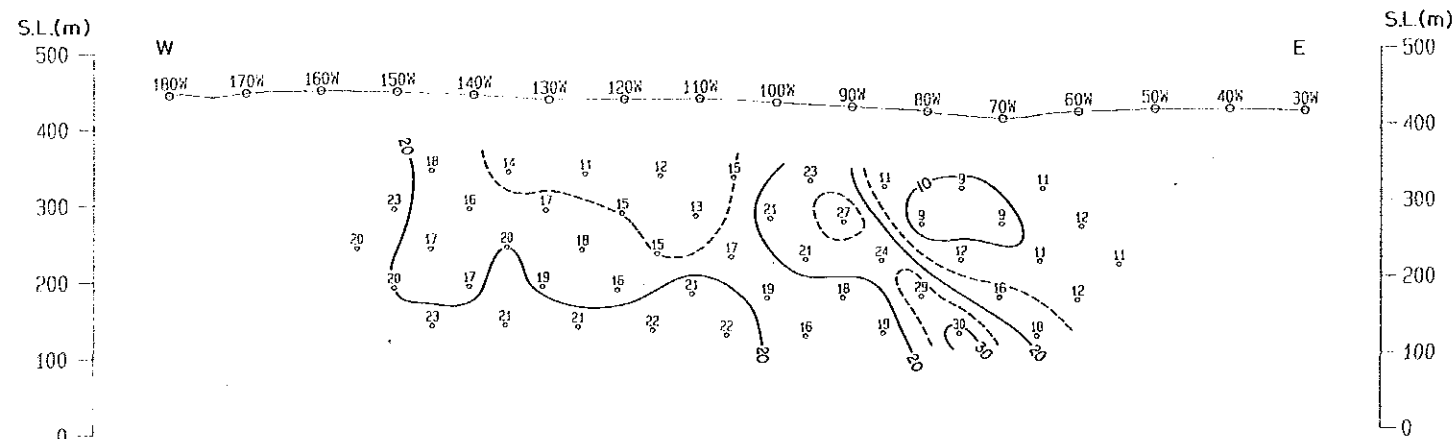
LINE-150S
Apparent Resistivity (Ohm-m) [0.125Hz]



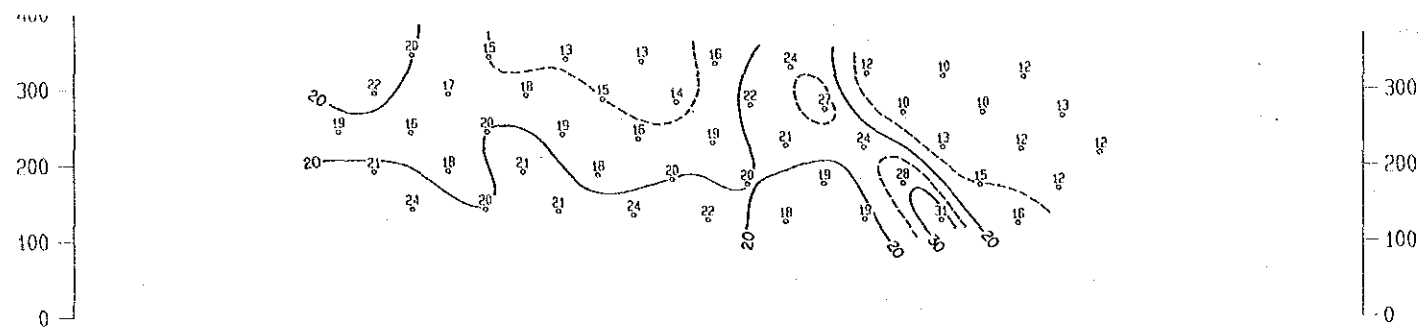
Raw Phase (-mrad) [0.125Hz]



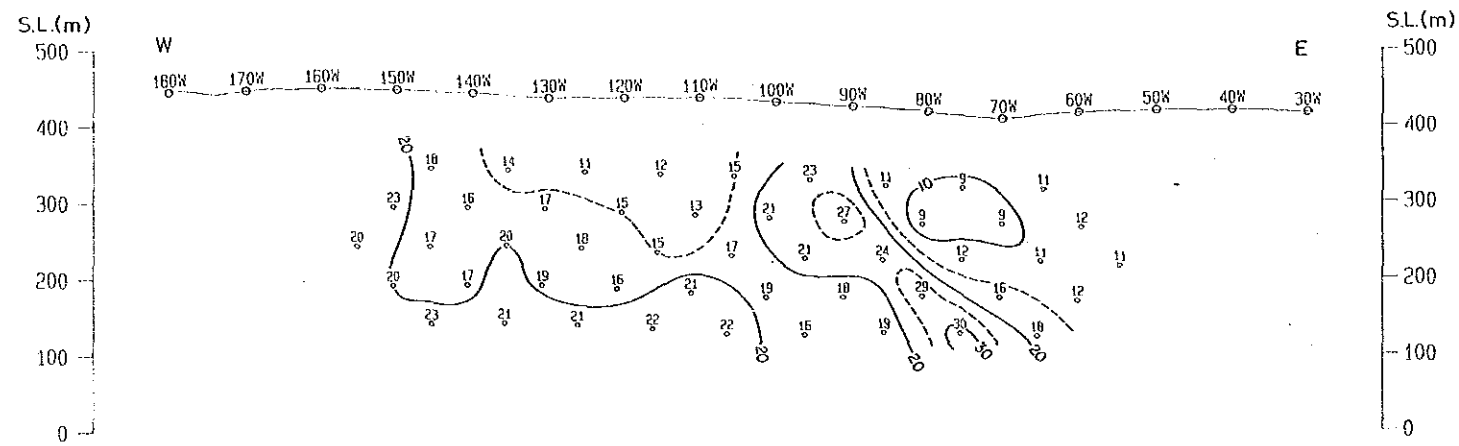
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



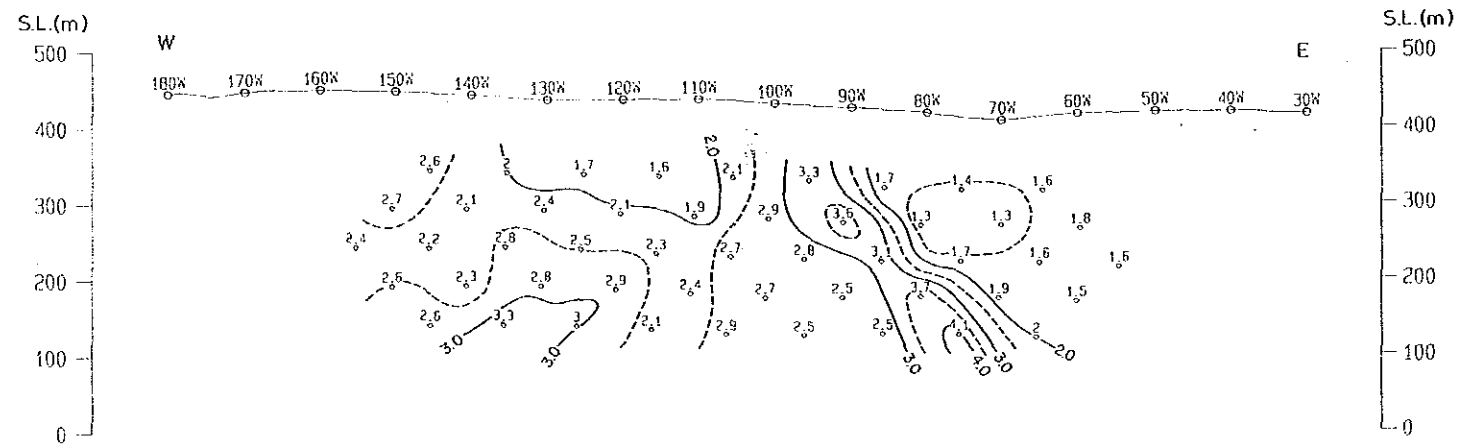
Percent Frequency Effect (%) [0.125-1.0Hz]



3-Point Decoupled Phase (-mrad) [0.125-0.625Hz]

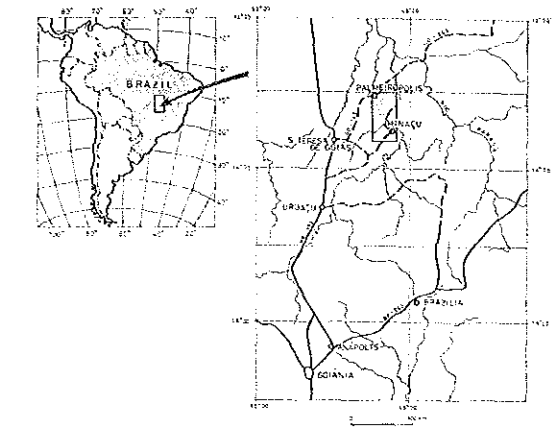


Percent Frequency Effect (%) [0.125-1.0Hz]

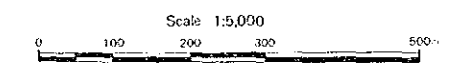


GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

SIP Pseudo-Section (Line-160S)

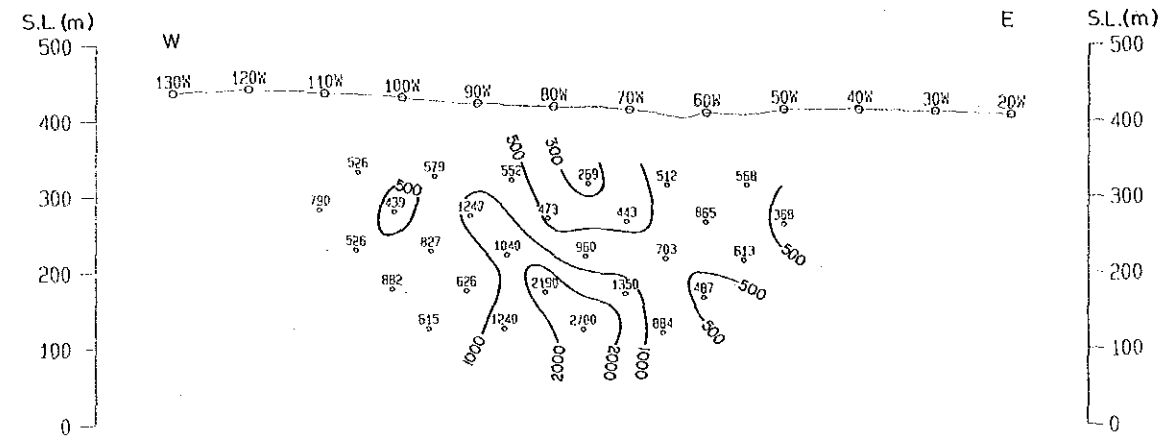


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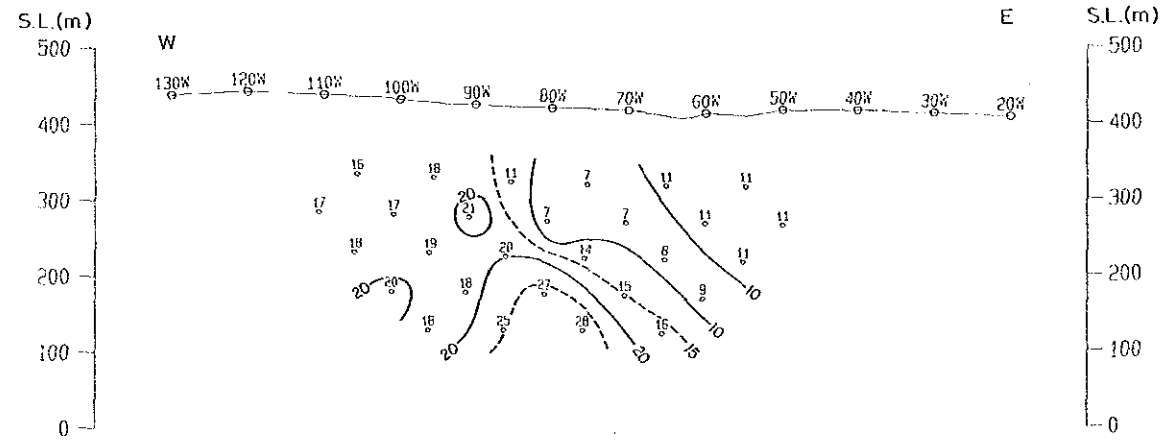


LINE-160S

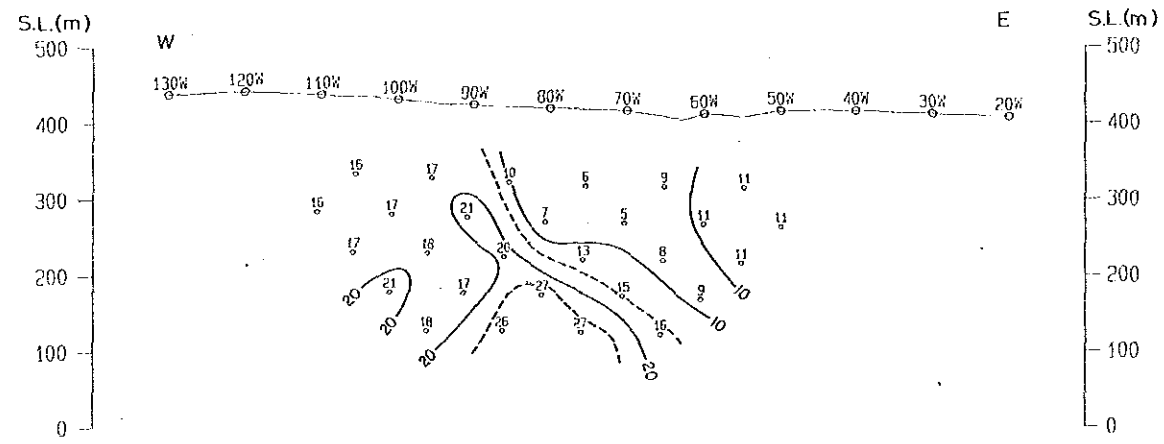
Apparent Resistivity (Ohm-m) [0.125Hz]

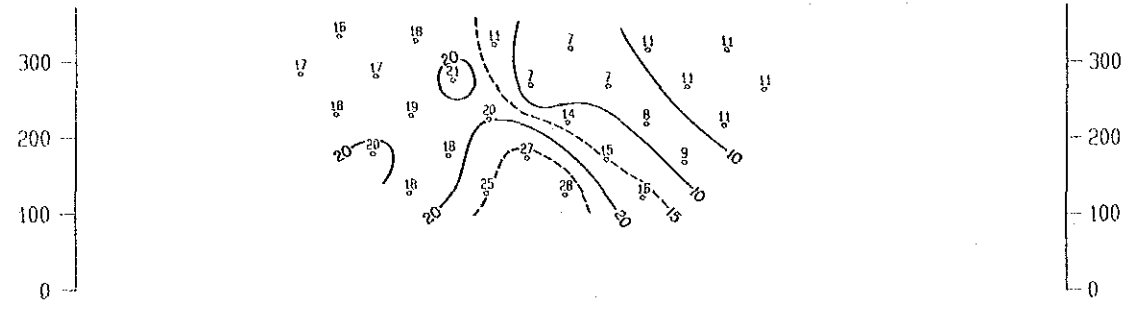


Raw Phase (-mrad) [0.125Hz]

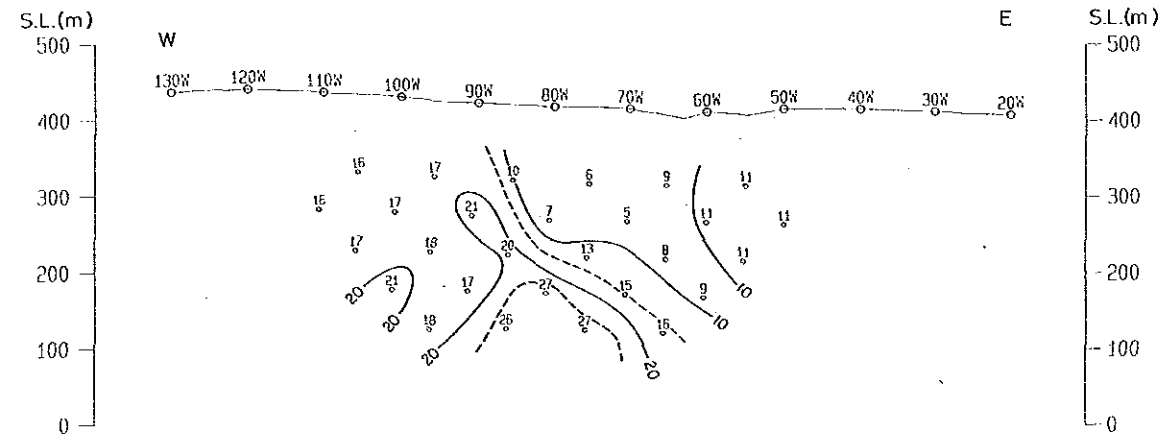


3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]

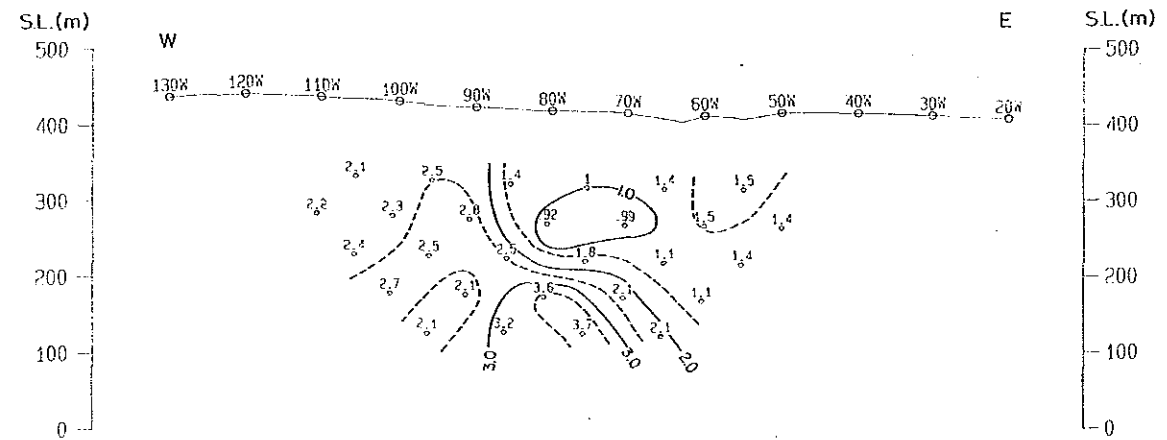




3-Point Decoupled Phase (-mrad) [0.125-0.625Hz]

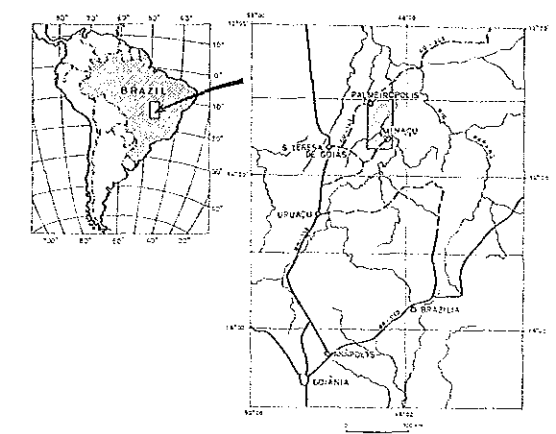


Percent Frequency Effect (%) [0.125-1.0Hz]

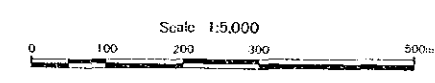


GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

SIP Pseudo-Section (Line-170S)

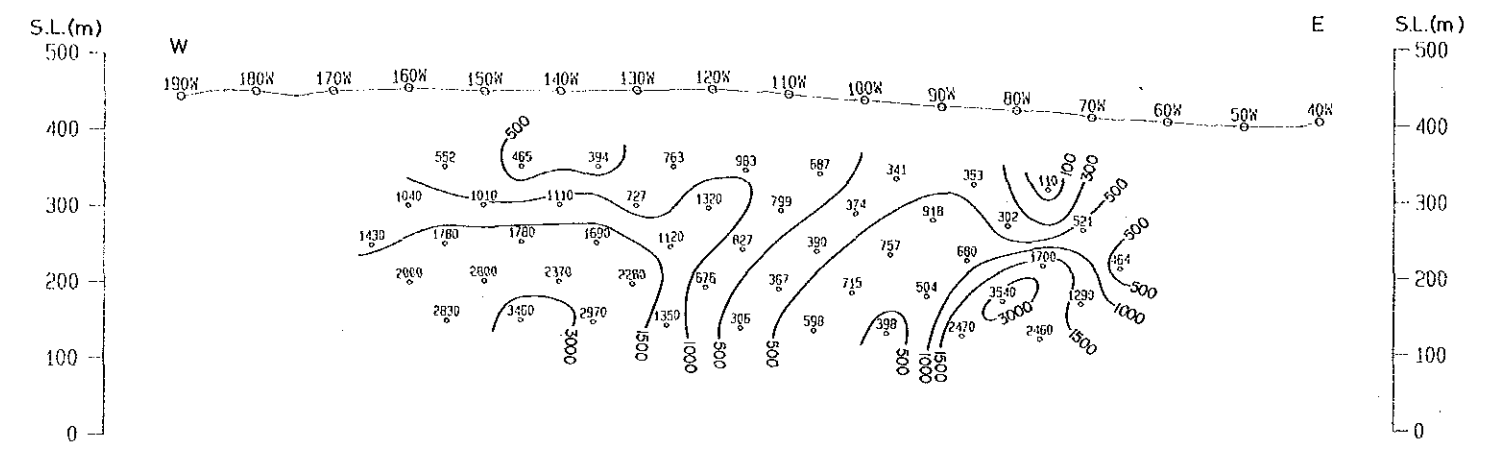


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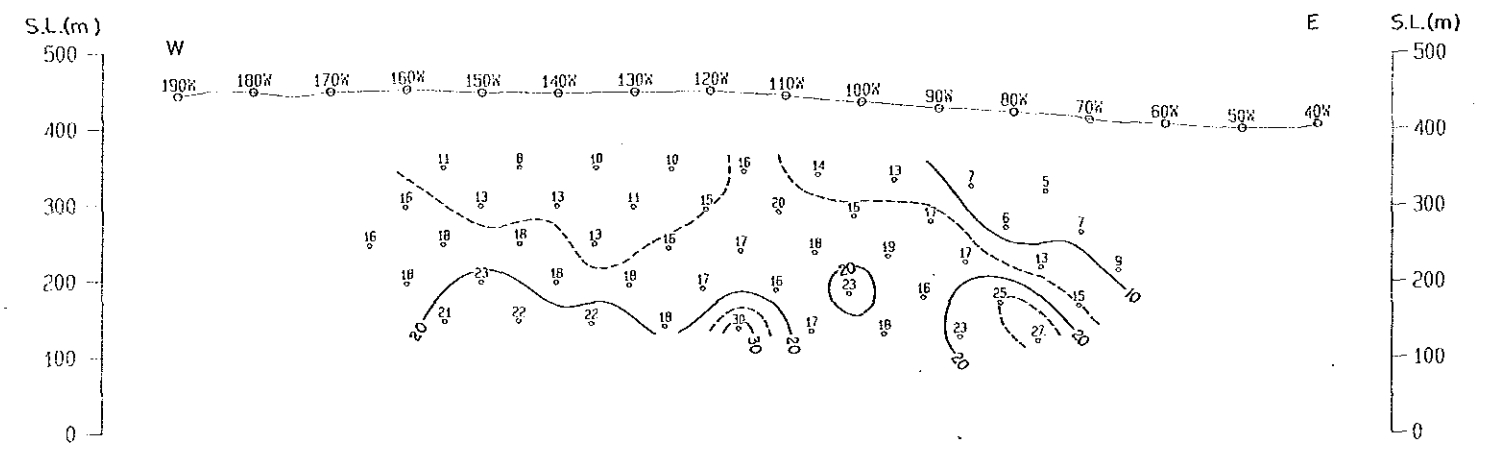


LINE-170S

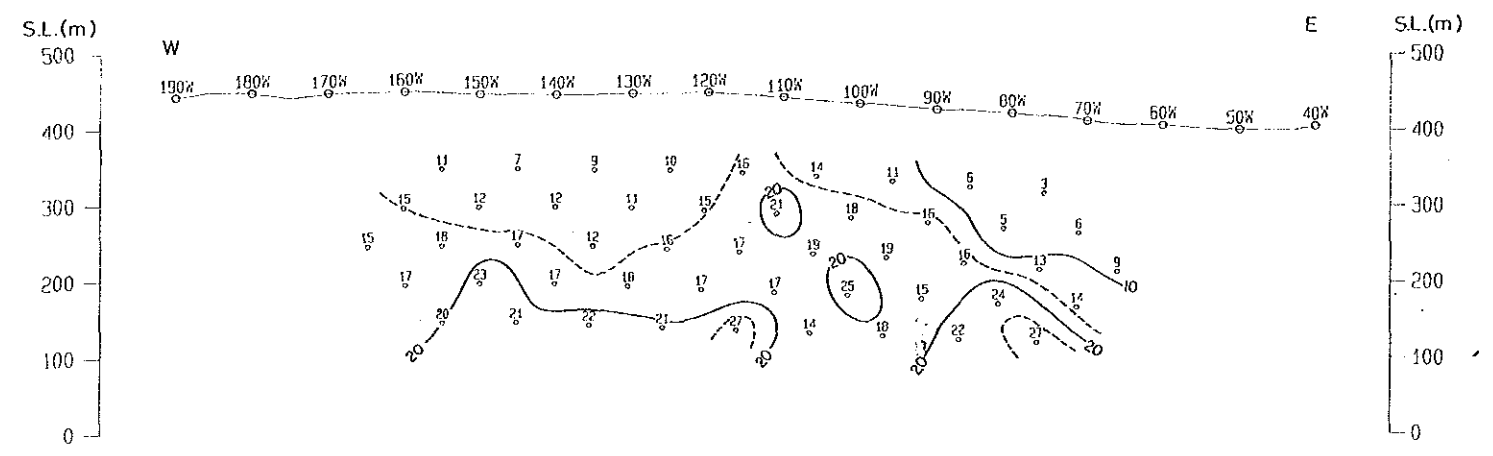
Apparent Resistivity (Ohm-m) [0.125Hz]



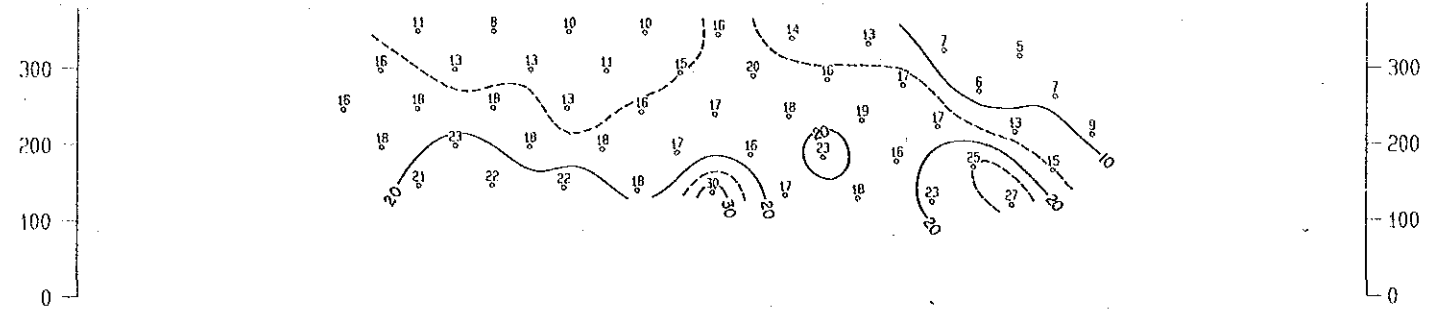
Raw Phase (-mrad) [0.125Hz]



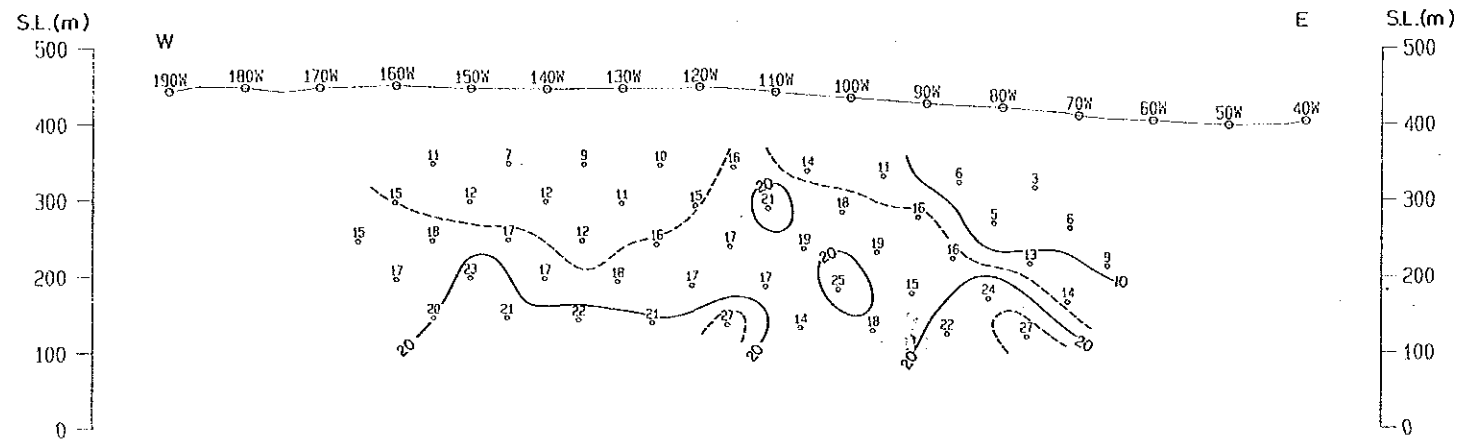
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



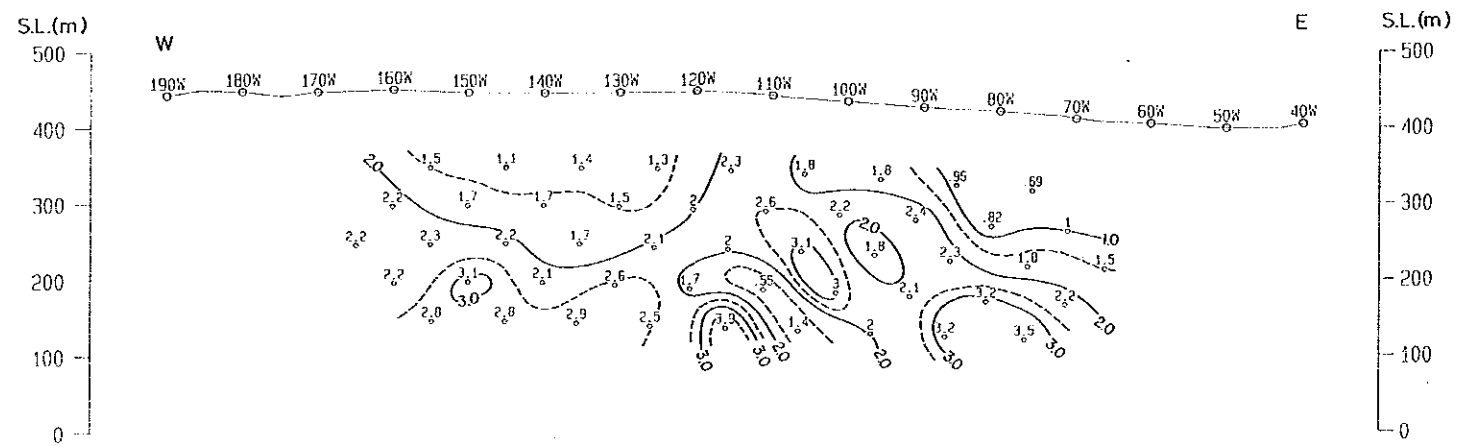
Percent Frequency Effect (%) [0.125-1.0Hz]



3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



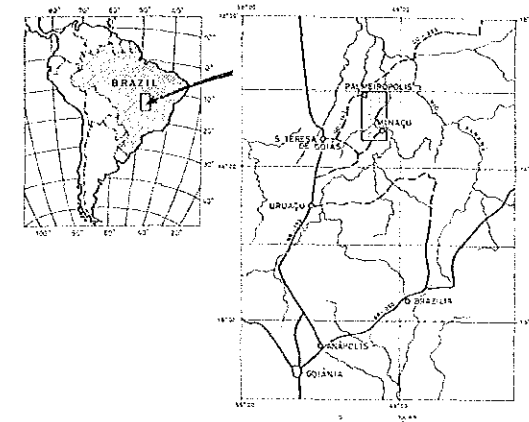
Percent Frequency Effect (%) [0.125-1.0Hz]



GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

PL. II-3-6

SIP Pseudo-Section (Line-190S)

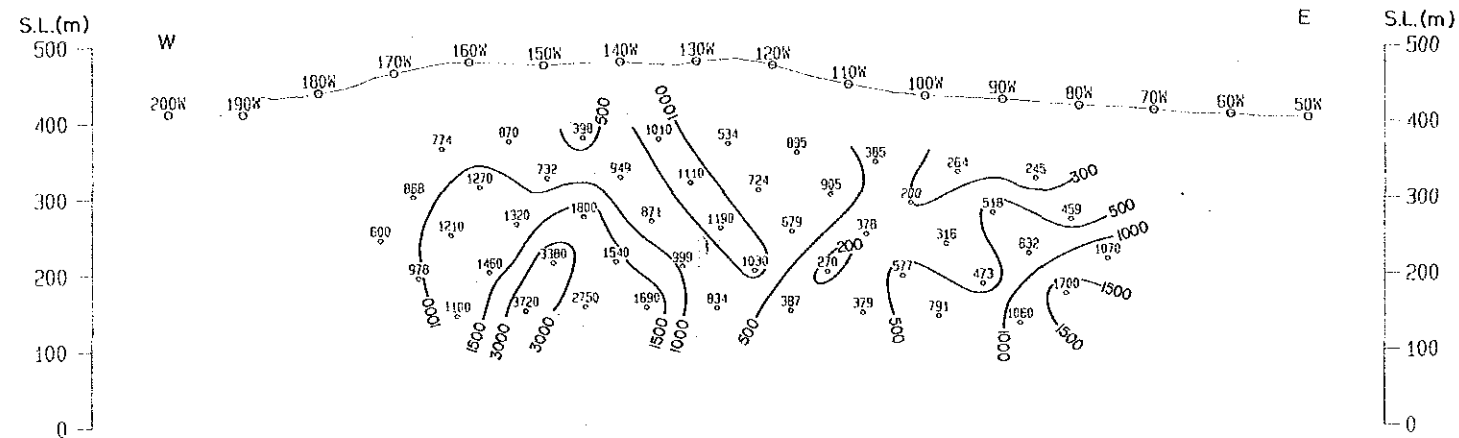


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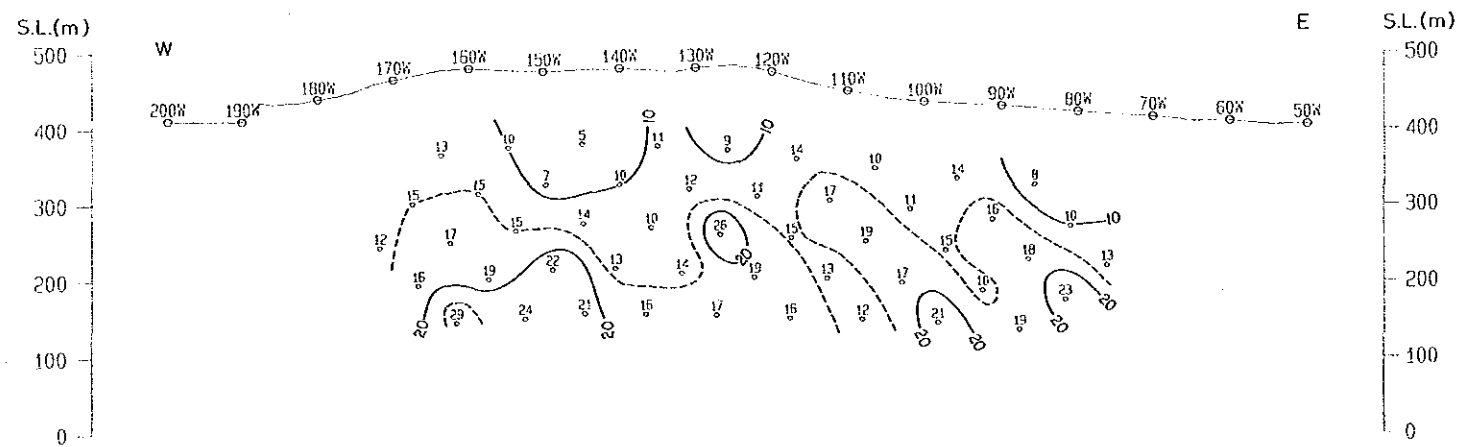
Scale 1:5,000
0 100 200 300 400 500

LINE-190S

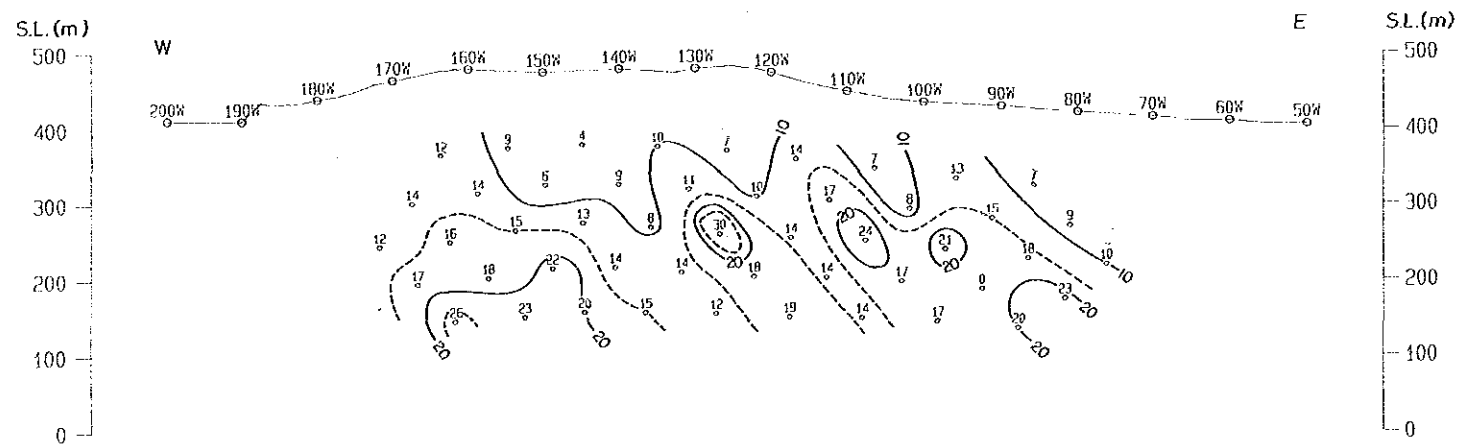
Apparent Resistivity (Ohm-m) [0.125Hz]



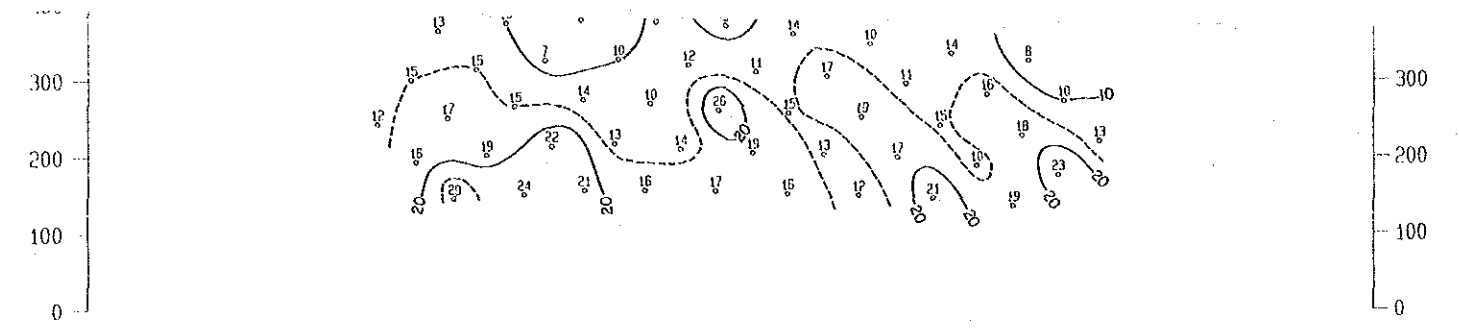
Raw Phase (-mrad) [0.125Hz]



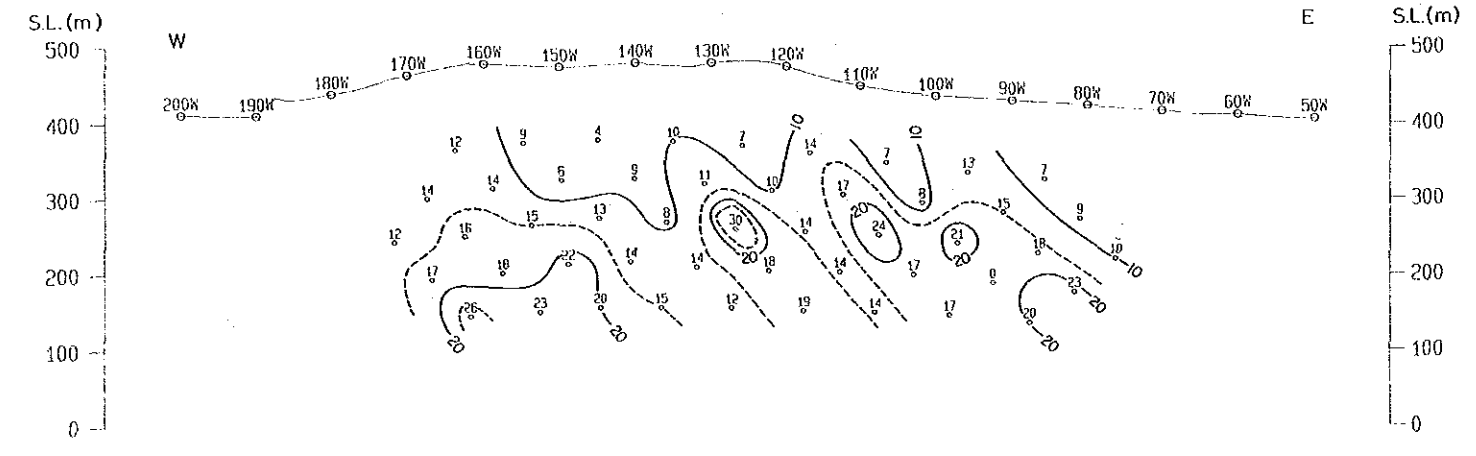
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



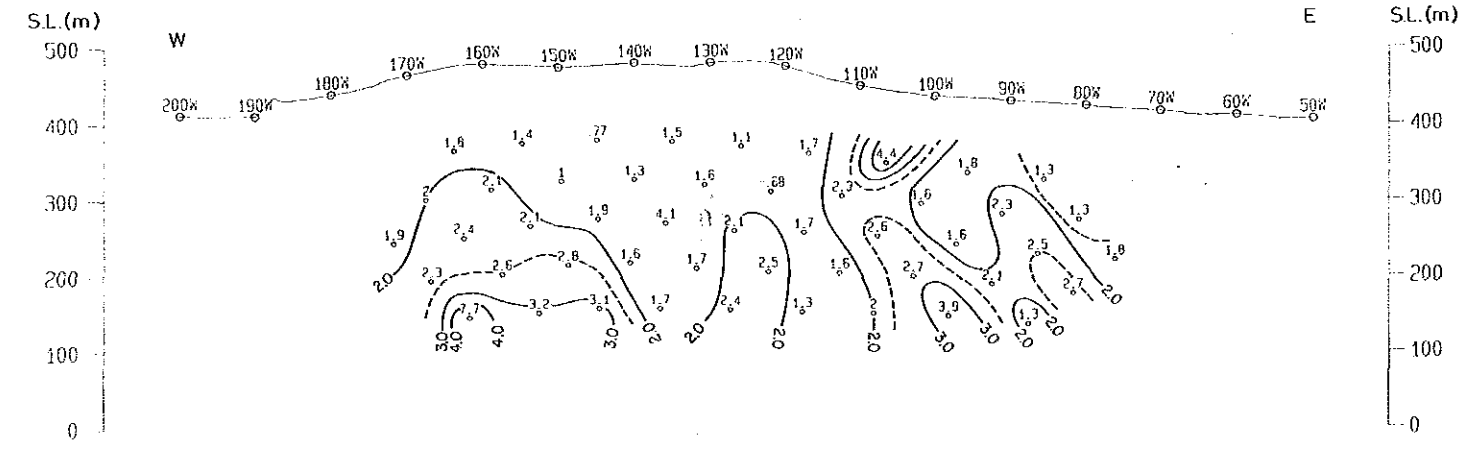
Percent Frequency Effect (%) [0.125-1.0Hz]



3-Point Decoupled Phase (-mrad) [0.125-0.625Hz]

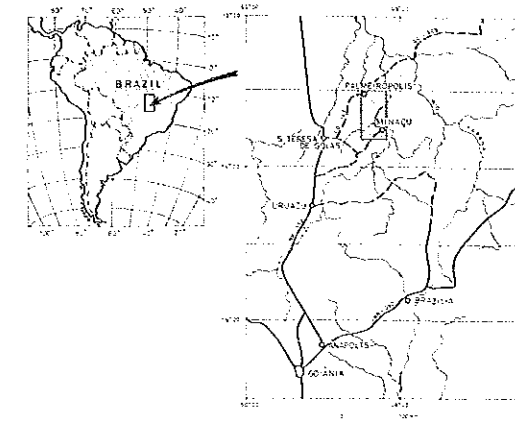


Percent Frequency Effect (%) [0.125-1.0Hz]



GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

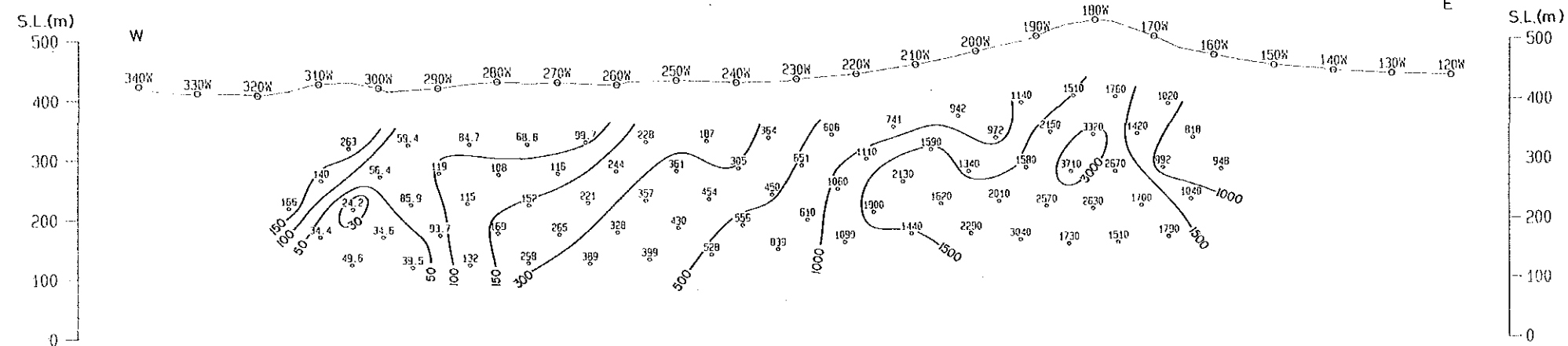
SIP Pseudo-Section (Line-270S)



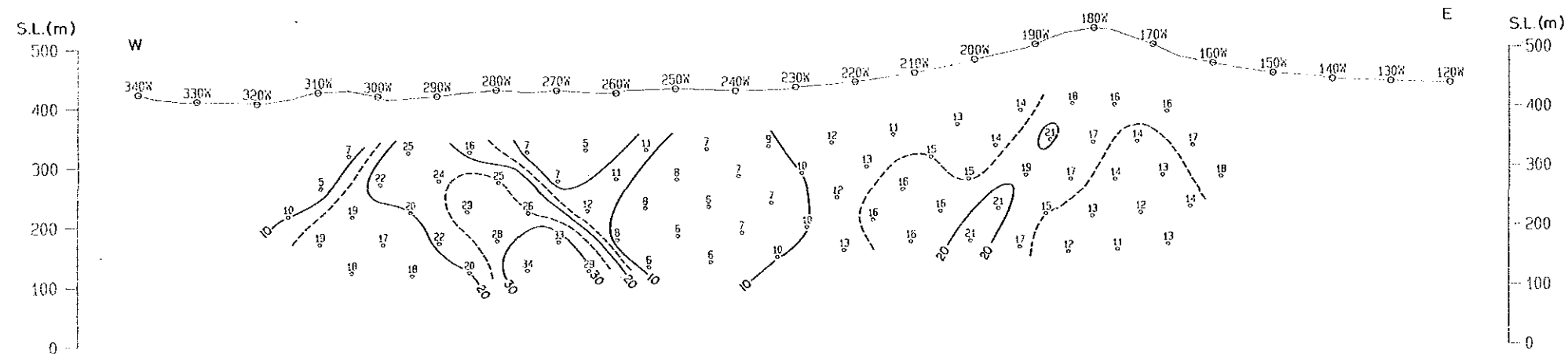
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FEB. 1988

LINE-270S

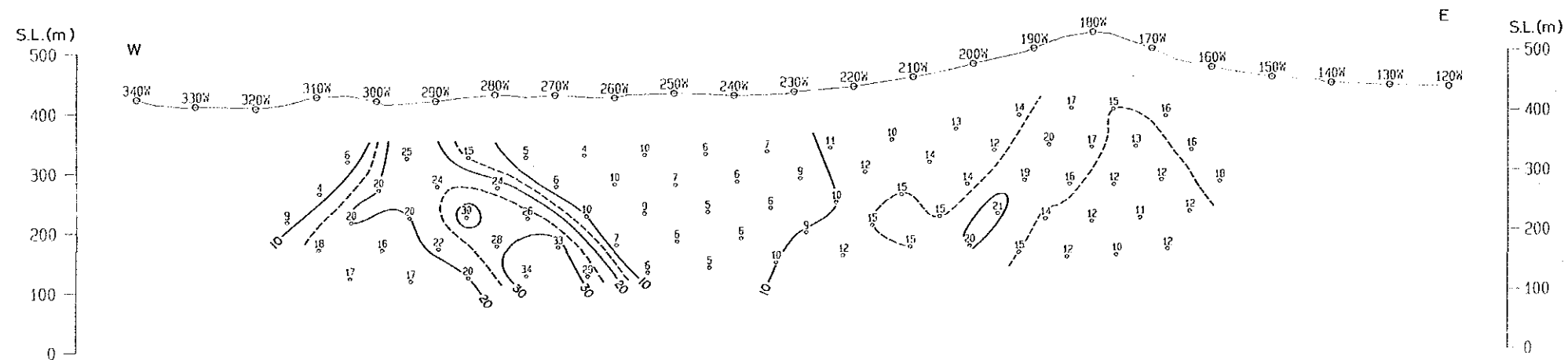
Apparent Resistivity (Ohm-m) [0.125Hz]



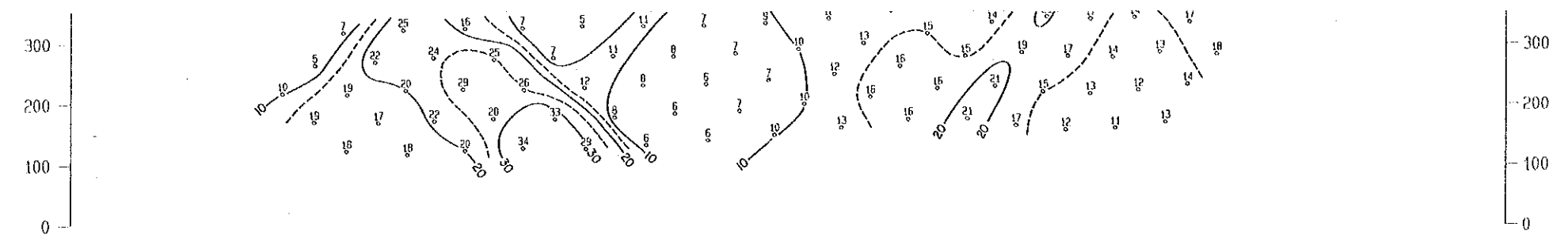
Raw Phase (-mrad) [0.125Hz]



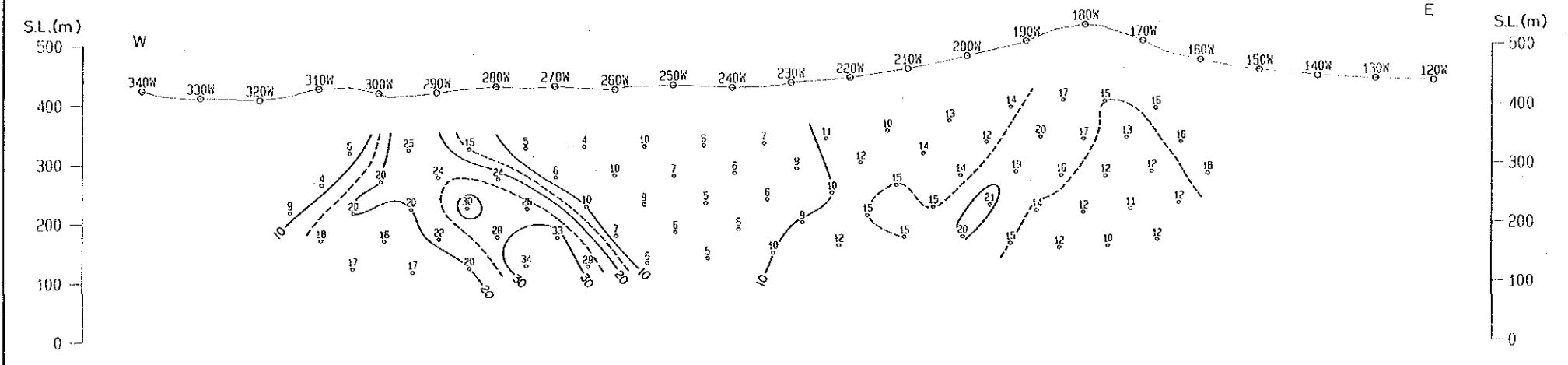
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



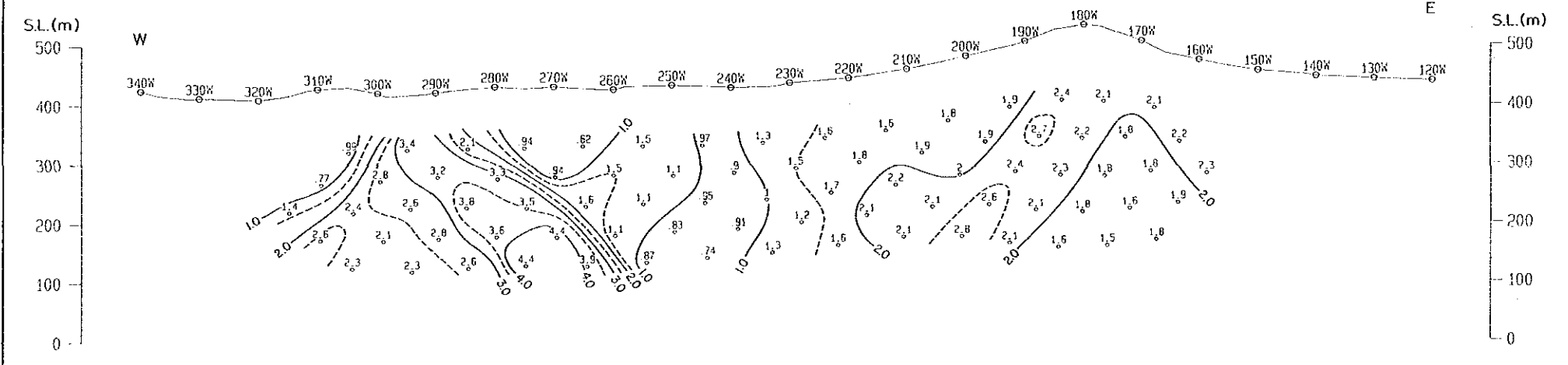
Percent Frequency Effect (%) [0.125-1.0Hz]



3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]

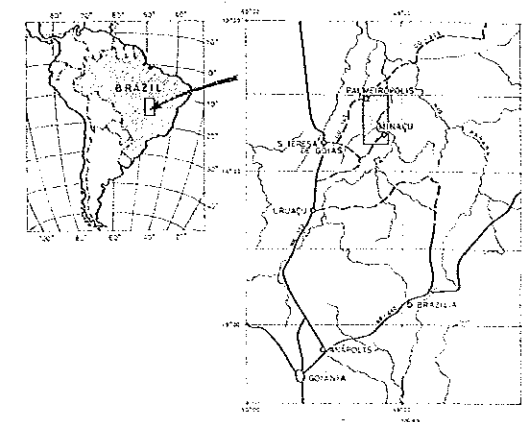


Percent Frequency Effect (%) [0.125-1.0Hz]

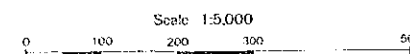


GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

SIP Pseudo-Section (Line-290S)

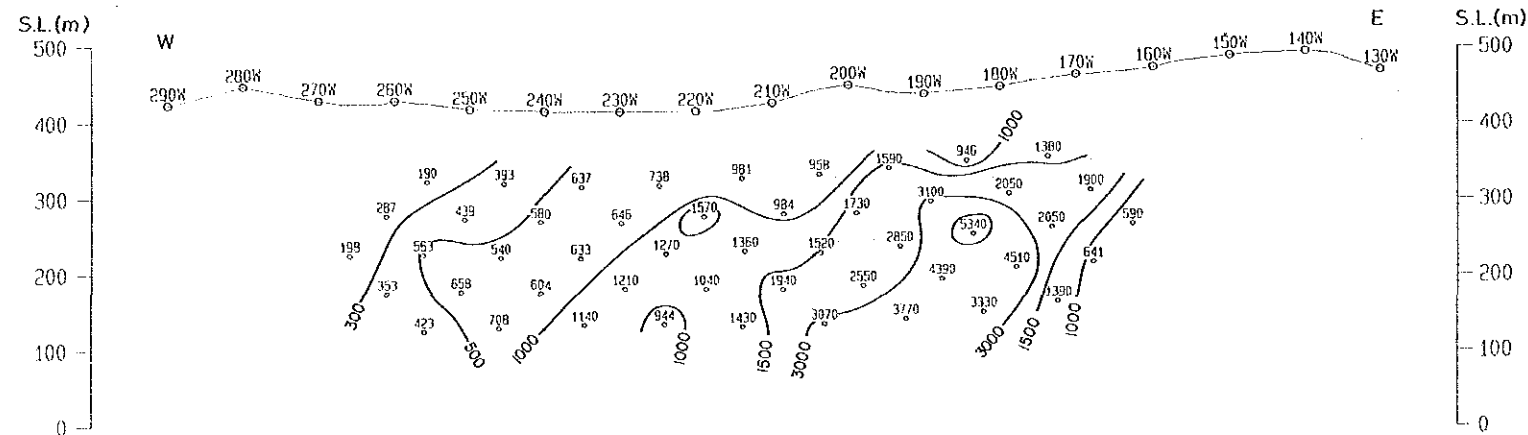


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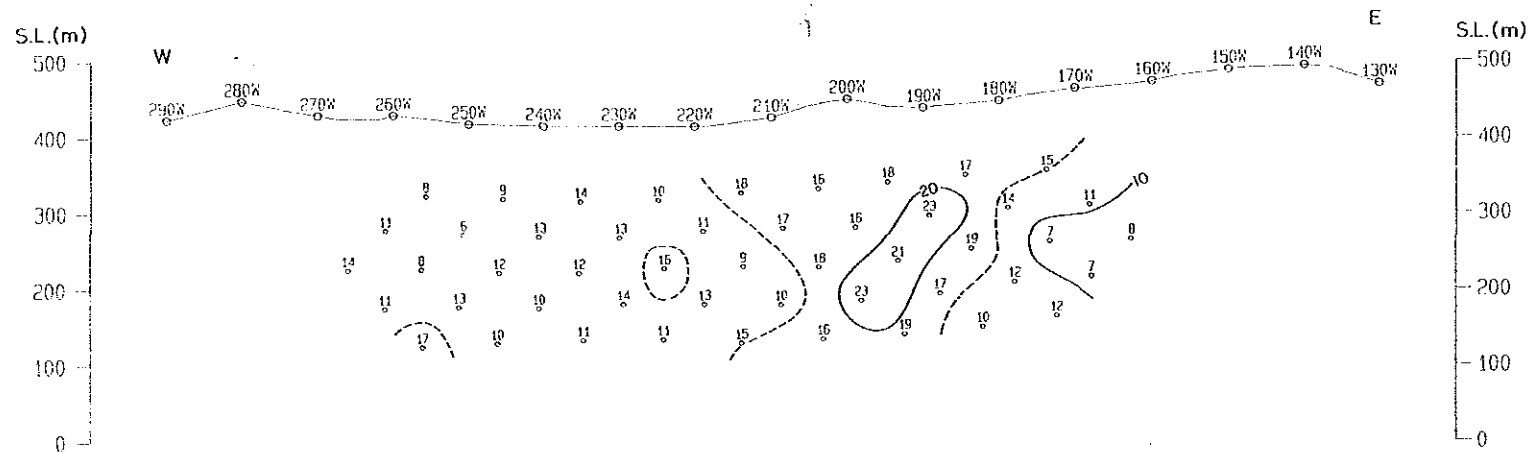


LINE-290S

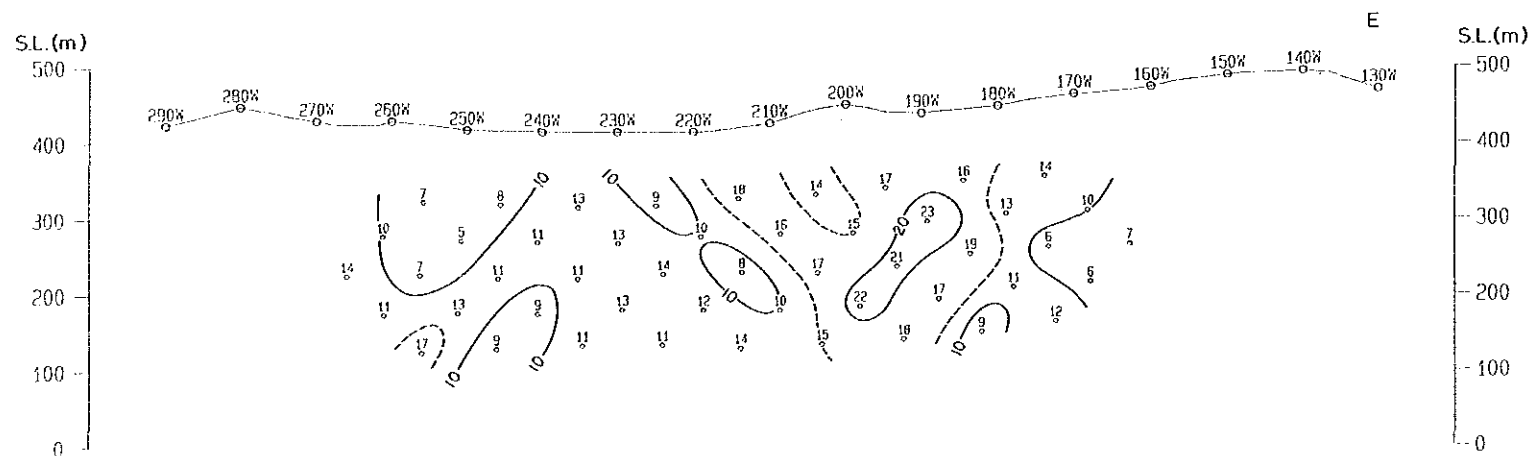
Apparent Resistivity (Ohm-m) [0.125Hz]



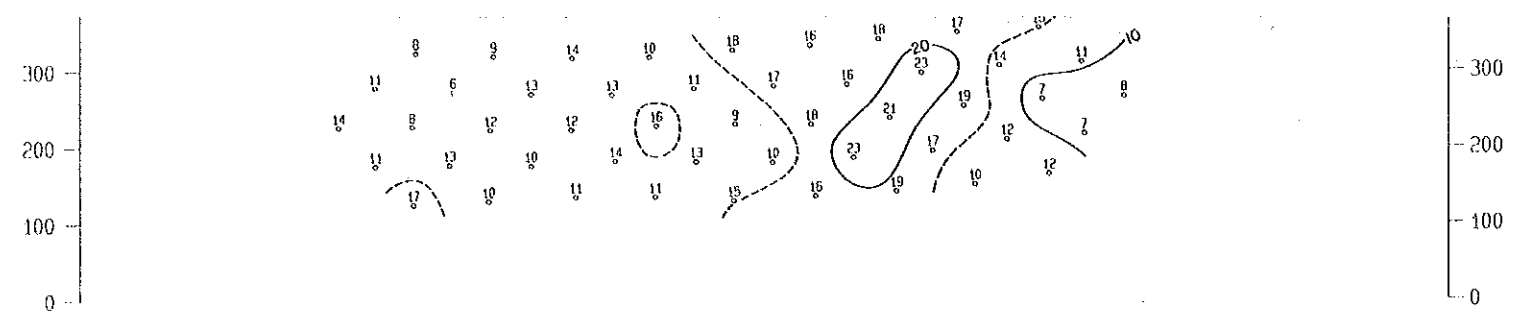
Raw Phase (-mrad) [0.125Hz]



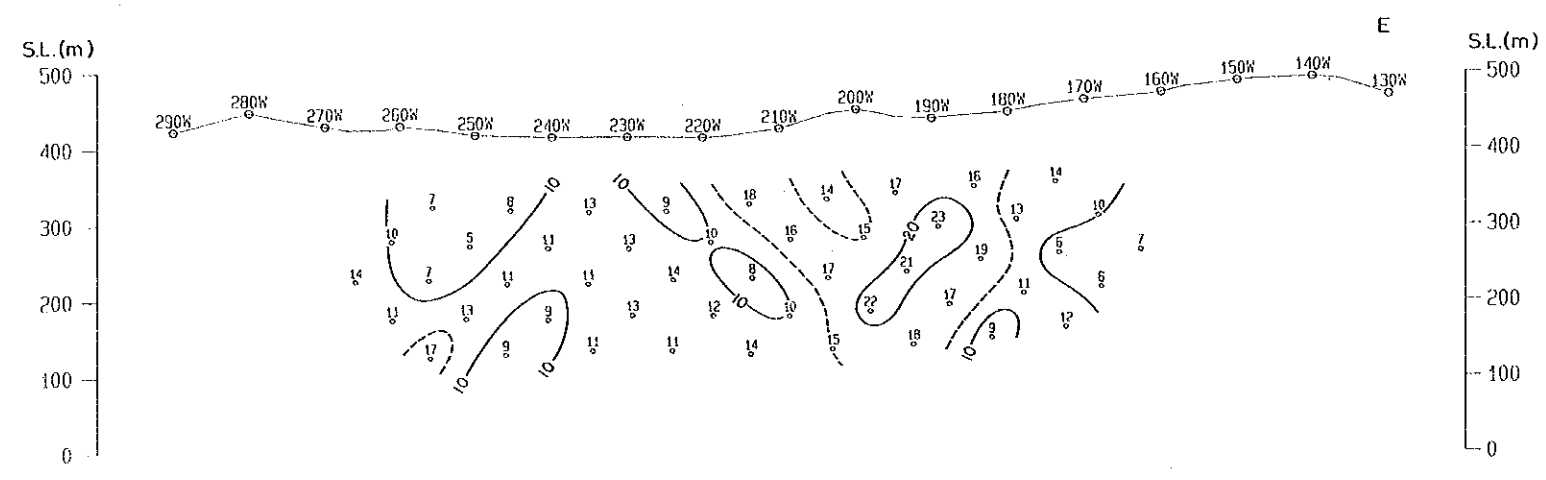
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



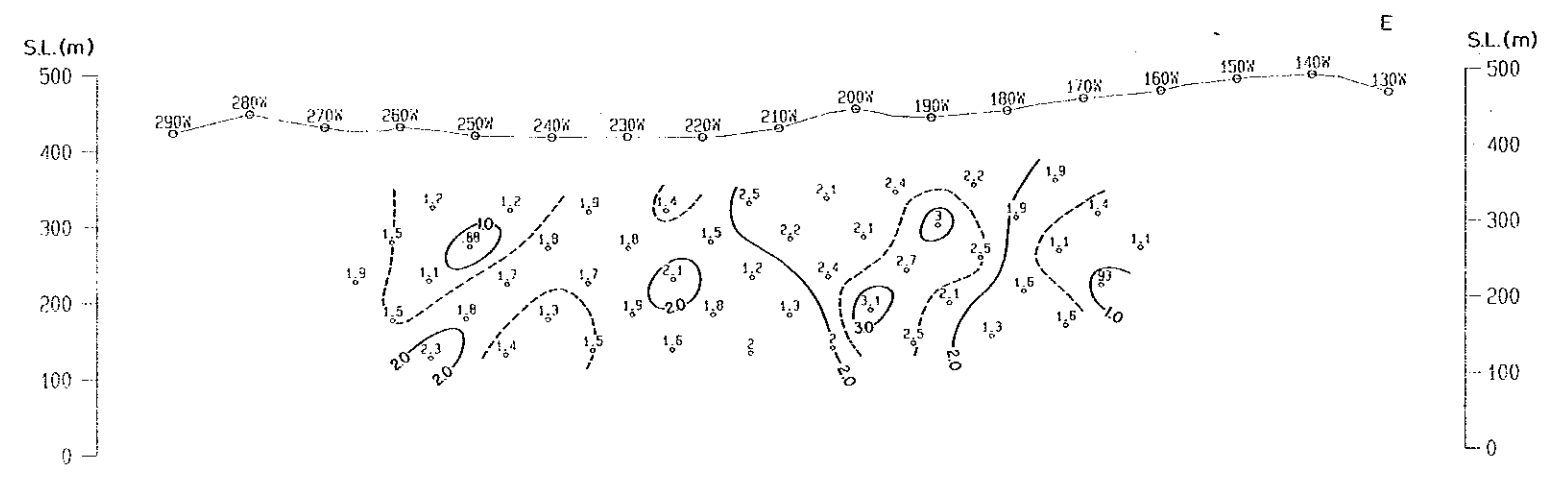
Percent Frequency Effect (%) [0.125-1.0Hz]



3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]

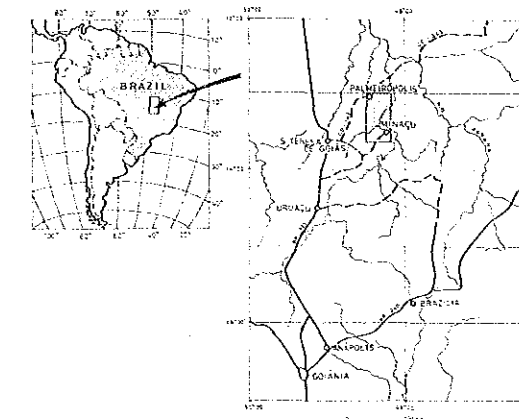


Percent Frequency Effect (%) [0.125-1.0Hz]

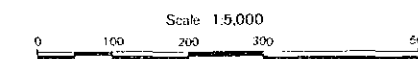


GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

SIP Pseudo-Section (Line-310S)

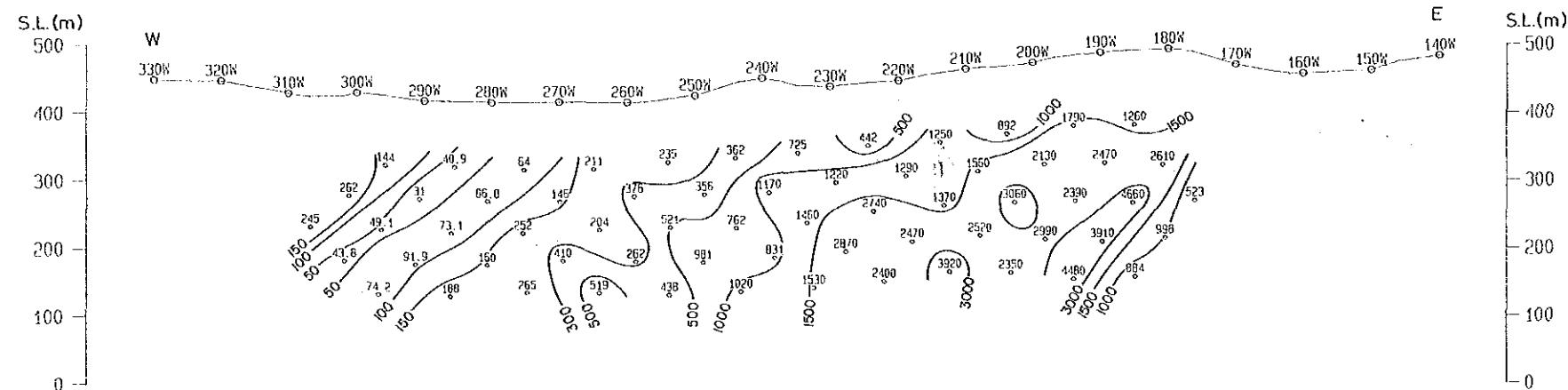


JAPAN INTERNATIONAL COOPERATION AGENCY
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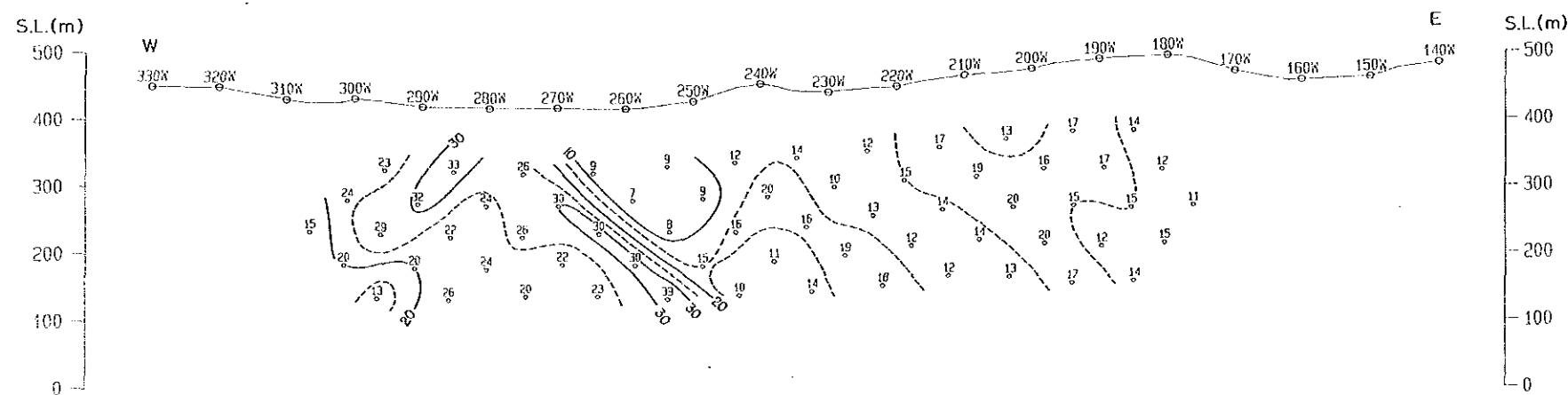


LINE-310S

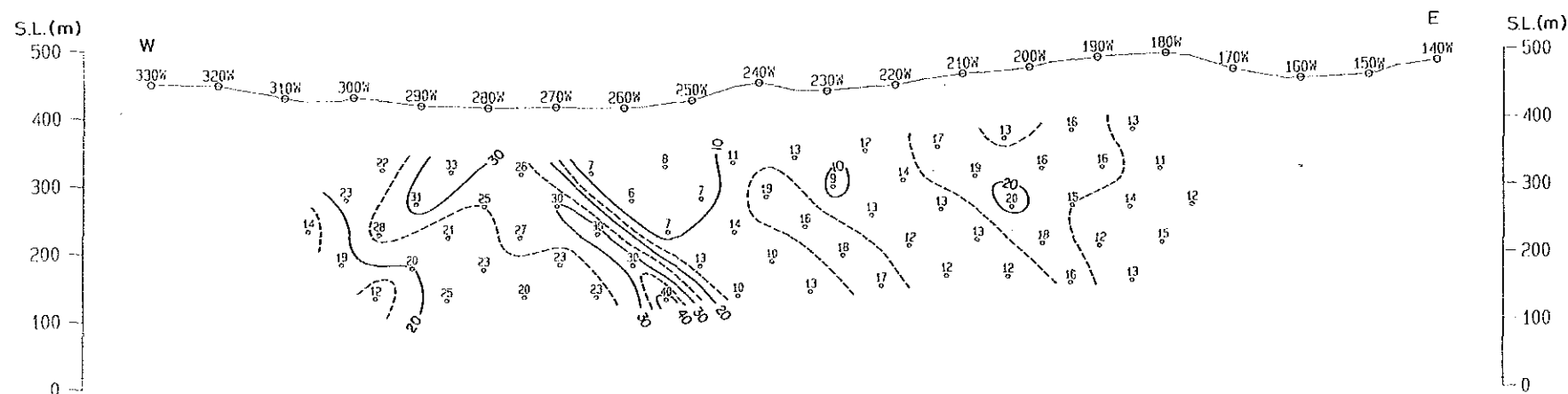
Apparent Resistivity (Ohm-m) [0.125Hz]

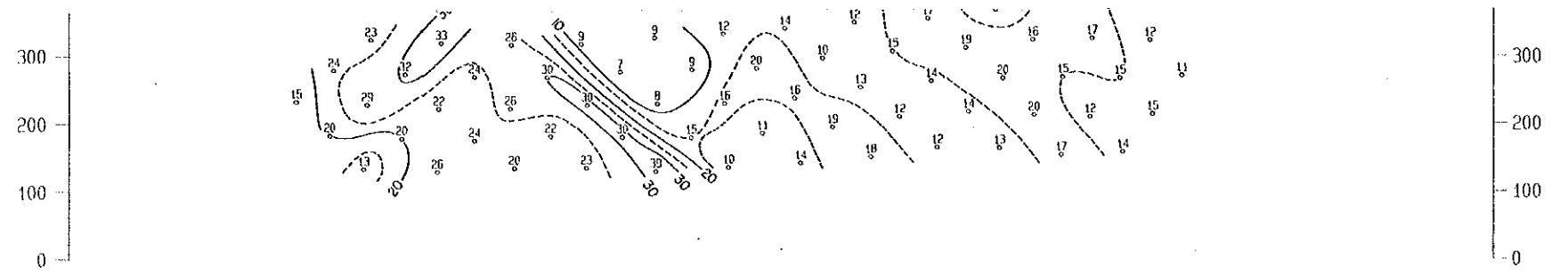


Raw Phase (-mrad) [0.125Hz]

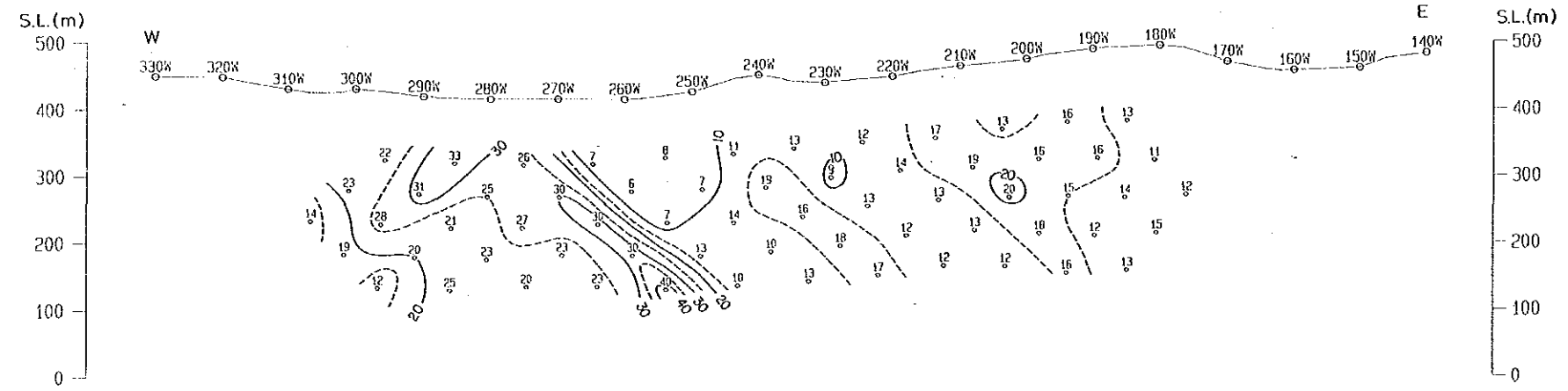


3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]

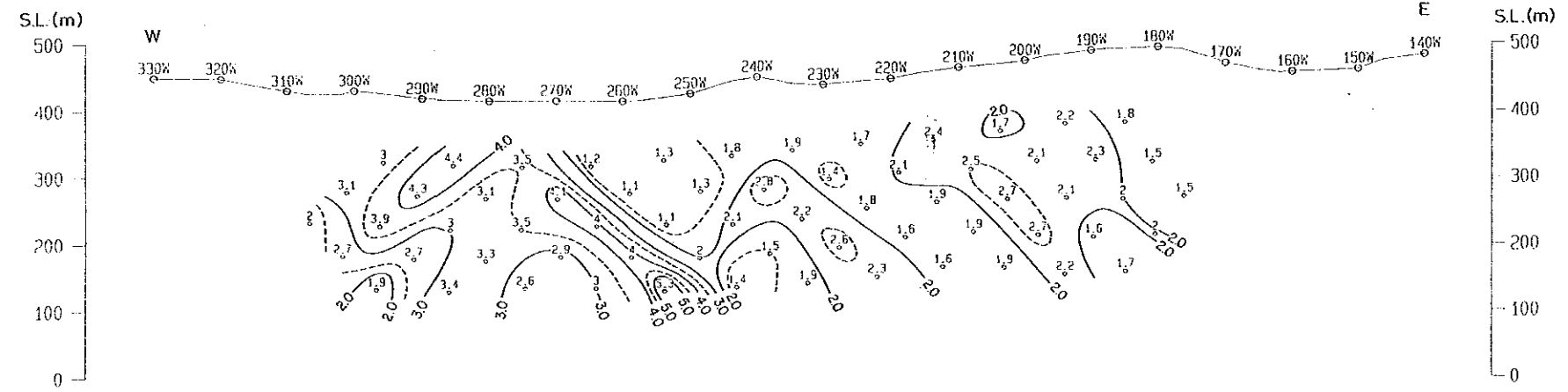




3-Point Decoupled Phase (-mrad) [0.125-0.625Hz]

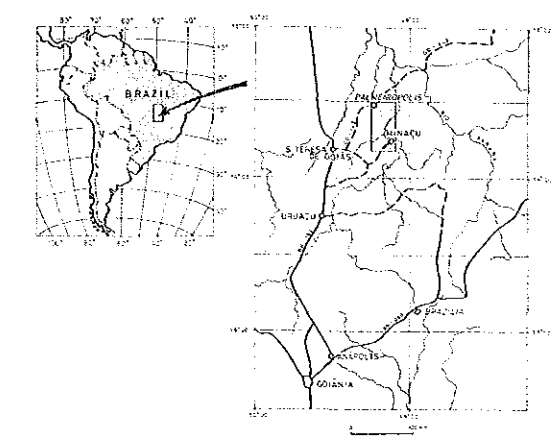


Percent Frequency Effect (%) [0.125-1.0Hz]

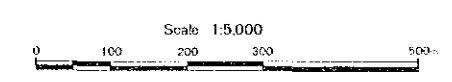


GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

SIP Pseudo-Section (Line-330S)

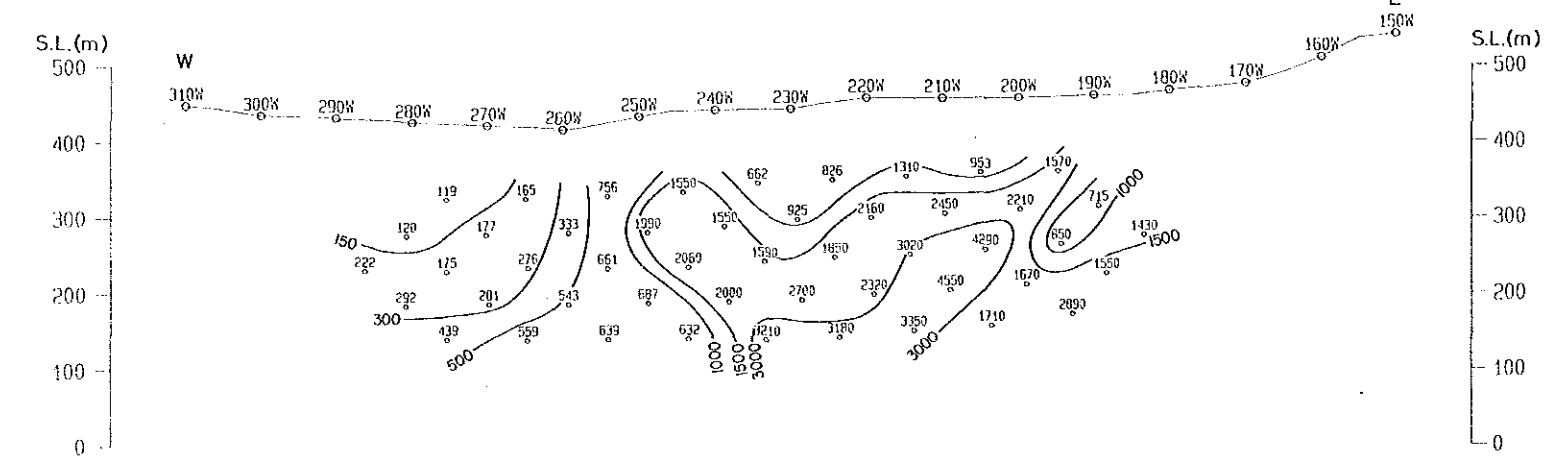


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEB. 1988

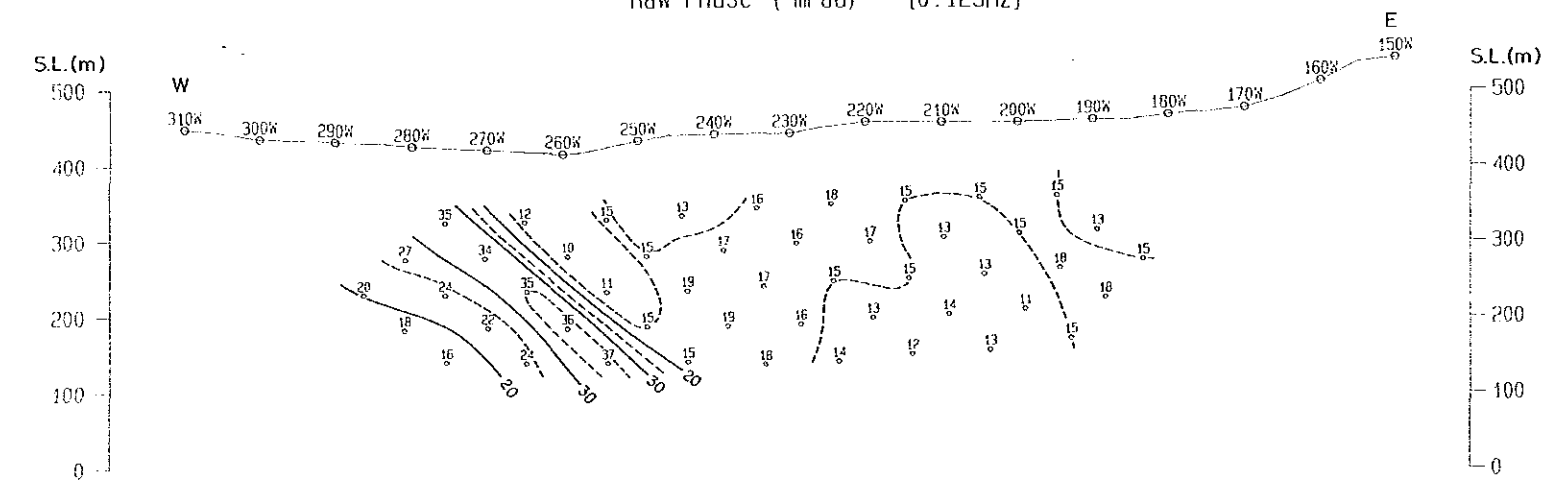


LINE-330S

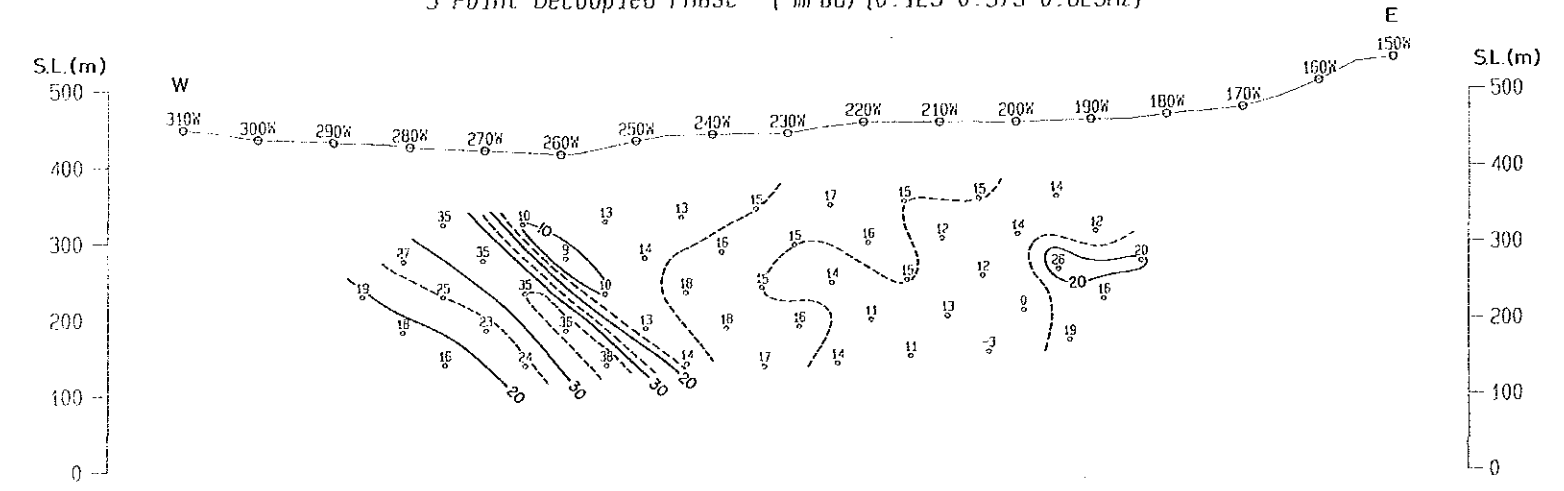
Apparent Resistivity (Ohm-m) [0.125Hz]

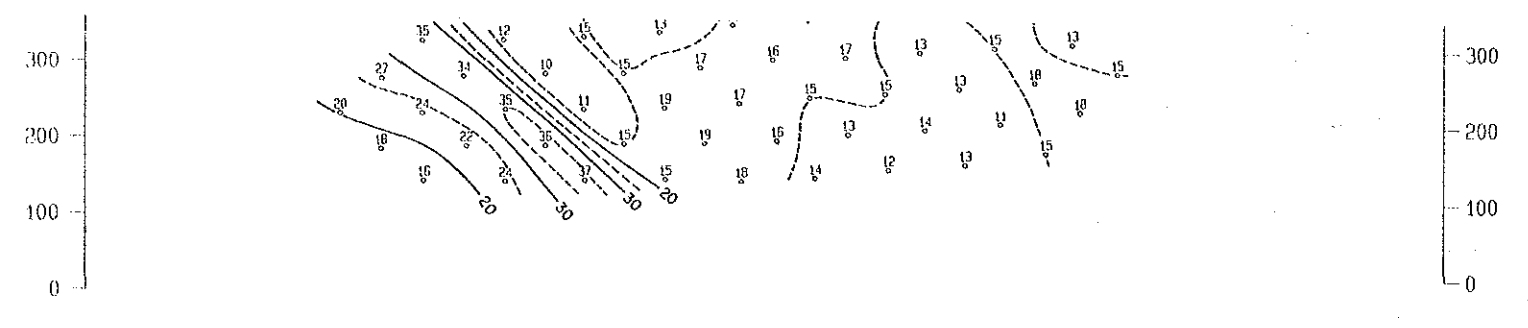


Raw Phase (-mrad) [0.125Hz]

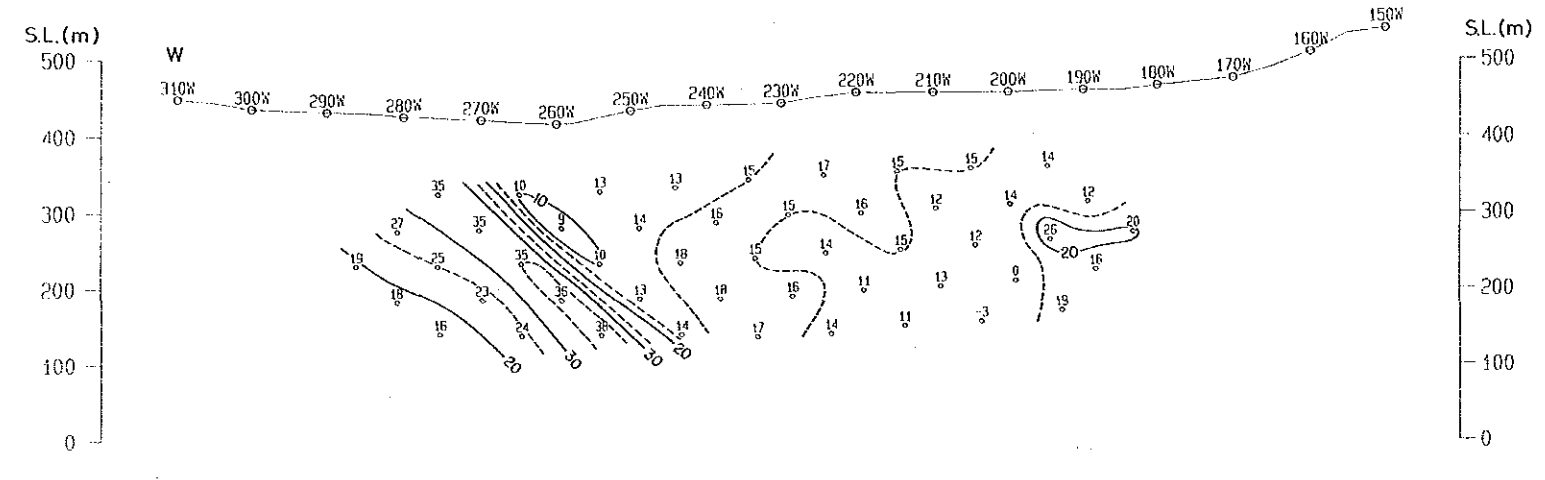


3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]

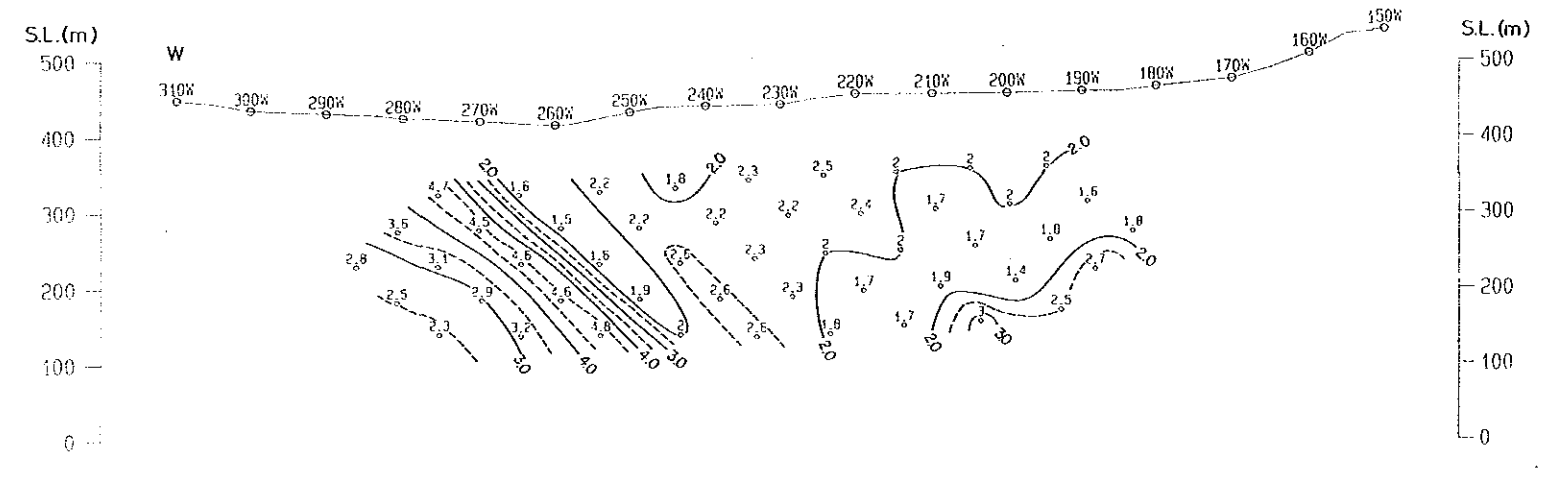




3-Point Decoupled Phase (-mrad) [0.125-0.625Hz]

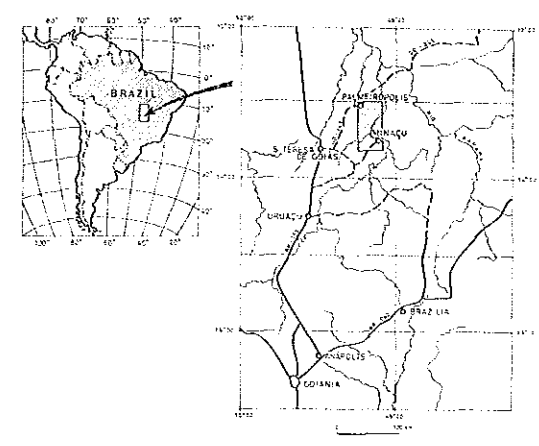


Percent Frequency Effect (%) [0.125-1.0Hz]

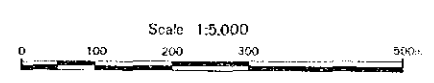


GEOLOGICAL SURVEY
IN
PALMEIROPOLIS, BRAZIL
PHASE II

SIP Pseudo-Section (Line-350S)

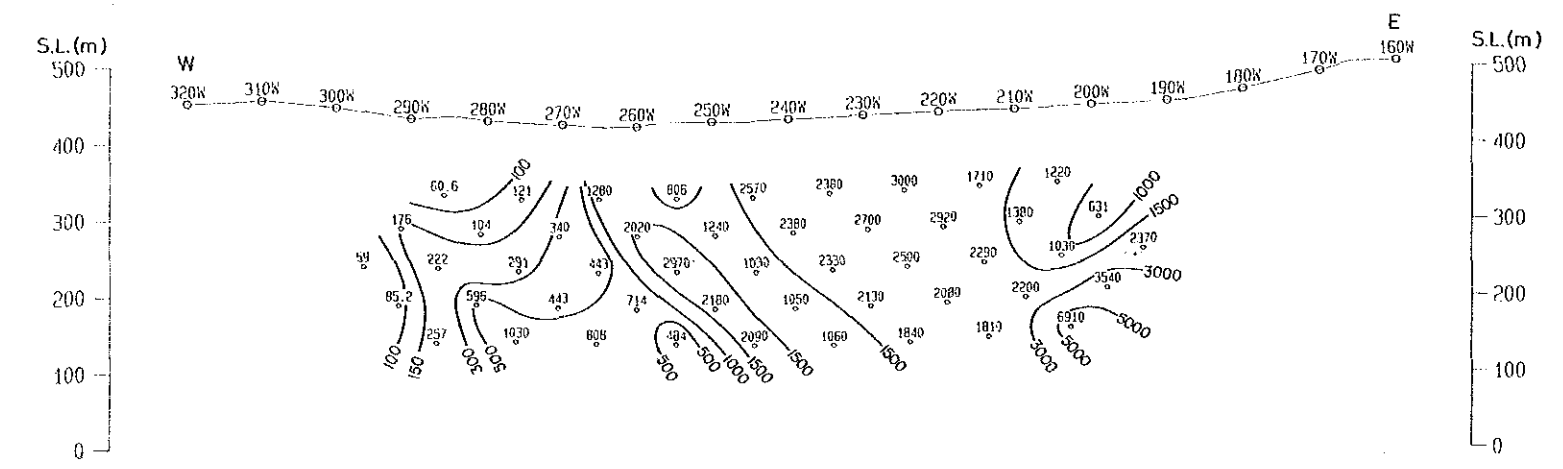


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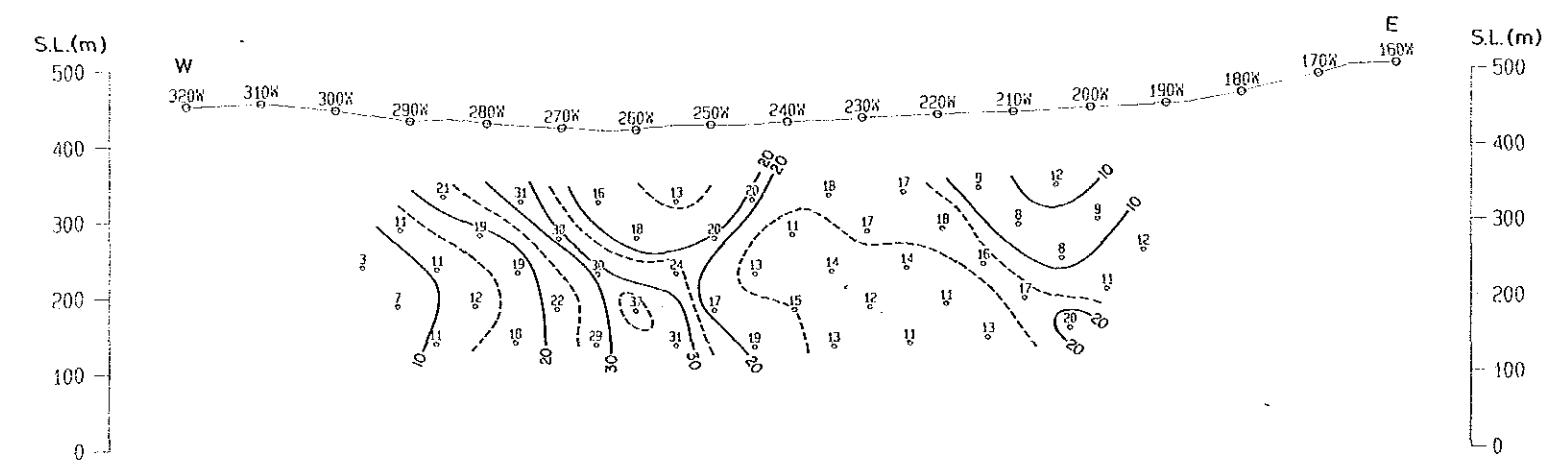


LINE-350S

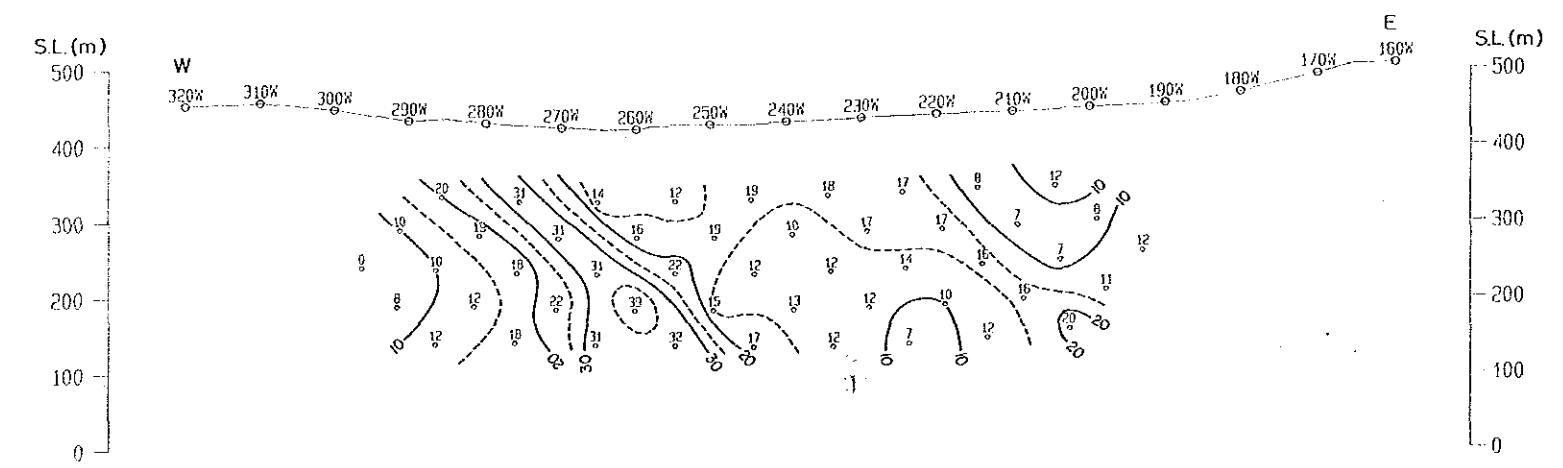
Apparent Resistivity (Ohm-m) [0.125Hz]



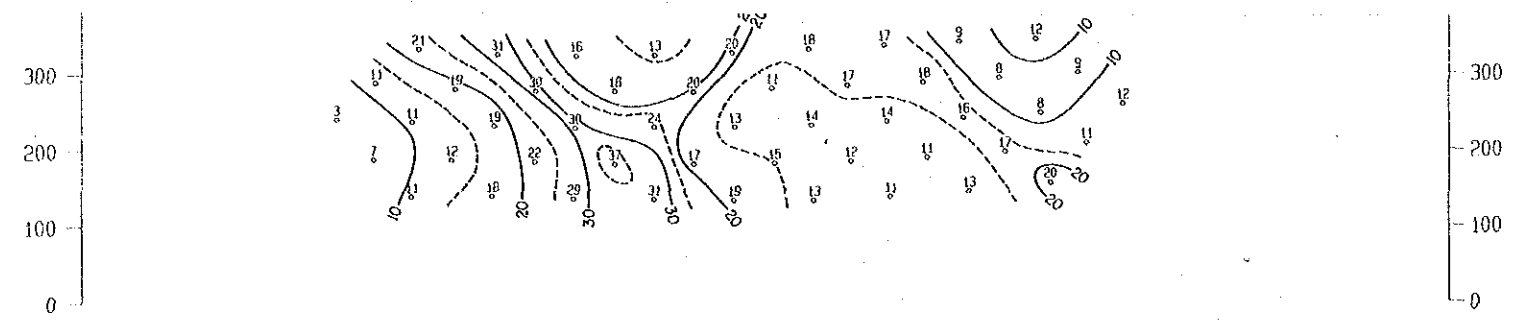
Raw Phase (-mrad) [0.125Hz]



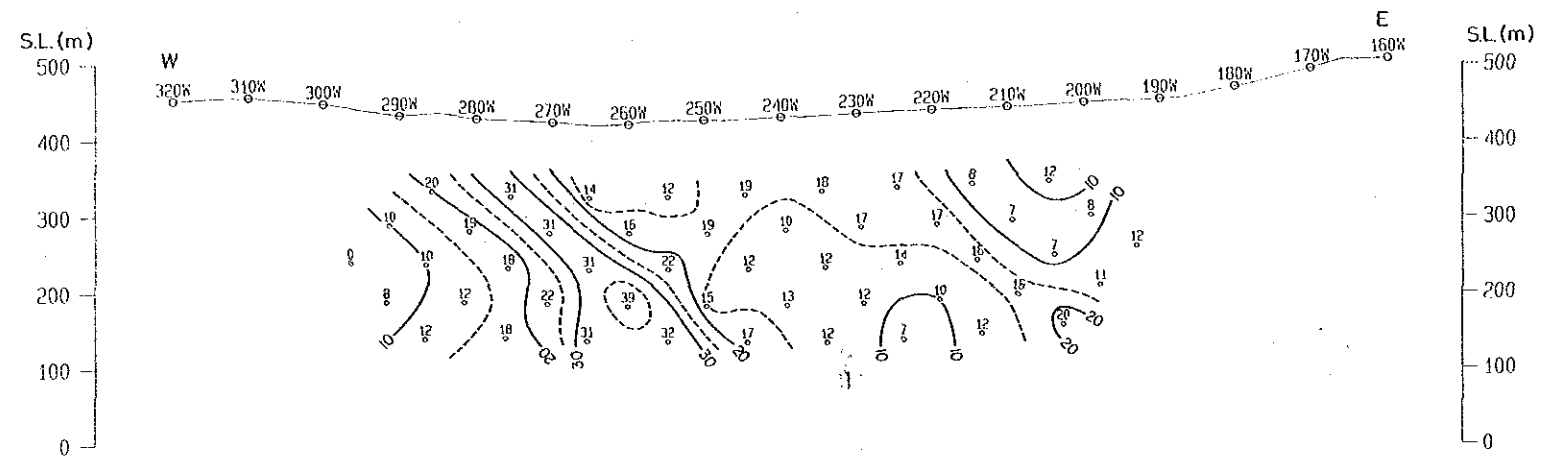
3-Point Decoupled Phase (-mrad) [0.125-0.375-0.625Hz]



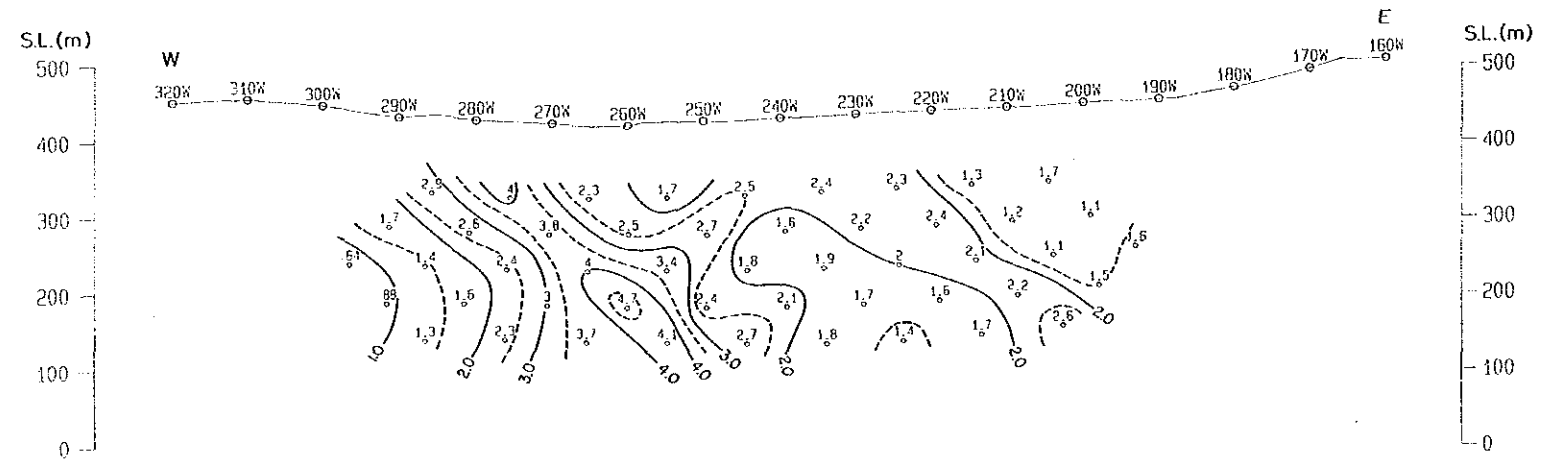
Percent Frequency Effect (%) [0.125-1.0Hz]



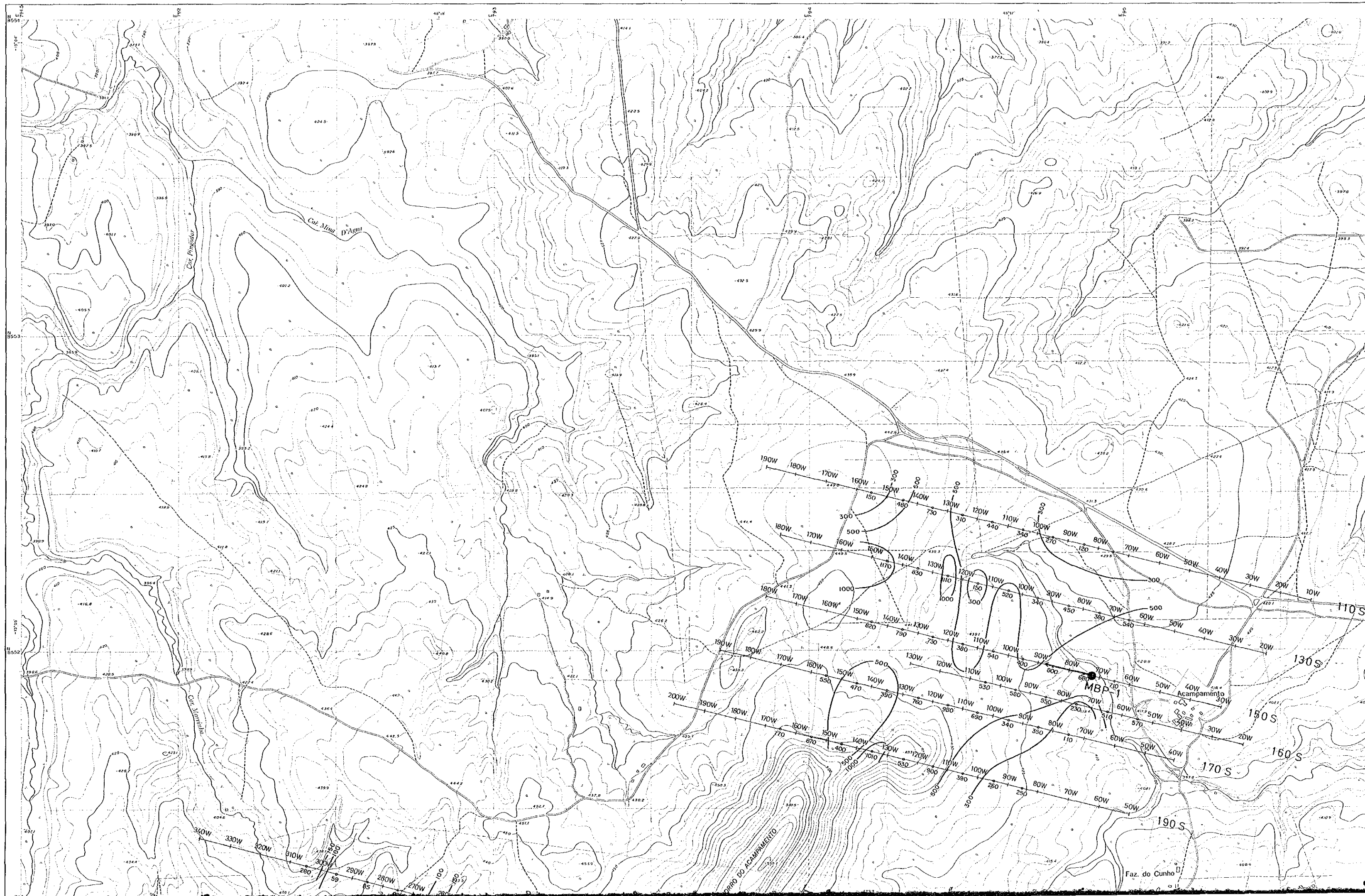
3-Point Decoupled Phase (-mrad) (0.125-0.375-0.625Hz)



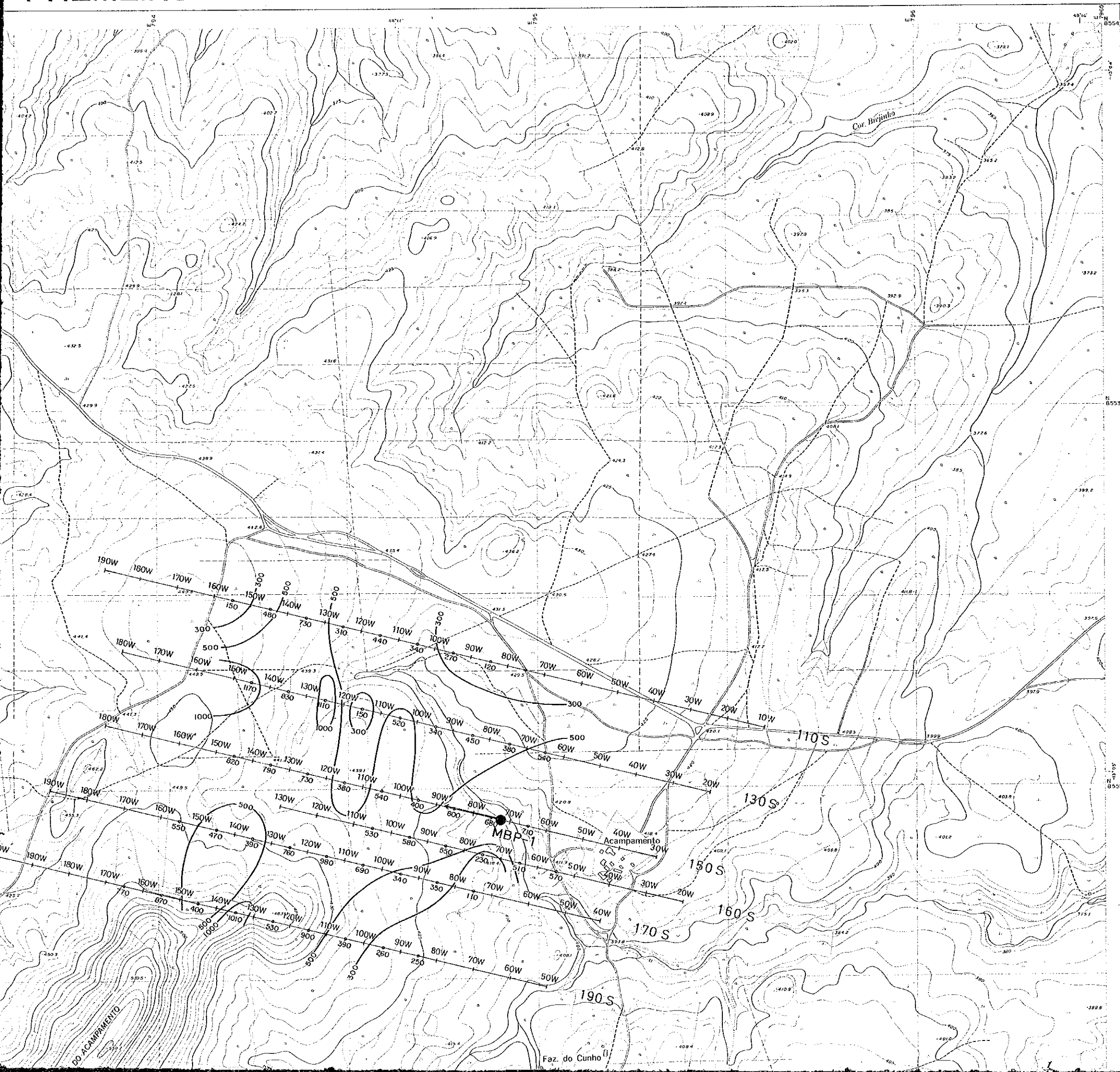
Percent Frequency Effect (%) (0.125-1.0Hz)



PALMEIROPOLIS

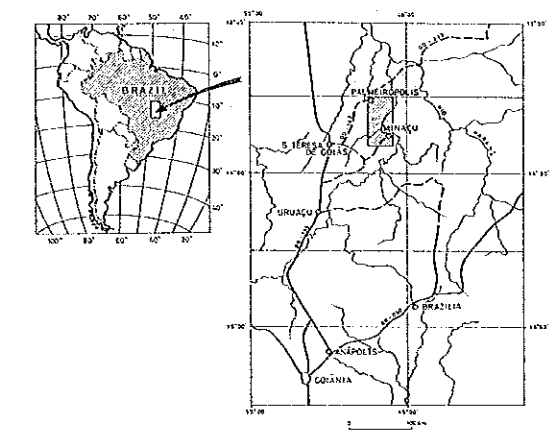


PALMEIROPOLIS

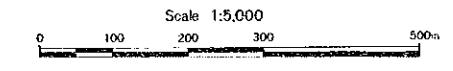


PL. II-3-12
 GEOLOGICAL SURVEY
 IN
 PALMEIROPOLIS, BRAZIL
 PHASE II

Apparent Resistivity Map [n-spread 1]

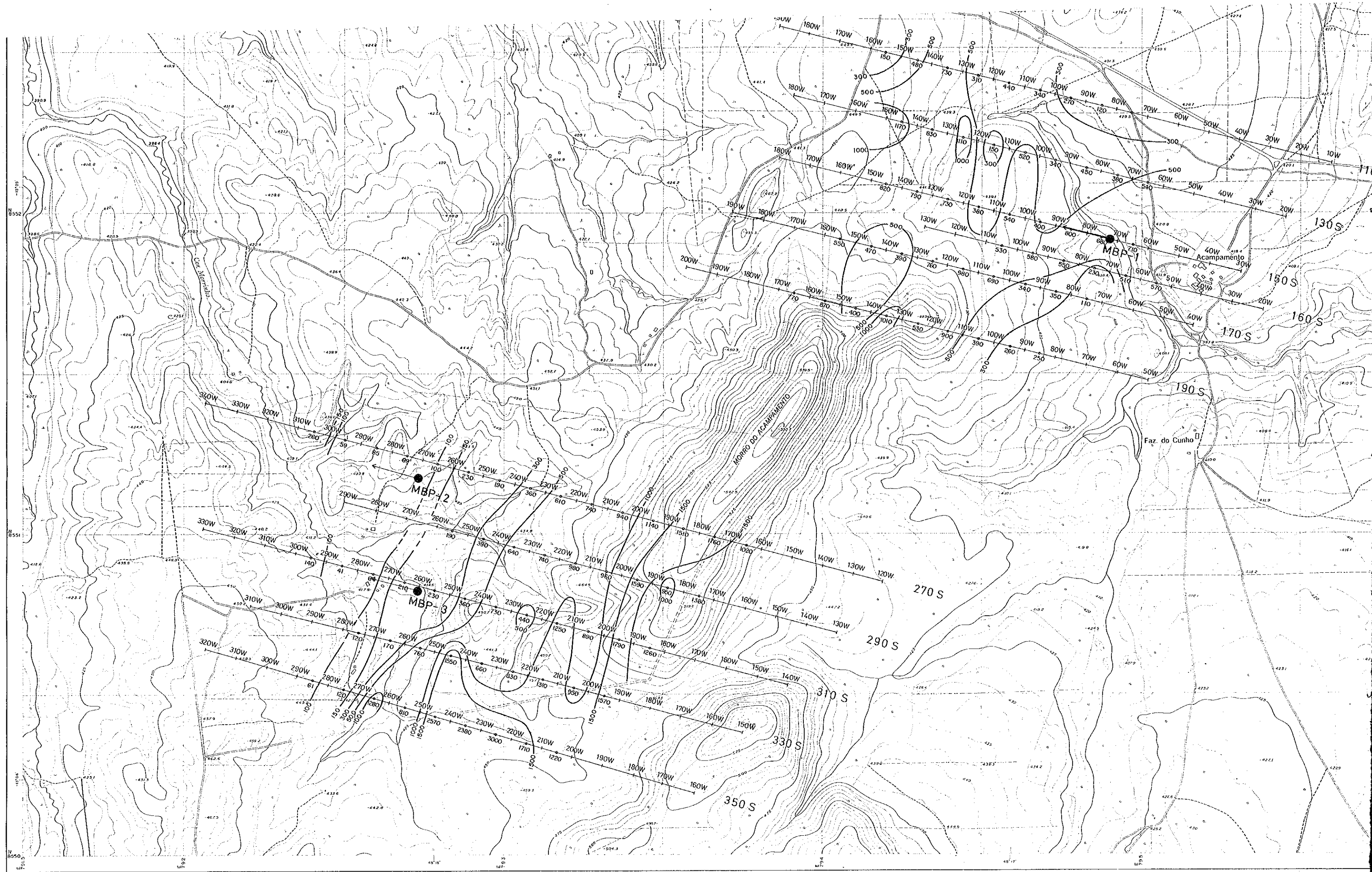


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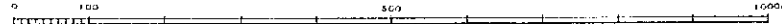


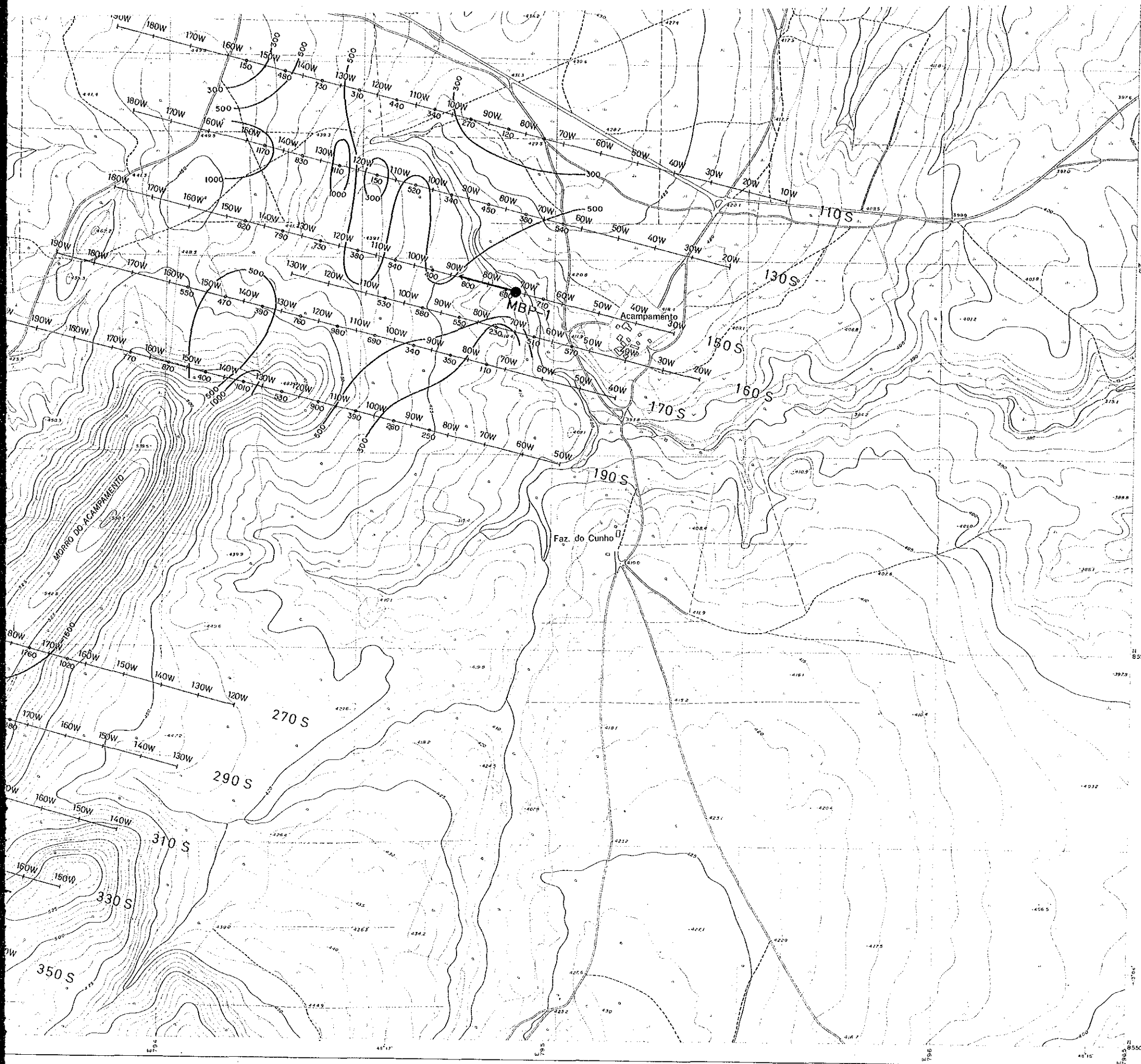
LEGEND

- SIP LINE
- DRILLING POINT
- RESISTIVITY CONTOUR (ohm-m)

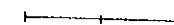

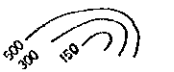


1:5,000





LEGEND

-  SIP LINE
-  DRILLING POINT
-  RESISTIVITY CONTOUR (ohm-m)

金屬鉍業事業團

1:5,000