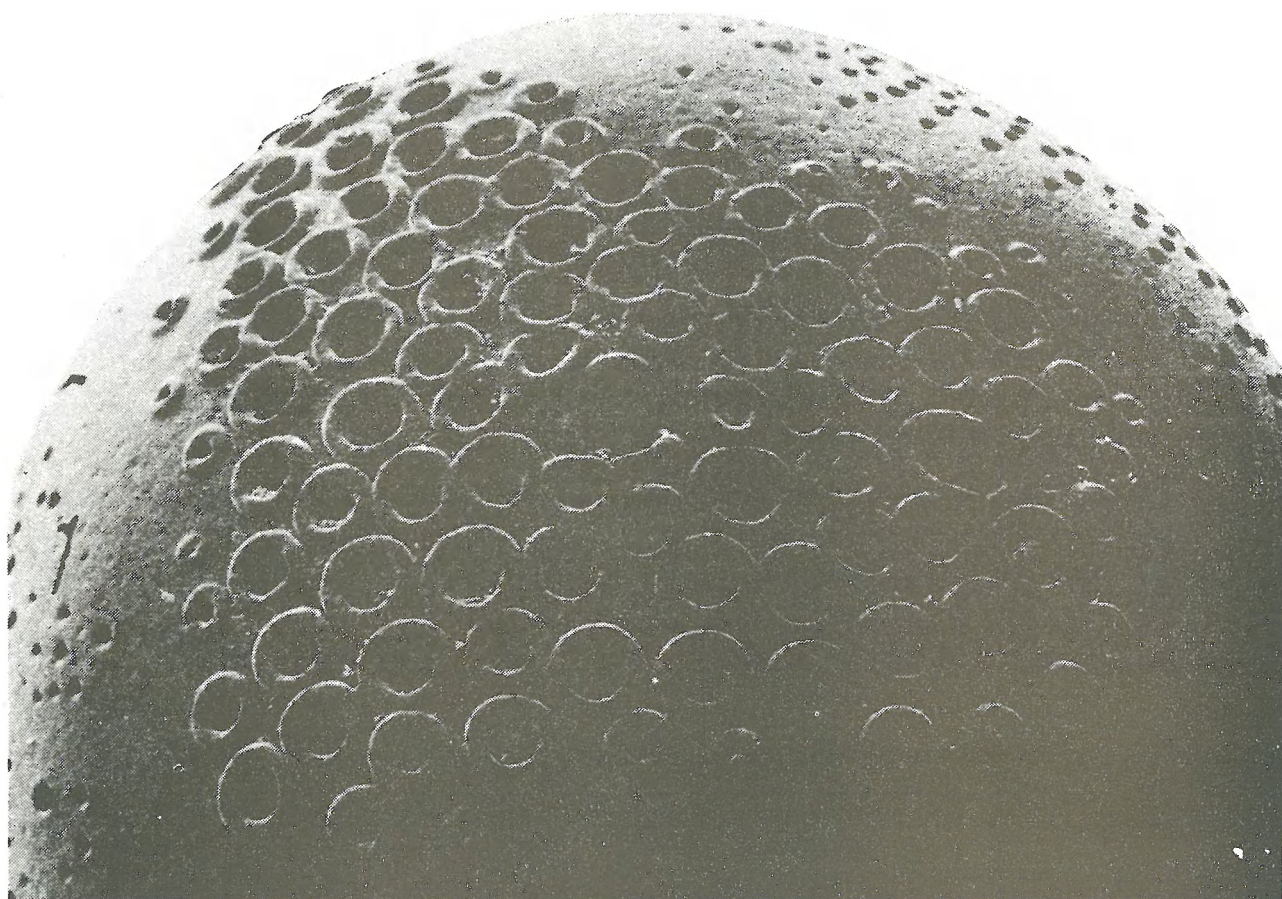


**DISTRIBUTION PATTERNS AND TAXONOMY
OF BENTHIC FORAMINIFERA IN THE
LIZARD ISLAND REEF COMPLEX,
NORTHERN GREAT BARRIER REEF, AUSTRALIA**



4-2

ANNEXES

UNIVERSITE DE LIEGE - C.A.P.S. - LABORATOIRE DE BIOSEDIMENTOLOGIE

**THESE DE DOCTORAT
EN SCIENCES GEOLOGIQUES ET MINERALOGIQUES, 1987**

Jan BACCAERT

A N N E X 2

Procentual cumulative diagrams

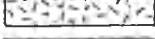
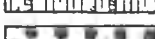
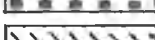
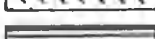
LEGEND

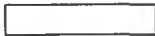
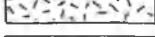
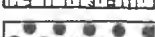
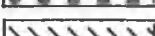
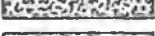
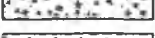
See loose page included below. On this legend page the foraminiferal taxa are arranged in the same order, from bottom to top, as they occur in the diagrams. This legend page may be taken out and can be directly compared with the diagrams.

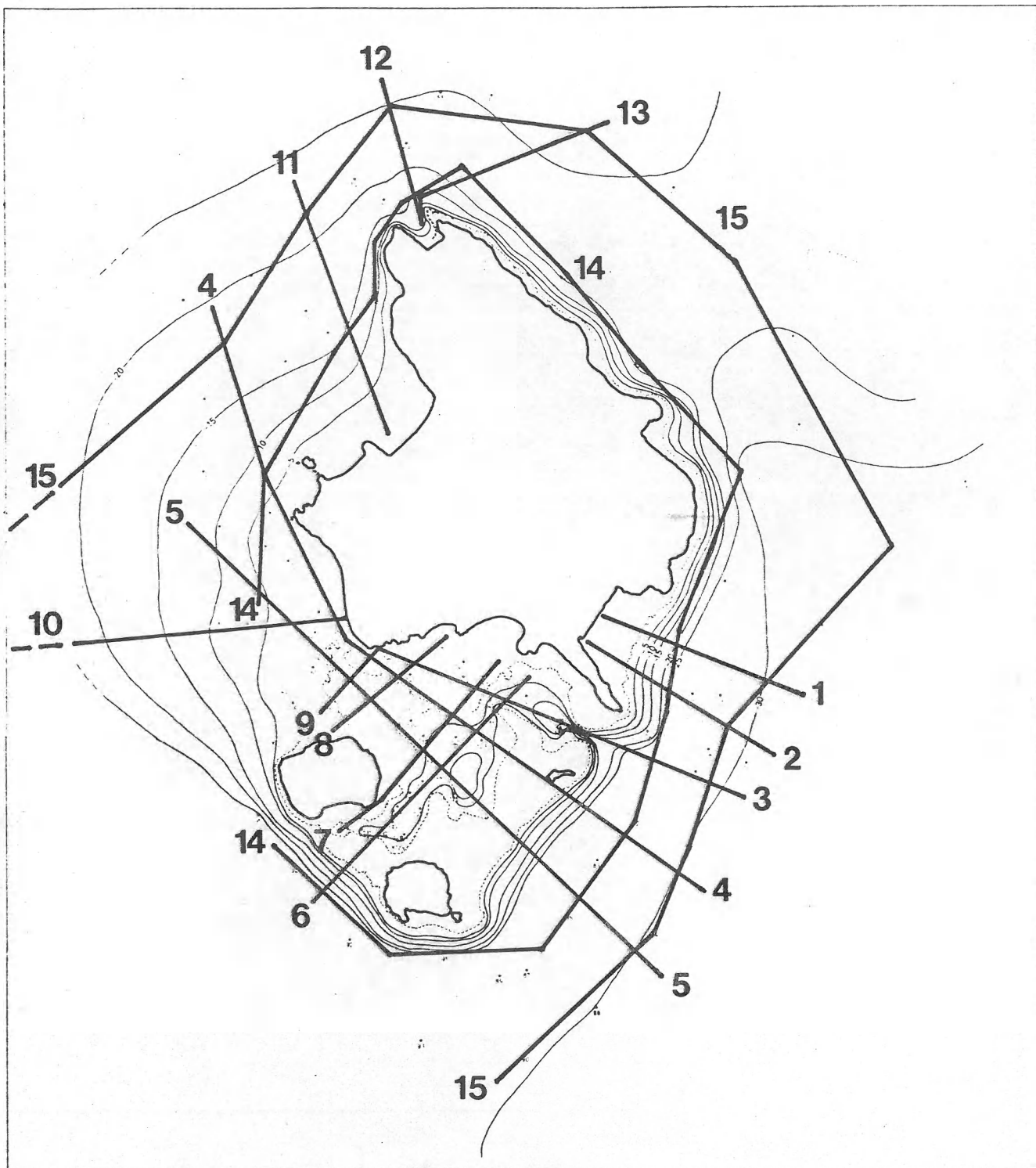
The "fragmentation curves", showing the procentual cumulative percentage variances of the groups identified forams (DET FOR), identified FRAGMENTS and unidentified smaller fragments (INDET), are displayed below the respective cumulative diagrams of foraminiferal taxa.

In one case (traverse 5), a third diagram showing granulometry variances is to be found below the fragmentation curve.

A map with the localisation of traverses can be found on next page.

ROTALINA	(PLANCTON)	
	OTHER	
	OPERCULINA	
	CIBICIDES	
	SPIRILLINA	
	REUSSELLA	
	ROSALINA	
	ROSALINA BRADYI	
	GLABRATTELLA	
	BOLIVINA GR.	
	EPONIDES	
	DISCORBIDAE	
	CYMBALOPORETTA	
	AMMONIA	
	NONION GR.	
	HAYNESINA	
	ELPHIDIUM	
	AMPHISTEGINA	
	BACULOGYPSINA	
	CALCARINA (+PARRELLINA)	

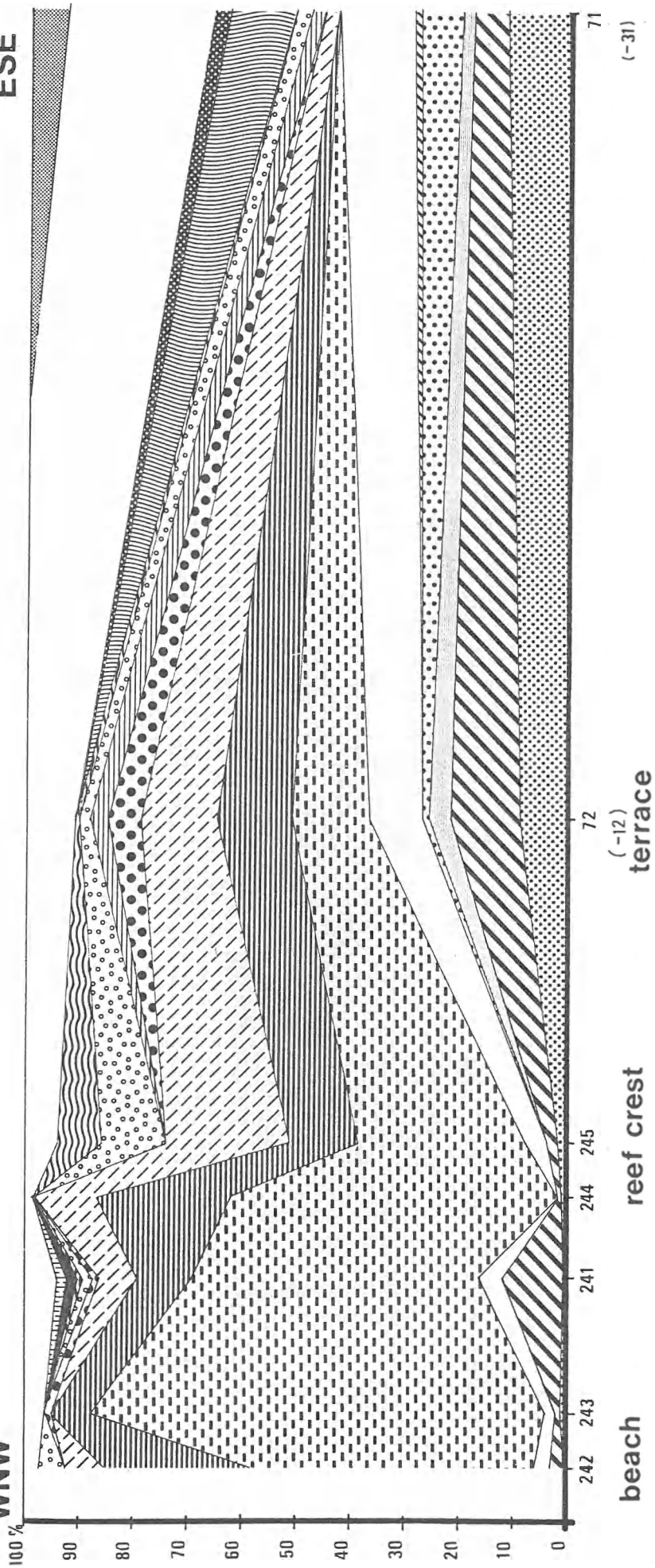
ROTALINA	(PLANCTON)	
	OTHER	
	OPERCULINA	
	CIBICIDES	
	SPIRILLINA	
	REUSSELLA	
	ROSALINA	
	ROSALINA BRADYI	
	GLABRATELLA	
	BOLIVINA GR.	
	EPONIDES	
	DISCORBIDAE	
	CYMBALOPORETTA	
	AMMONIA	
	NONION GR.	
	HAYNESINA	
MILIOLINA	ELPHIDIUM	
	AMPHISTEGINA	
	BACULOGYPSINA	
	CALCARINA (+PARRELLINA)	
	OTHER	
	ALVEOLINELLA	
	MASSILINA	
	PLANISPIRINELLA EXIGUA	
	HAUERINA	
	HAUERINA - PACIFICA	
SORITIDAE	TRILOCULINA	
	MILIOLIDAE	
	TROPICALIS	
	GRANULOCOSTATA	
	QUINQUECARINATA	
	QUINQUELOCULINA	
	MONTYI	
	POEYANA CARINATA	
	OBLONGA GR.	
	NEOSTRIATULA	
TEXTULARIINA		



Traverse 1

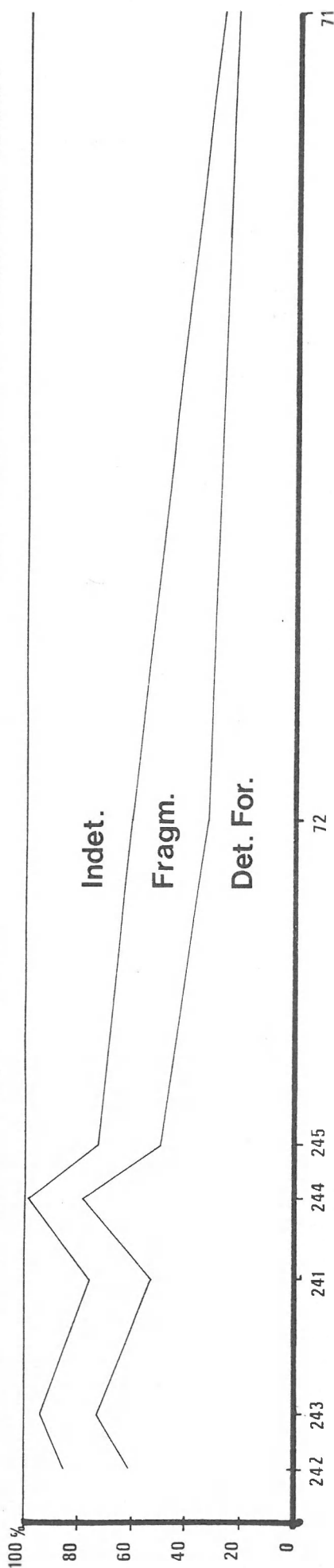
WNW

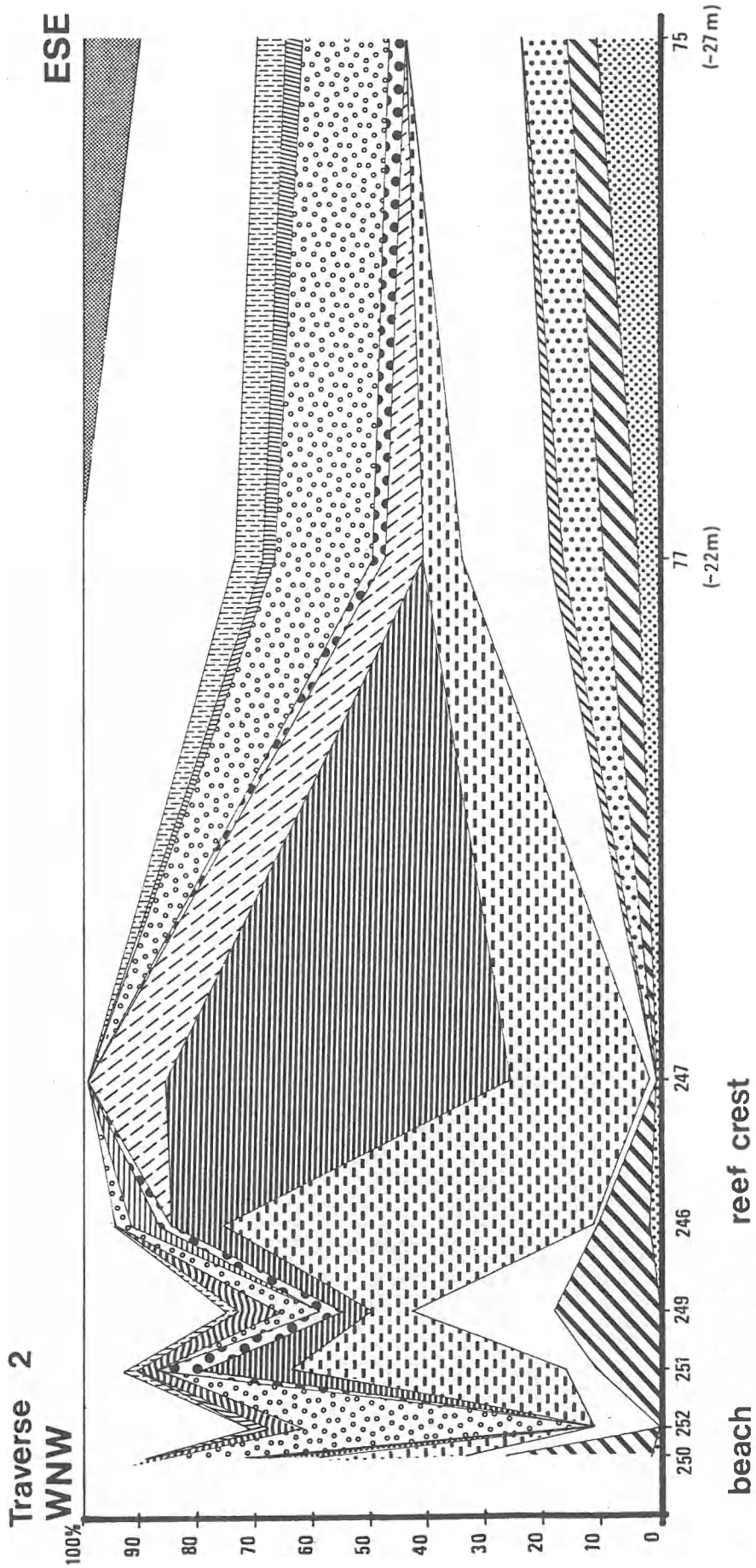
ESE



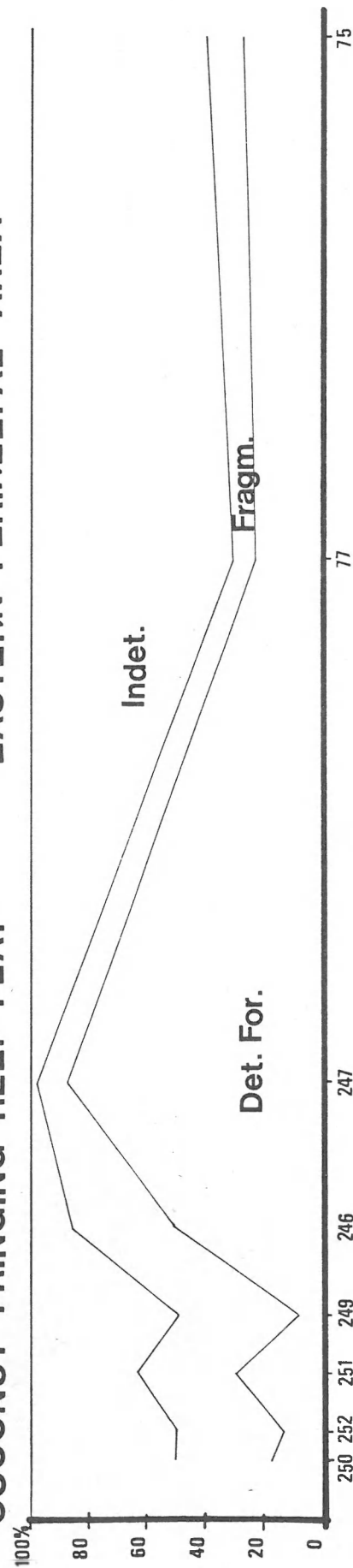
COCONUT FRINGING REEF FLAT

EASTERN PERIREEFAL AREA





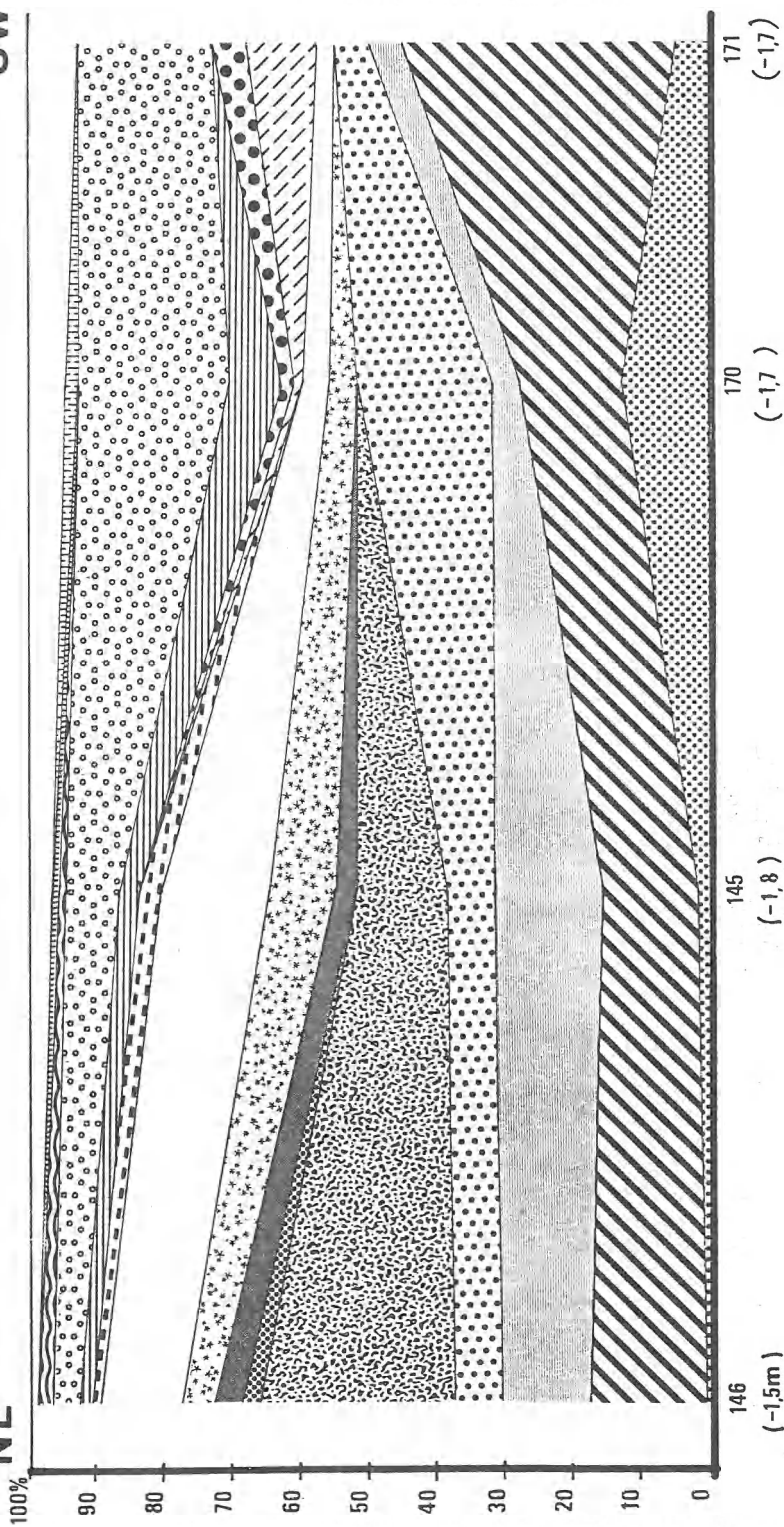
COCONUT FRINGING REEF FLAT EASTERN PERIREEFAL AREA



Traverse 8

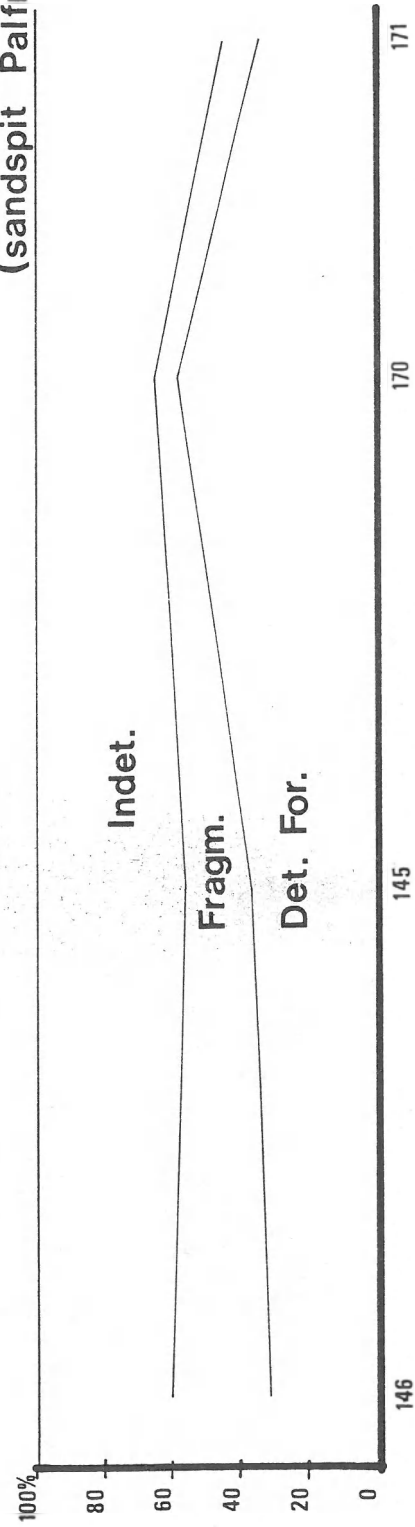
SW

NE



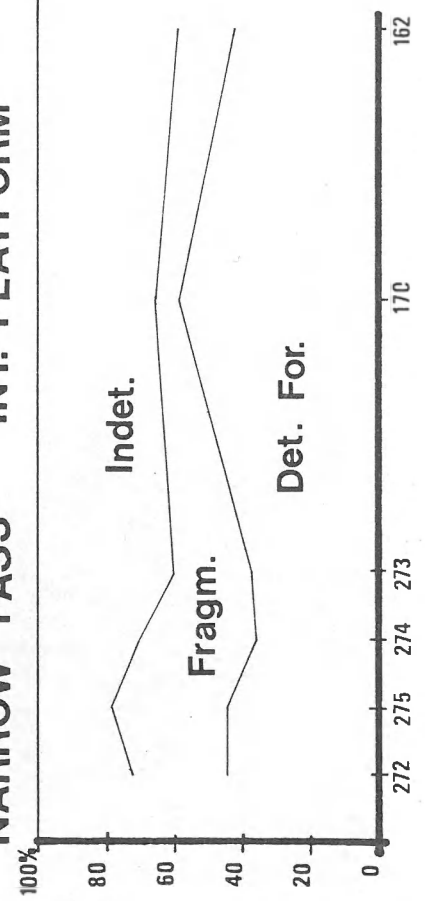
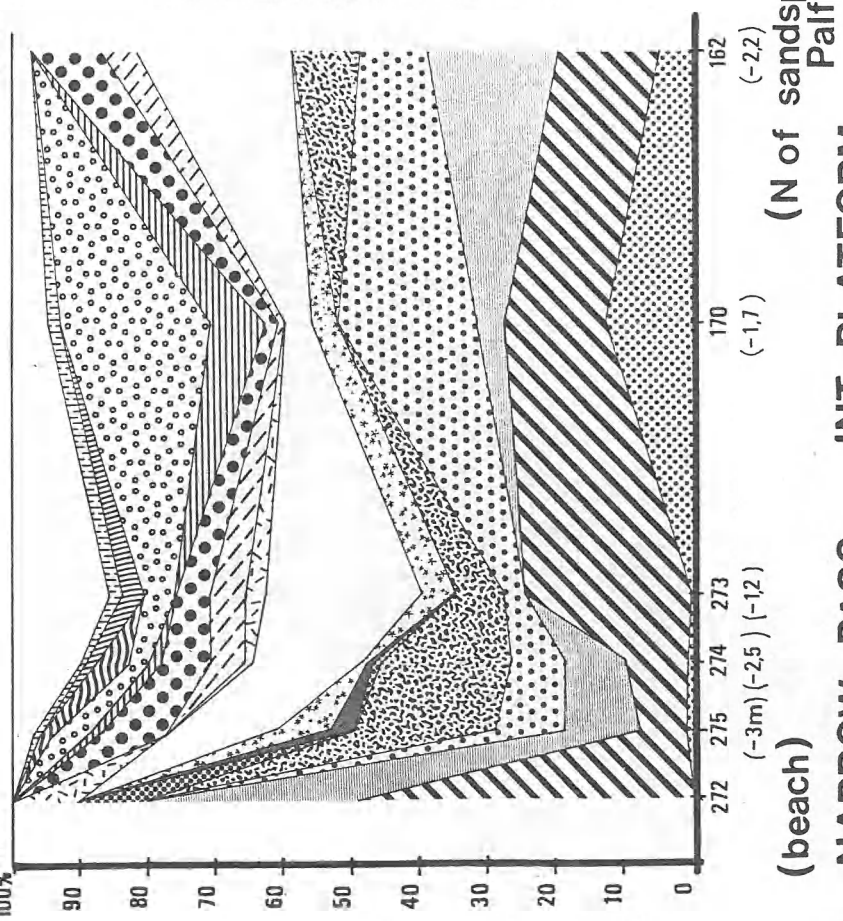
SANDY SHOAL (Passage S)

INTERNAL PLATFORM
near
(sandspit Palfrey)



Traverse 9

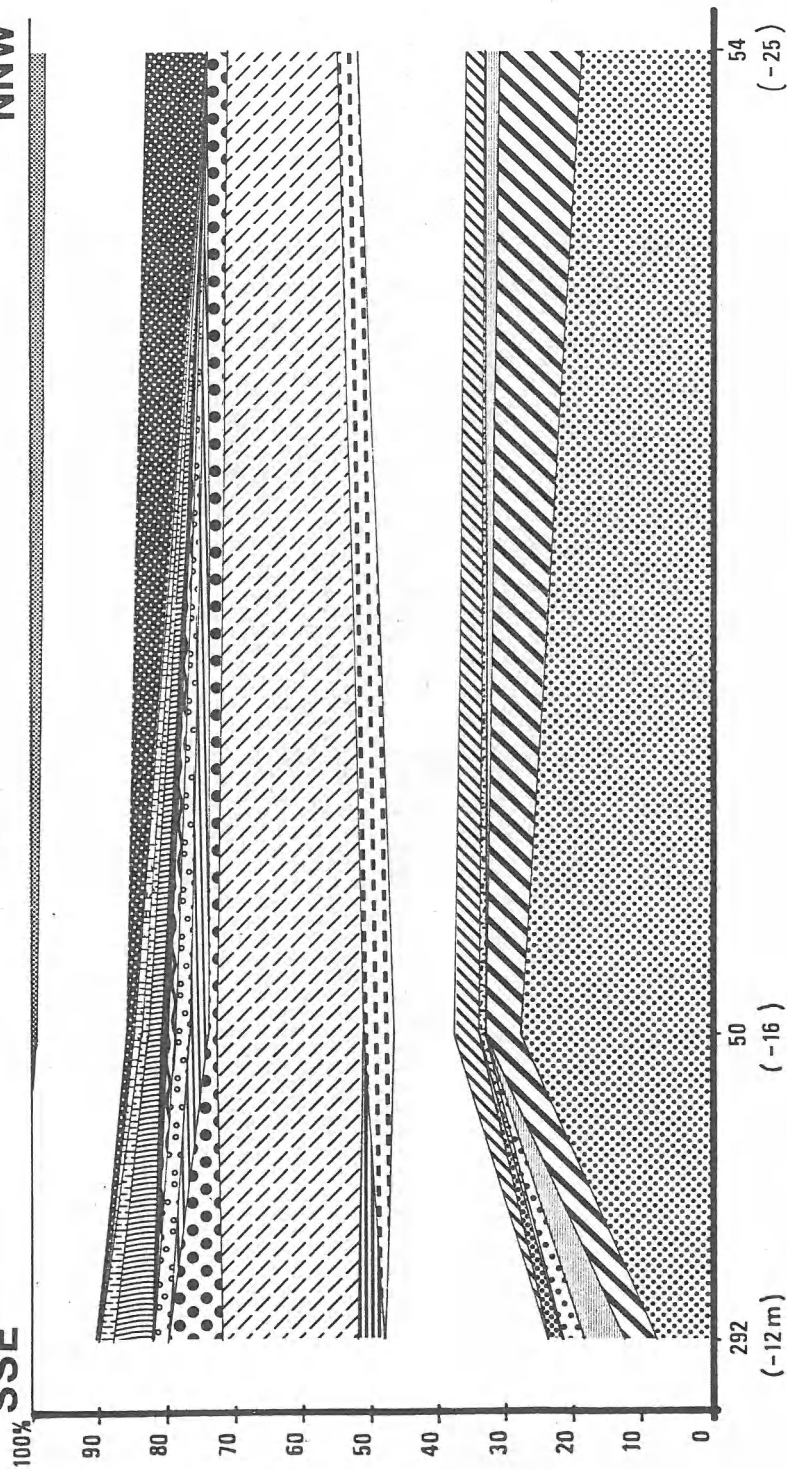
NE SW



Traverse 12

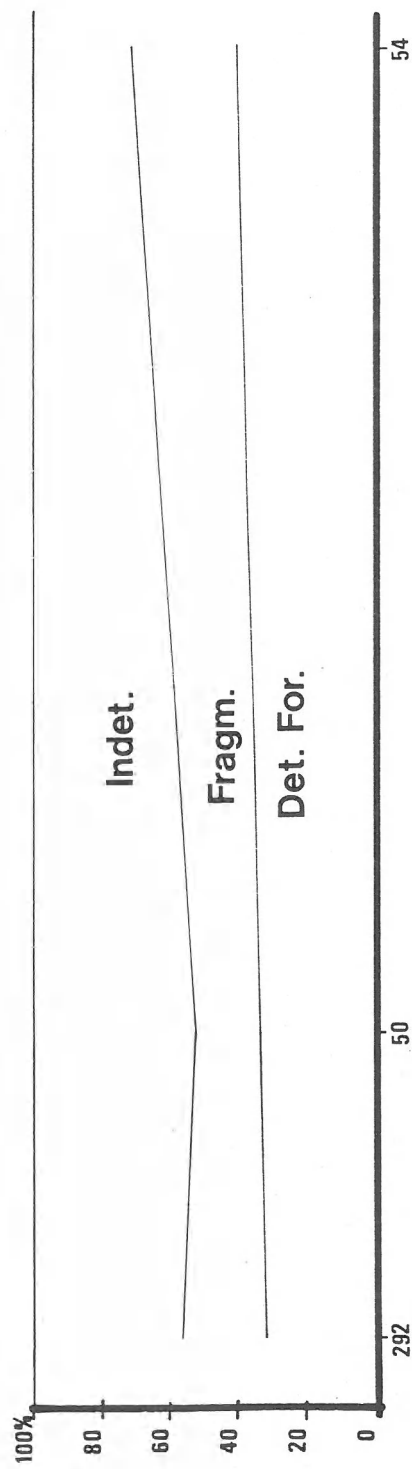
SSE

NNW



NORTH POINT

NORTHERN PERIREEFAL AREA



Indet.

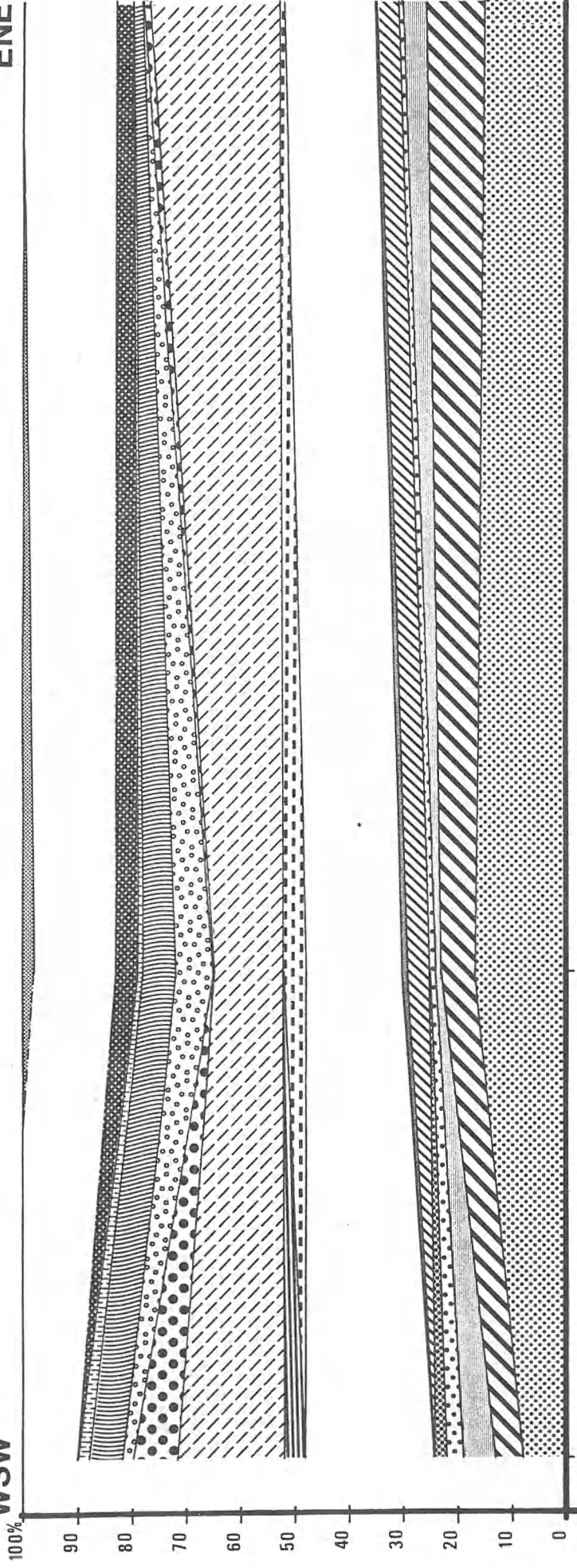
Fragm.

Det. For.

Traverse 13

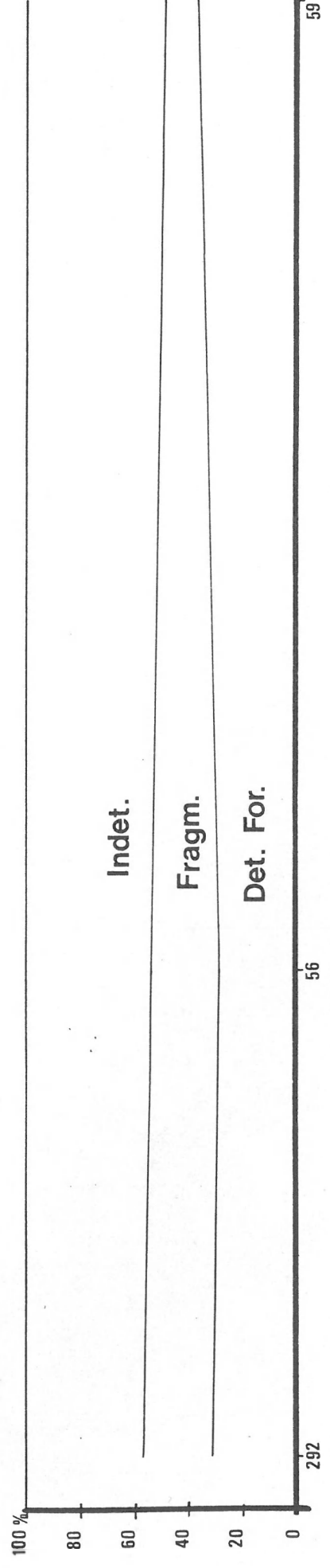
WSW

ENE

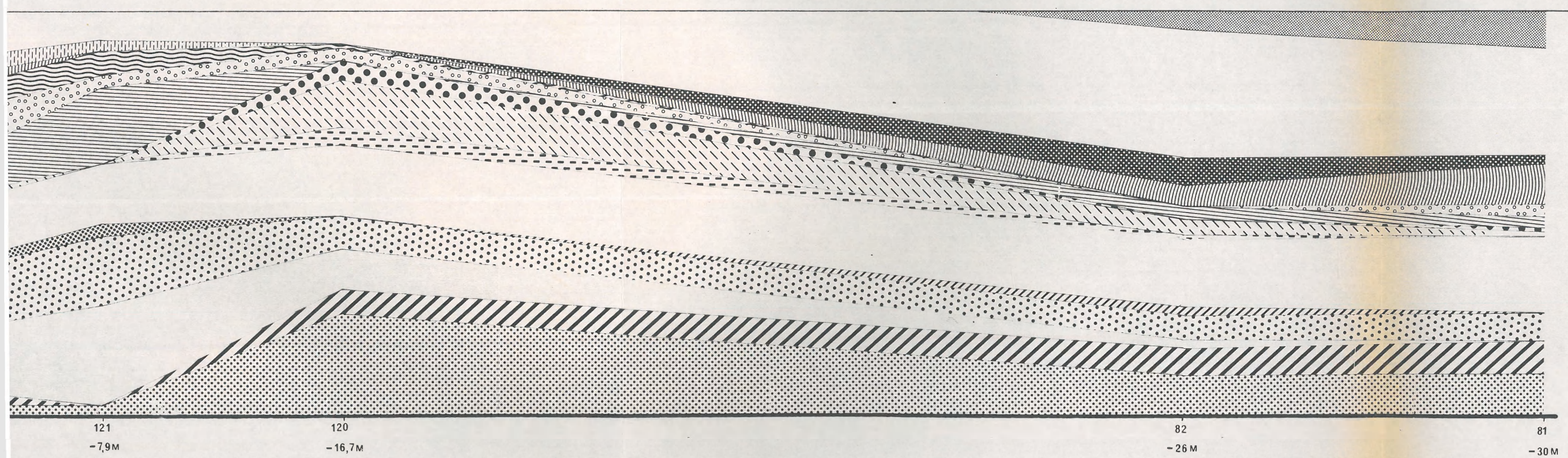


NORTH POINT

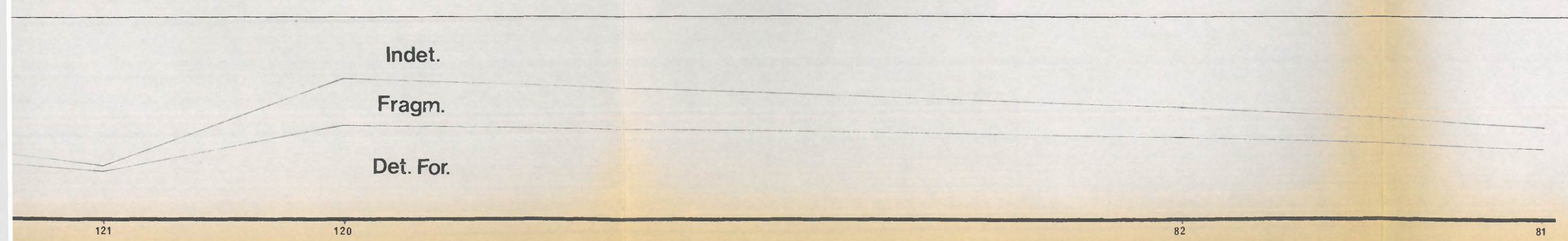
(NORTH) EASTERN PERIREEFAL AREA



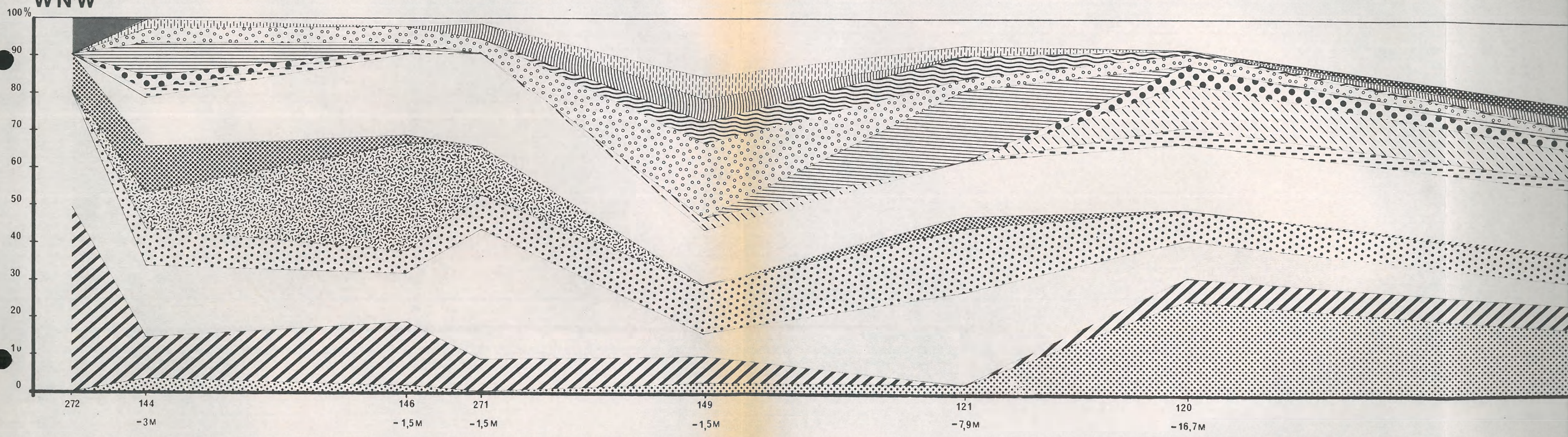
ESE



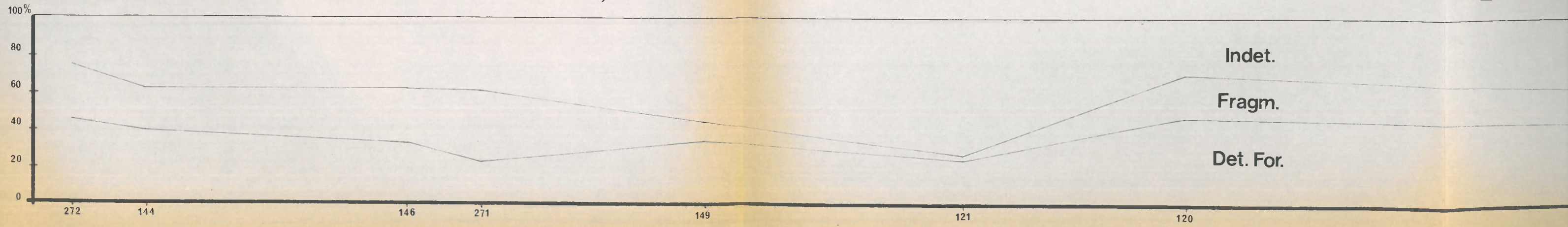
LAGOON — L. ENTRANCE EASTERN PERIREEFAL AREA



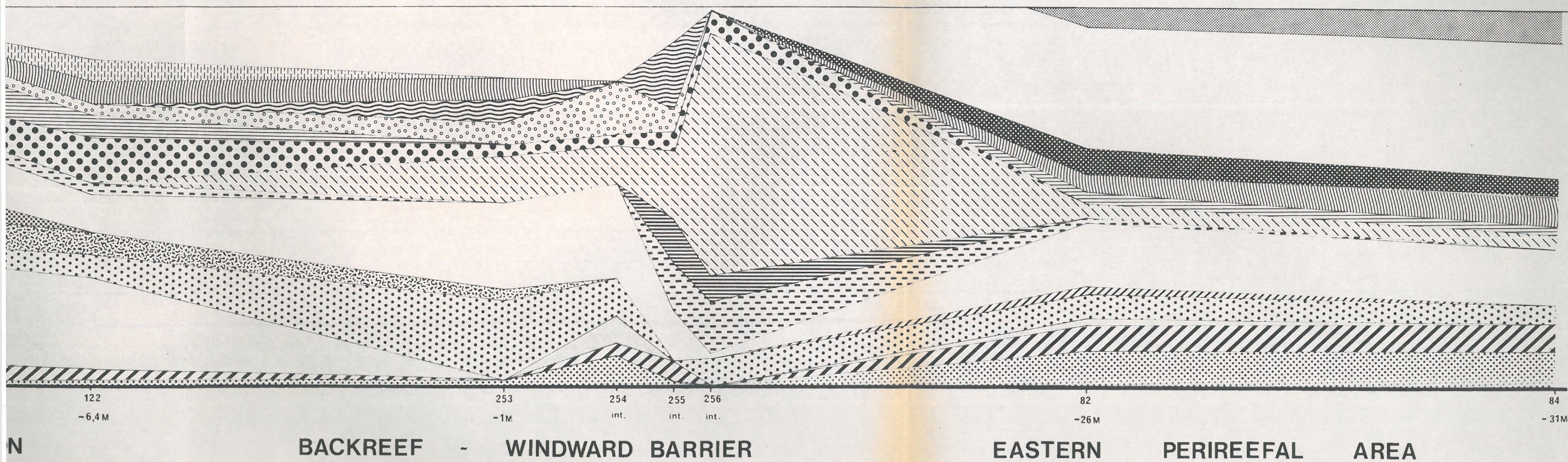
Traverse 3 WNW



BEACH SANDY SHOAL → id, recolonised front LAGOON — L. ENTRANCE EASTER



SE



122

253

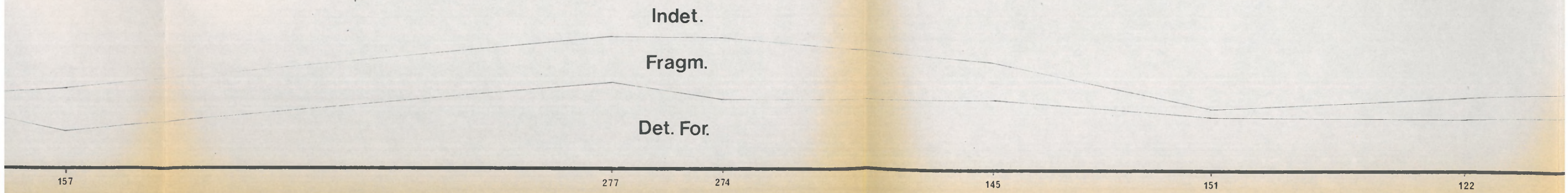
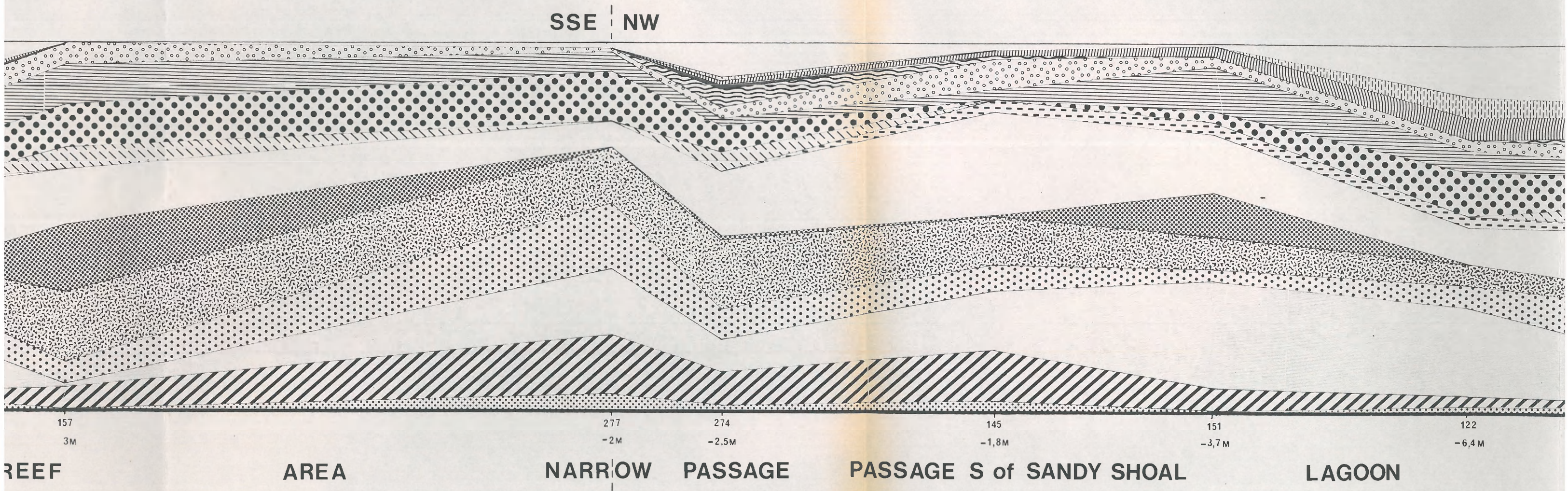
254

255

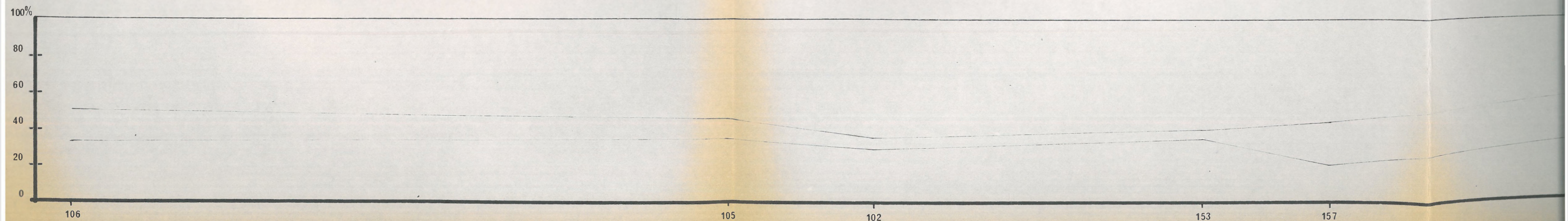
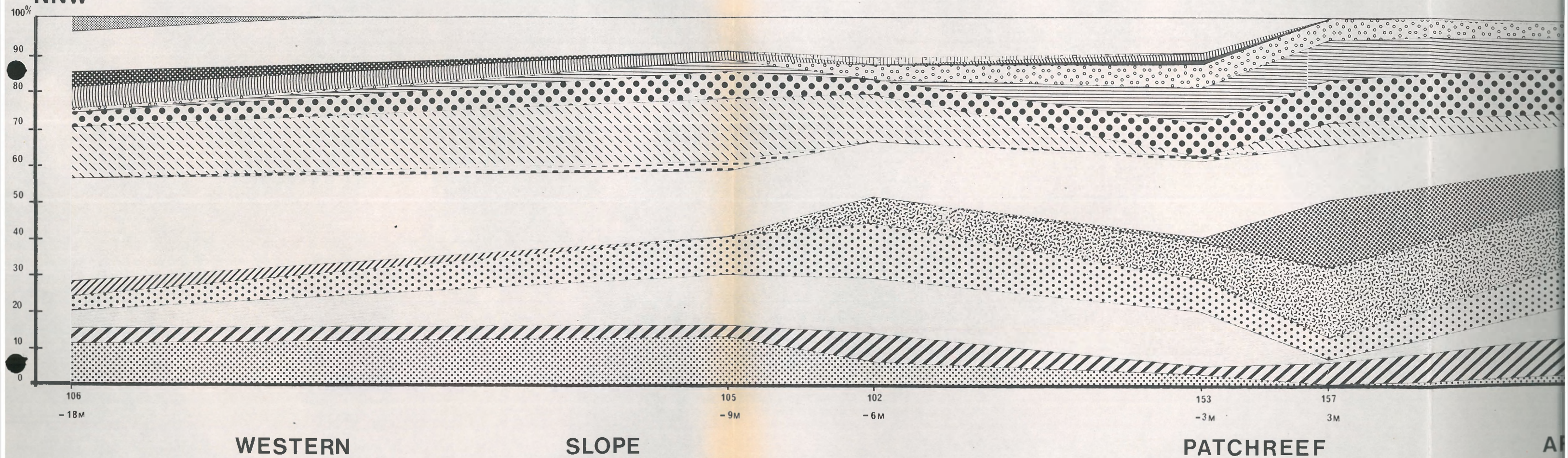
256

82

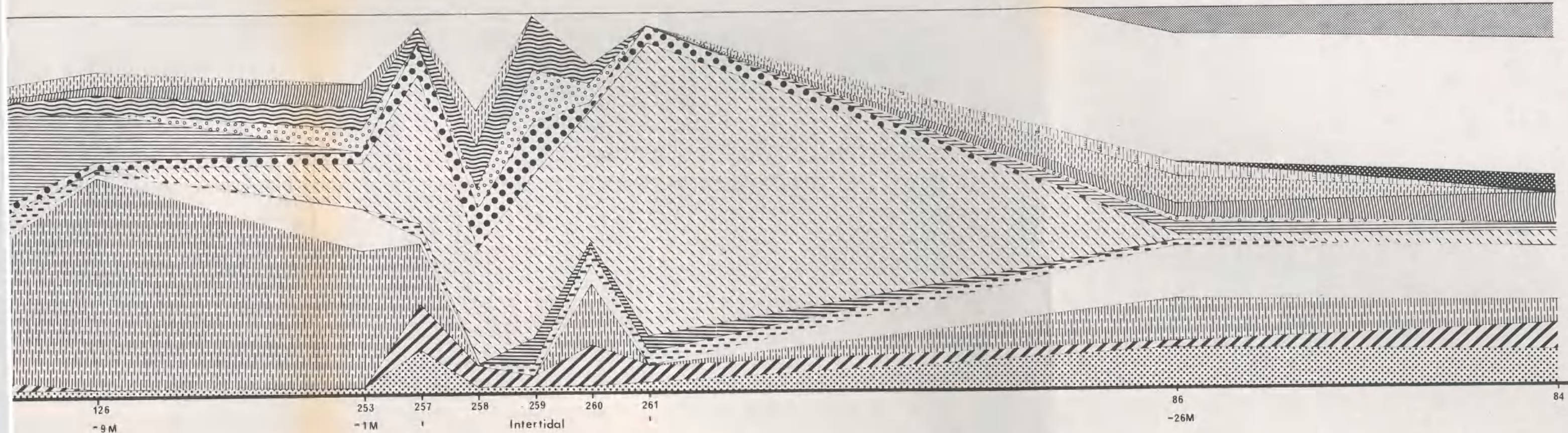
84



Traverse 4 NNW

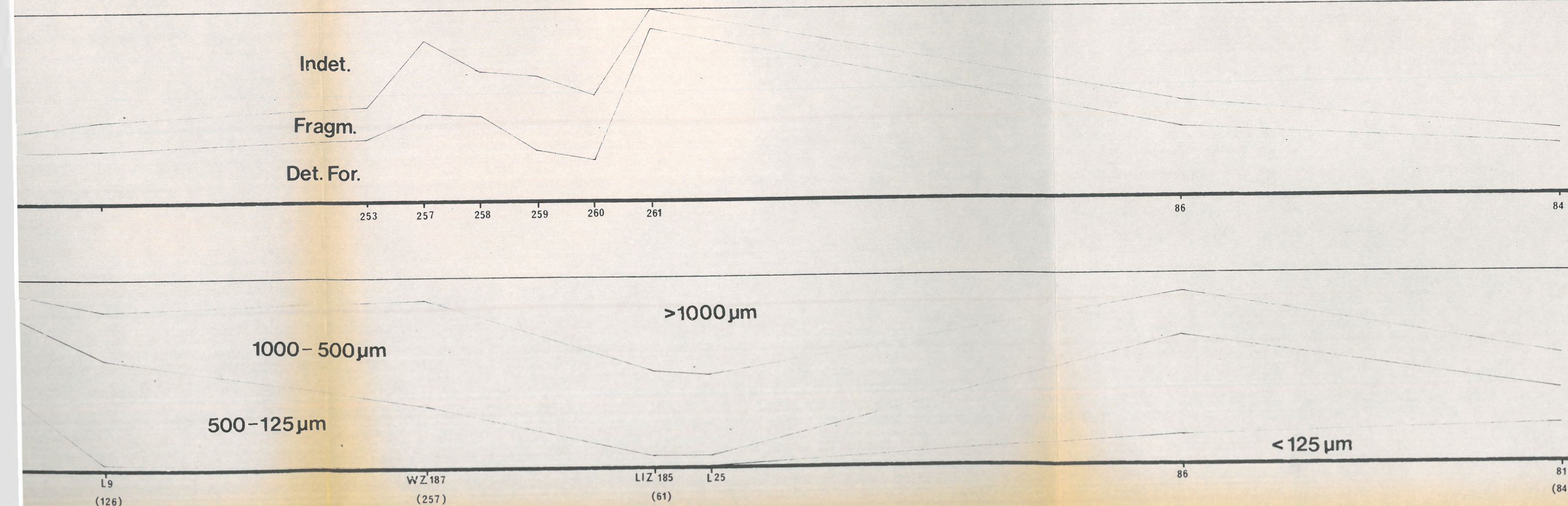


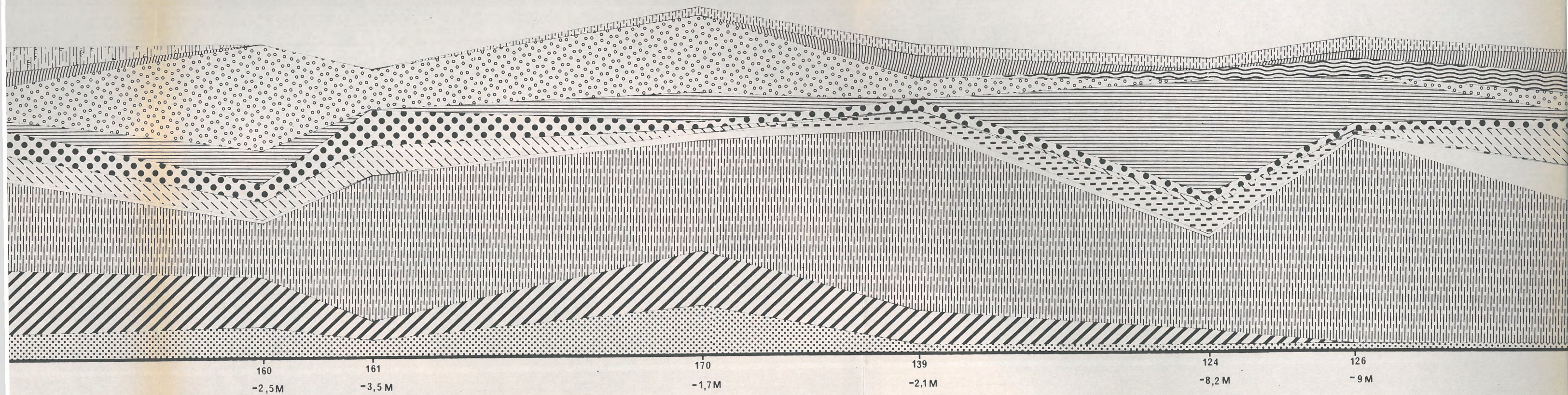
SE



WINDWARD BARRIER

EASTERN PERIREEFAL AREA





PATCHREEF AREA

INTERNAL PLATFORM

LAGOON

Inc

Fra

Det.

1000-5

500-125 μ m

< 125 μ m

L16
(161)

L19
(170)

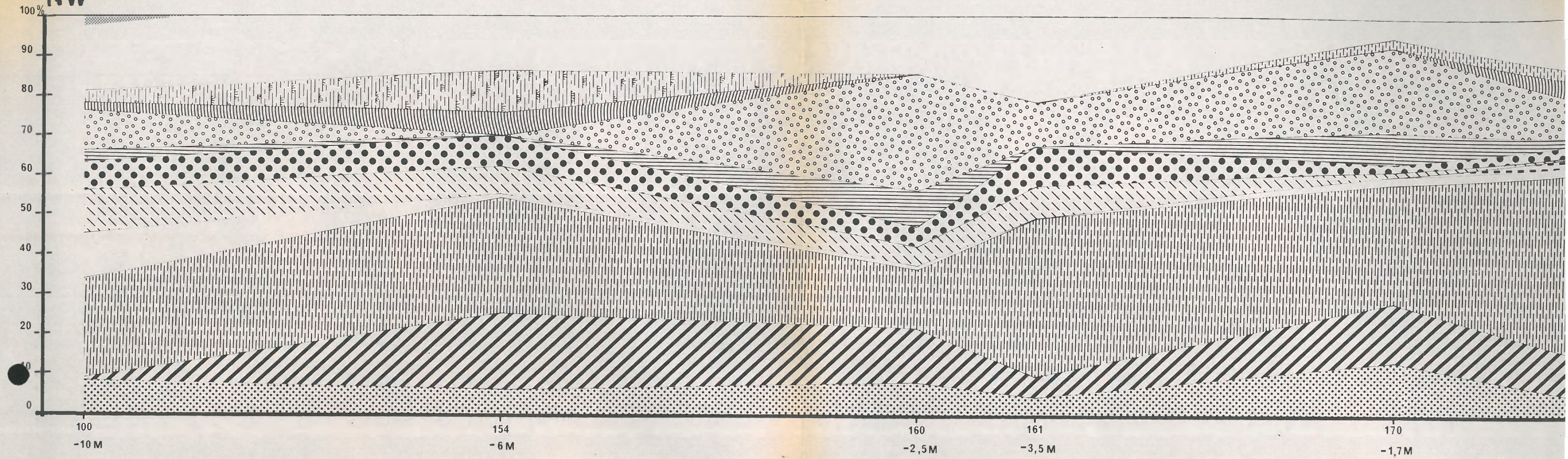
L14
(139)

L7
(124)

L9
(126)

Traverse 5

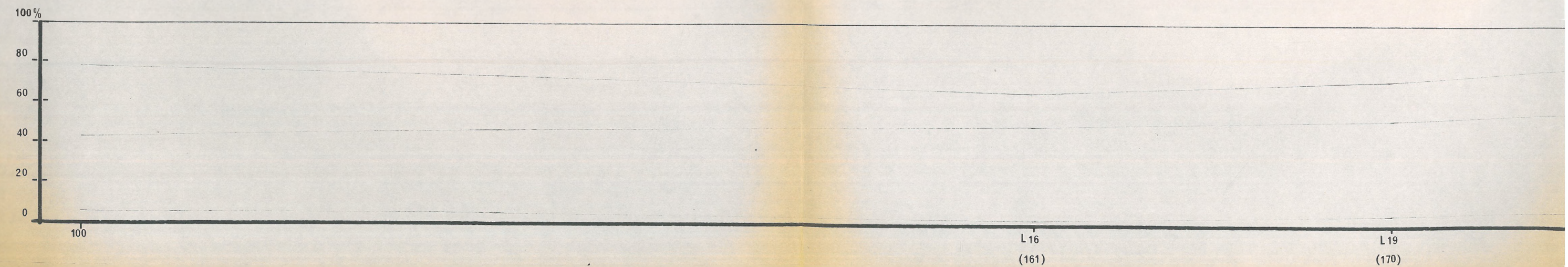
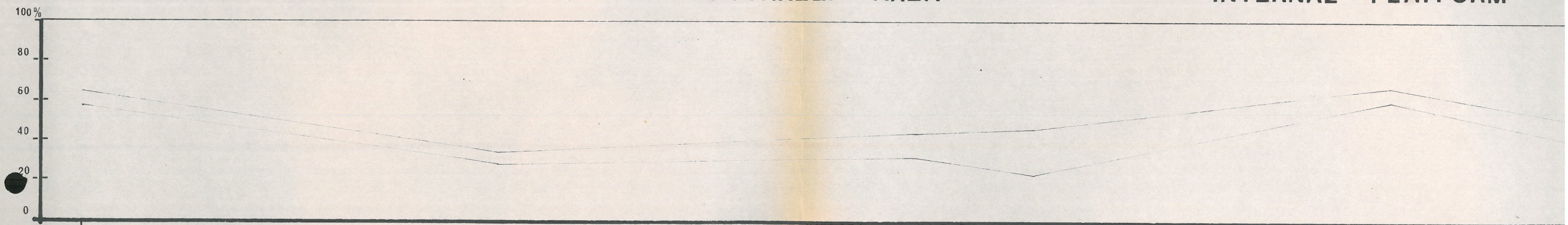
NW



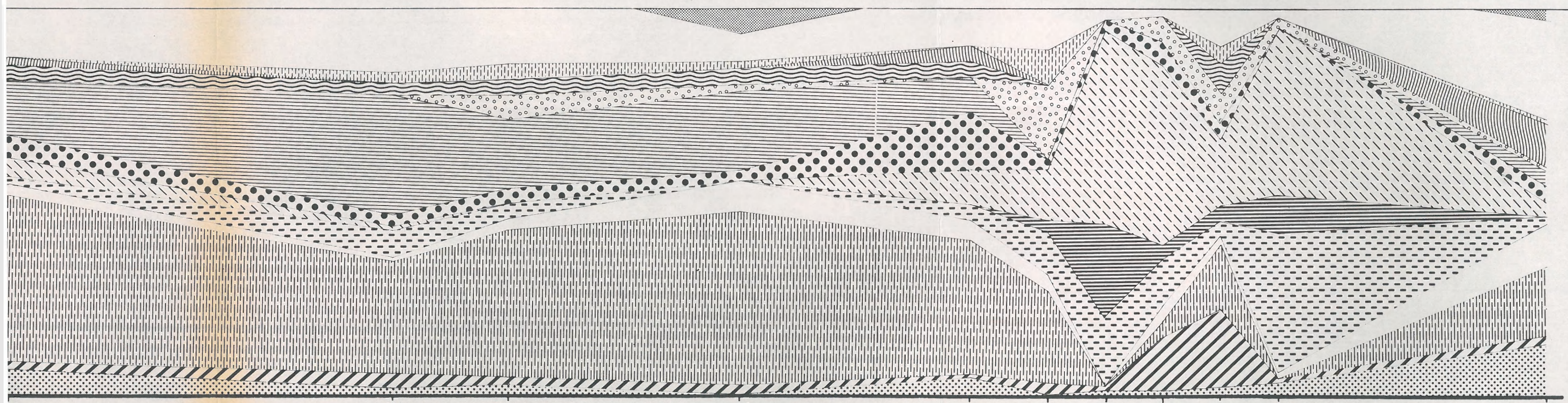
WESTERN SLOPE

PATCHREEF AREA

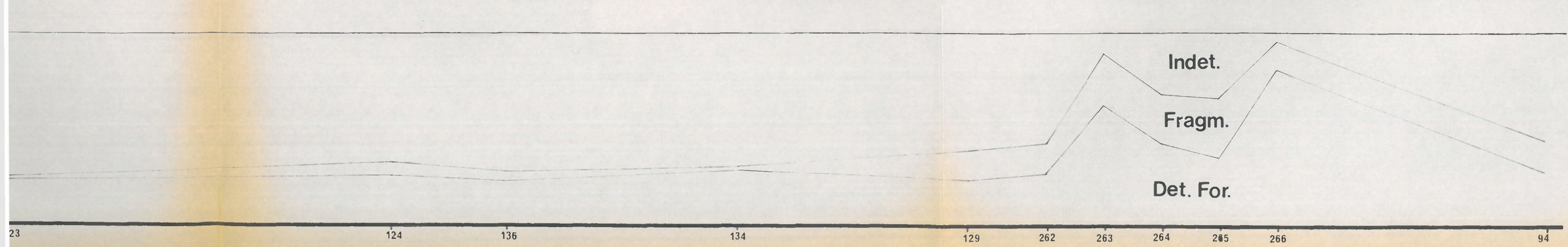
INTERNAL PLATFORM



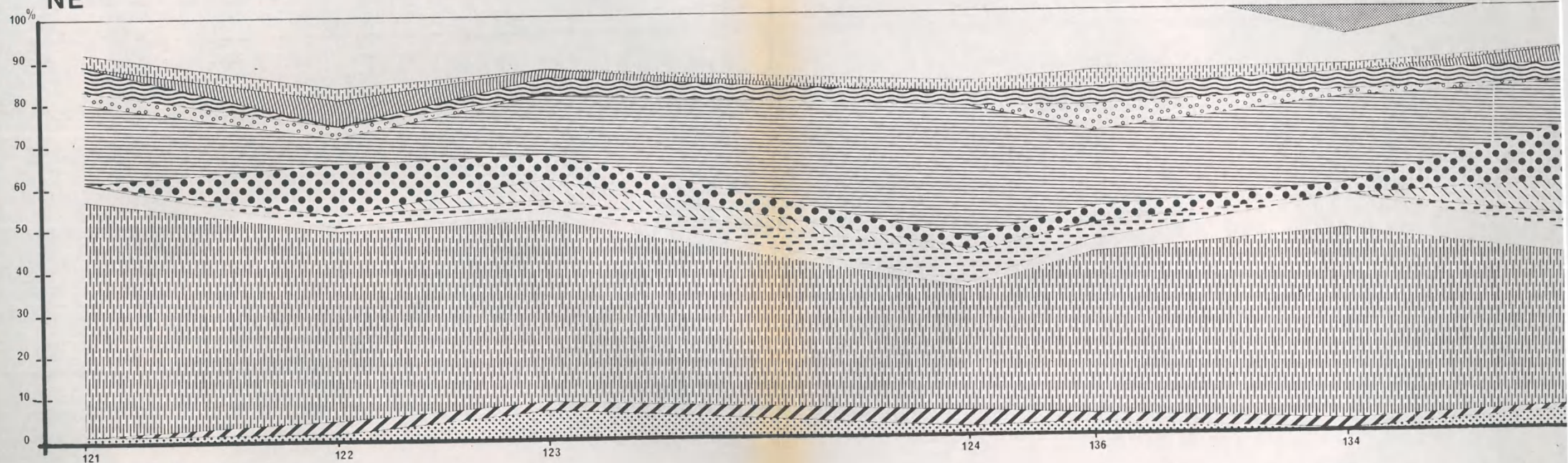
SW



G O O N SOUTHERN BARRIER SOUTHERN (SW) PERIREEFAL AREA

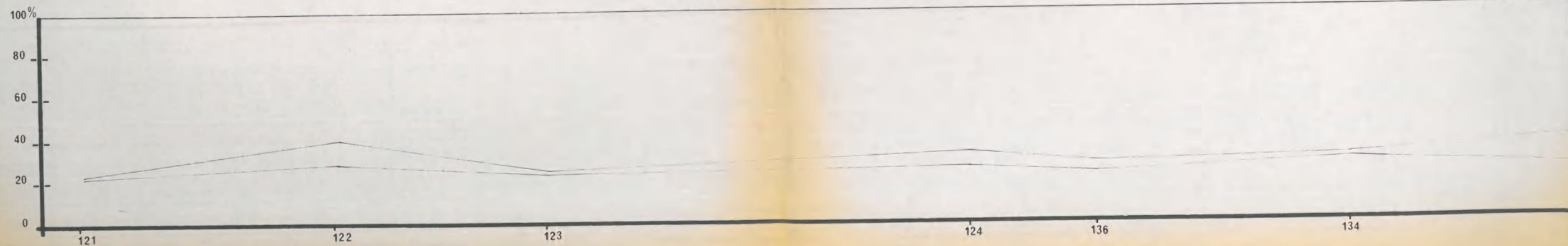


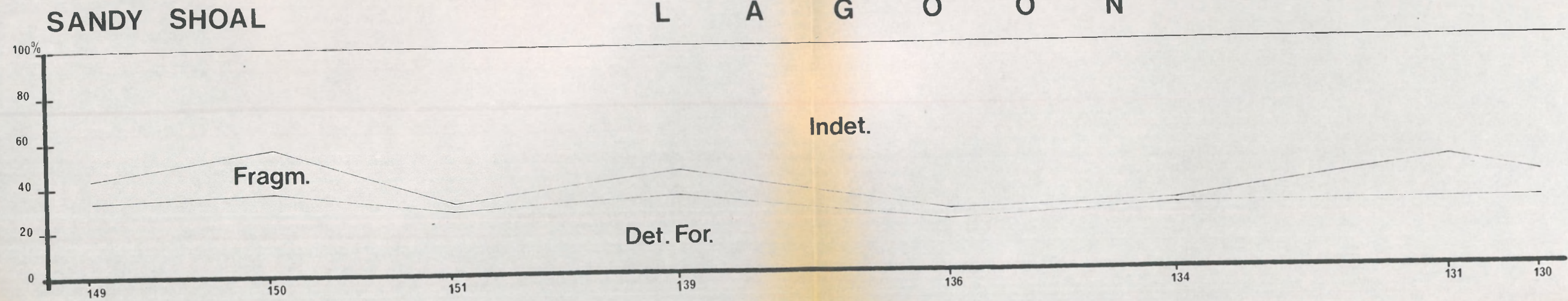
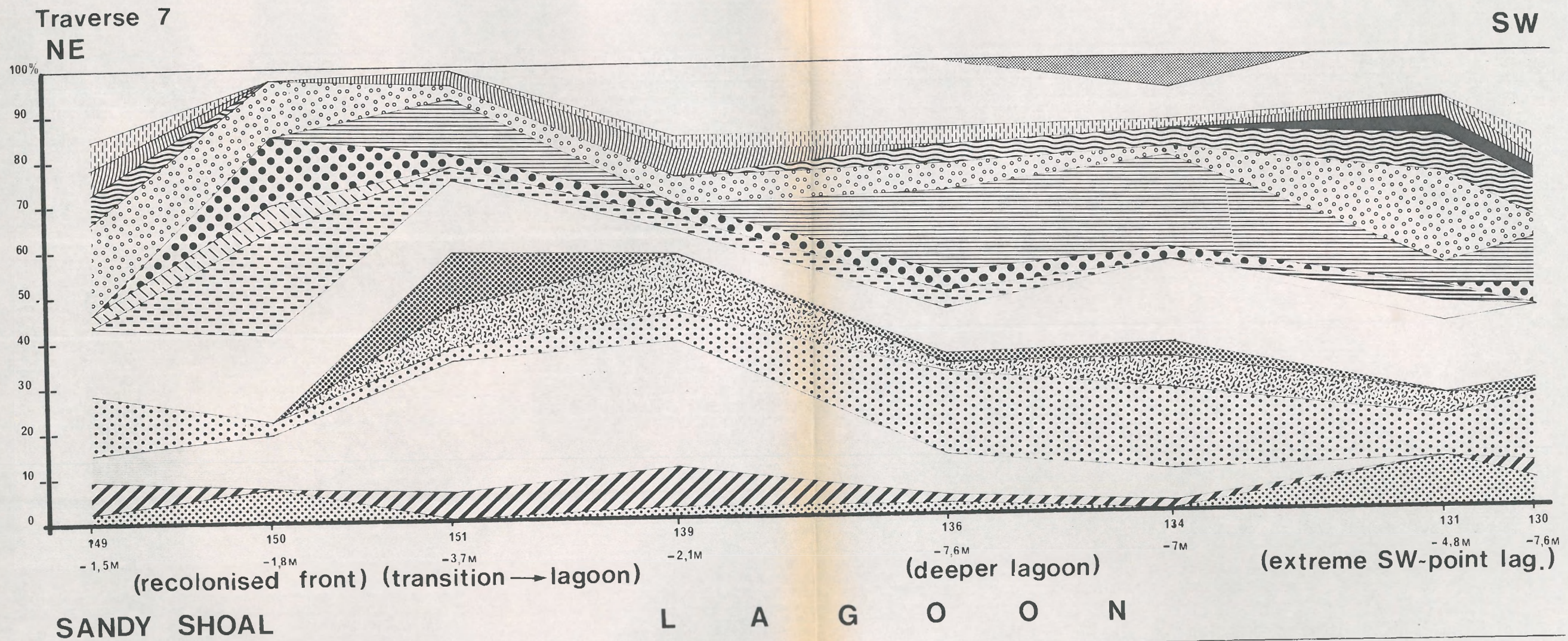
Traverse 6 NE



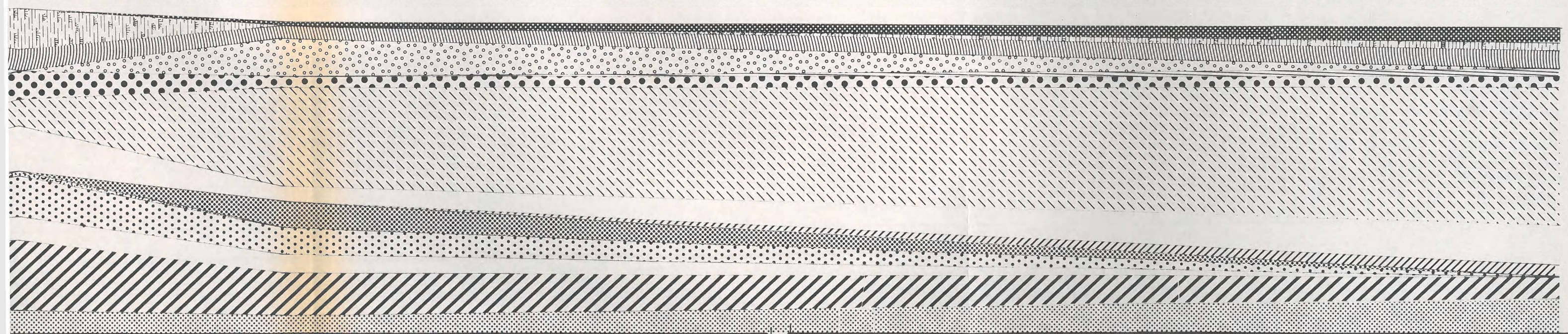
L A G O O N

SOU





W



154 -6 M 155 -10 M < distance 155-98 > < not to scale > 98 -25 M

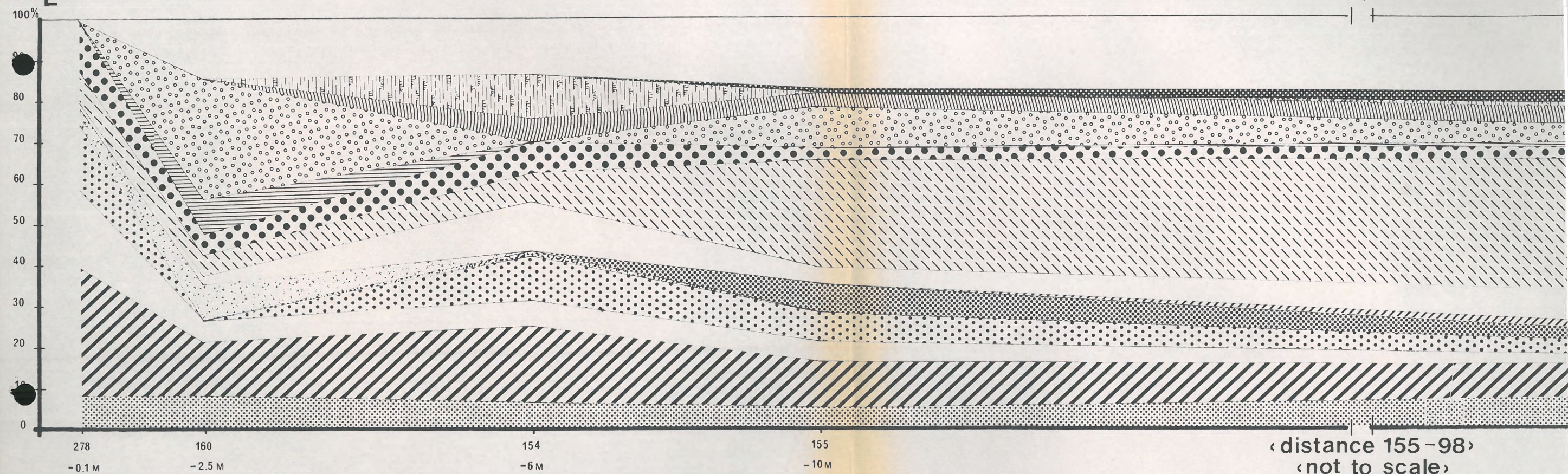
WESTERN PERIREEFAL AREA

Indet.
Fragm.
Det. For.

154 155 98

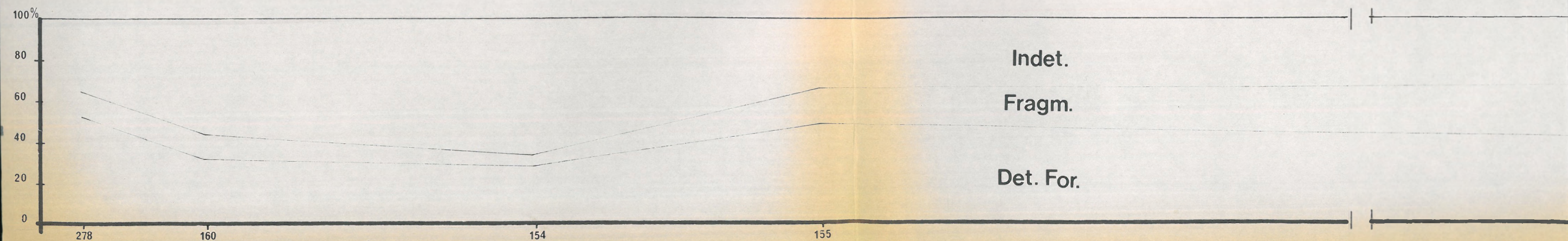
Traverse 10

E



PATCHREEF AREA

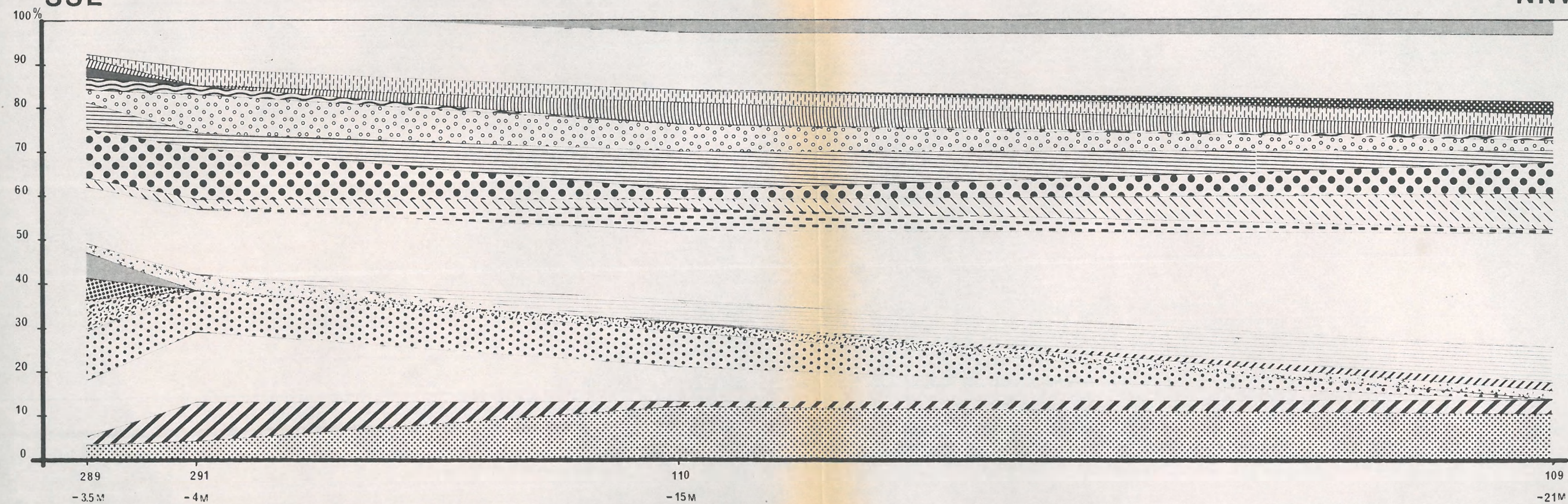
WESTE



Traverse 11

SSE

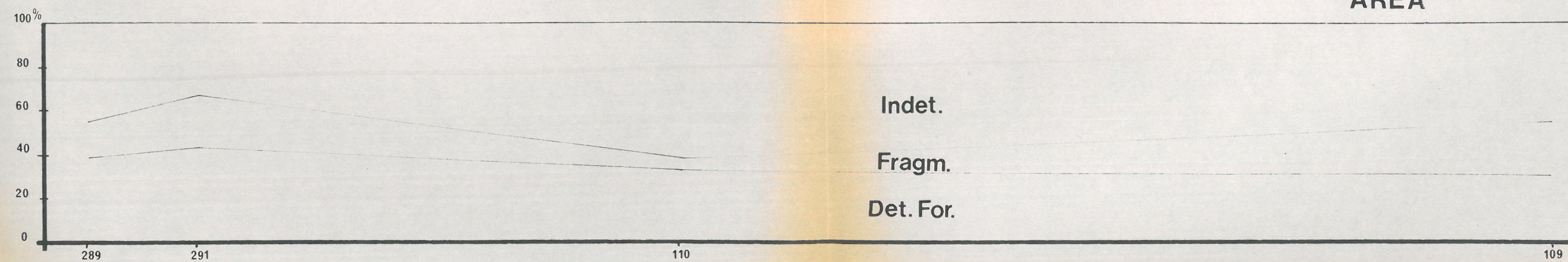
NNW

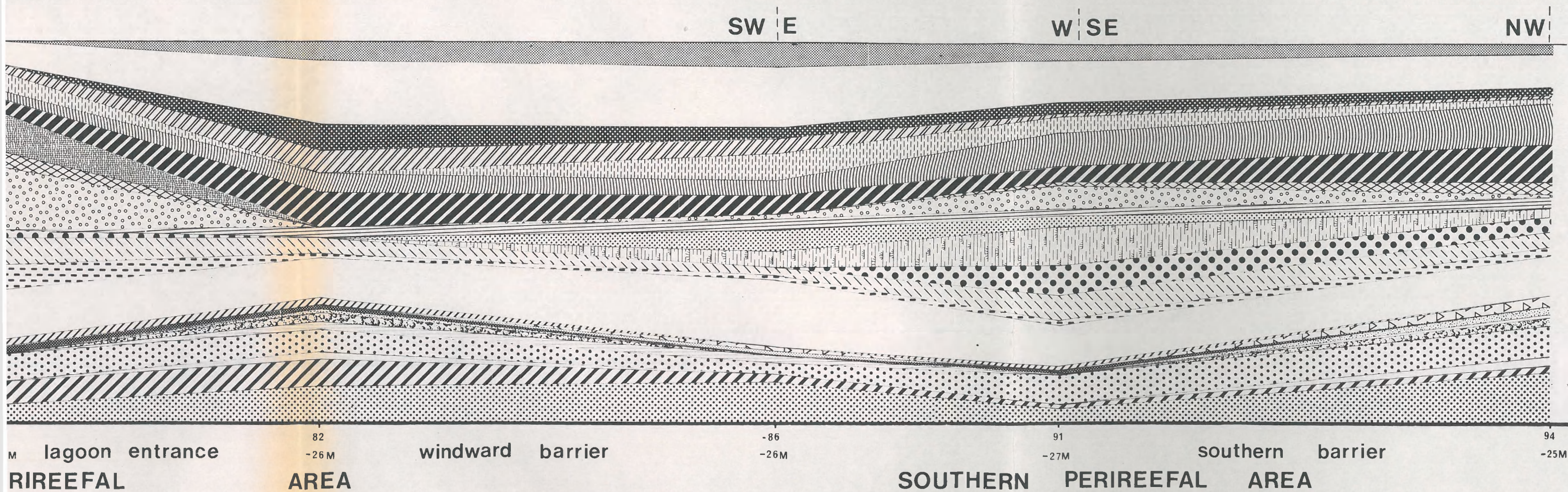


WATSON'S BAY

WESTERN SLOPE

WESTERN PERIREEFAL AREA





82

86

91

94

SE NE

62 -21M crystal beach PERIREEFAL
65 -32M AREA
72 -12M coconut reef flat EASTERN
77 -22M lagoon entrance PERIREEFAL

Indet.
Fragm.
Det. For.

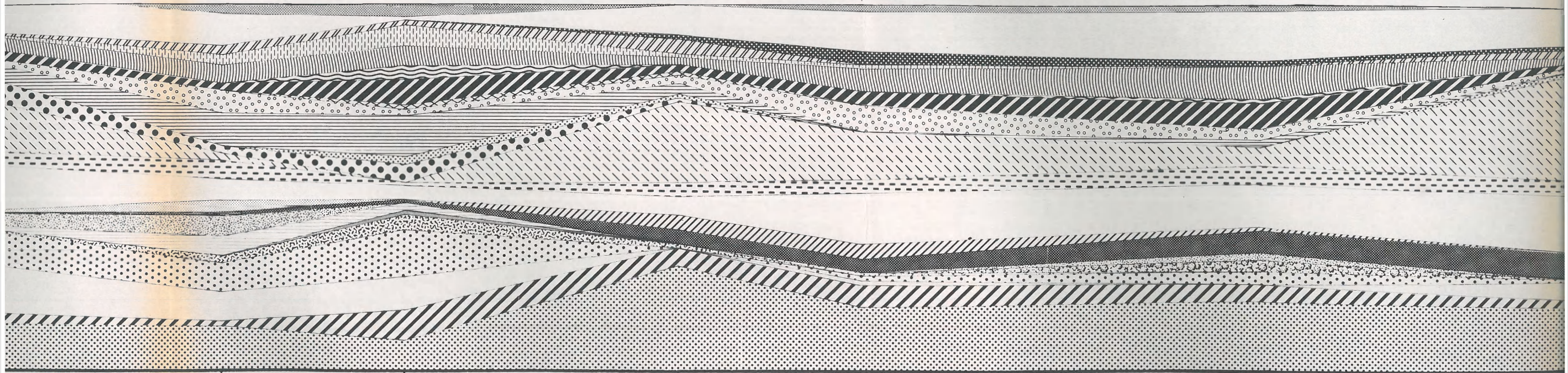
62

65

72

77

NE | NW



110

108

50

56

60

-15M

-11M

-16M

-22M

-21M

LEEWARD SLOPE

NORTHERN PERIREEFAL AREA

EASTERN

PERIREEF

110

108

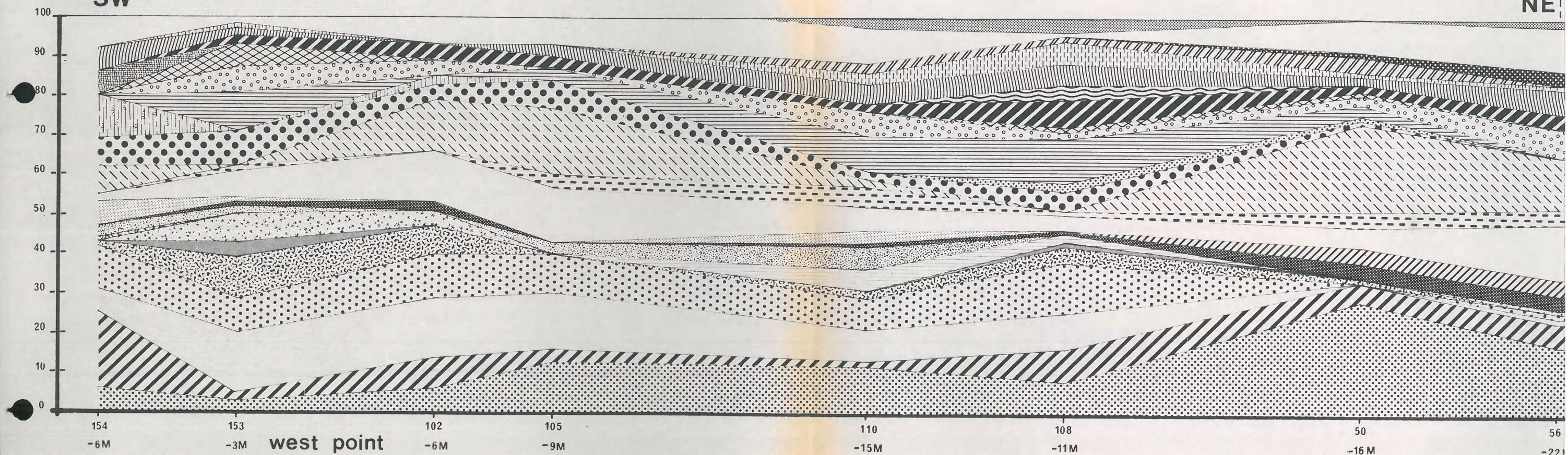
50

56

60

Traverse 14
SW

NE

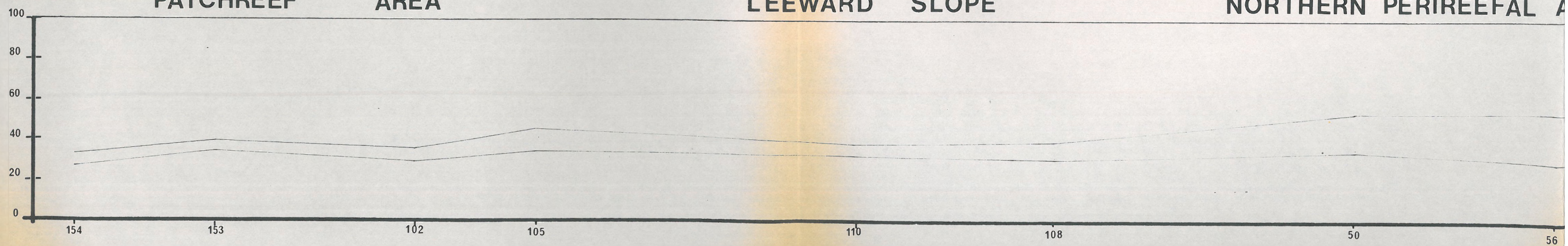


PATCHREEF

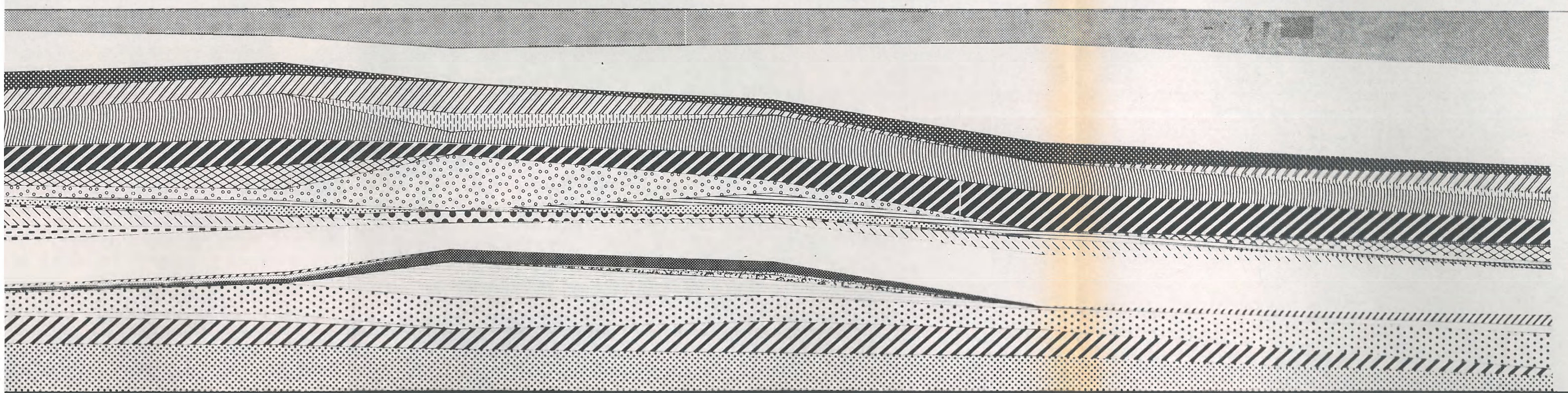
AREA

LEEWARD SLOPE

NORTHERN PERIREEFAL A



SW



AREA

OFF COCONUT FRINGING REEF

OFF WINDWARD BARRIER

71

75

81

84

90

-31M

-27

-30M

-31M

-29 M

71

75

81

84

90

SE | NE

63
-21M
LEEWARD OF
SANDBANK REEF

EASTERN

PERIREE FAL

67
-31M

AREA

71
-31M
OFF COCONUT

Indet.

Fragm.

Det. For.

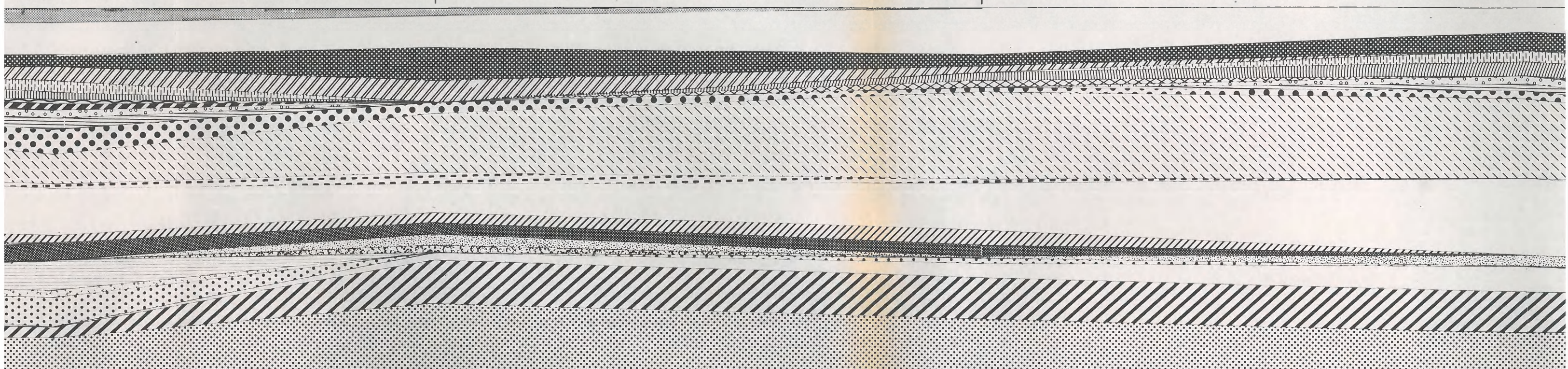
63

67

71

NE | WNW

ESE | NW



109

54

59

63

-21M

-25M

-26M

-21M

OFF NORTH POINT NORTHERN PERIREEFAL AREA

LEEWARD C
SANDBANK R

Indet.

Fragm.

Det. For.

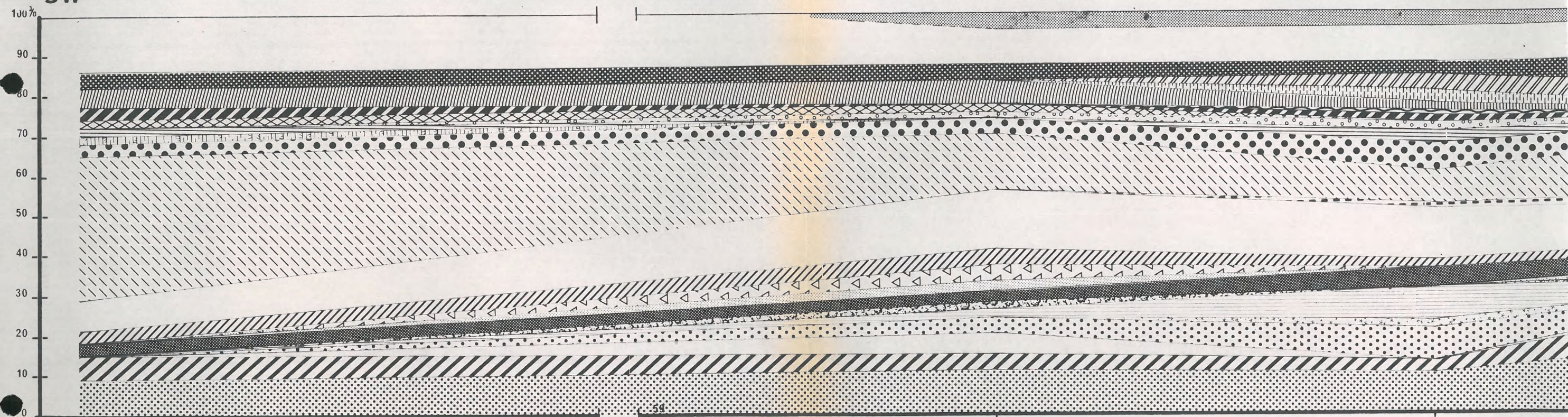
109

54

59

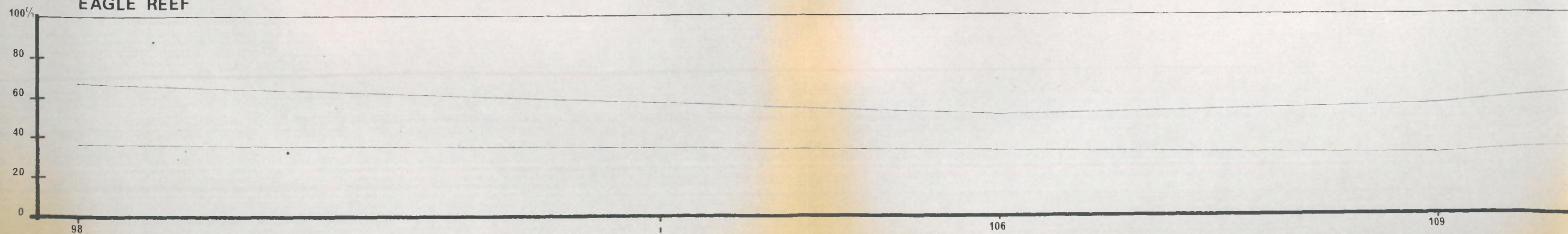
63

Traverse 15 SW



distance L 98-L106
(not to scale)

HALFWAY LIZARD ID- WESTERN PERIREEFAL AREA
EAGLE REEF



A N N E X 3

Sample localisation map

LEGEND

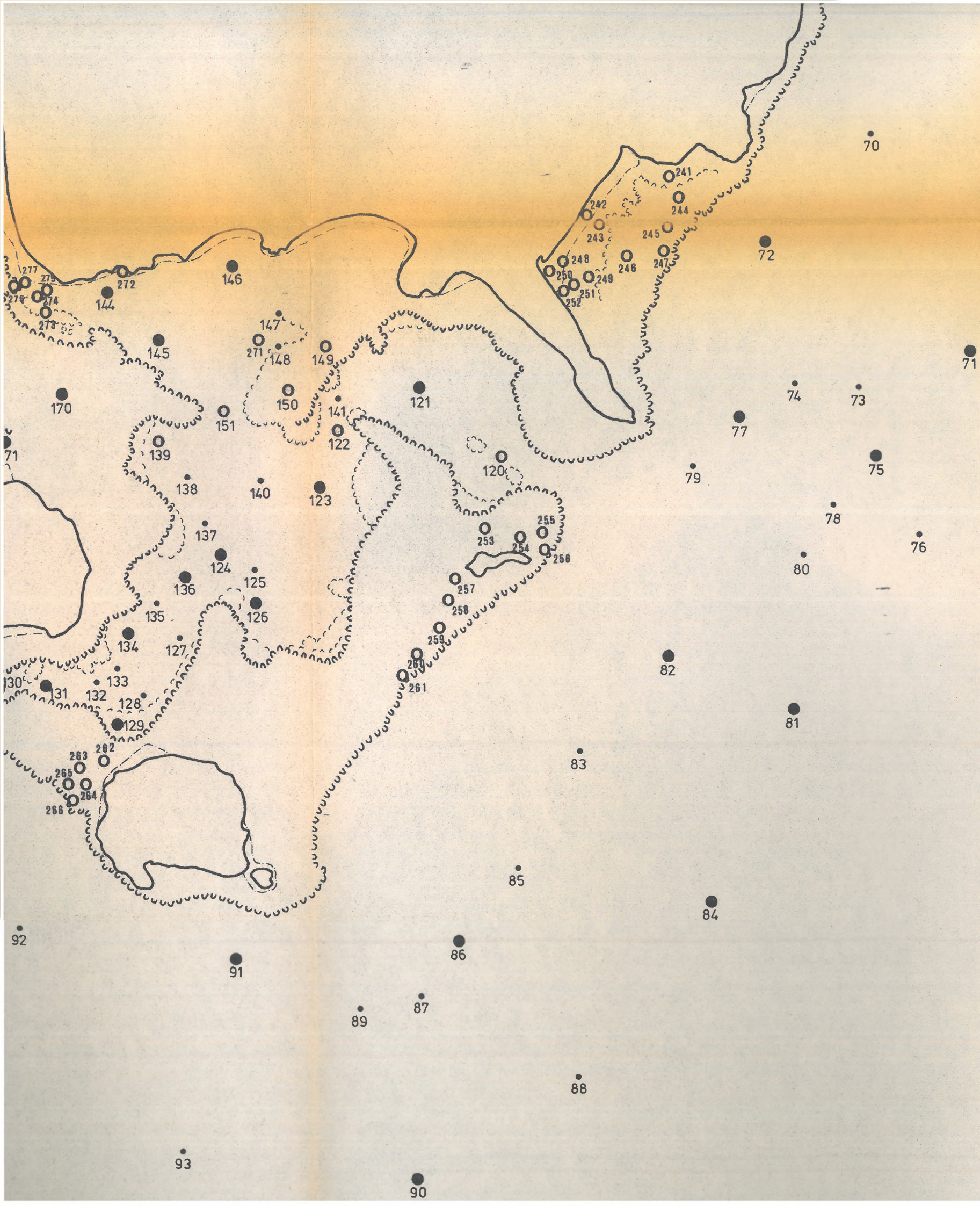
Black dots = grab samples

Open circles = hand-taken samples

Small back points : untreated grab samples.









A N N E X 4

Echosounding tracks

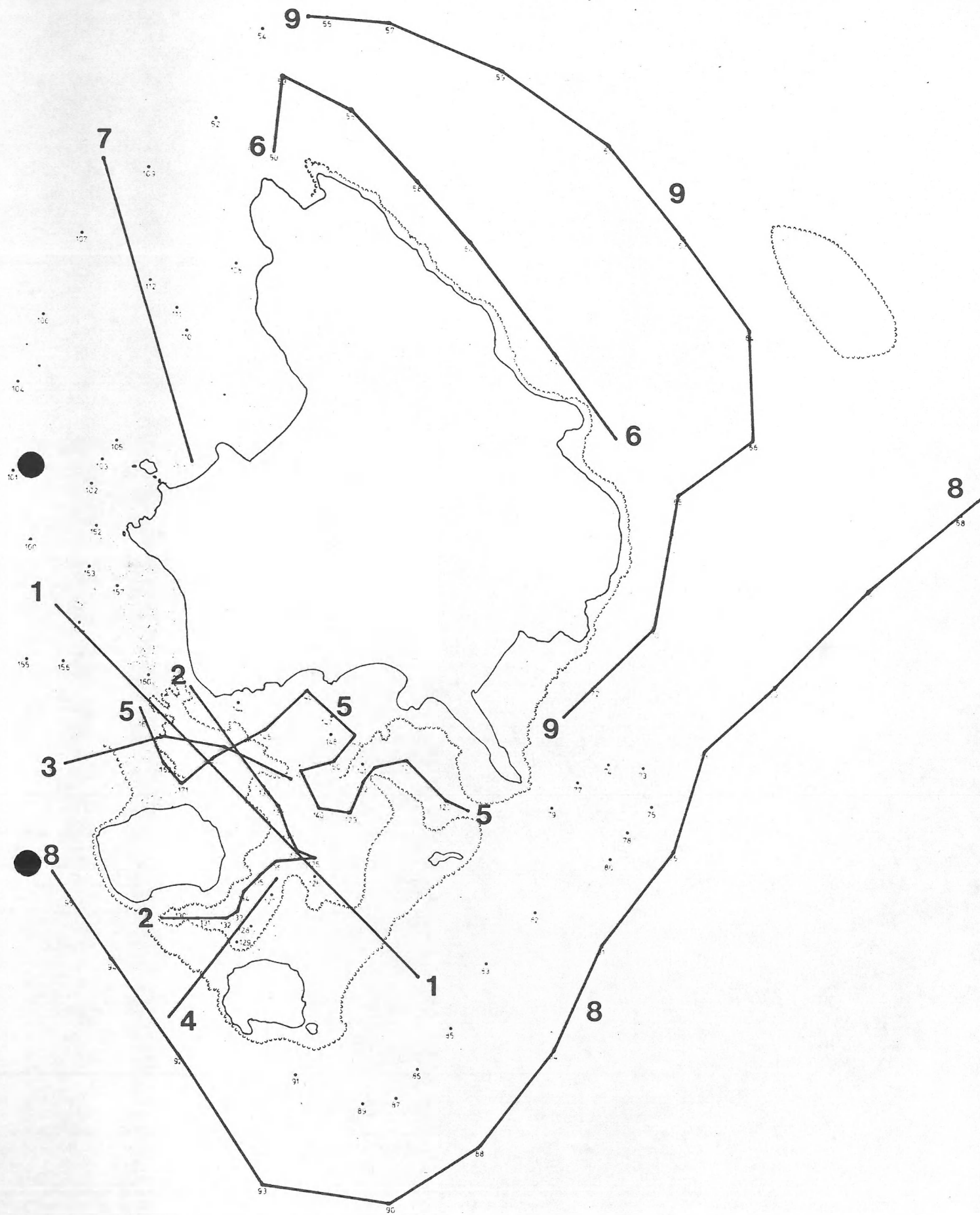
LEGEND

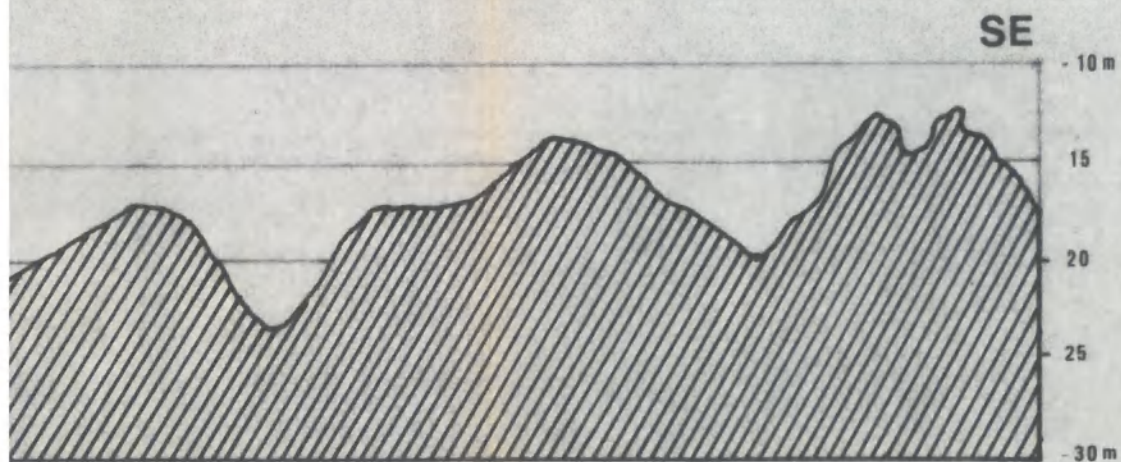
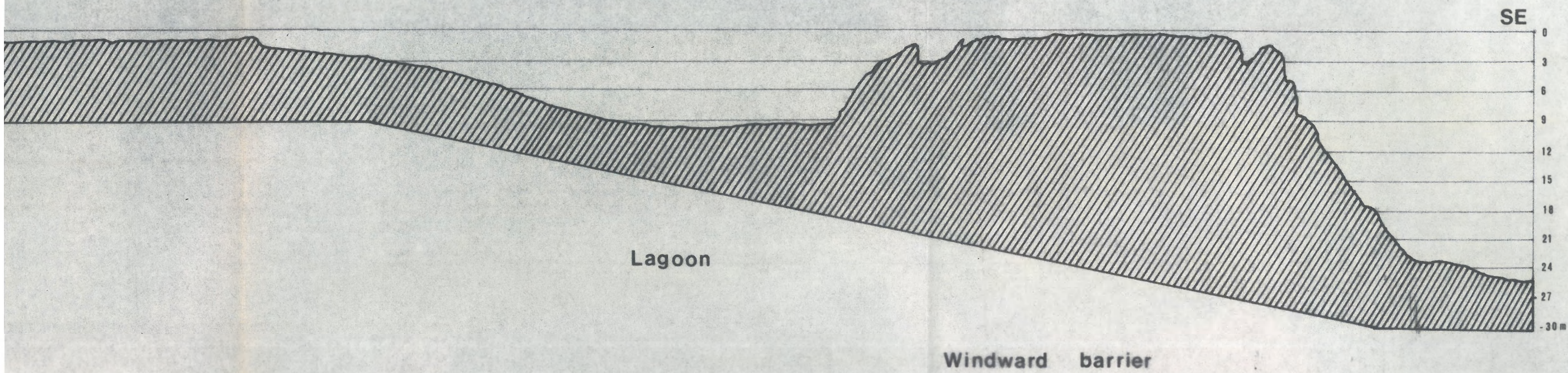
The echosounding tracks have been redrawn from the original Bendix graphs.

The latter are not reproduced here as they show numerous scale switches.

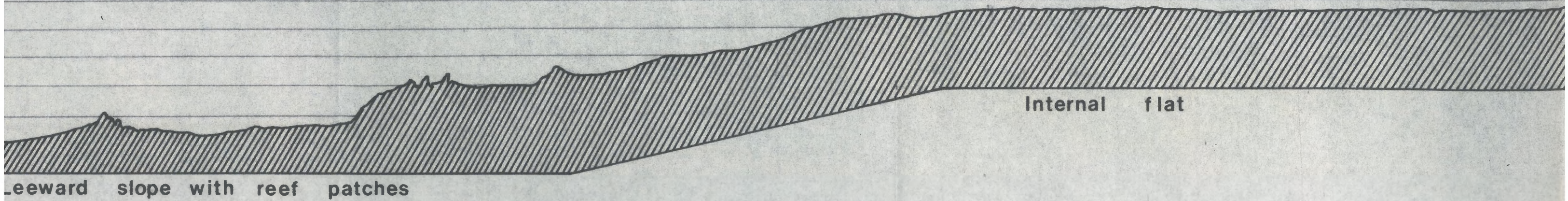
A localisation map is to be found on next page.

Depths are indicated in meters.

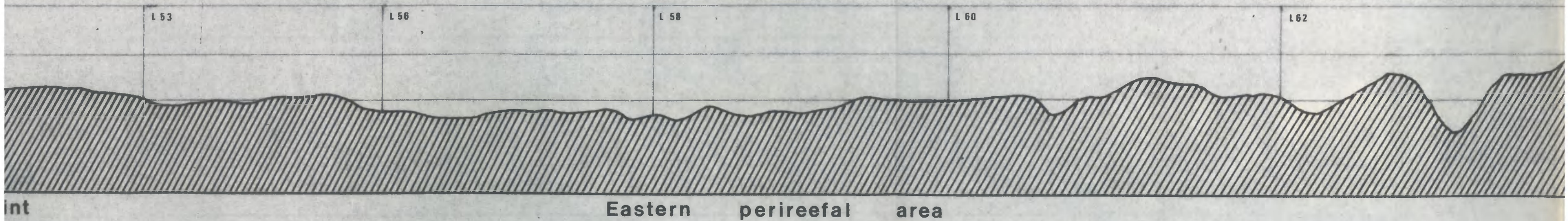


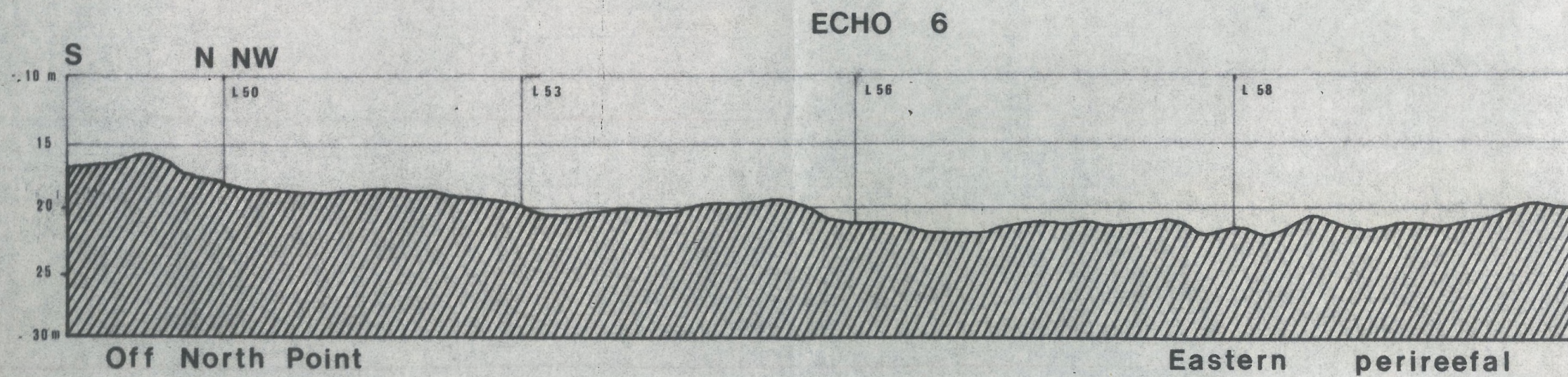
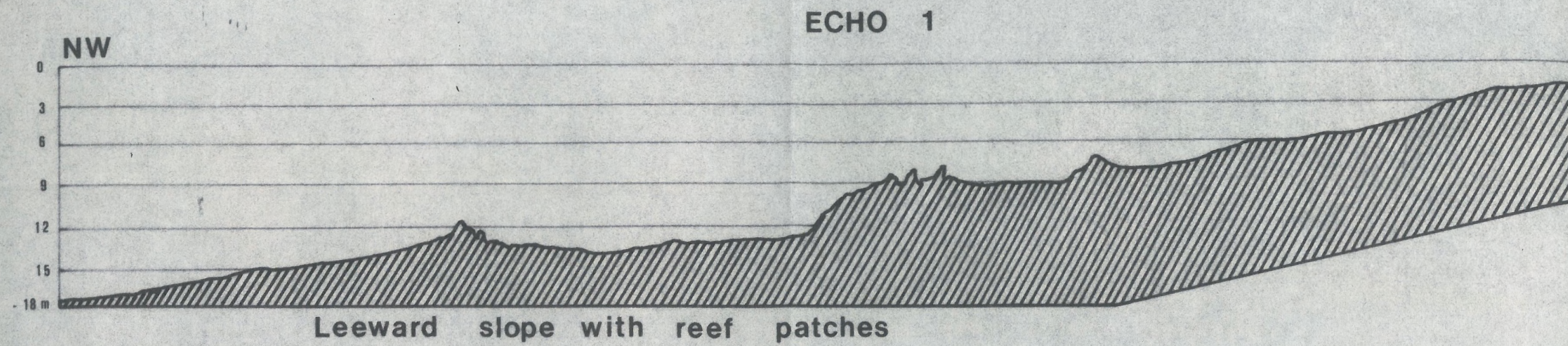


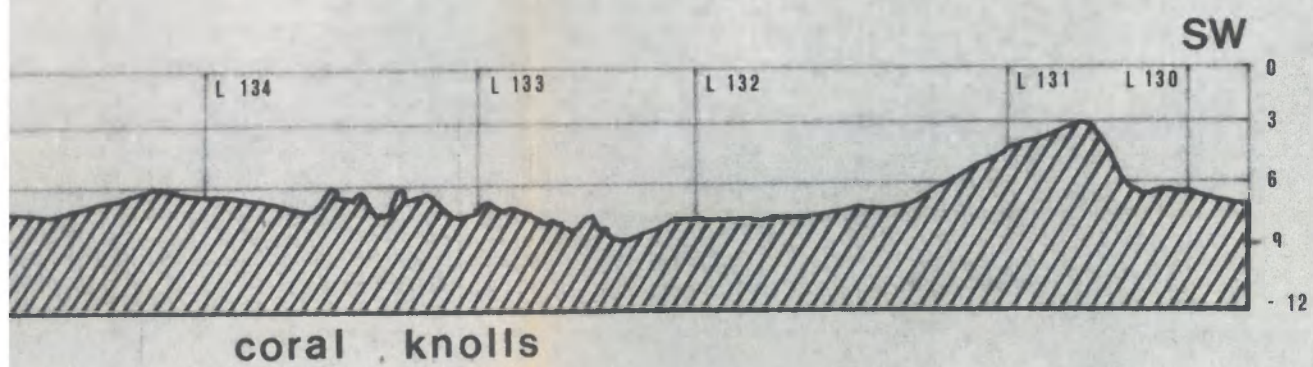
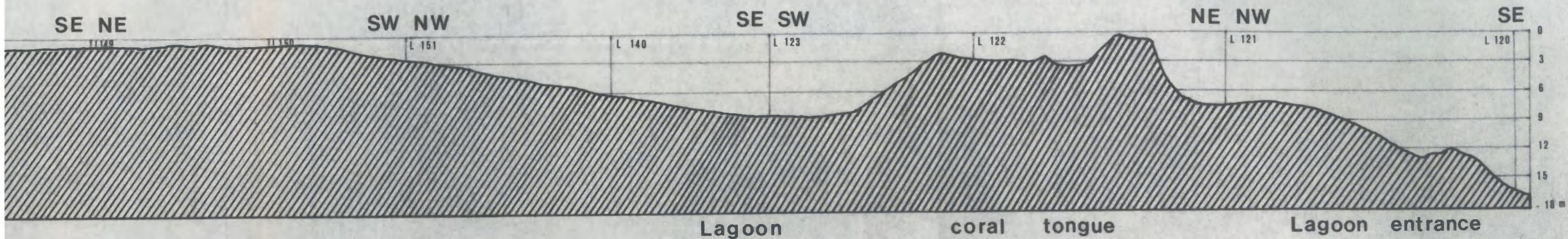
ECHO 1

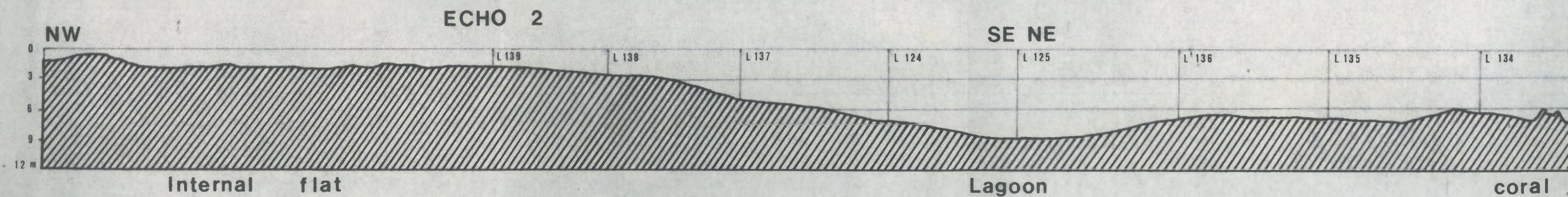
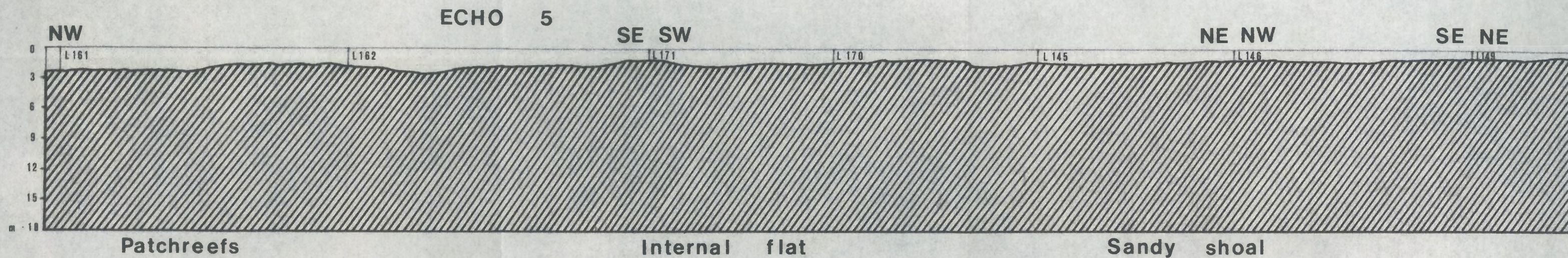


ECHO 6

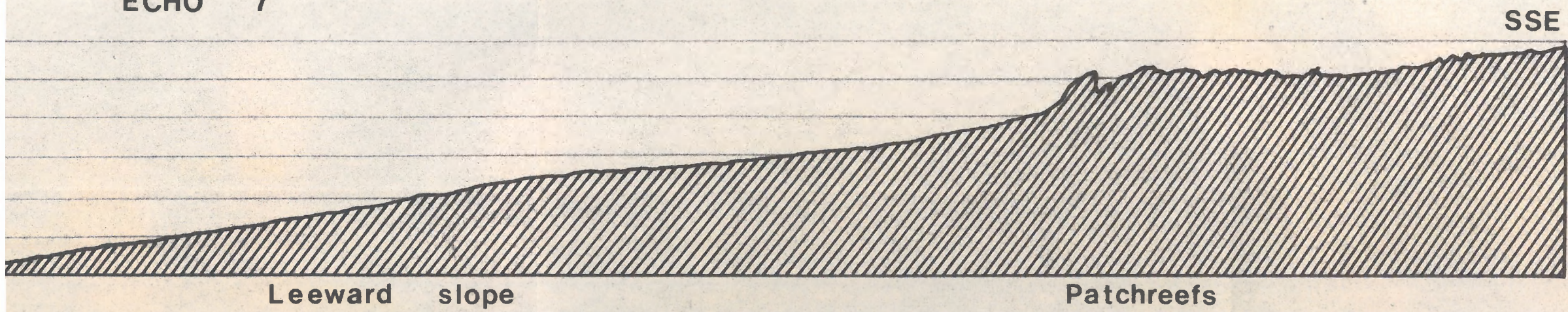




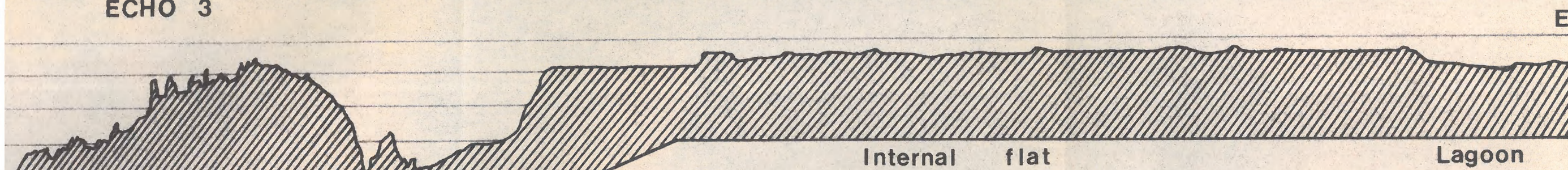




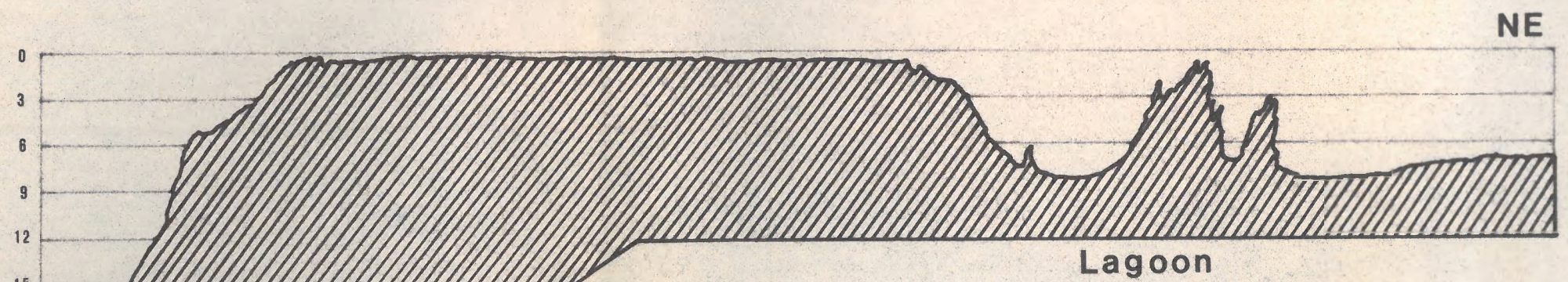
ECHO 7



ECHO 3

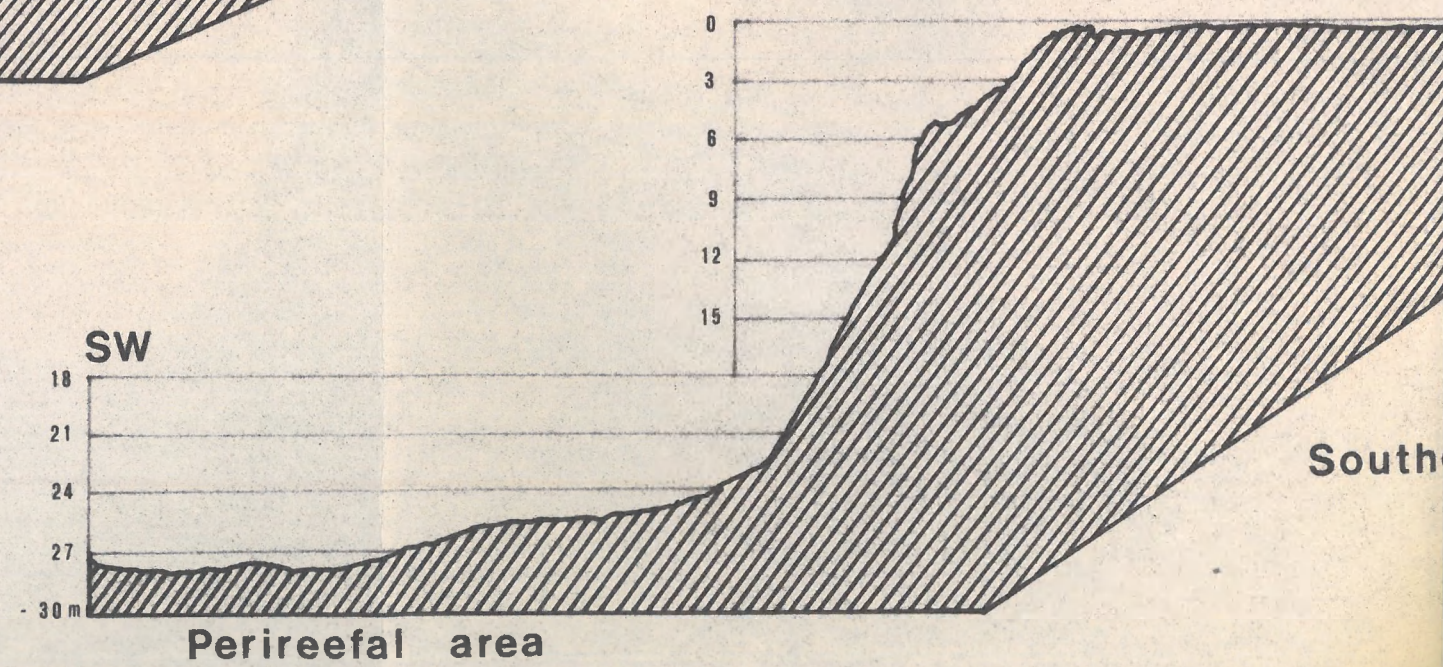
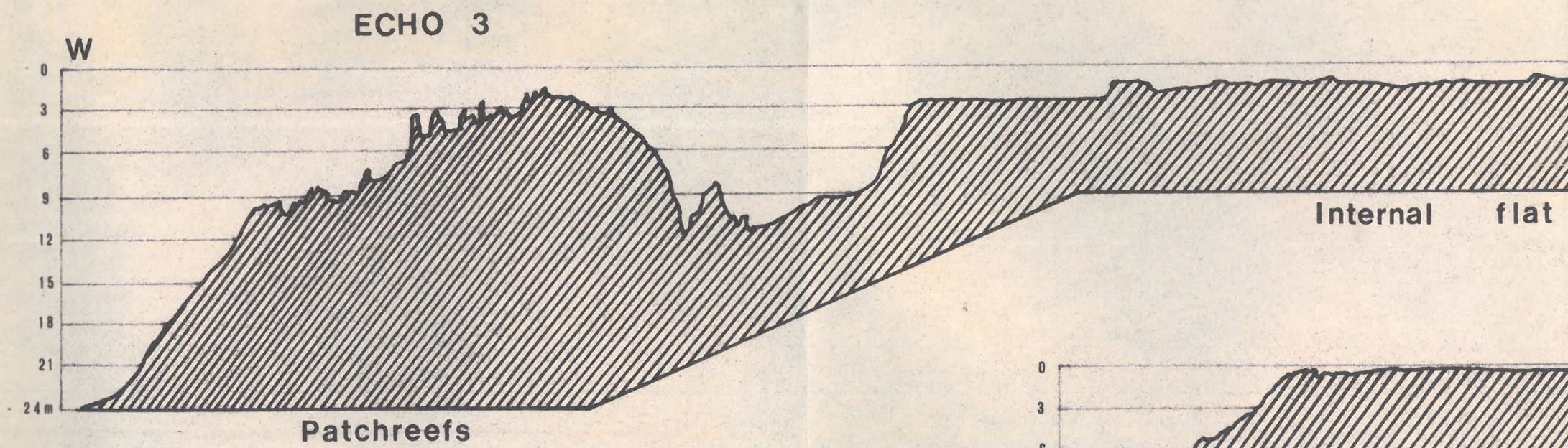
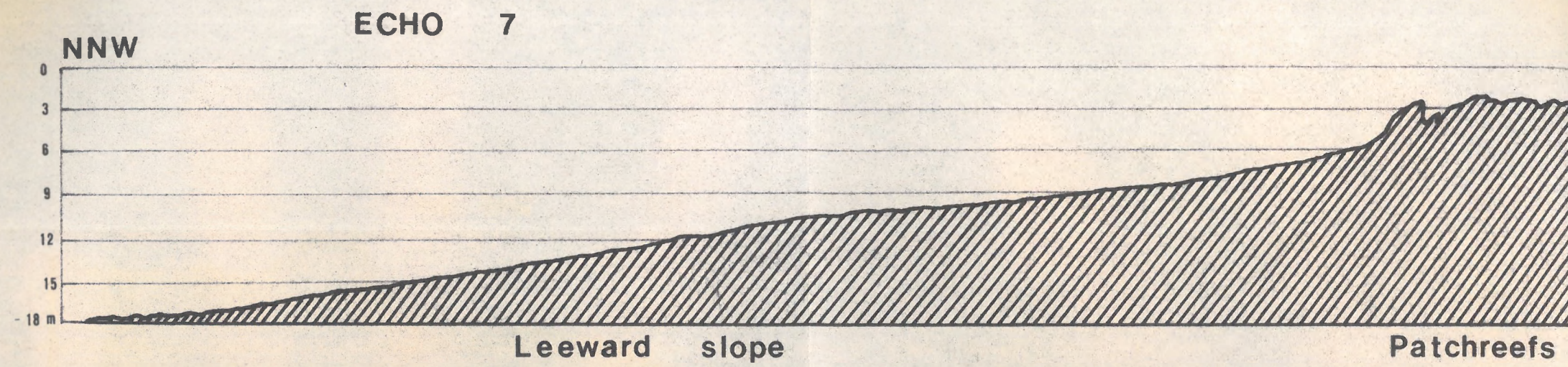


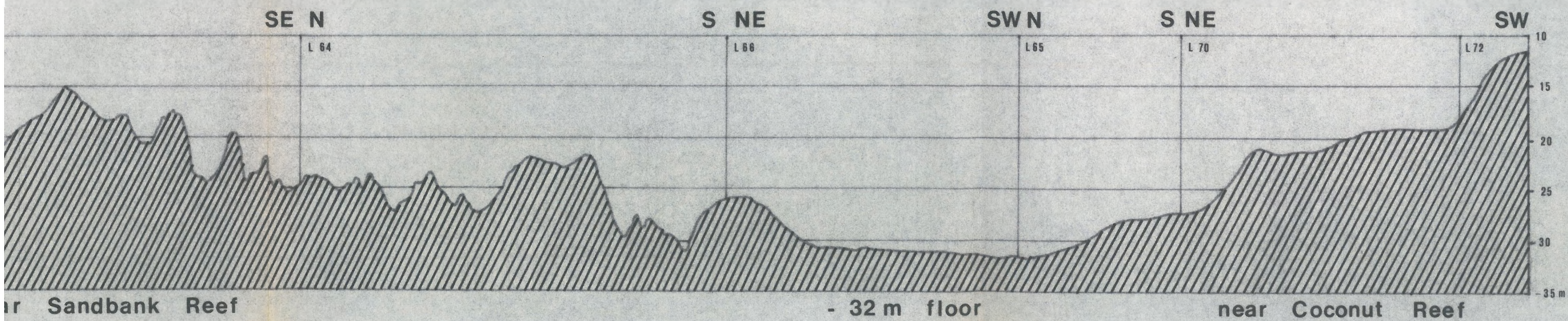
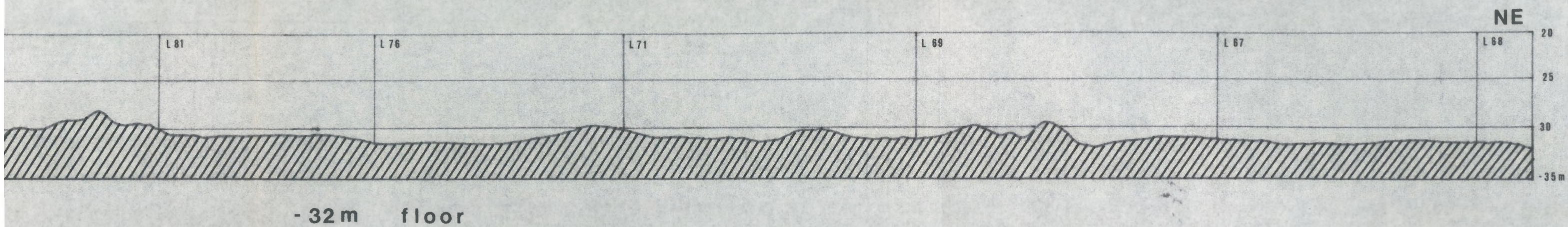
Patchreefs



ECHO 4

Perireefal area





ECHO 8

PERIREEFAL AREA

SE W

E SW

L 94

L 92

L 93

L 90

L 88

L 84

L 81

- 27 m floor

ECHO 9

PERIREEFAL AREA

L 57

L 59

L 61

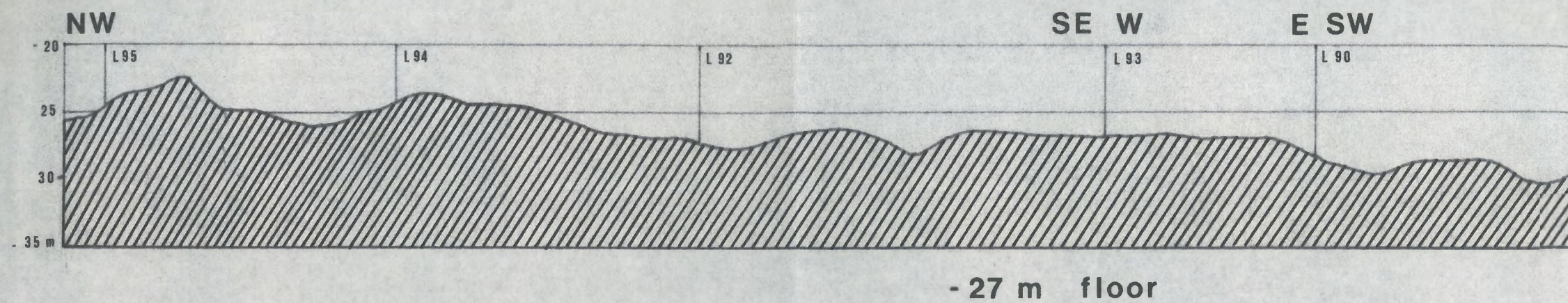
L 63

- 27 m floor

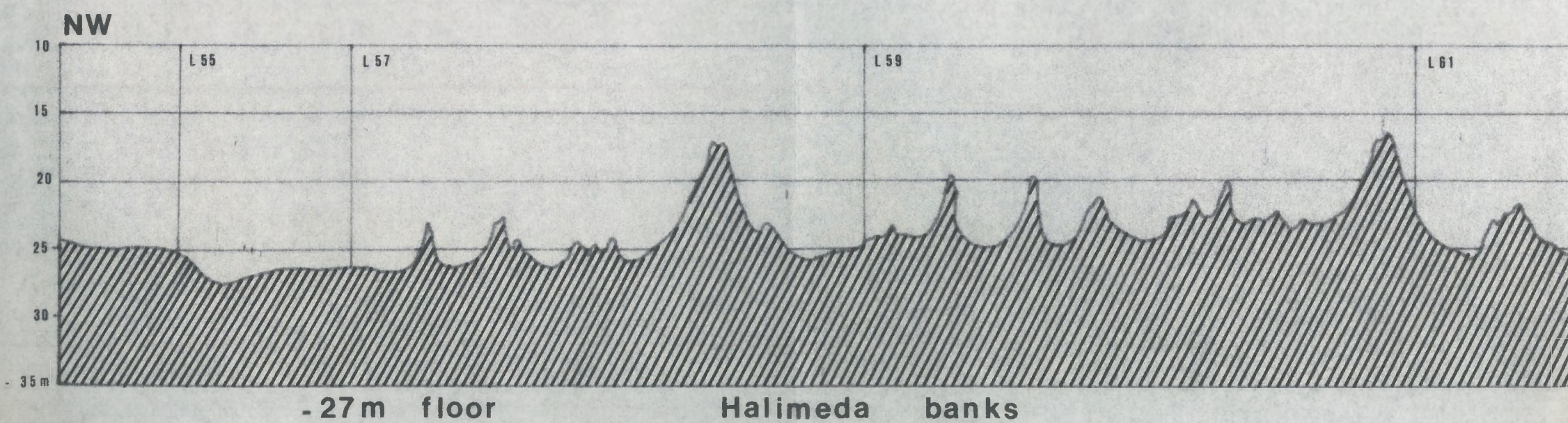
Halimeda banks

near Sandbank Reef

ECHO 8



ECHO 9



A N N E X 5

Synoptic diagram

LEGEND

This synoptic diagram groups all frequency data of foraminiferal taxa per sample. All samples are grouped per environment, and all environments (separated by a thick, black horizontal line) are grouped per average depth (reef flats and intertidal environments on top, Perireefal Area below). Individual sample depths can be found in Annex 1.

- In the utmost left column the environment names are indicated.
- Second and third column from the left hand side give sample number and subsample indication.
- Foraminiferal taxa are named on top of the diagram, in systematical sequence from left to right (Textulariina - Miliolina - Rotaliina).
- For each taxon, the frequency data in bio- and thanatocoenose can be read per sample in the square obtained by the intersection of the vertical taxon column with the horizontal sample column.

A diagonal line separates this square in an upper left triangle where biocoenose data occur, and a lower right triangle where thanatocoenose data occur.

Biocoenose data (semi-quantitative) (upper left triangle)

Symbols :

- rare : small black point
- common : open circle
- abundant : circular black dot.

Thanatocoenose data (quantitative) (lower right triangle)

Data are expressed in percentage classes. Exact percentages of taxa per sample are to be found in Annex 1.

Symbols :

- less than 1% : open triangle
- 1 to 5% : blackened lower right corner of triangle
- 5 to 9% : thickened black hypotenusa of triangle
- 10% and more : complete black triangle.

AL	INTERNAL PLATFORM	SOUTHERN BARRIER	WINDWARD BARRIER	COCONUT REEF												
				253	254	255	255	255	256	257	258	259	259	260	261	
161	161	262	253	251	249	248	247	246	245	244	243	242	241		PSAMMOSPHAERA FUSCA	
162	162	263	254	250	247	246	245	244	243	242	241				REOPHAX FUSIFORMIS	
170	170	264	255	249	248	247	246	245	244	243	242	241			REOPHAX SCORPIURUS	
171	171	265	256	249	248	247	246	245	244	243	242	241			NOURIA HARRISII	
		266	257	249	248	247	246	245	244	243	242	241			NOURIA POLYMORPHINOIDES	
			258	249	248	247	246	245	244	243	242	241			NOURIA TENUIS	
			259	249	248	247	246	245	244	243	242	241			NOURIA TEXTULARIFORMIS ARMATA	
			260	249	248	247	246	245	244	243	242	241			DISCAMMINA COMPRESSA	
			261	249	248	247	246	245	244	243	242	241			AMMOBACULITES SP	
				249	248	247	246	245	244	243	242	241			HADDONIA MINOR	
				249	248	247	246	245	244	243	242	241			TEXTULARIA AGGLUTINANS	
				249	248	247	246	245	244	243	242	241			TEXTULARIA BARKERI	
				249	248	247	246	245	244	243	242	241			TEXTULARIA CANDEIANA	
				249	248	247	246	245	244	243	242	241			TEXTULARIA CORRUGATA	
				249	248	247	246	245	244	243	242	241			TEXTULARIA FOLIACEA	
				249	248	247	246	245	244	243	242	241			TEXTULARIA FOLIACEA OCEANICA	
				249	248	247	246	245	244	243	242	241			TEXTULARIA PORRECTA	
				249	248	247	246	245	244	243	242	241			TEXTULARIA PSEUDOGRAMEN	
				249	248	247	246	245	244	243	242	241			T. PSEUDOGRAMEN KERIMBAENSIS	
				249	248	247	246	245	244	243	242	241			TEXTULARIA SEMIALATA	
				249	248	247	246	245	244	243	242	241			TROCHAMMINA SQUAMATA	
				249	248	247	246	245	244	243	242	241			ROTAIAMMINA CHITINOSA	
				249	248	247	246	245	244	243	242	241			GAUDRYINA RUGULOSA	
				249	248	247	246	245	244	243	242	241			CLAVULINA MULTICAMERATA	
				249	248	247	246	245	244	243	242	241			CLAVULINA PACIFICA	
				249	248	247	246	245	244	243	242	241			PLANISPIRINELLA EXIGUA	
				249	248	247	246	245	244	243	242	241			EDENTOSTOMINA CULTRATA	
				249	248	247	246	245	244	243	242	241			EDENTOSTOMINA DURRANDII	

INTERNAL
PLATFORM

161
162
170
171

SANDY SHOAL

144
145
146
149
150
271 a+b
272

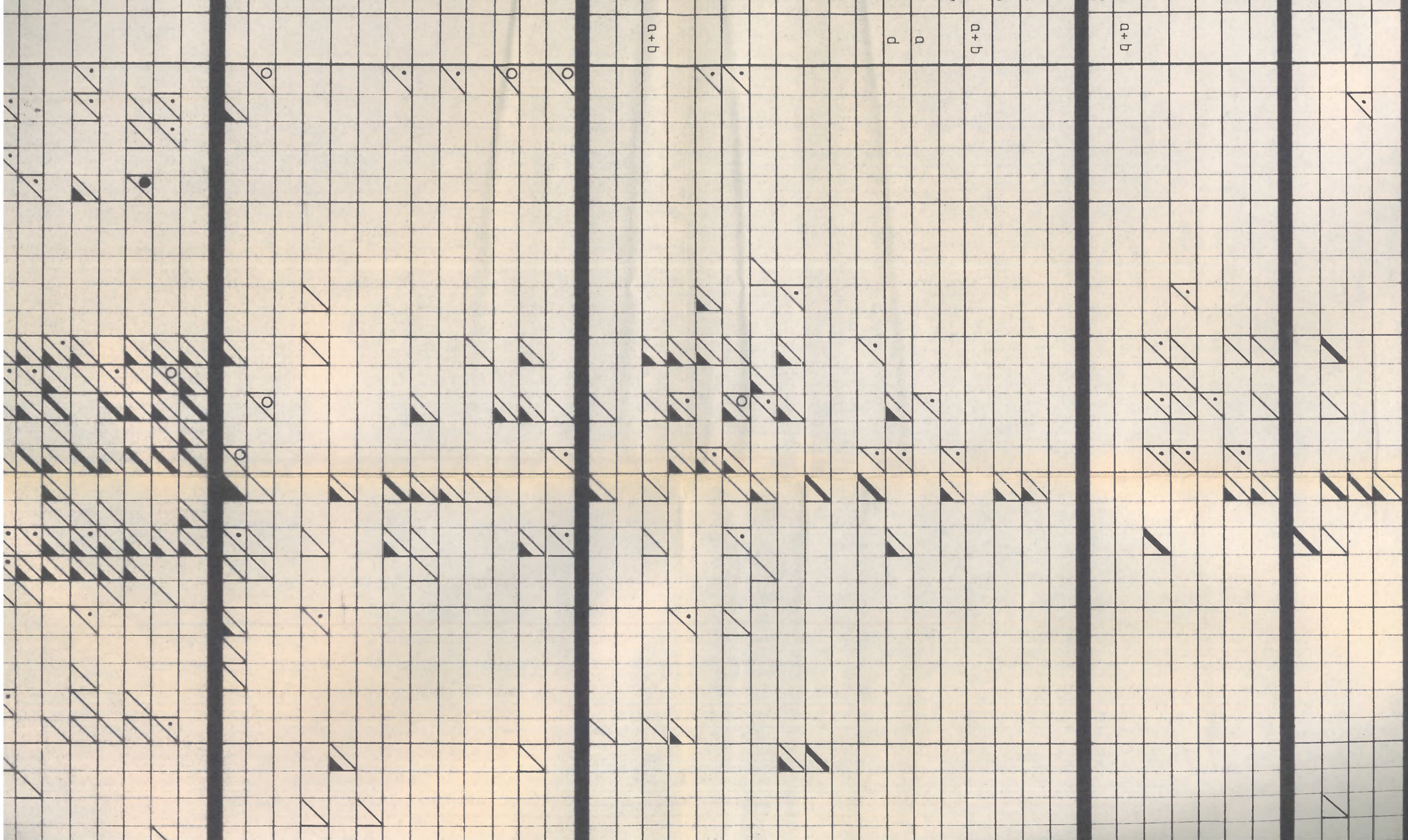
PATCHREEFS

273
274
275
276 a+b
277
278 a
278 d
160
157
154
153
155
100
102
105
289 a+b
290
291

LAGOON

122
123
124
126
129
130
131
134
136
139
151
121
120

50
54
56
59
60
62
63



PATCHREEFS

278	a
278	d
160	
157	
154	
153	
155	
100	
102	
105	
289	a+b
290	
291	

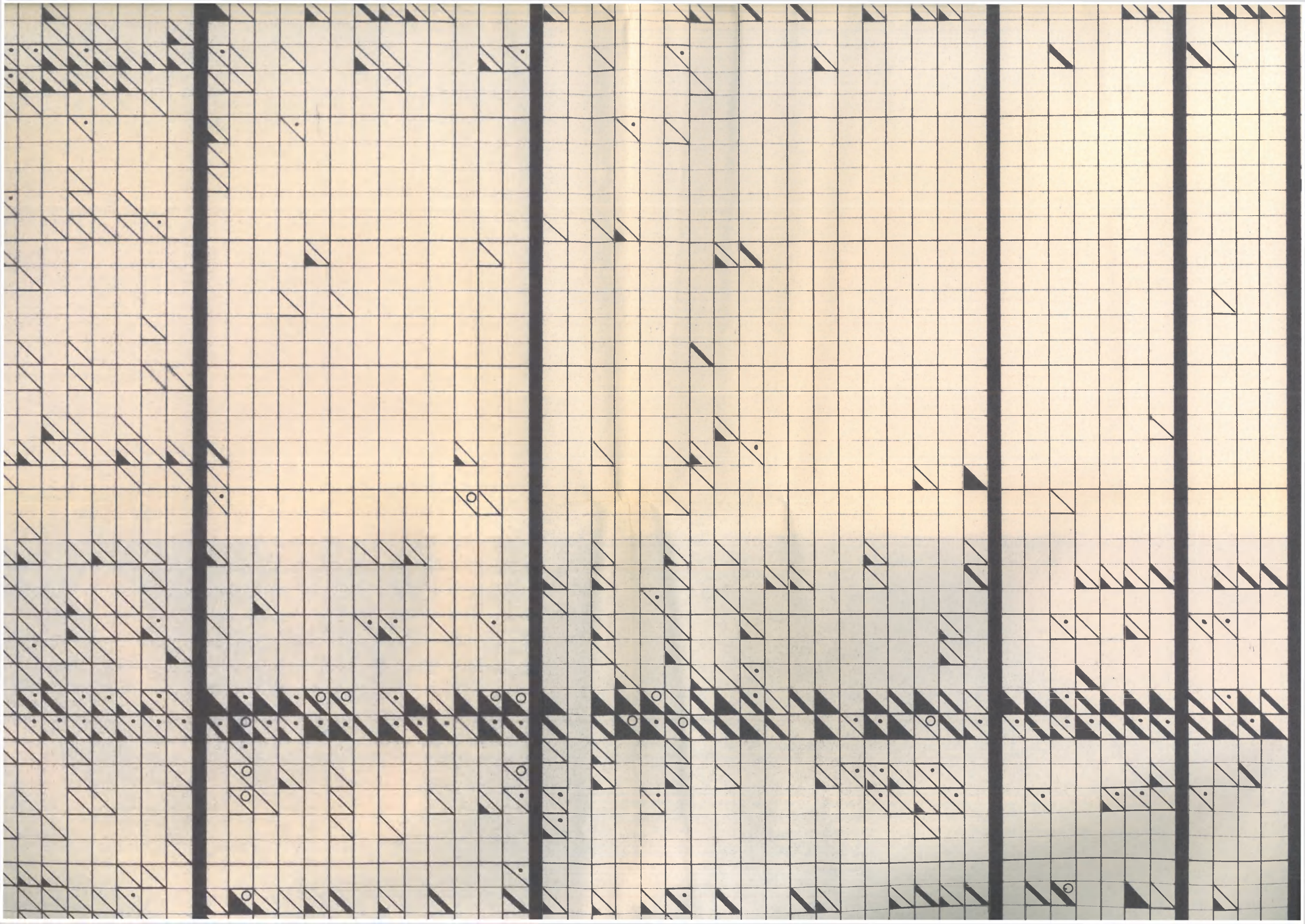
LAGOON

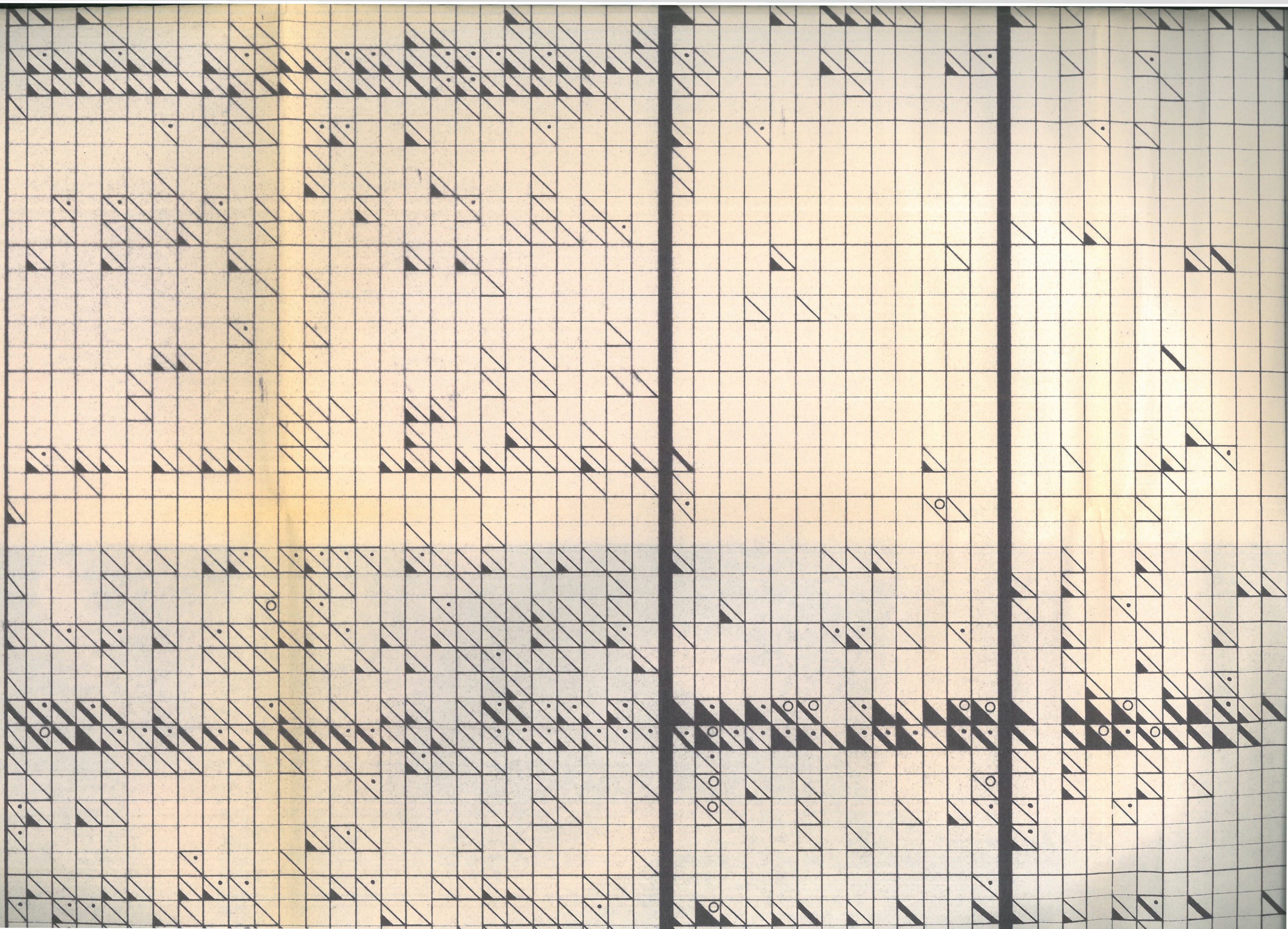
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PERIREEFAL AREA

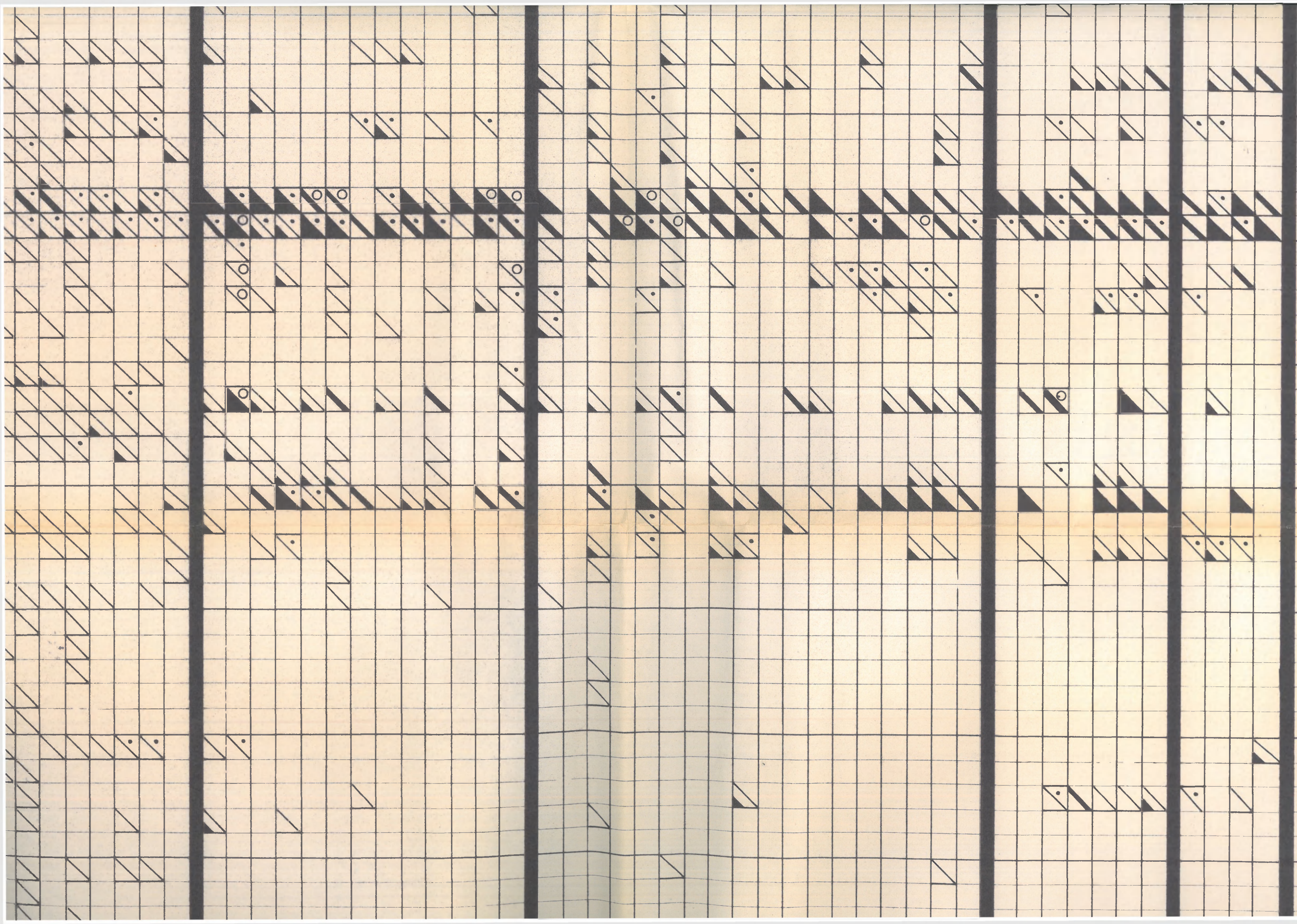
A 10x10 grid with numbers 50-110 on the left and top edges. The grid contains a complex pattern of black and white squares, some with diagonal lines and dots. The pattern is symmetrical across the center. The numbers on the left are 50, 54, 56, 59, 60, 62, 63, 65, 67, 71, 72, 75, 77, 81, 82, 84, 86, 90, 91, 94, 98, 106, 108, 109, 110. The numbers on the top are 50, 54, 56, 59, 60, 62, 63, 65, 67, 71, 72, 75, 77, 81, 82, 84, 86, 90, 91, 94, 98, 106, 108, 109, 110.

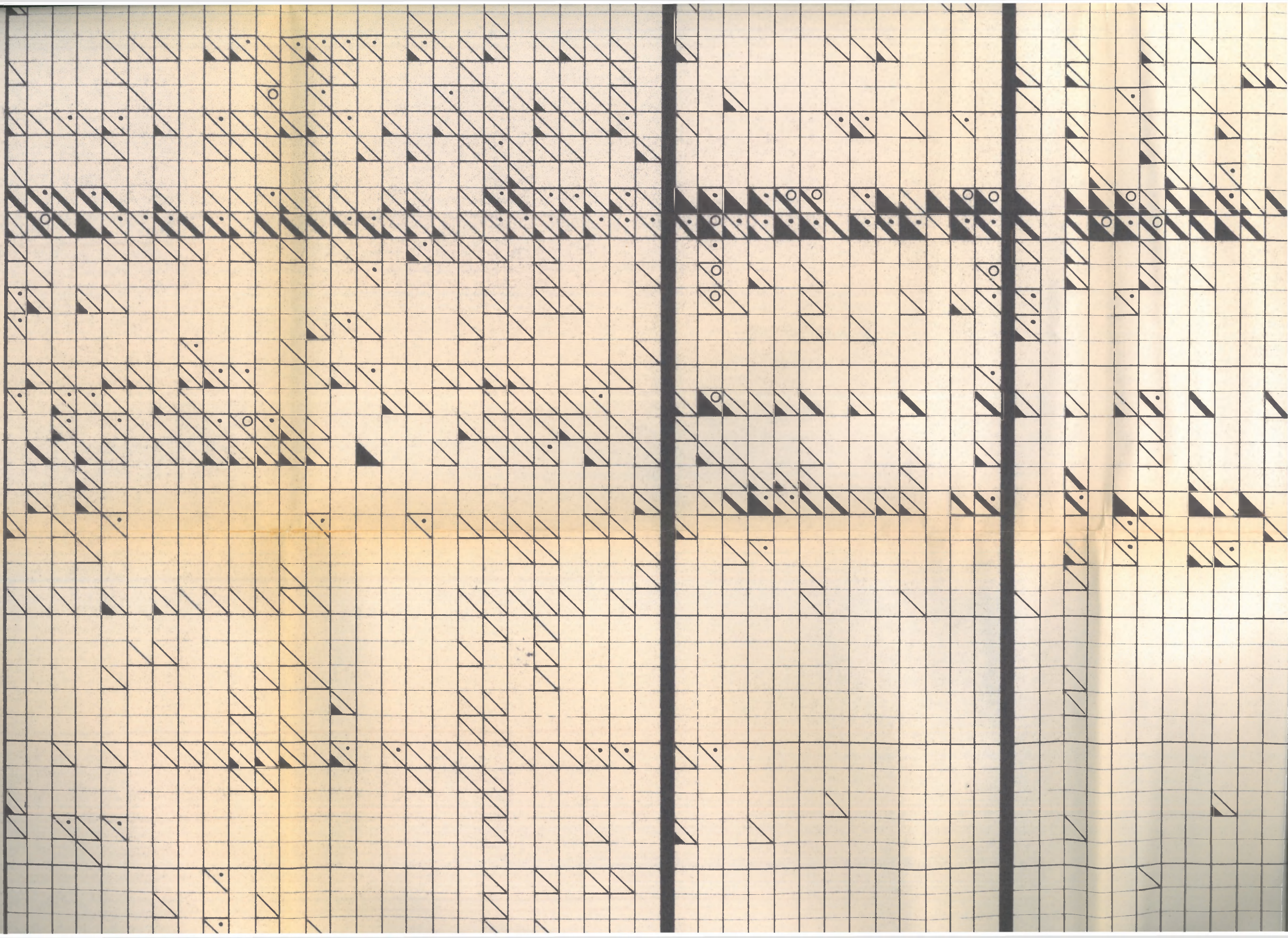
TEXTULARIA PORRECTA
TEXTULARIA PSEUDOGRAMEN
T. PSEUDOGRAMEN KERIMBAENSIS
TEXTULARIA SEMIALATA
TROCHAMMINA SQUAMATA
ROTAIAMMINA CHITINOSA
GAUDRYINA RUGULOSA
CLAVULINA MULTICAMERATA
CLAVULINA PACIFICA
PLANISPIRINELLA EXIGUA
EDENTOSTOMINA CULTRATA
EDENTOSTOMINA DURRANDII
EDENTOSTOMINA RUPERTIANA
WIESNERELLA AURICULATA
NUBECULINA DIVARICATA ADVENA
NODOBACULARIELLA JAPONICA
VERTEBRALINA STRIATA
QUINQUELOCULINA ANGUINA ARENATA
Q. BIDENTATA SUBAGGLUTINATA
QUINQUELOCULINA BIDENTATA S.S.
QUINQUELOCULINA BERTHELOTIANA
QUINQUELOCULINA CRASSICARINATA
QUINQUELOCULINA CURTA
QUINQUELOCULINA PISTORQUAEATA
QUINQUELOCULINA GRANULOCOSTATA
QUINQUELOCULINA LAMARCKIANA S.S.
Q. LAMARCKIANA QUEENSLANDICA
QUINQUELOCULINA NEOSTRIATULA
QUINQUELOCULINA OBLONGA S.S.
Q. OBLONGA INCISA
Q. OBLONGA SEGERSI
Q. OBLONGA TRANSVERSE STRIATA
Q. OBLONGA EBURNEA
Q. OBLONGA LIZARDI
QUINQUELOCULINA PITTENSIS
Q. POEYANA CARINATA
QUINQUELOCULINA PSEUDORETICULATA



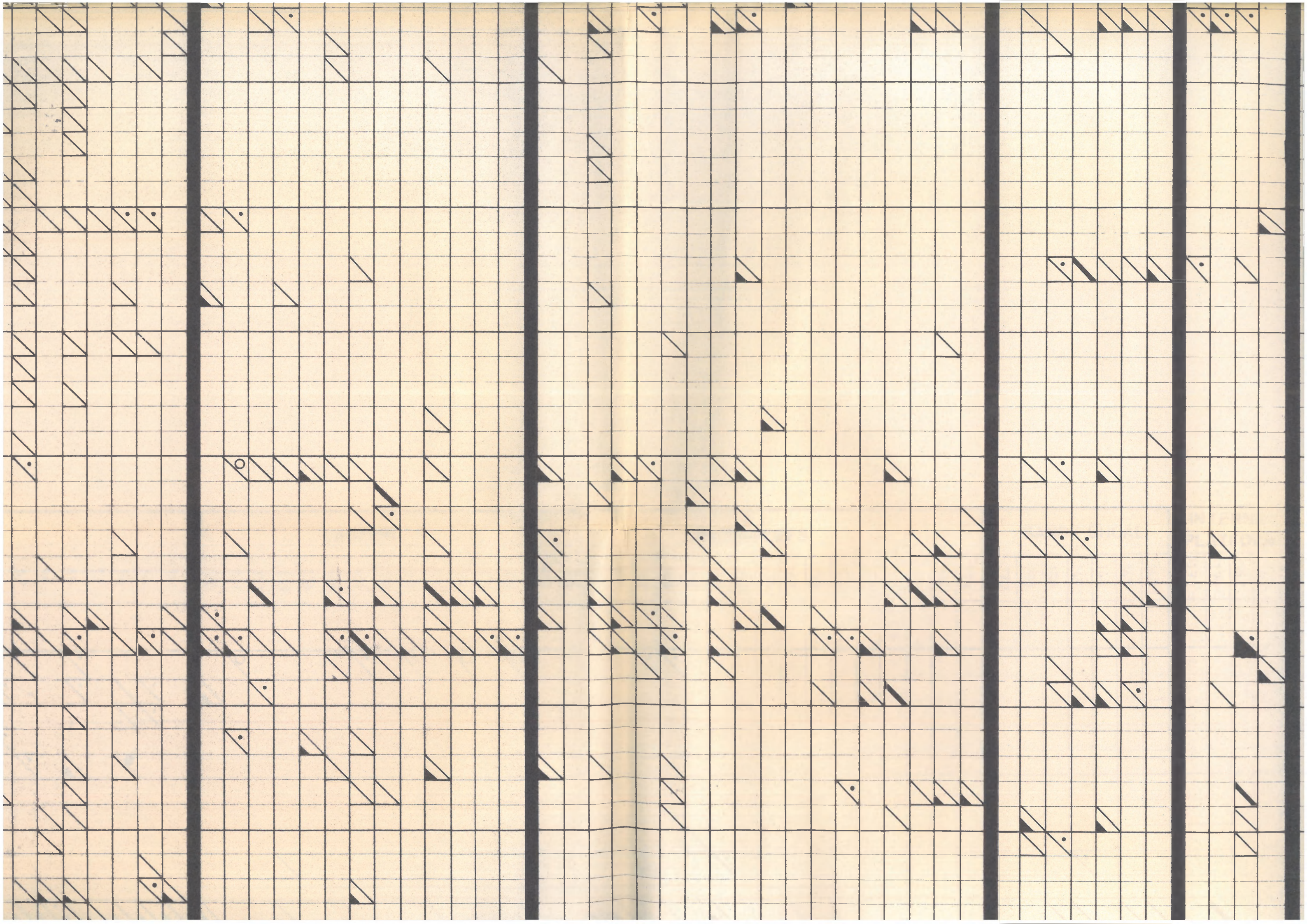


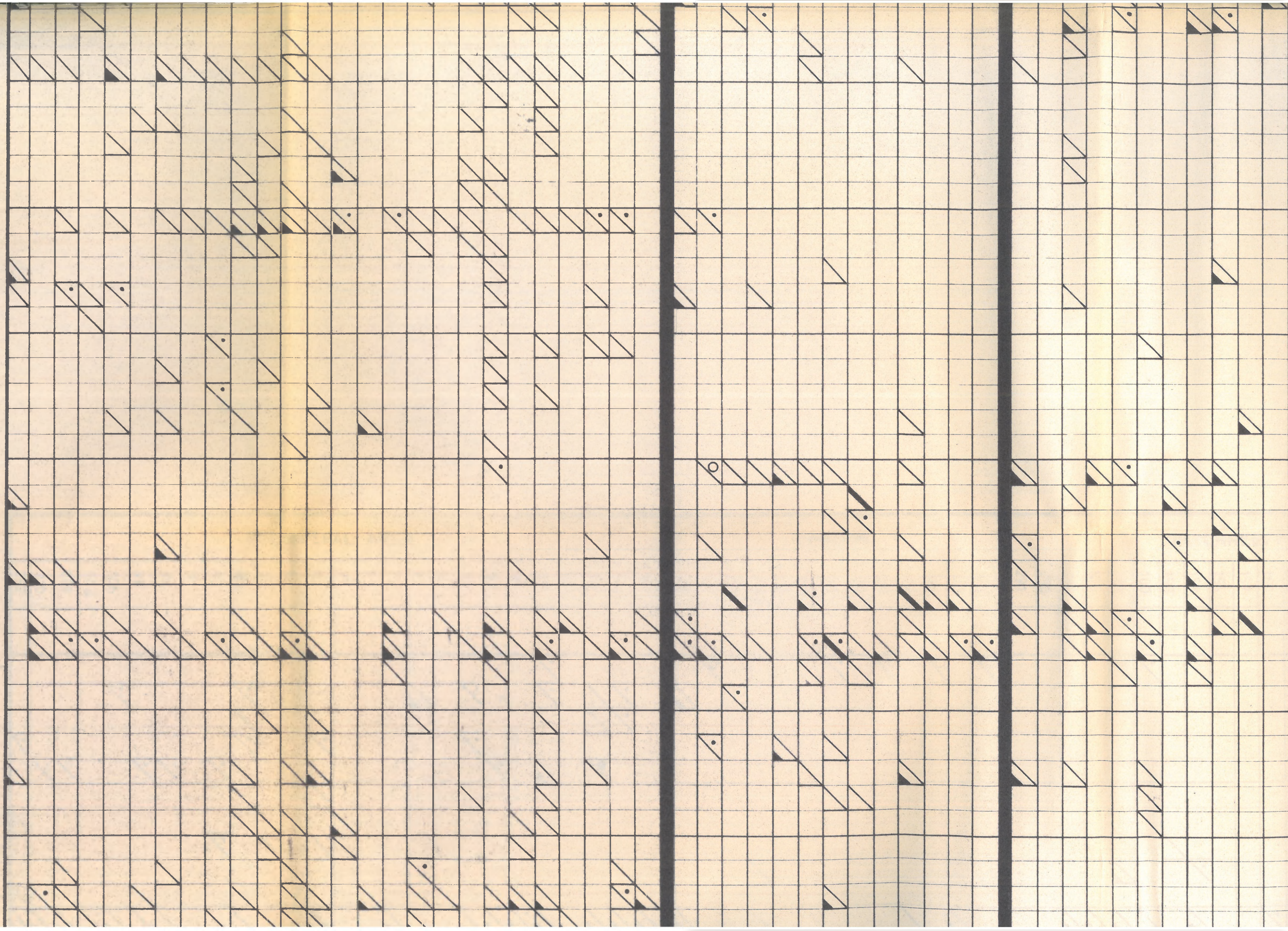
QUINQUELOCULINA	BIDENTATA S.S.
QUINQUELOCULINA	BERTHELOTIANA
QUINQUELOCULINA	CRASSICARINATA
QUINQUELOCULINA	CURTA
QUINQUELOCULINA	PISTORQUAEATA
QUINQUELOCULINA	GRANULOCOSTATA
QUINQUELOCULINA	LAMARCKIANA S.S.
Q. LAMARCKIANA	QUEENSLANDICA
QUINQUELOCULINA	NEOSTRIATULA
QUINQUELOCULINA	OBLONGA S.S.
Q. OBLONGA	INCISA
Q. OBLONGA	SEGERSI
Q. OBLONGA	TRANSVERSE STRIATA
Q. OBLONGA	EBURNEA
Q. OBLONGA	LIZARDI
QUINQUELOCULINA	PITTENSIS
Q. POEYANA	CARINATA
QUINQUELOCULINA	PSEUDORETICULATA
QUINQUELOCULINA	QUINQUECARINATA
QUINQUELOCULINA	TROPICALIS
QUINQUELOCULINA	MONTYI
MASSILINA	CORRUGATA
MASSILINA	INAEQUALIS
MASSILINA	SUBRUGOSA
PSEUDOMASSILINA	AUSTRIALIS S.S.
P. AUSTRIALIS	RETICULATA
P. AUSTRIALIS	MACILENTA
PYRGO	DENTICULA
PYRGO	DENTICULA STRIOLATA
PYRGO	LUNDGRENII
SPIROLOCULINA	COMMUNIS S.S.
S. COMMUNIS	ATTENUATA
SPIROLOCULINA	CORRUGATA
SPIROLOCULINA	FOVEOLATA
SPIROLOCULINA	RUGOSA CURVATURA
SPIROLOCULINA	SAMOAENSIS
S. SAMOAENSIS	APERTA





MASSILINA INAEQUALIS
MASSILINA SUBRUGOSA
PSEUDOMASSILINA AUSTRIALIS S.S.
P. AUSTRIALIS RETICULATA
P. AUSTRIALIS MACILENTA
PYRGO DENTICULA
PYRGO DENTICULA STRIOLATA
PYRGO LUNDGRENII
SPIROLOCULINA COMMUNIS S.S.
S. COMMUNIS ATTENUATA
SPIROLOCULINA CORRUGATA
SPIROLOCULINA FOVEOLATA
SPIROLOCULINA RUGOSA CURVATURA
SPIROLOCULINA SAMOAENSIS
S. SAMOAENSIS APERTA
S. SAMOAENSIS ACESCATA
SPIROSIGMOILINA PARRI
TRILOCULINA COSTIFERA
TRILOCULINA EARLANDI
TRILOCULINA IRREGULARIS
TRILOCULINA BICARINATA
TRILOCULINA LINNEIANA S.S.
T. LINNEIANA SUBGRANULATA
TRILOCULINA LITTORALIS
TRILOCULINA TRIGONULA S.S.
T. TRIGONULA TRICARINATA
T. TRIGONULA BERTHELINIANA
T. TRIGONULA TERQUEMIANA
MILIOLINELLA ALBATROSSI
MILIOLINELLA BARAGWANATHI
MILIOLINELLA AUSTRALIS S.S.
M. AUSTRALIS CIRCULARIS
M. AUSTRALIS LABIOSA
M. AUSTRALIS BRADYI
AMMOMASSILINA ALVEOLINIFORMIS
HAUERINA CIRCINATA
HAUERINA EDAGILISSIMA





TRIOLOCULINA LINNEIANA S.S.

T. LINNEIANA SUBGRANULATA

TRIOLOCULINA LITTORALIS

TRIOLOCULINA TRIGONULA S.S.

T. TRIGONULA TRICARINATA

T. TRIGONULA BERTHELINIANA

T. TRIGONULA TERQUEMIANA

MILIOLINELLA ALBATROSSI

MILIOLINELLA BARAGWANATHI

MILIOLINELLA AUSTRALIS S.S.

M. AUSTRALIS CIRCULARIS

M. AUSTRALIS LABIOSA

M. AUSTRALIS BRADYI

AMMOMASSILINA ALVEOLINIFORMIS

HAUERINA CIRCINATA

HAUERINA FRAGILISSIMA

HAUERINA PACIFICA

PSEUDOHAUERINA OCCIDENTALIS INVOLUTA

PSEUDOHAUERINA HOWELLI

PSEUDOHAUERINA ORIENTALIS

HETERILLINA CRIBROSTOMA

MILIOLA SUBLINEATA

NEVILLINA CORONATA

SCHLUMBERGERINA ALVEOLINIFORMIS

ARTICULINA PACIFICA

ARTICULINA QUEENSLANDICA

MONALYSIDIUM POLITUM

PENEROPLIS PERTUSUS S.S.

P. PERTUSUS PLANATUS

P. PERTUSUS ACICULARIS

P. PERTUSUS ARIETINUS

SORITES DISCOIDEUS

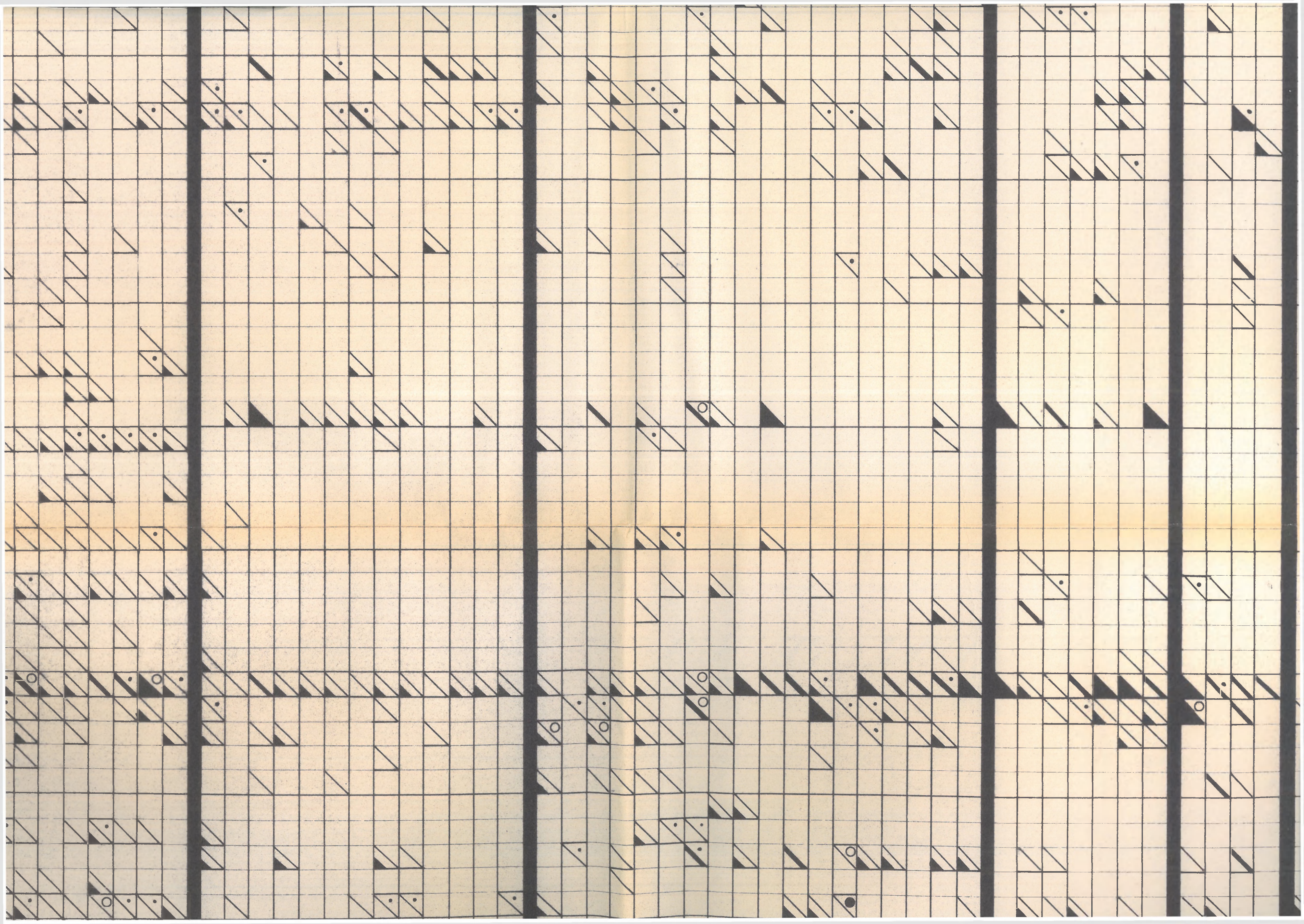
SORITES ORBITOLITOIDES

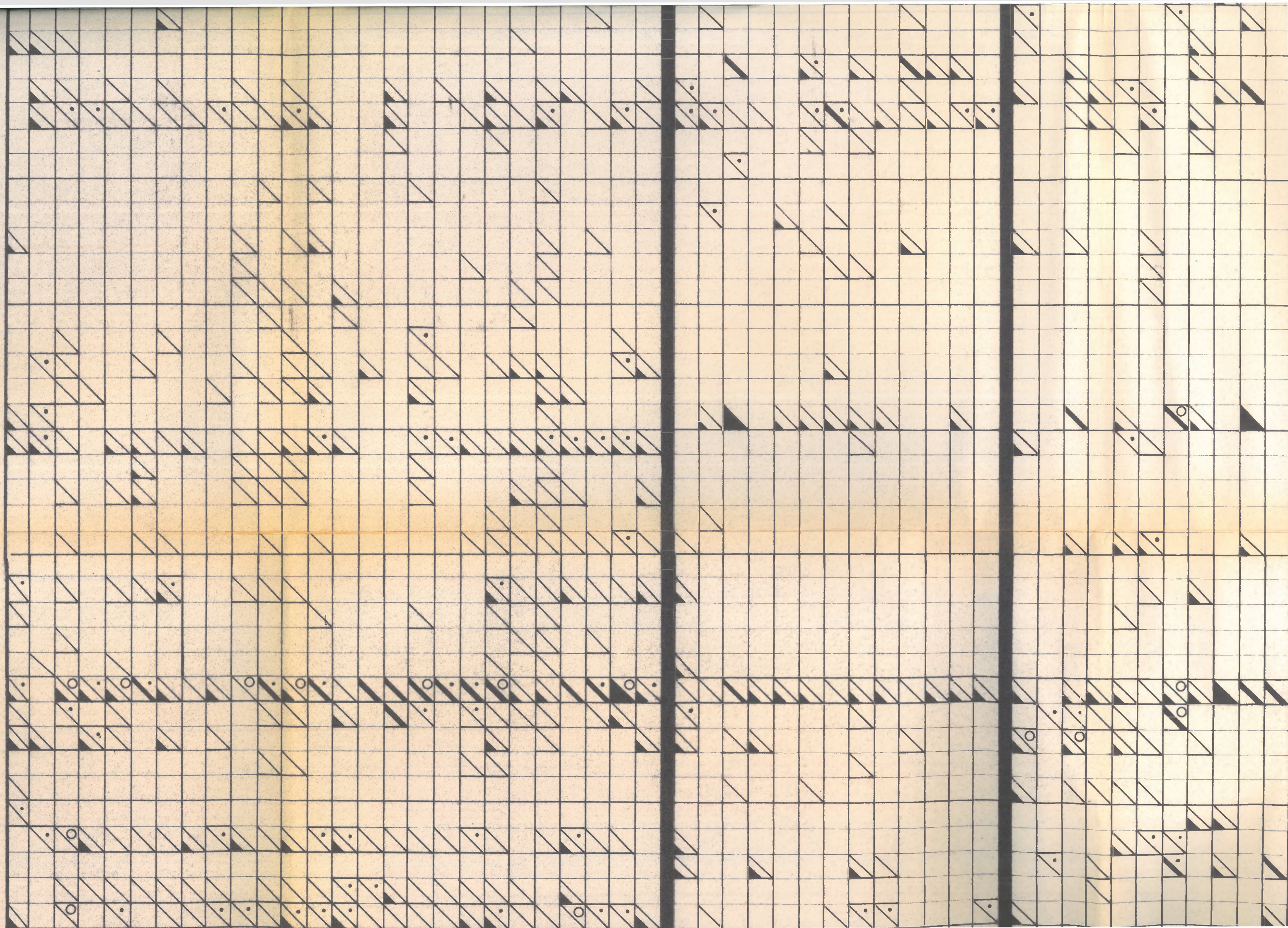
SORITES MARGINALIS

SORITES ORBICULUS

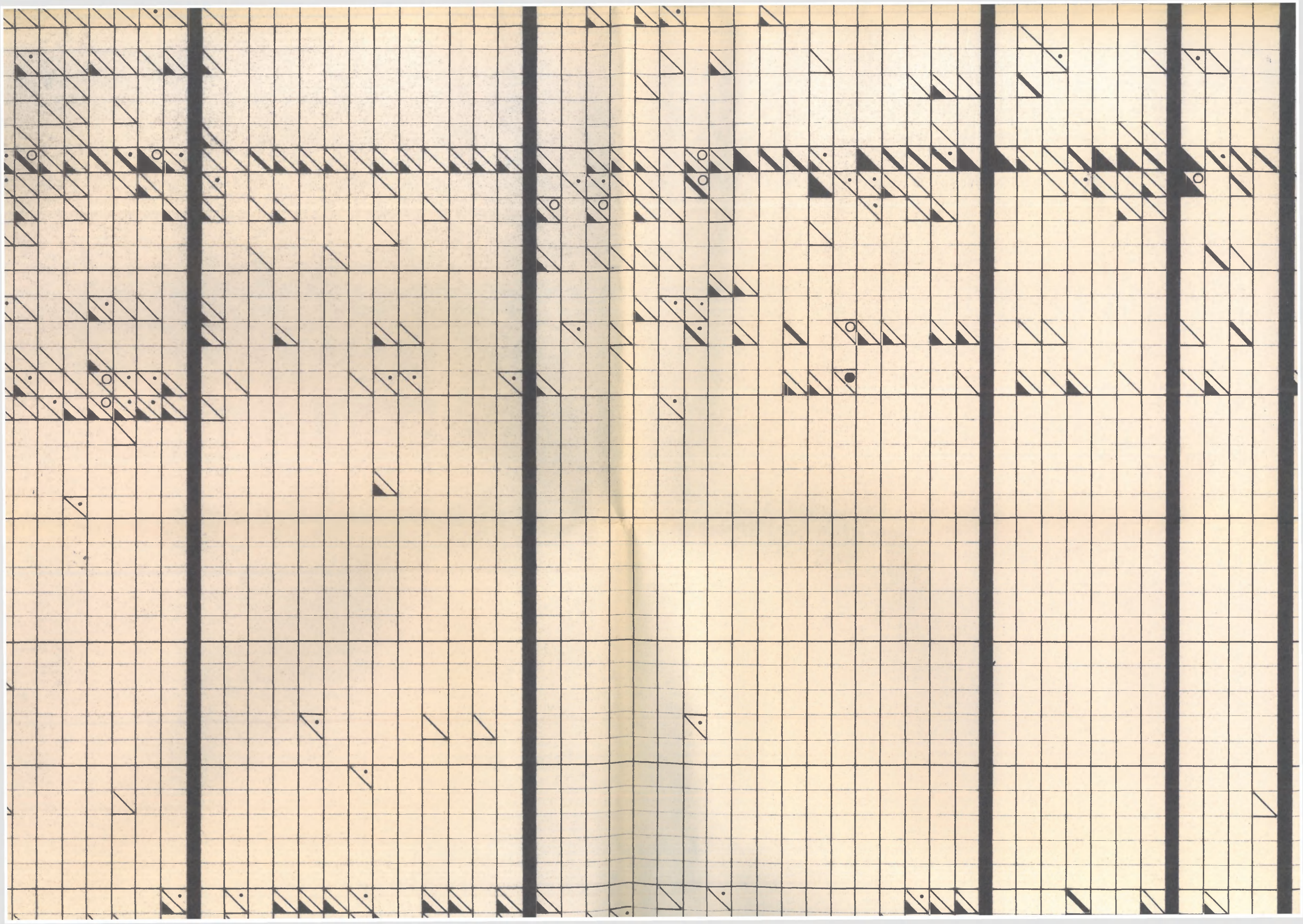
AMPHISORUS HEMPRICHII

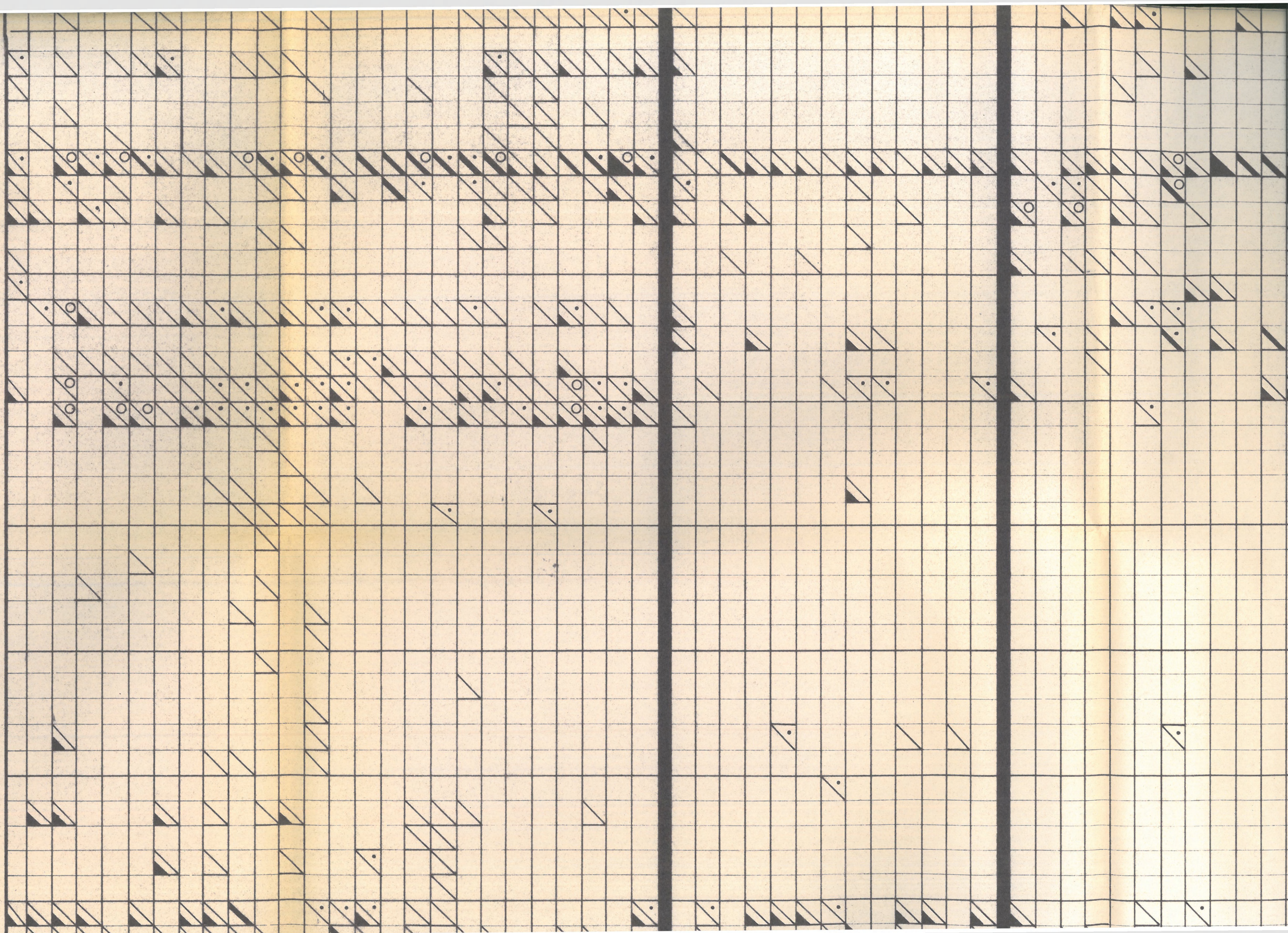
MARGINODORA VERTICILLATA



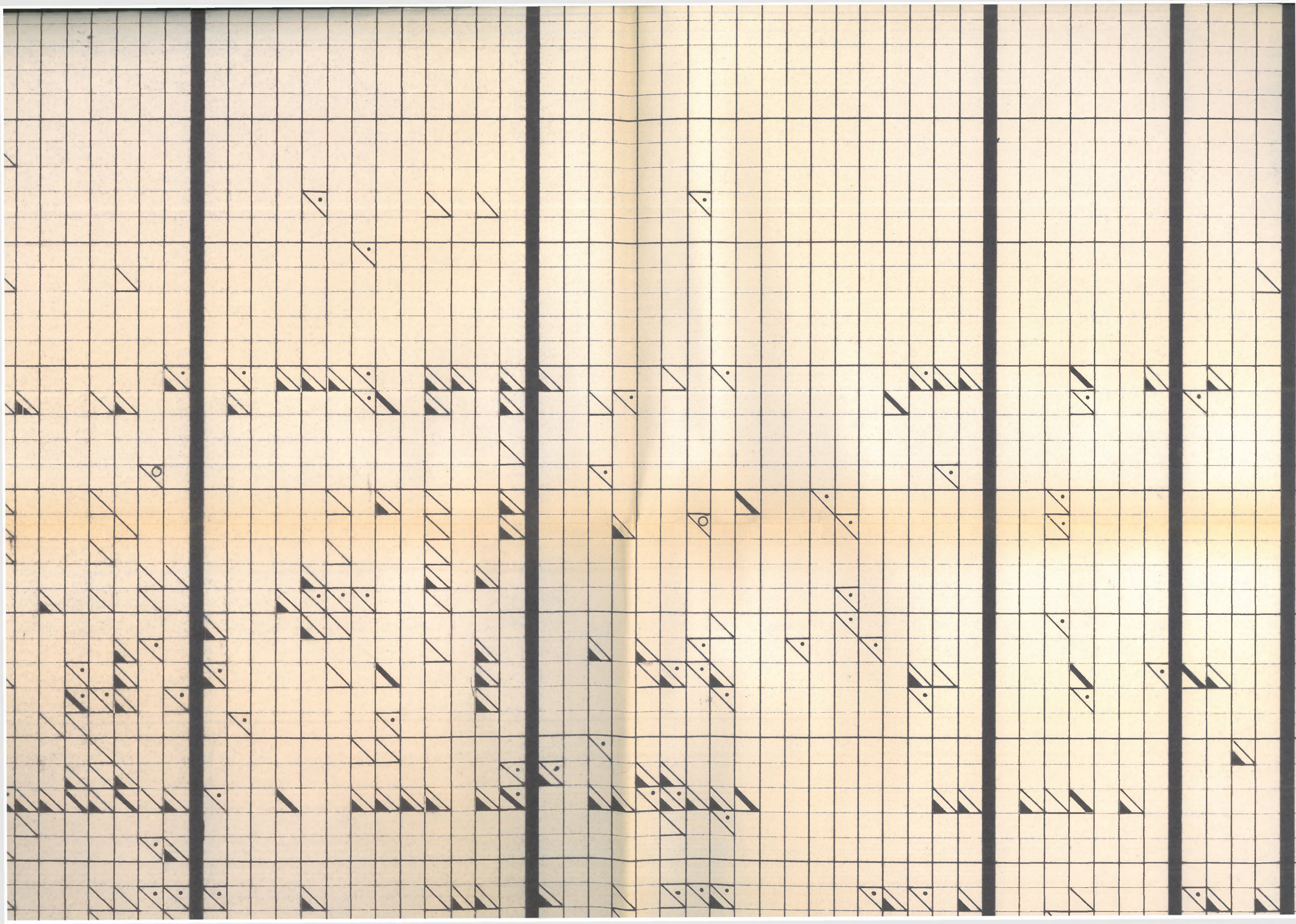


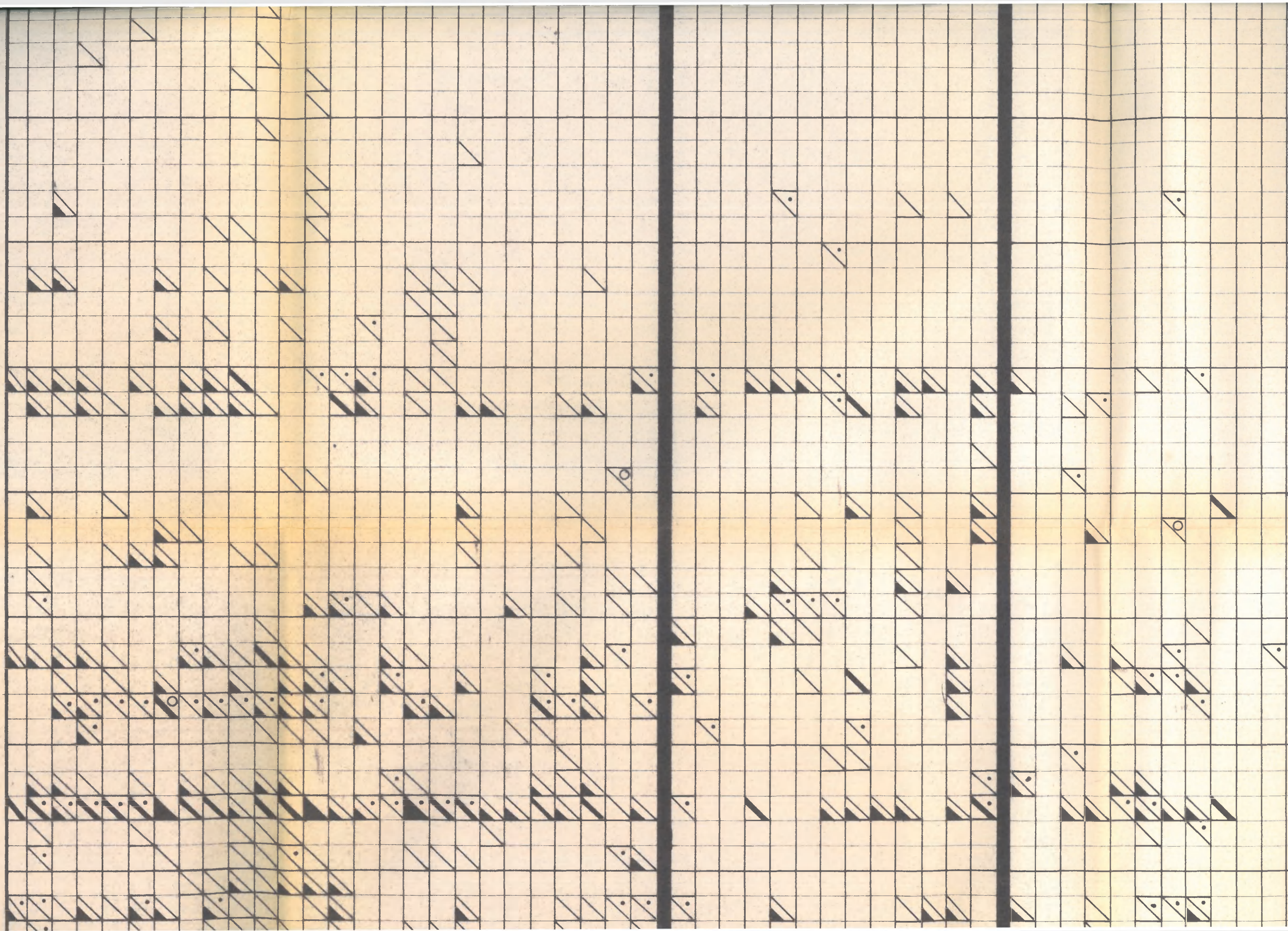
MILIOLA	SUBLINEATA
NEVILLINA	CORONATA
SCHLUMBERGERINA	ALVEOLINIFORMIS
ARTICULINA	PACIFICA
ARTICULINA	QUEENSLANDICA
MONALYSIDIUM	POLITUM
PENEROPLIS	PERTUSUS S.S.
P.	PERTUSUS PLANATUS
P.	PERTUSUS ACICULARIS
P.	PERTUSUS ARIETINUS
SORITES	DISCOIDEUS
SORITES	ORBITOLITOIDES
SORITES	MARGINALIS
SORITES	ORBICULUS
AMPHISORUS	HEMPRICHII
MARGINOPORA	VERTEBRALIS
ALVEOLINELLA	QUOYI
NODOSARIA	CATESBYI
LAGENA	GRACILLIMA
LAGENA	LAEVIS
LAGENA	STRUMOSA
LAGENA	SP 1
LENTICULINA	CF L. AUSTRALIS
GUTTULINA	CF G. IRREGULARIS
GLANDULINA	LAEVIGATA
OOLINA	CF O. DESMOPHORA
OOLINA	HEXAGONA
OOLINA	CF O. SPIRALIS
FISSURINA	CONTUSA
FISSURINA	LAEVIGATA
FISSURINA	MARGINATA
FISSURINA	MARGINATO-PERFORATA
FISSURINA	ORBIGNYANA S.S.
F.	ORBIGNYANA LACUNATA
FISSURINA	CF F. SEMISTRIATA
PARAFISSURINA	PSEUDAURICULATA
SPIRILLINA	VIVIPARA S.S.



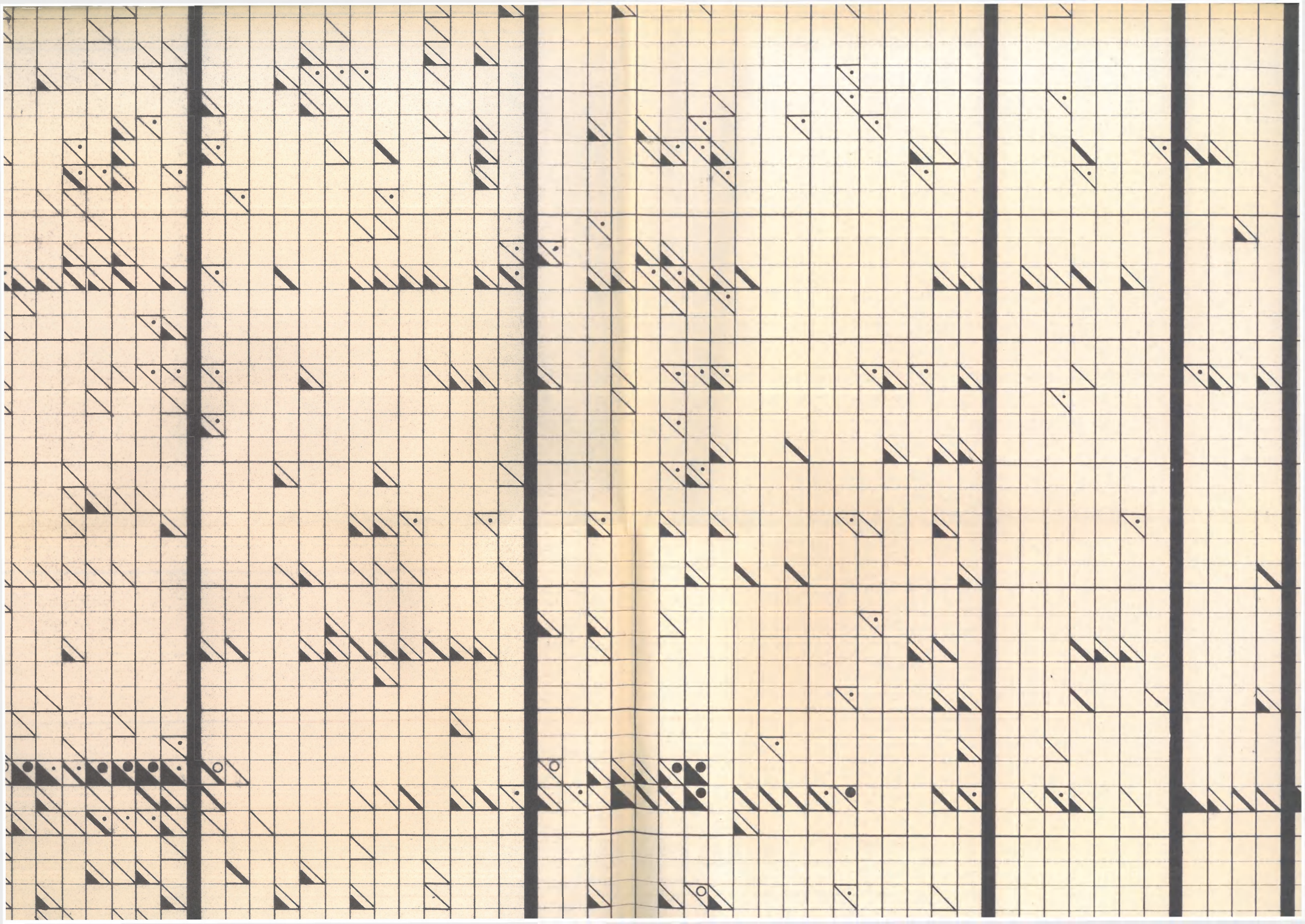


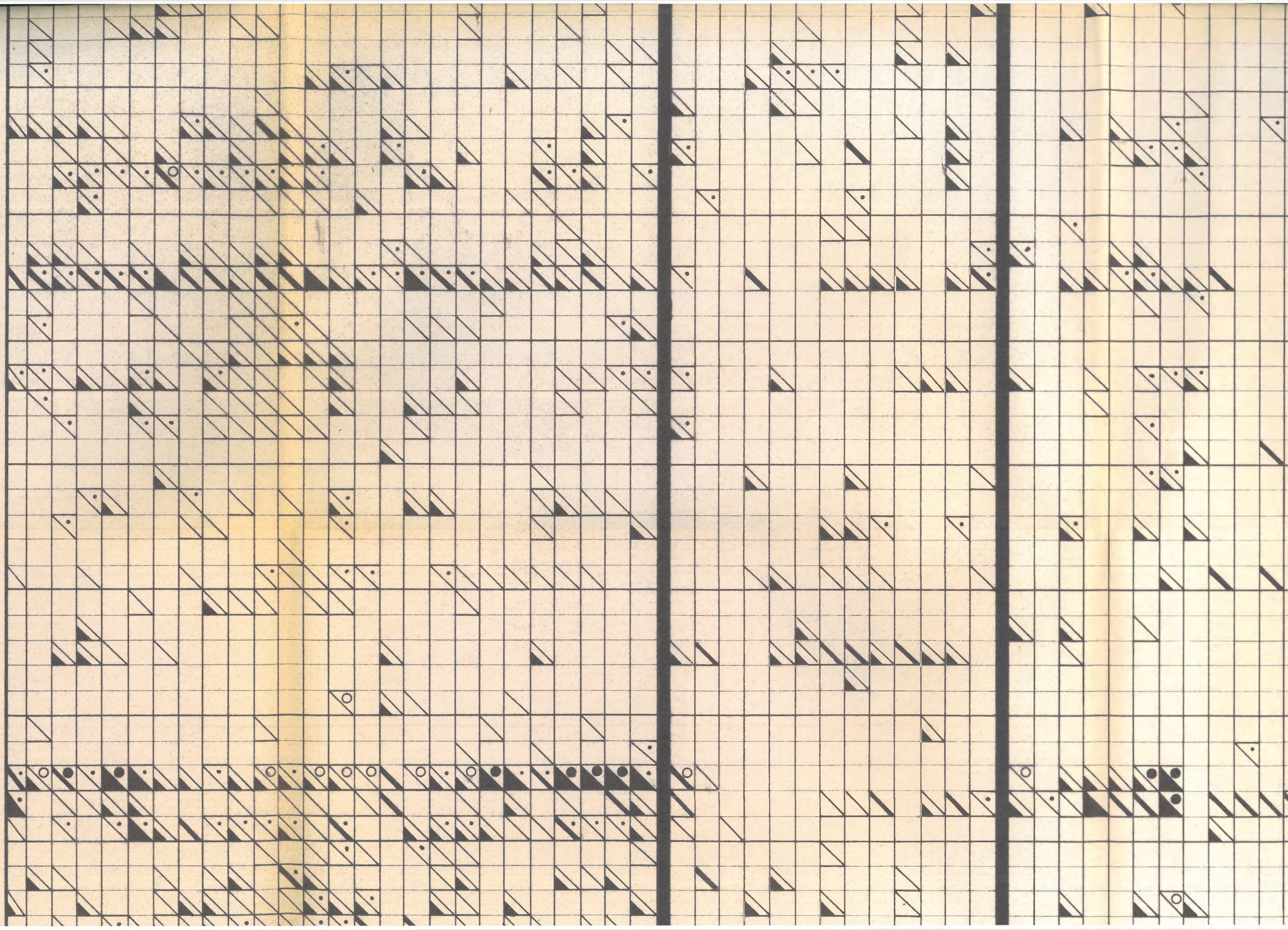
LAGENA SP 1
LENTICULINA CF. L. AUSTRALIS
GUTTULINA CF. G. IRREGULARIS
GLANDULINA LAEVIGATA
OOLINA CF. O. DESMOPHORA
OOLINA HEXAGONA
OOLINA CF. O. SPIRALIS
FISSURINA CONTUSA
FISSURINA LAEVIGATA
FISSURINA MARGINATA
FISSURINA MARGINATO-PERFORATA
FISSURINA ORBIGNYANA S.S.
F. ORBIGNYANA LACUNATA
FISSURINA CF. F. SEMISTRIATA
PARAFISSURINA PSEUDAURICULATA
SPIRILLINA VIVIPARA S.S.
S. VIVIPARA REVERTENS
SPIRILLINA SP 1
SPIRILLINA SP 2
ALLIATINA TRANSLUCENS
BULIMINOIDES MADAGASCARIENSIS S.S.
B. MADAGASCARIENSIS PARALLELA
B. MADAGASCARIENSIS SPICATUS
BULIMINOIDES WILLIAMSONIANUS
BOLIVINA COMPACTA
BOLIVINA RHOMBOIDALIS
BOLIVINA SPINEA
BRIZALINA PACIFICA
BRIZALINA STRIATULA
BRIZALINA CONVALLARIA
RECTOBOLIVINA RAPHANA
MIMOSINA ECHINATA
REUSSELLA SIMPLEX
TRIMOSINA MILLETTI MULTISPINATA
SIPHOUVIGERINA AMPULLACEA
SIPHOGENERINA VIRGULA
NEOCONORBINA TERQUEMI



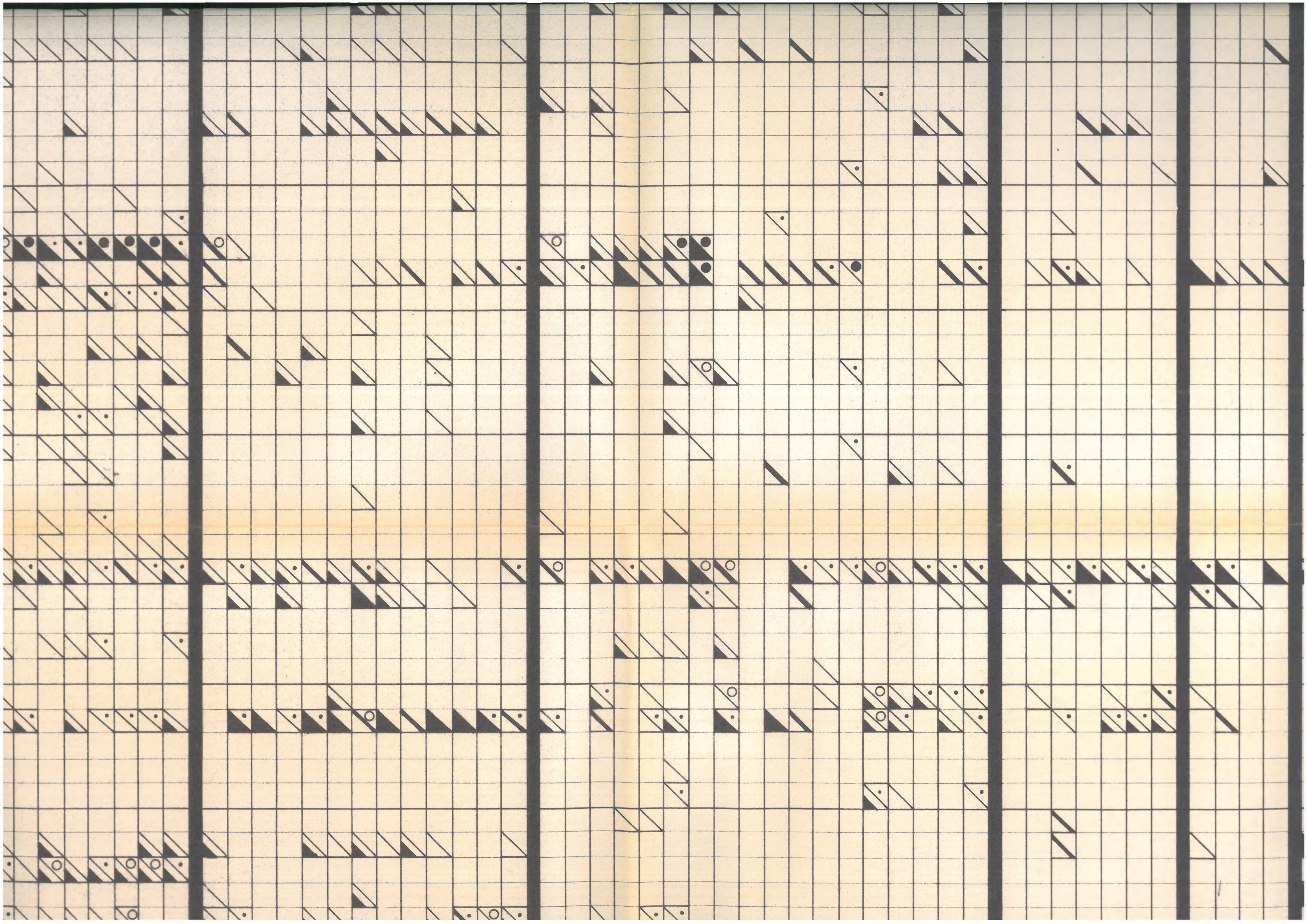


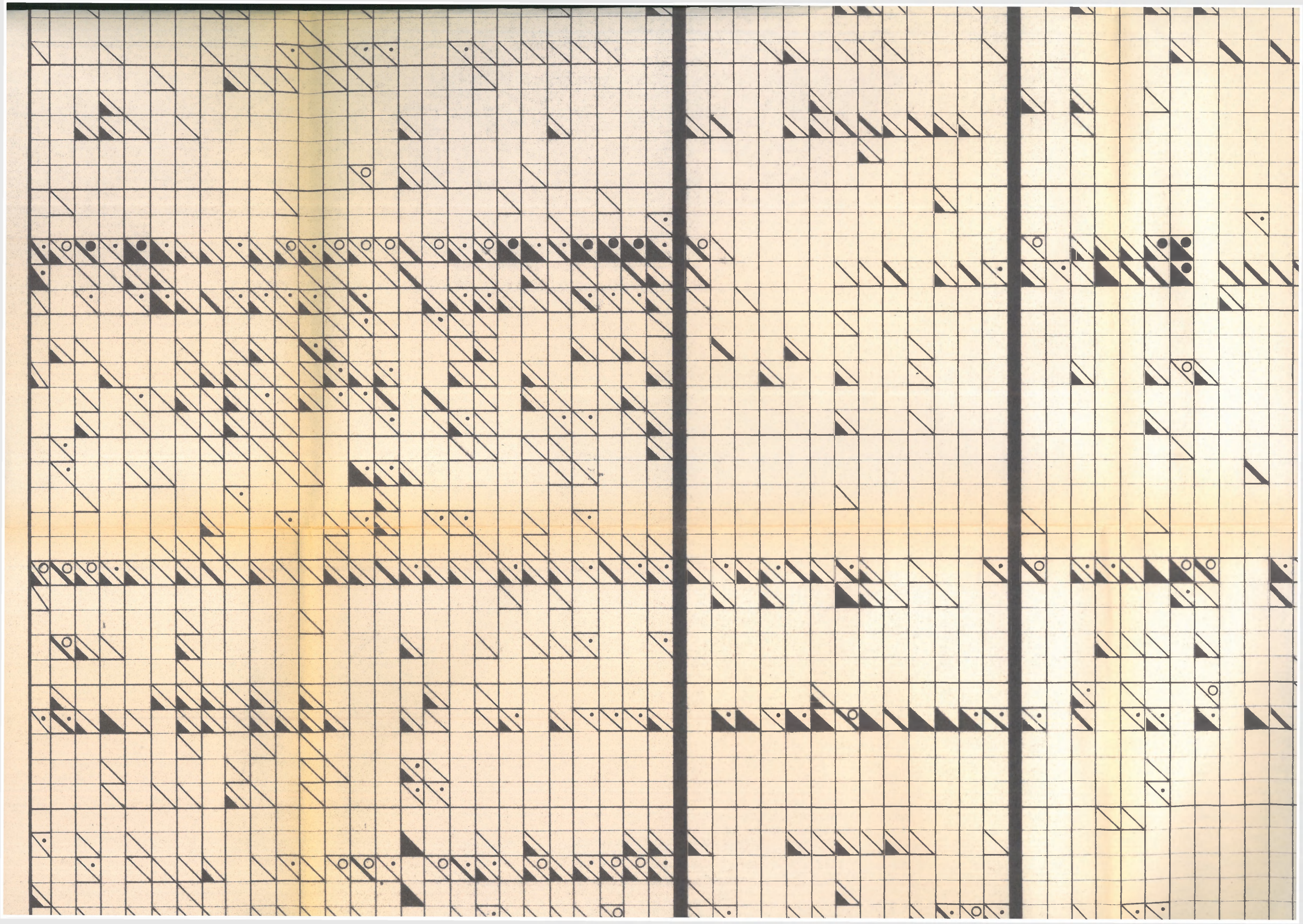
	B. MADAGASCARIENSIS PARALLELA
	B. MADAGASCARIENSIS SPICATUS
	BULIMINOIDES WILLIAMSONIANUS
	BOLIVINA COMPACTA
	BOLIVINA RHOMBOIDALIS
	BOLIVINA SPINEA
	BRIZALINA PACIFICA
	BRIZALINA STRIATULA
	BRIZALINA CONVALLARIA
	RECTOBOLIVINA RAPHANA
	MIMOSINA ECHINATA
	REUSSELLA SIMPLEX
	TRIMOSINA MILLETTI MULTISPINATA
	SIPHOUVIGERINA AMPULLACEA
	SIPHOGENERINA VIRGULA
	NEOCONORBINA TERQUEMI
	NEOCONORBINA SP. AFF. N. PACIFICA
	CANCRI AURICULUS
	DISCORBIS MIRA
	DISCORBIS SUBVESICULARIS
	GAVELINOPSIS SP. AFF. G. LOBATULUS
	ROSALINA ORIENTALIS
	NEOEPONIDES SP. AFF. N. BERTHELOTIANUS
	POROEPONIDES LATERALIS CRIBROREPANDUS
	POROEPONIDES LATERALIS S.S.
	GLABRATELLA HEXACAMERATA
	GLABRATELLA PATELLIFORMIS
	ANGULODISCORBIS QUADRANGULARIS
	EPISTOMAROIDES POLYSTOMELLOIDES
	SIPHONINA TUBULOSA
	SIPHONINOIDES ECHINATUS
	AMPHISTEGINA LESSONII
	AMPHISTEGINA LOBIFERA
	AMPHISTEGINA PAPILLOSA
	AMPHISTEGINA RADIATA
	PLANULINA PLANA
	CIBICIDES ARAVAENSIS



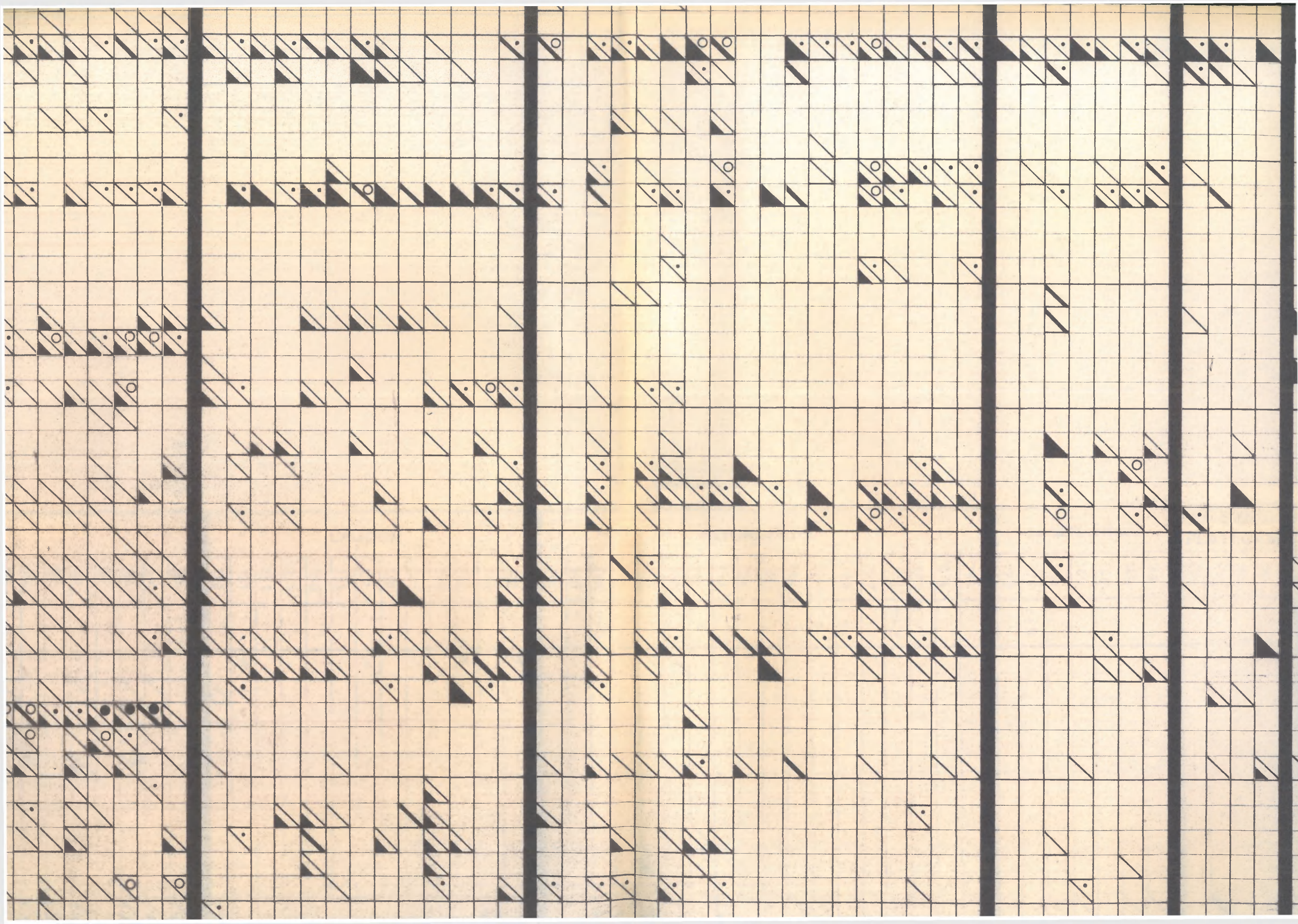


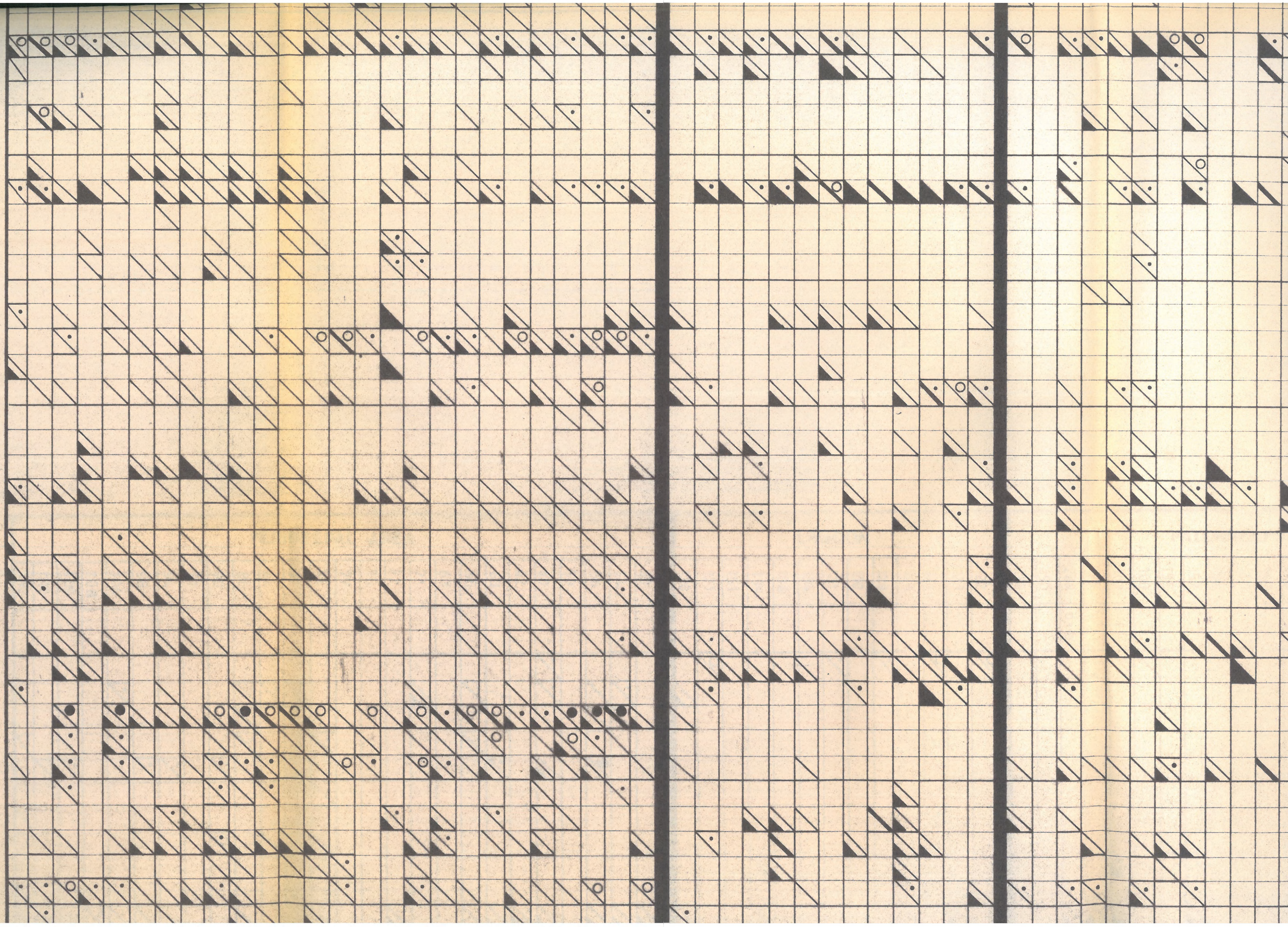
	RUSALINA ORIENTALIS
	NEOEPONIDES SP. AFF. N. BERTHELOTIANUS
	POROEPONIDES LATERALIS CRIBROREPANDUS
	POROEPONIDES LATERALIS S.S.
	GLABRATELLA HEXACAMERATA
	GLABRATELLA PATELLIFORMIS
	ANGULODISCORBIS QUADRANGULARIS
	EPISTOMAROIDES POLYSTOMELLOIDES
	SIPHONINA TUBULOSA
	SIPHONINOIDES ECHINATUS
	AMPHISTEGINA LESSONII
	AMPHISTEGINA LOBIFERA
	AMPHISTEGINA PAPILLOSA
	AMPHISTEGINA RADIATA
	PLANULINA PLANA
	CIBICIDES ARAVAENSIS
	CIBICIDES LOBATULUS
	CIBICIDES PSEUDOLOBATULUS
	CARIBBEANELLA ELATENSIS
	PLANORBULINA ACERVALIS
	PLANORBULINELLA LARVATA
	GYPSINA GLOBULUS
	CYMBALOPORELLA TABELLAEFORMIS
	CYMBALOPORETTA GR. BRADYI
	CYMBALOPORETTA SQUAMMOSA
	ASTEROROTALIA GAIMAROI
	PARAROTALIA VENUSTA
	ROOTALIA ? SP.
	AMMONIA CONVEXA
	AMMONIA TEPIDA
	AMMONIA SP. AFF. A. MOROENSIS
	MONSPELIENSINA JAPONICA
	MONSPELIENSINA DUBUISSONI
	CALCARINA CALCAR
	CALCARINA SPENGLERI S.S.
	CALCARINA SPENGLERI MAYORI
	BACULOGYPSINA SPHAERULATA





	CYMBALOPORELLA TABELLAEFORMIS
	CYMBALOPORETTA GR. BRADYI
	CYMBALOPORETTA SQUAMMOSA
	ASTEROROTALIA GAIMAROI
	PARAROTALIA VENUSTA
	ROTALIA ? SP.
	AMMONIA CONVEXA
	AMMONIA TEPIDA
	AMMONIA SP. AFF. A. MOROENSIS
	MONSPELIENSINA JAPONICA
	MONSPELIENSINA DUBUISSONI
	CALCARINA CALCAR
	CALCARINA SPENGLERI S.S.
	CALCARINA SPENGLERI MAYORI
	BACULOGYPSINA SPHAERULATA
	PARRELLINA HISPIDULA
	PARRELLINA PACIFICA
	PARRELLINA MILLETTI
	HAYNESINA DEPRESSULA
	ELPHIDIUM ADVENUM S.S.
	OZAWAIA (?) TONGAENSIS
	ELPHIDIUM BATAVUM
	ELPHIDIUM CRATICULATUM
	ELPHIDIUM CRISPUM
	ELPHIDIUM JENSENI
	ELPHIDIUM LIMBATUM
	ELPHIDIUM POEYANUM
	ELPHIDIUM GALERAENSIS
	OPERCULINA AMMONOIDES
	NUMMULITES CUMINGII
	HETEROSTEGINA DEPRESSA
	FURSENKOINA PAUCILOCULATA
	SIGMAVIRGINULA TORTUOSA
	LOXOSTOMUM (?) LIMBATUM
	GLOBOCASSIDULINA ORIANGULATA
	NONION (?) GR. SCAPHUM





ROITALIA ? SP
AMMONIA CONVEXA
AMMONIA TEPIDA
AMMONIA SP. AFF. A. MOROENSIS
MONSPELIENSINA JAPONICA
MONSPELIENSINA DUBUISSONI
CALCARINA CALCAR
CALCARINA SPENGLERI S.S.
CALCARINA SPENGLERI MAYORI
BACULOGYPSINA SPHAERULATA
PARRELLINA HISPIDULA
PARRELLINA PACIFICA
PARRELLINA MILLETTI
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ELPHIDIUM ADVENUM S.S.
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LOXOSTOMUM (?) LIMBATUM
GLOBOCASSIDULINA ORIANGULATA
NONION (?) GR. SCAPHUM
NONION SUBTURGIDUM
NONIONELLA AMPLILABRATA
HETEROLEPA PRAECINCTA
ANOMALINELLA ROSTRATA
PLANCTON

