23-3-71

STRATIGRAPHIC AND STRUCTURAL DEVELOPMENT OF THE ST. VINCENT TERTIARY BASIN, SOUTH AUSTRALIA

by

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A Thesis

Submitted to the University of Adelaide

in Fulfilment of Requirements

for the Degree of

Doctor of Philosophy

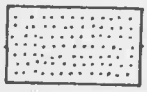
University of Adelaide

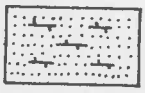
Adelaide, South Australia

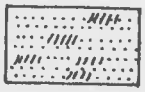
September, 1969

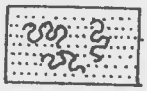
MASTER EXPLANATION CHART 1

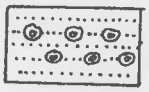
Conglomerate


Sands or sandstones

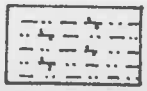

Calcareous sandstone


Siliceous sandstone


Mottled ferruginous sandstone


Sandstones with ferruginous pisolites

Silts or siltstones


Calcareous siltstone

Lignite

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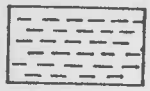
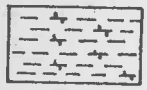
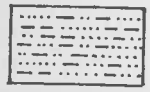
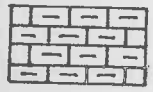

Claystone

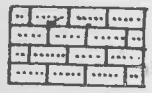

Calcareous claystone

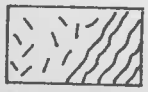

Arenaceous mudstone

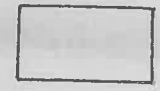
Limestone (fine and coarse)


Argillaceous limestone

Siliceous limestone


Arenaceous limestone


Crystalline basement


Kunkar

10. PLEISTOCENE SEDIMENTS
9. HALLETT COVE SANDSTONE
8. MUNNO PARA CLAY MEMBER
7. PORT WILLUNGA BEDS
6. CHINAMAN'S GULLY BEDS
5. BLANCHE POINT SOFT MARL
4. BLANCHE POINT BANDED AND TRANSITIONAL MARLS
3. TORTACHILLA LIMESTONE
2. SOUTH MASLIN SANDS
1. NORTH MASLIN SANDS

COASTAL SECTION FROM ADELAIDE TO MYPONGA VALLEY

CHART 2

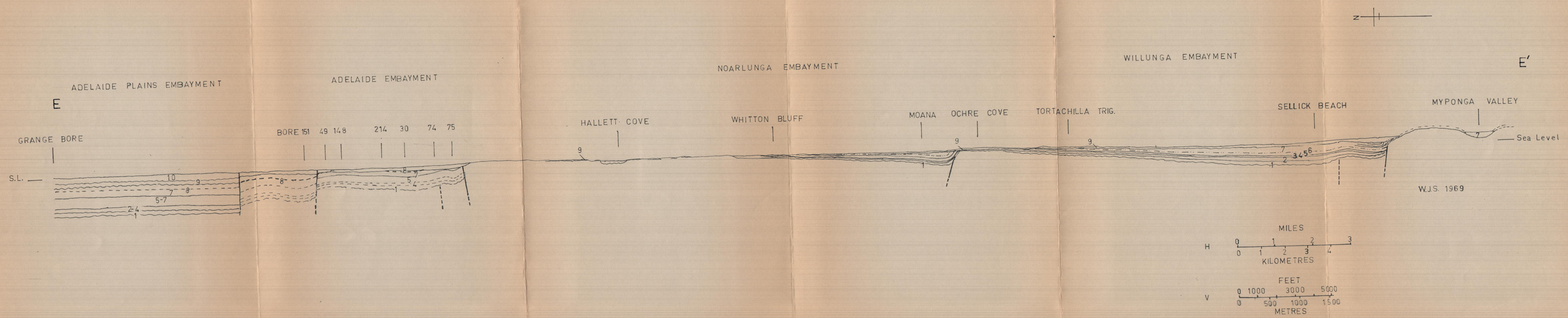
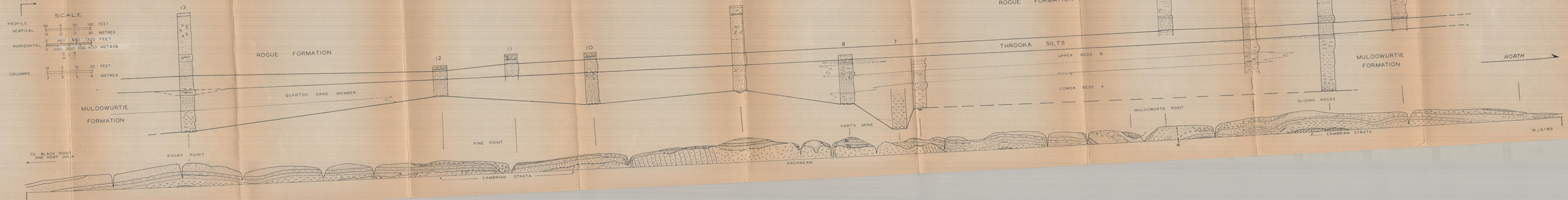


CHART 3 A

COLUMNAR STRATIGRAPHIC SECTIONS AND COASTAL PROFILE OF CAINOZOIC ROCKS

ALONG EAST COAST OF YORKE PENINSULA



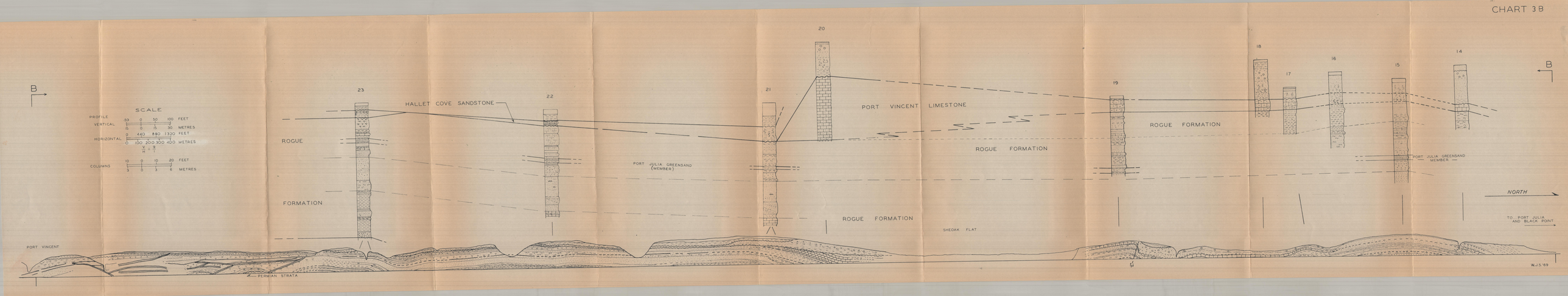

B
SCALE
PROFILE
VERTICAL
50 0 50 100 FEET
15 0 15 30 METRES
HORIZONTAL
0 440 880 1320 FEET
0 100 200 300 400 METRES
V = 9
H = 1
COLUMNS
10 0 10 20 FEET
3 0 3 6 METRES
23
22
21
20
19
18
17
16
15
14
HALLET COVE SANDSTONE
ROGUE
FORMATION
PORT JULIA GREENSAND (MEMBER)
PORT VINCENT LIMESTONE
ROGUE FORMATION
ROGUE FORMATION
SHEOAK FLAT
ROGUE FORMATION
PORT JULIA GREENSAND MEMBER
B
NORTH
TO PORT JULIA AND BLACK POINT
PORT VINCENT
PERMIAN STRATA
W.J.S.'69

CHART 3C

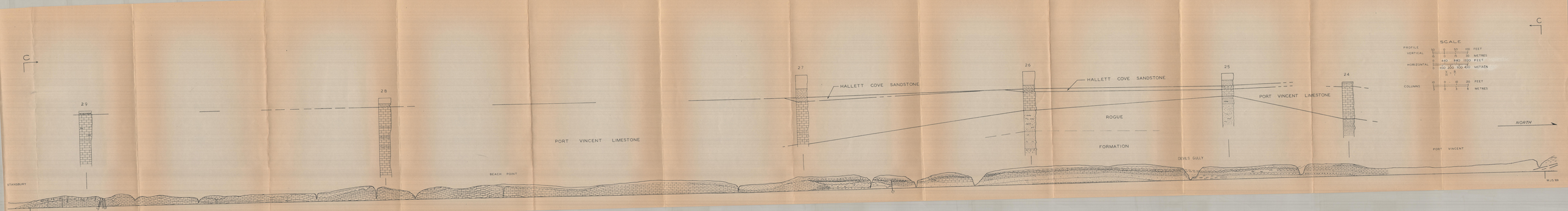
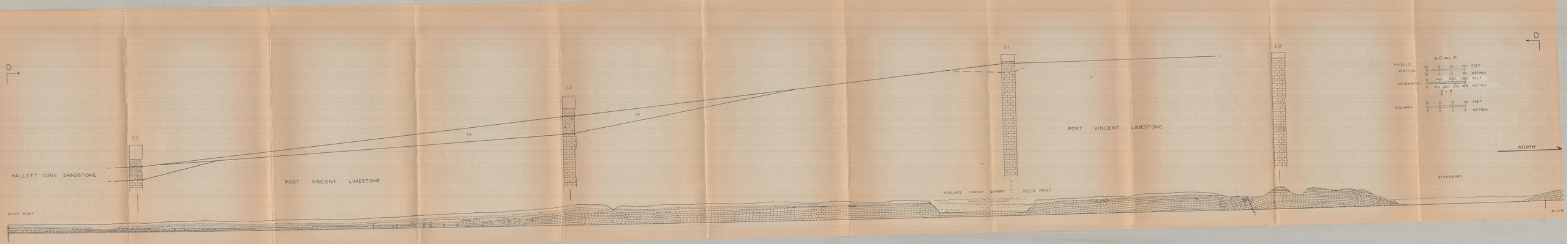
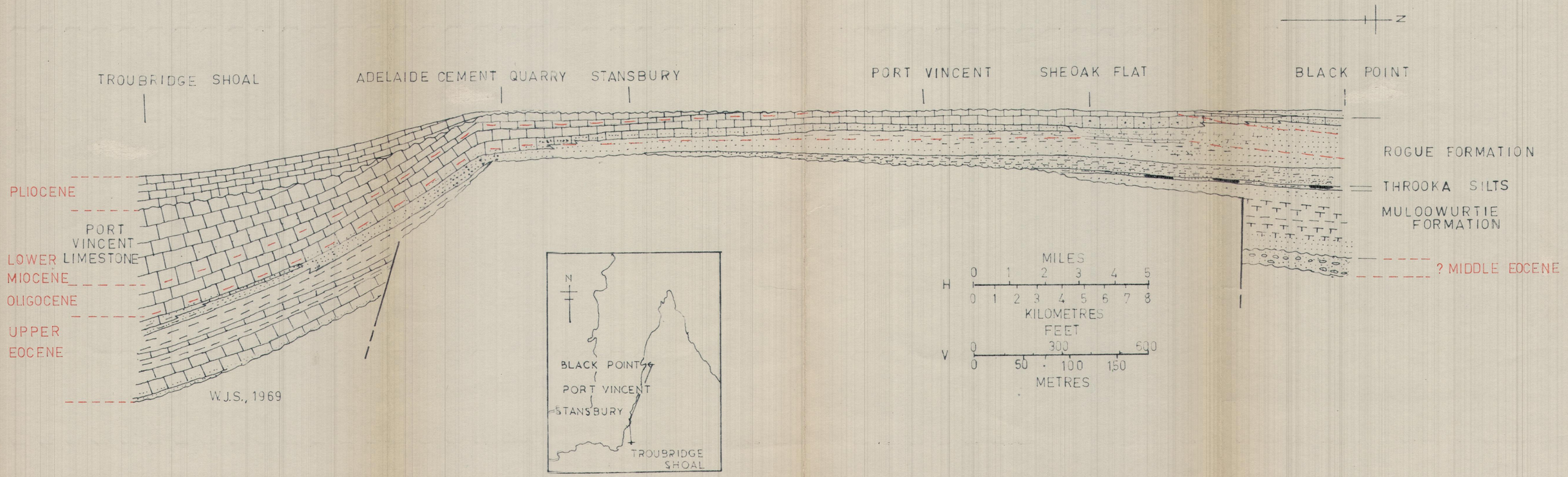

C
C
29
28
27
26
25
24
HALLETT COVE SANDSTONE
HALLETT COVE SANDSTONE
PORT VINCENT LIMESTONE
PORT VINCENT LIMESTONE
ROGUE
FORMATION
BEACH POINT
DEVILS GULLY
STANSBURY
PORT VINCENT
NORTH
SCALE
PROFILE
VERTICAL
HORIZONTAL
COLUMNS
FEET
METRES
FEET
METRES
FEET
METRES
W.J.S. '69

CHART 30


D
33
32
31
30
D
10
10
HALLETT COVE SANDSTONE
PORT VINCENT LIMESTONE
PORT VINCENT LIMESTONE
GILES POINT
ADELAIDE CEMENT QUARRY
KLEIN POINT
STANSBURY
NORTH
SCALE
PROFILE
VERTICAL
50 0 50 100 FEET
15 0 15 30 METRES
HORIZONTAL
0 440 880 1320 FEET
0 100 200 300 400 METRES
X 3
COLUMNS
10 0 10 20 FEET
3 0 3 6 METRES
W.J.S.M.

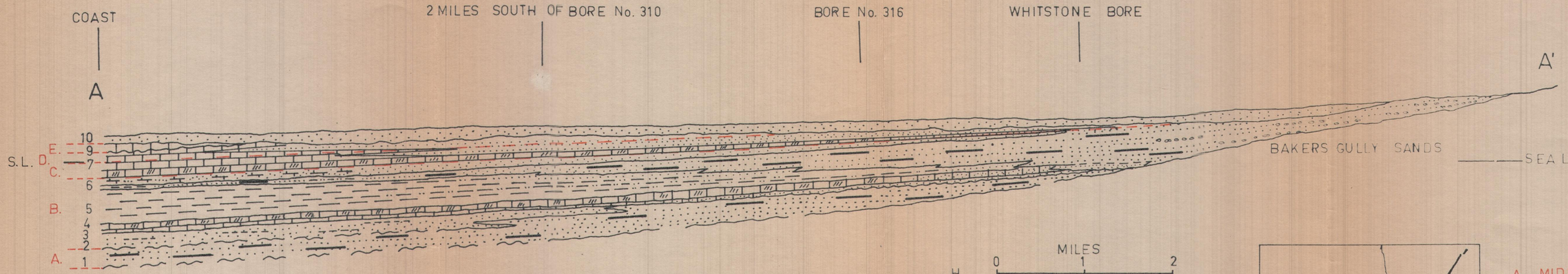
CROSS-SECTION YORKE PENINSULA

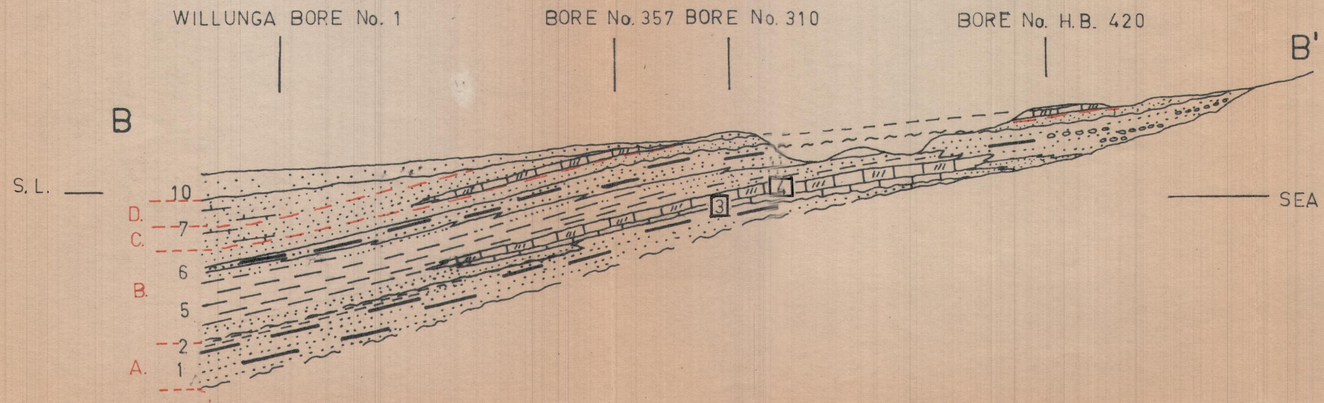
CHART 4

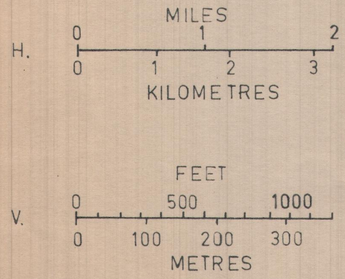


CROSS SECTIONS THROUGH THE WILLUNGA EMBAYMENT

CHART 5







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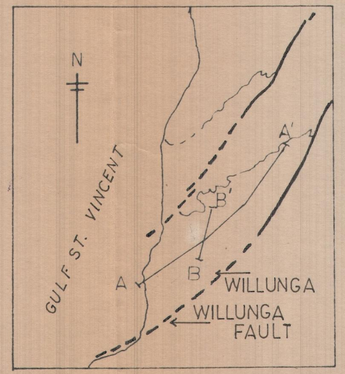
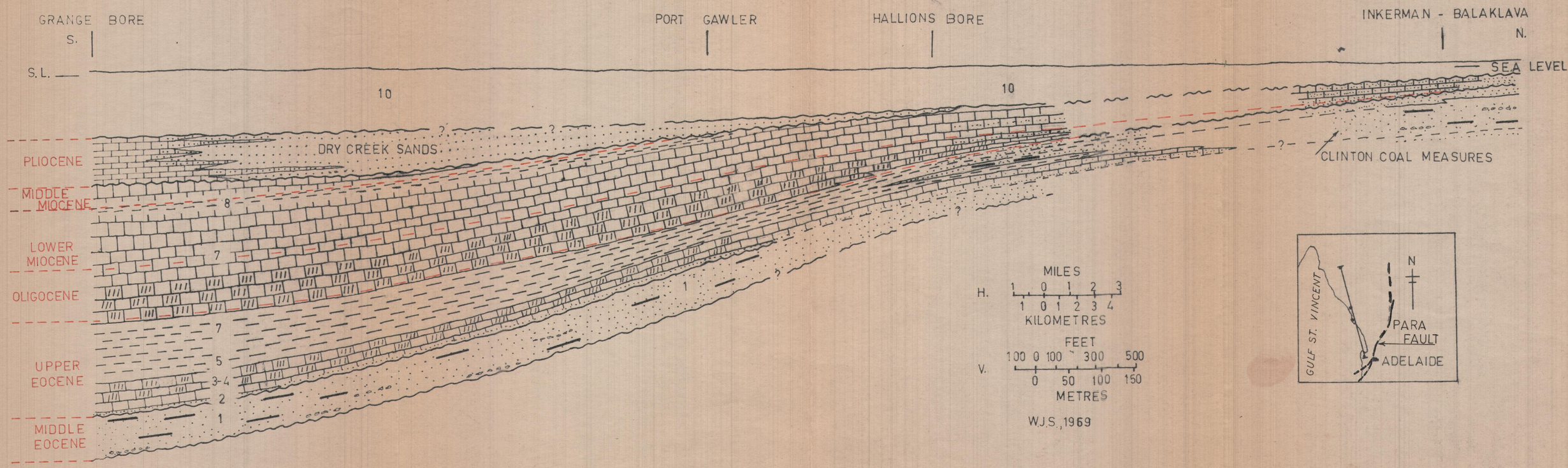


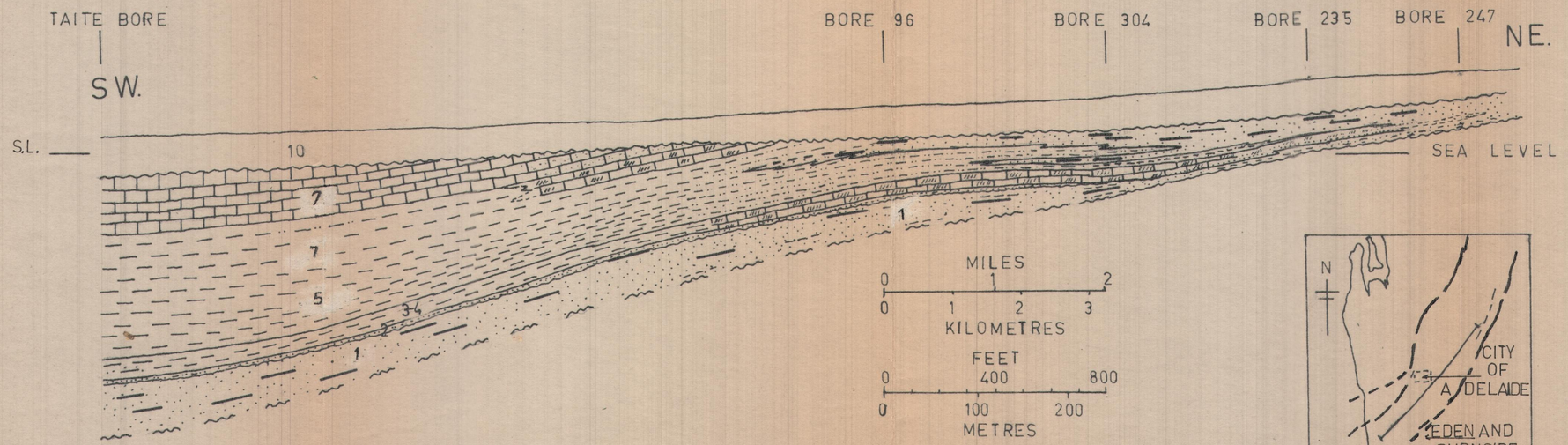
A. MIDDLE EOCENE
B. UPPER EOCENE
C. OLIGOCENE
D. LOWER MIOCENE
E. PLIOCENE

CROSS SECTION THROUGH THE ADELAIDE PLAINS EMBAYMENT

CHART 6



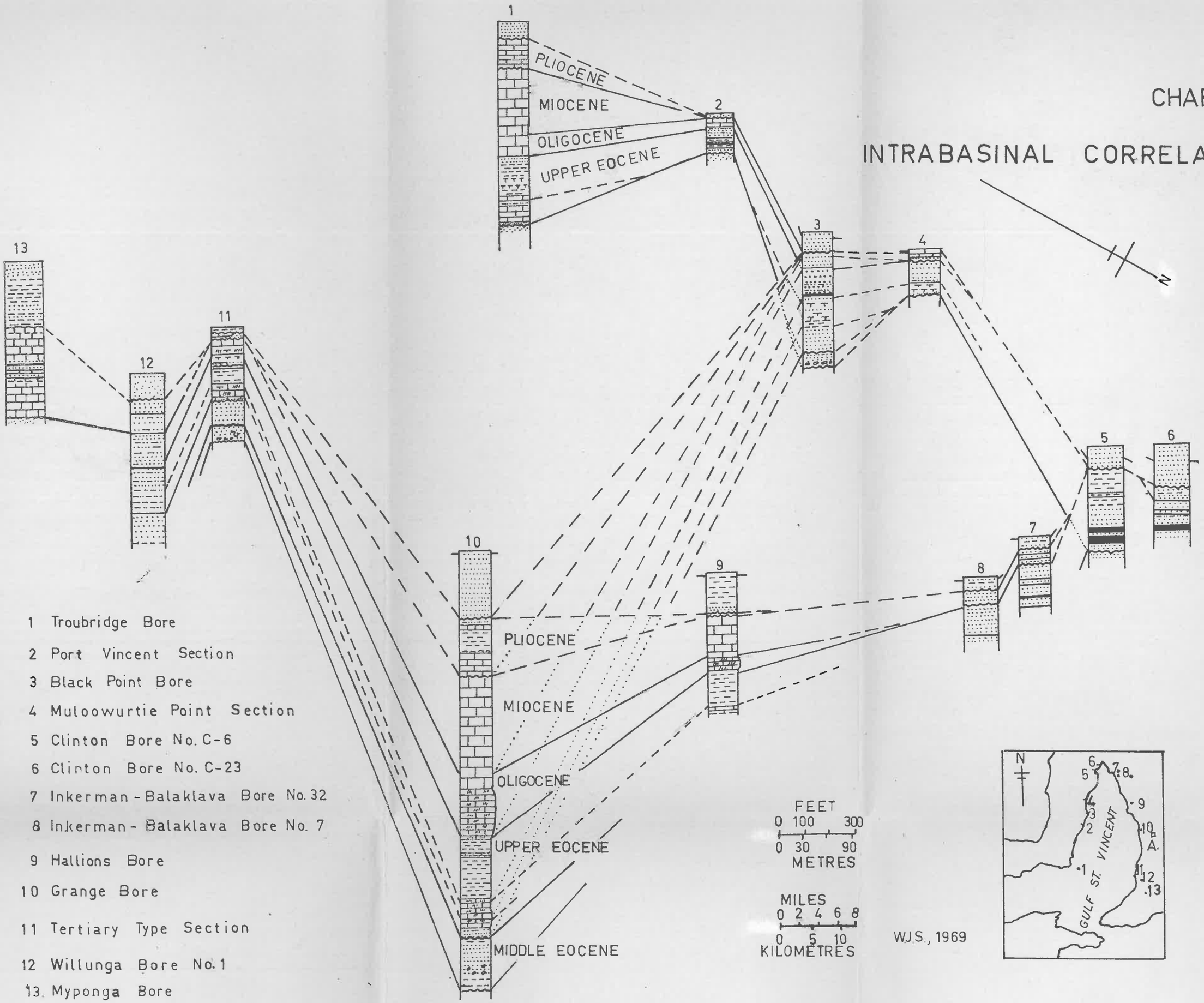
CROSS-SECTION THROUGH THE ADELAIDE EMBAYMENT CHART 7



W.J.S., 1969

CHART 8

INTRABASINAL CORRELATIONS



1 Troubridge Bore
2 Port Vincent Section
3 Black Point Bore
4 Muloowurtie Point Section
5 Clinton Bore No. C-6
6 Clinton Bore No. C-23
7 Inkerman - Balaklava Bore No. 32
8 Inkerman - Balaklava Bore No. 7
9 Hallions Bore
10 Grange Bore
11 Tertiary Type Section
12 Willunga Bore No. 1
13. Myponga Bore

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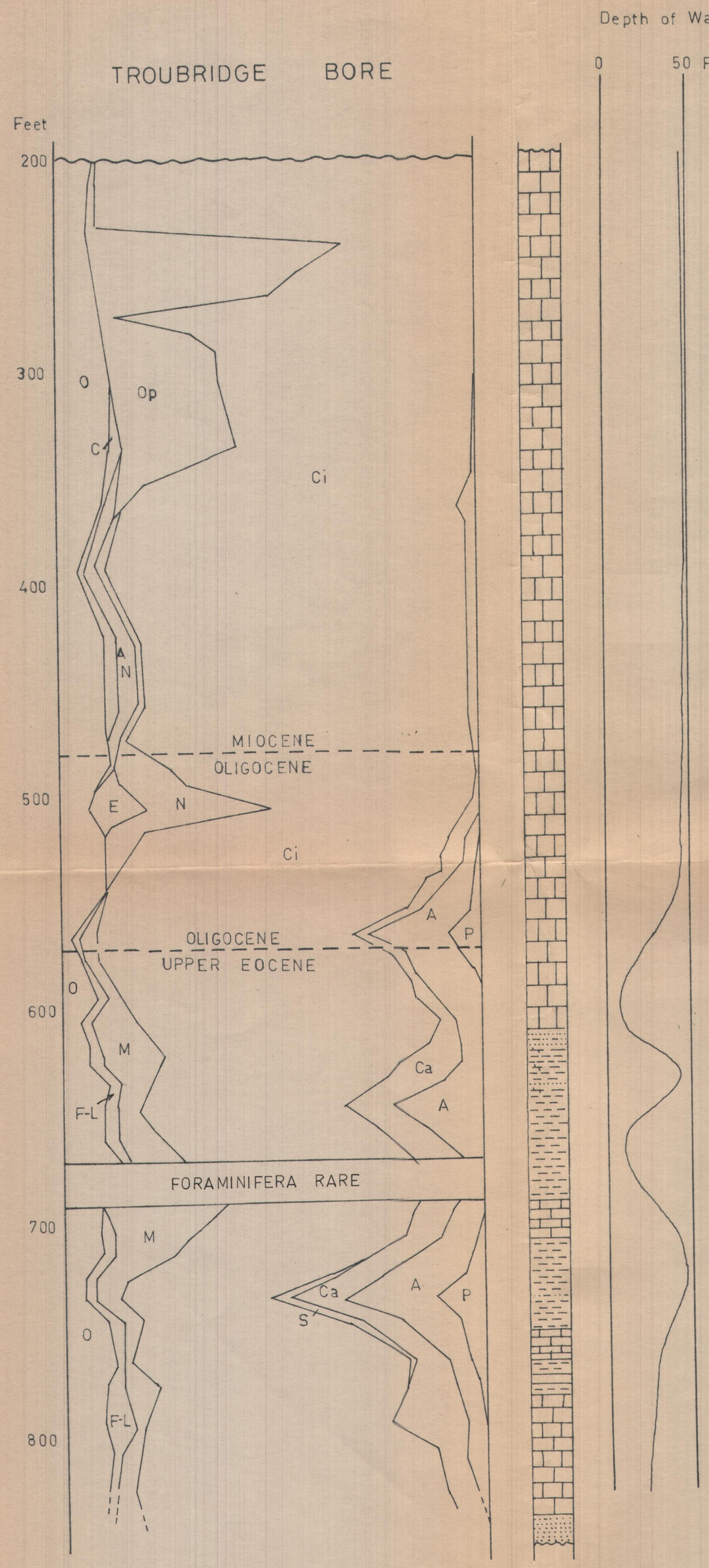
CHART 9

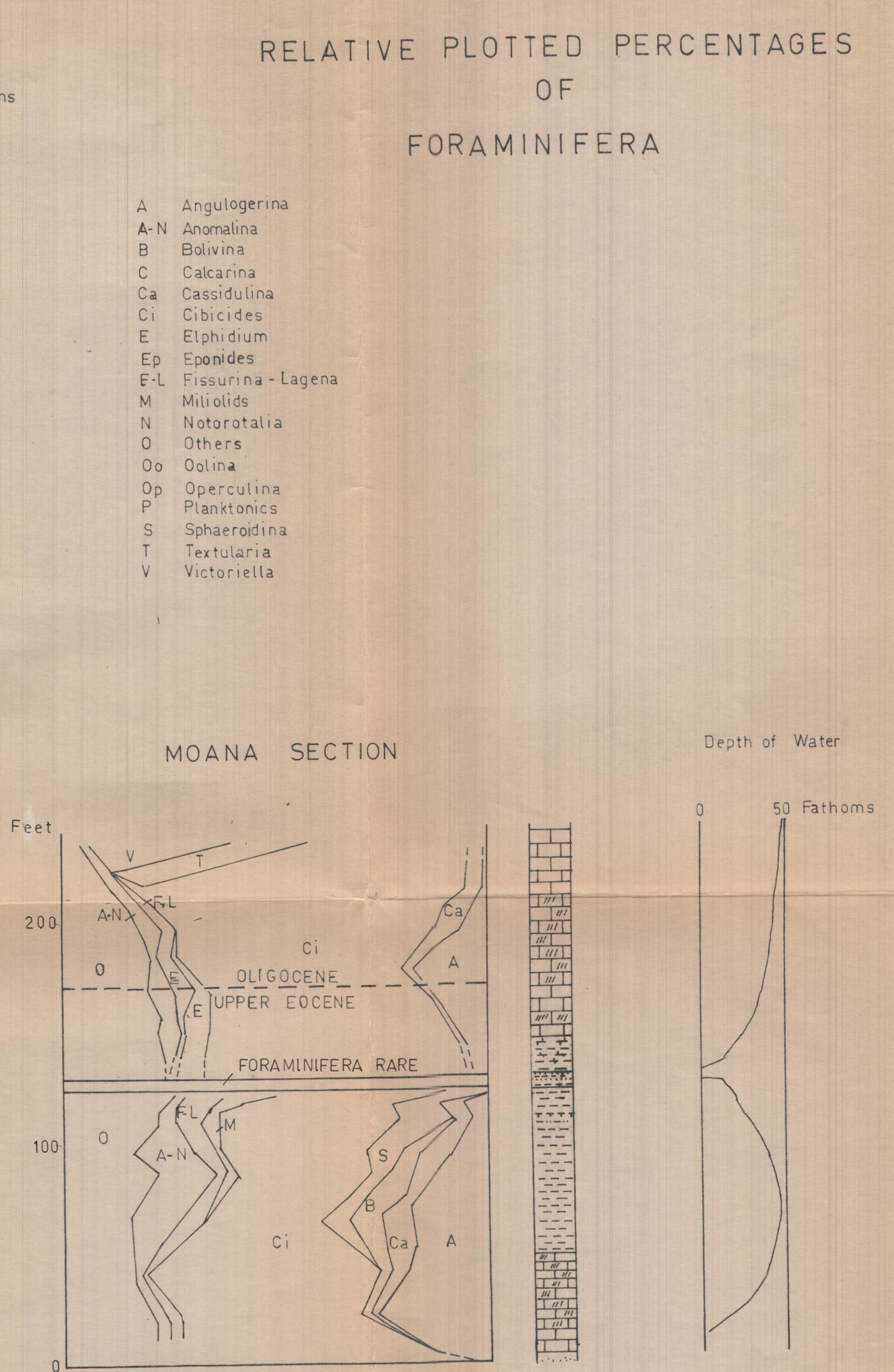
RELATIVE PLOTTED PERCENTAGES OF FORAMINIFERA

A Angulogerina
A-N Anomalina
B Bolivina
C Calcarina
Ca Cassidulina
Ci Cibicides
E Elphidium
Ep Eponides
F-L Fissurina - Lagena
M Miliolids
N Notorotalia
O Others
Oo Oolina
Op Operculina
P Planktonics
S Sphaeroidina
T Textularia
V Victoriella

TROUBRIDGE BORE



MOANA SECTION



W.J.S. 1969