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Geomorphology illustrations. [between 1950 and 1955?]

Thwaites, F. T. (Fredrik Turville), 1883-1961
[s.l.]: [s.n.], [between 1950 and 1955?]

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scale 1" = 1000'

chert	110	make	22	320	15
		at	110:		
shales	60	shale	100		
	130	lime	110	} 340	
	190	shale	130		
		lime	800		
					when 1870

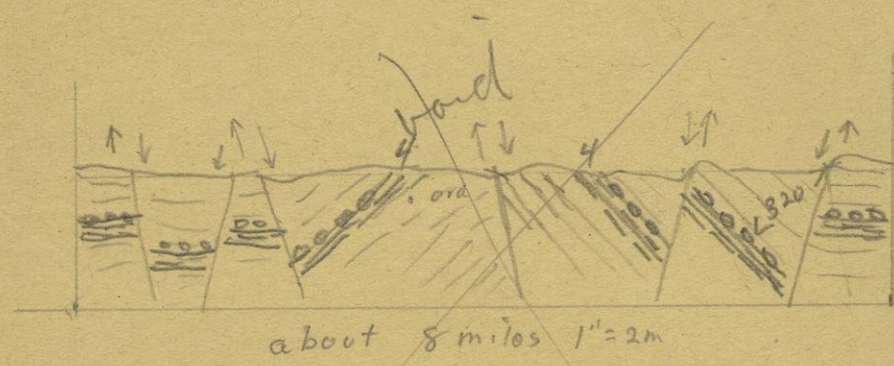


Fig. 39 p27

Cryptovolcanic structure after Bucher generalized



do use this one p27

1" = 2m = 10000' next in line

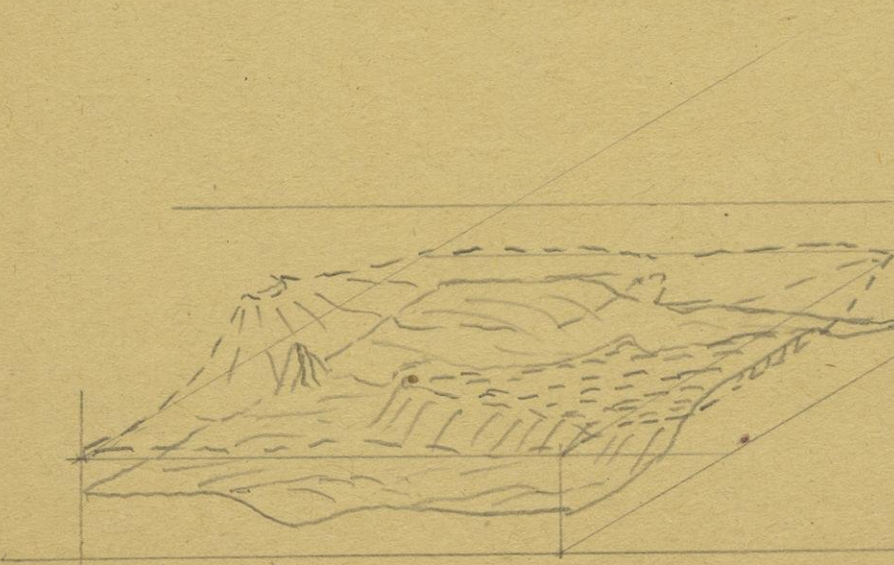
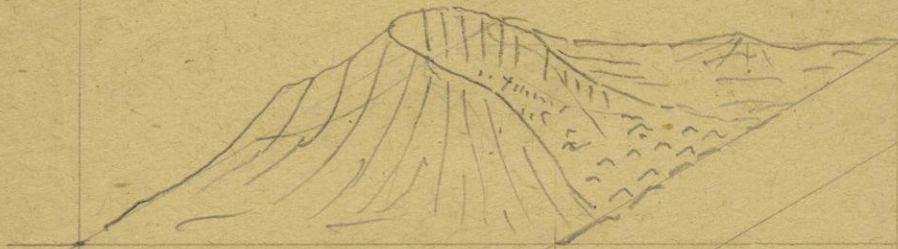


Fig. 40 p27
 Inversion of relief
make 2 p27
 Fig 41 present



p 26

Fig. 34

mud flow from
breaking of crater

Fig 35 western shut
crater L 36 " "
" " 37 " "



p 26

Fig 38

Volcanic neck
& dike ridges

d. 41

- see photo of Ship Rock

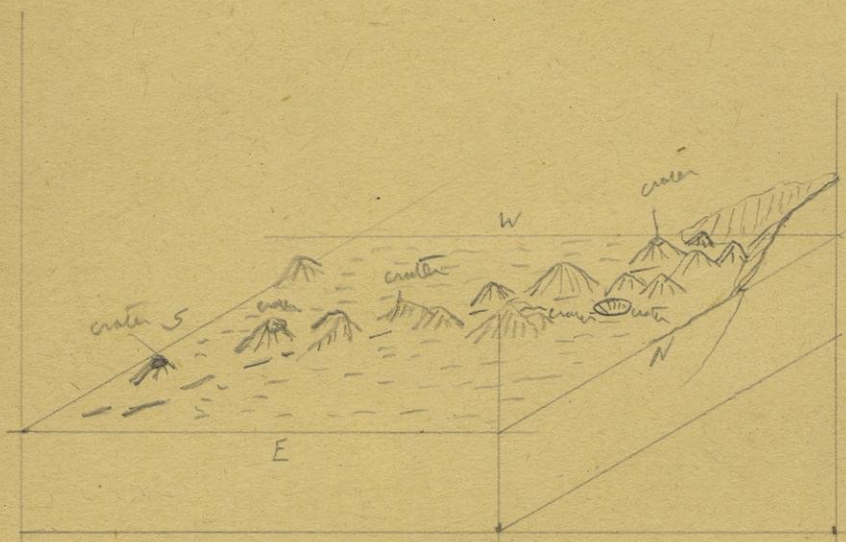
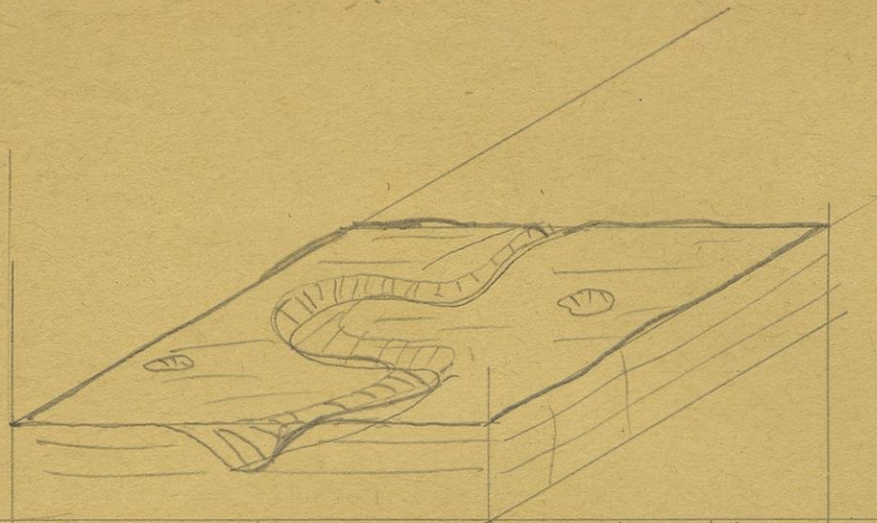


Fig 31
Craters of the Moon
Idaho
along a fissure p 25



Fig 32
Volcanic dome p 25

✓ do



27

Development of natural bridge by solution

p 19

omit

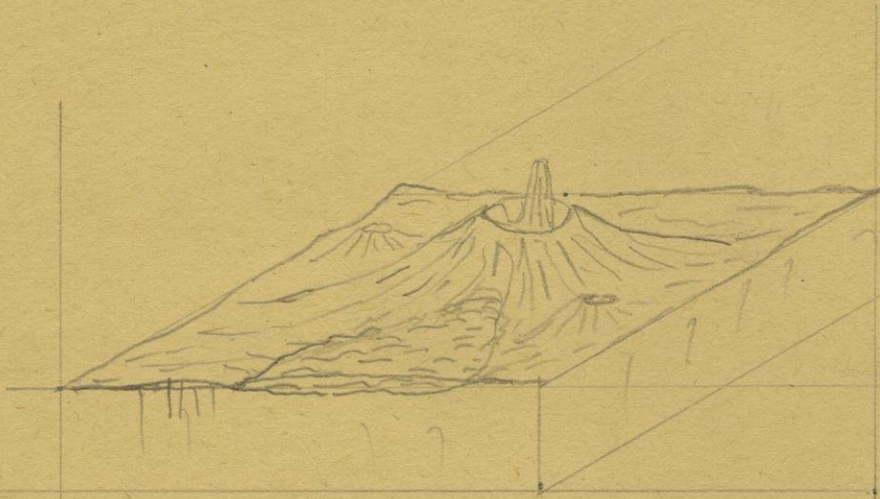


28

Completion of bridge

p 19

out



p 25

Fig. 33
Volcanic
Cone and
Spine
lava flow

mod part
34 see other
sheets

35 mod part
leg plate &
profile

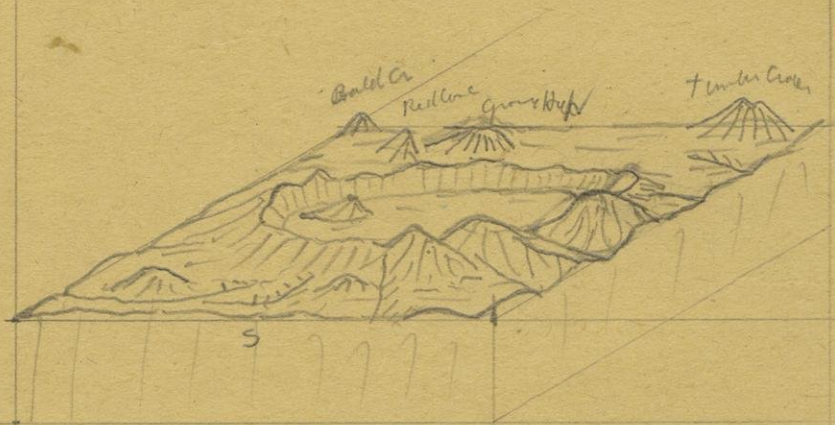


Fig 36 p 26
Crater L.
check over maps

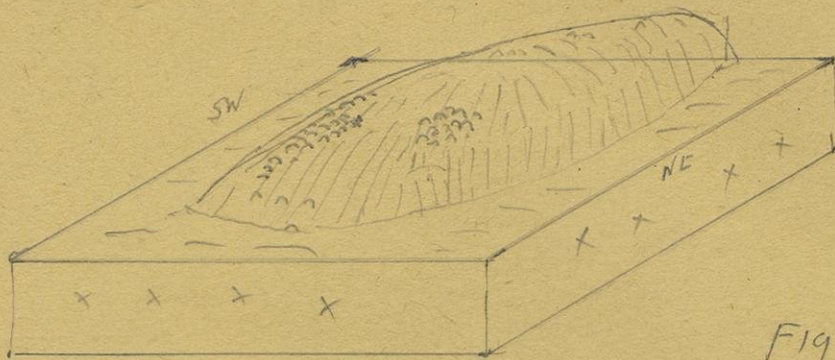


Fig 10 p10
stone Mt. Georgia
E x foliation dome

carry on W N?

map of pennsylv

p 8



omit

Fig. ~~8~~ 9

Visher GSA 56, p 732

max + 7.5 ft

Maximum recorded depth of
frost

Fig 10

isfoliation dome p10

Block diagram

look for a good photo

make a block diagram

needed ??

empty ?

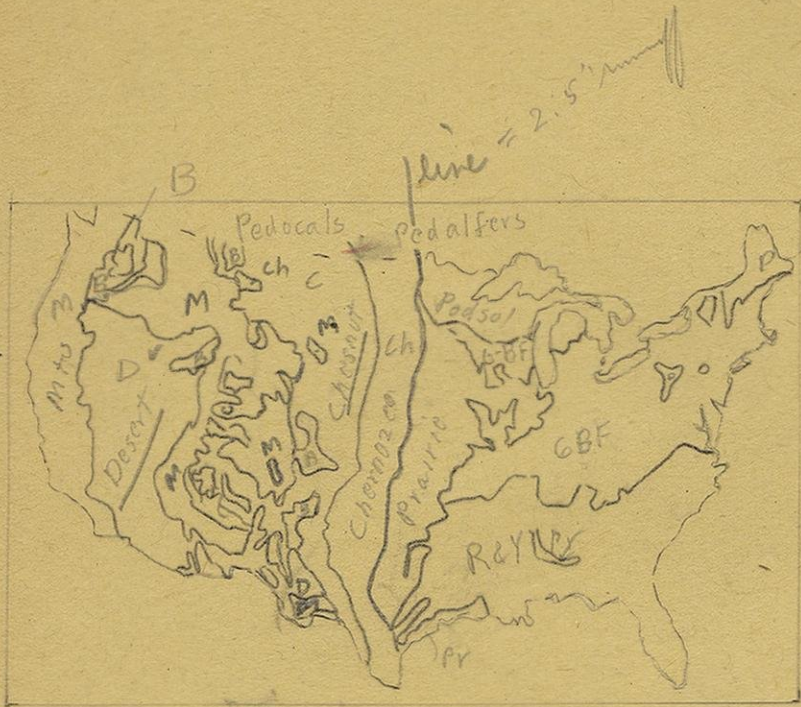












Fig 12
Soils of U.S.
Kellogg p 31

p 11

- Podsol  ✓
- GB Form  ✓
- Prairie  ✓
- Red & yellow  ✓
- Chernozem ch  } lumps
- Chesnut c  } make 
- Brown B  } make solid black
- Sierozem + Desert - D  ✓
- Mountains etc M  black

pedalfers

Pedocals

omit

lumps

needed??

A ₀	Organic remains
A ₁	Dark from organic matter
A ₂	Light colored from leaching or reduction (bleicheerde of Podsol) absent in dry regions
A ₃	Transition
B ₁	Transition
B ₂	Deep colored, dense, high in colloids, iron oxide (ortstein of podsol)
B ₃	Transition
C	"Parent material" = material formed by inorganic processes only
	Unaltered parent material

Fig. 11 Soil Profile (after Kellogg) p 4

p 11
omit

Fig 4

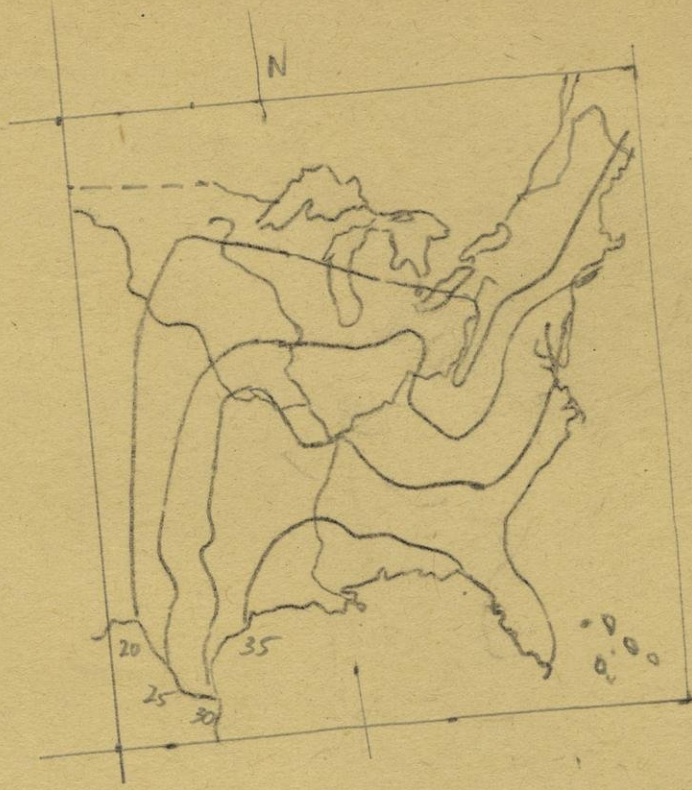
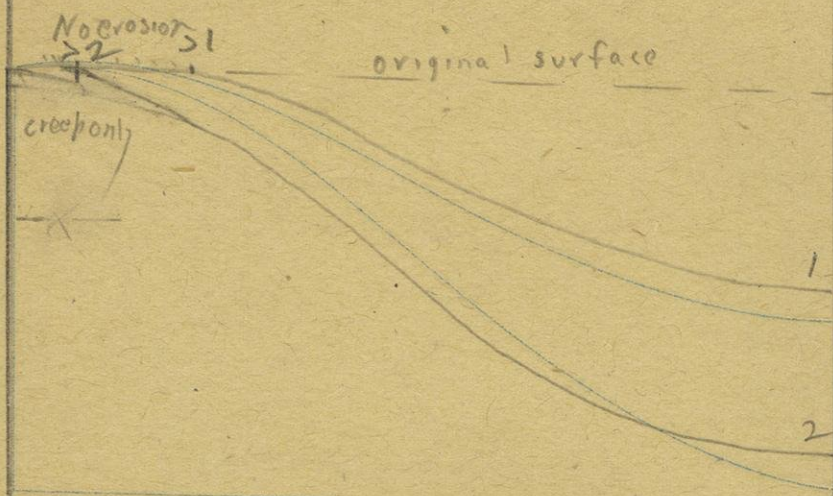


Fig 6 . Evaporation losses in eastern United States from WSP 846

out
duplexer other
p 3



✓ Fig 81

lowering of valley from 1 to 2 decreases width of belt of no erosion by increase of slope
p47



✓

Fig 82

more rapid downward erosion than slope wash produces convex slope
no sharp boundary because of rare torrential rains
p47

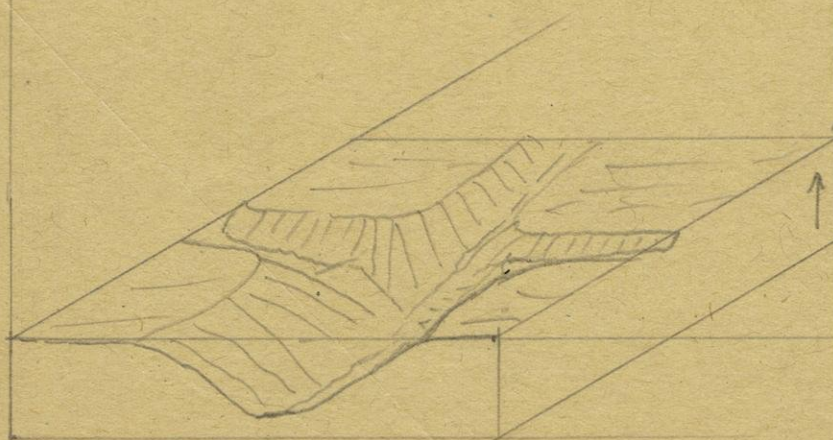


Fig 83 p48

(a). Hanging valley due to tilt which accelerated mainstream only or greater volume of mainstream
(b) much



Fig 84
cut bank and
lateral erosion
 $f = \frac{m s^2}{r}$ p 48
r = radius of curve



Fig 85
Effect of
filling p 48

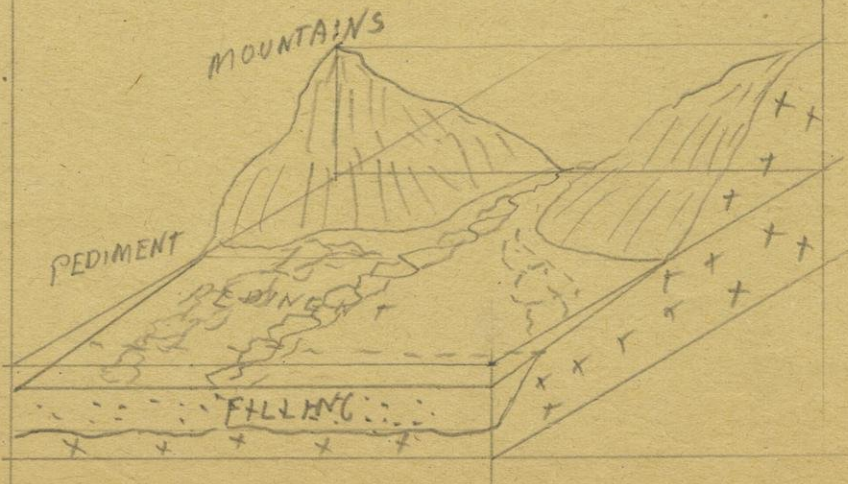


Fig 86
Formation of
pediment at
foot of
mountains

p 48

do

Fig 77 b 45

Braided stream

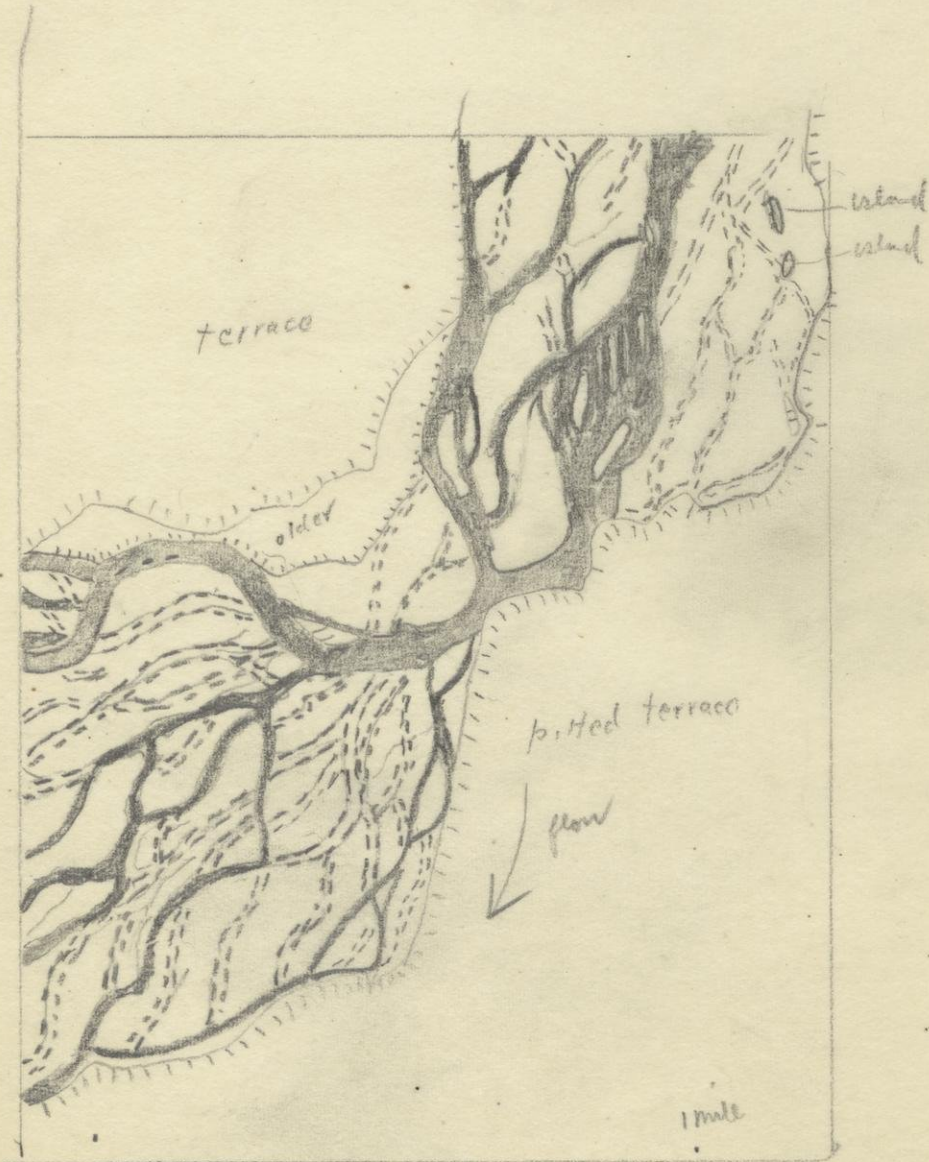
Matiniska valley, Alaska
from aerial photo



C14 2:79

dw

1:20000



There is a good one in
HTV Smith might be better

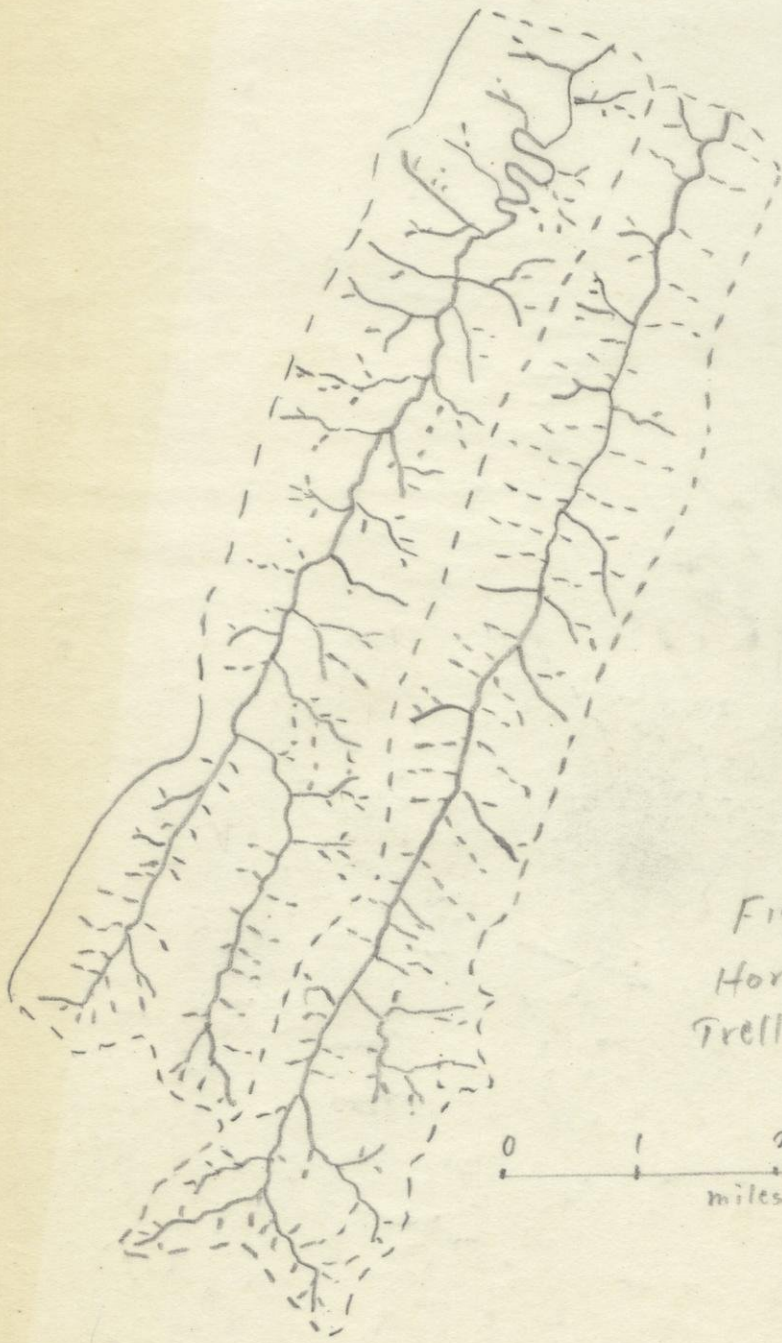
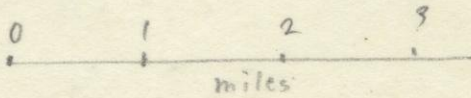


Fig 76
Horton Fig 9 p 45
Trellis



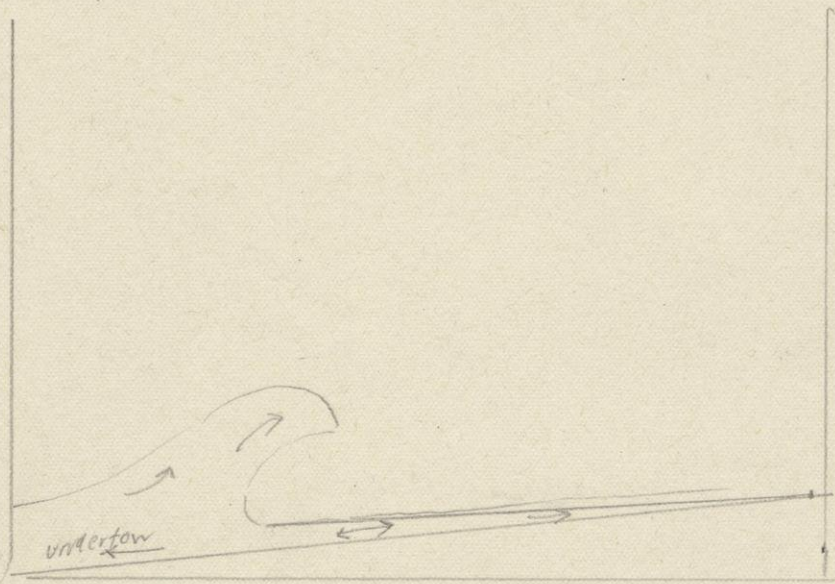


Fig 121
breaking wave after beach water
flows up the beach - Then back again under next wave

see long for details

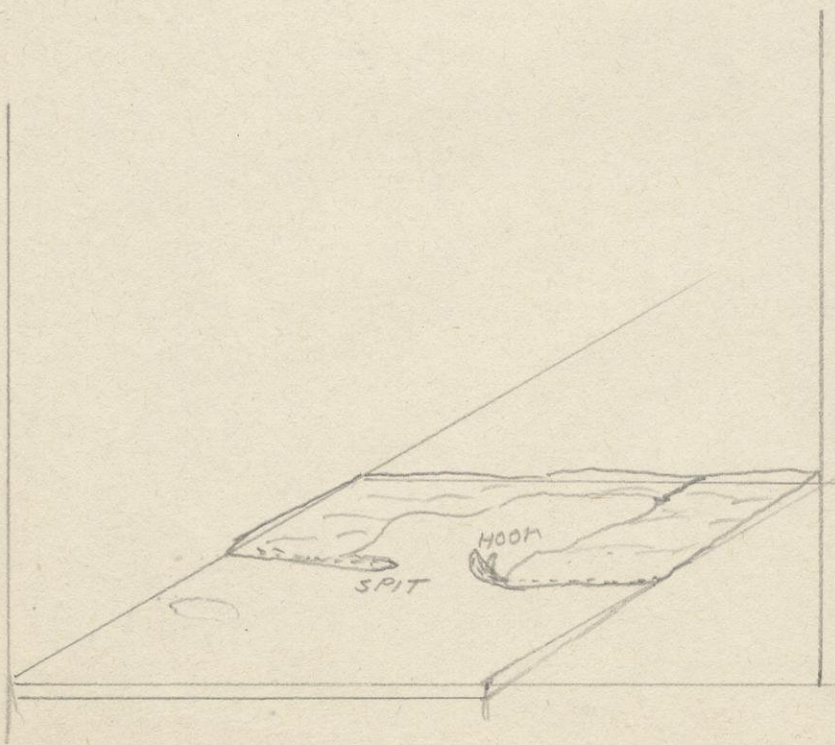


Fig 130
Spit and Hook

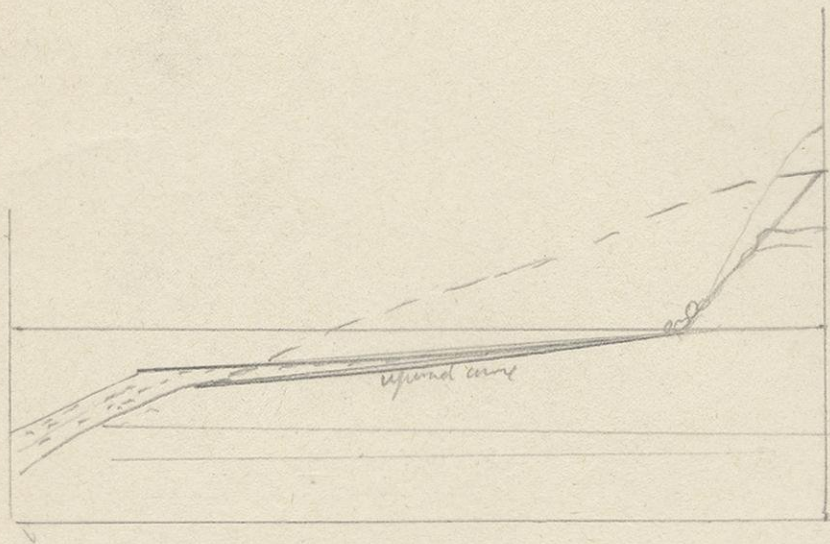


FIG 127
 Subaqueous
 terrace
 showing the cover,
 slide material
 boulder line, cliff

"Low and Ball" after Evans

vert scale X 5

~~see next page~~

J. 6. 48

F 128

done

$$\text{depth} = \text{const} \times \text{distance}^{7/10}$$

$$\text{vertical} \pm \text{const} \times \text{distance}^{35/100}$$
 distance from shore

237.
 60-
 1094

$\frac{12}{1094} \frac{699}{12} = .00915$
 $\frac{8}{602} = 0132$
 $\frac{4.1}{237.0173}$

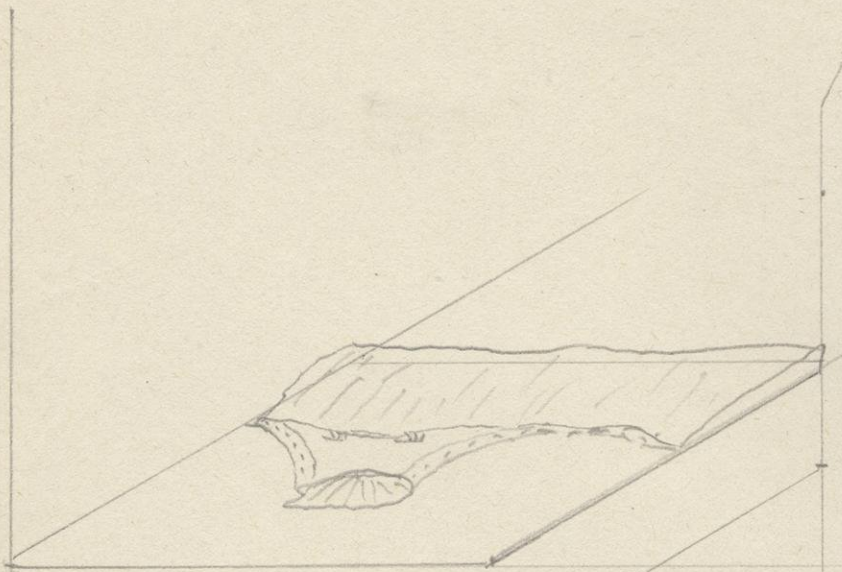


Fig 131
tombolo, double
Some have only one
ridge

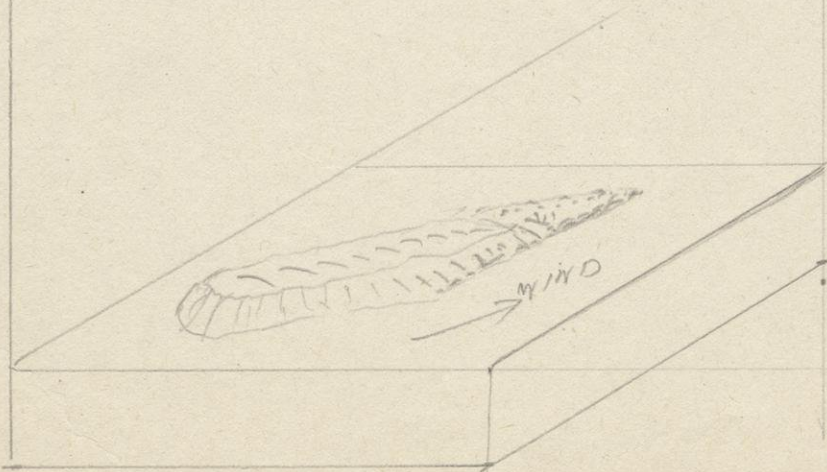
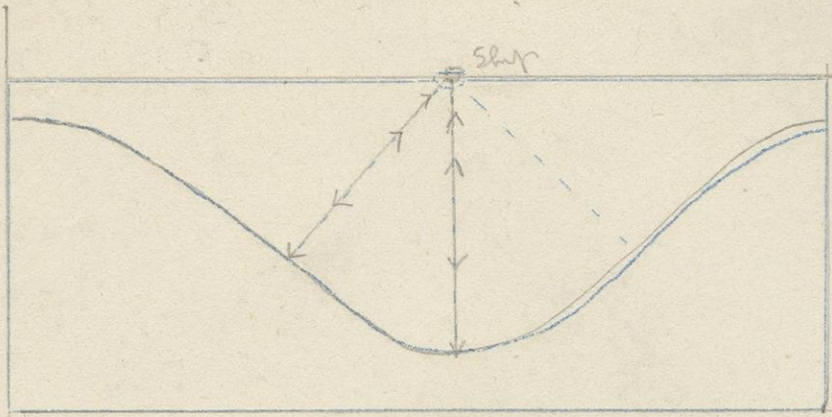


Fig 132
Bar in level land
looped bar (Johnson)

Fig 142
Echo sounding



dive

p 68

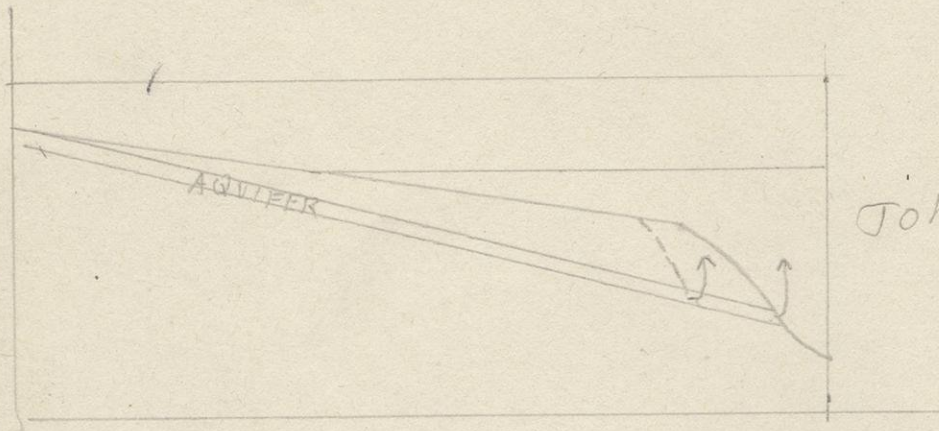


Fig 147

Johnson's hypothesis

p 69

p 68

Fig 166 p75
Cross section of whaleback
after Baguld p 243

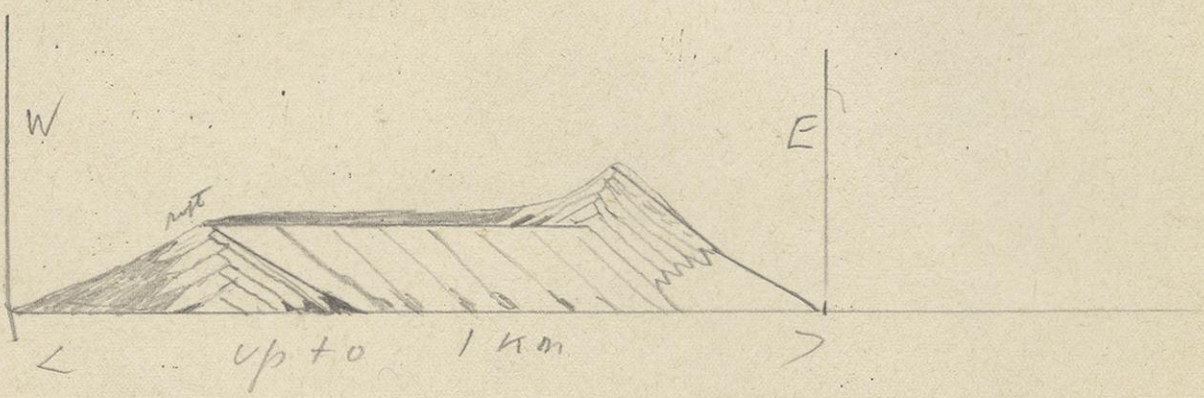


Fig 155 h 73
 Big Hollow use top map

Fig 156 yarding GSA 45:159

p 73

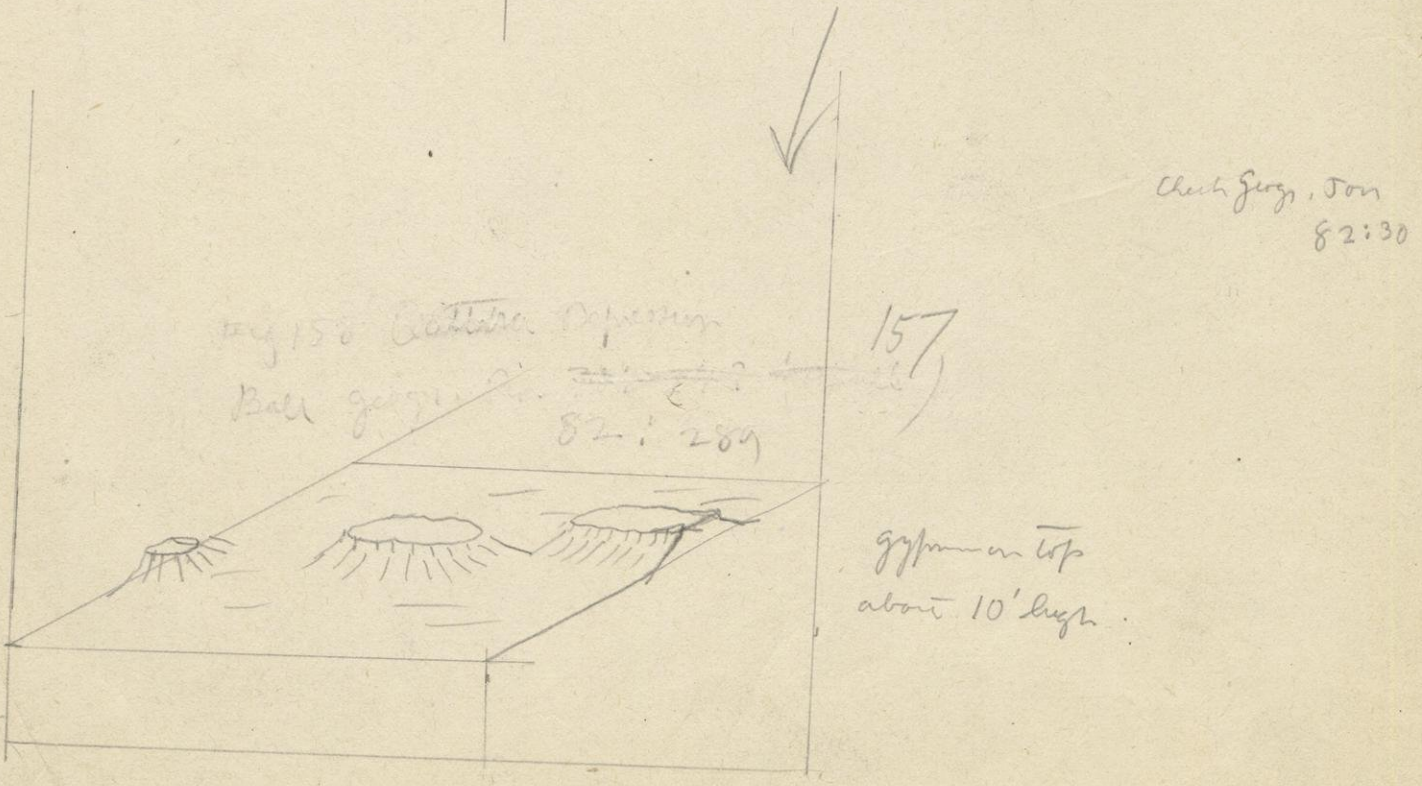
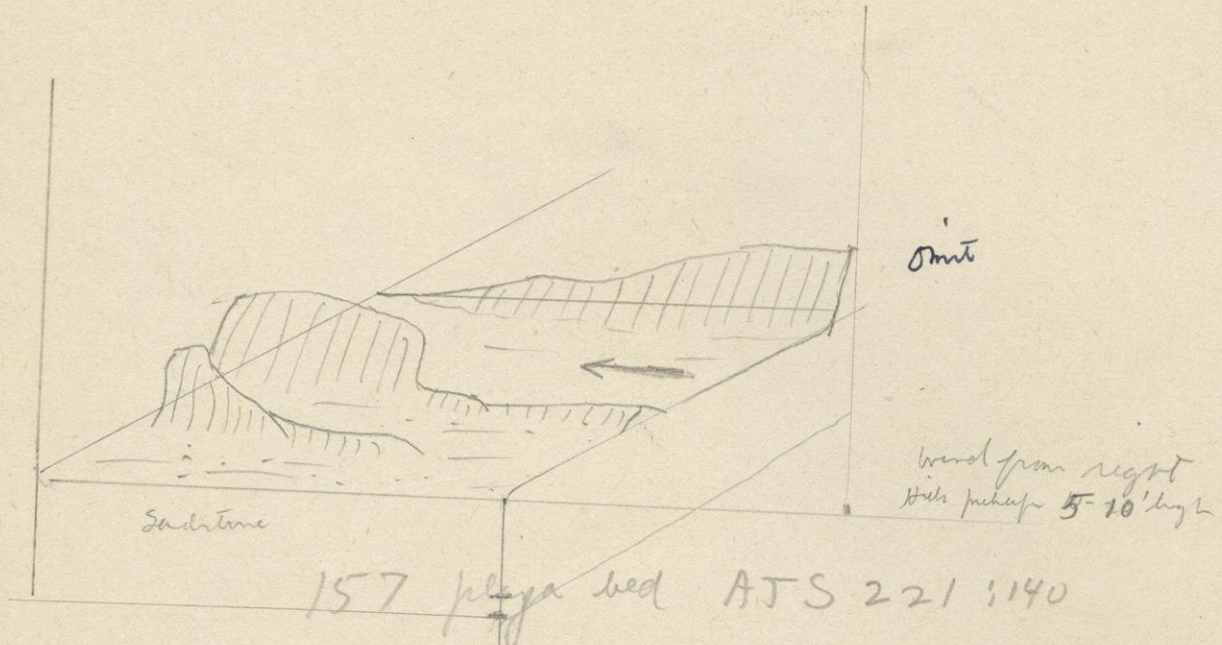
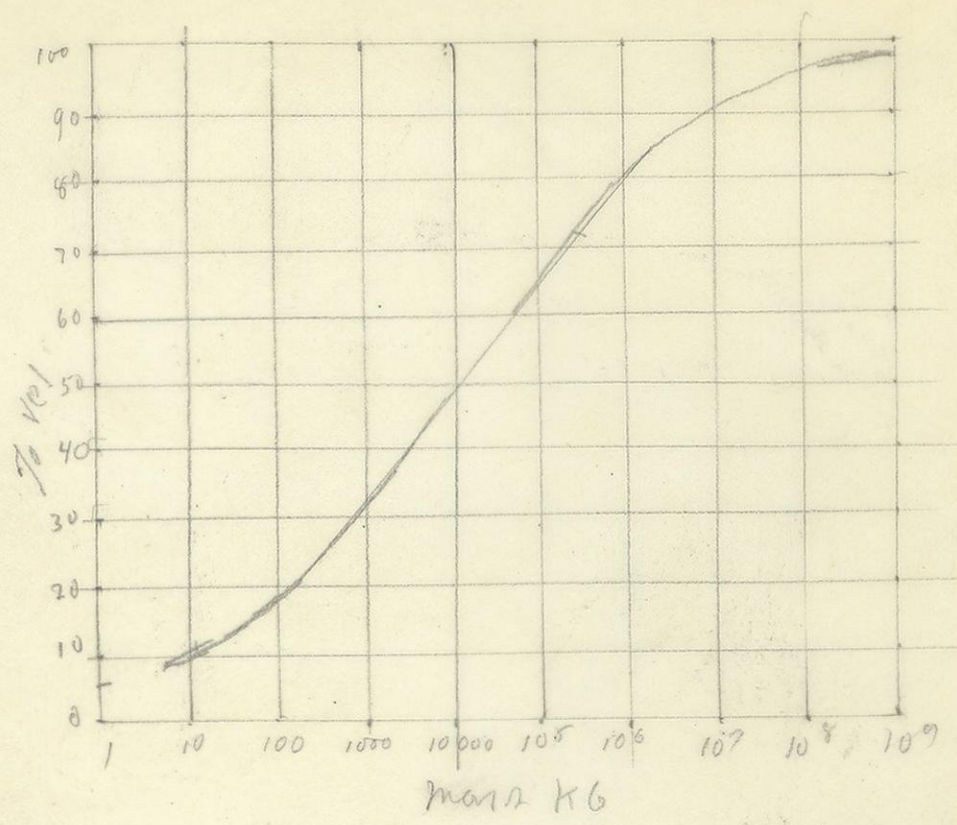
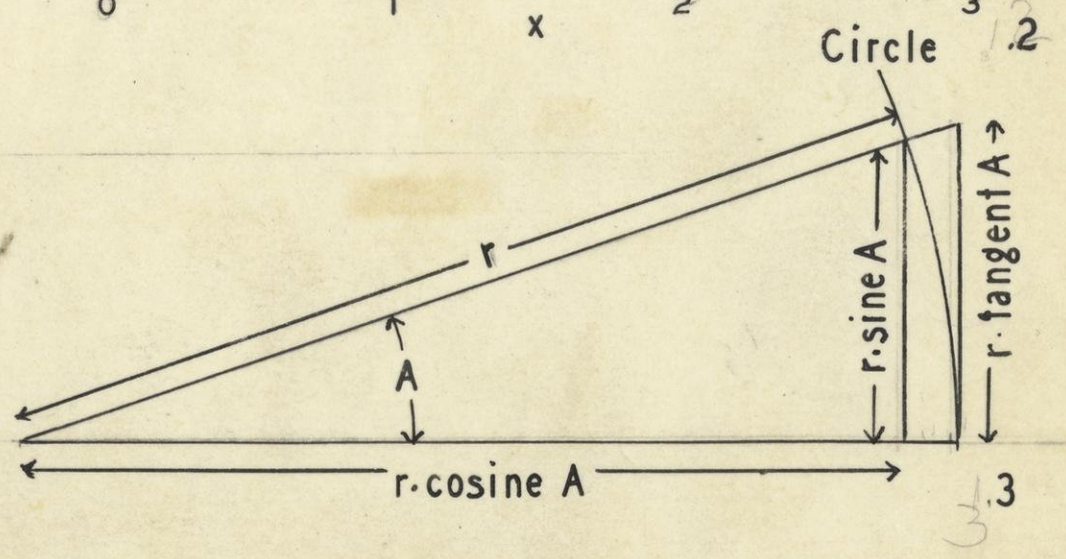
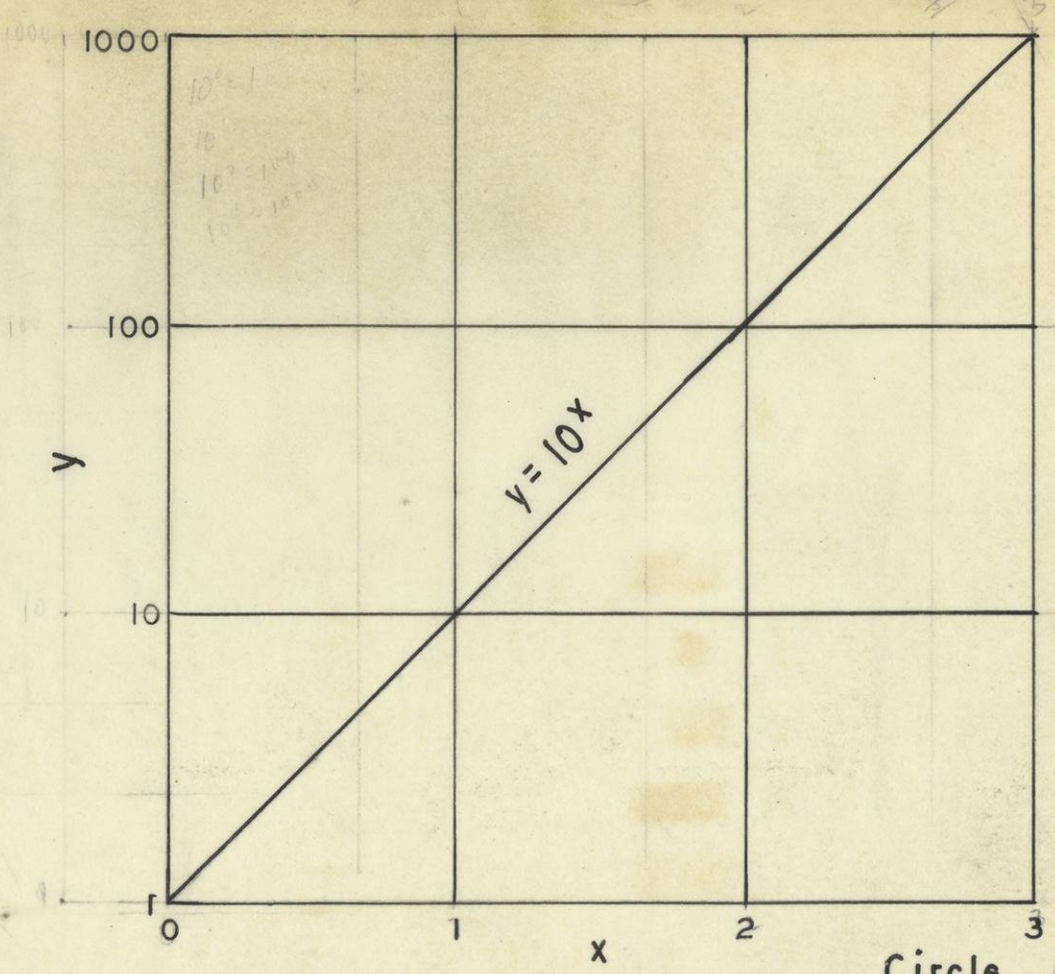
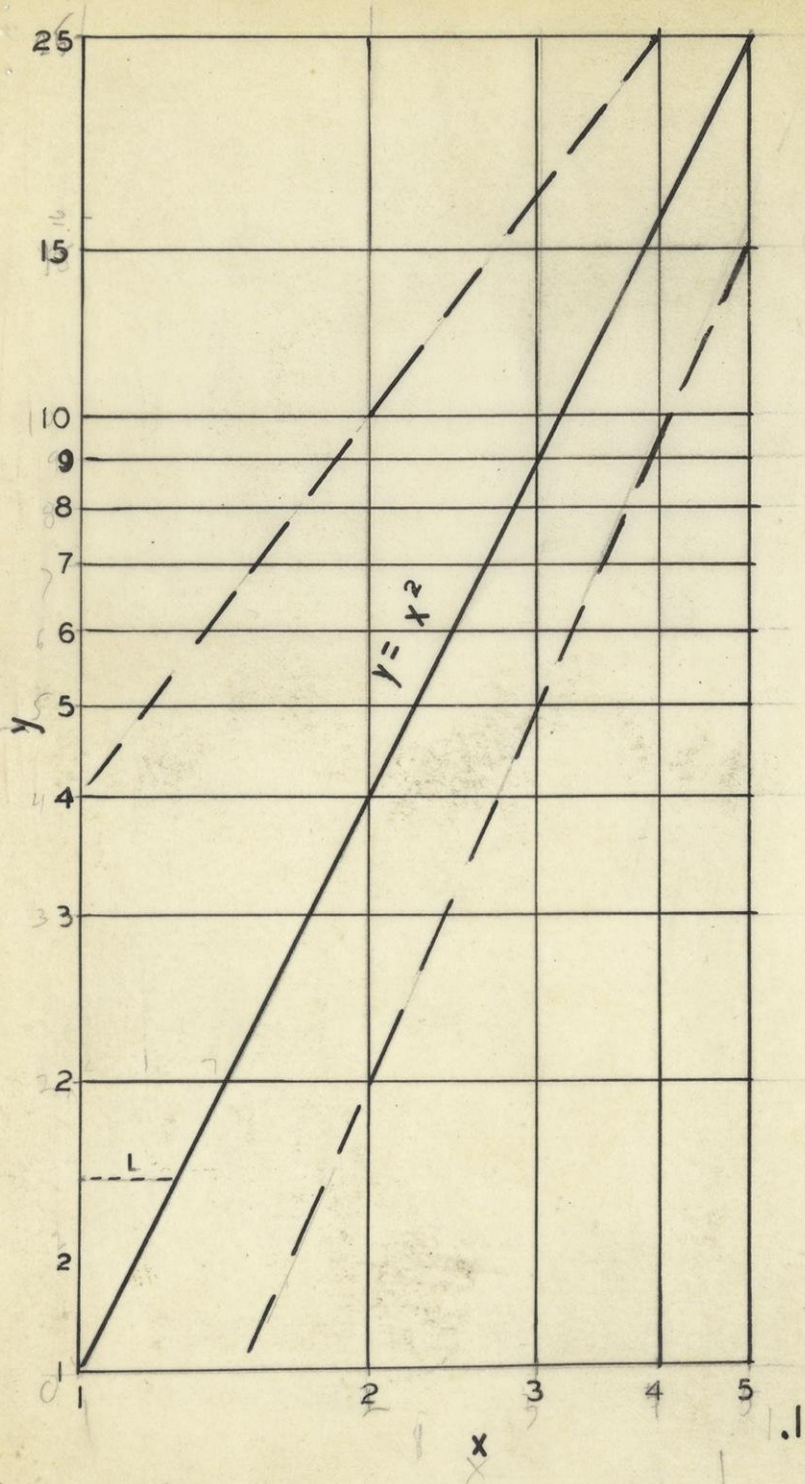
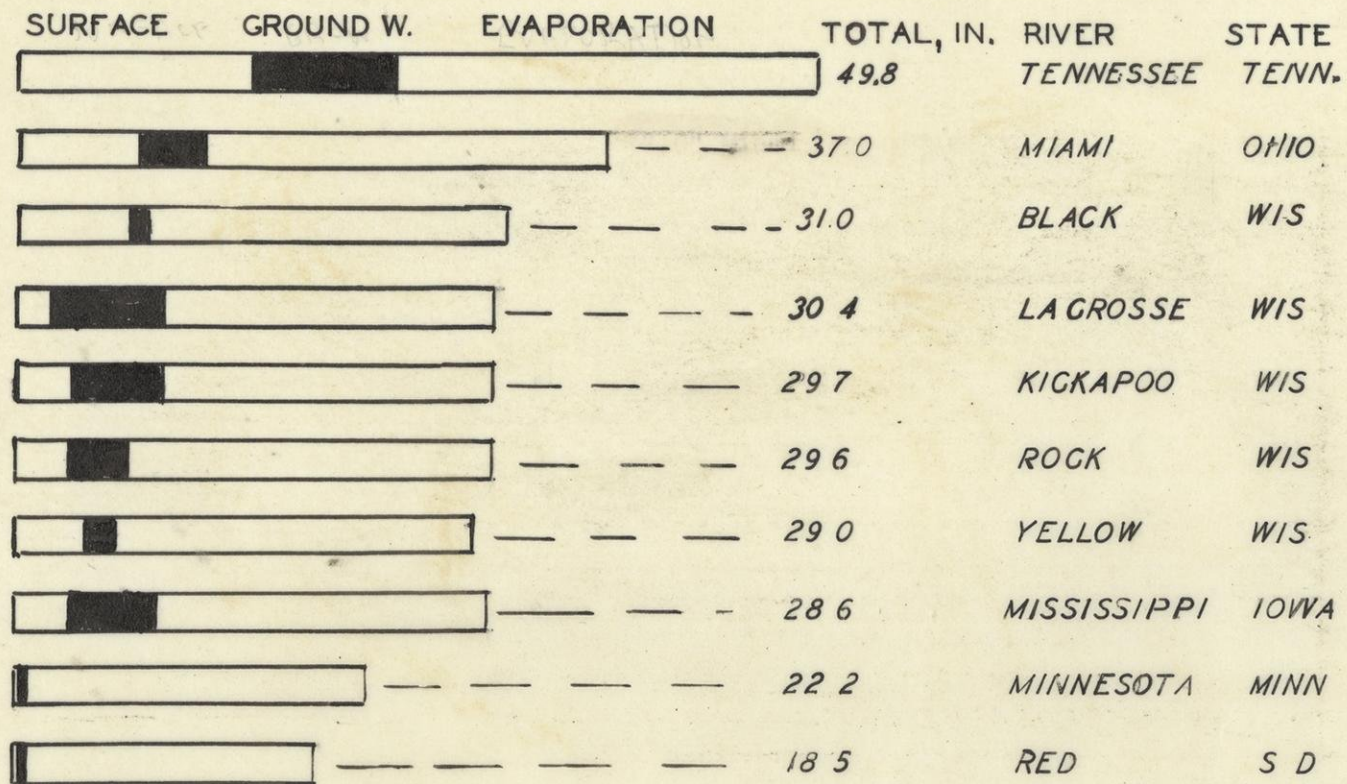


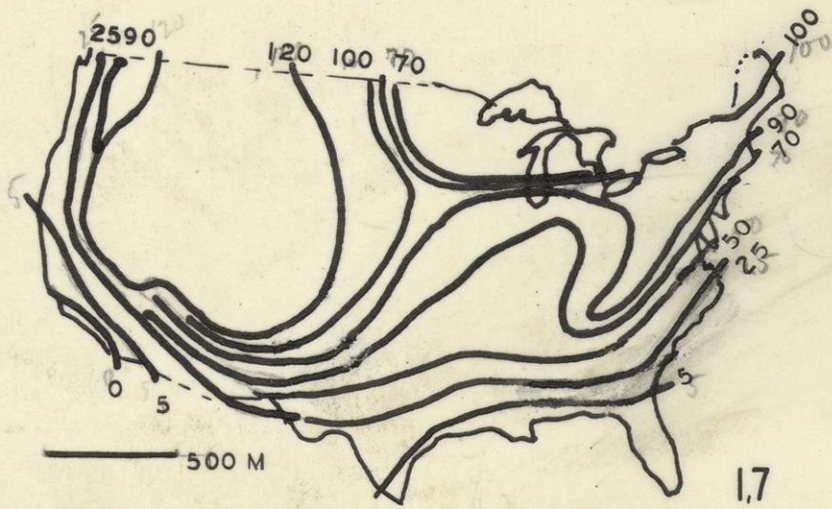
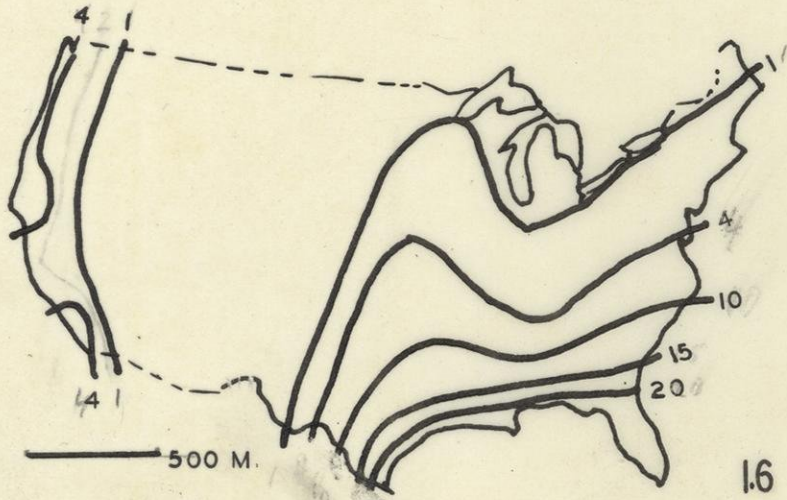
Fig 158 Qattara Depression
 70 82
 Geog. Rev 82:289

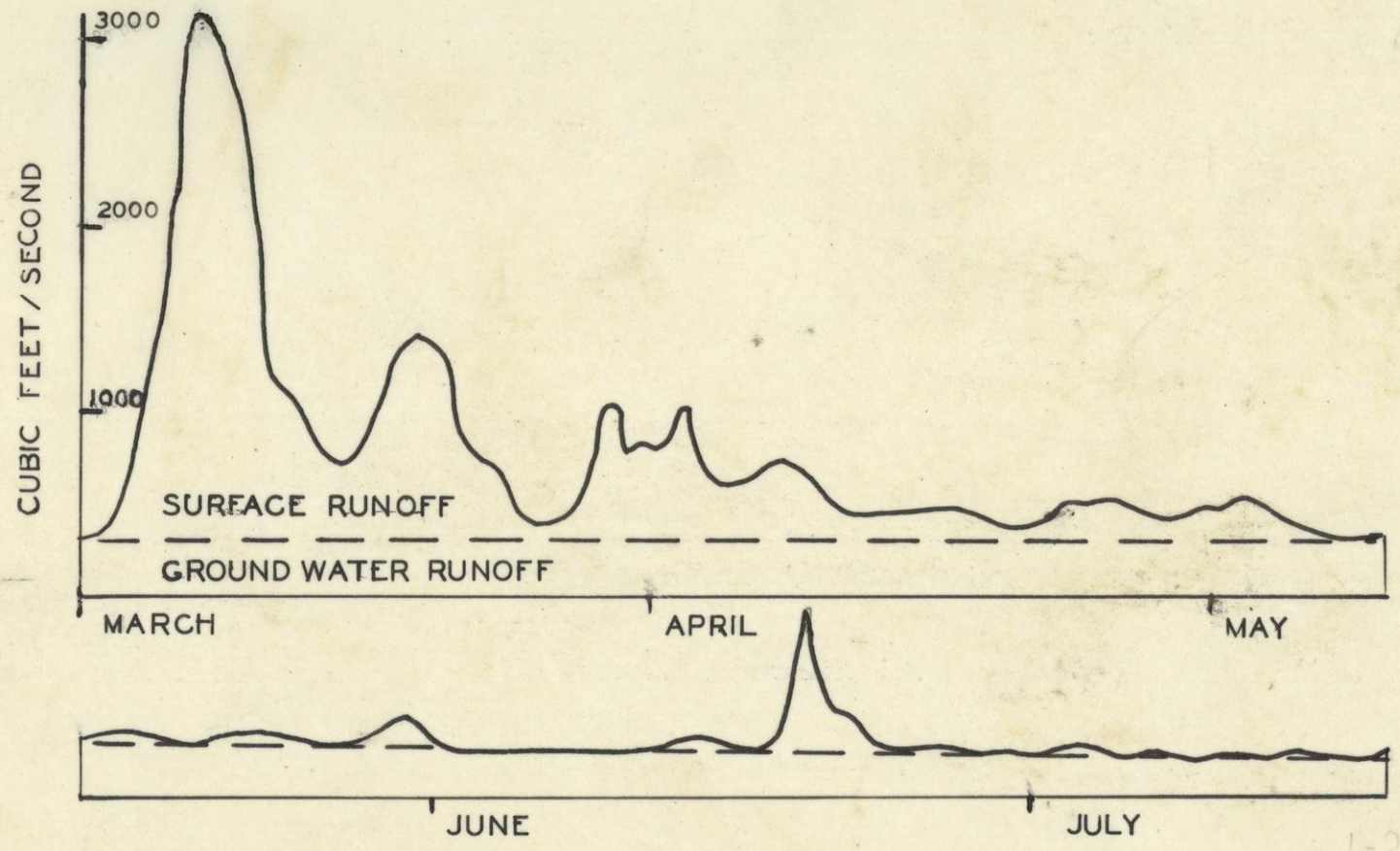
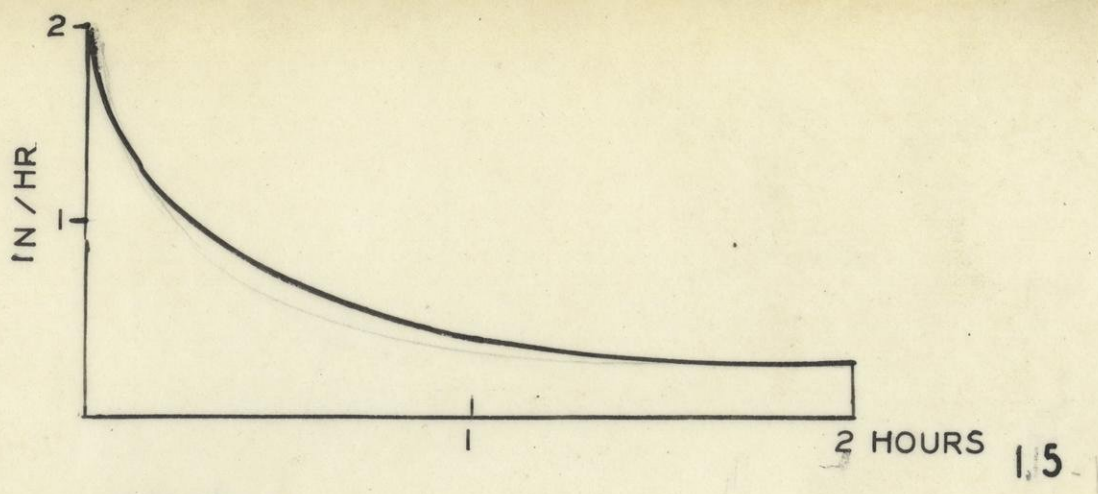






1.2

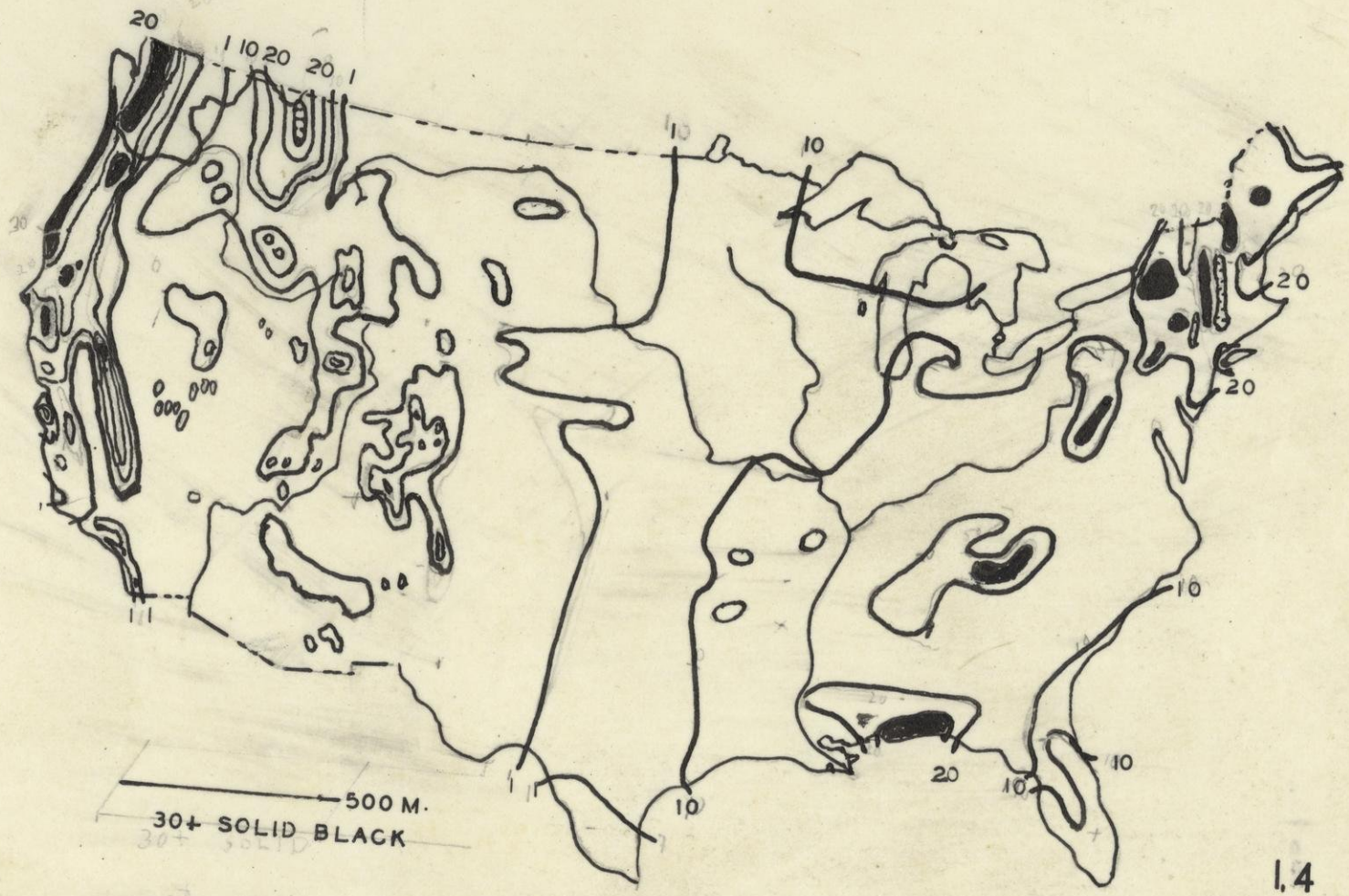




1-2 1.1

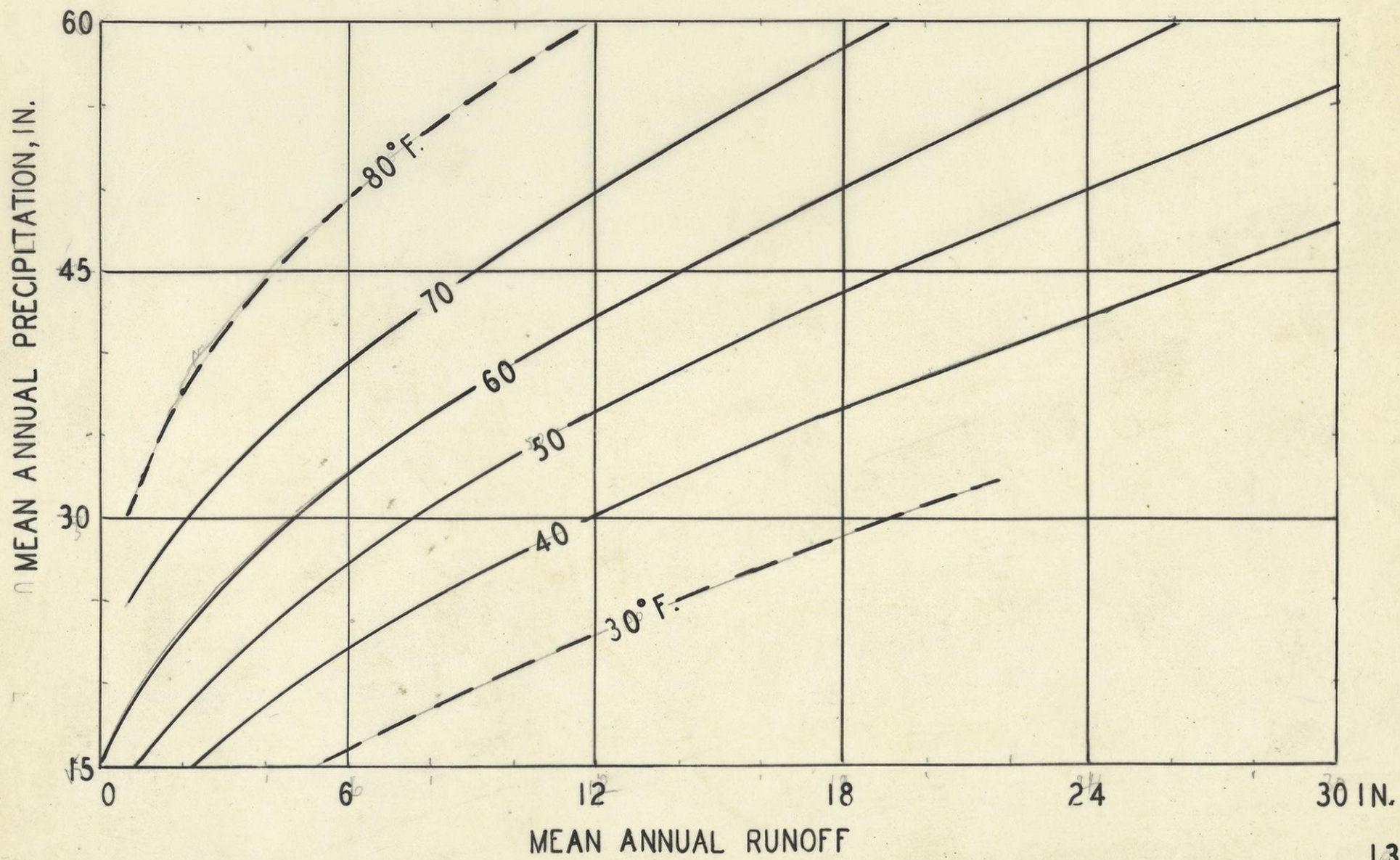
1.1

W. J. ...



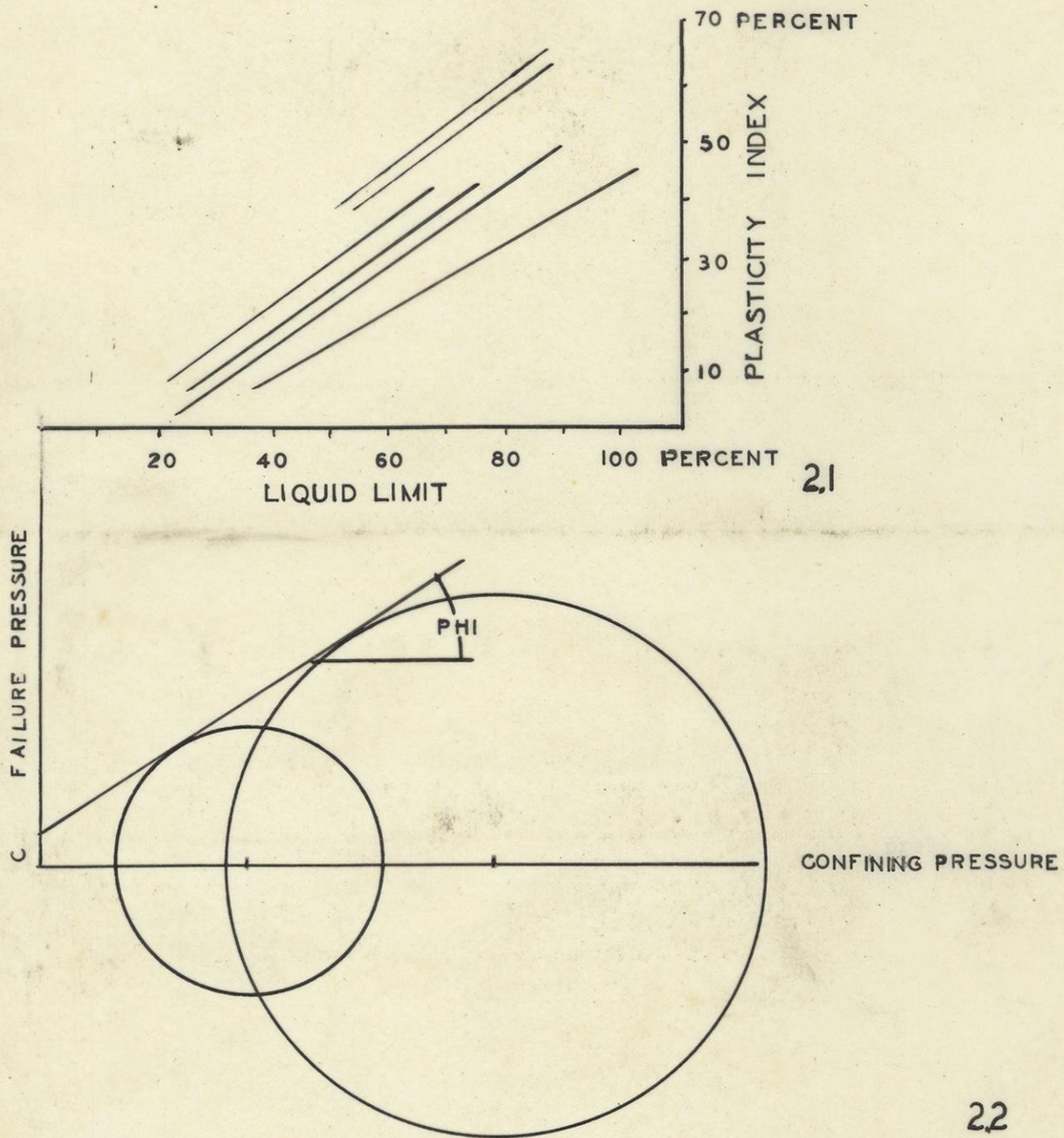
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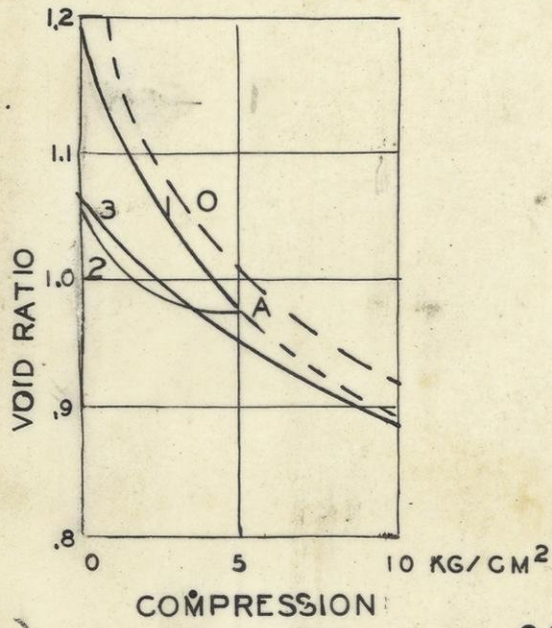
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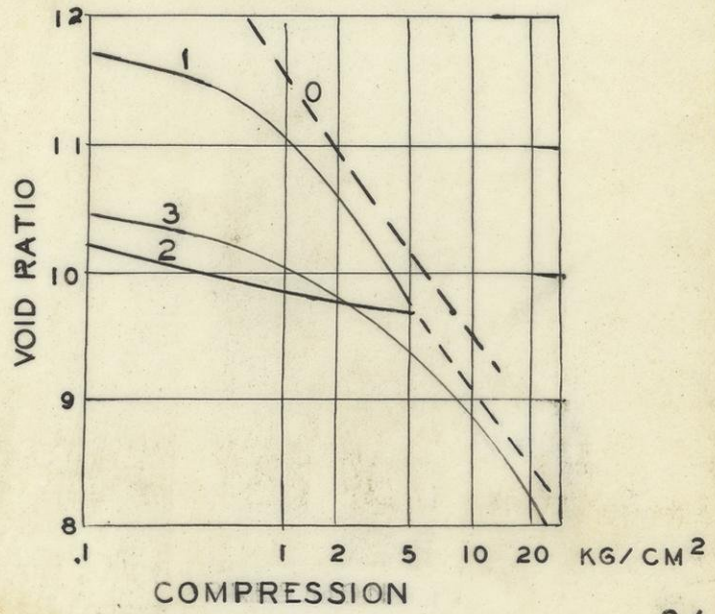
1.3

1.3

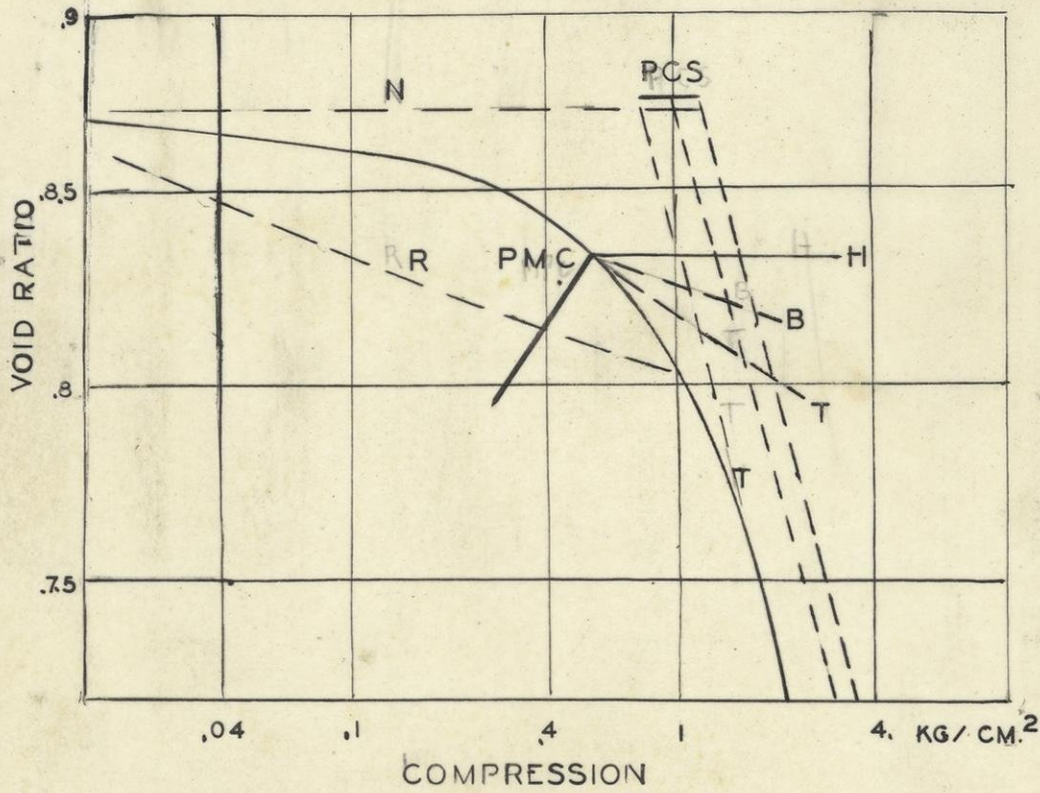




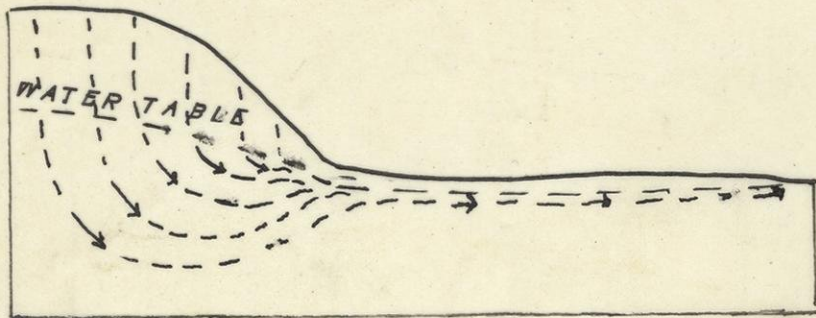
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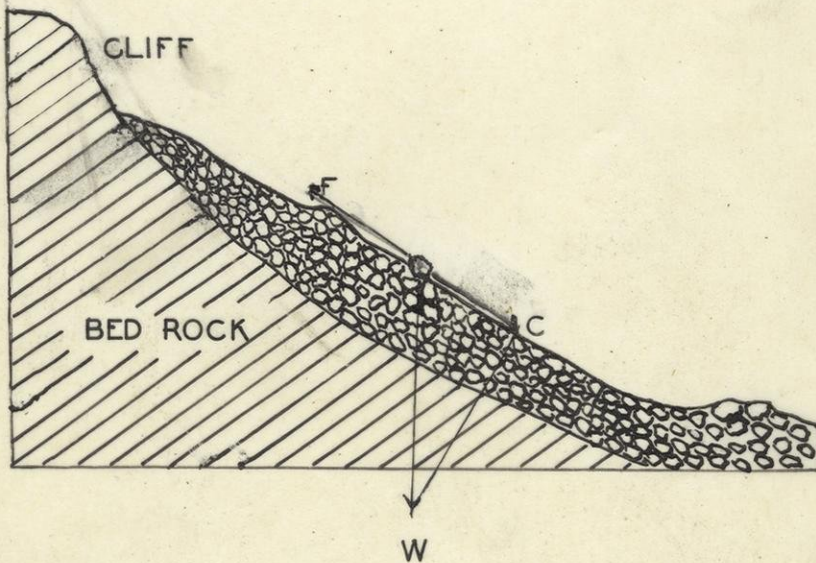
2.4



2.5

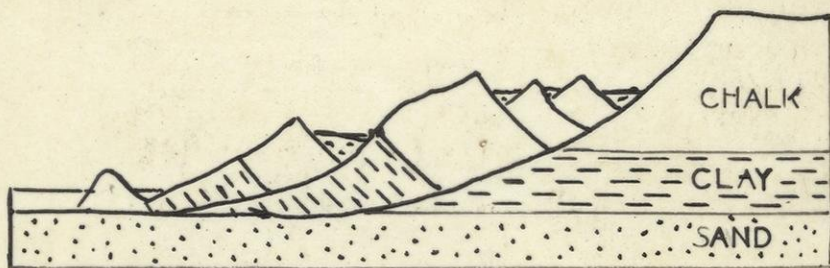


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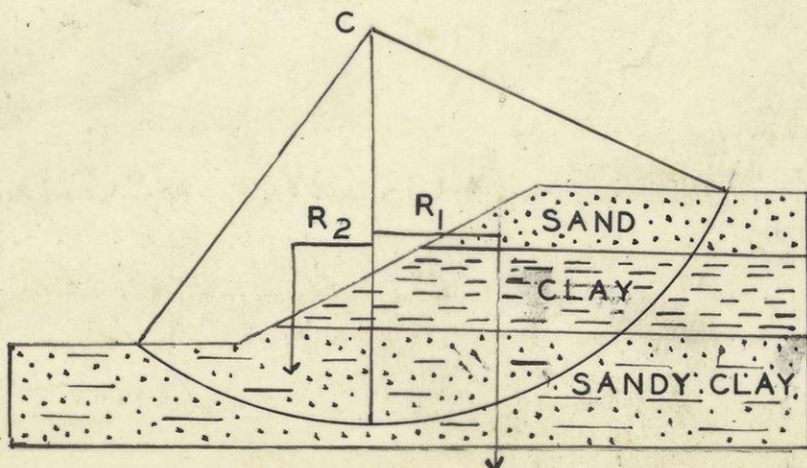
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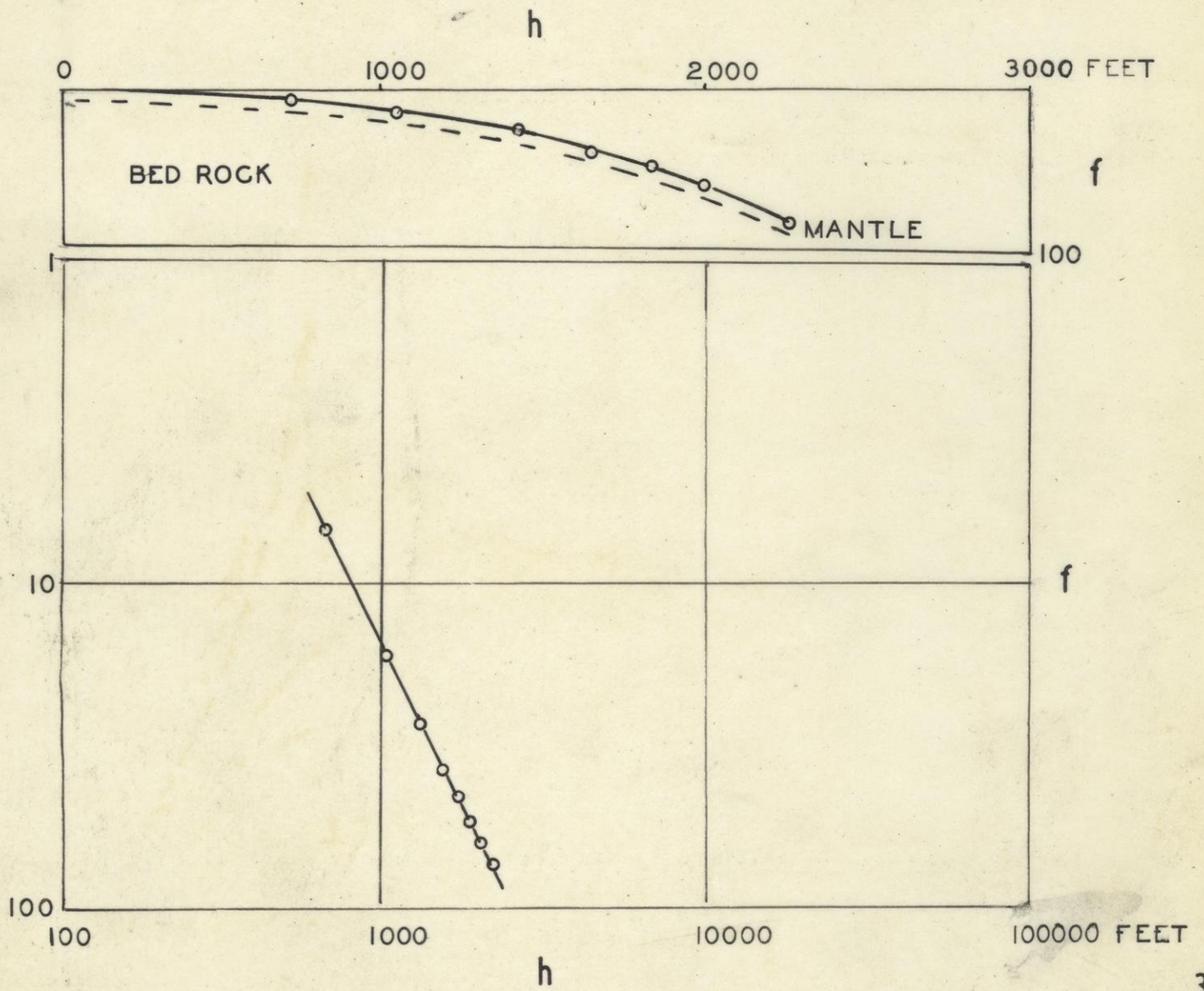
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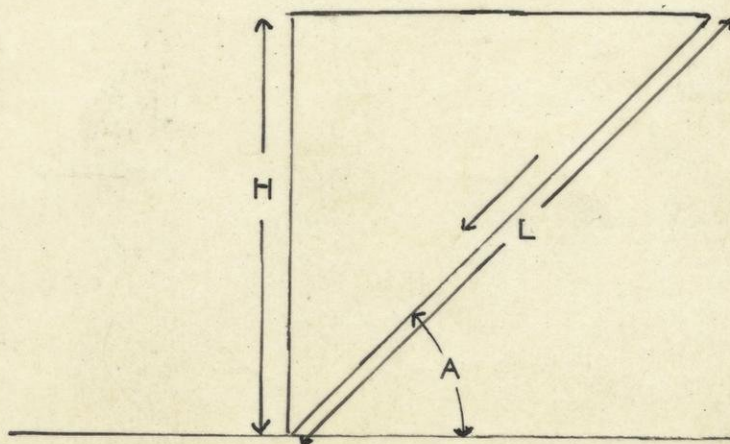
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$$f = (1.25 \times 10^{-4}) h^2$$



3.8

3.8



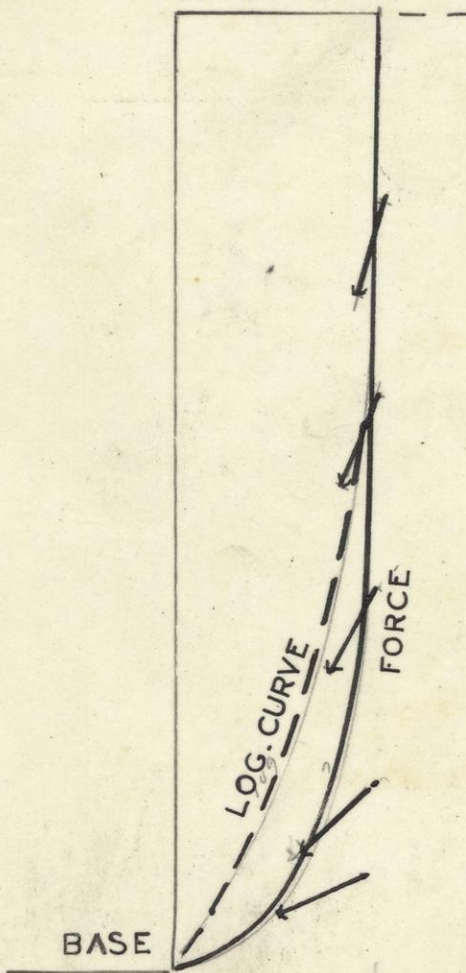
3.2

3.2

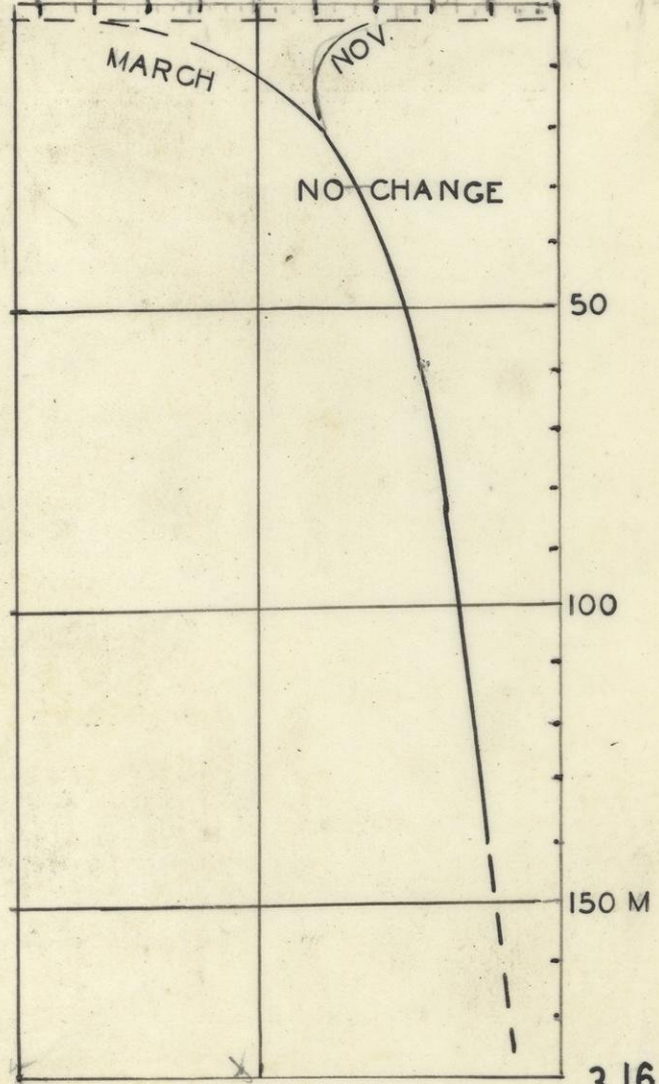
3-2

TOP OF BANK

-18 -16 -14 -12 -10 -8 -6 -4 -2 0°C

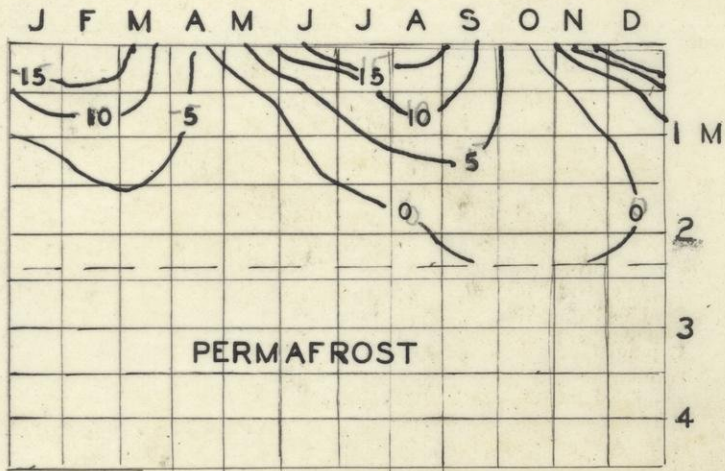


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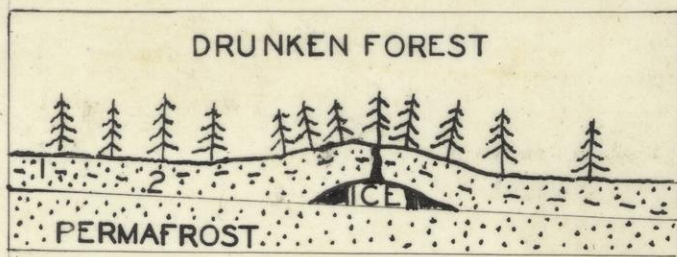


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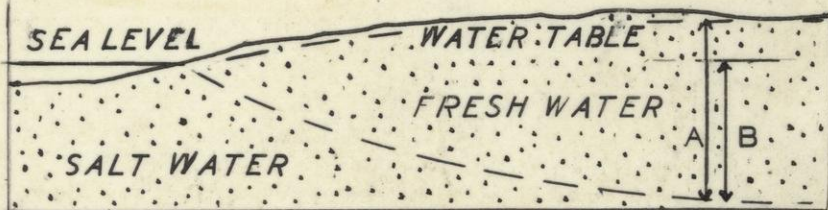
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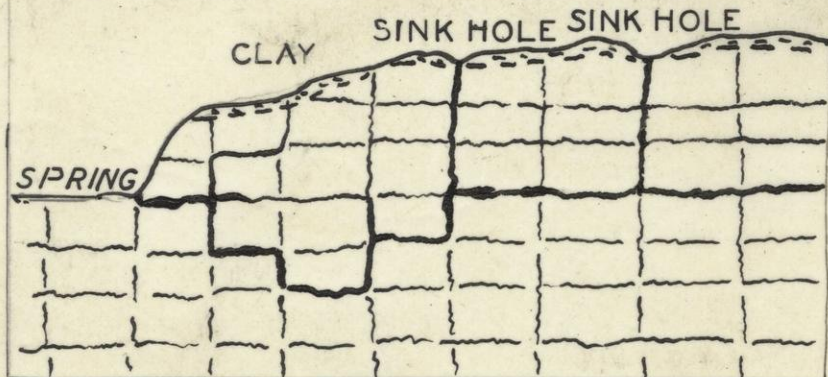
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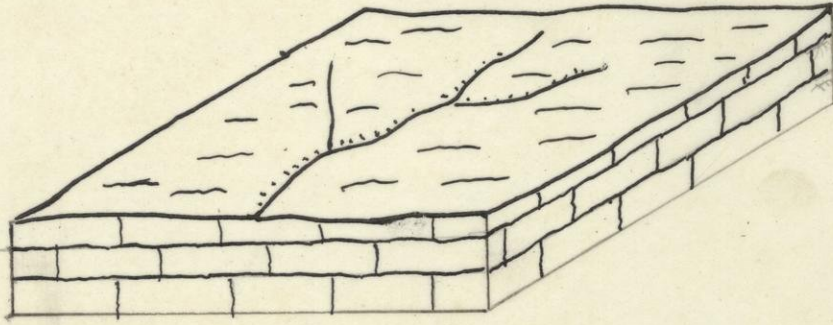
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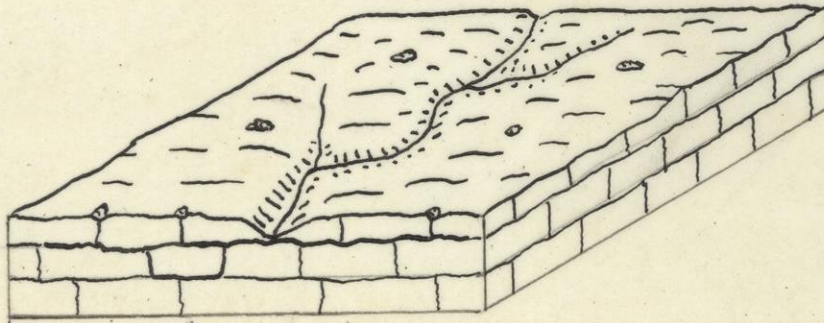
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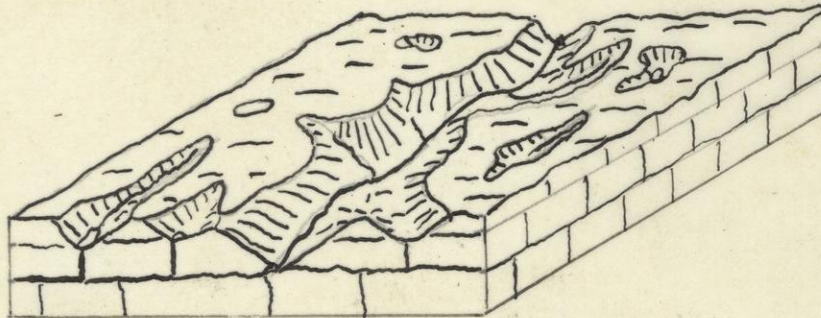
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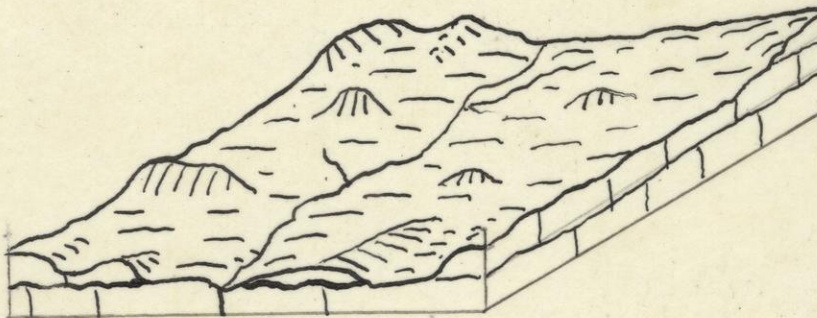
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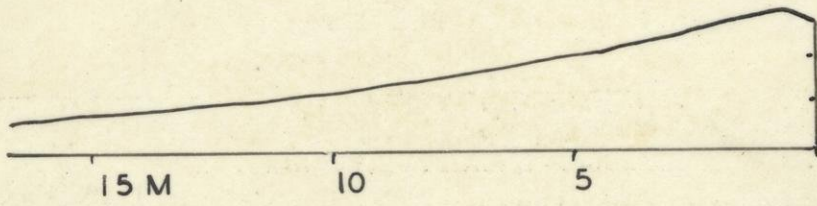


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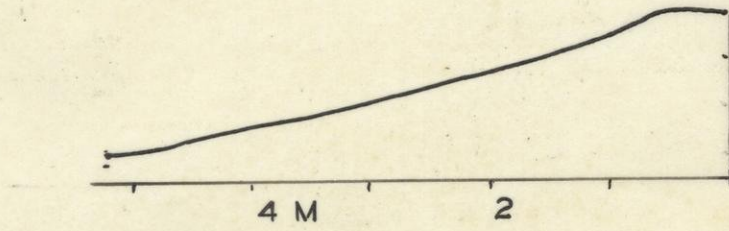


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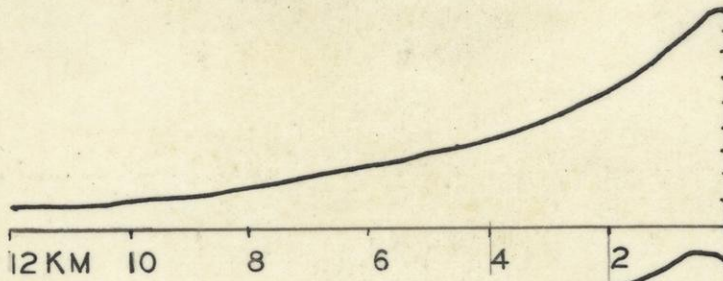
51



MAUNA LOA



MT HOOD

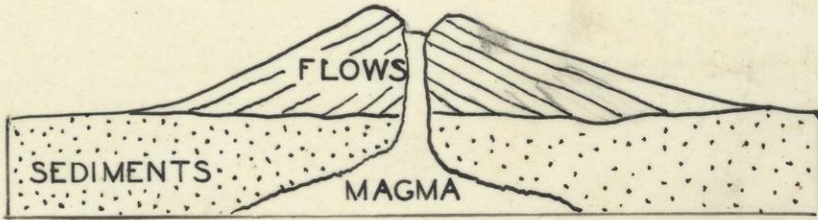


FUJIYAMA

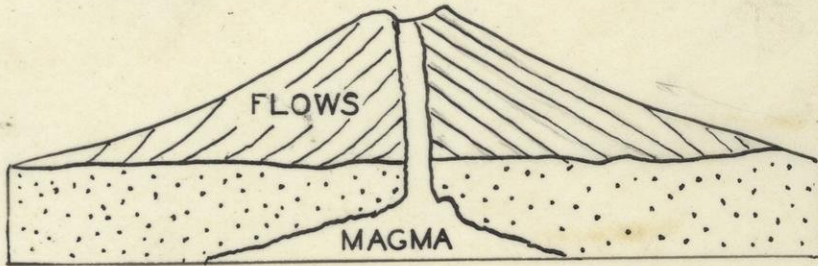


VESUVIUS

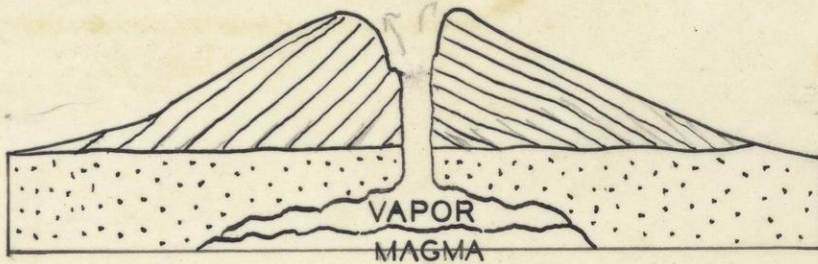
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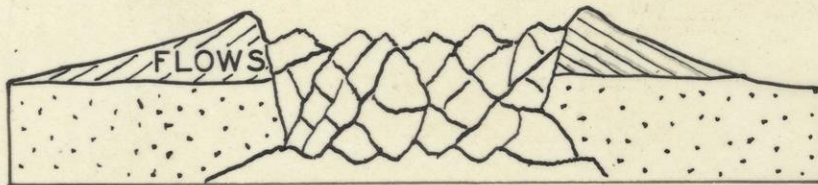
PUMICE ERUPTION



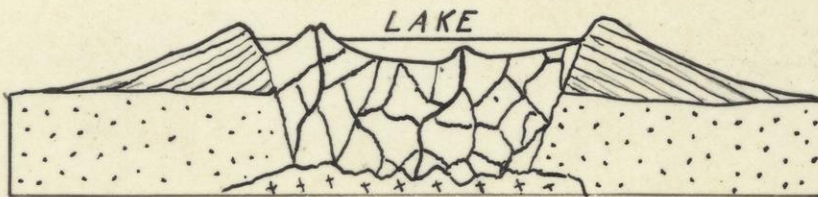
EXPLOSIVE ERUPTION



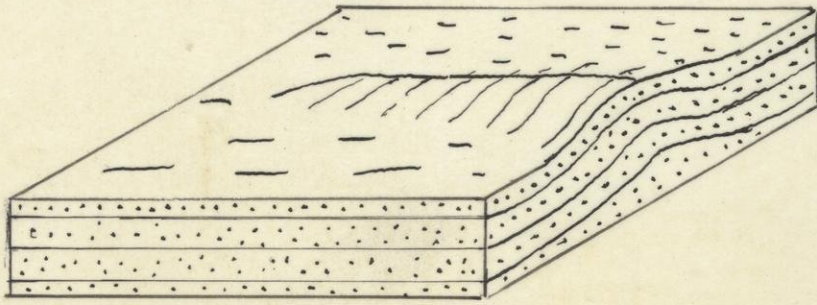
MAGMA FALLS



COLLAPSE

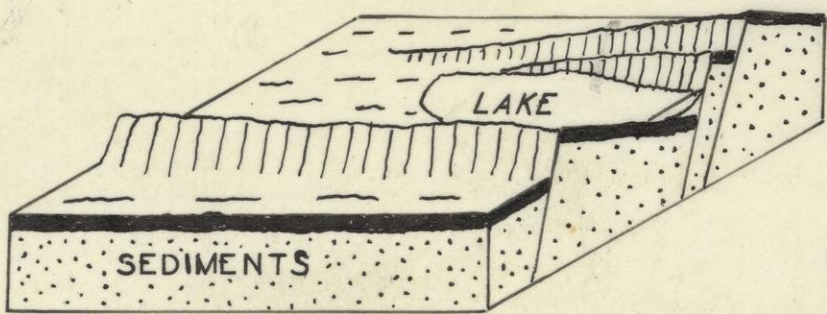


SMALL ERUPTIONS



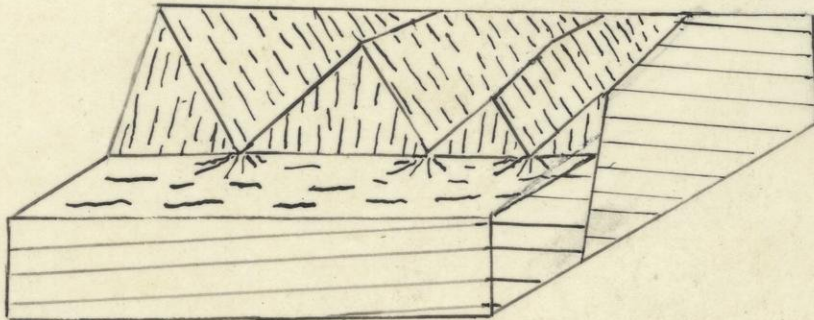
6.1

6-1



LAVA

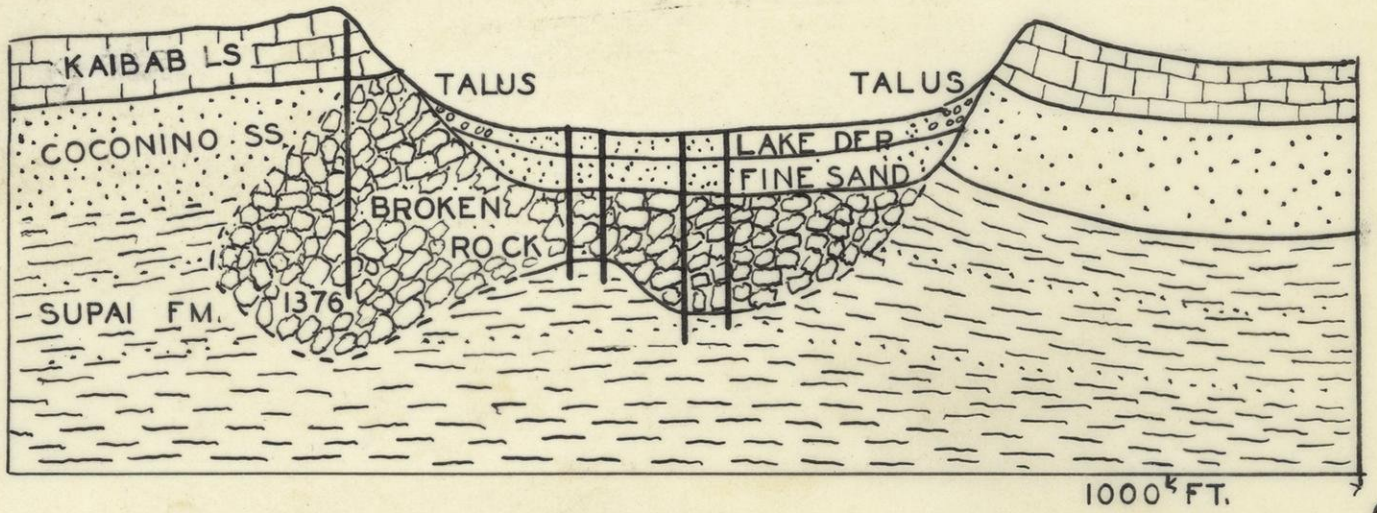
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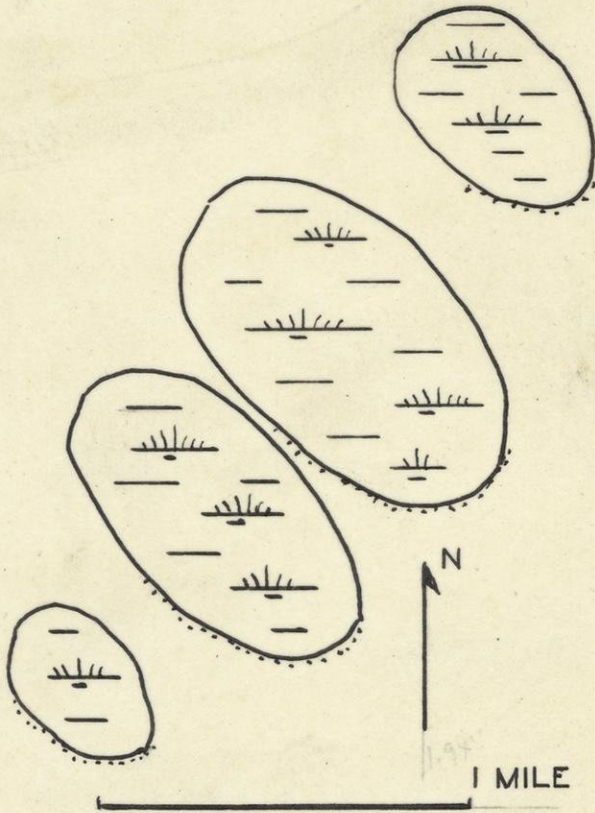
6.3

S

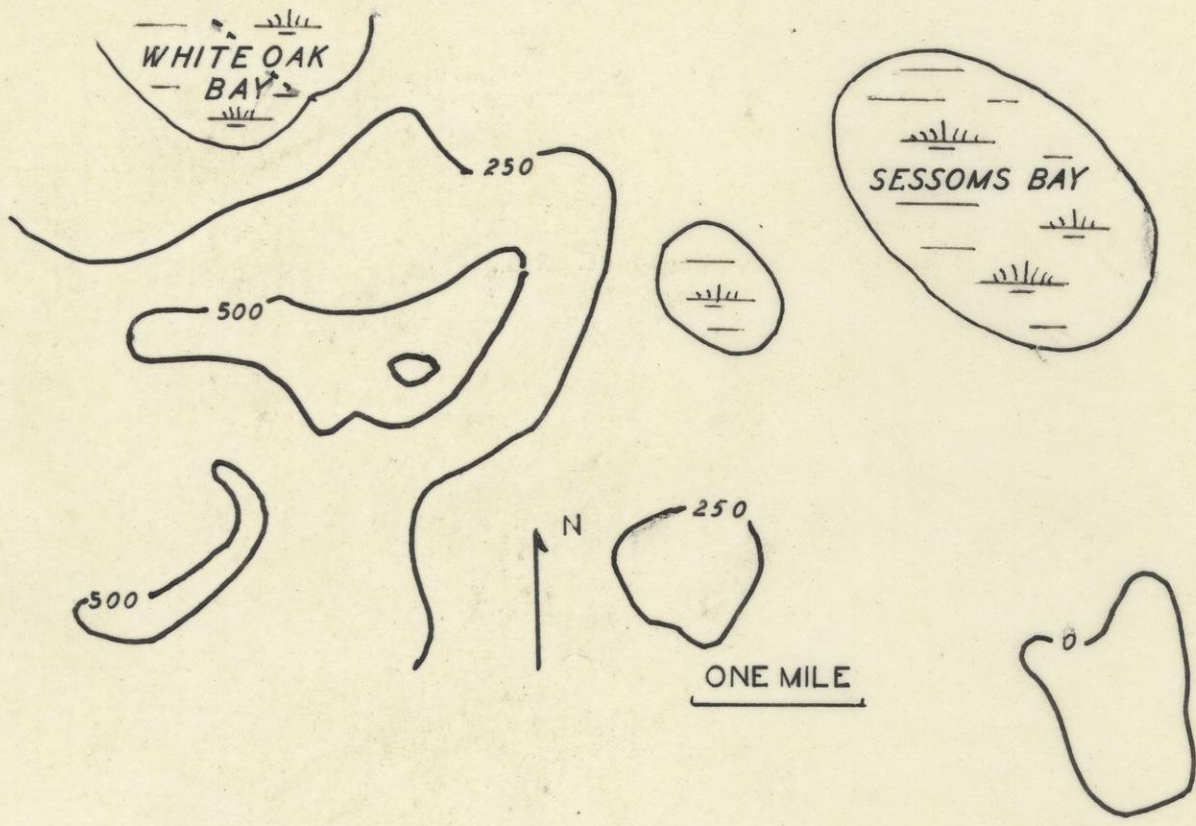
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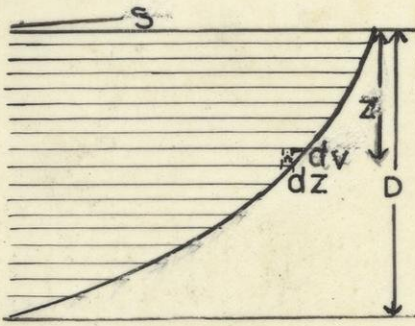


6.4

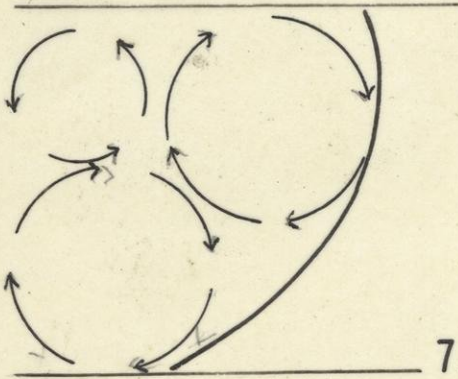


6.5

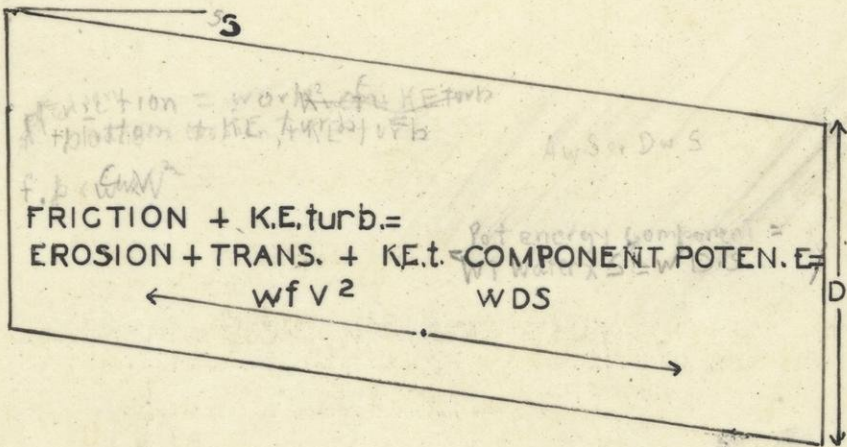




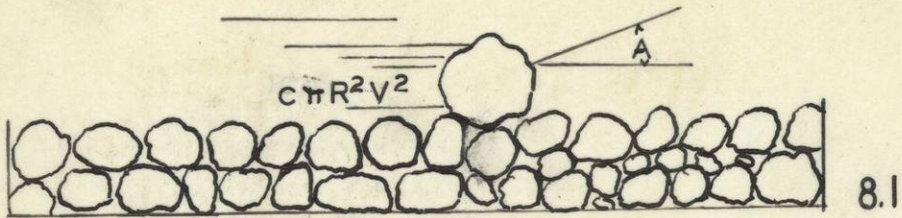
7.1



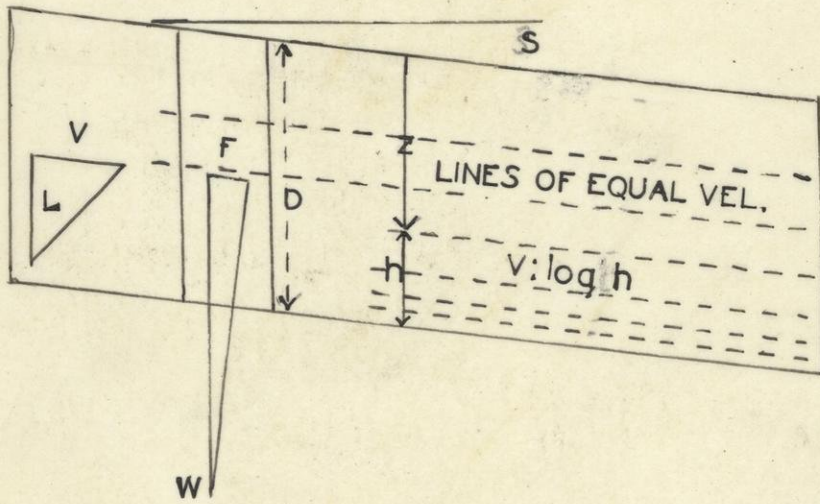
7.2



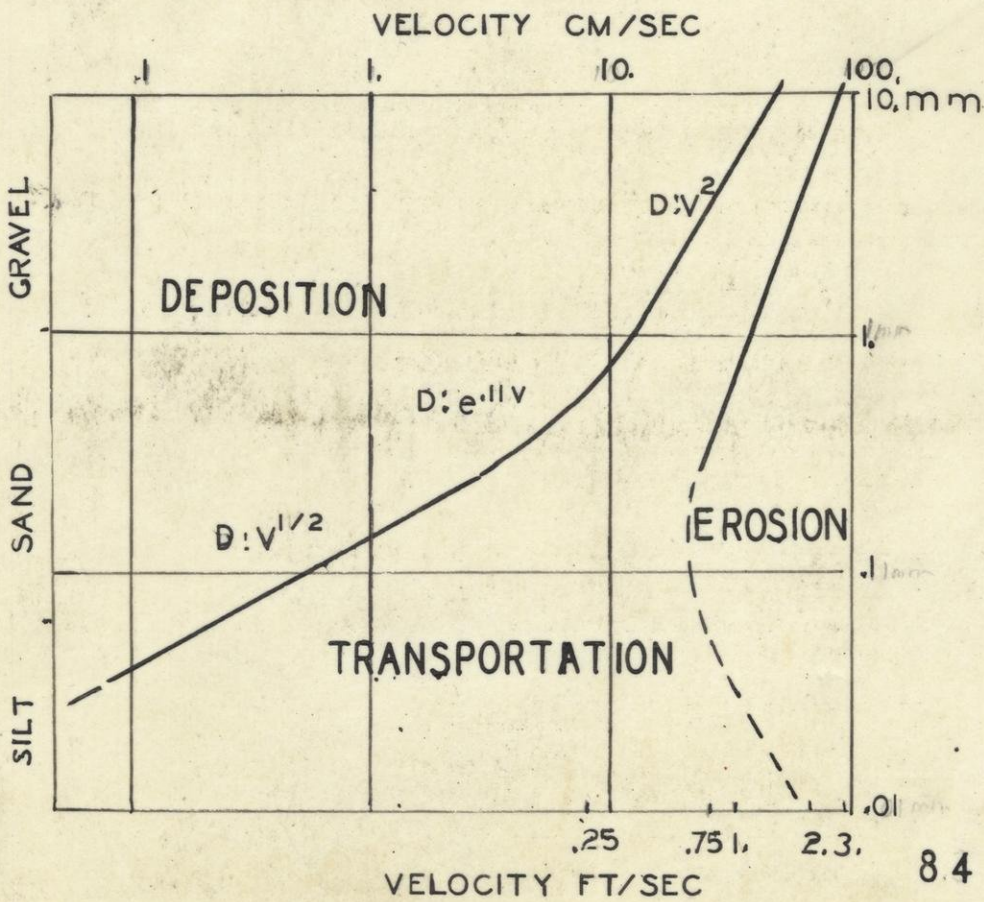
7.3



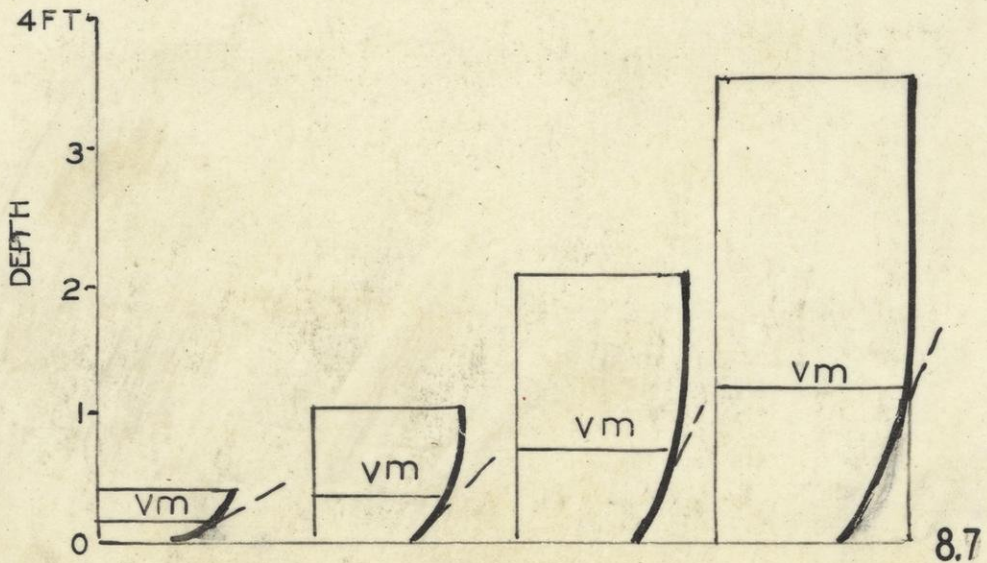
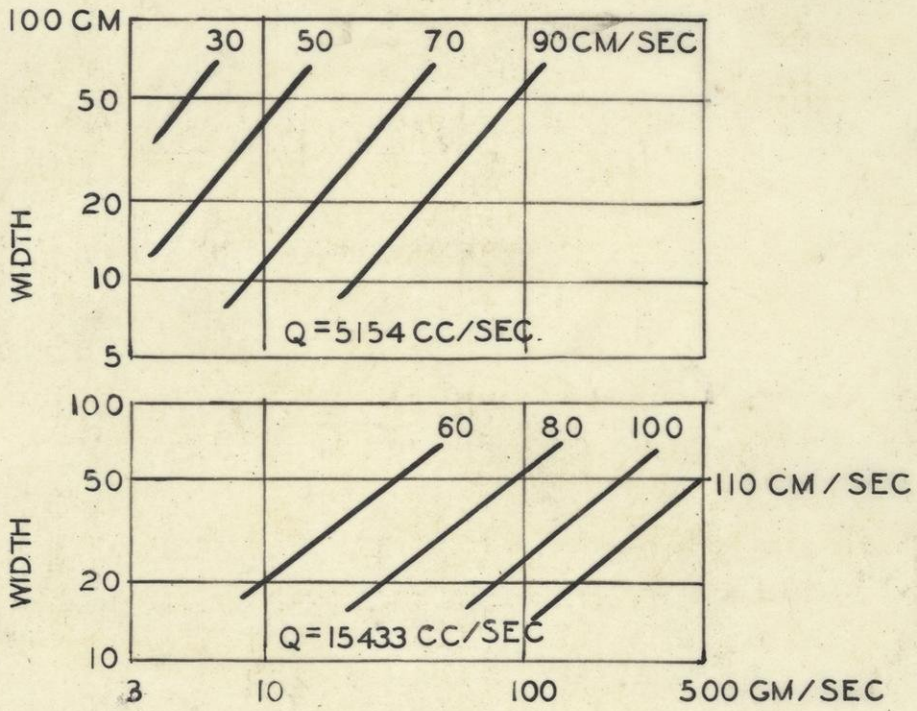
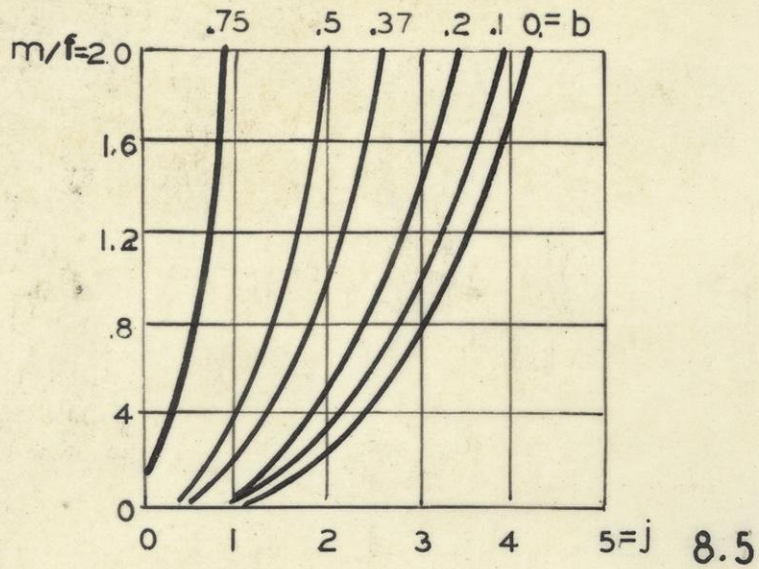
8.1



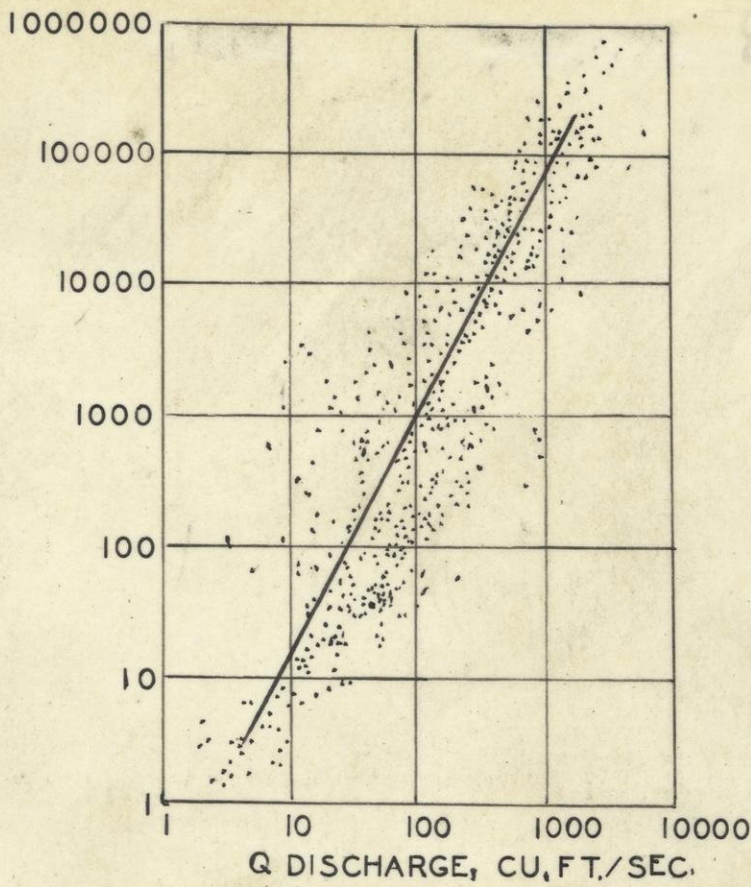
8.2



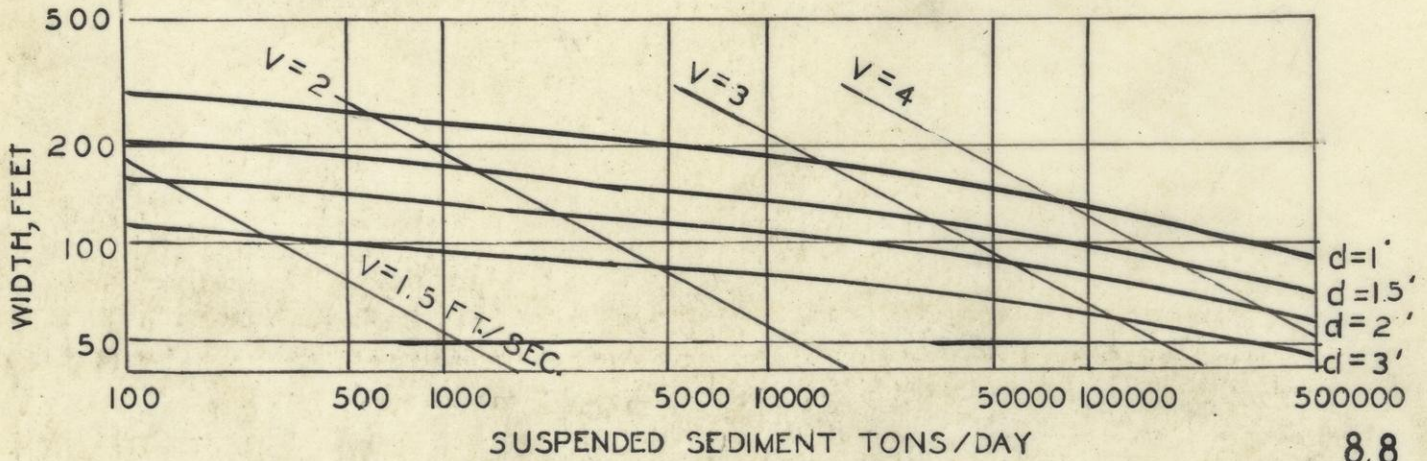
8.4



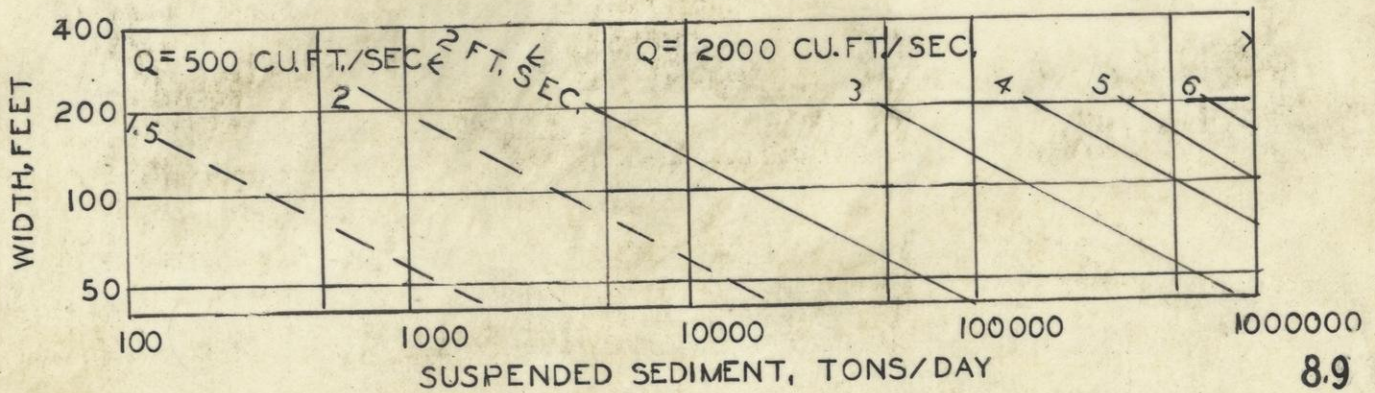
SUSPENDED SEDIMENT, TONS/DAY



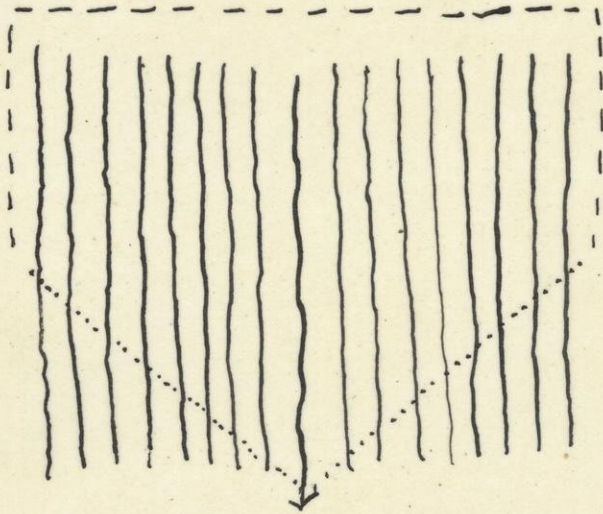
8.3



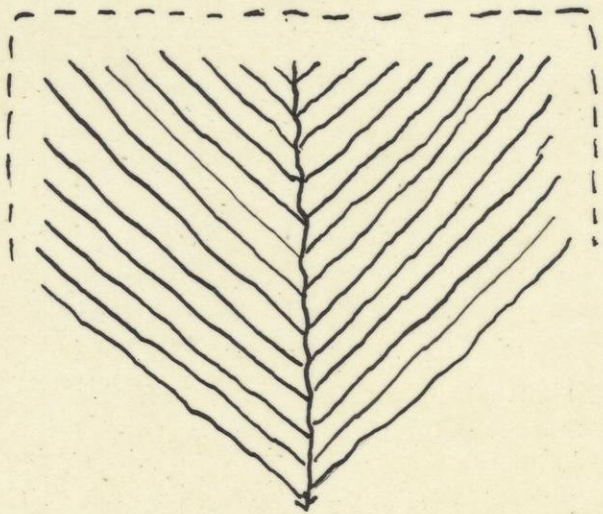
8.8



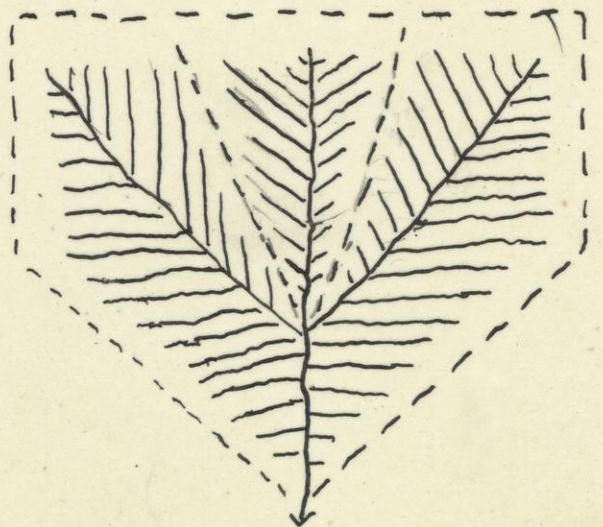
8.9



91



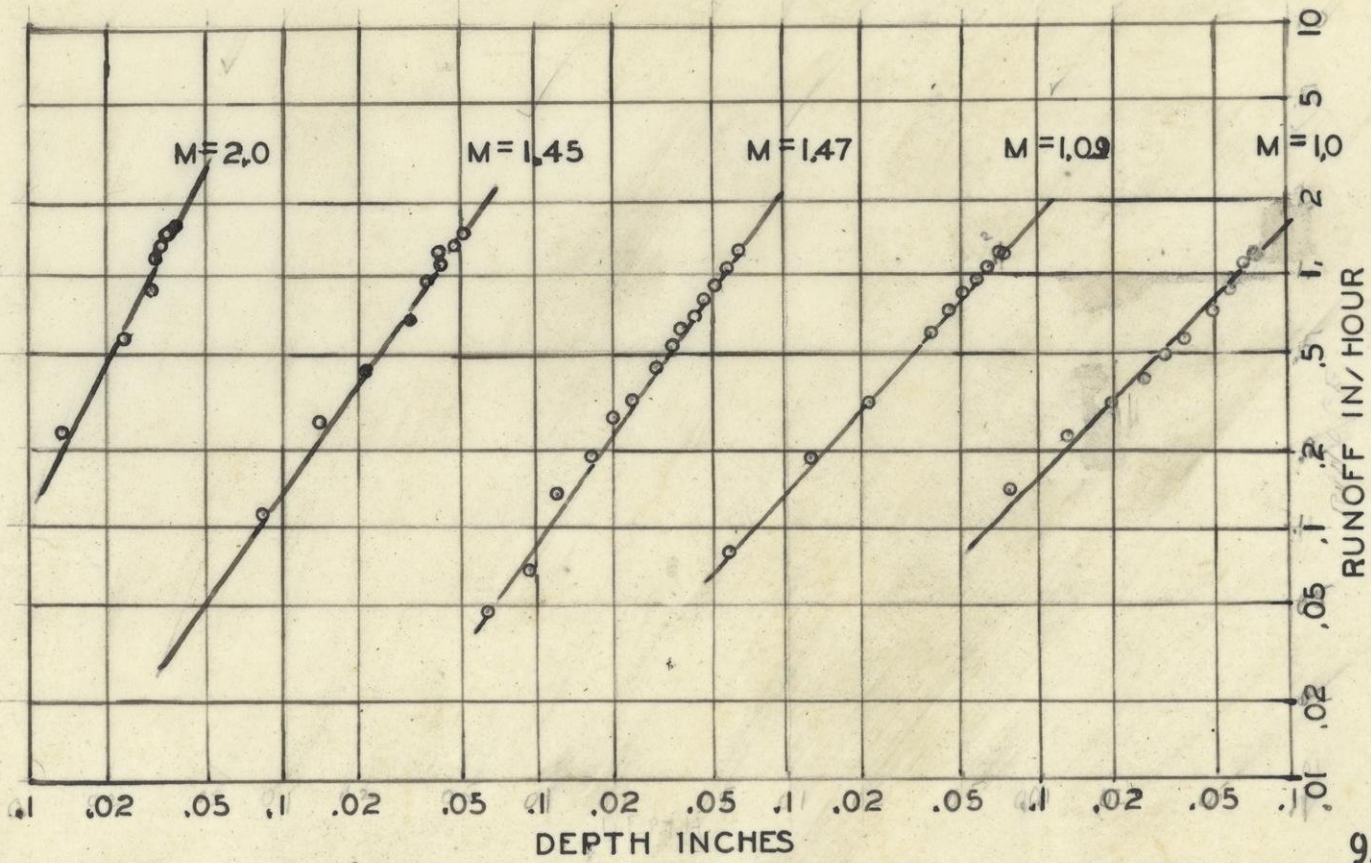
92



93

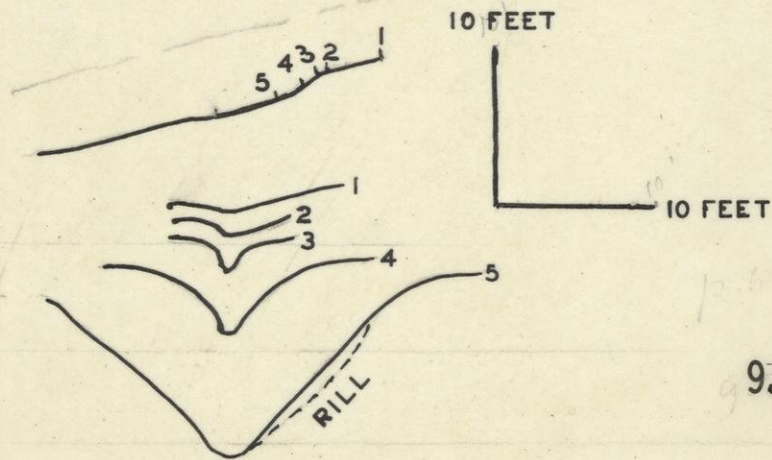
9-2

92



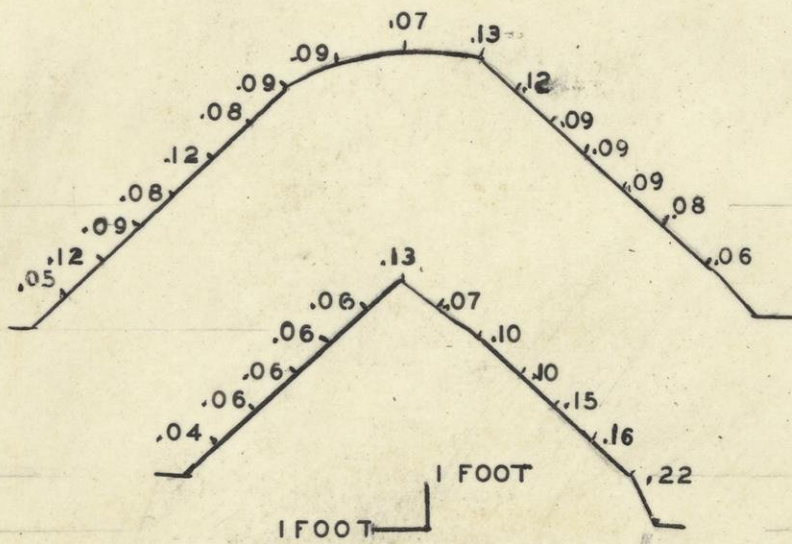
9.1

9.1



9.3

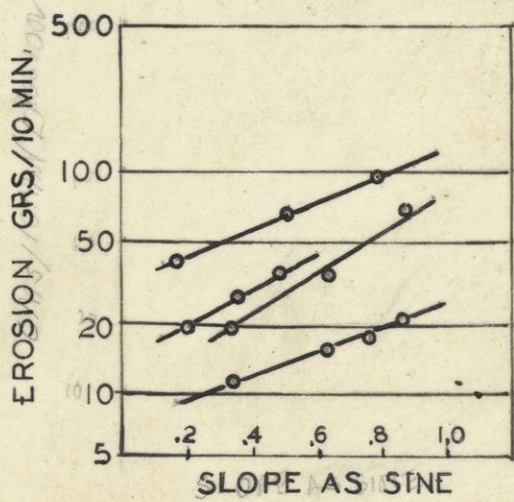
9.3



SLOPE EROSION IN 10 WEEKS, FEET

9.4

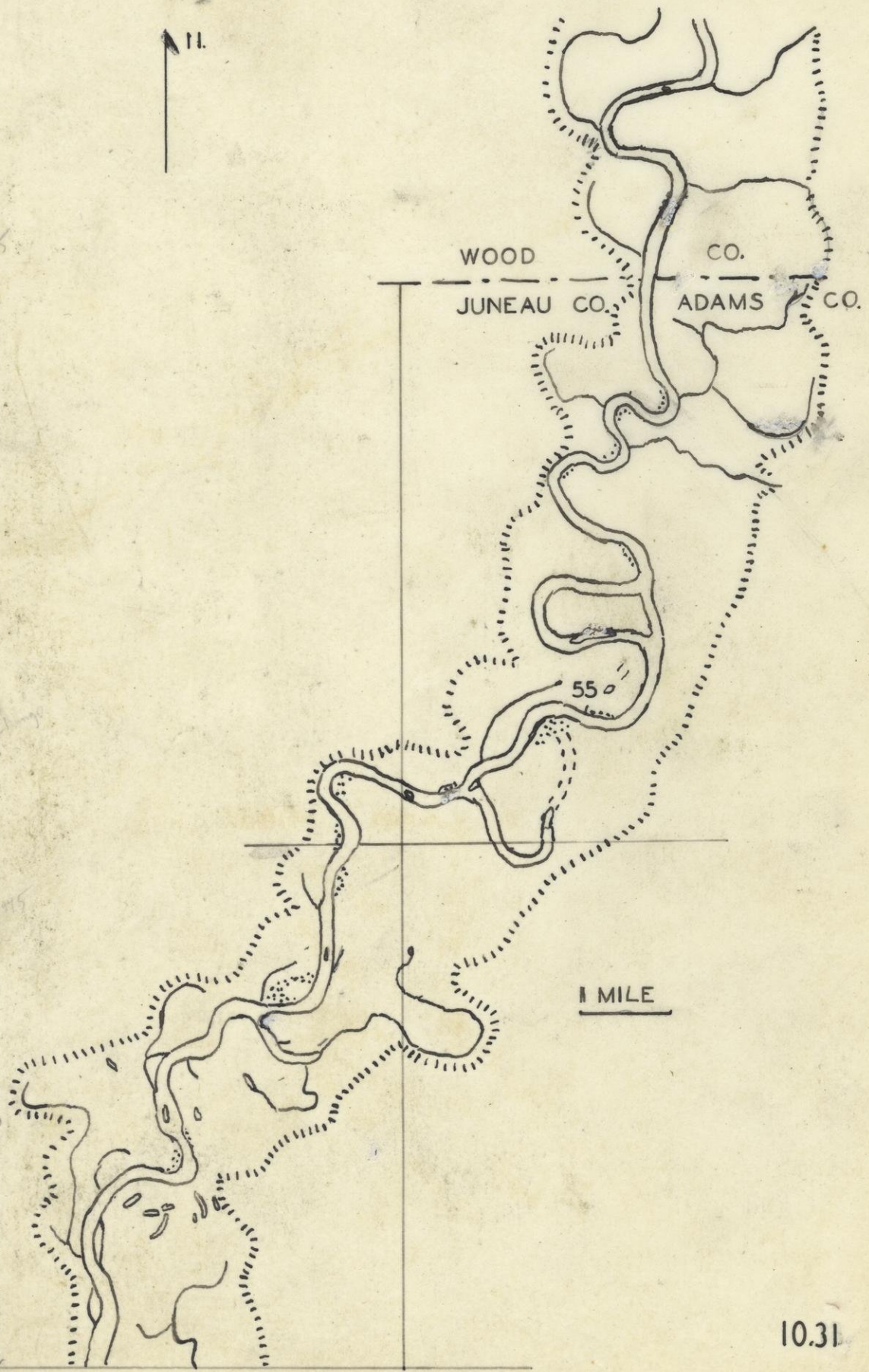
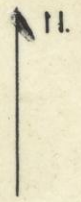
9.4



9.5

9.5

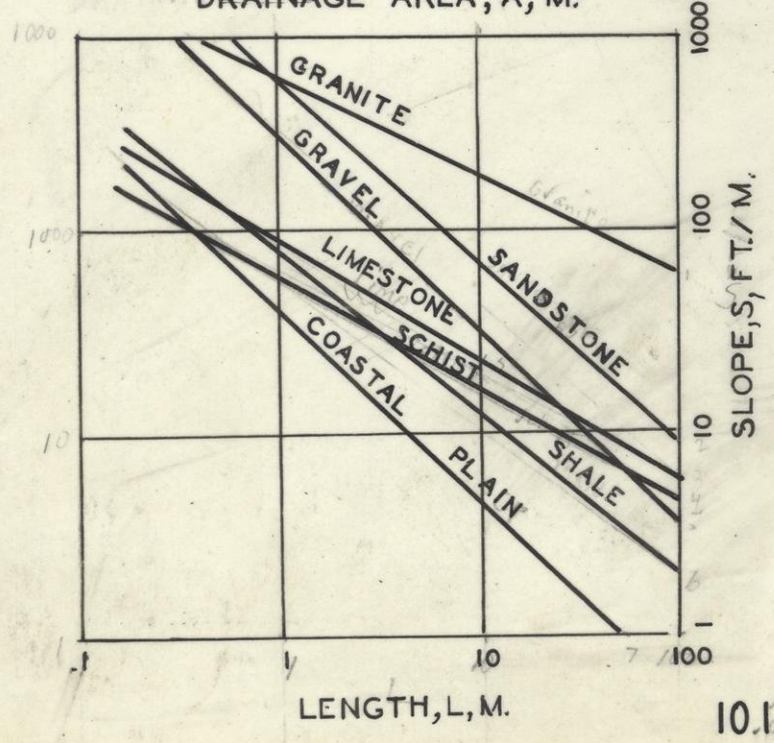
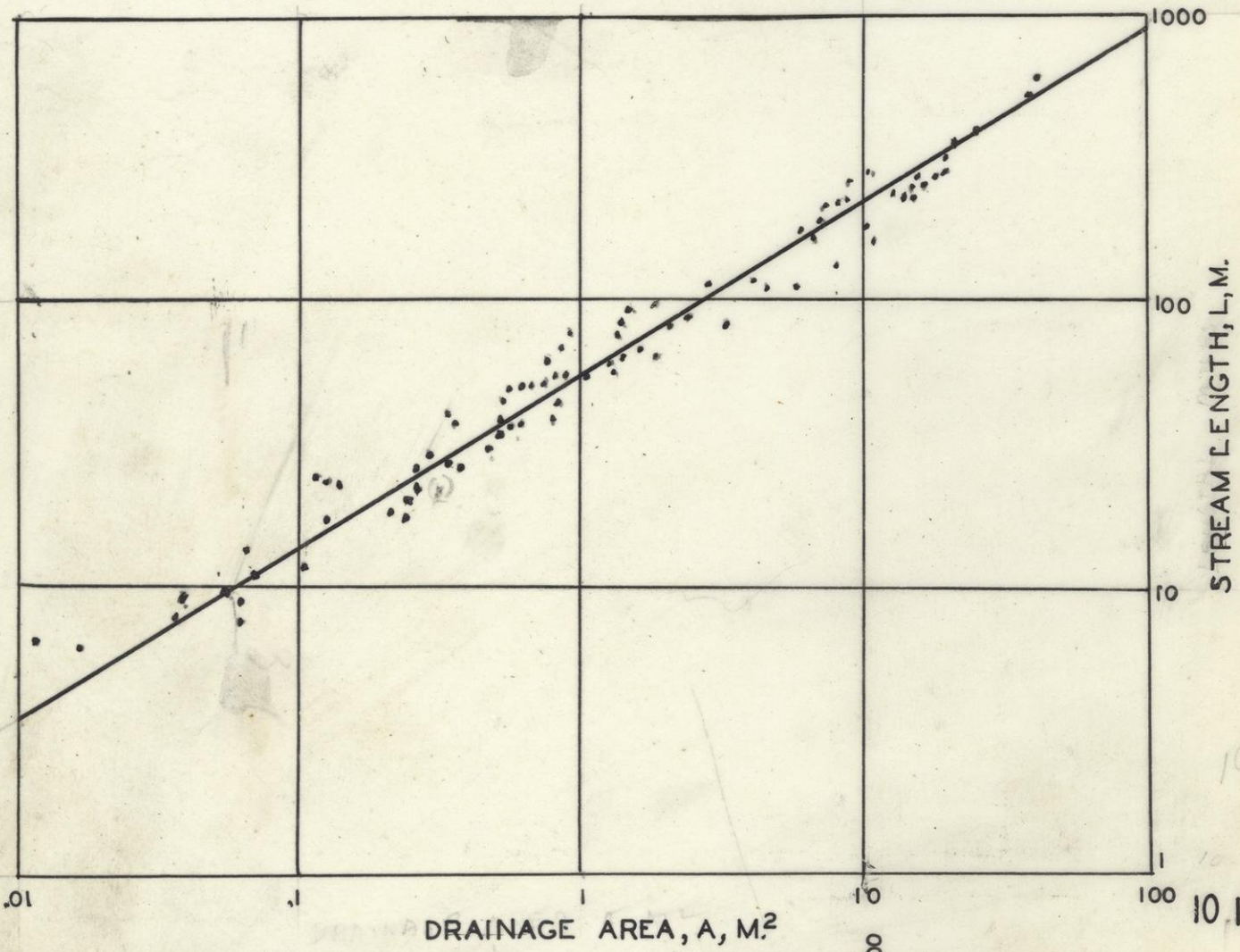
940
 900
 42 MILES FROM WISCONSIN DELLS
 1.62 FT./MILE W = 700 FT.
 ORIGINAL SURFACE
 RIVER
 55
 0.87 FT./MILE W = 480 FT.
 900
 960
 70

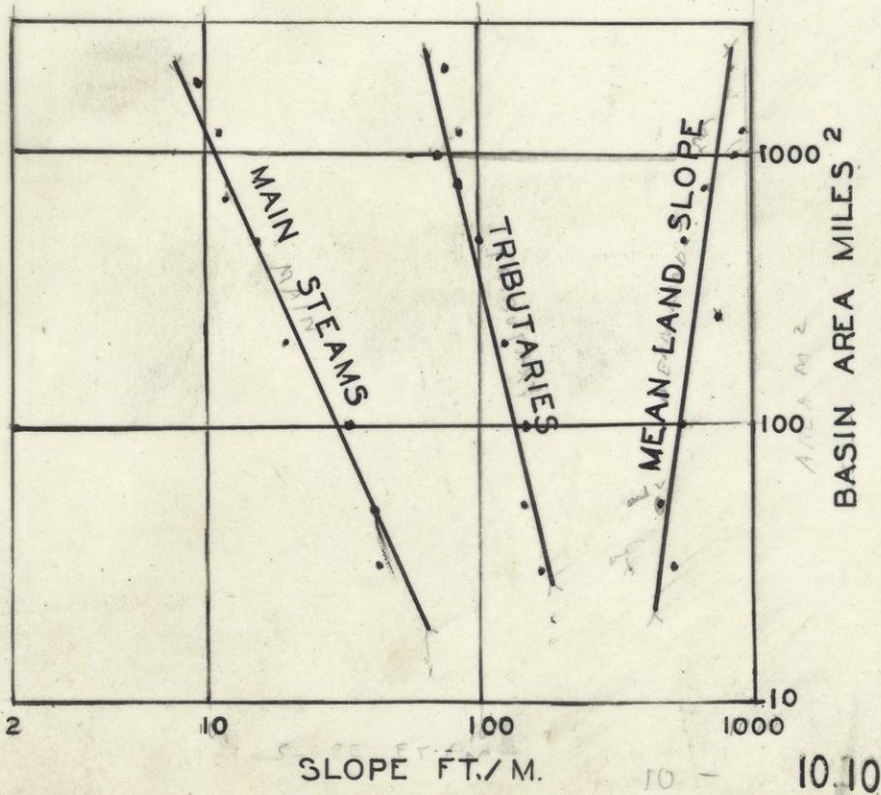


10.31

1031

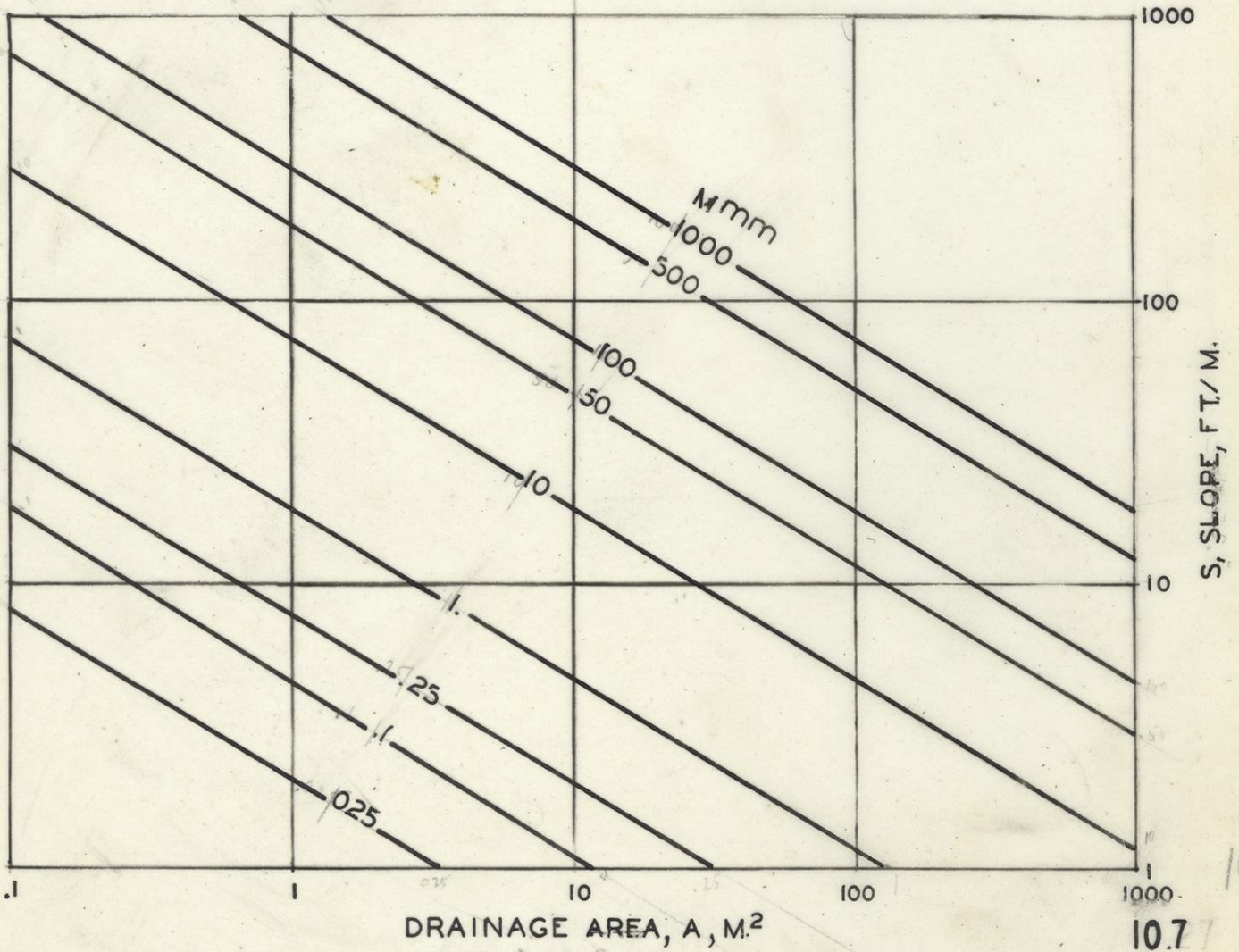
10-18

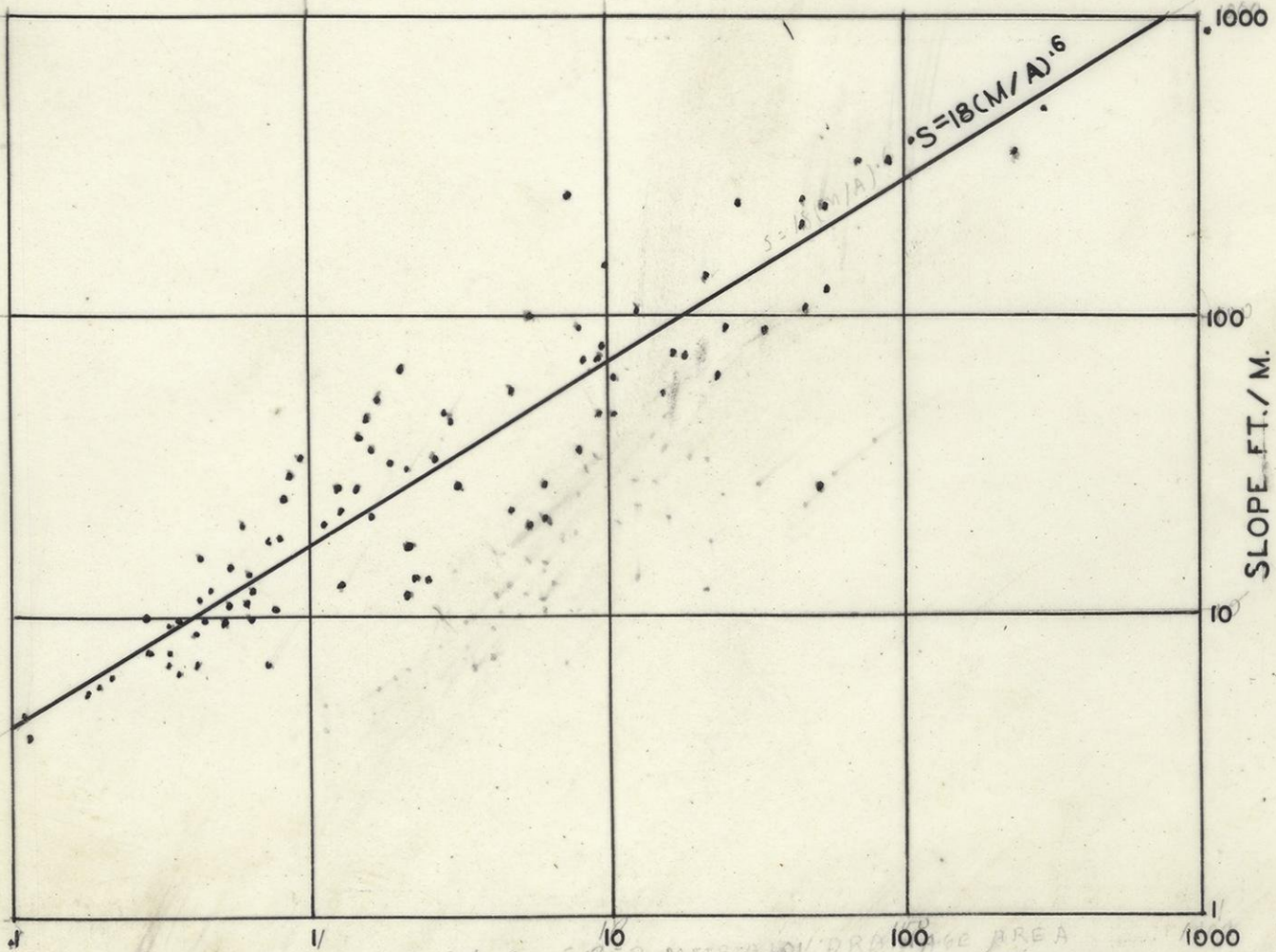




1010

10-29



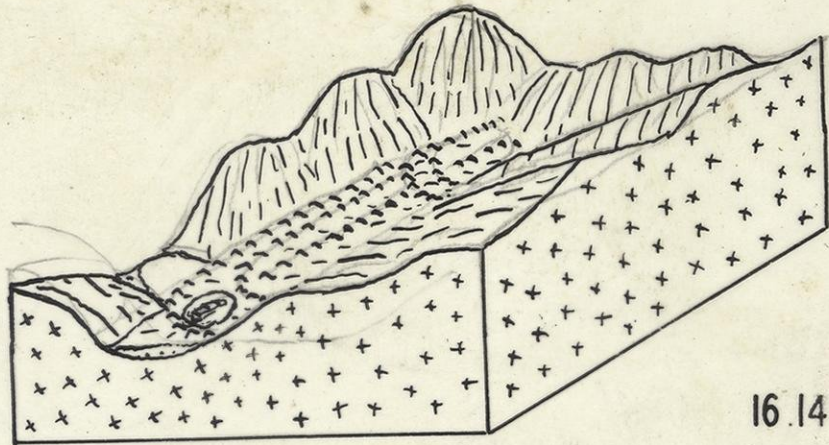


SLOPE FT/M

10.9?

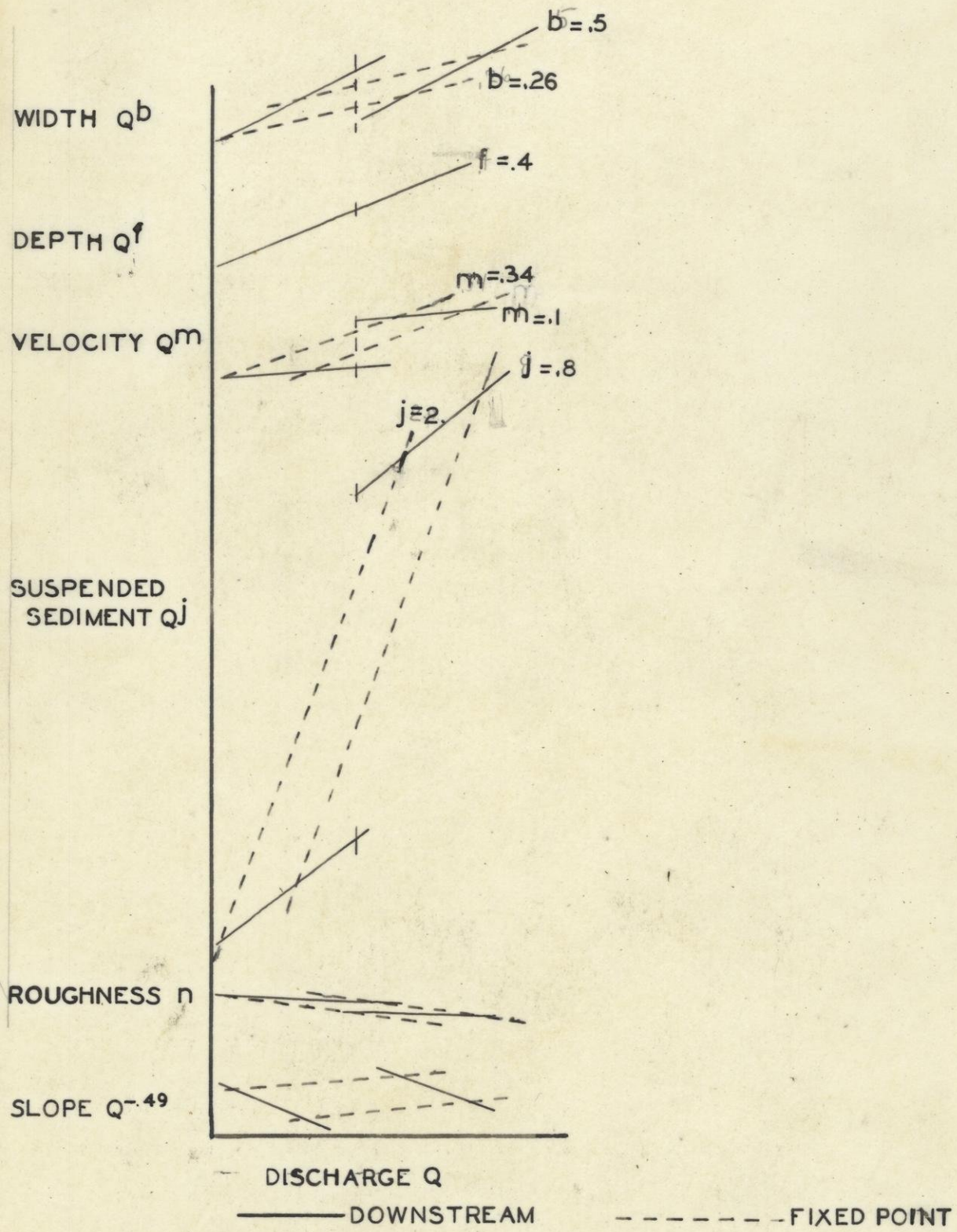
10.9

RATIO OF MEDIAN SIZE OF BED MATERIAL, M, TO DRAINAGE AREA, A: 10.9

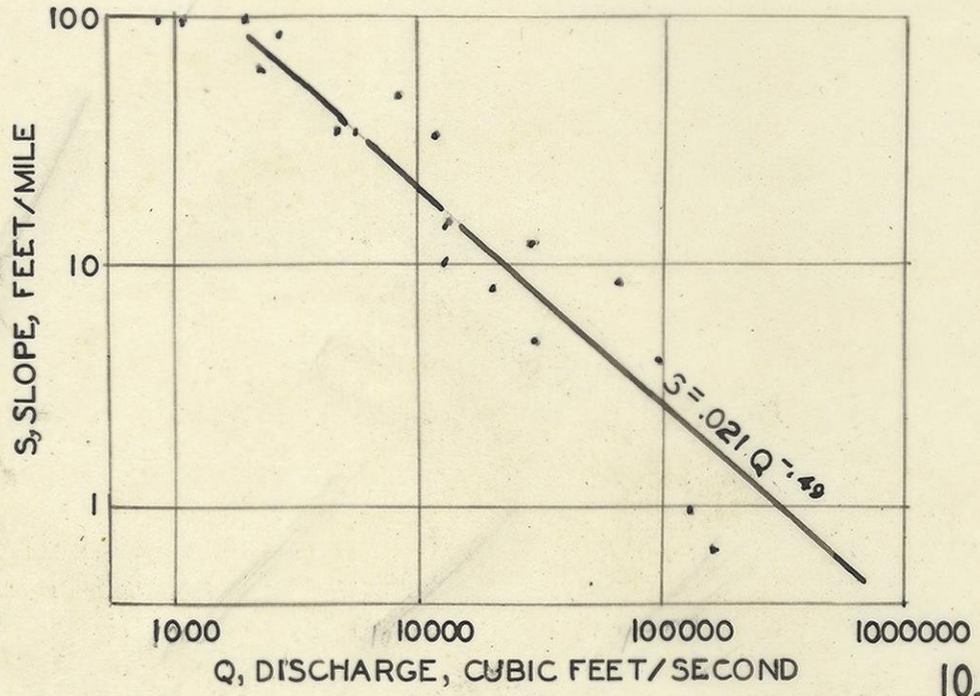


16.14

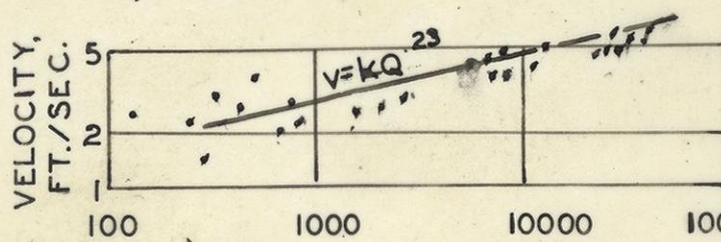
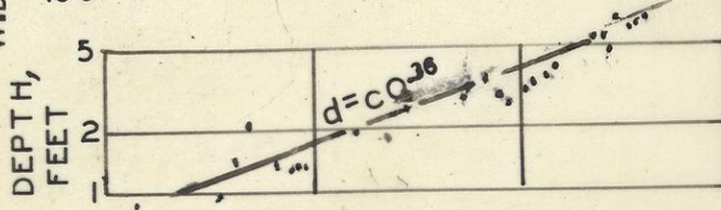
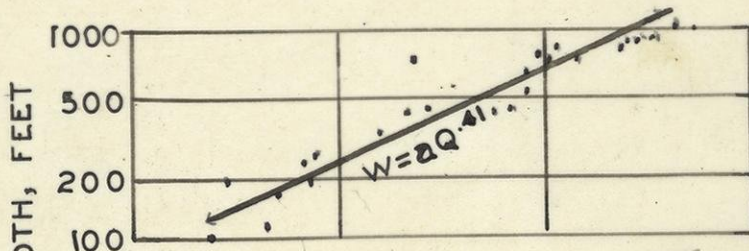
16.14



1021



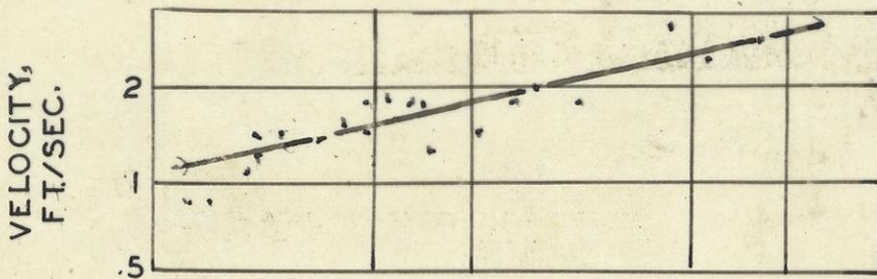
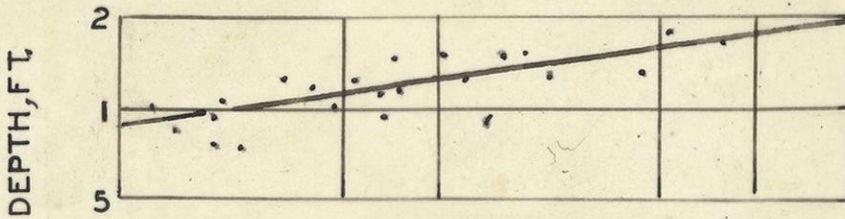
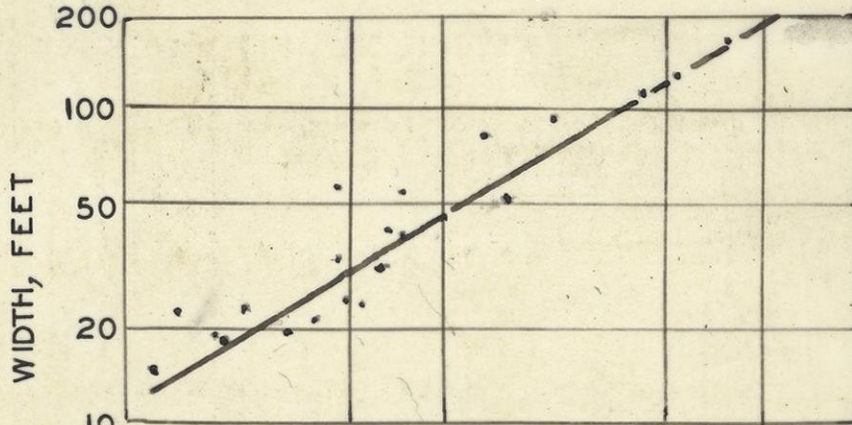
10.6



100 1000 10000 100000 CU FT/SEC.

1013

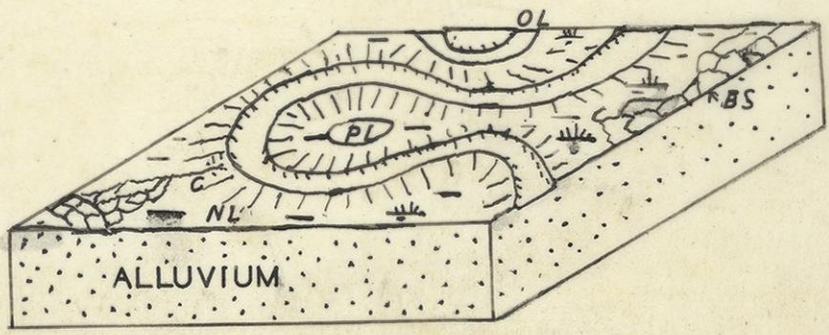
1013



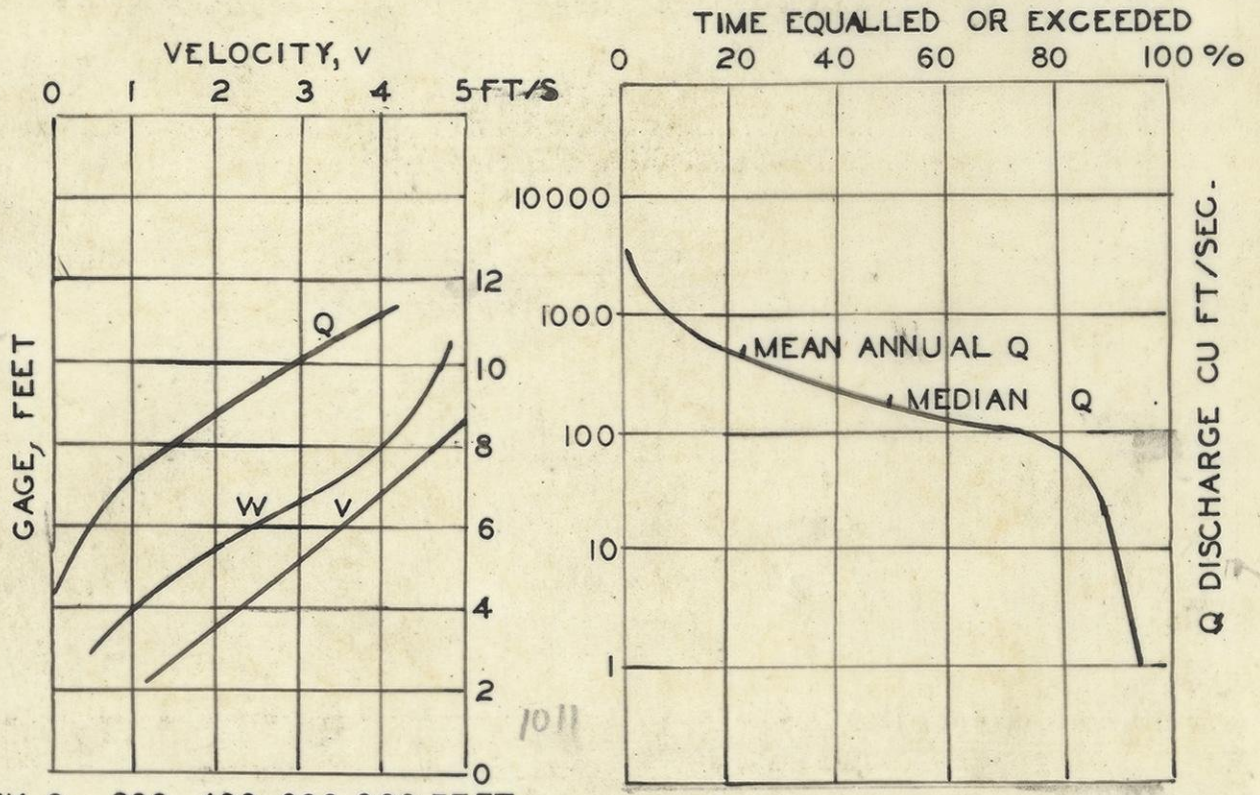
10 50 100 500 1000 MEAN ANNUAL DISCHARGE CU.FT./SEC.

10.14

10.14



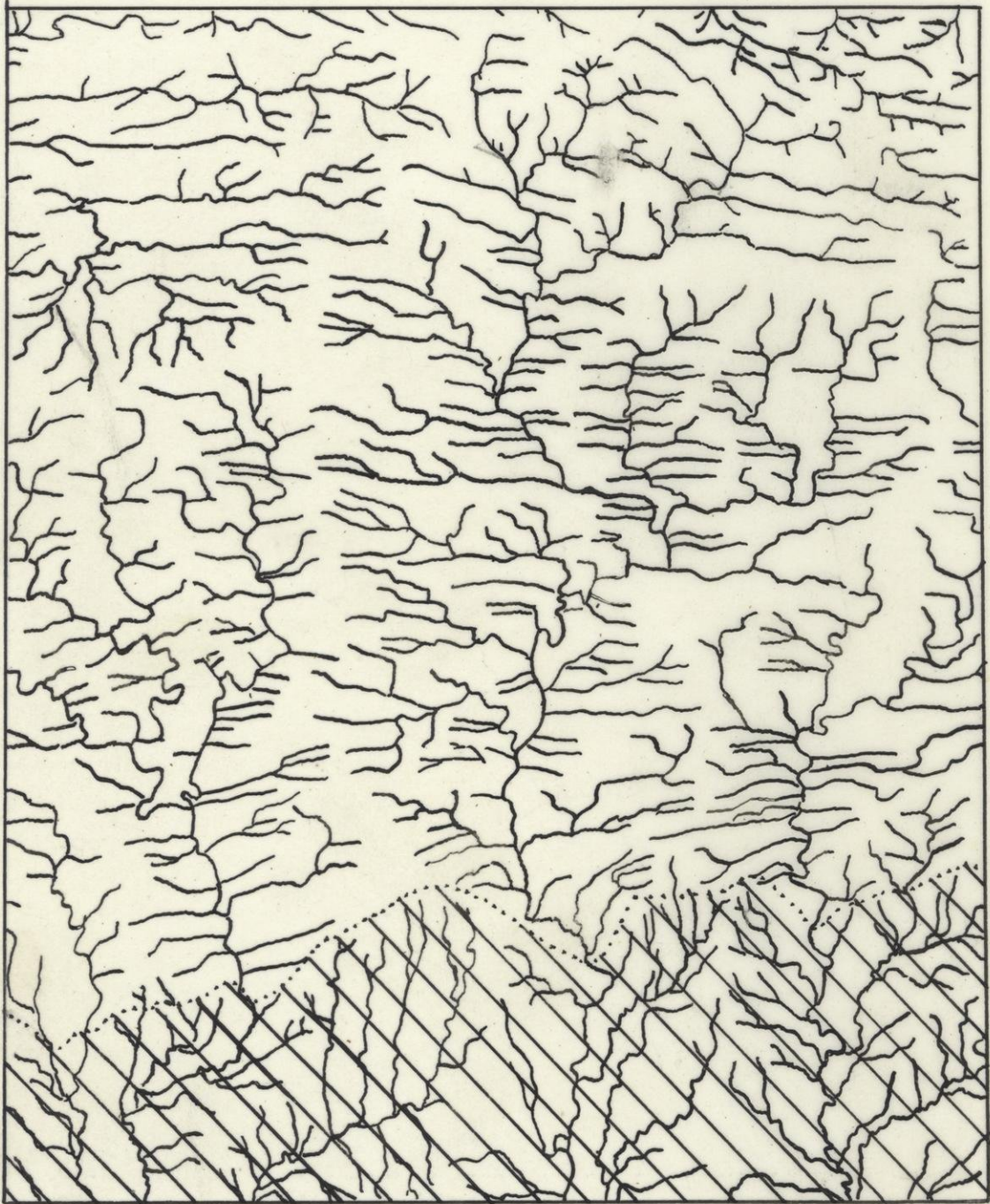
10.28 1028



W, WIDTH 0 200 400 600 800 FEET
 Q, DISCHARGE 0 10000 20000 30000 40000 CU. FT/SEC.

10.11

10.12

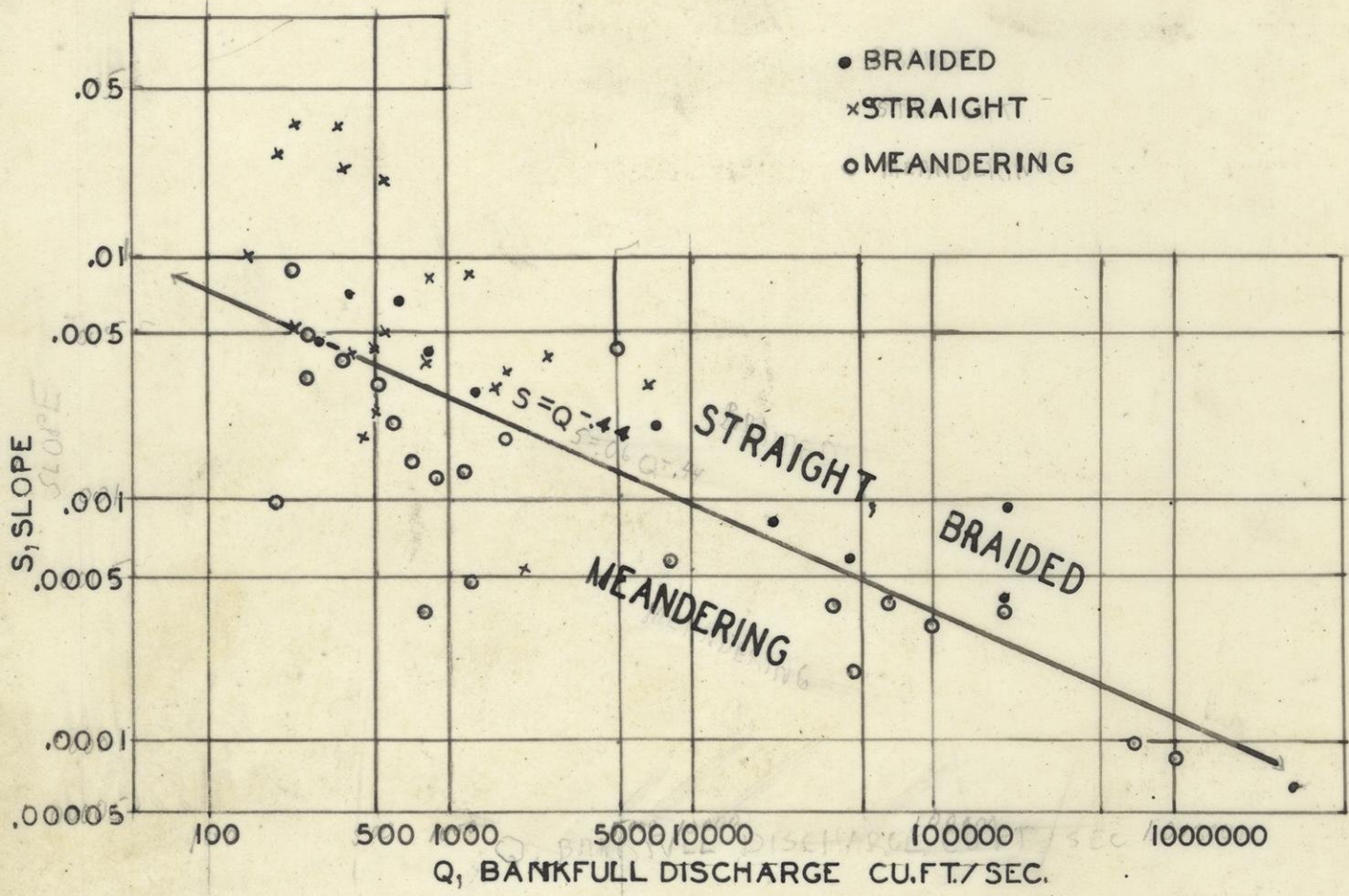


N

5 M.

10.20

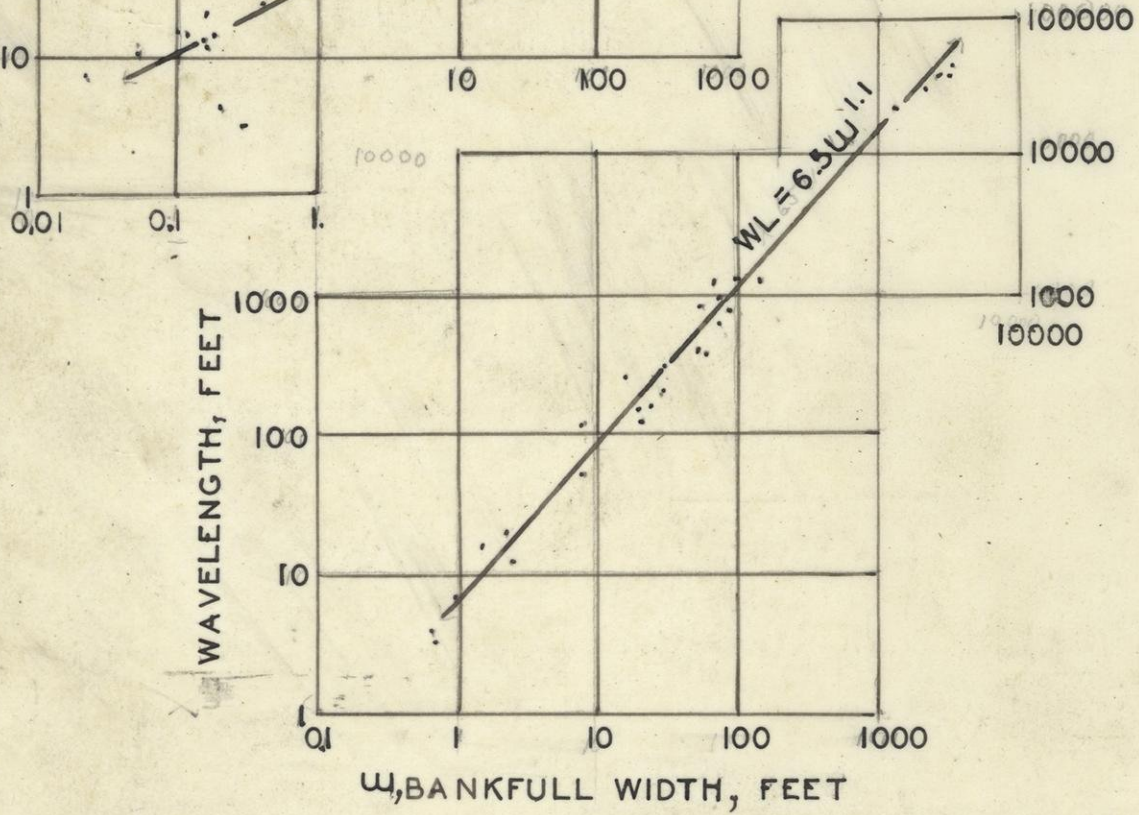
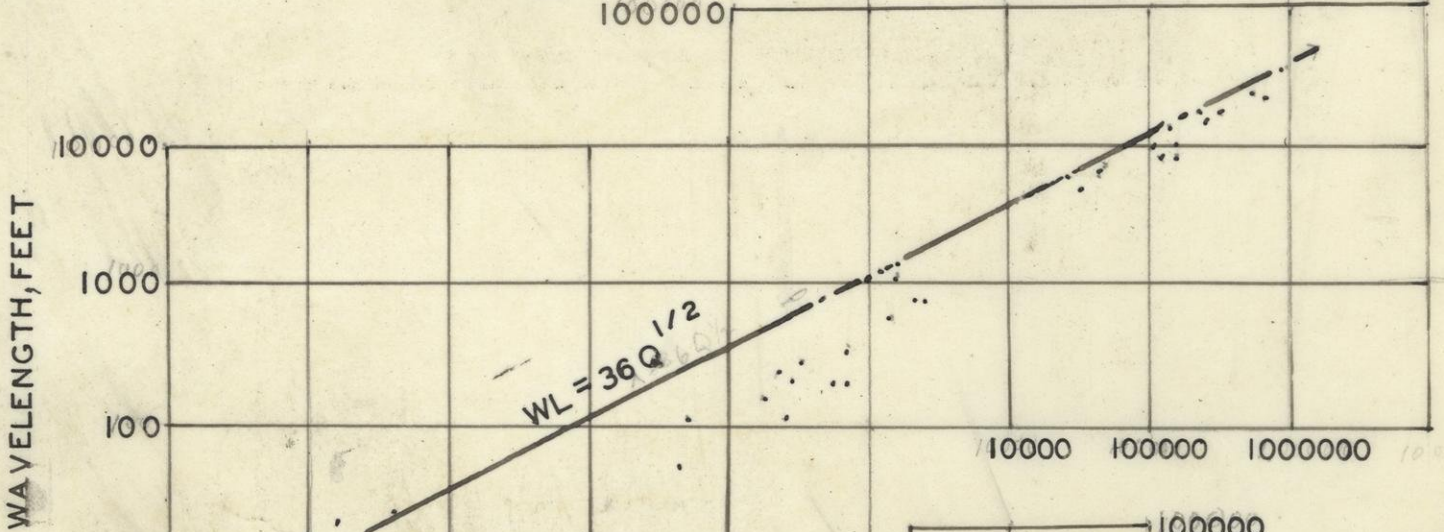
10-20



10.24

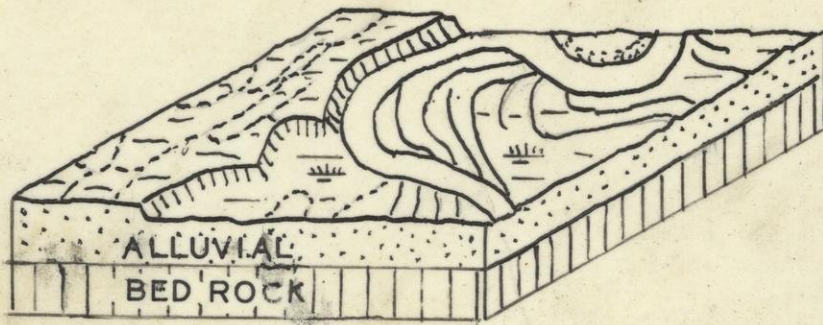
10.24

Q, BANKFULL DISCHARGE, CU.FT./SEC.



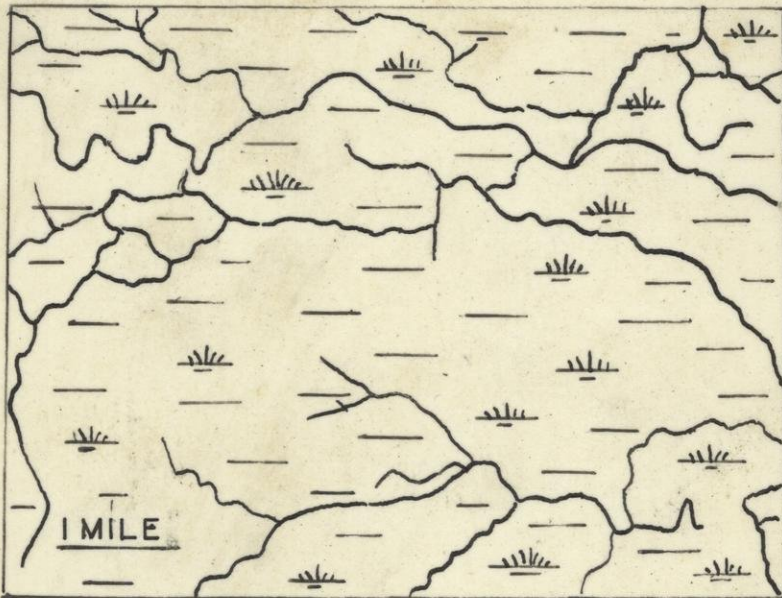
1025

10.25



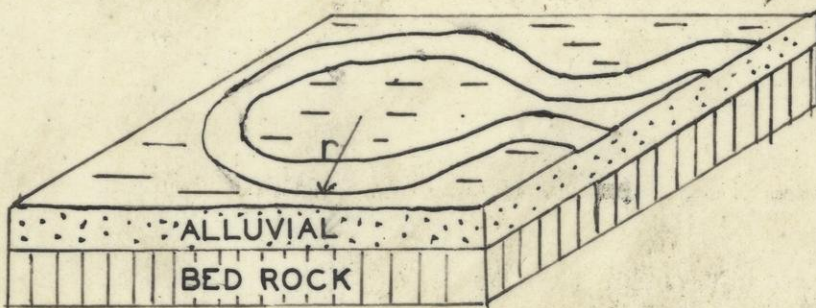
10.22

1022



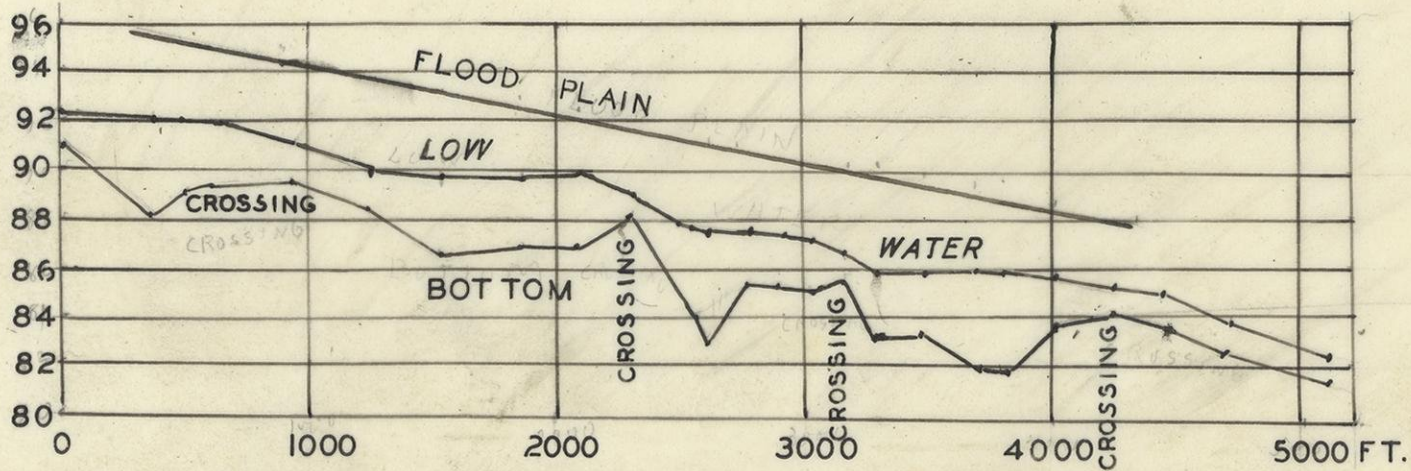
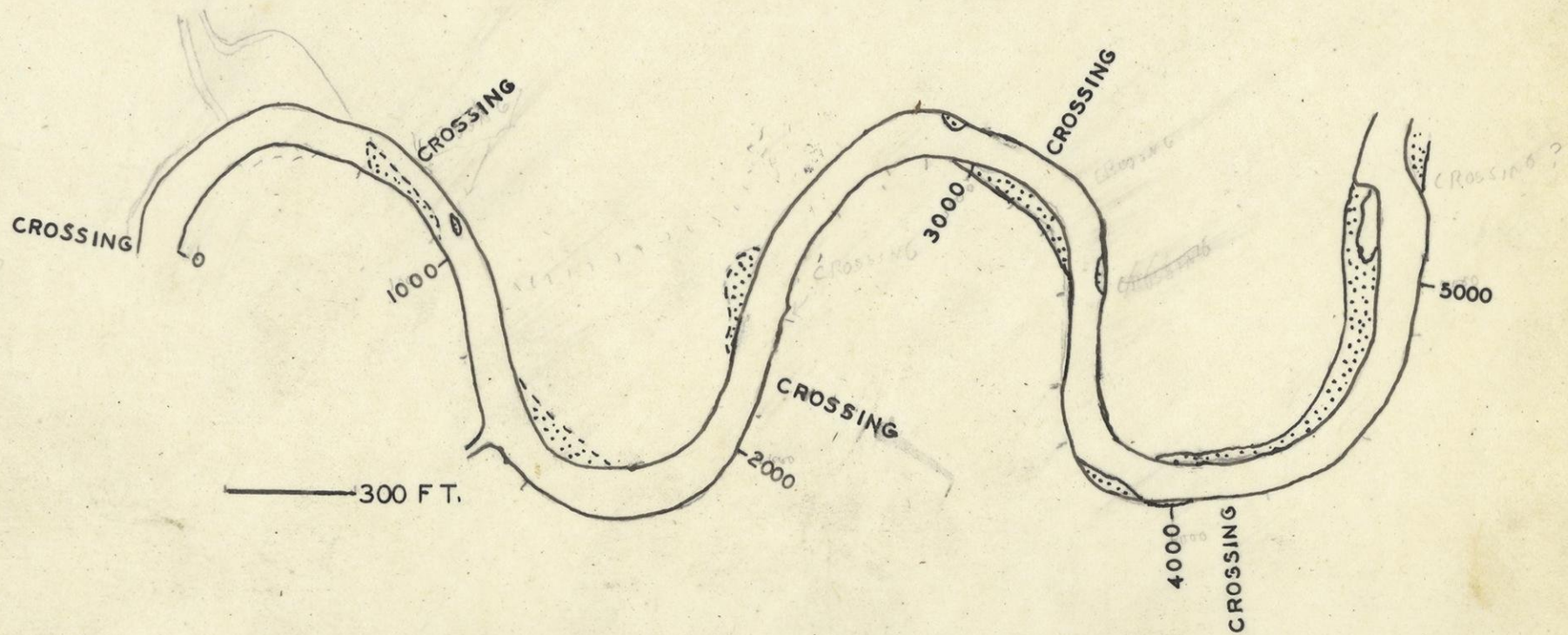
10.19

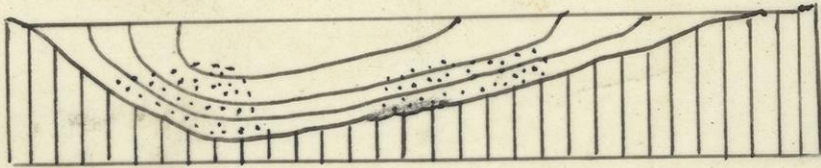
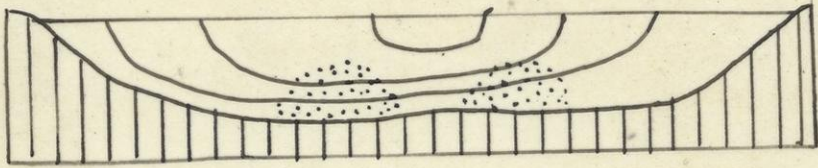
1019



10.23

1023

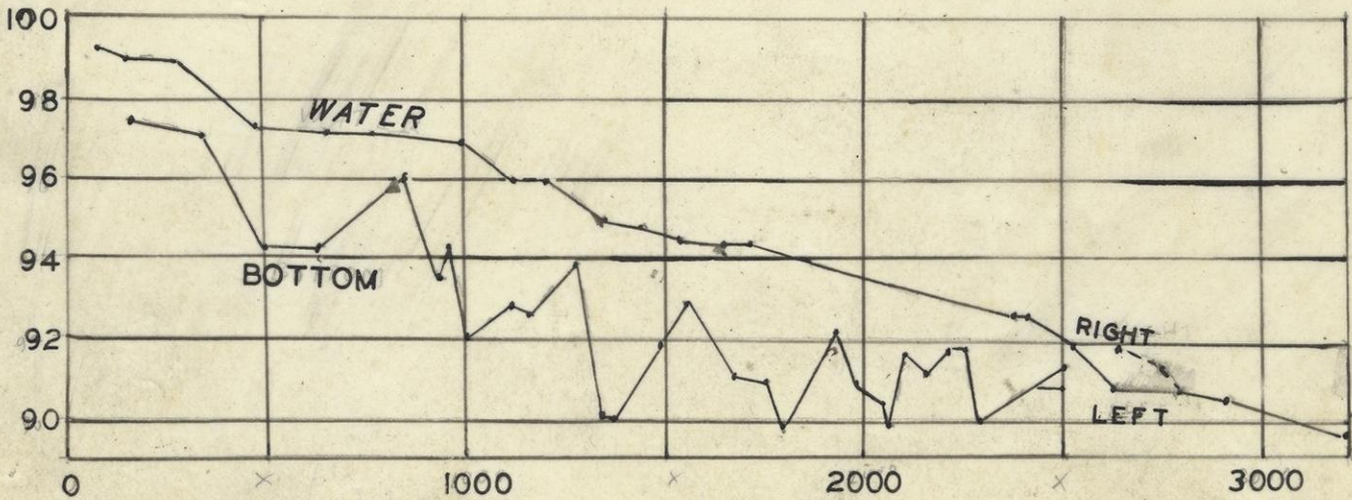
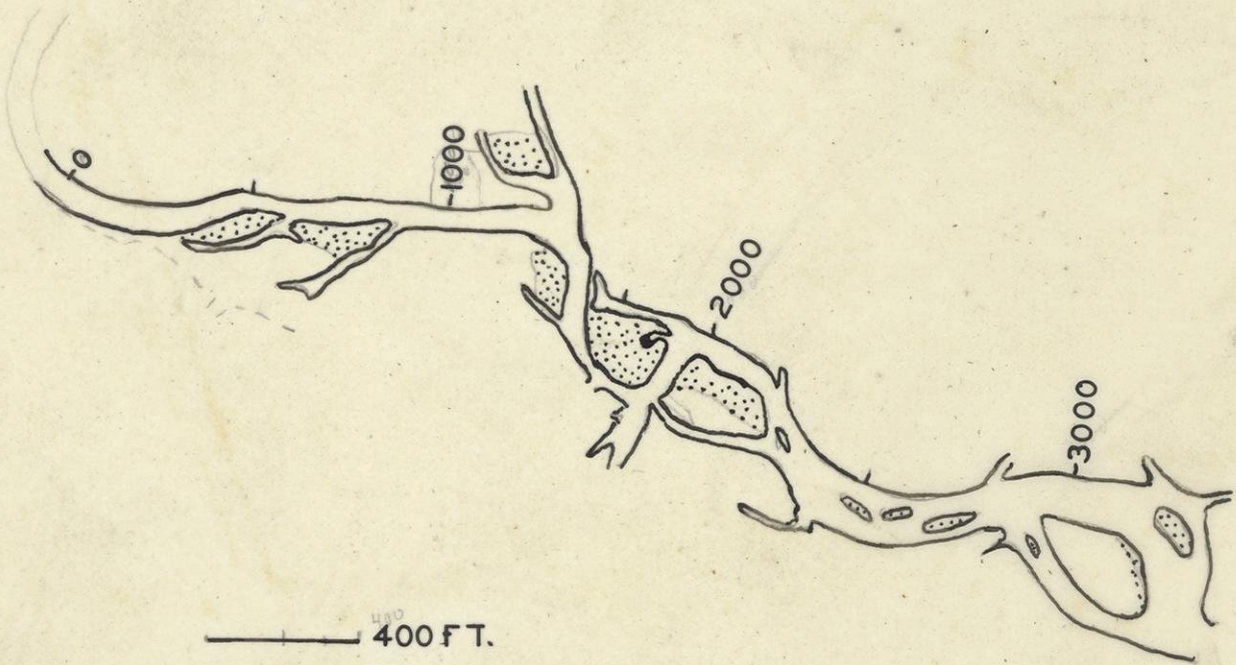




10.29

1029

10-13

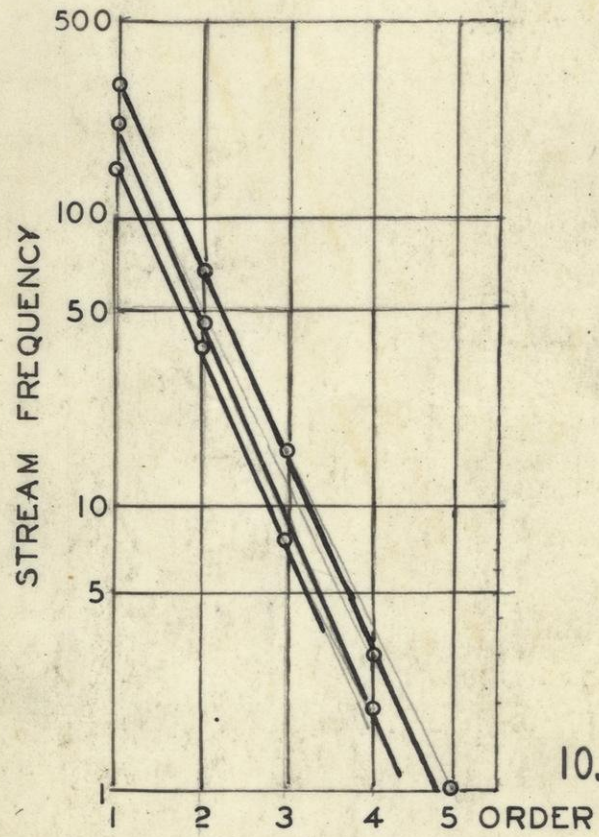


1026

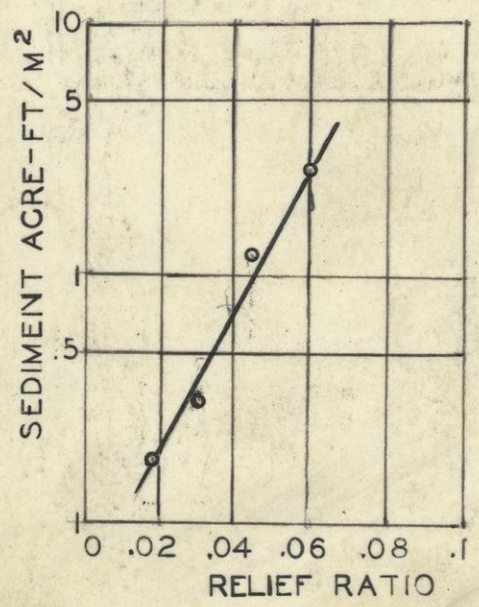
10.26

10-14

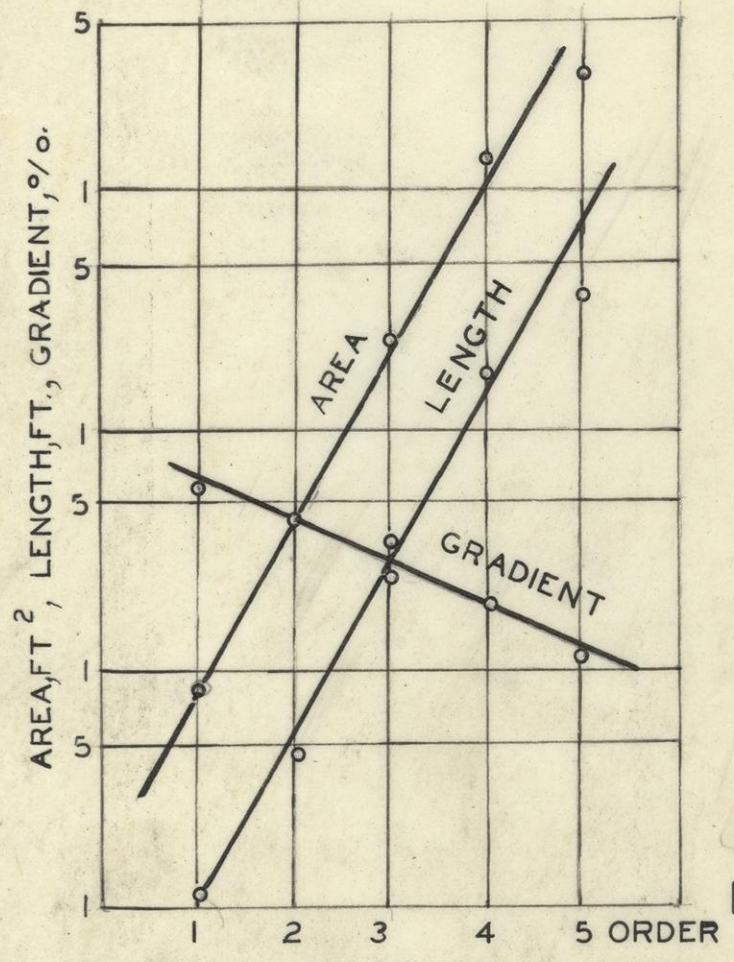
W?
?



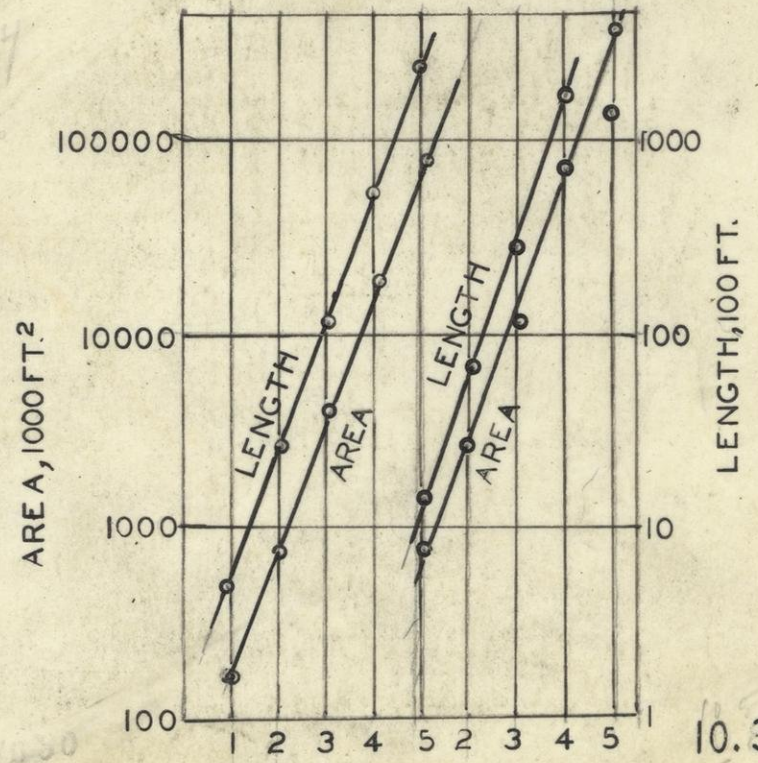
10.4



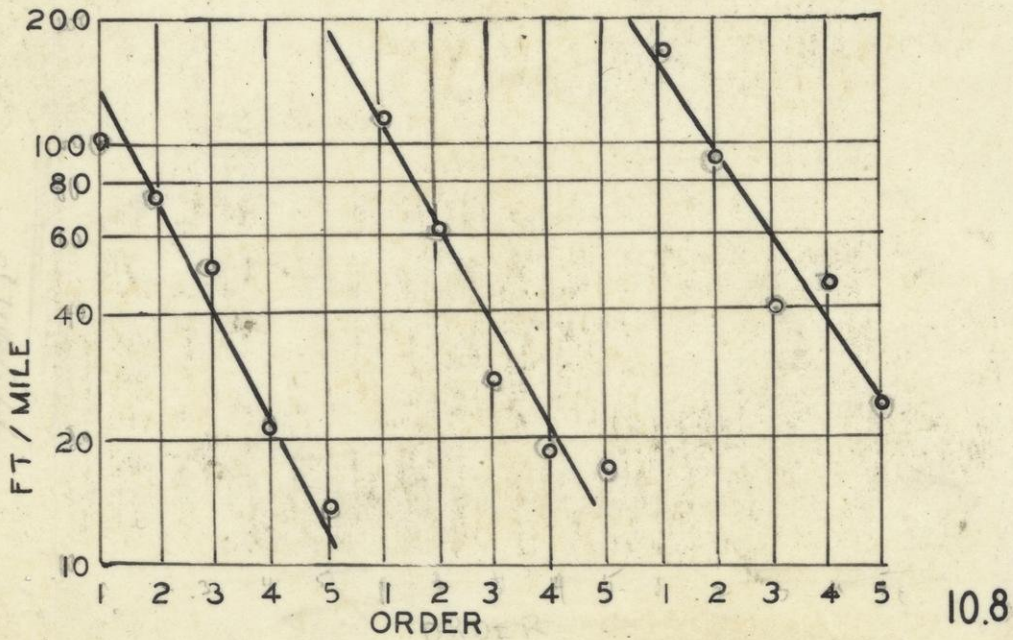
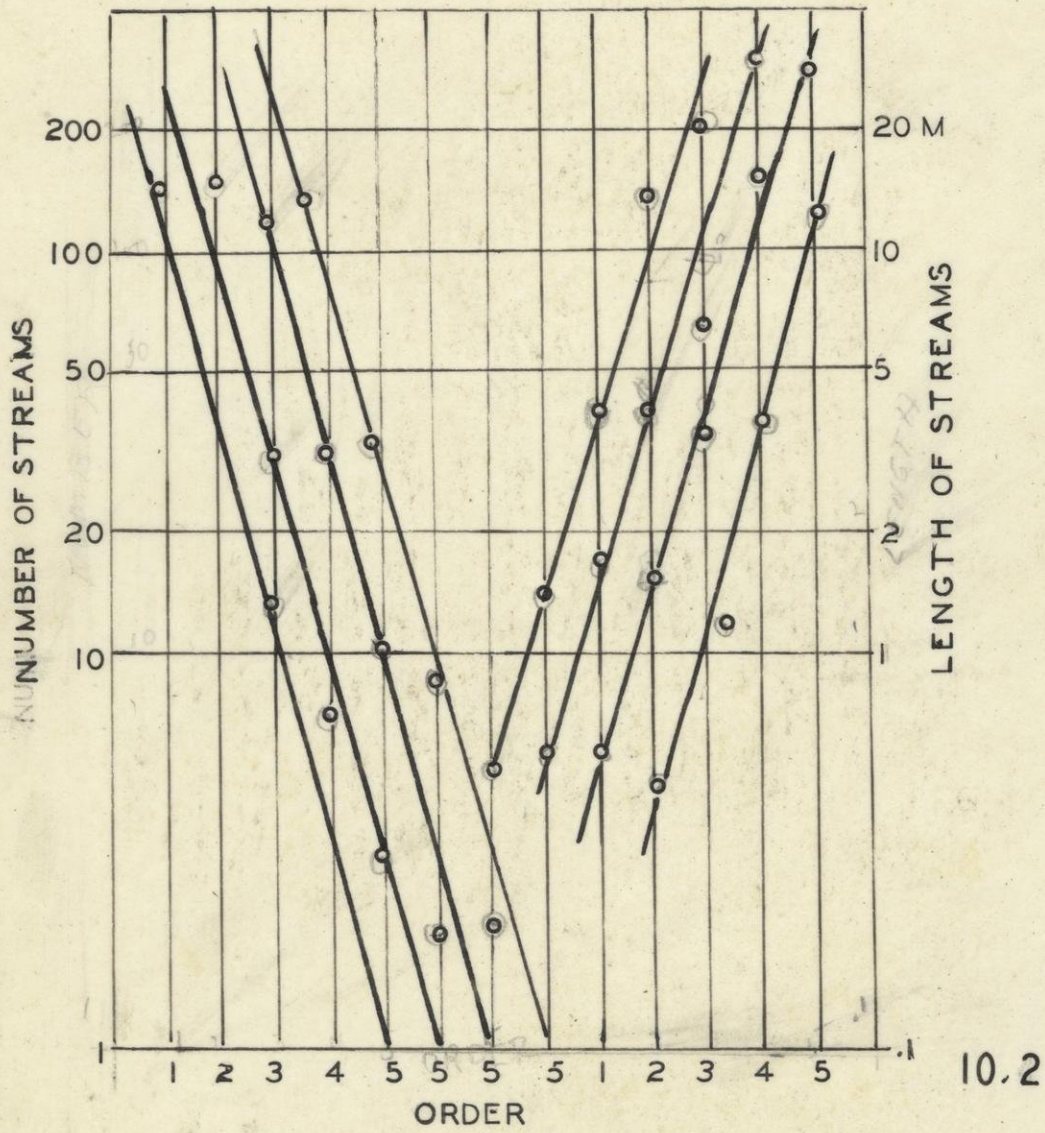
10.30



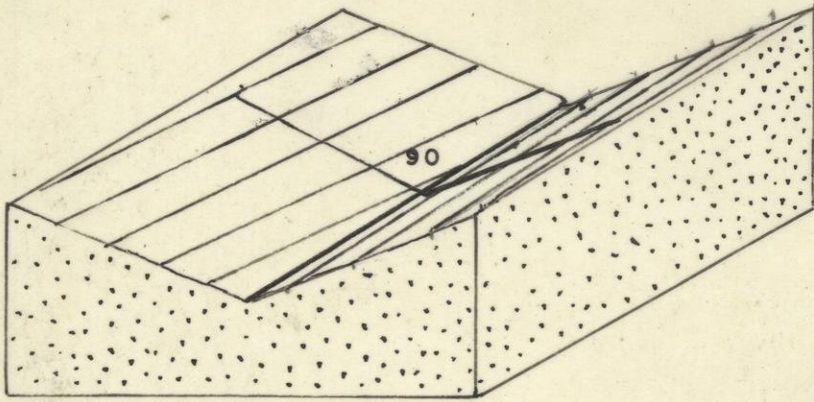
10.5



10.3

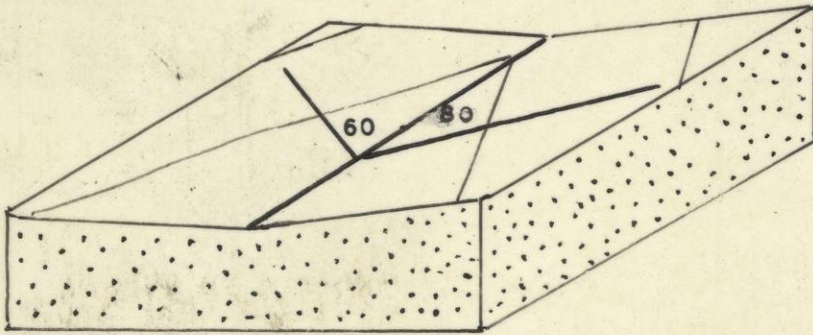


10.8



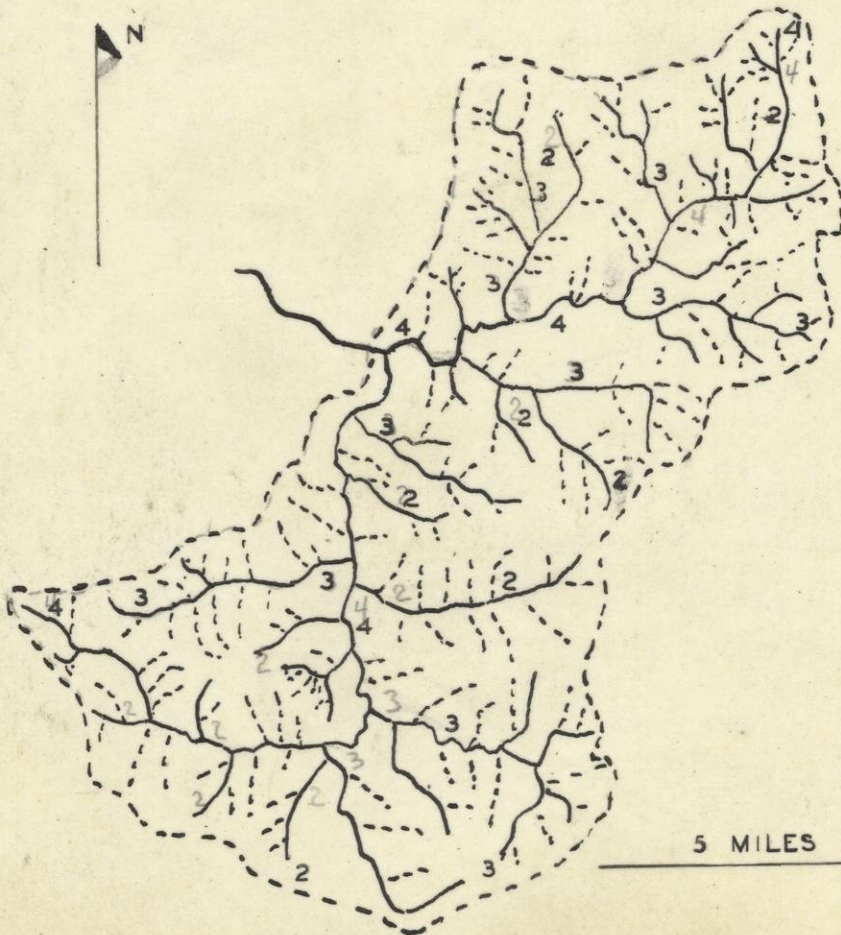
10.17

10.17



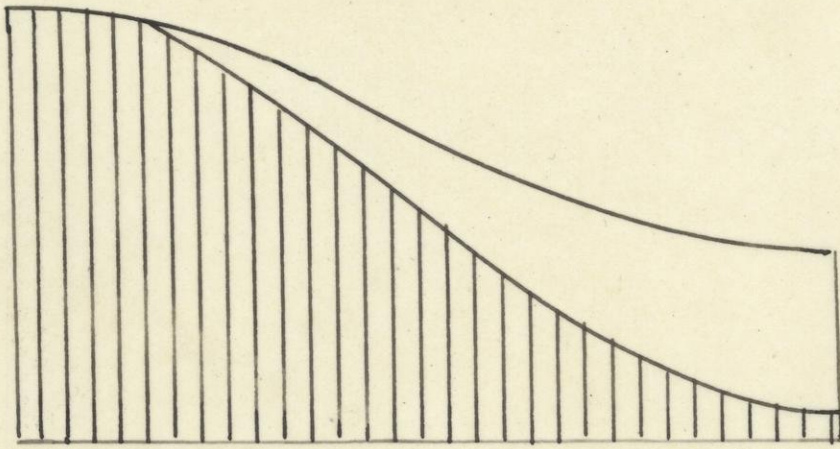
10.18

10.18



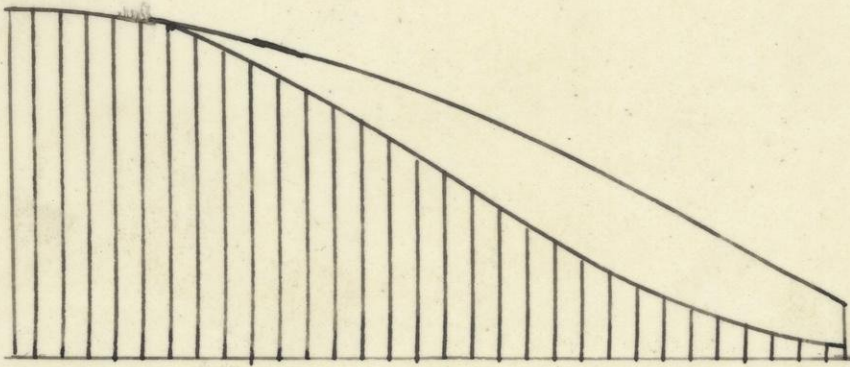
10.1

10.1



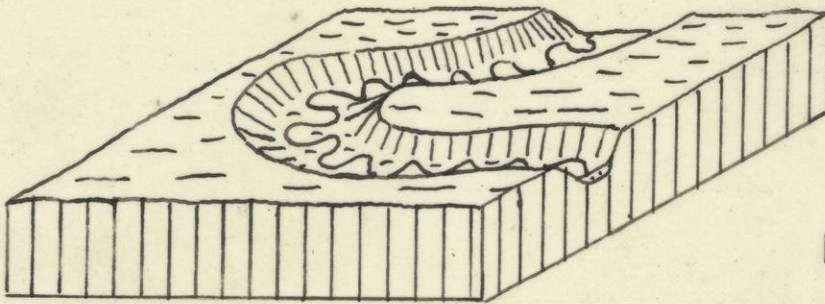
11.1

11-1



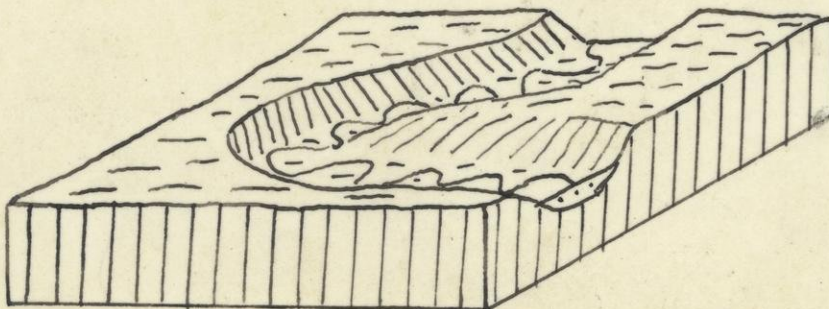
11.2

11-2



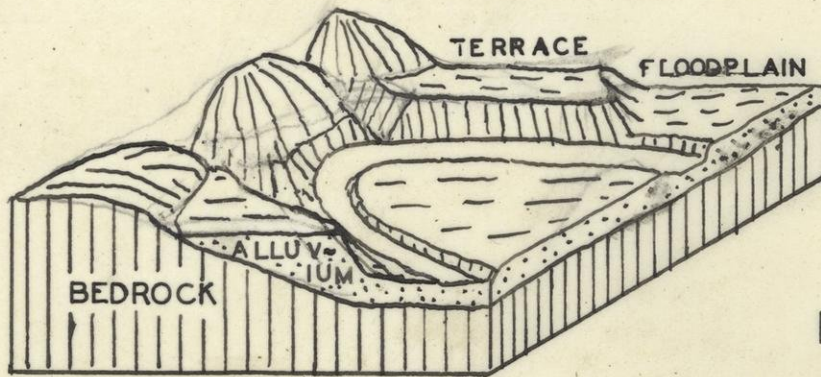
11.6

113
116 on



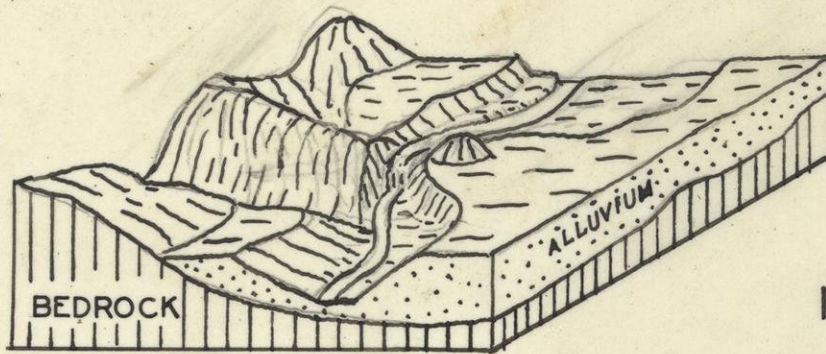
11.7

11.7



11.8

11.8

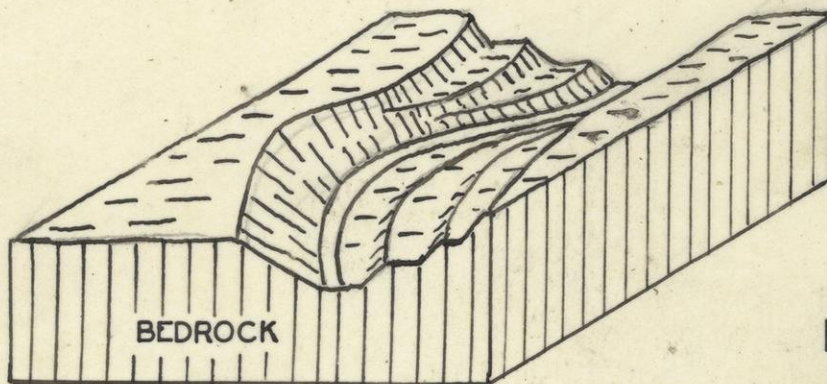


11.9

11.9

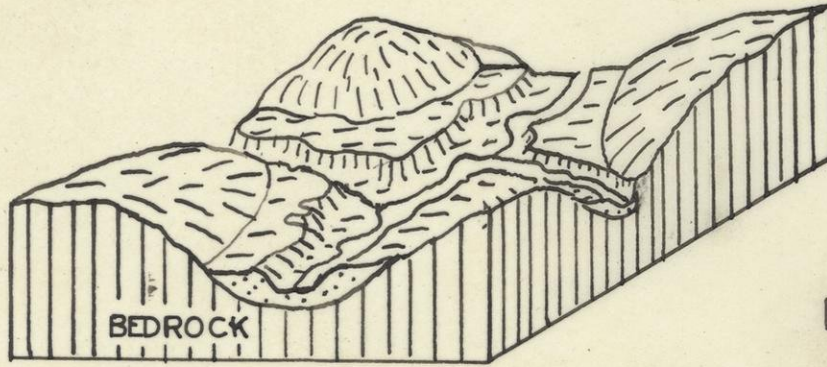
OK

11.9



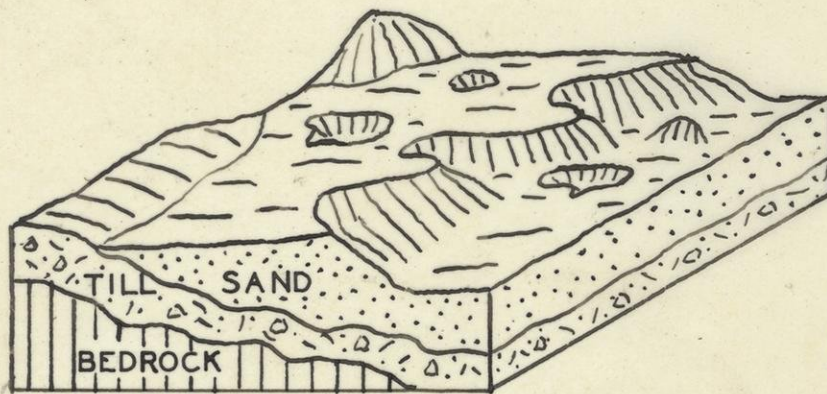
11.4

11.4

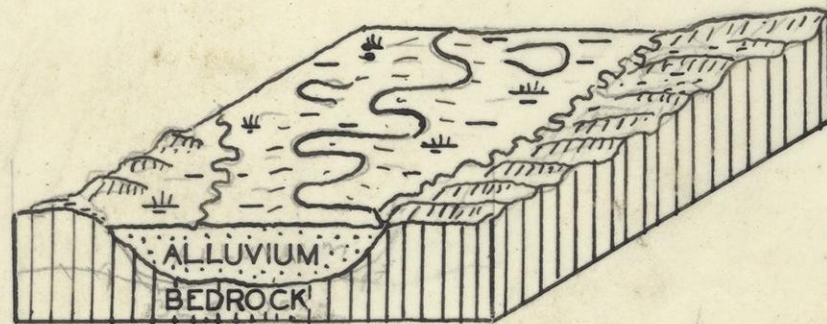


11.5

11.5

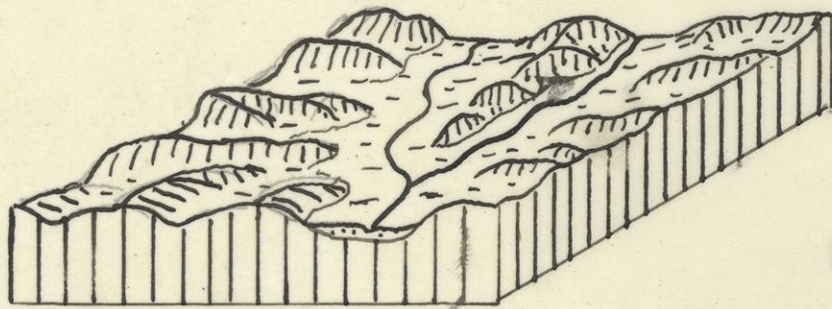


11.9

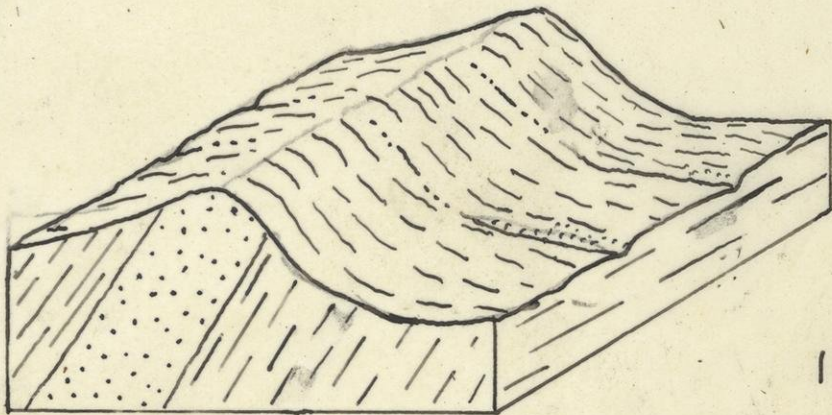


11.10

✓

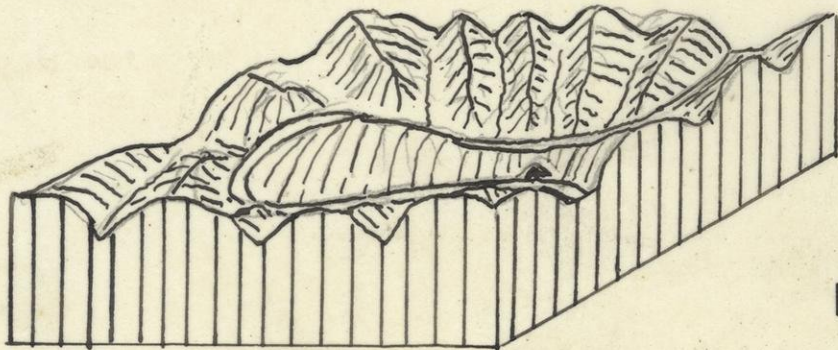


11.11 ✓



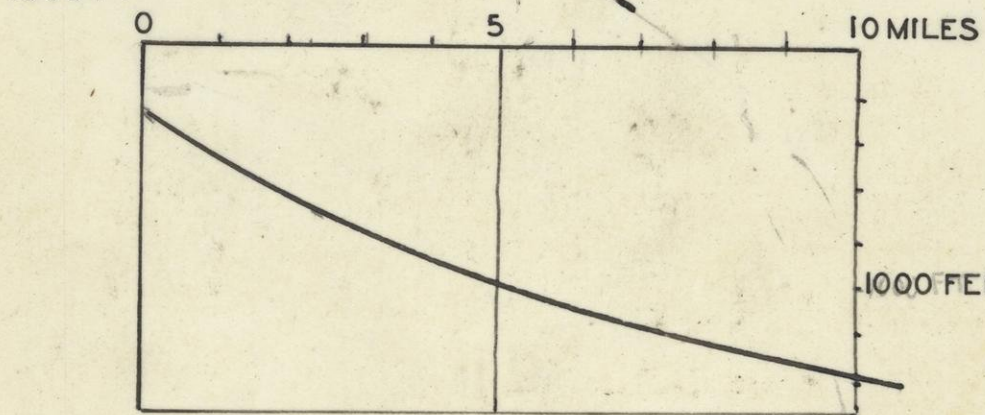
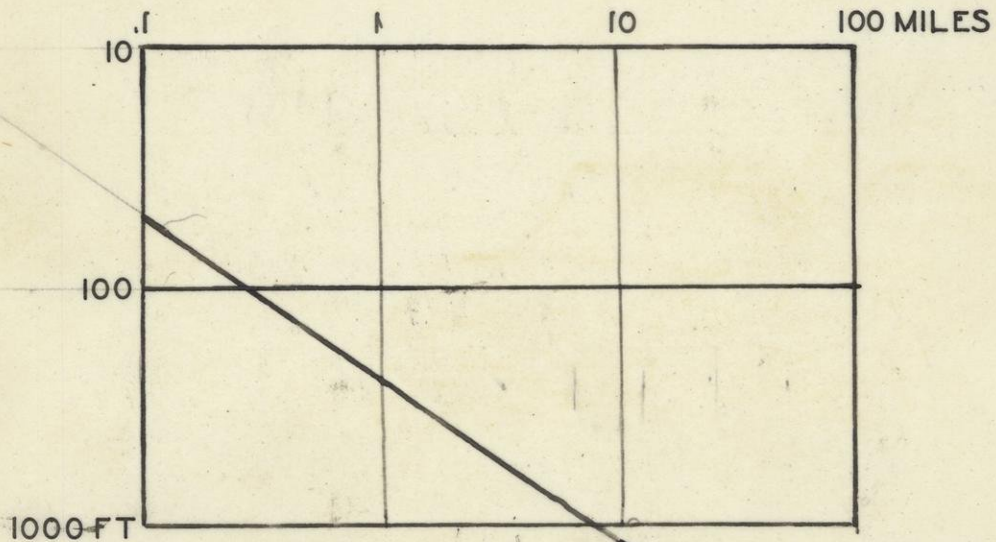
11.3

11.3



11.12

11.12



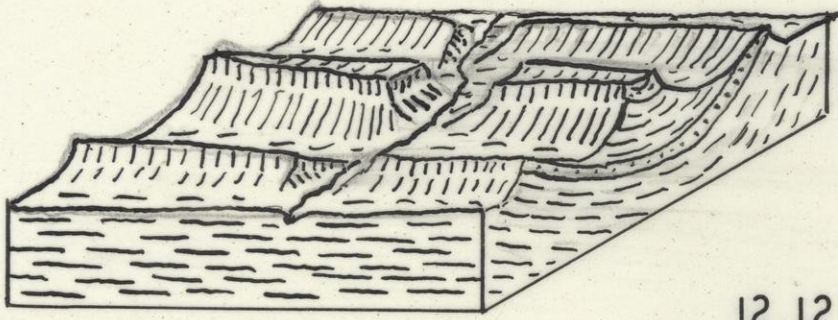
11.13

11.13

11.14

12.12

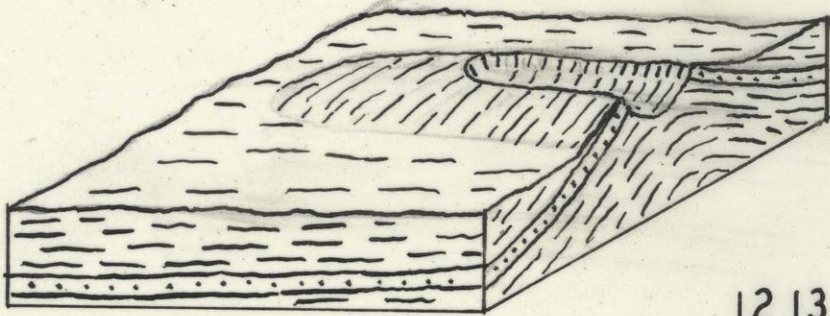
Synclinal



12.12

✓

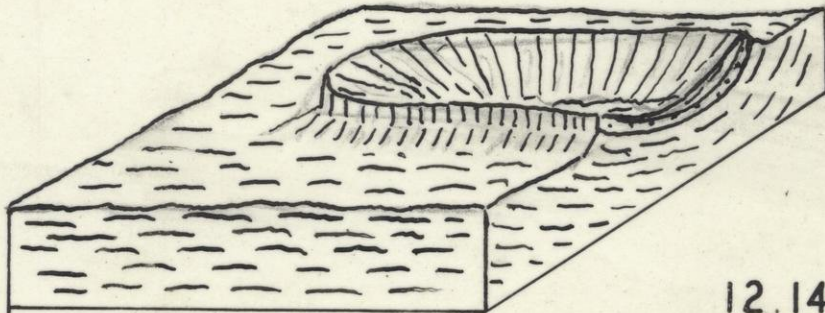
plug out



12.13

✓

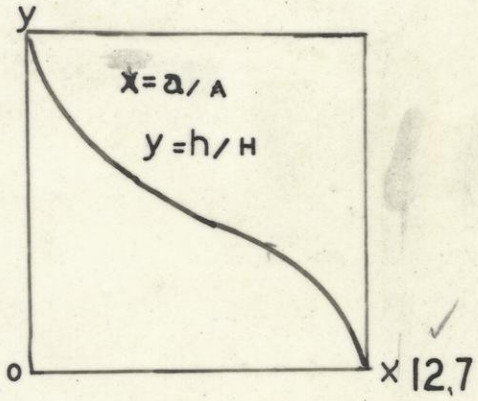
plug out



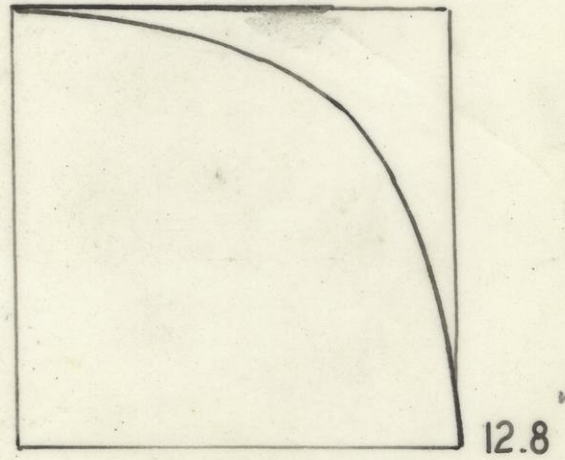
12.14

✓

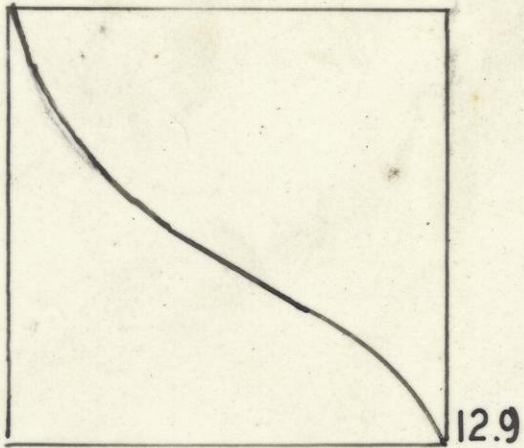
12-7



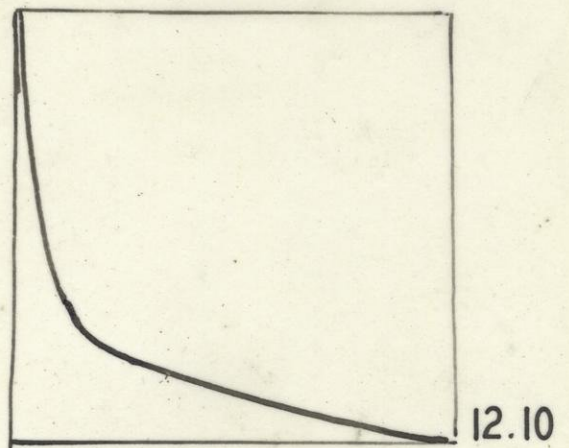
12-8

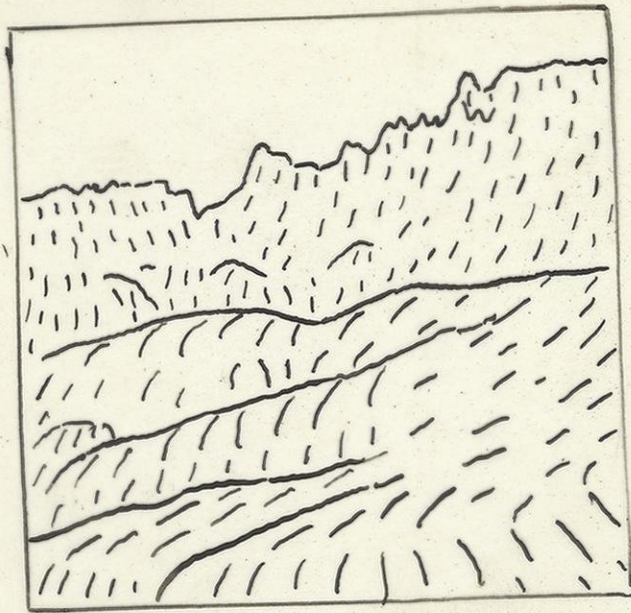


12.9

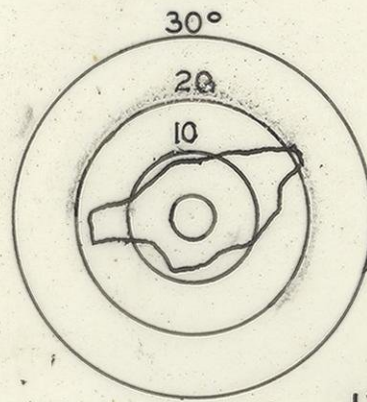


2.10

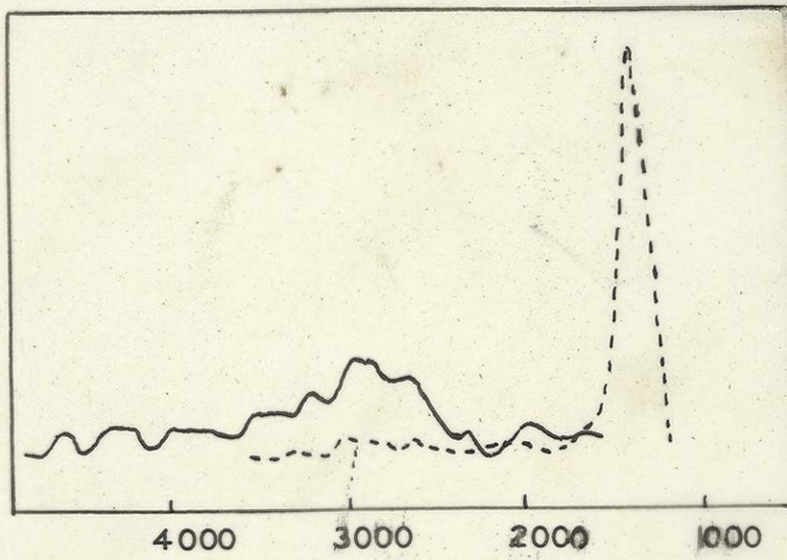




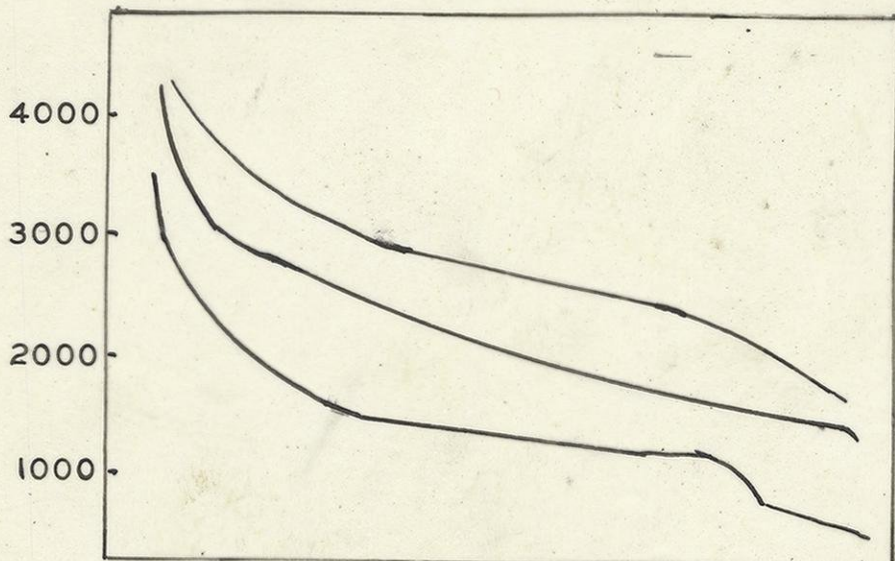
12.3



12.4 ✓

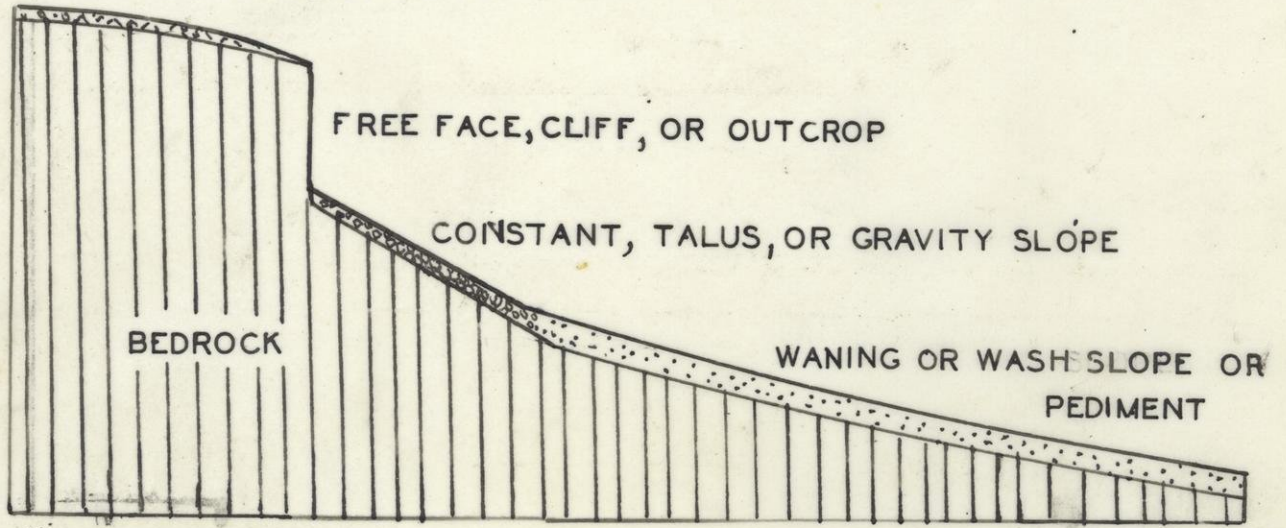


12.5 ✓



12.6 ✓

WAXING OR CONVEX SLOPE



12.1



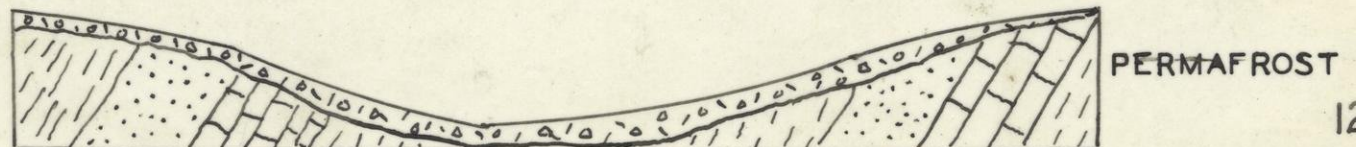
ARID



SEMIARID



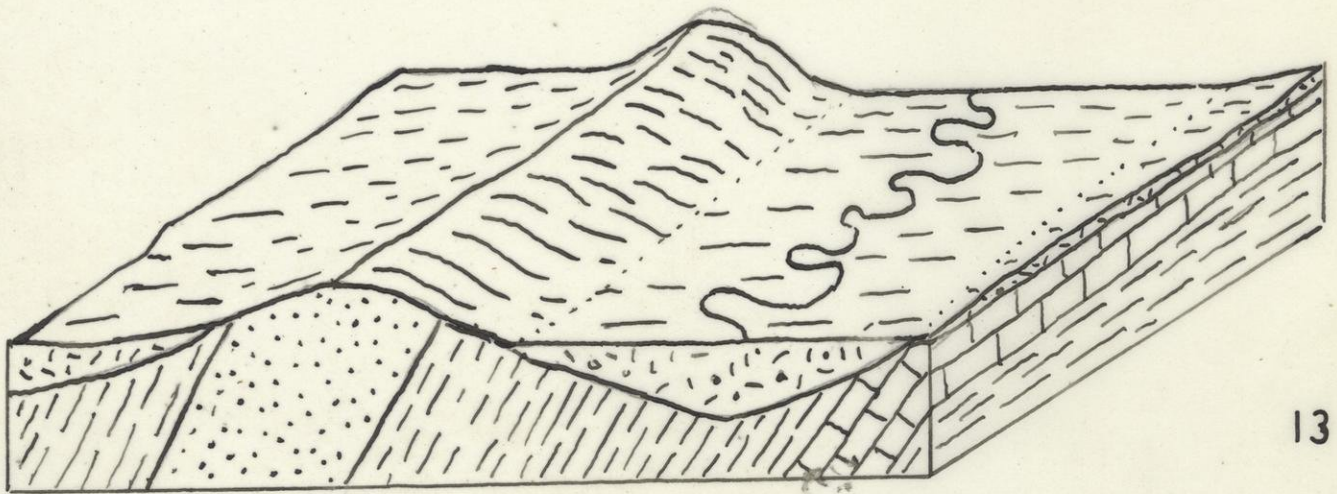
HUMID



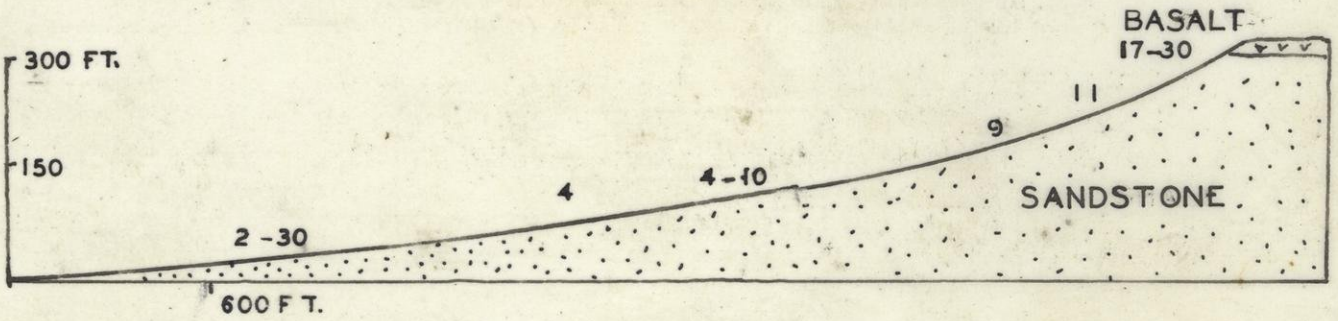
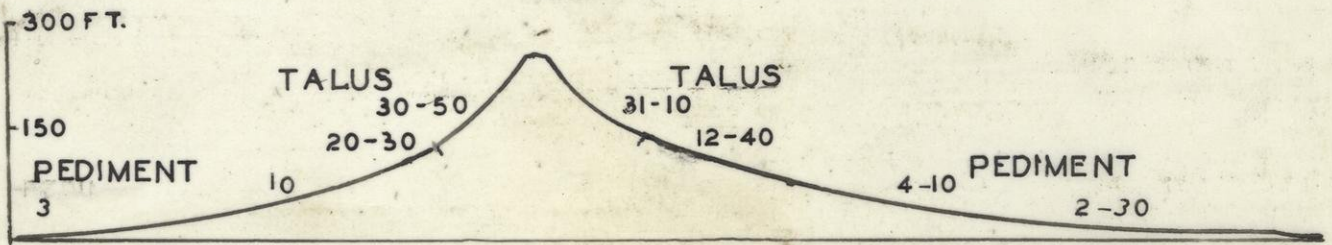
PERMAFROST

12.2

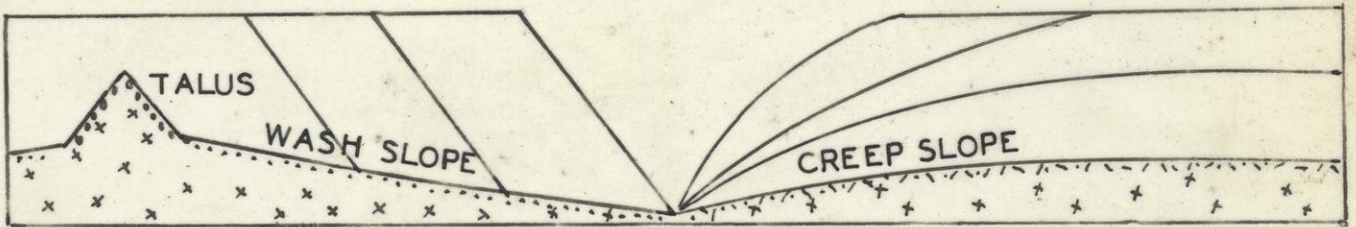
12.2



13.1 ✓

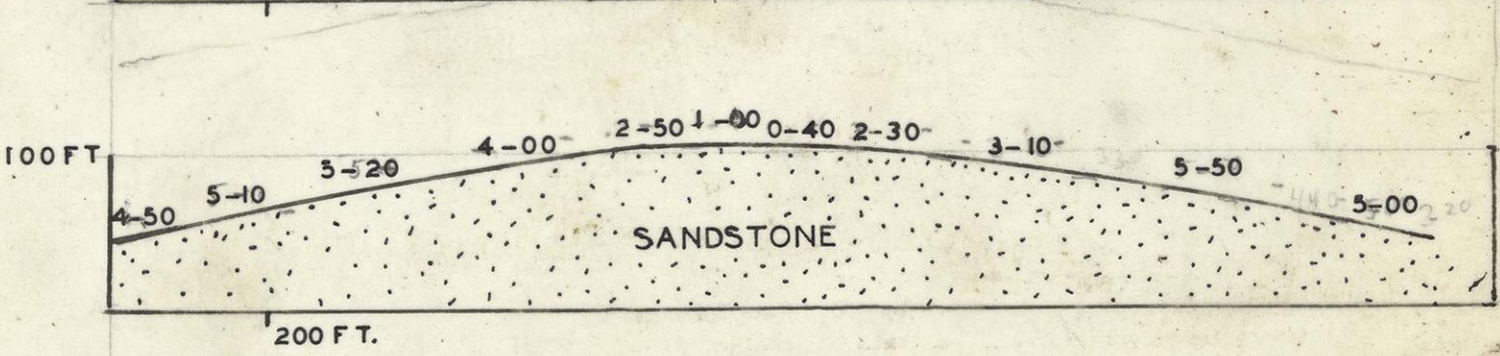
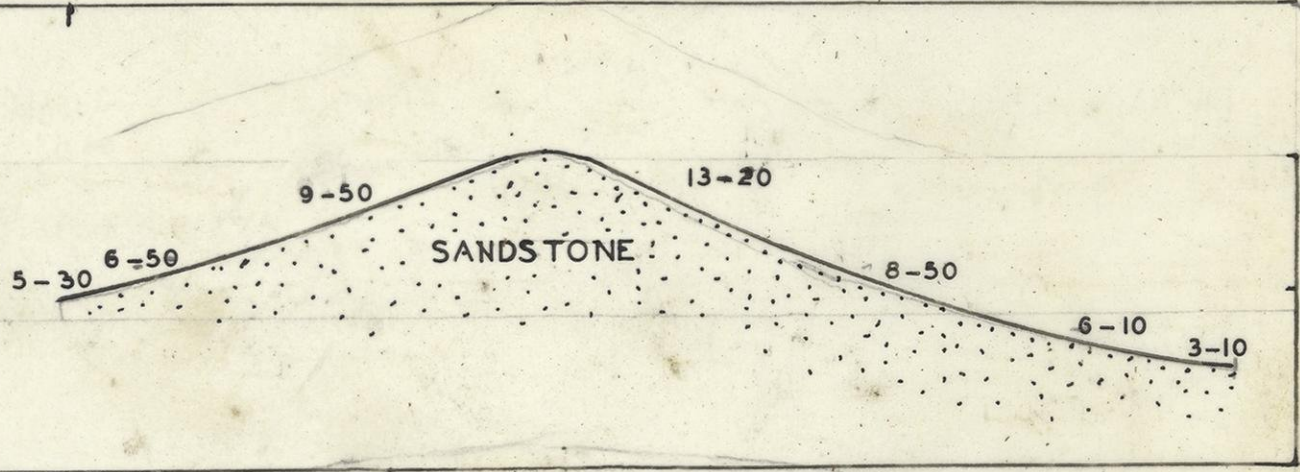
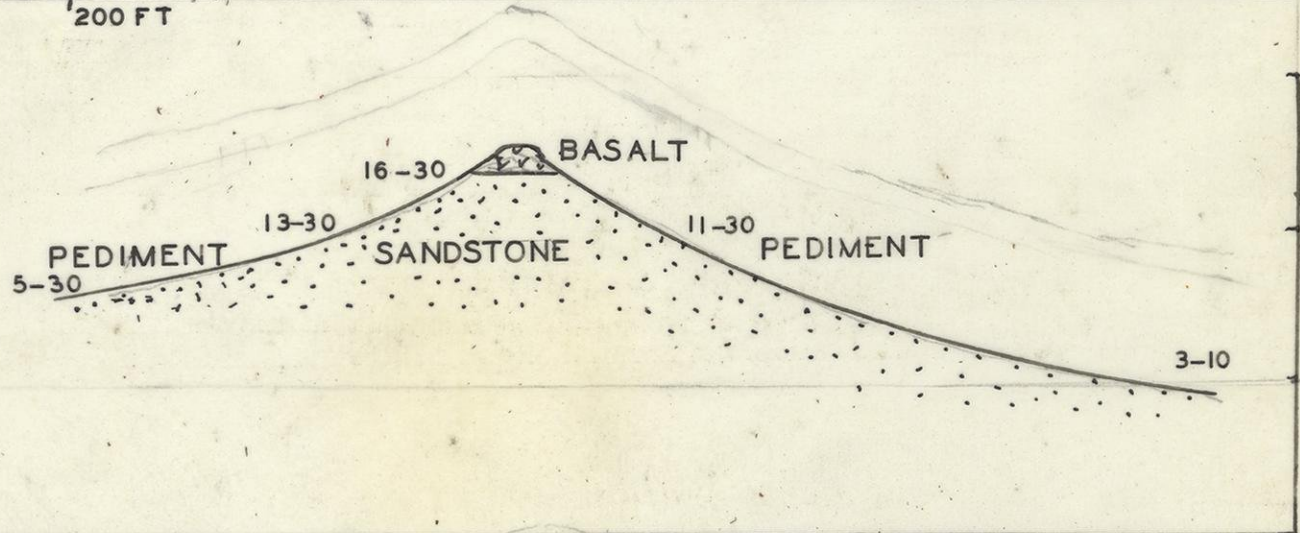
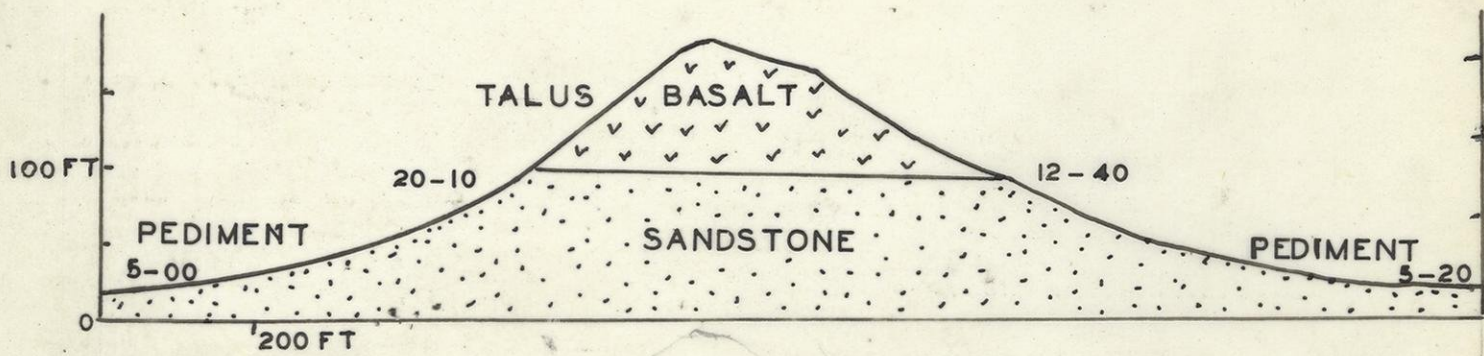


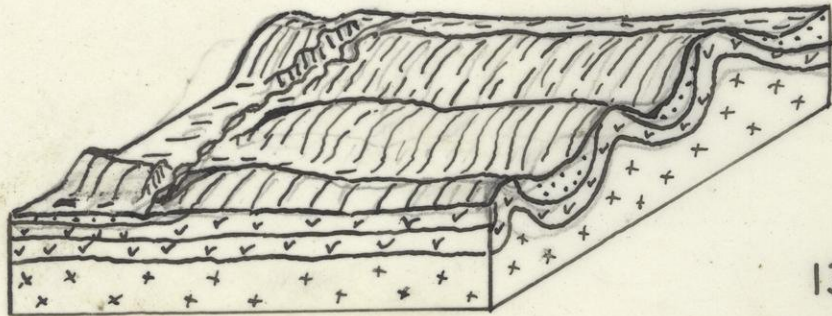
13.4



13.5

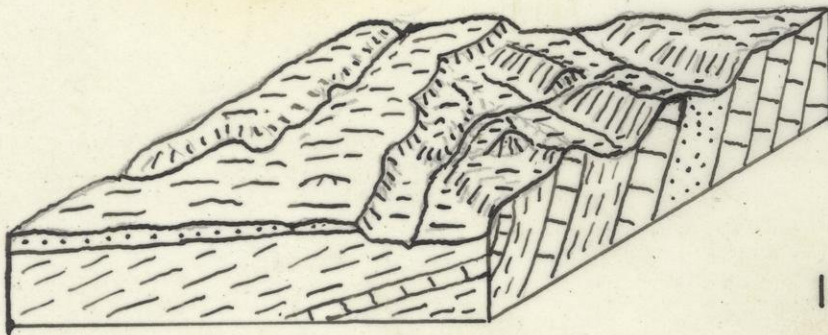
13.5





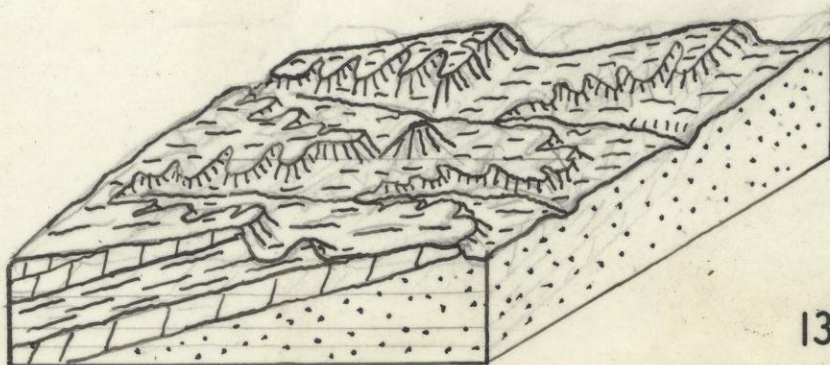
13.7

13.7



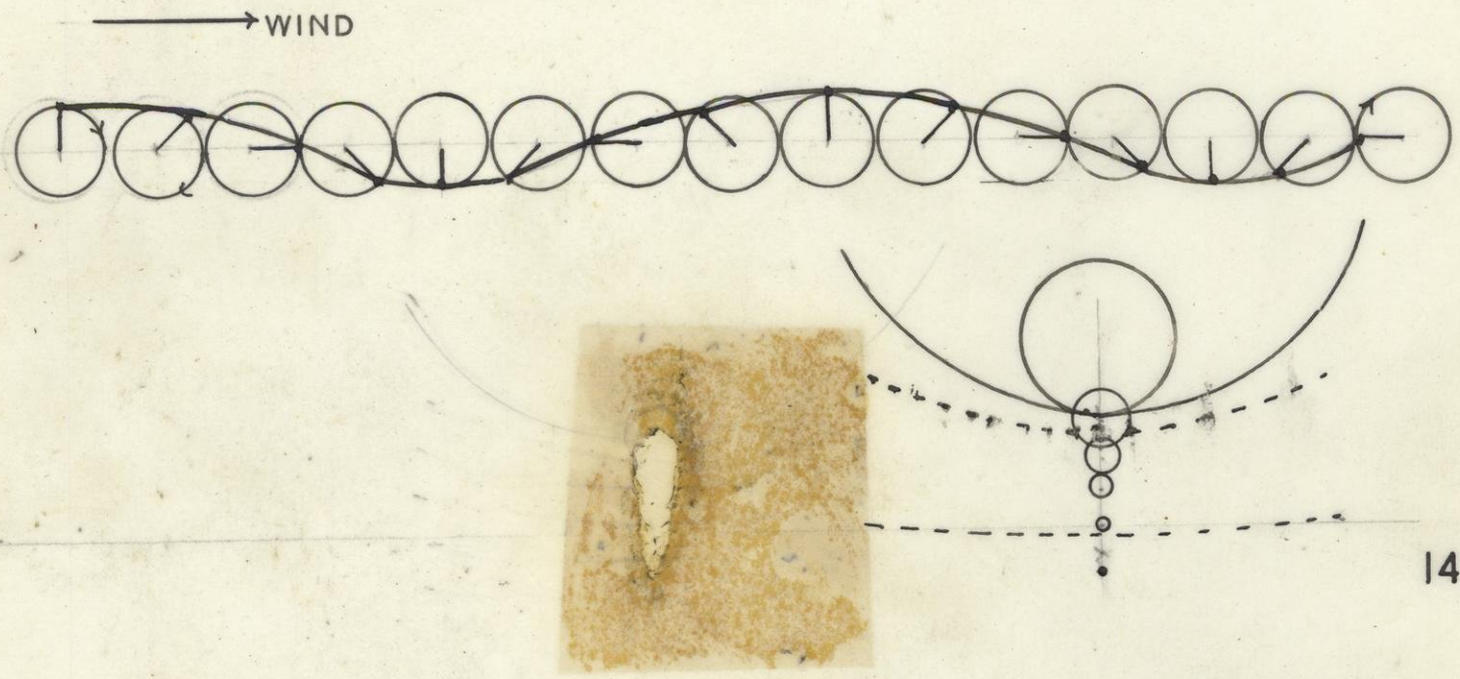
13.2

13.2

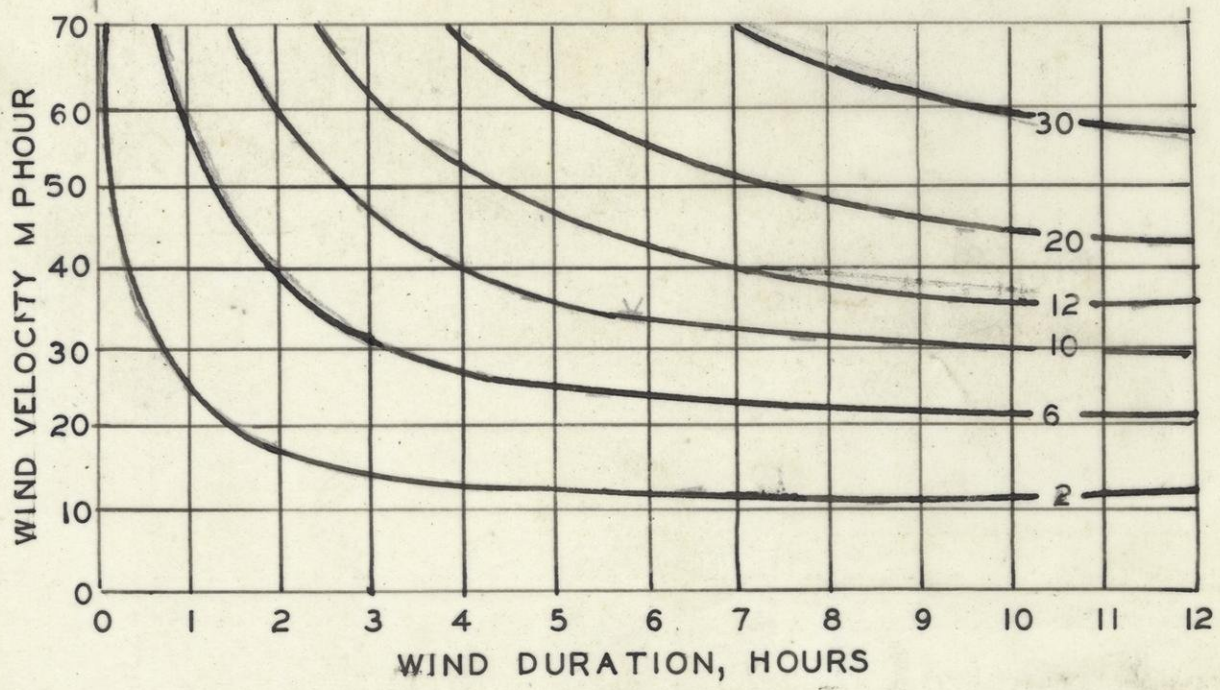


13.3

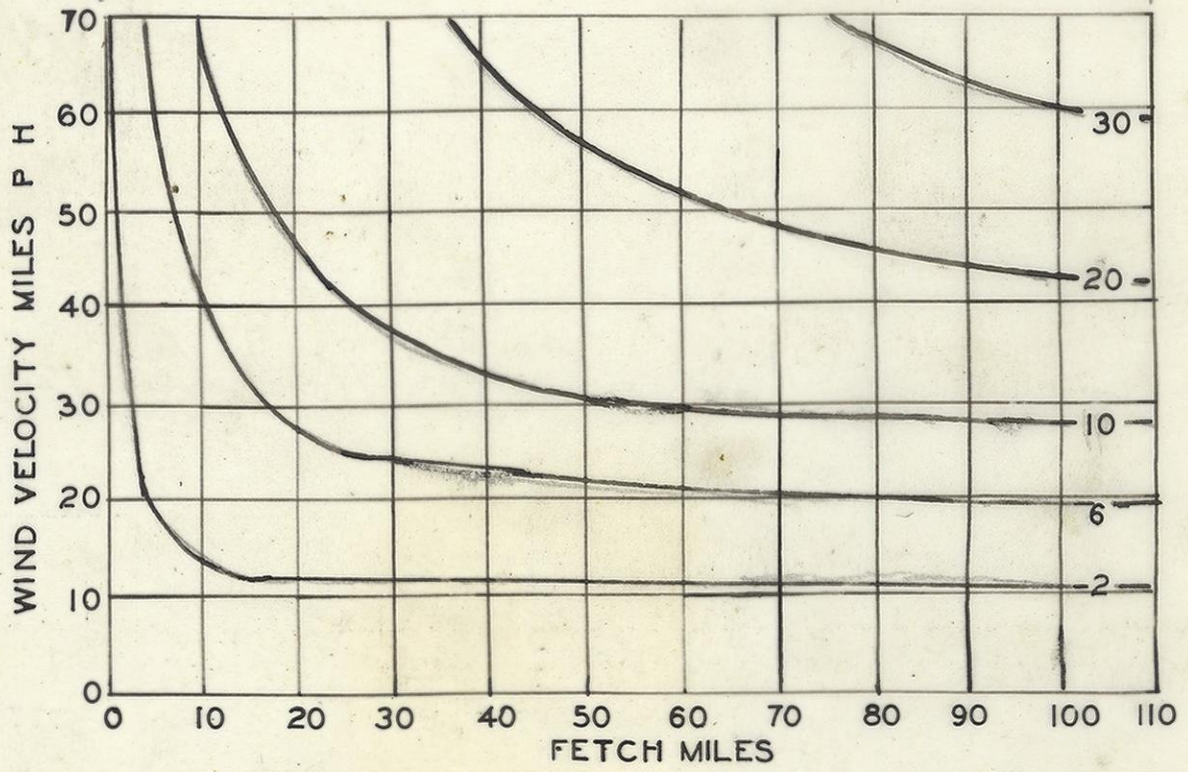
13.3



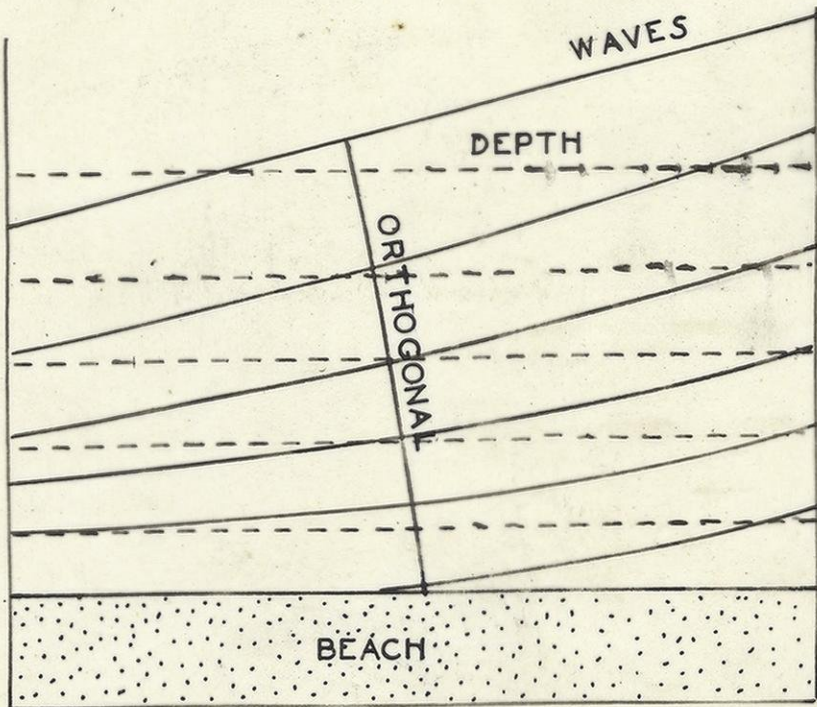
14.1 ✓



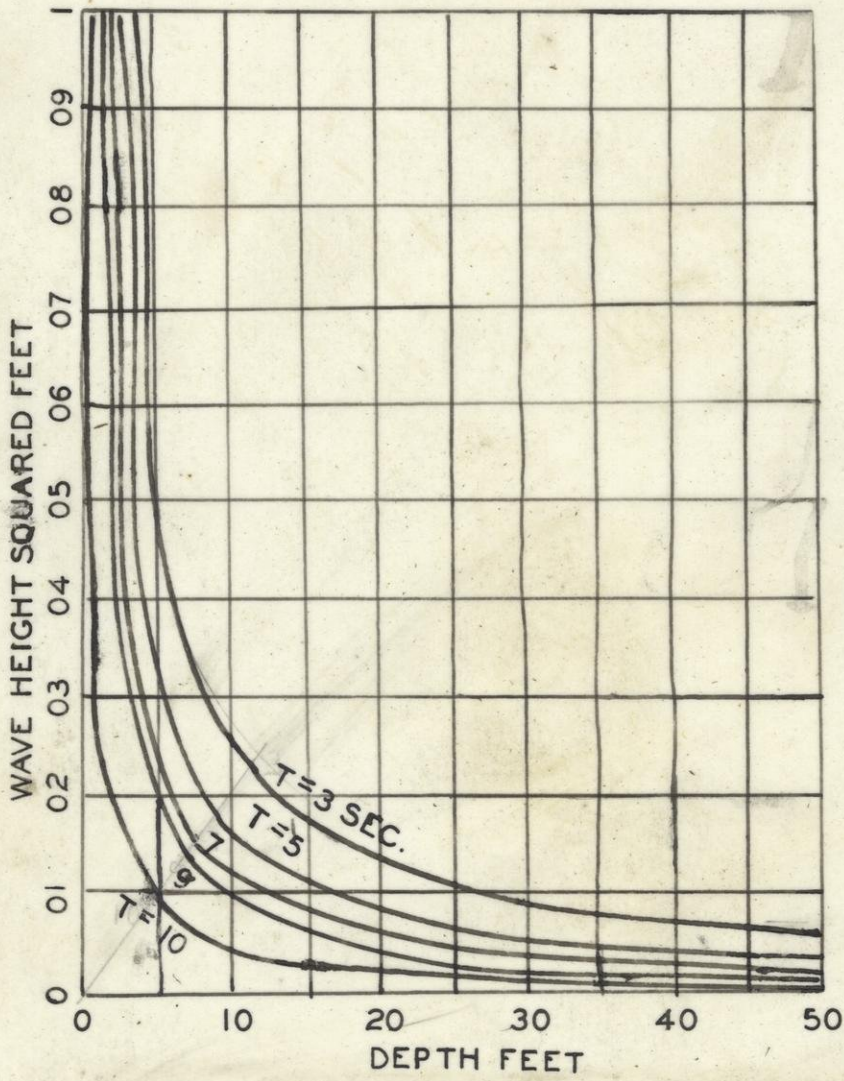
14.2



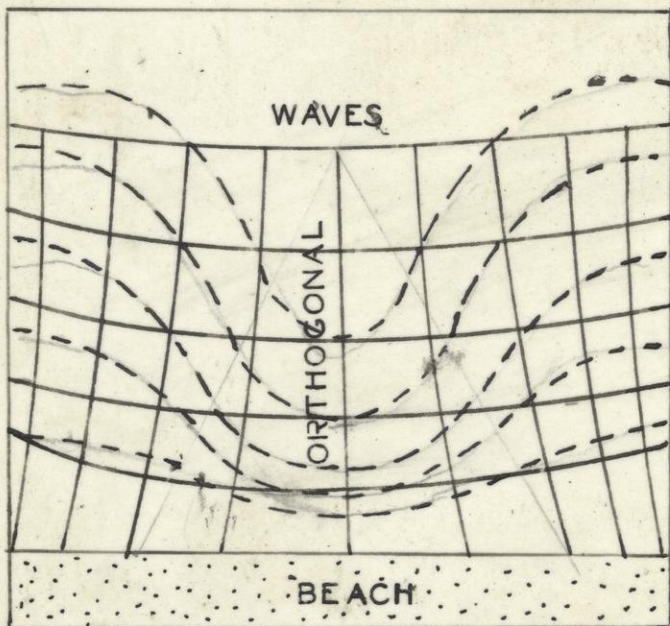
14.3 ✓



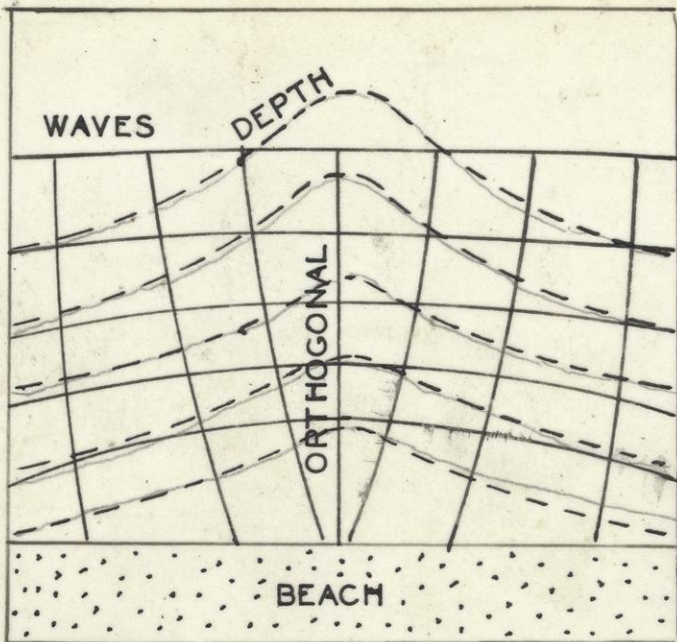
14.4 ✓



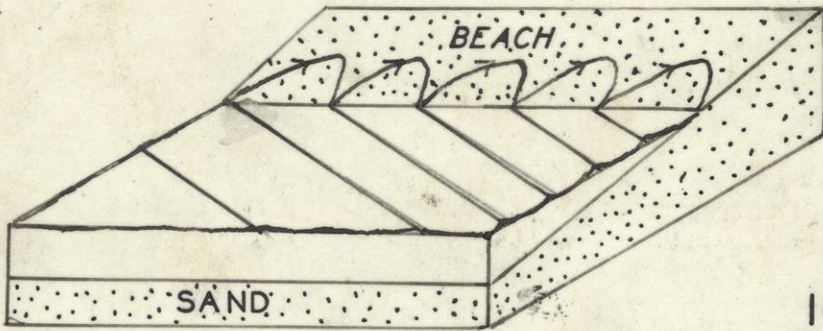
14.5 ✓



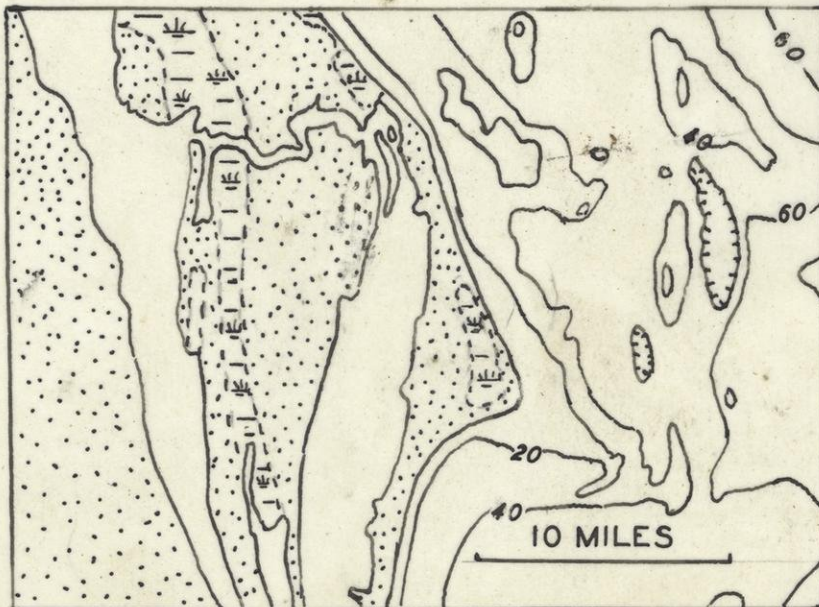
14.6 ✓



14.7 ✓

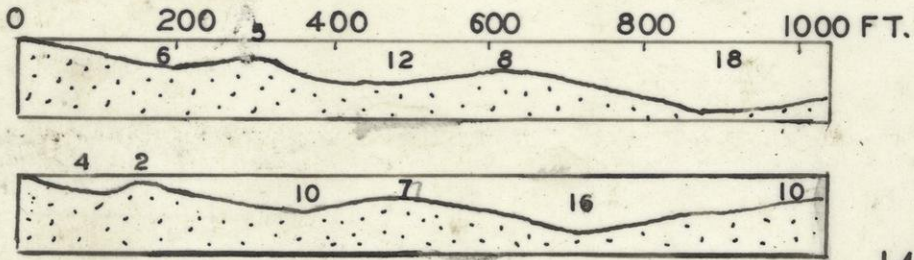


14.8 ✓

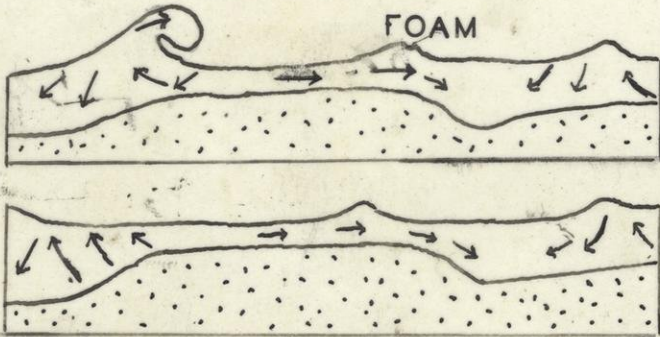


14.16

1416

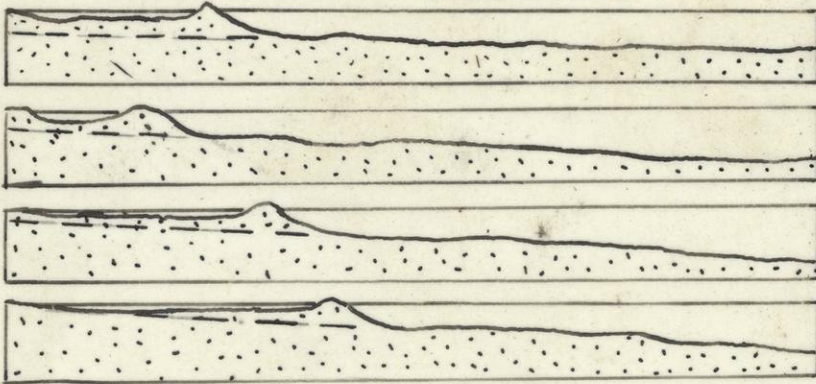


1414
14.14

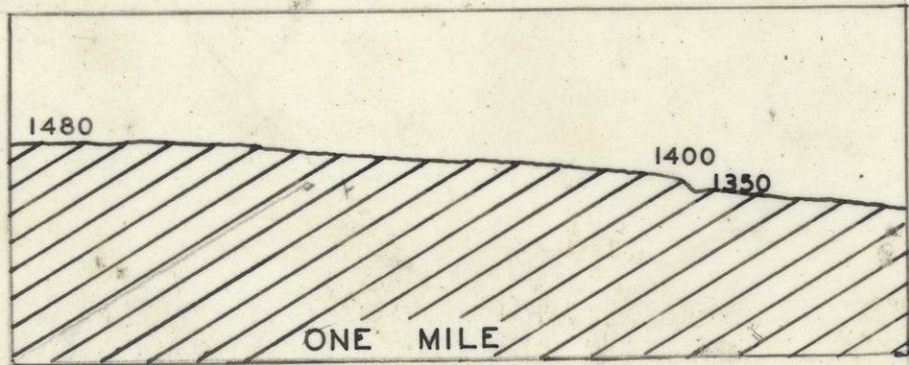


1415
14.15

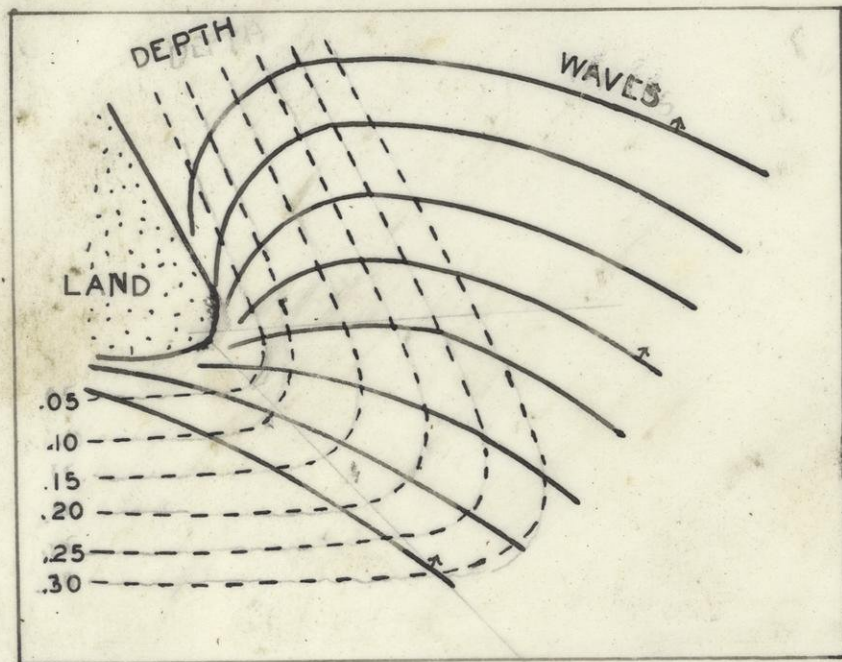
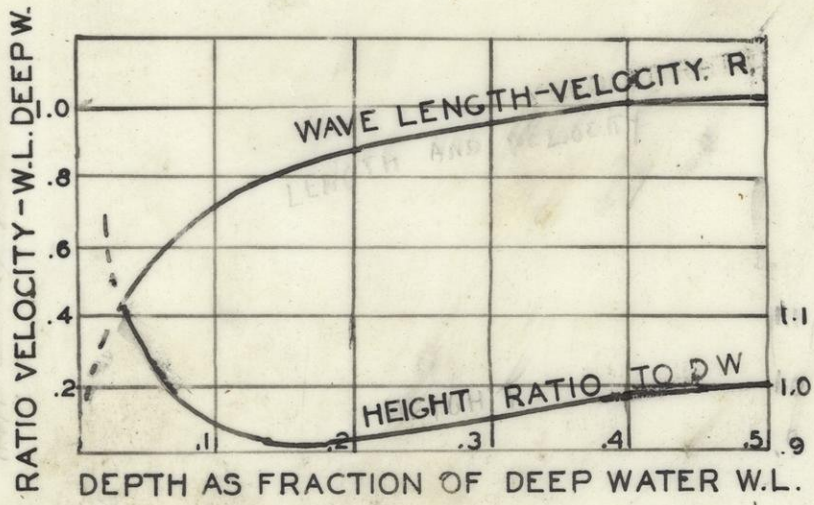
6 MILES



1413
14.13

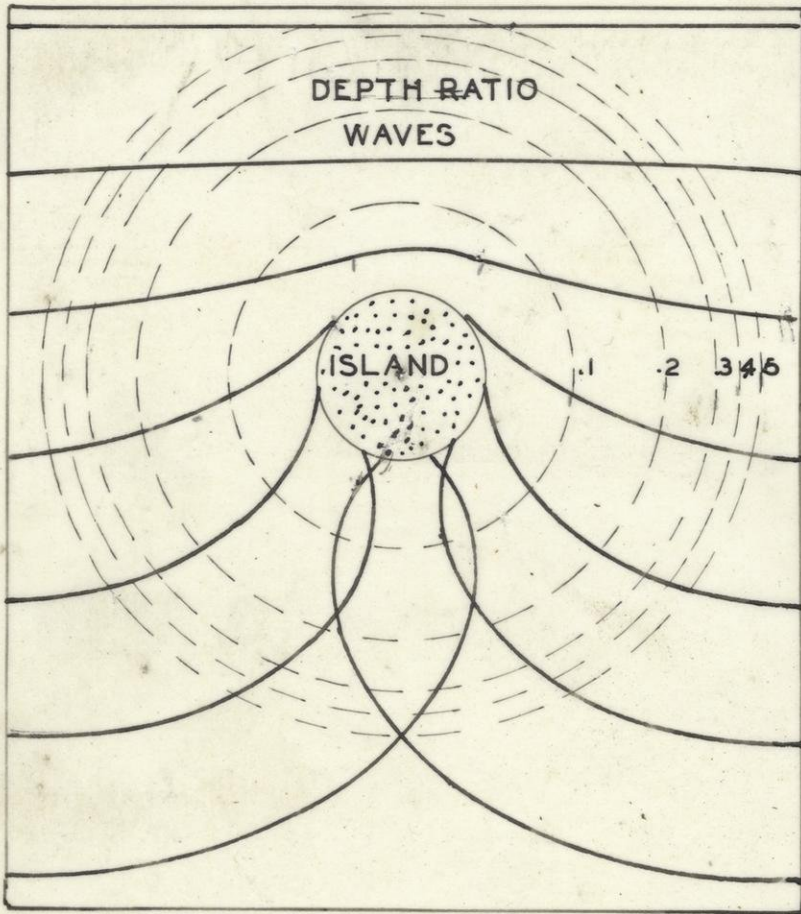


1417
14.17



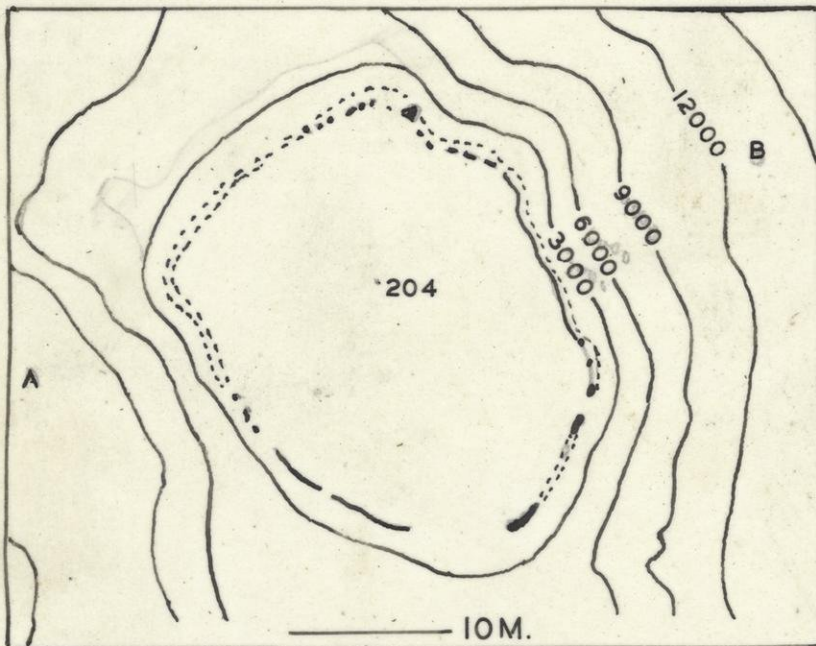
DEPTH AS FRACTION OF DEEP WATER WAVE L. 14.10

14-16

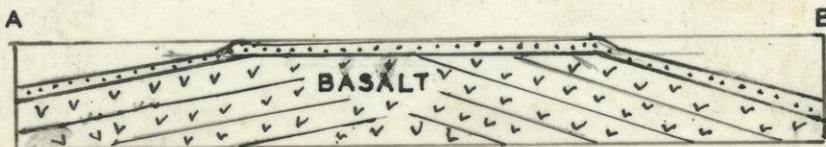


14.11

14.11

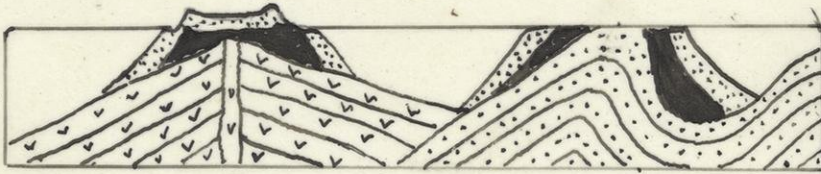
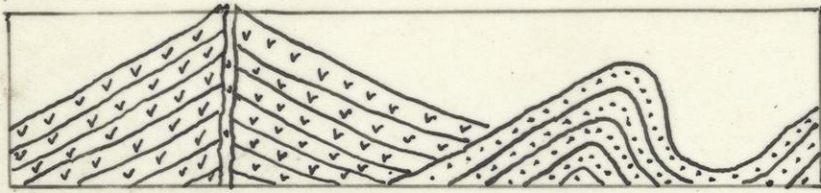


500
1000



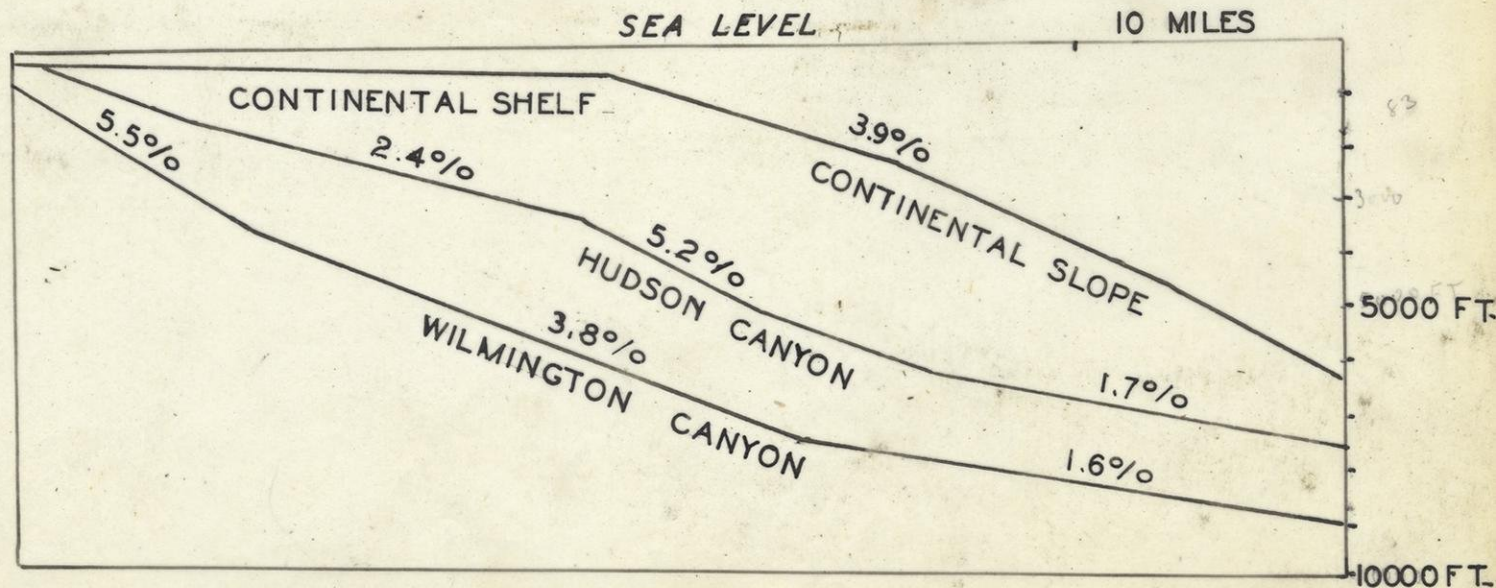
14.20

1420



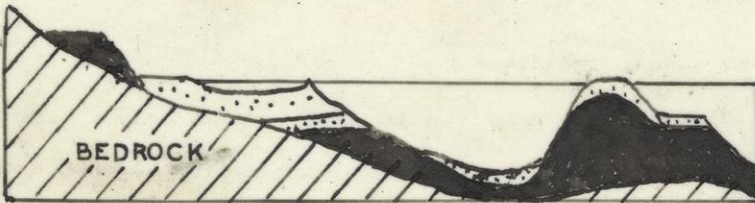
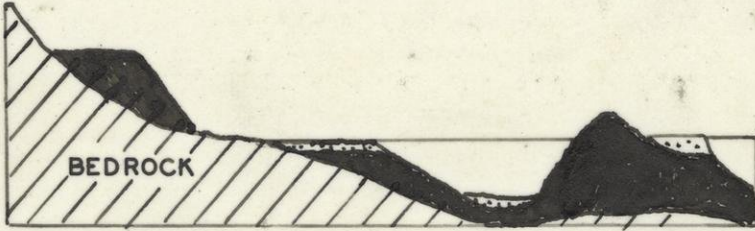
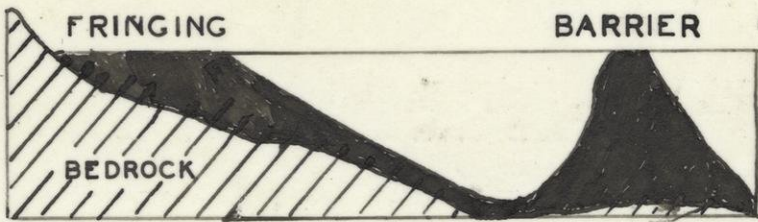
1419

14.19

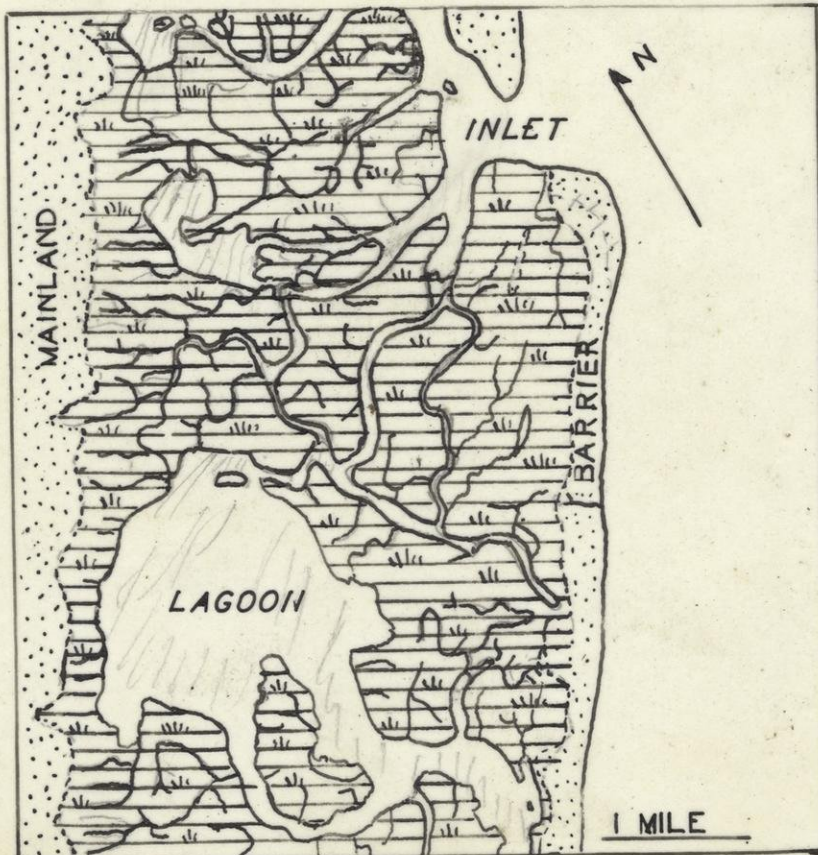


1422

14.22

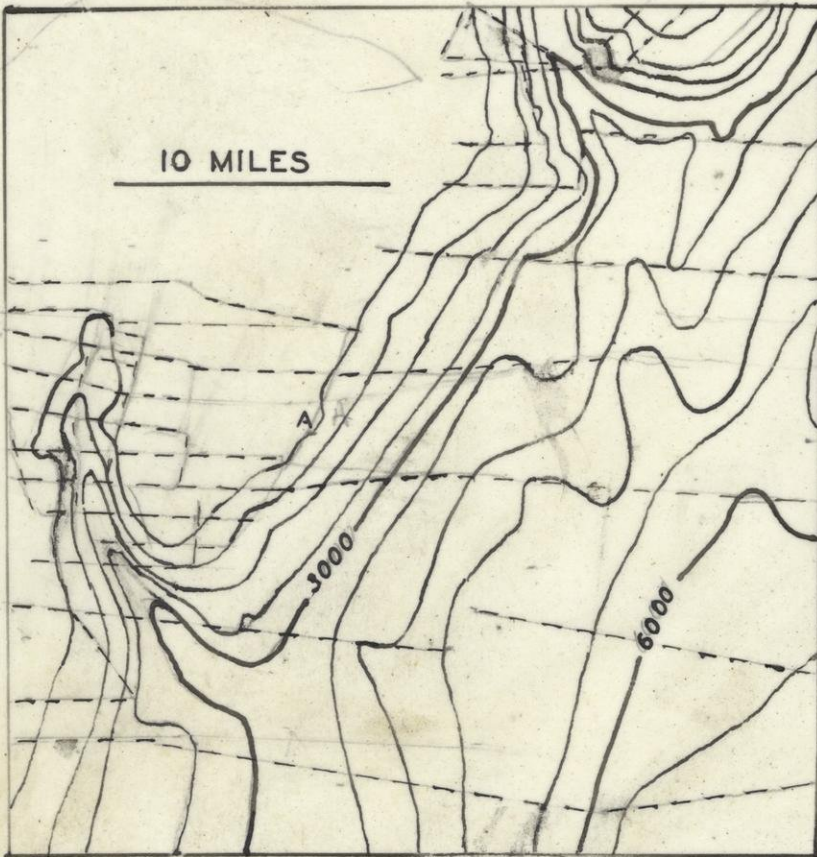


14. 18



14. 21

1421

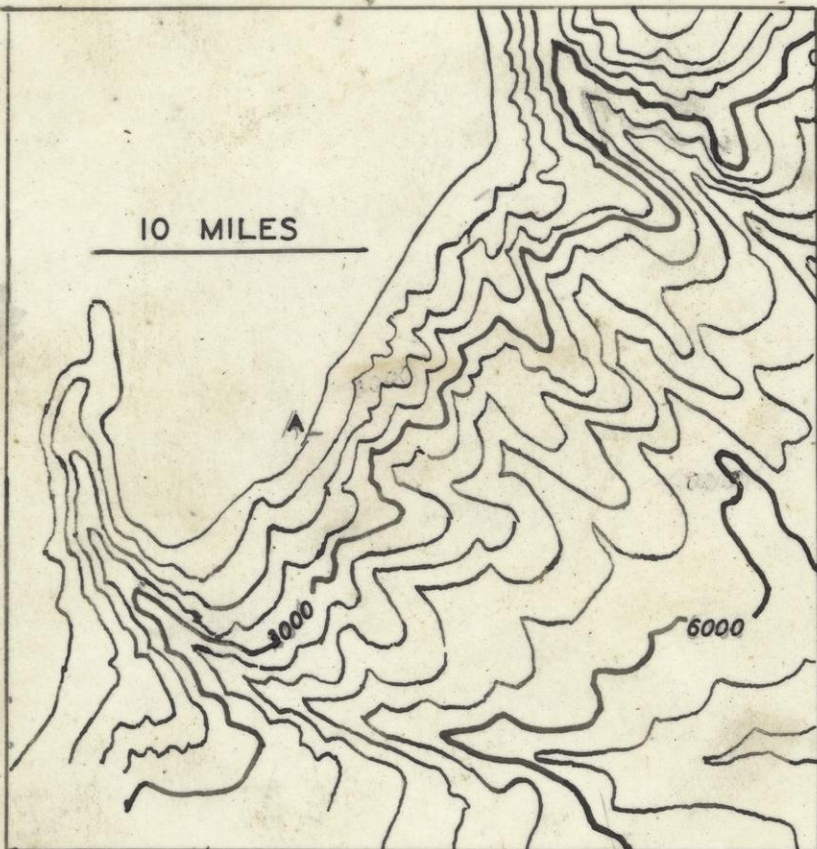


14.23

1423

1423

X



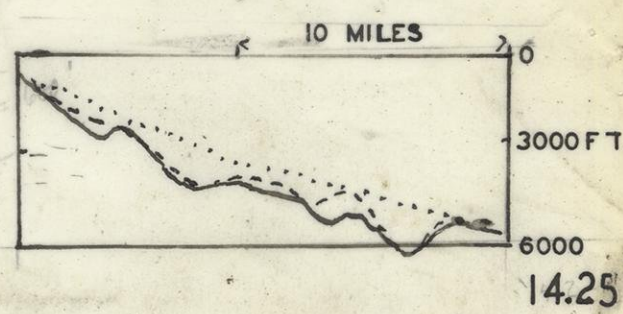
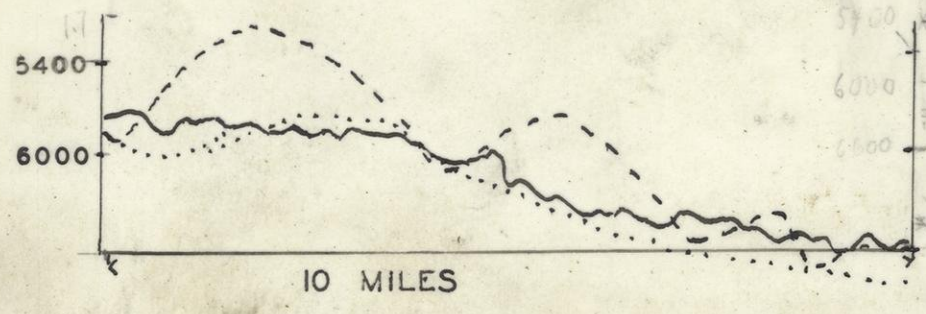
14.24

77

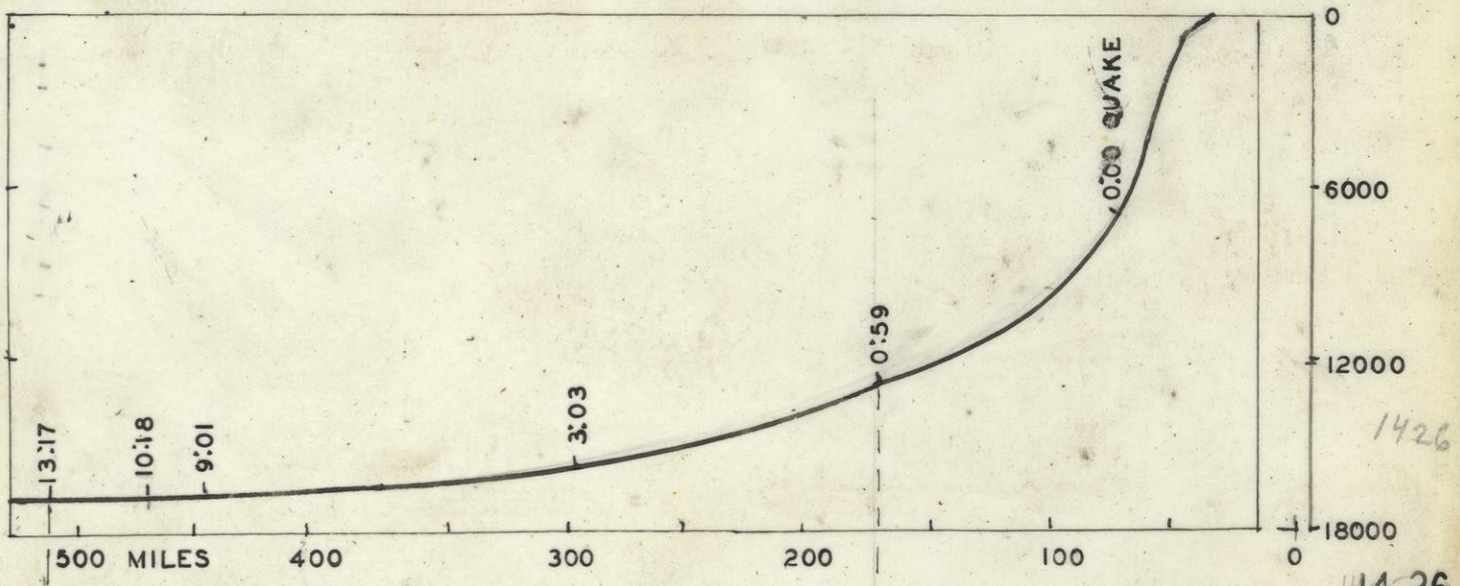
1424

4.25

1425

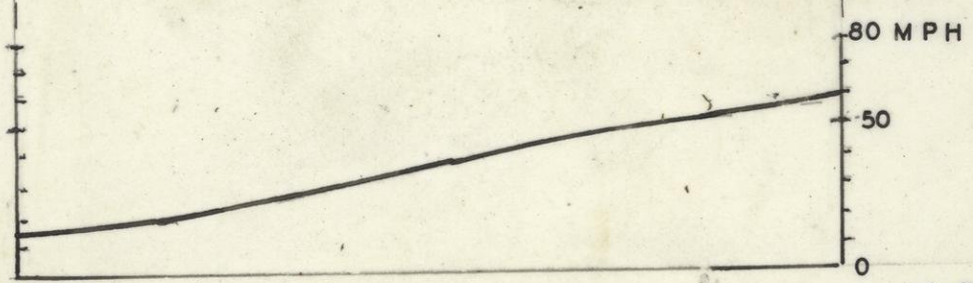


14.25



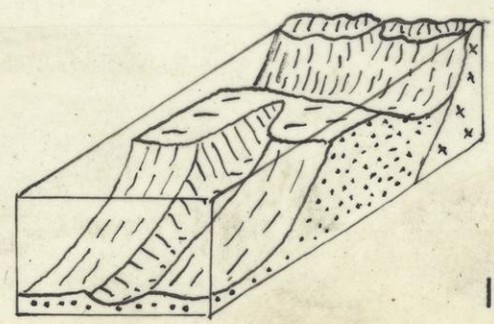
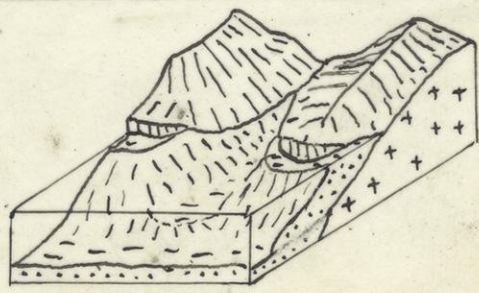
1426

14.26

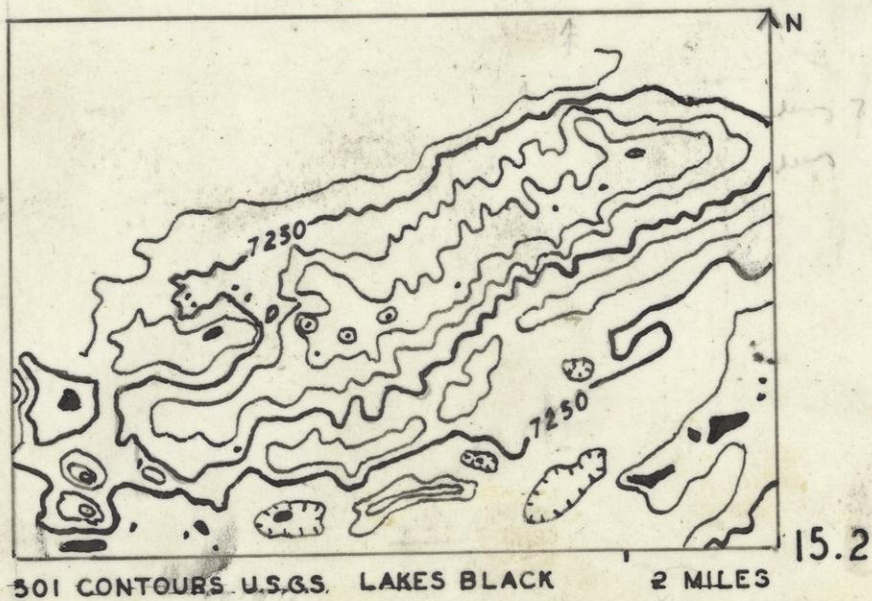
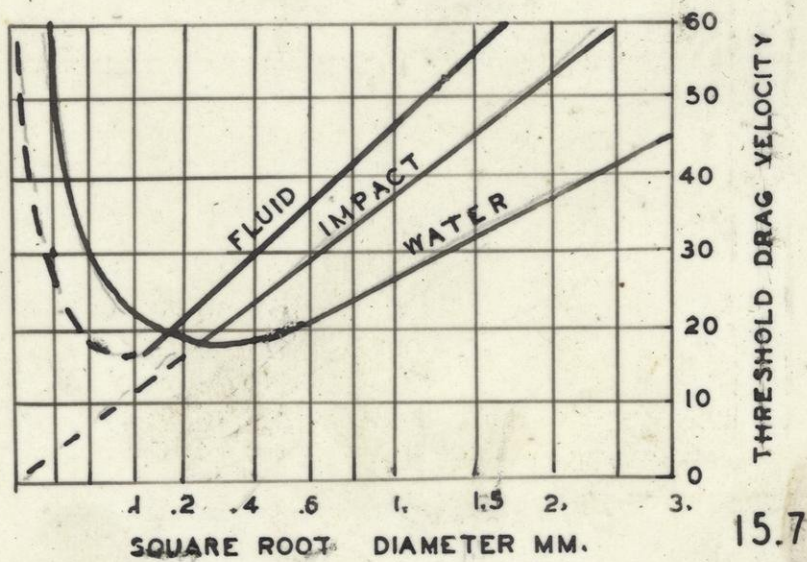
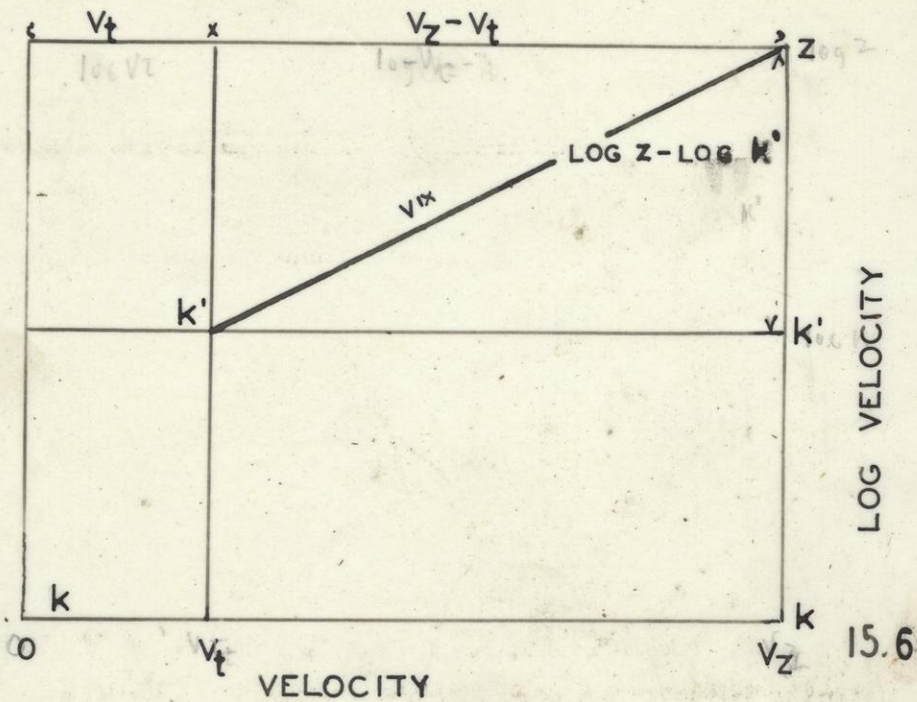


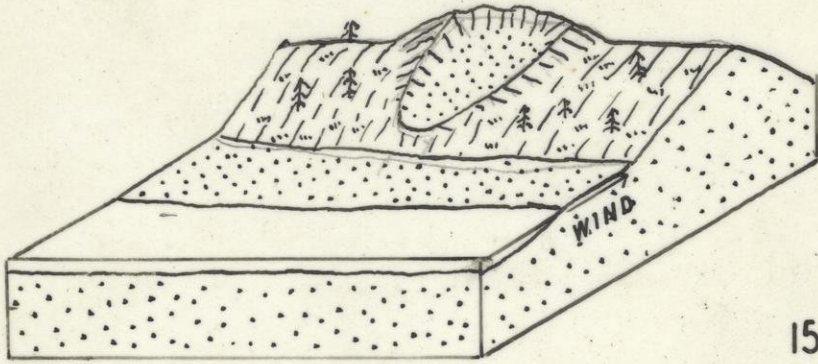
1427

14.27



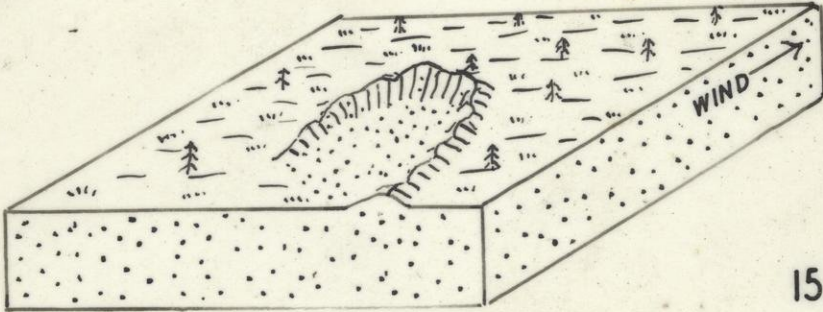
14.29 1429





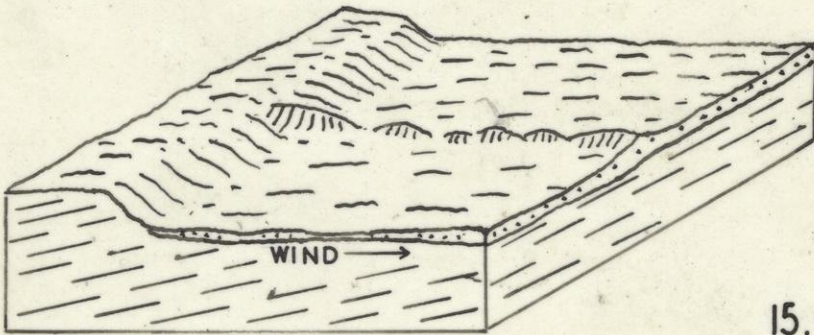
15.11

15.11



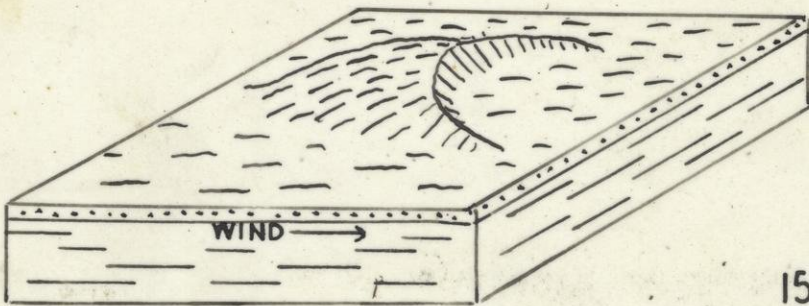
15.12

15.12



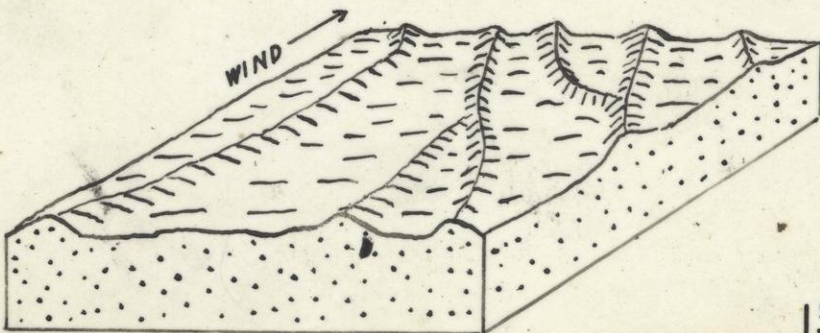
15.10

✓



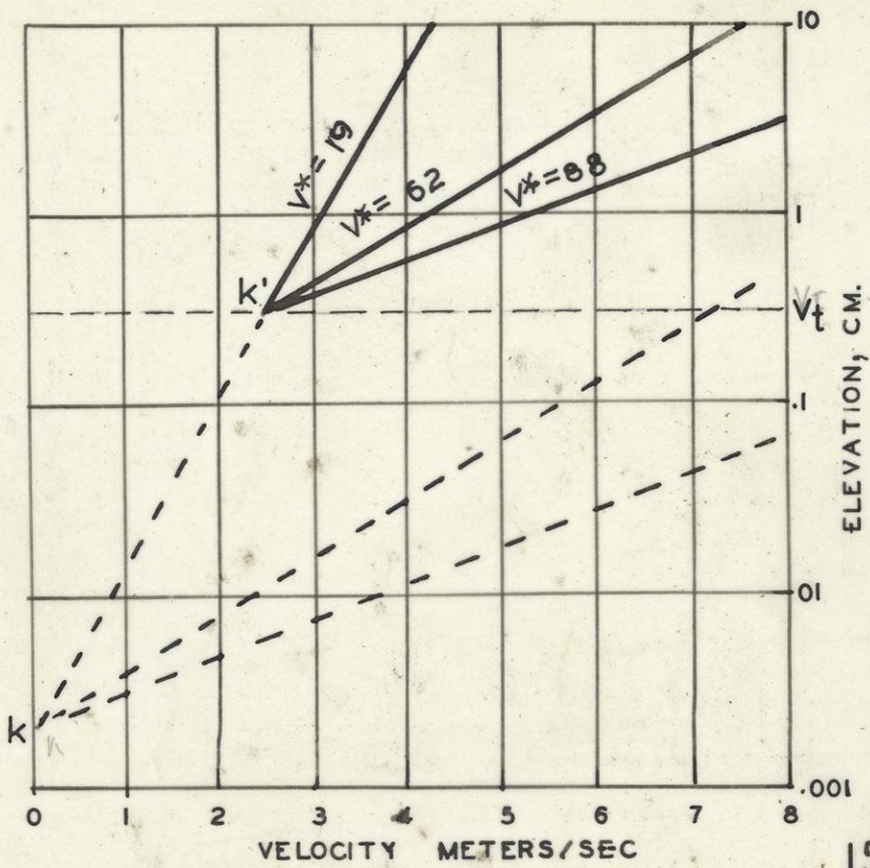
15.8

15.8



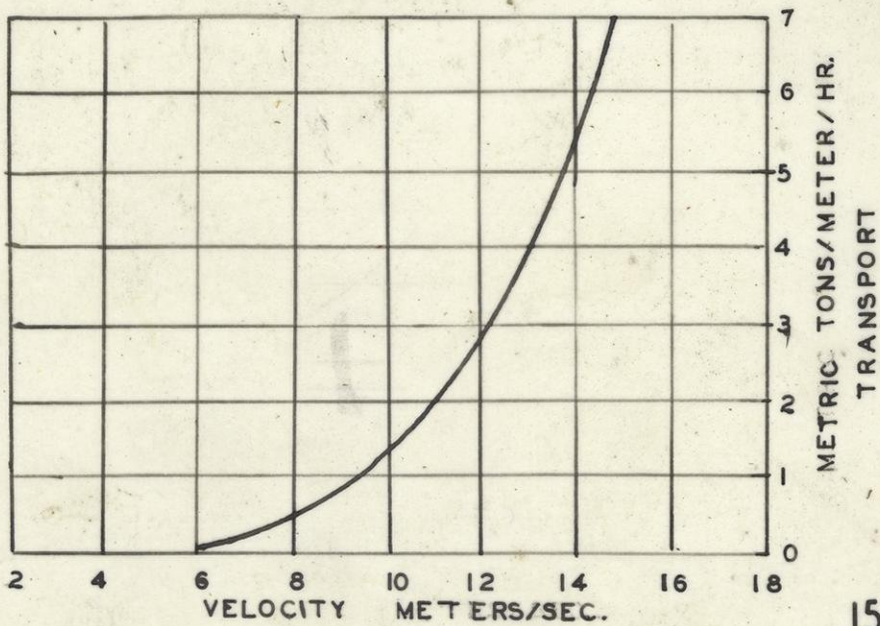
15.9

15.9



15.4

15.4

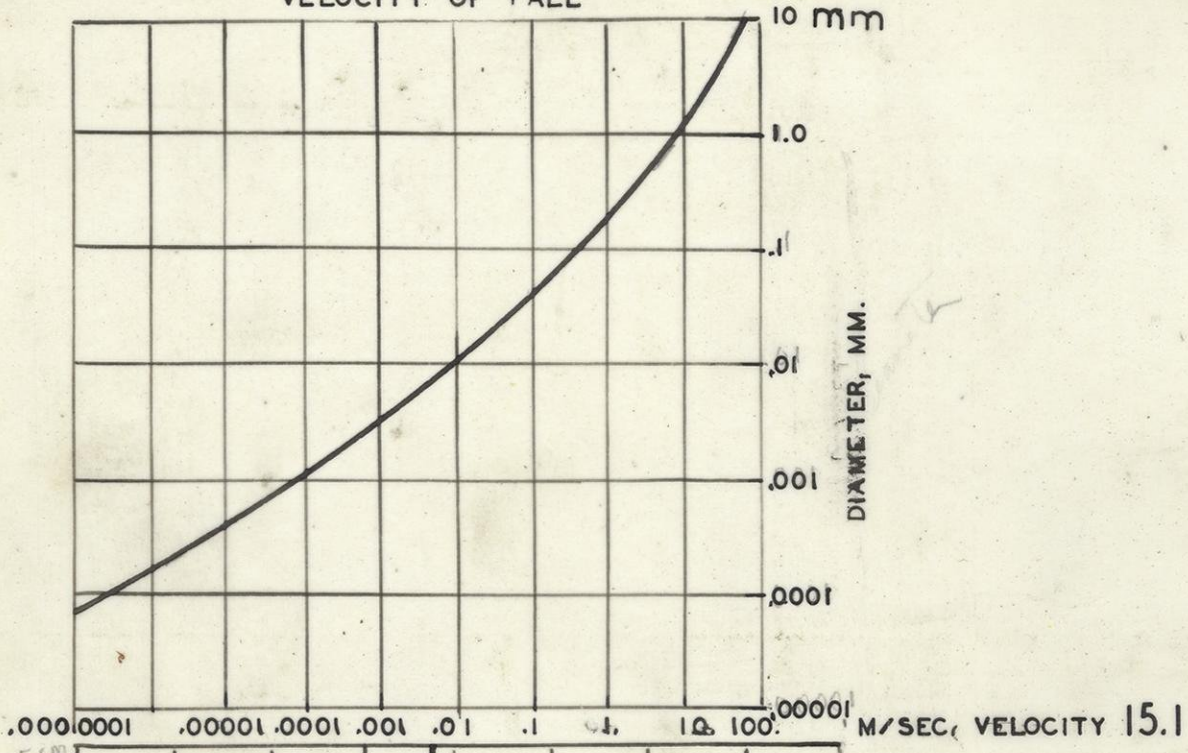


15.5

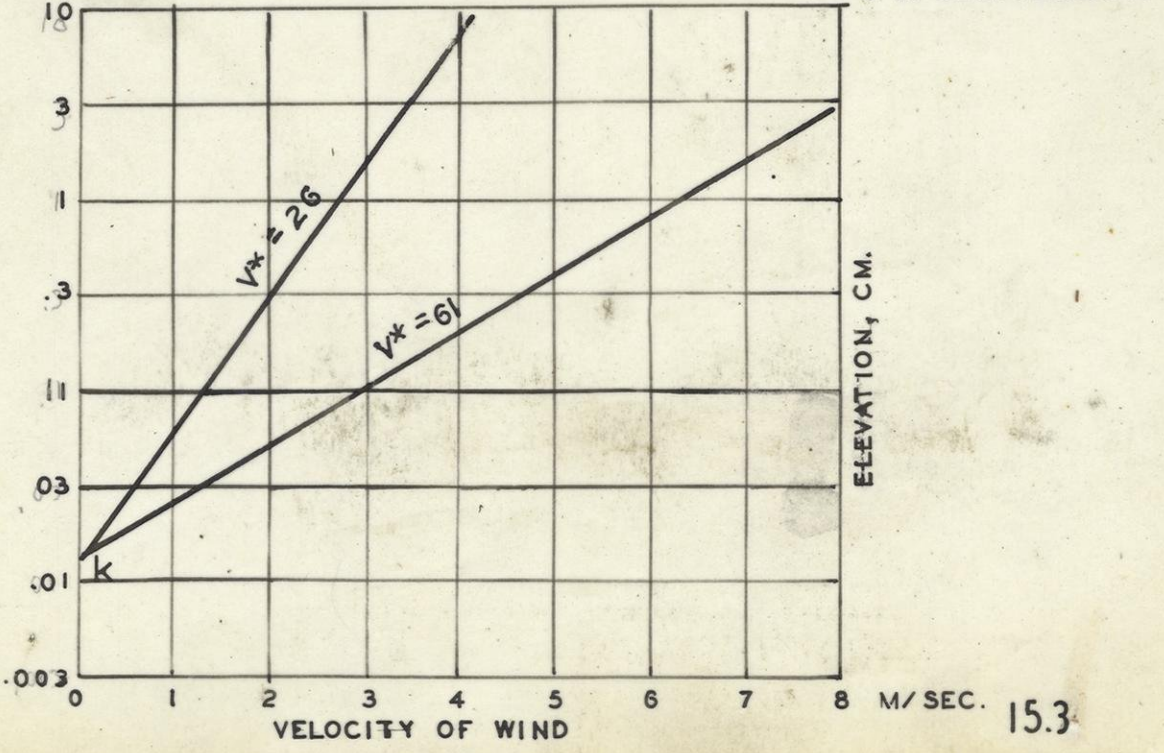
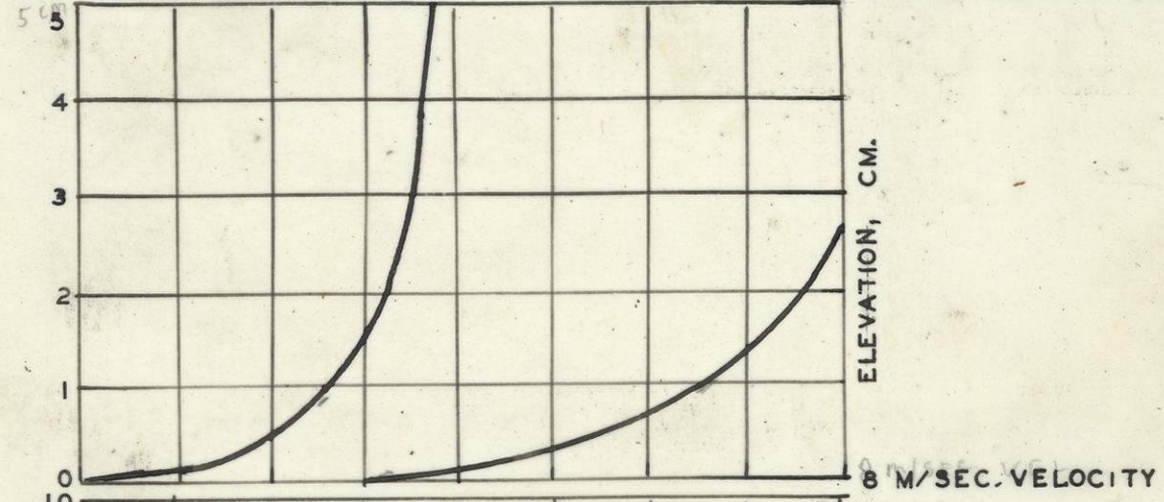
15.5



VELOCITY OF FALL

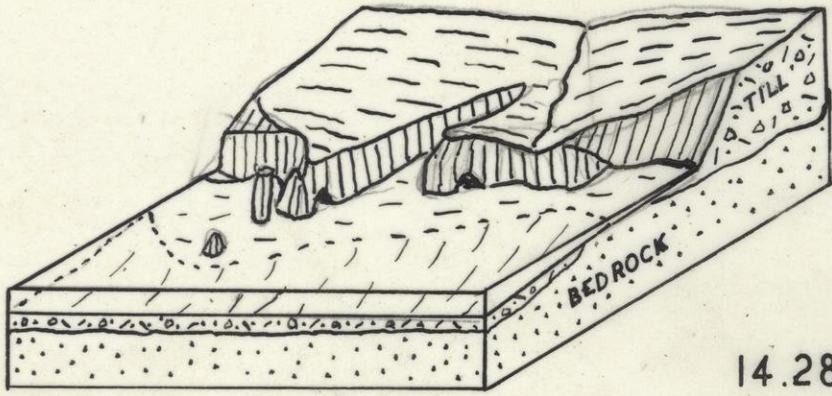


ELEVATION

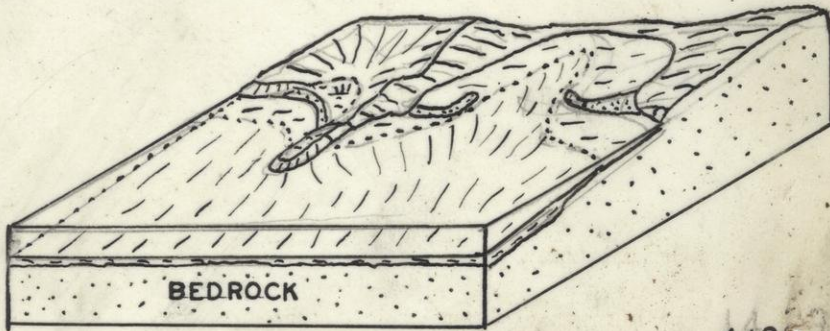


15.3

15.3

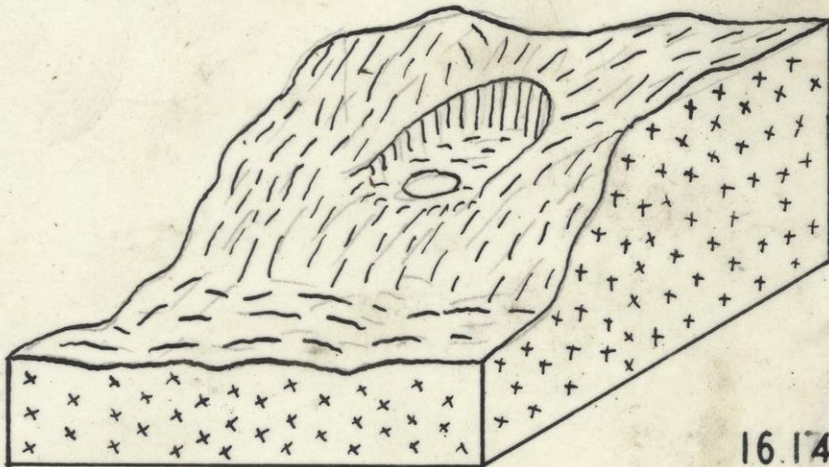


14.28 ✓



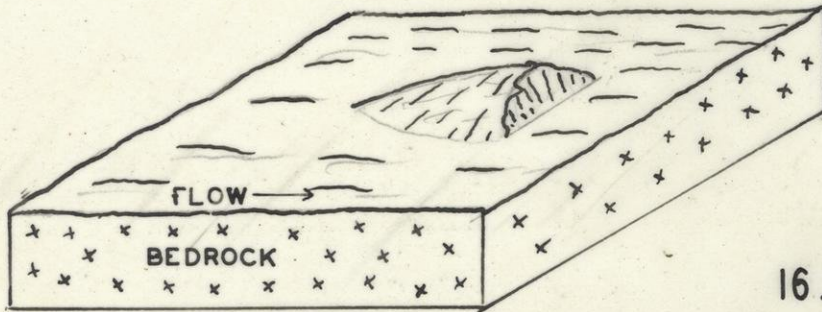
412

1412



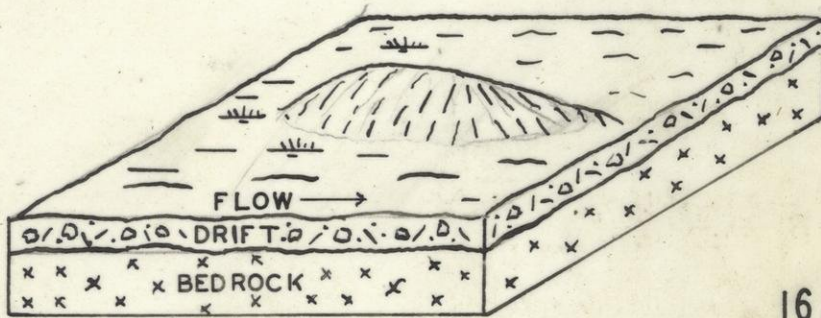
16.14

1614



16.13
16-14

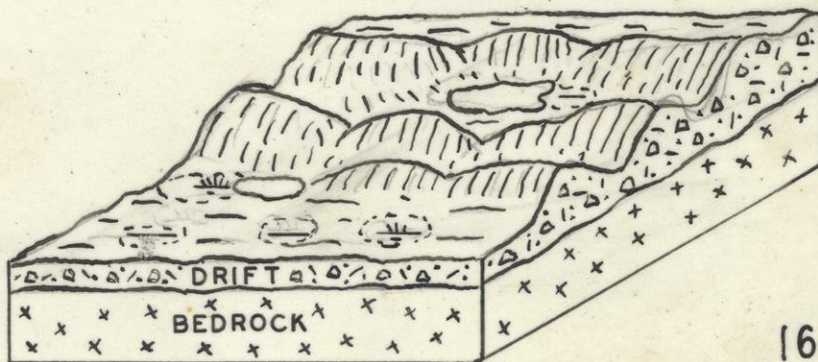
16.13



16.17

15

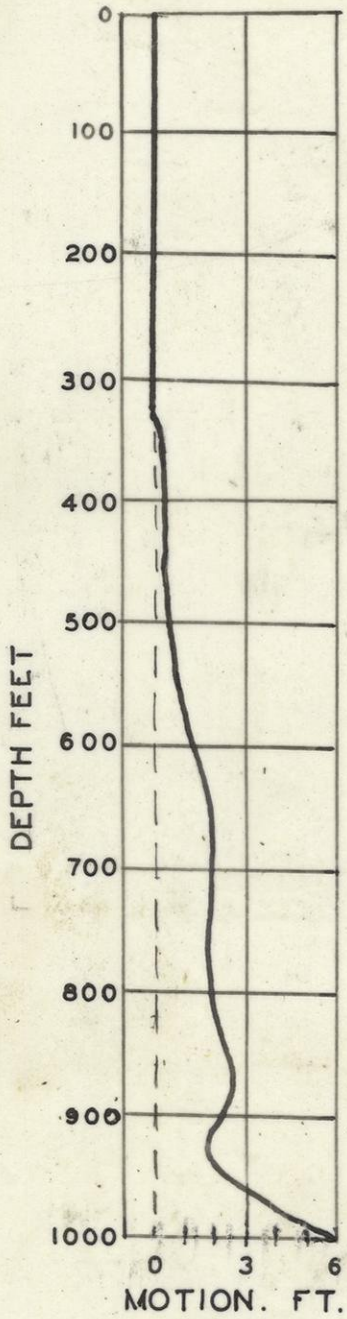
16.17



16.16

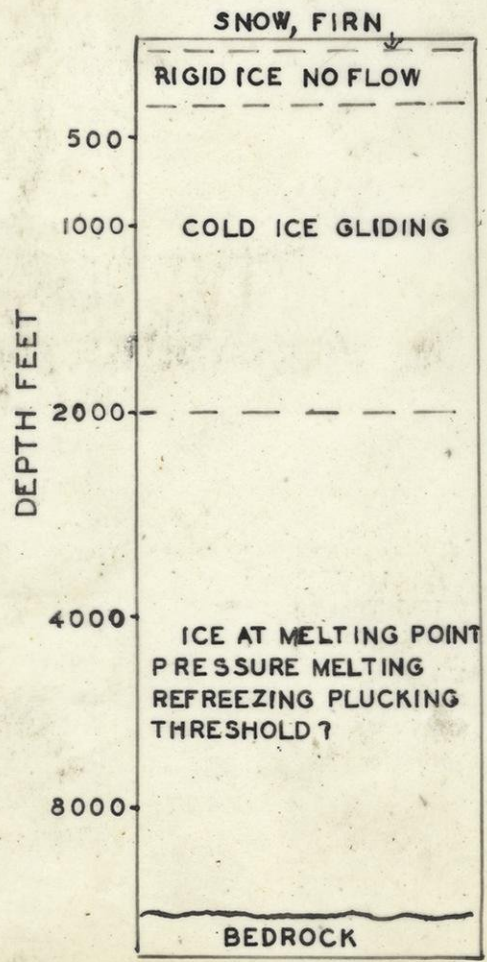
16

16.16



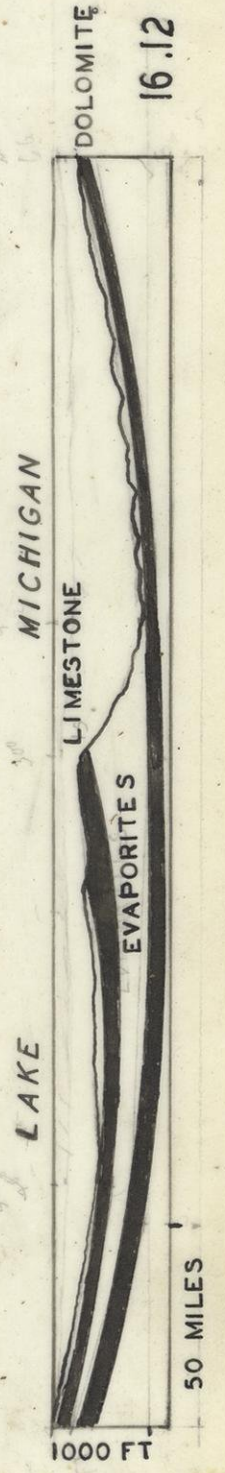
← FLOW
16.8

16.8



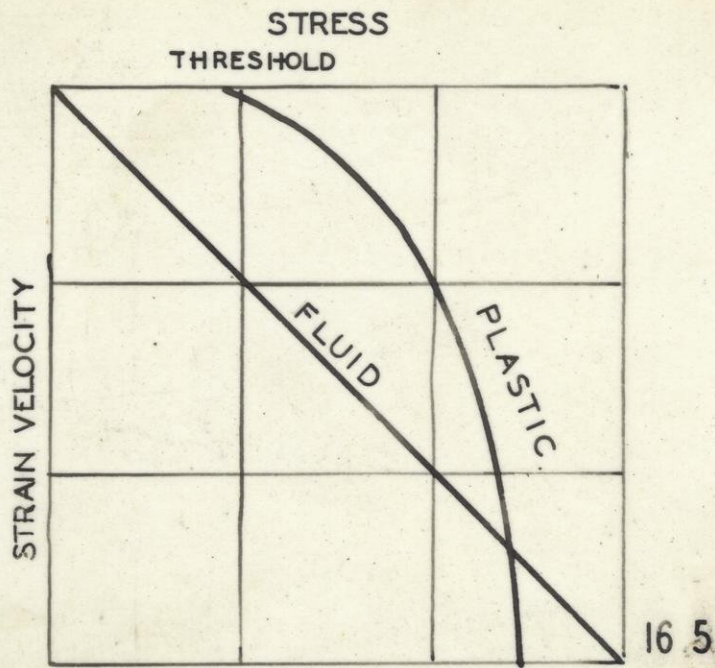
16.11

16.12

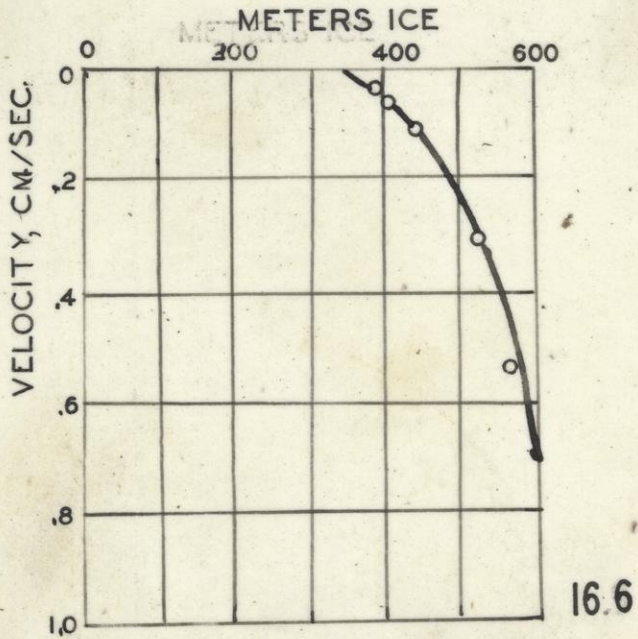


16.12

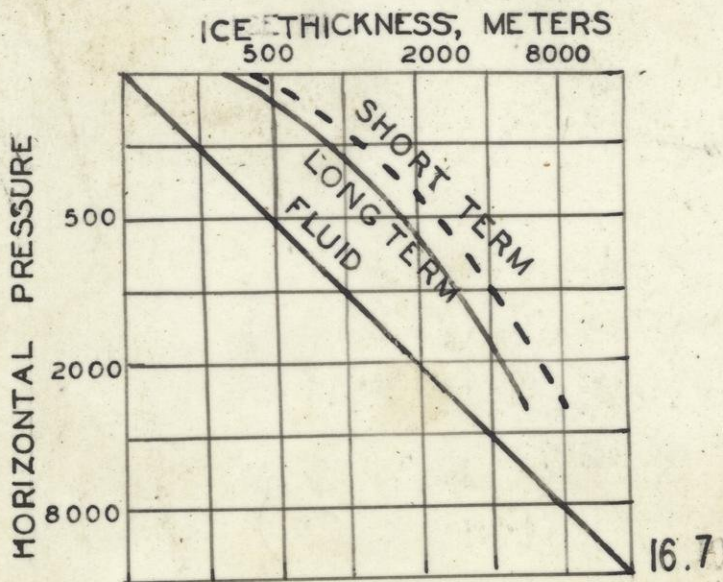
16.11



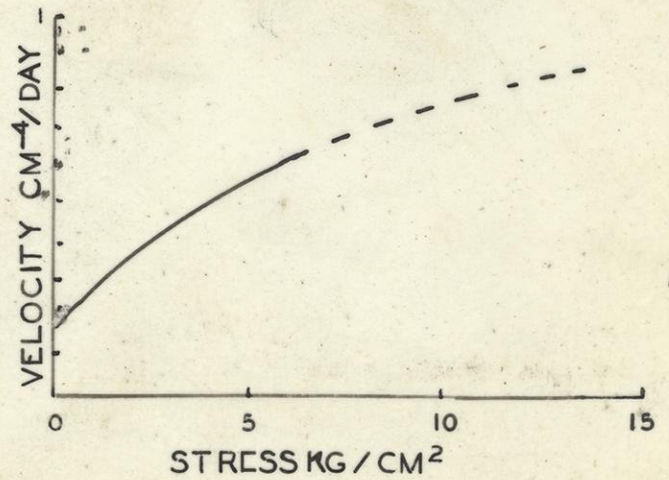
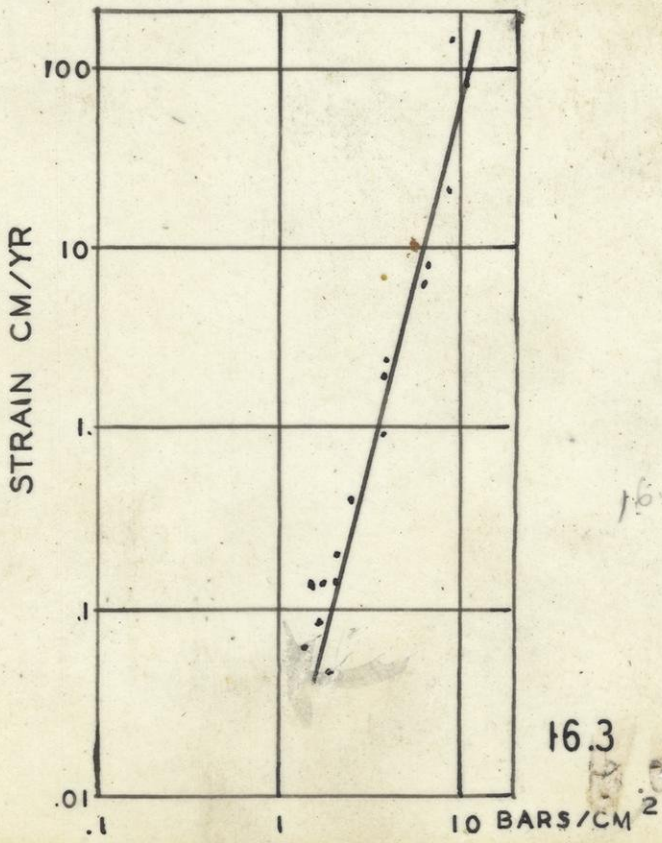
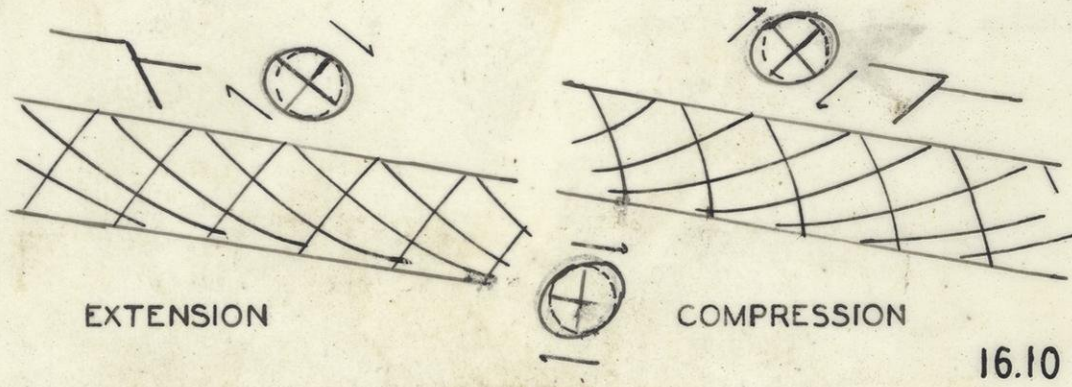
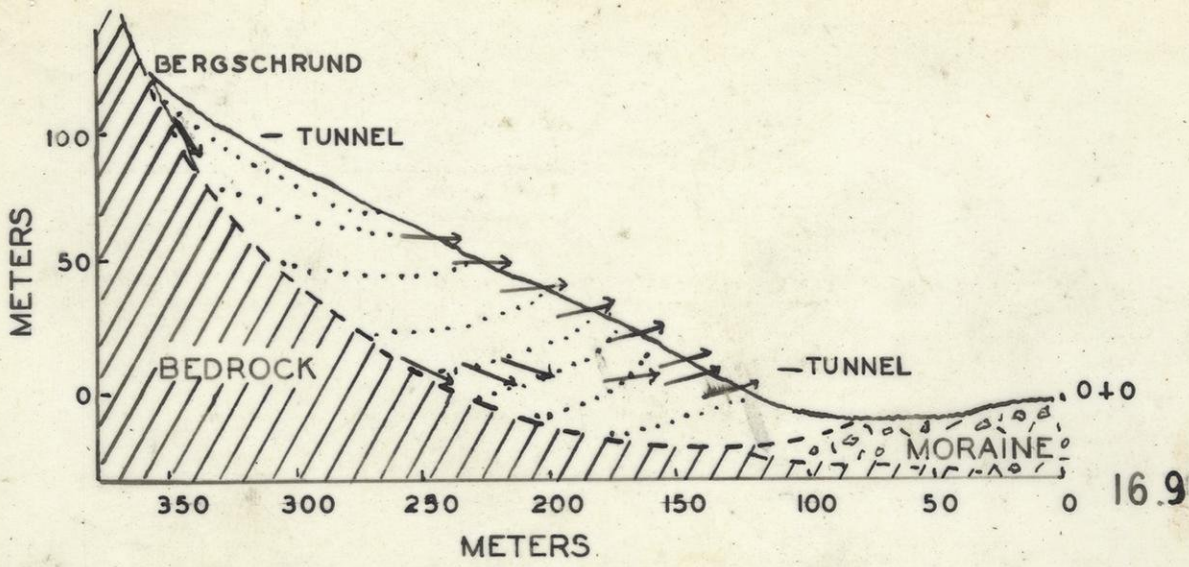
16.5



16.6



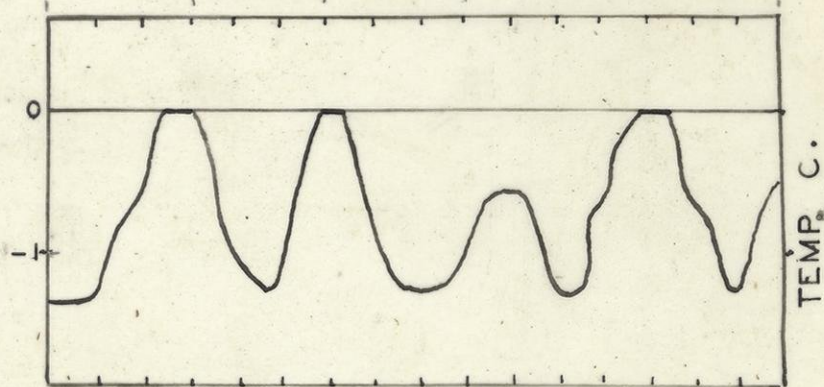
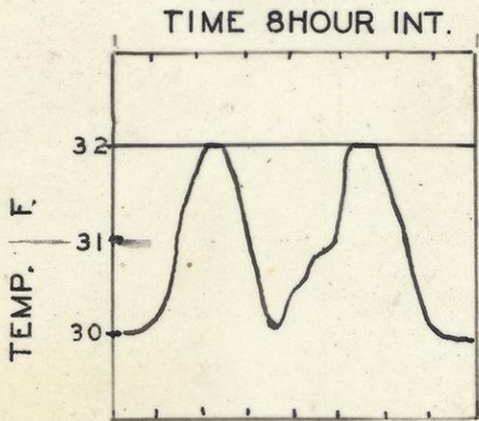
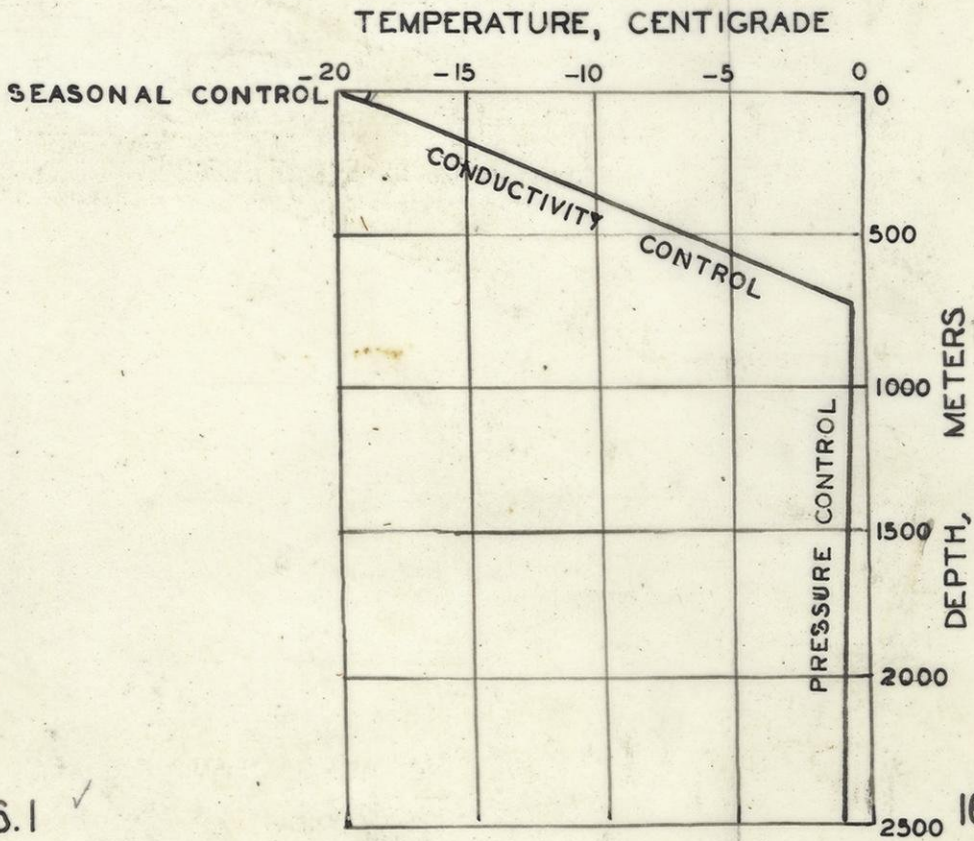
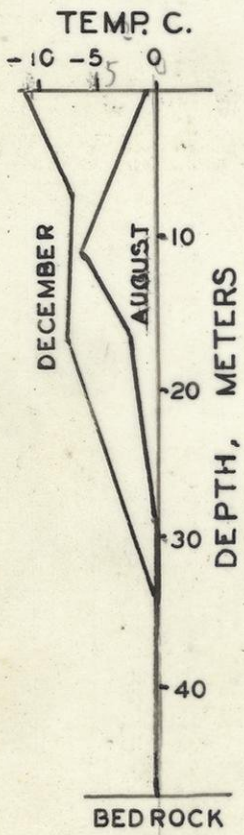
16.7

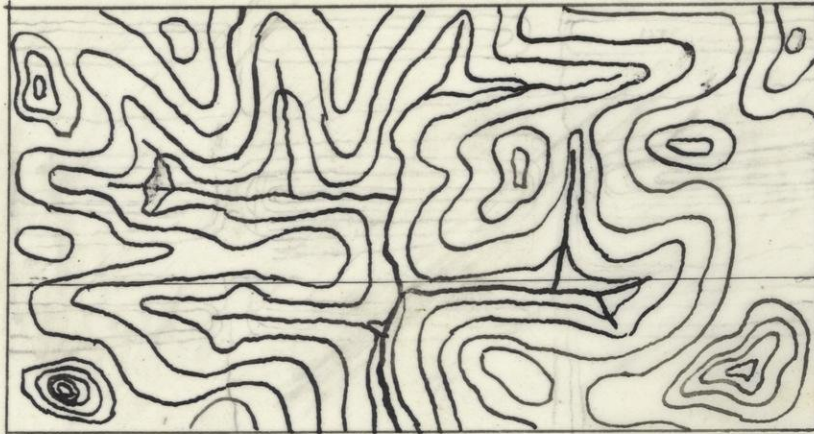


16.3

16.4

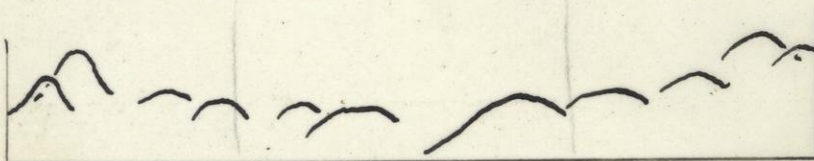
SEASONAL CONTROL
CONDUCTIVITY CONTROL





MAP

17.1

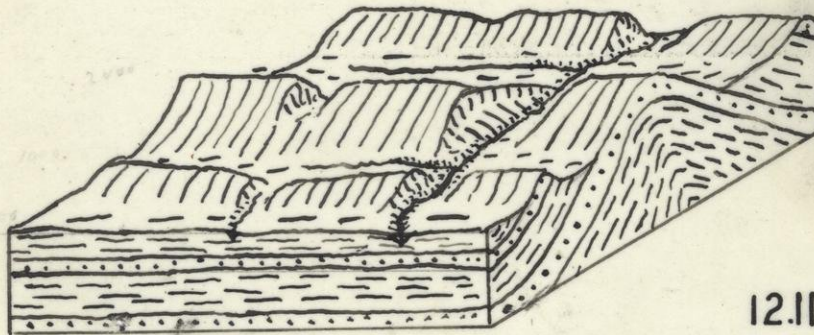


HILL TOPS PROJECTED

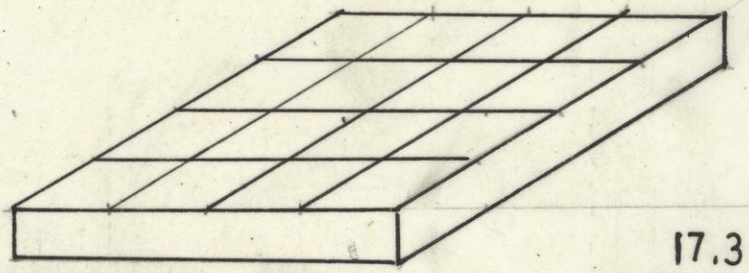


SKYLINE OF STRIP

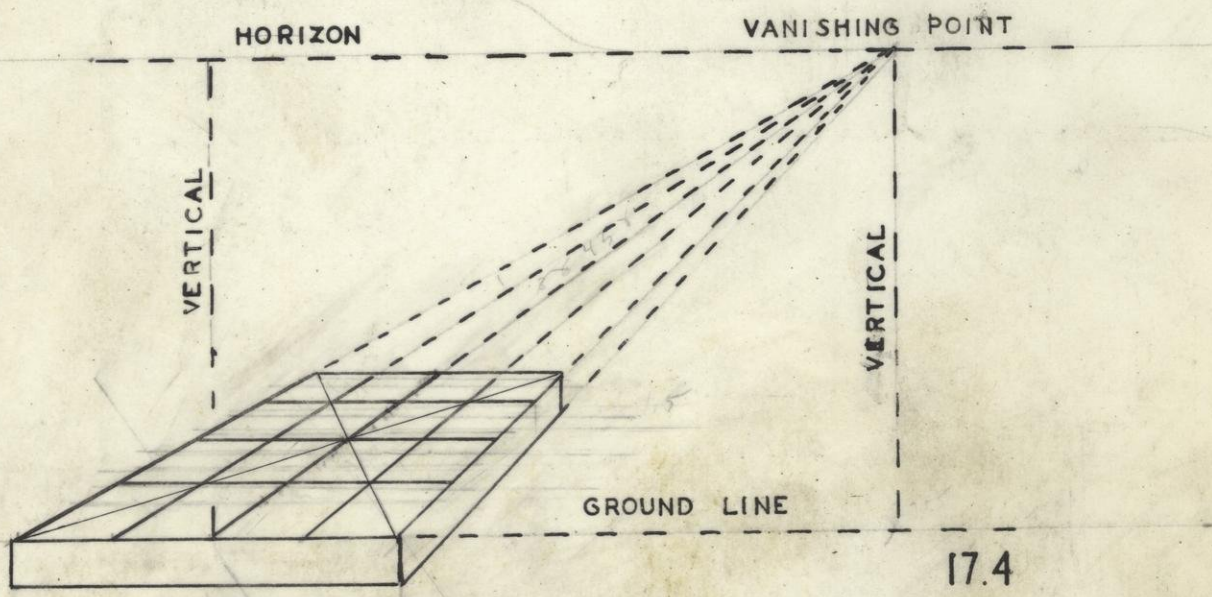
17.2



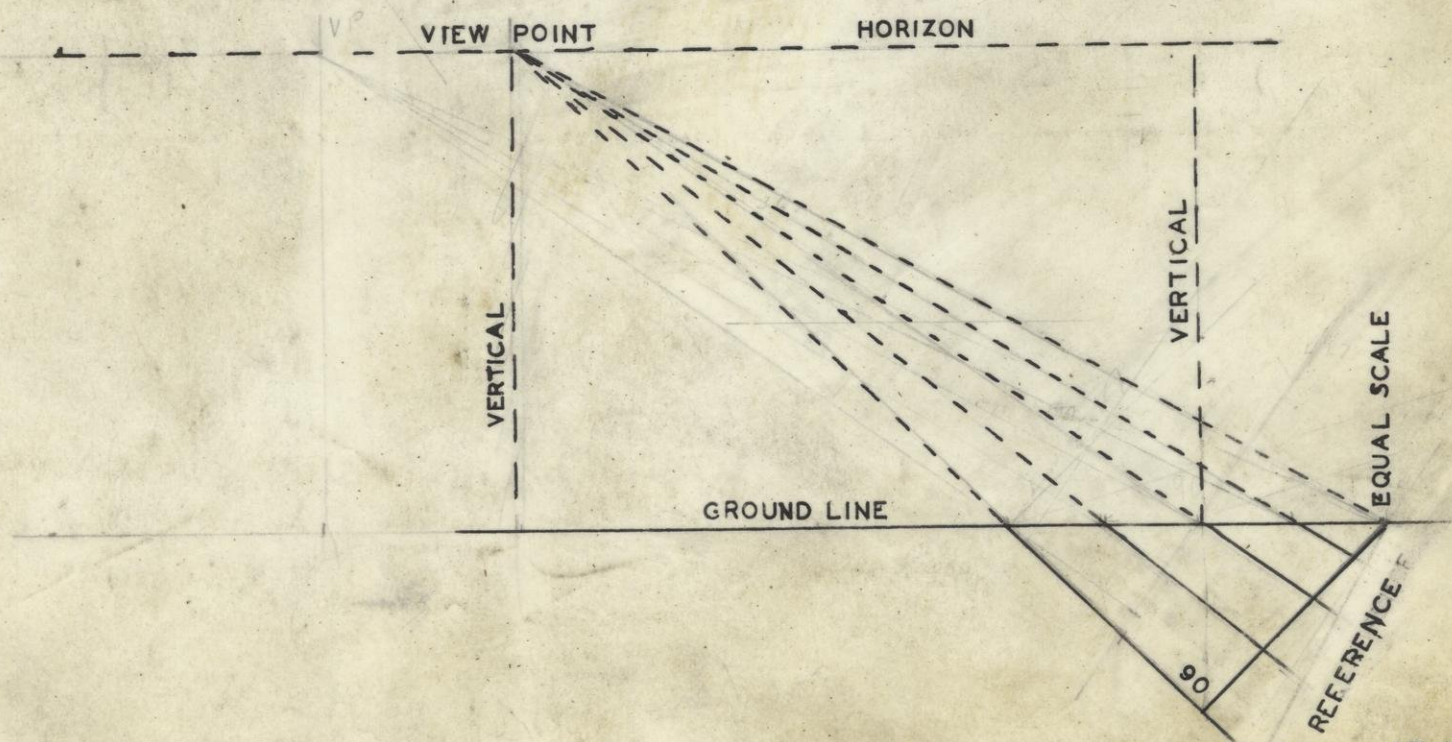
12.11



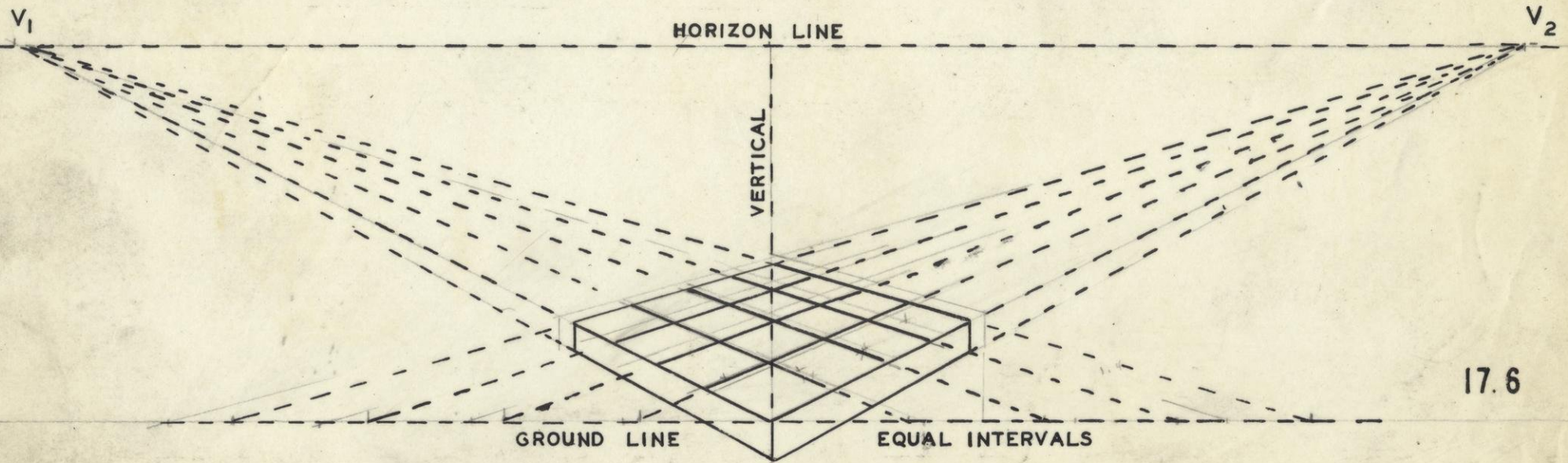
17.3

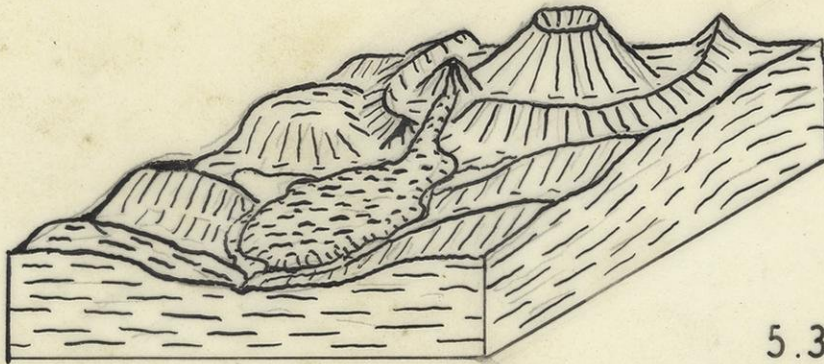


17.4

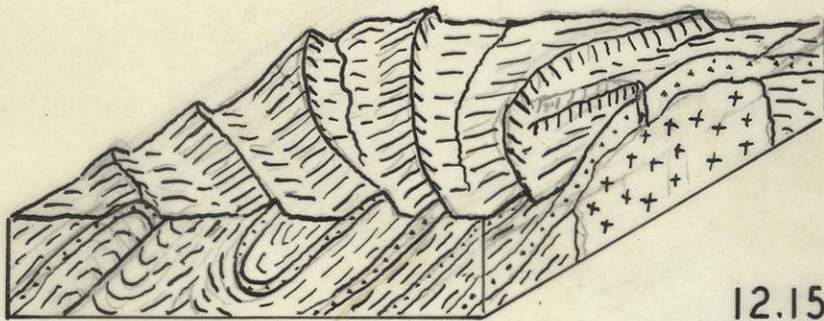


17.5

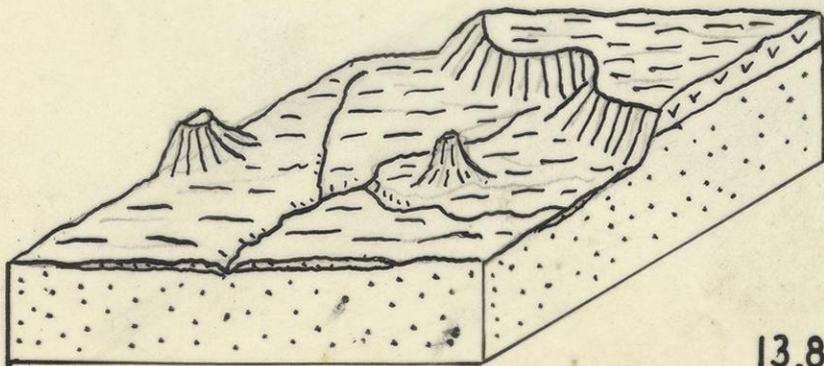




5.3



12.15



13.8