

DEPARTMENT OF MINES.SOUTH AUSTRALIA.

DM 826/49.

## KAOLINISED APLITE NEAR PINE POINT ARDROSSAN DISTRICT.

Locality.

The deposit is situated in section 42B Hd. of Muloowurtie, 8 miles south of Ardrossan.

Previous Reports.

Record of Mines 1908 p. 119 - Inspector of Mines Report.

Plan and Sections. 51-45

The accompanying plan and sections are based on a chain, compass and Abney Level Survey by the writer, and results from boring operations.

Geology.

The kaolinised aplite, which is intrusive into metamorphic rocks of the Cambrian system, outcrops along the cliff face near Pine Point. In parts it is ironstained but for a length of 300 feet along the face of the cliff it is practically white and free from iron.

Sands and clays of Tertiary age lie unconformably upon the old land surface and in the area under review covers the kaolinised aplite to a depth of 55 feet.

Boring.

Boring operations were undertaken in order to prove the quantity of white kaolinised aplite and the amount of overburden in a block approximately 300 feet square. Full bore logs are attached hereto. Briefly results were as follows:

No. 4 Bore.

0	-	55'	Overburden - chiefly clay and sand
55'	-	105'	Kaolinised aplite

No. 5 Bore.

0	-	56'	Overburden - chiefly clay and sand
56'	-	125'	Kaolinised aplite

No. 6 Bore.

0	-	55'6"	Overburden - chiefly clay and sand
55'6"	-	150'	Kaolinised aplite

Chemical Analysis.

A sample from the cliff face was analysed by the Public Assay Department under the supervision of the Government Assayer and Analyst, Mr. T.W. Dalwood,

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with the following results -

Silica	69.92
Alumina, $Al_2O_3$	17.95
Ferric oxide, $Fe_2O_3$	0.35
Ferrous oxide, $FeO$	0.01
Magnesia, $MgO$	0.33
Lime, $CaO$	0.06
Soda, $Na_2O$	1.20
Potash, $K_2O$	0.42
Water at $100^{\circ}C$ , $H_2O$	1.64
Water over $100^{\circ}C$ , $H_2O$	6.21
Titanium dioxide, $TiO_2$	0.13
Sulphur trioxide, $SO_3$	0.54
Chlorine, $Cl$	2.01
	<hr/>
	100.77
Less Oxygen equivalent to chlorine	<hr/> 0.45
	<hr/> 100.32
	<hr/>

#### Petrological Examination.

A sample was submitted to Mr. A. Whittle, Petrologist who advised as follows:

Percentage of clay - 57

Moisture 9.5

The grain size of quartz lies between 1mm and 7mm.

The rock is a kaolinised aplite almost completely altered except for occasional remnant grains of feldspar.

Specific gravity 2.3.

#### Quantity Available.

Within the area extending from the cliff face to the three boreholes there is a proved yardage amounting to -

Overburden - 200,000 cubic yards

Kaolinised aplite - 220,000 cubic yards.

The tonnage of kaolinised aplite based on specific gravity 2.3 and after deducting 9.5% moisture amounts to

335,000 tons

Kaolin available in this tonnage of aplite = 200,000 tons.

DEPARTMENT OF MINES  
SOUTH AUSTRALIA

ARDROSSAN

Kaolinised Aplite

Bore No. 4

Drilling commenced 30/10/50

Bore Serial No. PD 729/50

Drilling completed

Docket Reference DM. 826/49

Driller J. Gray

Vertical 105°

0	- 4'	travertine and earthy lime
4'	- 10'	calcareous sandy clay
10'	- 12'	clayey clay gravel
12'	- 36'	clayey sand (brown)
36'	- 40'	clayey sand (pale yellow)
40'	- 54'	yellow and red sand, white and ferruginous sands
54'	- 55'	conglomerate (gravel)
55'	- 105'	kaolinised aplite, very little ironstaining

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SOUTH AUSTRALIA

ARDROSSAN

Kaolinised Aplite.

Bore No. 5

Drilling commenced 22/12/50

Bore Serial No. PD.766/50

Drilling completed

Docket Reference DM.826/49

Driller J. Gray

Vertical 125'

0	-	6"	soil
6"	-	24'	clayey sand and grit
24'	-	55'	ferruginous sand
55'	-	56'	conglomerate (gravel)
56'	-	125'	kaolinised aplite - poor core recovery (6ft. of core only)

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SOUTH AUSTRALIA

ARDROSSAN

Kaolinised Aplite

Bore No. 6	Drilling commenced	27.11.50
Bore Serial No. PD.756/50	Drilling completed	20.12.50
Docket Reference. DM 826/49	Driller	J. Gray
Vertical	150'	

0	-	6"	soil
6"	-	6'6"	travertine and earthy lime
6'6"	-	8'	calcareous clay grit
8'	-	12'6"	clayey clay grit
12'6"	-	27'	clayey sand (brown)
27'	-	55'6"	ferruginous sand
55'6"	-	150'	kaolinised aplite, slightly ironstained in part

57'6"	-	58'6"	quartz veining
63'	-	69'6"	quartz veining
70'6"	-	71'6"	kaolinised dyke
101'6"	-	101'9"	silicified aplite.

Approved

Drawn

Traced

Checked

by

N. D. R.

N. D. R.

Chief Draftsman

DATE

19.2.1951

S. A. G. DEPT. OF MINES

KAOLINIZED APLITE DEPOSIT

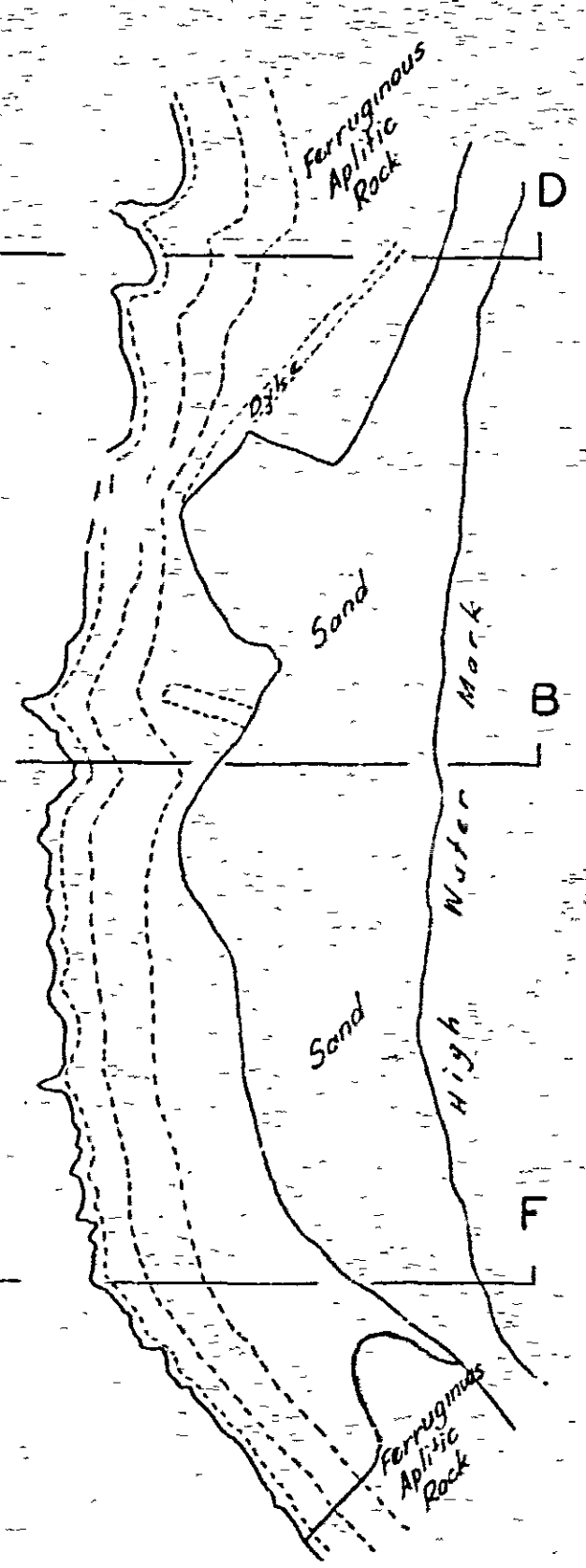
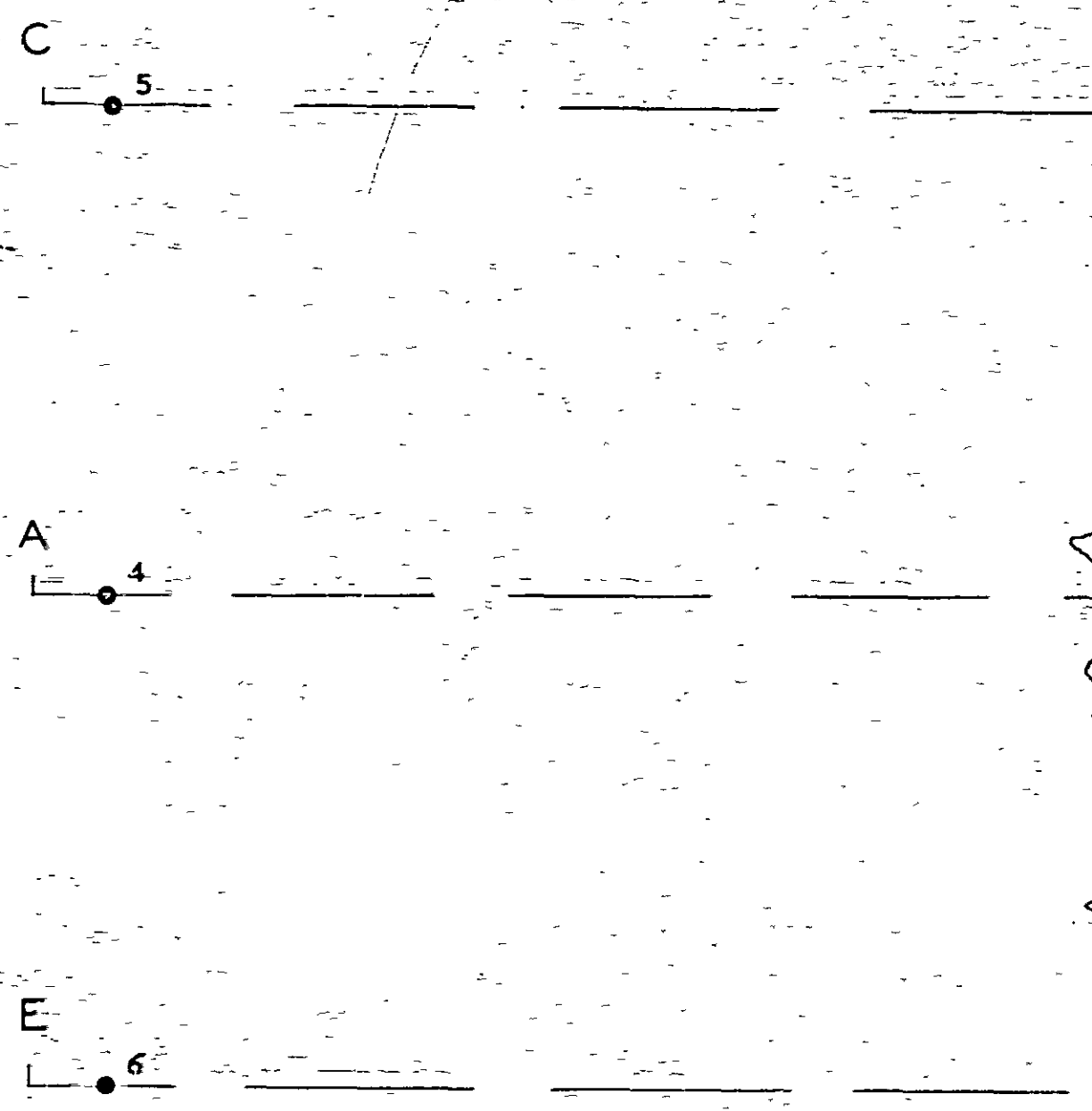
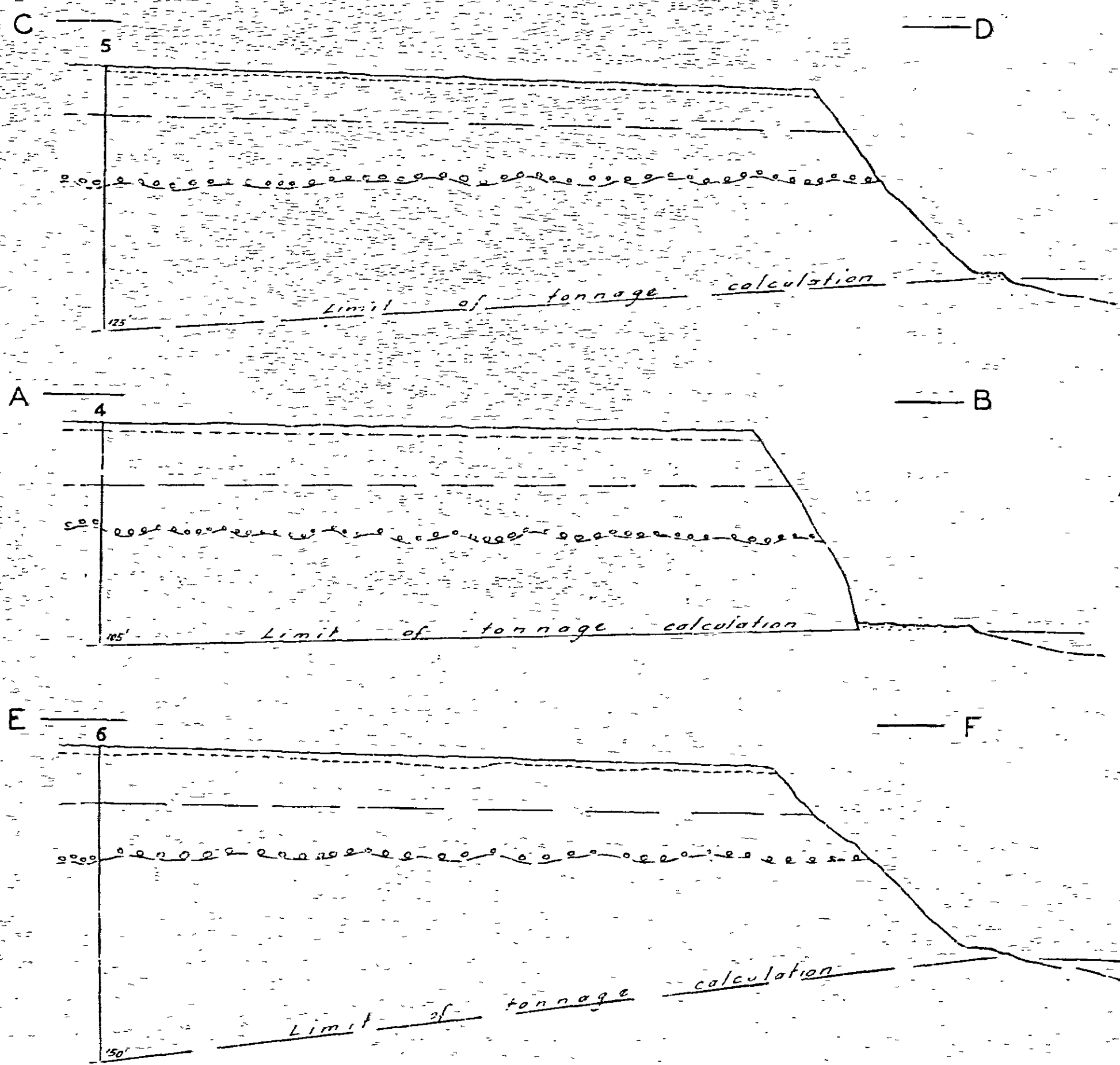
PLAN & SECTIONS

(SEC. 42<sup>nd</sup> H<sup>o</sup> MULPOOWURTIE)

SCALE  
50 FEET TO 1 INCH

51-45

GHS



Geologist J. E. RIDGWAY

LEGEND

- Travertine & Calcareous Soils
- Clay & sandy Clay
- Ferruginous Sand
- Gravel
- Kaolinized Aplite