

The remains of siliceous organisms in these samples range from 1 per cent. in 6 cases to 20 per cent. in 1525 fathoms, and the average is 2·89 per cent. They consist of Sponge spicules, Radiolaria, Diatoms, casts of Foraminifera, and arenaceous Foraminifera.

The mineral particles are all angular, and range from less than 1 to 10 per cent., the average being 2·85 per cent. In size they vary from 0·06 to 0·10 mm. in diameter, the average being 0·08 mm. These mineral particles consist of magnetite and augite in 11 instances, felspar and hornblende (8), sanidine, volcanic glass, and lapilli (6), plagioclase and mica (5), pumice (4), manganese (3), quartz (2), and olivine, altered mineral particles, and chloritic scales (1).

The fine washings range from a trace in 1240 fathoms to 41·78 per cent. in 900 fathoms, the average being 15·01 per cent.

The average composition of the Challenger samples of Pteropod Ooze is as follows:—

Carbonate of lime, . . .	{	Pelagic Foraminifera, . . . . .	47·15	
		Bottom-living Foraminifera, . . . . .	3·15	
		Other organisms, . . . . .	28·95	
			—	79·25
Residue, . . . . .	{	Siliceous organisms, . . . . .	2·89	
		Minerals, . . . . .	2·85	
		Fine Washings, . . . . .	15·01	
			—	20·75
				100·00

By comparing this with the table showing the average composition of Globigerina Ooze on page 218, it will be observed that Pteropod Ooze differs from Globigerina Ooze in the residue being less abundant and, chiefly, in the relatively large percentage of calcareous organisms other than Foraminifera.

The Challenger dredges and trawls brought up pieces of pumice in 4 instances from these deposits, and manganese nodules and organisms coated with manganese in 3 cases, as well as a large number of deep-sea animals.

The following three analyses of samples of Pteropod Ooze are from Station 22, 1420 fathoms, Station 23, 450 fathoms, and Station 24, 390 fathoms.

Station.	Depth in Fathoms.	No.	Loss on Ignition.	PORTION SOLUBLE IN HCL.								PORTION INSOLUBLE IN HCL.		
				SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MnO <sub>2</sub>	CaCO <sub>3</sub>	CaSO <sub>4</sub>	Ca <sub>3</sub> P <sub>2</sub> O <sub>4</sub>	MgCO <sub>3</sub>	Total.		
22	1420	60	3·80	4·14	4·42		...	80·69	0·41	2·41	0·68	92·75	Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	3·45
23	450	61	4·00	2·60	1·80	3·00	...	84·27	1·00	g. tr.	1·28	93·95	Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	2·05
24	390	62	2·00	3·65	0·80	3·06	...	82·66	0·73	2·44	0·76	94·10	Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>	3·90

In No. 62 the finer parts had been washed away.