

It will be noticed that the fine washings increase with the depth, while the abundance of mineral particles and their mean diameter are irregular, though on the whole they diminish in size and abundance with greater depth and greater distance from land, where the sea is not affected by floating ice. It must be noticed also that in the neighbourhood of some continental shores, where there are many volcanic rocks, the deposits are made up to a great extent of the disintegrated parts of these rocks, and thus cannot be distinguished from the Volcanic Muds formed around volcanic islands.¹

The following table shows the average composition of the Challenger samples of Blue Mud, and it will be seen that, compared with the similar table for Red Clay, the percentage of minerals is much higher and the fine washings less abundant :—

Carbonate of lime,	{	Pelagic Foraminifera,	7.52	
		Bottom-living Foraminifera,	1.75	
		Other organisms,	3.21	12.48
Residue,	{	Siliceous organisms,	3.27	
		Minerals,	22.48	
		Fine washings,	61.77	87.52
				100.00

The following are analyses of two samples of Blue Mud, one from the Pacific, the other from the Atlantic :—

Station.	Depth in Fathoms.	No.	Loss on Ignition.	PORTION SOLUBLE IN HCl.									PORTION INSOLUBLE IN HCl.					
				SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MnO ₂	CaCO ₃	CaSO ₄	Ca ₃ P ₂ O ₇	MgCO ₃	Total.	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	Total.
213	2050	63	4.92	23.52	7.75	7.50	g. tr.	1.75	0.58	tr.	1.14	42.24	30.84	7.38	3.73	1.63	0.31	52.84
323	1900	64	5.60	28.20	5.50	5.61	...	2.94	0.42	1.39	0.76	44.82	36.00	8.05	2.77	2.51	0.25	49.58

No. 63 is of material obtained from the trawl, No. 64 from tow-net at trawl.

These two analyses show a striking difference when compared with those of pelagic deposits. The quantity of insoluble residue is much greater than the average in deposits from similar depths further removed from land, for it will be seen that it makes up in these two cases about one-half of the deposits. This indicates a higher percentage of mineral particles not decomposable by hydrochloric acid, and may be attributed to the presence of the minerals and rocks from continental lands, in which quartz plays the most important part, thus being in accord with what we have just said as to the origin of this deposit. In the portion soluble in acid we have the hydrated silicate of alumina and ferric oxide, but in these two analyses the percentages of these substances are less than

¹ See Pl. XI. fig. 2 ; Pl. XXVII. fig. 4.