RESIDUE.				ADDITIONAL OBSERVATIONS.
Per cent.	Sillocous Organisms.	Minorals.	Fine Washings.	
58-89	(1.00 %), Sponge spicules, Radi- olaria, Lituolidæ, Diatoms.	(10.00 %), m. di. 0.10 mm., angular ; plagioclase, augito, phillipsite, magnetito, manga- neso grains, glassy volcanic particlos.	(42.39 %), much amorphous matter, fine mineral frag- ments, and remains of siliceous organisms.	Nearly a foot (30 cm.) of the deposit came up in the tube; the upper surface was a light yellow Globigarina Ooze. In addition to the observed organisms, there were a good many manganese grains, and yellow and red crystals. Passing down the tube the coze became gradually darker, till at the bottom there was a dark chocolate coloured clay, containing manganese in rounded pellets, and many yellow crystals (phillipsite); some of these are in the form of balls. Twinned crystals of phillipsite were observed.
84.19	(10.00 %), Radiolaria, Sponge spicules, Astrorhizidæ, Litu- olidæ, arenaceous Textu- laridæ, Diatoms.	(1.00 %), m. di. 0.08 mm., angular ; volcanic glass, fel- spar, palagonite, hornblende, phillipsito, black mica, mag- netite.	(23.19%), fine amorphous matter, minute mineral and siliceous remains.	Many of the Foraminifera are coated on the outside with a deposit of a crystalline nature; all stages of this deposition can be seen in the deposit. <i>Pulvinulina</i> menardii is absent. Coccoliths and Rhabdoliths are very abundant.
78.75	(1.00 %), a few Radiolaria, one or two Spongo spicules, <i>Rhizammina algoformis</i> (frag- ments), Lituolidæ.	(1.00 %), m. di. 0.06 mm., angular; glassy volcanic par- ticles, folspar, olivine, angite, palagonite, phillipsite, horn- blende, magnetite, cosmic spherules.	(71.75 %), much fine amorphous matter, a few minuto frag- ments of minerals and sili- ceous remains.	Only a small quantity came up in the sounding tube. Crystals of phillipsite are present, as on the 9th. Man- ganese grains are abundant. The trawl brought up some clay and a barrelful of manganese nodules. Among these were numerous sharks' testh, and eight or nine earbones of Cetaceans. The bony material of the teeth has been completely removed. Some of the nuclei of the nodules are altered basaltic fragments, others volcanic glass, others angite-andesite or horn- blende-andesite. All the glassy fragments are cemented to the manganese coating by zeolites crystallised in situ. There are some angular pebbles, generally basalt or augite-andesite, and rounded ones of granite or frag- ments of elastic rocks composed of quartz, decomposed felspar, and mica (arkose).
74.87	(1.00 %), a few Radiolaria, Sponge spicules, Astrorhizidæ, Lituolidæ, arenaceous Textu- laridæ.	(1.00 %), m. di. 0.06 mm., angular; manganese grains, magnetite, palagonite, felspar, olivine, augite, a few glassy volcanic particles, magnetic spherules.	(72.87 %), much fine amorphous matter, minute mineral and siliceous remains.	Two layers were to be observed in the contents of the sounding tube. The upper two inches were very dark red, the lower four or five inches light yellow, smooth, and firm. In the top layer only a few Foraminifera and Radiolaria were present, a sample scarcely affervescing with acid. The lower layer, how- over, effervescing with acid. The lower layer, how- over, effervesced considerably, and the microscope rovealed a few Foraminifera and immense numbers of very fine Coccoliths. There is much less manganese in the lower than in the upper layers. The trawl brought up large numbers of manganese nodules, sharks' toeth, carbones of Cetaceans, one or two pieces of pumico, and a granite nodule $3 \times 2 \times \frac{1}{4}$ inches $(7\cdot 5 \times 5 \times 1\cdot 2 \text{ cm.})$. There were also some clayey con- cretions of the bottom, perforated by worm-tubes, lined with manganese.
[99.00]		(2.00 %), m. di. 0.10 mm., angular; fibro-radiating gloh- ules and loose crystals of phillipsito, sanidino, plagio- clase, augite, magnetita, mag- netic sphorules, small con- cretions of manganese, and fragments of volcanic glass and rocks.	(97.00 %), a large quantity of clayey matter, coloured by manganese, very small crystals of phillipsite, and minute mineral particles.	About a quart of this deposit came up, containing an immense quantity of manganese, several of the nodules measuring from 0.5 to 1 cm. in diameter. In one or two instances these nodules are joined together. The Foraminifora are fragmentary except Uvigerina asperula, which is the most commonly occurring. The crystals of phillipsite are very abundant in this deposit. Among the mineral particles are a number of small volcanic fragments, which appear opaque under the microscope. Associated with these there are small volcanic particles altered to brownish palagonite.

Tahiti to Valparaiso-continued.