

No. 20.—Station XXIII. March 15th. Off Sombrero Island. Depth, 450 fathoms. Chemical composition:

Loss on ignition after drying at 230° F.....	4.00	
Portion soluble in hydrochloric acid = 93.95.	Alumina.....	1.80
	Ferric oxide.....	3.00
	Calcium phosphate.....	Good traces
	Calcium sulphate.....	1.00
	Calcium carbonate.....	84.27
	Magnesium carbonate.....	1.28
Portion insoluble in hydrochloric acid = 2.05.	Silica.....	2.60
	Insoluble residue, principally alumina and ferric oxide, with silica.....	2.05
	<u>100.00</u>	

A pteropod ooze, containing very many shells of pteropods and heteropods, and their broken fragments; many pelagic foraminifera of the genera *Globigerina*, *Pulvinulina*, *Orbulina*, *Pullenia*, and *Sphaeroidina*; large *Biloculinae* and calcareous *Rotaliae* and *Cristellariae*; a few coccoliths.—Amorphous clayey and calcareous matter, with sandy particles, quartz, feldspar, mica, magnetite, and sanidine.

Notes on the Foregoing Analyses by Professor Brazier.

The loss on ignition consists, for the most part, of water, probably water of hydration; but there is in all cases evidence of the existence of organic matter. The majority of the specimens, when treated with hydrochloric acid, evolved the peculiar tarry odor so characteristic of some of the limestones of this country. This odor was most perceptible in the specimens numbered 8, 9, 13, 19, 20.

In all the specimens in which the quantity of material was sufficient, the alkaline vapors which accompanied the moisture evolved were readily recognized.

The portion of the sample taken for analysis, after being treated with hydrochloric acid, yielded in every case a residue of a whitish-gray color, Nos. 10, 11, and 12 being nearly white.

No. 8.—Material at command, 9.80 grains.

Loss on ignition.....	0.895
Soluble in acid.....	7.506
Insoluble in acid.....	1.399
	<u>9.800</u>