

APPENDIX A.

The General Results of the Chemical and Microscopical Examination of a Series of Twenty Samples of the Bottom, from the Observing Stations on the Section between Teneriffe and Sombrero.

(The samples were analyzed by Mr. James S. Brazier, Regius Professor of Chemistry in the University of Aberdeen. The microscopic work was done by Mr. John Murray, and the results are taken from his notes.)

No. 1.—Station I. February 15th, 1873. Lat. 27° 24' N., Long. 16° 55' W. Depth, 1890 fathoms. Bottom temperature, 2°·0 C. Chemical composition :

Loss on ignition after drying at 230° F.....	7·91														
Portion soluble in hydrochloric acid = 73·07.	<table> <tbody> <tr> <td>Alumina.....</td> <td>5·26</td> </tr> <tr> <td>Ferric oxide.....</td> <td>3·95</td> </tr> <tr> <td>Calcium phosphate.....</td> <td>Large traces</td> </tr> <tr> <td>Calcium sulphate.....</td> <td>0·44</td> </tr> <tr> <td>Calcium carbonate.....</td> <td>50·00</td> </tr> <tr> <td>Magnesium carbonate.....</td> <td>1·32</td> </tr> <tr> <td>Silica.....</td> <td>12·10</td> </tr> </tbody> </table>	Alumina.....	5·26	Ferric oxide.....	3·95	Calcium phosphate.....	Large traces	Calcium sulphate.....	0·44	Calcium carbonate.....	50·00	Magnesium carbonate.....	1·32	Silica.....	12·10
Alumina.....	5·26														
Ferric oxide.....	3·95														
Calcium phosphate.....	Large traces														
Calcium sulphate.....	0·44														
Calcium carbonate.....	50·00														
Magnesium carbonate.....	1·32														
Silica.....	12·10														
Portion insoluble in hydrochloric acid = 19·02.	<table> <tbody> <tr> <td>Alumina.....</td> <td rowspan="2">} 3·47</td> </tr> <tr> <td>Ferric oxide.....</td> </tr> <tr> <td>Lime.....</td> <td>1·26</td> </tr> <tr> <td>Magnesia.....</td> <td>0·52</td> </tr> <tr> <td>Silica.....</td> <td>13·77</td> </tr> <tr> <td></td> <td style="border-top: 1px solid black;">100·00</td> </tr> </tbody> </table>	Alumina.....	} 3·47	Ferric oxide.....	Lime.....	1·26	Magnesia.....	0·52	Silica.....	13·77		100·00			
Alumina.....	} 3·47														
Ferric oxide.....															
Lime.....	1·26														
Magnesia.....	0·52														
Silica.....	13·77														
	100·00														

A globigerina ooze, containing many coccoliths and rhabdoliths, many pelagic foraminifera of the genera *Globigerina*, *Pulvinulina*, *Orbulina*, *Pullenia*, etc.—Amorphous clayey and calcareous matter, and small particles of feldspar, mica, quartz, hornblende, and magnetite.

No. 2.—Station II. February 17th. Lat. 25° 52' N., Long. 19° 14' W. Depth, 1945 fathoms. Bottom temperature, 2°·0 C. Chemical composition :