II. 0·520 grm. of substance dried at 110° C., treated with hydrofluoric and sulphuric acids, required for the determination of protoxide of iron 6·5 c.c. of permanganate of potash = 0·0395 grm. of protoxide of iron (1 c.c. of permanganate of potash = 0·005846 grm. of protoxide of iron).

III. 1·0252 grms. of substance dried at 110° C. gave 0·0127 grm. of potash and, by difference, 0·0288 grm. of soda.

Silica,	50·56
Titanic acid,	0·80
Alumina,	10·80
Peroxide of iron,	4·95
Protoxide of iron,	7·59
Protoxide of manganese,	0·14
Lime,	9·35
Magnesia,	0·27
Potash,	1·24
Soda,	2·81
Water,	1·70
	98·71

80. Pumice.—Station 241.

Lat. 35° 41′ N., long. 157° 42′ E., 2300 fathoms (Renard).

I. 1·2725 grms. of substance dried at 110° C., fused with the carbonates of soda and potash, gave 0·7755 grm. of silica, 0·2032 grm. of alumina, 0·1155 grm. of peroxide of iron, 0·0371 grm. of lime, 0·0629 grm. of loss on ignition, 0·0493 grm. of pyrophosphate of magnesia = 0·0178 grm. of magnesia.

II. 1·0515 grms. of substance dried at 110° C., treated with hydrofluoric and sulphuric acids, gave 0·0707 grm. of the chlorides of soda and potash, 0·0914 grm. of chloroplatinate of potash = 0·0169 grm. of potash and, by difference, 0·0246 grm. of soda.

Silica,	60·95
Alumina,	15·97
Peroxide of iron,	9·08
Lime,	2·92
Magnesia,	1·40
Potash,	1·61
Soda,	2·34
Loss on ignition,	4·95
Manganese,	large trace
	99·22

81. Basic Volcanic Glass.—Station 285.

Lat. 32° 36′ S., long. 137° 43′ W., 2375 fathoms (Renard).

I. 0·8463 grm. of substance, fused with the carbonates of soda and potash, gave 0·4510 grm. of silica, 0·1258 grm. of alumina, 0·0991 grm. of ferric oxide, 0·0788 grm. of lime, 0·1834 grm. of pyrophosphate of magnesia = 0·06619 grm. of magnesia.

II. 0·5448 grm. of substance, treated with hydrofluoric and sulphuric acids, required for oxidation 6·6 c.c. permanganate of potash solution (1 c.c. permanganate of potash solution = 0·0058463 grm. of ferrous oxide) = 0·03859 grm. of ferrous oxide.

III. 1·5701 grms. of substance gave 0·0265 grm. of water (loss on ignition).

IV. 1·5235 grms. of substance, treated with hydrofluoric and sulphuric acids, gave 0·08159 grm. of the chlorides of potash and soda, 0·0243 grm. of chloroplatinate of potash, corresponding to 0·0074 grm of chloride of potash = 0·0047 grm. of potash, and 0·0741 grm. of chloride of soda = 0·0392 grm. of soda.