149. Piece of Bone.—Station 285.

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

	Loss on ignition after drying at 230° Fahr.,	5·50
Portion soluble in Hydrochloric Acid = 93·40	Alumina,	9·50
	Ferric oxide,	5·33
	Calcium phosphate,	55·17
	Manganese oxide,	3·76
	Calcium sulphate,	1·75
	Calcium carbonate,	14·87
	Magnesium carbonate,	0·76
	Silica,	2·26
Portion insoluble in Hydrochloric Acid = 1·10	Insoluble residue, principally alumina with silica,	1·10
		100·00

150. Piece of Bone (Whale's).—Station 286.

Lat. 33° 29′ S., long. 133° 22′ W., 2335 fathoms (Dittmar).

The specimen was brown in colour, very porous, and readily reducible to a powder.

	P.	$\frac{P.}{E.}$	
Moisture,	3·06		
Combined water,	3·66		
Phosphoric acid,	27·49	1·162	1·387
Carbonic acid,	4·14	0·188	
Fluorine 0·71 = (F_2 − O),	0·41	0·037	
Lime,	39·00	1·392	
Magnesia,	2·01		
Ferrous oxide,[1]	1·04		
Ferric oxide,[1]	4·83		
Binoxide of manganese,[1]	1·61		
Alumina,	2·70		
Silica and substances insoluble in hydrochloric acid,	9·08		
Alkalies and loss,	0·97		
	100·00		

The insoluble residue consisted apparently of amorphous silica. The part soluble in hydrochloric acid seems to be a mixture of—

Phosphate of lime,	60·0	per cent. of the whole substance.	
Carbonate of lime,	9·4	,,	,,
Fluoride of calcium,	1·4	,,	,,
Binoxide of manganese,	1·6	,,	,,
Ferric oxide,	4·8	,,	,,

and minor constituents.

Ratio of equivalents of phosphoric acid, carbonic acid, and fluorine—

$(\frac{1}{3}P_2O_5)$		(CO_2)		(F_2)
1	:	0·162	:	0·037

In the recent carbone (No. 153A.) we found :—

1	:	0·162	:	*nil.*

[1] Direct result of analysis—

Manganous oxide,	1·31
Ferric oxide,	5·98
Loose oxygen,	0·18