III. 2 SCIENTIFIC EQUIPMENT

2 theodolites, Hilger & Watts, Microptic No. 1

4 liquid filled prismatic compasses

3 aneroid barometers

1 18" x 18" plane table

1 boxwood alidade

1 100' linen measuring tape

2 tidal measuring staffs

2 tacheometric staffs

1 pair binoculars

3 rod bubbles

2 sets tacheometric tables

2 field notebooks

6 sheets drawing paper

Comments on this equipment can be found under the appendix on survey techniques.

III. 3 GENERAL EQUIPMENT

Of the equipment taken only the tents call for comment. The tents which were taken fall into the following categories:-

Meades

The "B" Meade

The design of these tents is excellent. They are strong and roomy and are easy to erect. The only feature which is to their detriment is their weight: they are made of an unnecessarily heavy material and their poles are stronger than they need to be. Thus they are only really useful as a basecamp tent.

The "C" Meade

The "C" Meade is not so heavy as the "B" Meade, but its design is not so sound. The side flaps for holding the walls out tend to tear the wall, as there is an uneven stress distribution in the wall. Another disadvantage is that a fly sheet could not be fitted to the ones which the Expedition had, and rain came very easily through the Egyptian cotton material.

The "Everest" Meade

This tent is of very sound design and is undoubtedly the best tent that the Expedition took. The only criticism was not of the tent but of the tent material: as already explained

in the general section "Wincol" material is not waterproof.

The Arctic Guinea

The tent is of sound design but is a little light for prolonged expedition use. The material of which the tent is made is of excellent quality, and tent and flysheet were really waterproof even in the heaviest rain. The tent is a little complicated for quick erection.

The Pyramid Tent

This tent, made for Arctic Sledging, was of pyramid shape, supported by 4 poles running to the apex. The tent material was heavy Ventile. The tent was ideal as a messing tent at base camp, and was capable of standing up to very high winds. It was very easy to erect.

Other equipment taken included:

7 primus stoves

3 pressure cookers

6 sets of cooking pots

2 pairs crampons

3 climbing ropes

6 ice axes

3 large polythene bottles (for kerosene)

2 tent repair outfits

9 sleeping bags (various kinds)

9 air beds (rubber)

1 entrenching tool

6 waterproof capes

some repair kit.

Comments on this equipment will be found in the appropriate places in the introduction and in the general section.

III. 4 LIST OF FOODSTUFFS

Food	Quantity	Comments
Margarine (tinned)	50 lb	Very good, packing excellent
Cooking fat (tinned)	30 lb	" " " " , about 20 lb. too much was taken
Tea	7 lb	Very good, needed packing in tins
Drinking Choc.	18 lb	" "
Nescafe	5¼ lb	" "
Salt (Cerebos)	9 lb	" " , packing good
Porage Oats	65 lb	" " , tinned
Lemonade Crystals	9 lb	Quite useful, could have easily managed with 4 lb
Ovaltine	4½ lb	Good, lids tend to come off tins easily
Sugar	120 lb	Should have been packed in tins
Soup (Normal)	95 pkts	Excellent, needed 20% more
" (Bouillon)	44 pkts	Quite useful as a drink
Raisins	12 lb	Good in curries, needed packing in polythene bags or tins
Sweets	28 lb	20 lb would have been enough
Lifeboat Biscuits	112 lb	Excellent
Chocolate	160 lb	Very good, in damp conditions needs sealing hermetically
Nespray (dried milk)	48 lb	Very good, difficult to mix in hot water
Sweet Biscuits	50 lb	Too many, 30 lb would have been enough
Oatmeal blocks	24 lb	Excellent, needed another 30 lb

Food	Quantity	Comments
Tinned cake	30 lb	Good for an occasional treat
Mint cake	18 lb	Good in cold conditions
Dried Egg	20 lb	10 lb would have been quite ample, needed packing in 1 lb tins
Oxo	3 lb	Good for flavouring stews
Jam	36 lb	Too much, total should have been about 40 lb
Marmalade	24 lb	
Honey	12 lb	
Tinned fruit	20 lb	Made a pleasant change
Cheese	80 lb	Excellent, a staple part of our diet
Dried potato (powder)	8 lb	Useful for thickening soups
Luncheon meat	12 lb	Useful in scrambled egg
Dehydrated meat	60 lb	See M. of A.F.F. report
" veg.	70 lb	
" fruit	30 lb	

More curry powder would have been useful.

III. 5 DEHYDRATED FOODSTUFFS

REPORT SUBMITTED TO THE MINISTRY OF AGRICULTURE, FISHERIES AND FOOD ON THE SUITABILITY OF THEIR DEHYDRATED FOOD FOR THE PURPOSES OF THE EXPEDITION.

I. Objects of the Expedition

(a) To carry out a survey of a series of raised beaches on the east coast of Iceland.

(b) To carry out a geological survey and make a geological map of the Kirkjubol Peninsula, Eastern Iceland.

(c) To make a sketch map by compass and pacing traverse of the small ice-cap Thrandarjokull, Eastern Iceland.

I. Duration of the Expedition

(a) Raised beach survey: 7 weeks.

(b) Geology: 6 weeks.

(c) Ice-cap survey: 2 weeks.

III. Members

As in the front of the main report.

IV. Living Conditions

For the whole duration of the expedition, entirely under canvas.

V. Cooking facilities and availability of fuel

Cooking was done throughout the expedition on kerosene Primus stoves. Liberal supplies of fuel were available, except at the ice-cap. Usually, dehydrated food was first soaked

and then pressure cooked.

VI. Climatic conditions

In general, the weather was good. Towards the end, however, it degenerated and high winds with driving rain were encountered (particularly at the ice-cap).

VII. Degree and duration of daily activities

For the most part, seven hours surveying in the field was usual, although on certain days, when transferring camp, etc., up to ten hours was spent in marching.

VIII. Suitability of dehydrated foods

The one pound tins of cooked minced meats were ideal for this type of expedition, where mobility is a prime factor. The larger cans were not found to be so convenient, since they usually contained more food than was necessary for the duration of one trip from Base camp. Also, in the case of meat, the larger cans were found to have a greater bulk/unit weight. A can of ½ the large size would have been more convenient.

The labelling on some of the larger cans could have been better, since some were only labelled by number (we suggest: potato; carrot; peas; as the marking). This was most unsatisfactory to a man without the relevent list of numbers. Also, the writing on some of the can labels which appears to have been done in ball-pen, becomes erased when

raisins and curry powder.

XI. Acceptability

Dehydrated potato strip was generally thought to be better than dehydrated potato powder.

Although opinion differed as to the relative palatability of canned and dehydrated fruit, it was generally thought that the dehydrated fruit tasted more like fresh fruit than the canned fruit in syrup which the expedition took.

The dried meat was thought to be better and more suitable for expedition purposes than luncheon meat, corned beef, etc.

XII. General comments on individual items

MINCED COOKED BEEF

Flavour improved by adding Oxo or soup powder.

MINCED COOKED HAM

Too salty by itself, but ideal in a stew, with vegetables. Very good in scrambled egg.

MINCED COOKED PORK

Very satisfactory. Most people thought it was improved by curry.

RAW LAMB CUBES

Very good curried.

RAW BEEF CUBES

Rather tough, needed pressure cooking.

STEAKS - GRADE I

Excellent when properly cooked.

BEEF STEAKS - GRADE II

These seemed to vary according to cut. Sometimes rather tough.

POTATO STRIP

Very satisfactory. Smaller strips were found to cook more quickly. Flavour improved by adding margarine.

CABBAGE

When pressure cooked it must be completely immersed - otherwise it turns brown. Flavour improved by the addition of cheese when cooked.

CARROT

Satisfactory.

PEAS

Very good. Tend to lose their skins when pressure cooked.

SPROUTS

Sometimes turn brown in the middle when pressure cooked. Not very good for stews.

APPLE AND SUGAR

When mixed with raspberries it was found to produce a very satisfactory sweet.

RASPBERRIES

Satisfactory. Need a lot of sugar.

BLACKCURRENTS

Excellent. Need a lot of sugar.

PLUMS

Very good, need a lot of sugar.

It should be noted that all the above fruits need a large amount of sugar, and due allowance should be made for this when planning the expedition.

PLACE IN THE DIETARY

Dehydrated products were always used as a basis for the main meal in the evening. Sometimes minced cooked ham was included in scrambled egg as a breakfast food. The diet was almost entirely of dried food; a typical day's menus were as follows:

BREAKFAST

Porridge, sugar, milk (from milk powder), tea or coffee.

LUNCH

4 oz. of chocolate, 2 oz. of cheese, 2 oz. of Lifeboat biscuits and several sweets, to be eaten at intervals during the day.

SUPPER

Soup or omelette (soup from soup powder, omelette from dried egg). Main course - usually a stew from dehydrated vegetables and meat, either a sweet of dehydrated stewed fruit, or cheese or jam and biscuits, tea or drinking chocolate.

About 75% of our diet was dehydrated food.

LIST OF OTHER SUPPLIES TAKEN BY THE EXPEDITION

In large quantities:-

Porridge

Sugar

Cheese

Chocolate

Milk, (Nespray, dried)

Dry biscuits

Dried soups

Tea

Drinking chocolate

Margarine

In small quantities:-

Sweet biscuits

Tinned cake

Oatmeal blocks

Luncheon meat

Oxo

Kendal mint cake

Jam

Honey

Cooking fat

Dried egg

Canned fruit

Coffee

Ovaltine

Powdered potato

Sweets

LOCAL FOODS

Small quantities of local foods were obtained:-

Fish

Milk

Bread

Eggs

APPROXIMATE TIMES OF EATING

Breakfast: 09.00

Lunch : At intervals throughout the day

Supper : 19.00 - 21.00

HEALTH AND WELL BEING

Losses in weight

I. M. Plummer : 16 lb.

P. Smith : 6 lb.

G. A. Topping : 9 lb.

Other people remained substantially constant in weight.

Satisfaction of hunger

All agree that dehydrated foods satisfy hunger quite adequately.

Thirst

The party generally agree that properly prepared dehydrated foods did not make them more thirsty than usual.

Sleep

On the whole the party slept well.

III. 6 BALANCE SHEET

INCOME

	£	s	d
Personal contributions from Members	250	0	0
Donations:			
Mount Everest Foundation £50 Royal Geographical Society 75	125	0	0
* I.C. Exploration Board	150	0	0
Sale of Newspaper Articles	8	0	0
Sale of Tidal Staffs	7	10	0
	£540.	10.	0

EXPENDITURE

Boat Passages	228	14	4
Other Travelling Expenses	6	15	0
Freight	12	2	9
Food	110	1	8
Equipment	23	0	2
Other Expenses	8	13	2
Expenses in Iceland (travel etc.)	130	0	0
	£519.	7.	1
Excess of income over expenditure	£21.	2.	11

* In addition, the Exploration Board paid the insurance premiums of £33. 10. 11, so that the total cost of the Expedition to the Board amounted to £183. 10. 11.

BIBLIOGRAPHY

Meddelanden Fran Uppsala Universitets Geografiska Institution, Series A, No. 123, "The Hoffellssandur" - A Glacial Outwash Plain. Part III, Chapter X, Jón Jónsson, Notes on the changes of Sea Level in Iceland.

The Origin of Dust Cones on Glaciers, Charles Swithinbank, Journal of Glaciology, Volume I, No. 8, October 1950, pp. 439 and 461-465.

Admiralty Manual of Tides (1941 Edition) p. 111.

Venture to the Arctic, ed. R. A. Hamilton, p. 119.

The Geology of the Sandfell Laccolith, Hawkes, Quarterly Journal of the Geological Society, 1935.

Two books of photographs proved to be very interesting, and gave a good idea of the scenery, and the conditions which will be met during any trip to the island. The books were:-

Hekla on Fire, by Sigurdur Thorarinsson, and Island I Myndum (Icelandic pictures).