

IMPERIAL COLLEGE  
OF SCIENCE & TECHNOLOGY

ICELAND

1958

THE EXPLORATION BOARD.



IMPERIAL COLLEGE ICELANDIC EXPEDITION

1958

FULL REPORT

The Expedition would like to acknowledge the help given by the numerous individuals and firms who made the Expedition possible. It is not practical to name all individuals, but our thanks are particularly due to Professor H. H. Read, F.R.S., Mr. A. Stephenson, O.B.E., The Royal Geographical Society, The Mount Everest Foundation, and the Imperial College Exploration Board. Also we would like to thank Miss R. Lawson for help in typing this report, and Mrs. P. Picton for some of the diagrams.

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Geology Department of Imperial College, and for the past five years has been working on the volcanic geology of Eastern Iceland. His previous experience of the area and locality made him the obvious choice for leader of the Expedition. He was a member of the Lucas University Norwegian Expedition 1951 and 1952.

B. BRIDGEWATER, B.Sc., A.R.G.S., Geologist.

Mr. Bridgewater had just completed his final year in the Geology Department at the time of the Expedition. He had been a member of a previous private Expedition to Norway in 1955 and he was the leader of the I.C. Norwegian Expedition of 1956. He is at present with the Greenland Geological Survey.

A. J. LEWIS, Surveyor.

Mr. Lewis had just completed his second year in the

## SECTION I - GENERAL REPORT

### I.1 PARTY

The following people were members of the party:

G. P. L. WALKER, Ph.D., F.G.S., Leader.

Dr. Walker is the lecturer in mineralogy in the Geology Department of Imperial College, and for the past five years has been working on the volcanic geology of Eastern Iceland. His previous experience of the area and seniority made him the obvious choice for leader of the Expedition. He was a member of the Leeds University Ruwenzori Expeditions 1951 and 1952.

D. BRIDGEWATER, B.Sc., A.R.C.S., Geologist.

Mr. Bridgewater had just completed his final year in the Geology Department at the time of the Expedition. He had been a member of a previous private Expedition to Norway in 1955 and he was the leader of the I.C. Norwegian Expedition of 1956. He is at present with the Greenland Geological Survey.

A. J. LEWIS, Surveyor.

Mr. Lewis had just completed his second year in the



Physics Department at the time of the Expedition. He had had some experience of skiing and dog-trekking in Norway.

I. M. PLUMMER, B.Sc.(Eng.)(Min.), A.R.S.M., Surveyor.

Mr. Plummer had just completed his final year studies in Mining at the time of the Expedition. This Mining course included an intensive course in all forms of surveying. He had general mountaineering experience and had spent the previous summer vacation in Canada. He is now doing research in the Mining Department.

P. SMITH, Surveyor.

Mr. Smith was, at the time of the Expedition, a second year student in Civil Engineering. He had had some general mountaineering experience.

P. F. TAYLOR, B.Sc., A.M.I.N.A., Surveyor.

Mr. Taylor is a research worker in the Civil Engineering Department. He was a member of the Durham University Expeditions to Iceland in 1949 and 1951 and leader of the Durham University Norwegian Expedition in 1950. He was a member of the British North Greenland Expedition 1952-54. At present he is the Secretary of the I.C. Exploration Board.

G. A. TOPPING, Surveyor.

At the time of the Expedition Mr. Topping was a first



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year student in the Civil Engineering Department. He had travelled in Norway previously and had general mountaineering experience.

R. F. WILSON, Geologist.

Mr. Wilson was, at the time of the Expedition, a second year geology student at I.C. He had had previous experience in geological mapping and field work.

R. G. WRIGHT, Geologist.

Mr. Wright was a second year student in the Geology Department. He had had good all round mountaineering experience, in both summer and winter. He is the present (1958-59) President of the Exploration Society.

## I.2 PRELIMINARY ORGANIZATION AND SUPPORT

The Expedition was conceived in January 1958 and was supported by the Royal Geographical Society (£75, plus equipment), the Mount Everest Foundation (£50), and The Imperial College Exploration Board (£150). Personal contributions amounted to £280. Dr. Walker was financially independent of the Expedition, being the recipient of a grant from the Royal Society.

Most of the Expedition's food was supplied by a number of generous firms and was obtained through the good offices of Miss B. Falkingham of the I.C. Supplies Department. A



large amount of this food was supplied free of charge or at reduced rates. An appendix listing the food and the suppliers will be found at the end of this report.

The Expedition was fortunate enough to be able to use the new dehydrated foods now being processed as a research product by the Ministry of Agriculture and Fisheries. An appendix as to the suitability of these foods for the Expedition's purposes will be found at the end of this report.

Cigarettes and tobacco were supplied to the Expedition free of charge by Players Limited. Very often these were useful as objects of remuneration to helpful Icelanders.

Surveying equipment was borrowed from the Mining Department of Imperial College and the Royal Geographical Society. A list of surveying equipment, with comments, will be found under surveying procedure in the Scientific Section.

The choice of clothing was left to the individual, although several members obtained Bally Boots at cost price through the Expedition. The boots gave excellent service.

Camping and cooking equipment were loaned to the Expedition by the I.C. Exploration Board. A list of this equipment with comments can be seen at the end of this report. Almost all the cooking at Base Camp was done in



pressure cookers (supplied at reduced price by Prestige Ltd.) These proved to effect a great saving in fuel.

Fuel (paraffin) was obtained in Iceland. Not much difficulty was experienced in obtaining it, but usually it was not very clean, and the primuses needed cleaning frequently. The stoves were primed with Meta Fuel.

The roarer burner type of primus was found to be more satisfactory than the silent burner type as the vapourising system did not become blocked so quickly by the dirty fuel.

The Expedition's supplies and kit were packed in tea chests (18" x 18" x 24") and various assorted crates. Packing was done in the basement of the Garden Hostel, 12 Princes Gardens, by kind permission of the sub-warden, Mr. Minton. The total weight of the assorted crates (14 in all) was over half a ton. These were dispatched to Leith by British Road Services on June 15th. About half as much again had been sent direct to Leith by the suppliers.

Dr. Walker took with him a small 12 h.p. Austin Van. This gave him the necessary mobility to cover the large area of the country on which he was working. Dr. Walker was accompanied by his wife for the duration of the Expedition.



### I.3 THE EXPEDITION

#### I.3.1. Travelling

The whole party left from Leith (Scotland) at 7 p.m. on Monday, 23rd June, aboard the m.v. Gullfoss. The food and equipment were also aboard the same boat. Messrs. Wright, Wilson and Dr. Walker had 3rd class berths, and the rest of the party travelled 2nd class. Third class passages could not be obtained for the whole party.

Life on board the ship was restful and unenterprising, although the ornithologists gained useful experience in identifying the sea birds around the Icelandic coast. Most people were ill during the crossing, even though it was relatively calm.

The first view of Iceland, on June 25th, was of the magnificent southern coast with high ridges and sweeping glaciers. Further along the coast we came to the Vestmannaeyjar (Westerman Islands), a series of small volcanic islands which present themselves as a fantastic group of geometrical shapes. Great cliffs rise sheer from the sea at crazy angles, to be topped by steep green cones, or grassy hollows.

At last, early on the morning of 26th June, we docked at Reykjavik. The weather was dull, and, as seems usual in this city, it was raining. We were allowed to disembark

at about 9 a.m. and immediately proceeded with the job of clearing our baggage and equipment through customs. We were made to pay import duty on the food of 2400 kromur (about £30). This sum was later reimbursed by the Icelandic authorities. Future expeditions are advised to get a clearance note from the Icelandic Government stating that they are a temporary scientific expedition, and that the food they have is for their own use only.

After the customs had been settled, money was obtained from the bank, and a lorry for transport of the equipment and one member of the party to Akureyri was arranged. The leader also visited the British Consulate.

The party, with the exception of the geologists, stayed at the Youth Hostel in Reykjavik, and then left for the East the next day by bus or lorry.

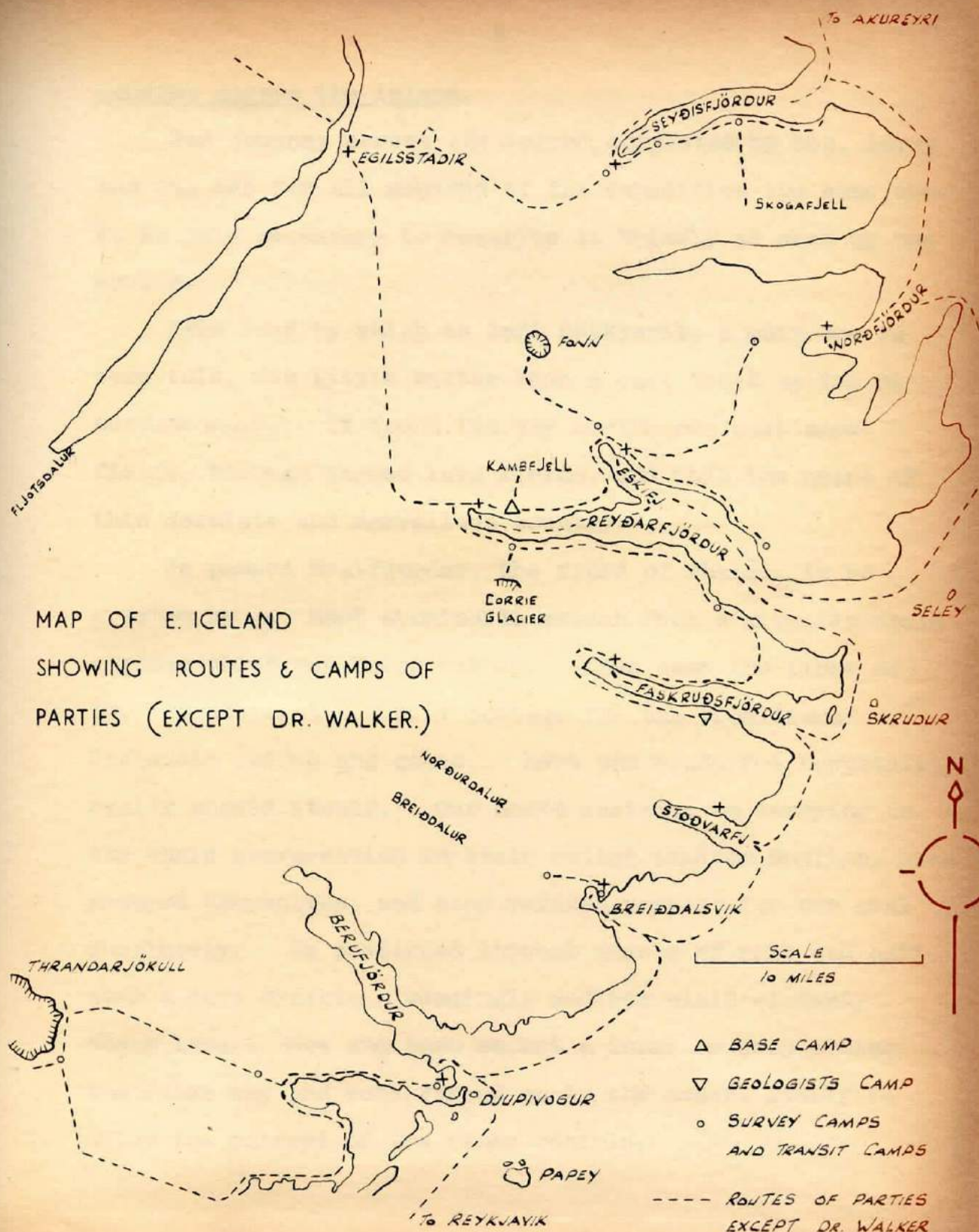
At this stage it is convenient to give a chart showing the movement of the various parties during the whole of their stay in Iceland:



WALKER	WRIGHT	WILSON	BRIDGEN	TOPPING	SMITH	PLUMMER	LEWIS	TAYLOR
			ARRIVED IN REYKJAVIK	26 <sup>TH</sup> JUNE				
			ARRIVED AT BASE					29 <sup>TH</sup> JUNE
			TO SEYDISFJ.			TO SEYDISFJ.		6 <sup>TH</sup> JULY
ARRIVED AT BASE		TO BASE	TO EAST REYDARFJ.					
TO FASKRUDSFJORDUR			TO BASE					13 <sup>TH</sup> JULY
TO STODVEJ.			TO NORDFJ.					TO MYVATN
TO FASK'FJ.			TO BASE					20 <sup>TH</sup> JULY
TO SEYDISFJ.						TO BASE		TO R'VIK
			TO BREIDOK			TO FASK'FJ. TO BREIDOK		LEFT R'VIK
						TO BASE		27 <sup>TH</sup> JULY
		TO MYVATN						
TO BREIDOK		TO ESKIFJ.			TO ESKIFJ.			3 <sup>RD</sup> AUG.
		TO FASKFJ.			TO SOUTH REYDARFJ.			
		TO BASE			TO BASE			10 <sup>TH</sup> AUG.
TO REYDARFJ.					TO DJUPINOGUR			
					TO ICECAP			
		TO DJUPIN'R						17 <sup>TH</sup> AUG.
TO BERUFJ.	TO AKUREYRI							
	TO REYKJAVIK							
TO N'DALUR	LEFT REYKJAVIK			TO DJUPINOGUR				24 <sup>TH</sup> AUG.
				TO BASE				
TO REYDARFJ.								
TO FLJOTSÖR					TO REYKJAVIK			31 <sup>ST</sup> AUG.
LEFT FOR R'K				LEFT REYKJAVIK				7 <sup>TH</sup> SEPT.
								14 <sup>TH</sup> SEPT.
LEFT R'VIK								21 <sup>ST</sup> SEPT.

CHART SHOWING MOVEMENTS OF PERSONS.







Journey across the island.

The journey across the Island, completed by bus, lorry and van was for all members of the Expedition the same one. It is only necessary to describe it briefly as seen by one member.

"The road by which we left Reykjavik, a main one we were told, was little better than a cart track as far as surface went. It wound its way northwards past snow-fields, through jagged lava fields, and into the heart of this desolate and marvellous country.

We passed Hvalfjordur, the fjord of whales, to be greeted by a most abominable stench from a gigantic whale carcass which was being cut up. Then came the first of our two stops, at a quaint cottage for the traditional Icelandic coffee and cakes. Here the wonderful hospitality really showed itself. Our hosts insisted on carrying on the whole conversation in their rather limited English, even amongst themselves, and they refused payment for our meal absolutely. We continued through sheets of rain and hail over a lava desert, a seemingly endless plain of dusty sharp lava. Now and then we met a lorry or jeep coming the other way and were forced on to the desert itself to allow the passage of the other vehicle.



We stopped for another meal and continued onwards into the setting sun. The sun dipped for a few minutes below the horizon (for we were not north of the Arctic Circle), bathed everything in red light, and then rose again majestically to begin another day. Finally, we passed down a long green valley and could see a small white town at its far end. At either side were high rock walls, culminating in sharp jagged ridges, which reflected the red light of the rising sun on to the small town. This was Akureyi, the capital of the Northern province of Iceland.

Early next morning I contacted the others and we bundled half our kit on to the mail bus to the East. The other half was to follow about a week later. After crossing a huge glacial river with some magnificent falls (Godafoss), we struck out into the desert. Myvatn, a small hamlet by the side of a swampy lake, was the first place we came to. The lake is supplied partially with warm water from the hot-springs nearby and is the home of millions of midges (Myvatn means "lake of flies") and countless varieties of ducks and waterfowl. The lake also houses an abundant supply of large trout and a feast of these and skýr (sour milk) celebrated our arrival there.

The bus continued after lunch past a series of hot-



springs, spouting steam and boiling water for many feet into the air. Near the springs were steaming pools of boiling mud which bubbled and frothed, and caked yellow sulphur could be seen in patches on the ground. Amongst the clouds of steam could be seen the ruins of a building. This, at one time, had been a sulphur extraction plant, but had exploded because of an irregular supply of steam.

Beyond the springs stretched a barren desert of lava. To the south-west could be seen the snowy peak of Herdubreid, a magnificent mountain, built of horizontal strata, capped with a snowy cone. Right in the south was the white ice-field of Vatnajökull and the snows of Snæfell in front of it.

After having crossed the desert, followed by a long trail of dust, we descended into the Egilsstaðir valley and negotiated the longest bridge in Iceland. This is over three hundred yards long, and the piers are specially reinforced to withstand the pressure of the ice of the frozen river in winter. We were now approaching a more mountainous area, and our destination at Reyðarfjörður. Up a short pass, a steep descent into a narrow fjord and we were there.

Base camp was pitched beside a turbulent stream some



two miles from the small village of Reyðarfjörður. Chaos reigned at first, but after a short while our supplies were neatly packed away, protected from the weather, and where they could easily be found."

I.3.2. Base camp, Reyðarfjörður, Eskifjörður, and Nordfjörður.

Once things were sorted out at Base camp we quickly settled to a routine and the tacheometric levelling began. For the first week the weather was very hot, and one member was severely burnt and blistered. Slowly our surveying improved, and by the end of the first week all the beaches around the head of Reyðarfjörður had been completed. In addition, Taylor and Bridgewater were engaged in making a large scale plane-table map of the area in between the beach profiles G-G and F-F. This served as useful surveying practice and gave some idea to the party of the extent of the erosion of the beaches.

During this hot period, regularly, at about 6 p.m., a dense sea mist would drift into the fjord and envelope all of the lower slopes. Presumably this phenomenon was the result of the meeting of the hot air off the land and a cool sea current.

During the surveying of some of the beaches around





Fig. 3: View of Base Camp looking towards the fjord



Fig. 4: Typical Mountain scenery in Eastern Iceland

the head of the fjord difficulty was experienced in crossing the swollen rivers. These rivers, fed with melt water at that time of year, were very cold, and their depth and power were deceptive.

On Friday, 4th July, the Seydisfjordur party caught the bus for Egilsstadir, and the tidal staff was established on the jetty in Reydarfjordur village.

The tidal observations, described in the section on surveying techniques, were very tedious, but they allowed the observers to study the Icelandic way of life, and catch up on their letter writing and reading.

Just after the tidal observations had been completed the geologists arrived in Reydarfjordur by van, and after a day continued on to Faskrudsfjordur to start their project.

By this time the survey of the beaches in the western half of Reydarfjordur (with the exception of a few on the southern shore) had been completed, and a party left for the eastern end of the fjord near the Iceland Spar Mine, and later proceeded to Nordfjordur.

Taylor had to leave Base at about this time to travel back to Reykjavik via Myvatn, because of his commitments at College. This depleted the number of surveyors, and left the Base camp to its own inexperienced devices.



At this time Plummer and Lewis returned from Seydisfjordur, Bridgewater having returned some time earlier.

Difficulty was experienced in getting transport to Breiddalsvik, and after a long delay a party sailed by coastal vessel from Faskrudsfjordur on Saturday, 26th July.

Surveys of the beaches in Eskifjordur, and on the south side of Reydarfjordur were completed by 9th August. Another set of tidal observations were also carried out to correlate the Breiddalsvik results. Sufficient food was packed at Base for a party of five to spend eighteen days at the small ice-cap Thrandarjokull. The Reydarfjordur party finally took the boat south to Djupivogur, picking up the Breiddalsvik party on the way, and then travelled by vehicle and foot to the ice-edge.

### I.3.3. Seydisfjordur.

A party of three, Lewis, Bridgewater and Plummer, went from Base Camp to Egilsstadir by bus, and then by hired jeep over the pass into the more northerly fjord, Seydisfjordur. It would have been impracticable to have marched over as they had six man-loads of equipment, and it would have taken four days to carry that amount in.

They set up a camp behind the town, and spent two days



reconnoitering and bird watching. During this period they established contact with the local police-man, who later proved very helpful. The site of the Admiralty bench-mark was found at Imslandshus, although the bench-mark itself was not found, and the camp was transferred there whilst the initial tidal observations were made. When these observations were completed Bridgewater left, to return to Base, hitch-hiking most of the way.

After one day of surveying, in which the levels were transferred to Eyrar, the camp was moved up to Eyrar, a cache of food being left at Imslandshus. From this camp the levels were carried through to Skalanes, and the beach profiles made.

The children of the village were very friendly, as was the school-master. One of the local farmers supplied milk and eggs, and before the party left entertained them to coffee, having first invited his English-speaking nephews over from Egilsstadir.

An interesting method of drying fish was observed in the village. The fish, (gutted and cleaned), were spread on the stony beach to dry in the sun. They were picked up each evening, and stacked under tarpaulins, and respread the next morning by the children, under the direction of the school-master.



One afternoon Lewis and Plummer decided to scale Skogafjall, a mountain at the head of the valley behind Eyrar. This was accomplished after a long climb over very broken rock, and they were rewarded with a fine view of the surrounding mountains and of Mjölifjörður.

The herring fleet visited the fjord whilst Lewis and Plummer were in Seyðisfjörður, as many as fifty boats being seen in the fjord at one time. During a visit to the town to collect mail, the policeman obtained fresh herrings straight from a drifter for them.

After finishing the survey of the beaches the camp was moved back to Ímslandshús for the second set of tidal observations. At 7 a.m. the morning after the observations were concluded, camp was struck, and the two surveyors with their equipment were transported to Egilsstaðir by the milk truck on its daily run over the pass.

Here they were to wait for the returning Reyðarfjörður-Myvatn bus, but, on meeting the other two surveyors who were making an abortive attempt to reach Breiddalsvík, all returned to base by truck.

#### I.3.4. Breiddalsvík

Topping and Lewis reached Breiddalsvík on Sunday, 27th July, having spent two days walking from Reyðarfjörður into



Faskrudsfjordur, only to find that the boat they then caught could just as easily have brought them right from Base Camp. After a rapid reconnoitre they pitched camp, and caught up with several hours of well needed sleep. This first camp was on the narrow neck of land which protects the haven nestling in the northern corner of this sweeping skerry-strewn bay.

As there was time to spare before starting the tidal observations they inspected the beaches in the valley behind the bay, in particular those near Heydalir. The main series of beaches form a huge horseshoe sweeping across the valley about three miles from the sea, the beaches at the ends being quite narrow but well defined. At Heydalir the flat top of the beach has been used to form the landing-strip.

The beaches have been badly eroded in places, especially where the river cuts through them. This river, once having cut through the beaches, spreads over a large flat area, giving rise to much damp, rough pasture, then joins up again to break through a narrow opening in the impressive storm beach which encircles the bay.

At the appointed time the tidal observations were made, the staff being lashed to the jetty. It was apparent that the results were following a much smoother curve than those



resulting from the observations made in the fjords. This was almost certainly due to the absence of seiches.

As soon as this task had been completed the camp was moved to Heydalir, this being a more convenient centre for the survey of the beaches. A pleasant site was found for this camp, in a depression eroded in the beach. Unfortunately the weather had now turned much colder, with a biting wind off the land, and some very sharp showers.

During the transfer of levels from the tidal observation position to the beaches the theodolite was damaged, and not knowing the extent of the damage the party carried on with their work. They realised that some damage had been done by the discrepancy between the readings, but it was thought that a correction could be applied to the readings.

Along the north side of the valley a series of outcrops, which at a first and distant inspection resembled beaches, were examined. Ice scratches were observed on the outcrops, these being parallel to the general direction of the valley, as might be expected. Further up the valley, behind the main beaches, another parallel series was observed. These could possibly have been river terraces, as the main beaches would almost certainly have merged into terraces on their landward side.



On 11th August the party returned to Breiddalsvik having done as much as they could of the profiling. They expected to be picked up the following day by the south-bound party travelling aboard the "Esja" on their way to Thrandarjokull. By this time they were running short of food, having underestimated the length of their stay, and having had to cut their stores before leaving Base. Consequently they were greatly relieved to see Smith, Plummer and Bridgewater waiting for them on the heaving deck.

#### 1.3.5. The Icecap Party Movements

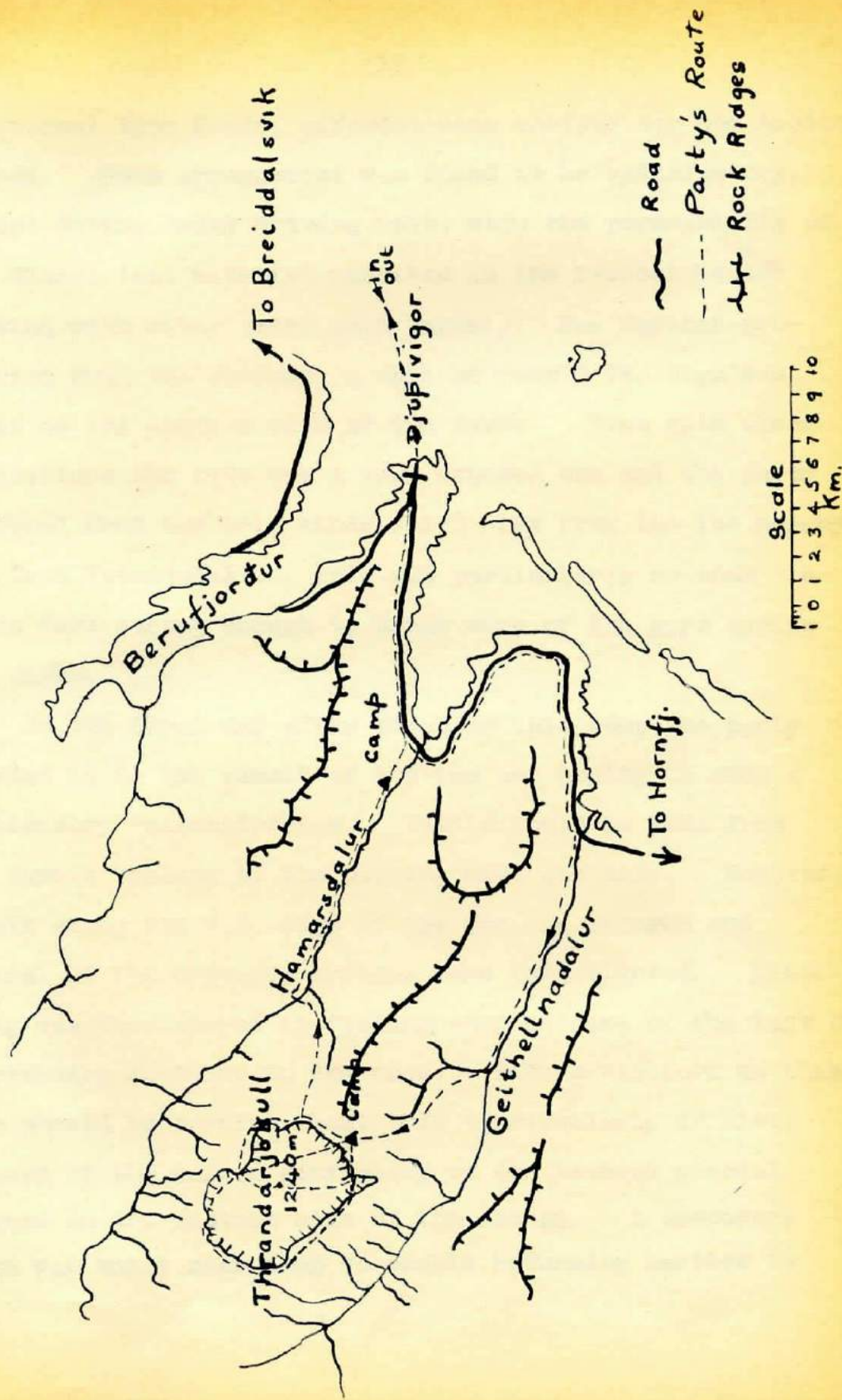
Sufficient food and equipment were taken from Base to supply five men for 18 days. This included the extra clothing required for living at higher altitudes, and in all gave each man a load of about 70 lbs.

The party arrived at the small village of Djupivigor on 12th August and camped the night there. With the help of the Director of the village Co-op a jeep was hired to take the party and kit some 40 Km. into Geithellnadalur.

The party were deposited some 7 Km. from the ice edge, which was, at the time, in cloud. After climbing for four hours the party pitched camp on an exposed rocky shelf at about 900 m. (2900 ft.) The tents were so arranged, end to end and with their entrances together, that an easy distribution of food was possible, and the stronger tent,



# GENERAL MAP OF ICE-CAP PARTY MOVEMENTS



an Everest type Meade, afforded some shelter for the Arctic Guinea. This arrangement was found to be satisfactory, except during heavy driving rain, when the permeability of the Wincol tent material resulted in the Everest Meade filling with water (very cold water!) For further protection from the weather, a wall of rock 3 ft. high was built on the eastern side of the tents. Even with these precautions the site was a very exposed one and the party suffered from the cold winds which blew from the ice nearby and from Vatnajokull. This was particularly so when the winds were strong enough to break some of the guys during the night.

On the first day after pitching this camp the party climbed up to the summit of the ice cap hoping to make a preliminary reconnaissance. Little could be seen from the summit because of the blowing mist and snow. However, a walk along the N.E. edge of the ice was enjoyed and several of the crevasse systems were investigated. Difficulty was encountered in finding camp because of the lack of outstanding features in the area. Future visitors to this area should be careful about this (particularly in mist) because of the marked similarity of the several glacial tongues on the eastern side of the Icecap. A temporary cairn was built near camp to enable returning parties to



find their way more easily. Five cairns were built next day as part of the perimeter traverse and the party trekked their way back to camp right across the centre of the ice.

On 16th August Bridgewater left the party and walked the 22 miles back to Djupivigor to catch the coastal steamer, the m.v. "Esja", and join the geologists on their way to Reykjavik and home. No work was possible on that day because of the high wind and blowing rain.

Five more cairns were built on 17th August on the western side of the Icecap. By this time the weather seemed to be closing down and the rain became more frequent. Another day was lost because of bad weather on 18th August, and on 19th August came the first really good day (the only one) of the party's stay at the ice edge. On this day five more cairns were built and bearings were measured between all of the cairns. The distance of the ice edge from the cairns was measured and the distances between most of the cairns was paced.

The weather for the next two days was bad and the final pacing for the survey, between the last three cairns, was done in driving rain on compass bearings.

The last night at the ice cap was the most uncomfortable encountered on the Expedition. The wind was high and gusty, and the rain heavy; two side guys on the tents snapped in



the middle of the night because of overstrain; the occupants of the tents became very wet, and four gallons of water were baled from one of the tents. It may confidently be stated that the "Wincol" tent material is definitely not waterproof. It was, perhaps, fortunate that the party was scheduled to leave next morning, and with the coming of daylight the camp was hurriedly vacated.

Difficulty was experienced in crossing the south-eastern tongue of the icecap. The incessant rain had washed away its surface snow and transformed it into a sheet of slippery blue ice, at an angle of about seven degrees. Good skating practice was enjoyed by the party.

After walking 12 miles, which included crossing the swollen river in Hamarsdalur at a narrow gorge, a transit camp was pitched 2 miles from the sea. Here the party dried out and continued on to Djupivigor next day. The party were fortunate enough to pass through the farmyard of a very kind gentleman, who offered them refreshment, and entertained them for several hours, before driving them the last few miles into Djupivigor.

One day was spent at Djupivigor drying out and rebuffing the curiosity of the local children. The party sailed for Base on 24th August.



### Base Camp and Departure from Iceland

Base camp was packed up in a rainstorm and the party finally left the east coast aboard the m.v. "Esja" on 1st September.

Reykjavik was reached on 3rd September and the party took lodgings in the town until their embarkation for the United Kingdom on 6th September. During this period there were a series of anti-British demonstrations in the capital, over the fishing dispute. The party were grateful for the hospitality shown to them during this difficult period by the citizens of Reykjavik.

We must also record here the Expedition's gratitude to the many Icelanders whose patience and generosity were taxed so many times; it was largely due to these people that our stay in Iceland was such a pleasant one.

### I.3.6. Activities of the Geologists

The geological party consisted of Dr. Walker (and his wife), R. F. Wilson, R. Wright and D. Bridgewater. This section of the report deals mainly with the activities of Wilson and Wright, and to a lesser extent to those of Bridgewater. Dr. Walker's travels are dealt with in the next section.

The party, with the exception of Bridgewater, left

Reykjavik by car late on the evening of the day of arrival, and after paying a visit to the home of the Professor of Physics at the University, motored some thirty miles out of the city before camping. While travelling north the following day, a stop was made at a whaling factory, the chief recollection of which was the powerful and repugnant smell.

Various detours were made to places of interest, and an attempt was made to get to the most westerly of the icecaps. This, however, proved to be impracticable in the short time available, but whilst on this detour they passed through the small thermal area of Reykholt, the steam from which had been utilised by the farmers for the heating of green-houses. On the farm visited citrous fruit and figs were being grown. With the vast reserves of hot water available it would seem possible that a major industry could be developed in these parts, with the result that Iceland might one day export tropical fruit to other countries.

Stops were made at the little towns and villages passed en route, and it was noticed that a generally high standard of living prevailed throughout the country. Of particular note was the great kindness and generosity with which the party were universally treated by the inhabitants.

After five days of travelling over appalling roads, the



party had got to within thirty miles of Akureyri, when they had the misfortune to develop a petrol leak, and at the same time to lose some of the luggage. The former was temporarily repaired with the aid of chewing gum, but though they searched, there was not trace of the missing luggage. Luckily it was handed in to the police in Akureyri, and returned.

By this time they had become accustomed to the midnight sun and found it very useful, as their working days were often out of phase with normal routine by as much as six hours.

Just a week after leaving Reykjavik a major misfortune befell the party when bolts securing a back wheel of the van sheared. They came to an abrupt halt, and there being nothing else they could do, they pitched camp there. Soon a milk truck came along, and with the help of the driver, the van was moved on to the verge.

While the wheel was being repaired they took the opportunity of exploring the surrounding country. They were fortunate in being near to Myvatn, in an area reputed to be one of the most active, volcanically, in the world. The scenery was magnificent, with a ring of snow capped mountains making a background to the blue waters of the lake. The latter was fed by underground springs of pure

water, and swarmed with both trout and duck.

During the week spent at Myvatn there was an average of twenty-two hours of sunshine per day, and the sky was continually cloudless.

When eventually the wheel was repaired, the party set off across the great northern desert, and reached the east coast after a two-day journey. Here they picked up the rest of their stores from the Base Camp, and carried on to Faskrudsfjordur. Camp was pitched about ten miles from the village, at a farmstead called Eyri. The farmer and his wife were most hospitable folk, and supplied them with fresh milk daily.

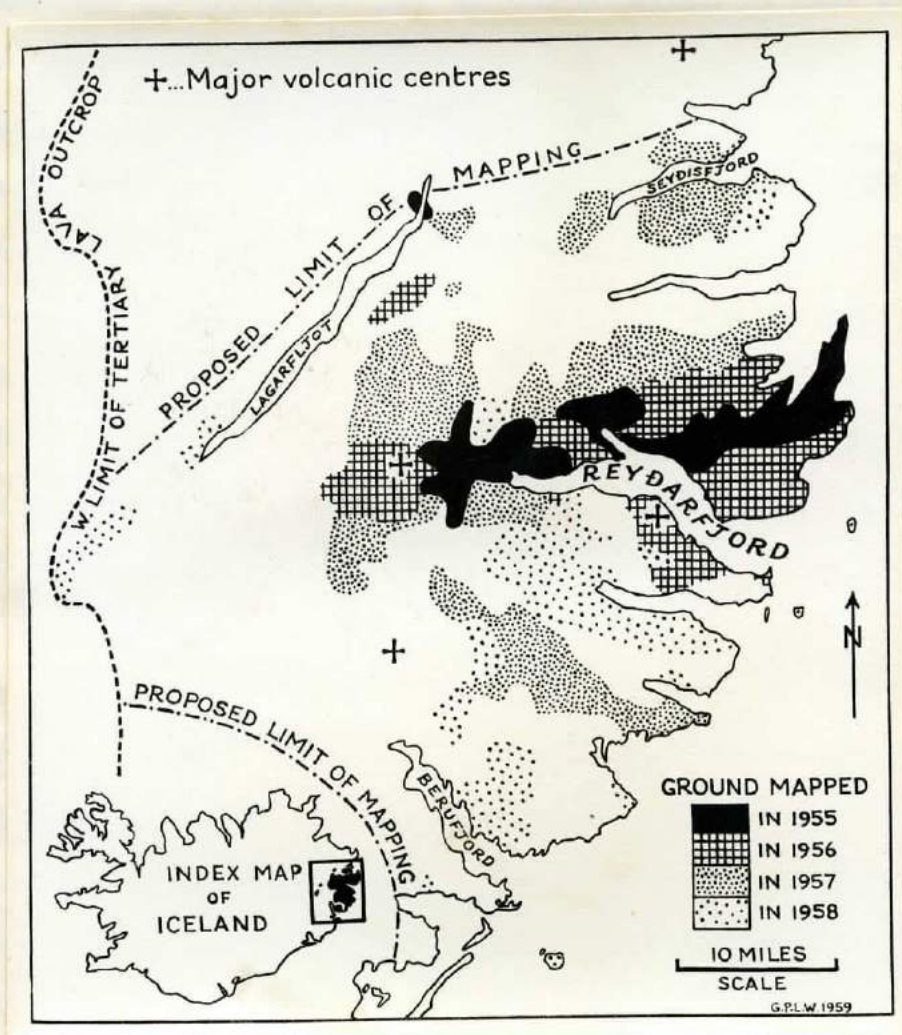
Some six weeks after arriving in Faskrudsfjordur, in which time a geological map of part of the peninsula had been constructed, the three of them, Wilson, Wright and Bridgewater, set sail aboard the m.v. "Esja" for Akureyri. After a three-day voyage, during which they crossed the Arctic Circle, they disembarked, and went by road to Reykjavik, where they boarded the m.v. "Gullfoss" bound for home.

### I.3.7. Dr. Walker's Party

They left Reykjavik with Wilson and Wright at half past midnight of 27th June on the first stage of the car

*Mapping in Eastern Iceland since 1955*





**Fig. 6:** Progress of Dr. Walker's geological mapping in Eastern Iceland since 1955

journey to eastern Iceland. Myvatn was reached on 30th June, after a journey which included a detour to the hot springs at Reykholt and an examination of the post-glacial lava and cinder cones of Bifrost. Advantage was taken of an enforced stay of a week at Myvatn (due to a breakdown mentioned in the previous section) to examine the fascinating volcanic geology of this region. Eastern Iceland was not reached until 8th July, and after a visit to Base Camp the van was driven over the ridge from Reydarfjörður to Faskrudsfjörður, by probably one of the most difficult roads in Iceland, and camp was established at the head of Faskrudsfjörður.

Soon after arrival at the head of Faskrudsfjörður, Wilson and Wright moved camp to Eyri to commence their own mapping. Dr. Walker then spent five days mapping near the head of Faskrudsfjörður, including three long 12-hour traverses into the mountains to the west, and then moved camp for a few days to Stöðvarfjörður and then to near Hafnanes. The brilliant and very warm sunshine experienced at Myvatn persisted, although a bank of low cloud out at sea often surged up the fjord during the daytime and at times reached the head of the valleys to the west. This low cloud is often encountered in the summer in the eastern



fjordlands of Iceland and is a major handicap to geological mapping, although the peaks above 2000 feet usually rise above it and enjoy brilliant sunshine.

Although there was still much to do, Walker left on 23rd July to call at Egilsstaðir for a fortnight's mail, and visit the bank at Eskifjörður for funds. On the rough crossing to Reyðarfjörður a stone dislodged by one of the car's wheels struck the gearbox violently and broke off a large piece. The hole was successfully plugged, and the oil replenished. Camp was established near Haneysstaðir farm, south of Seyðisfjörður, for the second stage of the planned programme.

Ten days were spent in Seyðisfjörður to complete some mapping commenced in 1957. The weather had by now deteriorated, and most of the time they encountered cold northerly winds, with showers of rain that fell on the mountains as snow down to about 2500 feet. Much of the work had to be done at the eastern end of Seyðisfjörður involving a 2 to 2½ hours walk every morning to reach the area of mapping and necessitating spending up to 14 hours in the field at a stretch. The work was, however, successfully accomplished.

After visiting Egilsstaðir for mail, the difficult

journey to Breiddalur was successfully accomplished and camp set up on August 3rd south of Breiddalur to examine the hitherto unmapped ground between there and Barufjördur. The scenery is dominated by a group of six spectacular rhyolite-capped peaks of which one, Slottur, is bounded on three sides by impressive cliffs up to 800 feet high. The ascent on the fourth side is quite easy. Another peak, Stong, is even more spectacular, and its ascent seems impracticable. These peaks prove to be a series of deeply dissected rhyolite domes that are exceptionally well-exposed.

On 11th August they returned to Reyðarfjördur to visit Base Camp just before the departure of the party to Thrandarjökull, and then spent a few days checking doubtful points in the ground already mapped near there. They met Thorbjörn Sigurgeirsson, the Icelandic physicist, on 15th August; he was making observations on earth magnetism in the area, and they visited with him the offshore islands of Seley and Skrudur. Both proved to be composed of igneous intrusions, and the latter is interesting in being inhabited by an immense number of sea-birds, including puffins.

On 18th August they returned to Reyðarfjördur after doing some mapping south of the fjord, and met the geologists, Wilson, Wright and Bridgewater on the m. s. "Esja",



about to depart for Akureyri and thence Reykjavik. There followed a visit to Eskifjörður to collect funds from the bank there, and to visit the local Sheriff for Austur-Múla Sysla (County), a charming and very hospitable man.

It was, unfortunately, necessary to return to Breiddalur to complete some mapping started in 1957 north of the main valley of Breiddalur, but the difficult crossing from Egilsstaðir was accomplished without incident. Before starting mapping, a visit was organised on 21st August to the island of Papey, six miles off-shore, near Djúpivogur. Examination of aerial photographs of Papey had suggested the presence of ring-intrusions there, and it seemed extremely desirable to visit the island to study the geological structure. As luck would have it, the day chosen was one of the windiest of the summer, and the crossing, accomplished in a small fishing boat, was extremely rough. Had it not been an off-shore wind, conditions would have been impossible. The existence of arcuate intrusions on the island was established, but it was quite clear that the island is not a major volcanic centre, as had been hoped. Back on the mainland that night the gale was very severe and accompanied by heavy rain.

After a few days mapping in Berufjörður, a week was



spent mapping in Nordurdalur north of the main valley of Breiddalur. Weather was poor, with cloud down to the valley floor on several days, making work on the mountains difficult, but the planned programme of mapping was completed. They then returned to Reydarfjordur to visit the surveying party about to dismantle base-camp and depart for Reykjavik.

That weekend was the wettest of the summer in eastern Iceland, with a fall of approximately three inches of rain. Following the rain the weather improved somewhat and several days were spent revisiting ground already mapped in 1955-57 along Reydarfjordur. They finally departed from the eastern fjordlands on September 3rd to make a study of the rocks at the top of the Tertiary succession some forty miles inland. From Egilsstadir the long, straight lake, Lagarfljot, was followed along a good road to its head, and camp established at the end of the motorable road, in Fljotsdalur. Five very successful days were spent there camped on the banks of the turbulent, milky waters of the Jokulsa river, and several long traverses were made, including one of 12 hours' duration to well beyond the furthest farm and to within 10 miles of the prominent volcanic mountain, Snaefell, and 15 miles from the northern edge of the ice-cap,



Vatnajökull. On several days it was very warm and sunny, and on two days at least Thrandarjökull was seen to be completely clear of cloud.

Eastern Iceland was finally left on September 8th. It was intended to spend a fortnight on the journey back to Reykjavik to enable some mapping to be undertaken at several points in the Tertiary volcanic district of western Iceland, for comparison with the east. Akureyri was reached in three days after visits to the great waterfall, Dettifoss, and the remarkable abandoned waterfall of Asbyrgi, but beyond Akureyri extremely bad weather was experienced until the end of the stay in Iceland, with almost continuous gales, making camping difficult, and repeated heavy falls of rain. The work which had been planned was abandoned and most of the last fortnight was, geologically, a complete washout. However, the 500 mile journey to Reykjavik was completed without incident, and they departed, aboard the Gullfoss, on 20th on the journey home.