

MOST SECRET

Unit

OPERATION "GUNNERSIDE"

Fenrik Rønneberg's Report

Preparation

- Dec. 1942. 1. At the beginning of December I was informed of the task ahead of me. From the information given the importance of the operation was made clear, as was also the necessity for the individual participants to be expert ski-runners and in a state of high physical fitness.
2. Intense training was put into operation, but unfortunately at the date of our departure from S.T.S.26 the condition of the party was not 100% perfect.
- 10.12.42. 3. Arrived in London for the purpose of selecting our equipment. For the main part this was completed on the following day.
- 11.12.42. 4. Arrived at S.T.S.17 for special training with demolition charges on dummy plant, and for technical advice regarding plants in general. This training was efficient and effective, the charges simple and of a nature to inspire confidence. In addition we carried out hard physical training. Our exercises with the Colt .45 and Tommy gun resulted in most successful scores, all participants achieving approximately 90%.
- 17.12.42. 5. Arrived at Station 61. Weather conditions over Norway were extremely bad and this moon period was a fiasco. Nevertheless we were extremely well looked after.
- 31.12.42. 6. Arrived at S.T.S.1. During the moonless period we continued our intense physical training and our shooting practice. Our form when we left was better than on our arrival.
- via Dispatch Station*
- 12.1.43. 7. Arrived at Station 61. On account of bad weather it was again impossible to fly. We were supplied with fresh intelligence and more information regarding the target.

First Flight Attempted

22.1.43. 8. We started at 2000 hours. The weather was perfect and for several hours we circled over the area. There was, however, no sign of ^{the advance party.} Swallow. I requested that we should be dropped over BJORNESFJORD, but owing to the uncertainty of such a step the pilot would not take the responsibility, and we returned to KINLOSS, ^{the U.K.} where we arrived at 0600 hours, and

23.1.43. to Station 61, which we reached at midnight on the 23rd.

1.2.43. 9. Arrived in ^{at an American training school where we} Scotland, where we were to spend the period of waiting with Major McKenzie. In this excellent country we carried out further intense physical training with full packs, in the mountains. The condition of all members of the party was excellent.

12.2.43. Arrived at Station 61. ^{his dispatch station.}

The Second Flight

16.2.43. 10. We left at 2000 hours. The weather was good, the wind strength about 20 m.p.h.

11. At 2400 hours, we all landed safely on Norwegian soil. The jump was made from about 1000 feet. One package containing four rucksacks landed and was dragged by the parachute some 2 kms. before coming to rest in an open ice crack, from which it was salvaged. One sleeping-bag and two rucksacks were damaged, but otherwise all our gear landed safely.

17.2.43. 12. All the equipment was unpacked and what was required for our advance repacked, while the remainder was hidden to form a depot. The necessary stakes were placed, and their bearings taken, in order to orientate the depot. This work was completed by 0400 hours, by which time driving snow had already hidden all traces of the landing and of the digging of the depot.

13. At a distance of 2 km. from the landing place an uninhabited hunting lodge was observed. We decided to stay here as the weather was getting worse, the sky clouding over and the snow storm increasing. All our gear was collected in the hut, where there was a plentiful supply of firewood and bedding. A rota for sentry duty was prepared with shifts of $1\frac{1}{2}$ hours.

The Advance

14. Snowstorm, clear and cold. We packed our sacks and toboggans in preparation for the advance. We took our bearings as well as we were able in the driving snow, in order to locate our exact position. The look of the country seemed to indicate that the landing had been made on ~~ENJØRNES-~~ ^{to involve a party} FJORD as we had requested before our departure, i.e. entirely independently of Swallow. All hands were to some extent affected by the change of climate. ~~(With regard to our equipment - see the attached list.)~~

15. At 1700 hours all was prepared for the advance to LAGEROS - KALLUNGSJAA and the "Fetter Hut". [Strong wind, driving snow and a moon. Our packs weighed about 30 kg. plus two toboggans of some 50 kg. each. After an hour the drift snow became so thick that it was impossible to find our way and the order was given for a return to the hut, which we reached at 2000 hours. It was then very cold with a full westerly snowstorm. The same $1\frac{1}{2}$ hour watches were placed before turning in. The order for return most probably saved the whole party from disaster. A further march that night would have led us so far out of our direction - and the following six days storm would have given us no chance to get back to either the depot or the hut.]

16. During this first march there were signs which gave grounds for some doubt as to whether we had been right in our judgement of our position. Upon a close examination of the map I came to the conclusion that it might be possible that the hut lay at SKRYKENVANN, some 30 km. N.E. of BJØRNESFJORD. A greasy finger print on a map found in the hut gave the clue to this assumption. Later we discovered a "Fishing Log-book for SKRYKENVANN" in the hut, which made the matter certain. The hut was the property of Herr Cappelen of OSLO, the fishing rights in the lake of Olav Ditlef-Simonsen, OSLO.

18.2.43. 17. The snowstorm still raging with undiminished force. It was impossible to go out of doors. All hands were under the weather owing to climatic change. Two had bad colds.

19.2.43. 18. The same weather. Clear skies, storm and driving snow. We made an attempt to reach the depot to fetch more food in order to save the (Kreyberg) rations. This had to be given up because of the danger of losing our way. During the night the chimney pot was blown off the house.

20.2.43. 19. Somewhat less wind, clear, driving snow. Another attempt was made to fetch food, but the snow storm had so changed the landscape that the stakes were hidden. The visibility was extremely poor, so no bearing of our landmarks could be taken effectively and after three hours the attempt had to be abandoned. The same afternoon we made another try and finally a container was found, making it a simple matter to find the depot. To dig out the depot was impossible owing to another change for the worse, of the weather, but the position of the depot was now satisfactorily re-marked.

21.2.43. 20. The snow storm raged with renewed power. Visibility was zero. The general lassitude of all members of the party was still very much in evidence, and two men were seriously ill from colds.

22.2.43. 21. The storm had blown itself out. The weather was now fine. The order was given to prepare for departure at noon. The country between SKRYKENVANN and KALLUNGSJAA being steep and difficult, and the state of health of the party being uncertain, it was decided that the loads should be reduced to an absolute minimum, though we took with us uniform etc. for the three of the ^{Swallow} party, food for Swallow (for 4 men for 5 days), the charges for the high concentration plant, and other operational equipment (see attached list). All was prepared by 1300 hours. The sacks weighed about 25 kgs., the two toboggans 40 kgs and 30 kgs.

The Reindeer Hunter

22. As ill luck would have it a hunter came across the tracks between the depot and the hut, and came up to the latter. We immediately held him and interrogated him. His papers and baggage were examined and found to be in order. He thought however that we were Hirdmen, and said therefore that he belonged to the N.S. He said that he was not actually a member but that he had strong sympathies for N.S. ~~His name was Kristian~~ Kristiansen, was 43 years of age and was a trapper by profession. He signed a declaration to the effect that his rifle was at GEITVASSLEGERET.

23. We ordered him to accompany us for the time being. ~~If necessary we could liquidate him in the mountains.~~ He was given a toboggan to haul - supplied with rations for 5 days - in order to make it harder for him to take to his heels. He was later instructed to guide us to KALLUNGSJAA, and this he did, by daylight and moonlight, by a first class route. He made a better impression when he got going. He was left at SLETTDALEBU with two men to guard him, and later, after discussion with the Swallow leader, ^{of the Swallow party} he was set free. He was ordered to go into the Vidda for a week and to hold his tongue, in default of which his written declaration regarding his rifle would be sent to the German Security Police.

25. We left SKRYKENVANN at 2400 hours. The weather was good, still and with good visibility.

Contact with Swallow.

23.2.43. 26. From 0400 hours to sunrise we rested at NETTEVANN and then continued via VIUVANN to KALLUNG. Our condition was only fair. At KALLUNG we saw two civilian bearded ski-runners, in apparently excellent physical condition. ^{one of the party} Haukelid was ordered to put on his camouflage ski-smock, a civilian ski-cap, and to make contact, if necessary making himself out to be a reindeer keeper in the unlikely event of their being "strangers". The rest of us went into cover. A wild yell of pleasure from the three told us that we were in touch with Swallow. *the other two party*

27. The reindeer hunter with two guards was left at SLETTEDALS-LEGERET, and the rest of us went on to the "Fetter Hut", with our gear. Later a messenger was sent up to release the reindeer hunter and to fetch the two others.

28. At the "Fetter Hut" tongues were loosened over reindeer meat, and porridge etc. The lads were in wonderful spirits, splendid condition, well fed and lacking nothing. We decided to rest the whole of the next day. The distance from SKRYKENVANN to the "Fetter Hut" is approximately 45 kms. The time of our arrival at the hut was 1800 hours.

24.2.43. 29. The operation was reviewed with ^{the leading the advance party} Swallow, to whom I explained the general plan with the assistance of sketches. It was said that it would not be possible to cross the MAANA river from the main road to VEMORK except at KROSSO or VAAER. This would either mean an extra 10 kms. distance or fighting our way across the bridge at VEMORK. No final decision was taken. As Advance Post I, FJØSBUALEN was chosen.

one of our members
30. Sverre Heiberg was despatched to RIJUKAN to gather the latest intelligence regarding guards, etc., from a contact who was employed in the plant, and with orders to report to Advance Post I on Friday 26th.

31. Weapons, equipment, charges and food supplies were made ready and packed in preparation for the attack, and for withdrawal to the "Fetter Hut". ~~Knut Haugland~~ *was dismantled* dismantled the wireless *and left for the main depot at* SKRYKENVANN. He had another man with him *(known as Einar)* whom for reasons of security we never saw.

The Attack and Withdrawal to SKRYKENVANN

25.2.43. 32. We started at 1100 hours. The weather was cloudy, with some wind and temperature a few degrees below freezing. Making use of ~~Swallow's~~ *the leading of the advance party's* knowledge of the country, the leading advance was entrusted to ~~Fearik Jens~~ *him* ~~Roulsen~~, who despite driving snow and extremely poor visibility, *he* guided us to LANGSTJAA. We had some difficulty in finding the hut which we finally reached at 1700 hours.

33. We found the doors and the windows of the hut were closed by metal shutters and half inch bolts, which we cut with armourer's shears. The hut was owned by ~~Ironmonger-Storekeeper Coward~~, of RIJUKAN, and was so well supplied with food and paraffin that it was unnecessary to use any of our own stocks. We spent the night here.

26.2.43. 34. A snow storm was blowing in the morning, making it impossible to travel, but during the course of the forenoon conditions improved. At 1300 hours we left, now with scouts far in advance. The terrain was very suitable for taking cover and we reached ~~EPSSUNDALLEN~~ at 1800 hours without having been seen by anyone.

35. Here we found ~~Sverre~~ ^{one of our party} ~~HEIBERG~~ in a hut where we stayed. The hut was blacked-out and a watch placed. We kept 1½ hour shifts the whole time we were here.

36. The hut lay in a remote valley - leading into the ~~MOSSVANN~~ road - at an altitude of about 800 metres and right at the edge of the steep mountainside, with a view over ~~RJUKAN~~ but not of the plant at ~~VERMORK~~. The traffic in this valley was small, but as it was a holiday period we were somewhat afraid that some hut-owner or other might come our way and restrict the time we could spend out of doors. The temperature was then above freezing point, with much wind and driving snow at the higher levels.

37. ~~Sverre~~ ^{one of our party} arrived from the valley with the latest news. His information made it all the more desirable that a crossing place of the Maana river between ~~RJUKAN~~ and ~~VERMORK~~ should be found. He was given a sketch of the valley and a description of our planned crossing place, as decided by aerial photographs, and he was ordered to go on a reconnaissance of the river for the next day. He was then exempted from all sentry duty.

27.2.43. 38. The weather was mild and clear but a storm was blowing. ~~Sverre~~ ^{He} started at 0900 hours in civilian clothes. He returned at 1400 hours and reported that the ice in the river was on the point of breaking up, but that it was still possible to cross at the planned spot. The rest of the day was employed in making the last preparations for the attack, the cleaning of weapons, the reviewing of all our plans, the allocation of instructions, planning the details of our withdrawal,

and, finally, in resting and feeding, for I felt it was advisable to have a reserve of strength. The orders were for all to be ready to leave at 2000 hours.

39. At 1700 hours the sentry reported a ski-runner observed at a neighbouring hut. He was brought in and interrogated. He was recognised by one of the men as a school-mate and it was maintained that he was perfectly dependable. He was given the strictest orders to keep his mouth shut until the next day and, of course, never to mention his meeting with his school-mate. The only thing he would do would be to report on Sunday evening to the owner of the hut that it would appear that the hut had been broken into during the course of the week.

(For details of our operational plan, see Schedule I.)

The attack

27.2.43. 40. The weather was overcast, mild with much wind. We left the hut in FJØSBUDALEN at 2000 hours. We started on ski and later continued on foot down to the ØSVANN road. Along the telephone line it was very difficult and steep country, and we sank in up to our waists. At Vaaser bridge we had to take cover as two buses were met coming up with the night shift from ÅJUKAN. We followed the road to the power-line cutting. It was thawing hard and the road was covered with ice, making things very difficult for the motor traffic.

41. Skis and sacks were hidden close to the power-line cutting. From this point we started at 2200 hours. It was a steep and slippery descent to the river (about 100 metres fall), the ice on which was about to break up, and there was only one practicable snow-bridge with 3 inches of water over it.

42. The ascent to the VEMORK line was very steep (about 150 metres). The outer edge of the track was bare of snow

making it possible for us to hide our footprints where they entered the railway. There were old traces of others who had walked along the track. We advanced to within about 500 metres from the railway gate. A pronounced humming could be heard from the factory, and, furthermore, there was a strong westerly wind. We had an excellent view of the Vaaer road and up to the factory. Here we waited from

28.2.43. 2345 to 0030 hours and watched the relief guard coming up from the bridge. We ate some food we had in our pockets, and once more I checked up that every man was certain about his part of the plan and understood his orders.

43. We cautiously advanced to the ^(Store-shed) hut-barracks, about 100 metres from the gates. From this point one man was sent forward with the armourer's shears to open the gates, while the rest of the covering party supported him. The demolition party stood by to follow up immediately.

44. The gates were secured with a padlock and chain and were easily opened. Inside the gates, the covering party took up temporary positions while the demolition party crept down the inside of the fence to the gate which led out to the store shed, some 10 metres lower than the railway gates and on the same level as the cellar. This was also opened with the shears, as it was to be used by the demolition party on their withdrawal. The reason for entering by the railway gates was because the ground below the track outside the fence was of such a nature that it was difficult to cross silently.

45. Everything was still quiet. The black-out of the factory was poor, and there was a good light from the moon.

46. The sign was given to the covering party, who advanced towards the German guard hut, and at the same moment the demolition party moved along the path behind the drying plant towards the door of the cellar. A guard was posted

at the oxygen tank to cover the main door.

47. The cellar door was locked and we were unable to force it, nor did we have any success with the door of the floor above. Through a window of the high-concentration plant a man could be seen.

48. During our search for the cable tunnel we became separated from one another. Finally, I found the opening - it was just below the first-story floor - and followed by ~~a number of the party~~ *a number of the party* Sgt. Fredrik Kayser, I crept in over a mass of pipes and leads. From an opening under the ceiling we could see the target through the window. In the room outside no guards could be seen.

49. As every minute was valuable, and as there was no sign of the others, we decided to carry out the demolition alone.

50. We climbed down a ladder into the outer room, found the door into the high-concentration plant open, went in and took the guard completely by surprise. We locked the double doors leading out (it had a Yale lock) in order to allow us to work in peace.

51. ~~Sgt. Kayser~~ *While my colleague* kept watch over the guard, who appeared somewhat frightened but who was otherwise quiet and obedient. I commenced placing the charges.

52. This went quickly and easily. The models on which we had practised were exact duplicates of the real plant. About half the charges had been placed in position when suddenly the window opening on to the backyard was broken. This proved to be the two other men, who having lost us and having failed to find the cable tunnel, had decided to act on their own initiative.

53. ~~Sgt. Birger STRÖMSHJELM~~ *one of them* entered through the window and assisted me to place the rest of the charges. When all were in position, ~~Sgt. STRÖMSHJELM~~ *he* checked them over twice while I coupled up the fuses. - *A final checking done before lighting the fuses.*
54. It had been our intention to use a 2 minute delay, but

as everything had gone so well up to now, we did not wish to run the risk of anyone coming in and spoiling our work.

I, therefore, attached two extra fuses, each of 30 seconds.

55. ^{one of the party} Sgt. ~~HAYSER~~ then demanded the key of the cellar, and with it opened the door. During the time we had been working on the charges, ^{another of the party} ~~Henrik Kaspar IDLAND~~ had kept guard outside the window of the room and had also covered the cellar door. There was still no sign of alarm from the yard.

56. Lighting first the 2-minute fuses and then the 30-second fuses, and after having ordered the guard to run up to the floor above, we left the factory.

57. When we were about 20 metres from the cellar door we heard the explosion, and we were convinced that everything had gone according to plan. The sentry at the main entrance was recalled, we passed through the gate and climbed up to the track.

58. As we made our way down the line everything was still all quiet in the factory. We made contact with the covering party before we left the line.

The part played by the covering party during the attack (as reported by ~~Henrik Knut HAUKLAND~~)

59. On receiving our signal the covering party advanced towards the barracks. Each man succeeded in getting into a good position, unseen, some 10 to 15 metres from the watch hut. All was quiet in the factory yard, the Germans were not to be seen, nor was there any sign of the two Norwegian guards who were supposed to patrol there.

60. When the sound of the explosion was heard - it sounded like a dull thud - a German came to the door. He showed no sign of alarm, flashed a torch in the direction of the Norwegian guardhouse, and disappeared back into the hut. He was only 8 metres from ~~Henrik Knut HAUKLAND~~, and every

^{the covering of the covering party}

Tommygun held him in its sights, waiting merely a word from ^{him}HAURSLIP.

61. After this episode the order for withdrawal was given. Not a member of the party was seen, with the exception of the three who went into the factory.

62. We crossed the river successfully. Since our advance the water had risen considerably and it is questionable whether a crossing would be possible in a few hours time.

63. On reaching the point where our skis and sacks had been left we saw a light moving along the upper part of the track, but only as far as about 100 to 150 metres outside the fence, while we had left the track approximately 2,000 metres below. At this moment the first car passed - a petrol driven private car - and turned into the factory.

The withdrawal.

64. The power-line cutting was partly sheet-ice and partly bare of snow. Along its upper part we travelled on ski, but later these had to be carried. On the main road there was now a great deal of traffic of lorries on their way from RJUKAN to VEMORK. We passed a few houses, but all was quiet.

65. About 100 metres from the station of the mountain railway we left the road, climbed up the hillside, and joined RYB'S ROAD which leads up to the mountain. It was a stiff and long climb, particularly for those who were suffering from influenza, but at 0500 hours we were up, and were able to put on our skis. Except for the noise of heavy car traffic, the only sound we heard during the climb was of one shot from the direction of KROESØ.

66. We made our way in a north-westerly direction across the mountains, across VAAERVANN to LANGSJAA. It was blowing hard, but in other respects the weather was good. The snow was largely crusted so that the skis made no

mark. We reached the hut at LANGEJAA at 1100 hours, where we decided to rest and feed.

67. Meanwhile, it started to blow hard, and an hour later the whole VIDDA was one mass of driving snow, making all traffic out of doors impossible. With the knowledge that we had not been observed down in the valley and that we had left no tracks that could be followed, we were able to take the night easy in the hut.

1.3.43. 68. In the morning we made an attempt to go on to "PETTER hut," but the snow storm forced us to turn back. In the afternoon conditions improved somewhat and at 1700 hours we started again, this time succeeding in reaching the "PETTER hut" at 2130 hours, though towards the end we had to contend with a great deal of driving snow and heavy wind. Here we spent the night.

2.3.43. 69. Snowstorm. We tried to reach SKRYKENVANN but after 2 hours had to abandon the attempt and return.

The remainder of the day
70. ~~Syver~~ HELBERG, who had used civilian clothes on his reconnaissance in FJØSBUDALEN, had had to leave them there. It was important that the Germans should not find his sack, which contained his passport, etc. for such might lead to the taking of reprisals. He left us, therefore, in RYB'S ROAD to make his way via VAAENSKARVEN and FJØSBUDALEN to fetch his gear and to meet us in the "PETTER hut." He had his Tommygun with him and was in excellent form. The snow storm, however, had delayed him, as he had not reached the "PETTER hut" during the time we were there.

3.3.43. 71. The weather had improved, it was now clear, with a certain amount of wind and driving snow. We started out for the maindepot at SKRYKENVANN, taking our way by SLETTDALESGORRET where we left a message regarding the operation in the place agreed. The message was approximately as follows:-

"Landed SKRYKENVANN. Weather-bound one week.

involvement party
Contact with Swallow on 23.2.43. (Owing to landing at wrong point equipment had to be much reduced. Attacked 0045 hours on 28.2.43. High-concentration plant totally destroyed. All present. No fighting."

We then took the same route back to SKRYKUNVANN, arriving there at 2000 hours. We immediately started to make preparations for our further withdrawal. All the members of the sabotage group were still together with the exception of *him who had gone in search of his sister* Sgt. Sverre HELLBERG, for whom we now began to have some fears.

4.3.43. 72. Good weather. We continued our preparations and the packing of our gear. Everything that was not absolutely essential had to be left behind in order to save weight and space. (Regarding equipment and provisions, see the equipment list in "Schedule II".)

73. At 1430 hours we were ready to start, and we said "Goodbye" to the rest of the sabotage group. (Those taking part in the withdrawal were:-

Fenrik J.H. RÖNNBERG, leader.
Fenrik KASPER IDLAND.
Sgt. FREDRIK KAYSER.
Sgt. BIRGER STRÖMSHEIM.
Sgt. HANS STORHAUG.

The withdrawal was calculated to take 10 days, and the planned route was approximately 400 kms. The plan provided, in general, for the distance to be covered on ski and that all contact with the population should be avoided as much as possible. The party should be in uniform and, in the event of our meeting any resistance, we were to fight our way through. (It was the intention to split up into two parties when we reached SWEDEN and to try to reach two different Sheroff's posts, where we were to report ourselves as political refugees. Weapons, uniform, etc. were to be destroyed as we left Norway. For details of the withdrawal route, see "Schedule III".)

The retreat to the frontier. From 4th to 18th March.

4.3.43. 74. The weather and the snow conditions were good, the

wind behind us, and the country fairly easy. But our sacks were very heavy and the hauling of the toboggan up hill, through scrub and brushwood, an awful labour. We spent the first night at OS-⁶STER SETERHOTEL, which was unoccupied and far from any other habitation. We found food here, flour, bannock bread and sugar, and we ate as little as possible of our own rations. The health of the party was now better.

5.3.43. 75. Still good weather and snow conditions, and the wind with us. We advanced with scouts thrown out far ahead and making frequent use of our binoculars, but there was never a person to be seen. We passed several mountain farms and huts (seters), and crossed the DAG-LI-GEILO road a little north of DAGALI at 1300 hours. After a difficult and intricate descent to SKURDALEN, made more difficult by the toboggan, we had a very heavy, exhausting ascent to RØDUNGEN LAKE. Here we spent the night in a hunting lodge where we found a little flour and oatmeal. There was no difficulty in breaking into the hut.

6.3.43. 76. Splendid weather, calm, and fine snow conditions. We were able to leave the hut locked. Our general form was now improving, though the writer had been troubled with an inflammation in the right hand for several days. For the most part the toboggan was pulled by Sgts. HANS STORHAUG and FREDRIK KAYSER, who both had considerably lighter sacks. We ate lunch at a seter, into which someone before us had already broken. The country was now of such a nature that it was difficult to find ones way and it was necessary to ski by compass the whole time. We carried on until dusk and spent the night at Nyseter in the house belonging to Farmer HANSERUD himself, where we found flour for our porridge.

The crossing of HALLINGDALEN.

7.3.43. 77. As it was Sunday we were afraid of meeting ski-runners

and stayed in, therefore, all day. The weather was wonderful. We spent the time re-packing our sacks as we were now going to leave the toboggan. For details regarding the reduction of our packs, see the list included in "Schedule II".

At about noon we observed a ski-runner approaching the seter. We hurriedly moved all our gear into one room, which we blacked-out, and we ourselves took cover, so that if the man should look through one of the windows he would not see anything suspicious. He went into a neighbouring hut, about 10 metres off, and stayed there for an hour, before disappearing in the direction of the valley. Later we saw one more ski-runner.

78. We timed our departure so that our crossing of HALLINGDAL should be made when there was little light. NYSTÖLEN was at an altitude of 850 metres over sea level and about 10 kms. distance from the river. We left at 1800 hours and found we had a good "glide" on our skis. At first the country was easy, but later it became steeper and more complicated, but we found a good lumber-road which we followed right to its foot where it joined the main road at a point about 5 kms. south of SVENKERUD Railway Station. From the road to the river the distance was 100 to 150 metres. All was quiet and still, but we found that the river was partly free of ice, and an attempt to wade through the openings in the ice was unsuccessful. Some 100 metres higher up the river we found a boat which we launched in order to reach the edge of the ice along the further bank. Finally, however, 30 metres still further up we found an ice-bridge, the use of which was preferable to the boat, as the discovery of the latter in the open water might arouse suspicion.

79. We now crossed without difficulty. We had intended to ascend the eastern side of the valley by a farm track which led almost right up to the mountain plateau. But after following a good road for some distance, it divided itself into such a maze of lumber-tracks that it became impossible to tell where one really was. Owing to the poor light and the thickness of the forest we could not see any points on which we could take our bearings, but finally we came out on to the edge of the mountainside and then followed a winter-track in for about 4 kms. Here we left the road until we reached a lake possessing well-marked characteristics, which would enable us to fix our position as soon as it was light. We crept into our sleeping bags. It was clear and cold, and we were well soaked through with sweat and water, but the bags proved to be excellent and we all had a good night.

8.3.43. 80. The weather was again perfect, still and cold. We quickly fixed our position and decided to put off breakfast proper until we had reached a seter about one hours distance away. We followed a lumber track to the seter. No one had used this road for some days and the last tracks on it were in the direction towards the valley. The country was relatively easy going, and as soon as we were up on the mountain, the snow conditions were good. Despite the fact that this district is broken up by small hills and valleys, we had little difficulty in finding our way, and we found the going easier now we had got rid of the toboggan.

81. We ate our meal at a seter shed. It was now blowing hard and the temperature was many degrees below zero. We carried on towards the east, with the wind behind us, and passed BJAADALENSETER. Much of the top snow had now been blown off, leaving bare ice which was very hard on our skis. When we reached FJELLSTØLEN, about 20 kms. S.W. of AURDAL-

FJORD in VALDRES, it was extremely cold, and blowing hard, though clear. We spent the night in a snug seter farmhouse, well stocked with flour and bannock bread, where we were able to dry our boots and our clothes.

9.3.43.

82. Beautiful weather, perfect snow. Our goal to-day was to reach, before nightfall, the point from which the crossing of VALDRES was to be made. The terrain here was relatively easy, partly open and level, and partly crossed by peculiar valleys. There were many unoccupied seters and huts. We reached the edge of the side of the valley and stopped there until dark.

83. Finding a steep lumber track, we followed this down into the valley, and came out of the woods upon one of the upper farms. We passed two men on their way up the mountain, but as we were dressed entirely in white with our weapons visible in the mouths of our sacks, they doubtless took us for German ski-troops. All was quiet in the valley, the time being 2000 hours.

84. We followed the road and took a short cut down to AURDALSFJORD. On account of the melting snow on the south slopes, the water of the lake was partly open, and we followed the edge a few hundred metres to a place where the water appeared to be frozen the whole way across. I took off my pack and skis and crawled over the ice to the other side and tested the strength of the ice with my axe. It was weak, but should be passable nevertheless, and I returned to the others who were waiting for me on the south shore. We then all crossed successfully, keeping well apart from one another.

85. Following the old winter road we came up to the railway line 200 metres east of the station, just where the road to the mountains takes off. This we followed. It was steep but not difficult going. The lights in the farms were now being extinguished and we were at 900 metres above sea level

- 10.3.43. by 2400 hours. We continued a few kilometres further in until we reached a shooting lodge belonging to Engineer Christensen. We made our entry into the hut without leaving any traces. It was plentifully supplied with food and there was a splendid "jössing" (loyal) atmosphere about the place, decorated as it was with portraits of the King, reprints of the Constitutional Law of Norway, etc. etc.
86. We left the hut in perfect order, and locked it behind us. There were quantities of huts and seters spread over the mountains, and ski-tracks from the Sunday before. We sighted some lumbermen but were not seen by them. At first the weather was perfect, but unfortunately it suddenly changed, clouded over, became very warm, and the snow conditions became extremely bad. It was very difficult country down to NORTH ETNEDAL, but this valley was crossed without event. During our halt for lunch we felt the first drops of rain, and as the day advanced the snow conditions got heavier and heavier, with more rain and a strong S.W. wind. Our progress now was very slow despite the expenditure of much energy. We had set as our goal a town-dweller's pleasure hut. Fortunately, we saw in good time that it was occupied, and we found a good seter-house instead. There were then visible signs of an improvement in the weather.
- 11.3.43. 87. Fine weather, cold, a little new-fallen snow, and the wind behind us. The terrain was flat and open and navigation was simple. We made good progress as the form of the party was now much improved. We passed below "SNUEN" across the DOKKA river, which, though partly open, was easy to cross as there was no difficulty in finding a snow bridge. We lunched in a good seter-house, where we found plenty of flour and bannock bread. The night was spent at REINAAS-SETER (another good seter) after having had some difficulty in crossing the river at HORNS LAKE. The passage was

finally accomplished successfully at the mouth of the stream.

12.3.43. 88. Fine, still weather, good snow conditions. For the first 10 kms. the country was flat up to the edge of WEST GAUSDAL. We followed a lumber-track which took us down a little to the north of SVATSUM, and the crossing of the river was successfully made. It is possible that we were seen here by a little girl in a farm. The first part of the ascent from the river was intricate and steep, but later we hit upon a good lumber-track. We ate our lunch when we had reached the top. After a short fall of snow, the weather was fine again in a moment.

89. The passage of the mountains between WEST GAUSDAL and GUDBRANDESDALEN was made in the evening and with the utmost caution, for there was considerable danger of being seen by guests at the GAUSDAL and SKEIKAMPEN Hotels, etc. It was very cold. The night was passed at GAMMELSETTER, north of SKEIKAMPEN, where we found butter, flour, bannock bread and ham, and we consumed as little as possible of our own rations, which had by now dwindled to an alarming degree. The reason for this was that, on account of the weight of our sacks, etc., the distances covered each day had been shorter than anticipated.

13.3.43. 90. Perfect weather and snow conditions. We made an early start in order to get away as soon as possible from the hotel ski trails. Two Ju. 52's were seen, probably post-planes between Oslo and Trondheim, as they followed GUDBRANDESDALEN. The whole day was spent at a point on the tip of the valley above LOSNA. We slept in our sleeping bags, with a sentry on guard. People were heard on the road from LOSNA to VESSELSETTER on their way up to the mountains to spend Sunday.

The crossing of Gudbrandsdalen.

91. Starting at 1830 hours we took the road to LOSNA. If we met anybody we were going to maintain complete silence,

for we would probably be taken for German soldiers. We reached LOSNA LAKE, 200 metres south of the station, at 2000 hours. There was a moon, and it was cold and calm. For over an hour we had to wait until some children went home, who were skating on the other side of the valley. At 2100 hours we walked over, keeping a good distance between one another. The strength of the sun by day had melted the south slopes partly bare of snow, but all the roads were like frozen rivers and quite unusable. We were forced to go over the fields, but when we reached the upper farms we came upon a good road which led us up onto the mountains. Taking a
14.3.43. lumber-track, we found an isolated camping ground, and at 0030 hours we crept into our sleeping bags at an altitude of some 800 metres. The weather was fine but cold.

92. Weather good, the temperature cold. In the woods the snow was a mixture of wet and dry snow. After a good night in our sleeping bags, we continued for an hour before having breakfast. Towards AASTADALEN the country was flat and easy to cross. We passed a number of new ski trails of Sunday ski-runners, and we had to avoid a number of inhabited huts. The wind increased and there was more driving snow. Lunch was eaten in a seterhouse at NYSETER, which provided us with flour and bannock bread. We continued on towards GJESSADALEN. It was now cold and there was much driving snow. Here we got a little out of our course, went down into AASTADALEN and then across to GRAVENSETER in GJESSADALEN. The night was spent in a seter but any food that may have been there had been cleaned up by people before us.

15.3.43. In the morning the air was heavy with snow. We followed the course of the GJESSA river down to where it joins the AASTA. Snow conditions became much heavier, due to the mildness of the weather and the strength of the sun. We went down the AASTA river in very sticky snow, ate lunch and rested at a lumberman's shelter 1 km. from KVARSTADDAMMEN. As the day

advanced our skis went better, and in the evening we reached BJØRNABSEN after a detour caused by the confusion of finding a road that was not marked on the map. We were wet through and short of food, and we therefore broke into a hut but found nothing. Our next attempt, in a "jøsing" hut, was successful, for there we found flour, sugar, oatmeal and powdered milk. This was the last opportunity we would have of replenishing our food supplies before we reached the frontier. The weather was now clear and cold.

16.3.43. 94. Good weather, a brush of new snow. We went forward to the advance position for the crossing of the GLOMMA river in the evening. Except for some tiresome valleys crossing our route, the country was easy, and, on arrival at the advanced position some 7 kms. from the GLOMMA, we rested.

The crossing of the GLOMMA.

95. The crossing was to take place between RENA and AASTA, and at both places Germans were reported as well as many N.S. adherents in the surrounding districts. We moved forward at dusk, but it proved that, partly due to a not too well-founded faith in Sgt. Hans STORHAUGS local knowledge (he comes from RENA) and partly to a somewhat too hasty reading of our maps, we had got ourselves into a side valley leading down to RENA and were 6 kms. too far north. This mistake caused us much delay and landed us in a terribly intricate piece of country. Eventually, however, we hit the right route, depending now solely upon map and compass. We crossed the main road and the railway without difficulty, but then came the surprise; there was no ice at all on the river.

96. According to HANS STORHAUG there was a farm at AASTA and a true Norwegian there who could be trusted. After

a little coming and going it was decided that HANS should go to someone he knew at SKJERODDEN, 2 kms. to the north, to investigate whether there was a boat available and whether there were any Germans at RENA, while we waited in a little hay-shed close to the river. If necessary, we could remain hidden here the next day.

17.3.43. 97. HANS came back a little later after having found the only boat at SKJERODDEN and having borrowed it without the owner's permission. After using it the boat was pushed out into the river. The GLOMMA had been crossed after all. All this had delayed us 6 hours. On the way up from the river we passed some farms and searched an N.S. hut for food, but without result. We climbed into our sleeping bags at 0600 hours, wet and exhausted.

98. We unfortunately spent a wretched and sleepless night owing to the frost. In the morning the weather was fine and at first the snow was good, but it became heavy going later in the day. The JULUSSA river was crossed successfully, though we came unpleasantly close to some timber cutters, who, however, did not see us. For several hours we now travelled through thick woods on a compass course. We ran into a maze of roads and small streams, which all vied at confusing us. Just before nightfall we were able to fix our exact position, which lay on the right route and we spent the night in our sleeping bags. In spite of damp sleeping bags and wet clothes it was a reasonably good night for most of us.

18.3.43. 99. We woke to find a cold morning and a thick mist, but good snow conditions. The food situation made it necessary for us to cross the frontier during the day and to reach inhabited parts of Sweden the day after. The lack of food had the effect of making one dream of groaning tables, loaded with food, all day. Throughout the morning the snow was

good. Near the TRYSSIL road we saw some woodmen, but they did not see us, and the road was crossed successfully close to ULVAA bridge. Thereafter we steered by compass over wide marshland to VESLE-FLISA. The heavy going necessitated our making a halt in the middle of the day. It was grillingly hot and we dried our sleeping bags. From VESLE-FLISA we steered by compass for No. 106 FRONTIER BEACON. It was dreadful broken and stony country, through scrub and thick woods, with no visibility.

The frontier crossed.

100. At 2015 hours we crossed the Swedish frontier to the great satisfaction of us all. We made camp a few kilometres from the frontier and for the first time, having some trouble with the Primus, we permitted ourselves to make an open fire. For the last night as British soldiers we climbed into our sleeping bags, our faithful weapons beside us. We all had a splendid night.

19.3.43. 101. After a very meagre breakfast, we went through our gear, and anything that smacked of the soldier was buried, including everything English. The contents of the rucksacks and our supply of clothing were now reduced to practically nothing. All that was left in our sacks was a little ski-wax, a change of stockings, cup and spoon, sleeping bag, wind-proof clothing, $\frac{1}{2}$ a block of pemmican and a little money. Our clothing consisted of underclothes, boots and stockings, sweater, windproof suit. We were all dressed alike.

The meeting with the Swedish authorities. Our cover story.

102. Our lack of food made it essential for us to find people as quickly as possible. Sooner or later we would all fetch up at the same Sheriff's Office (landsfiskall), and there seemed to be little object in splitting up the party and for each group to tell a different story, for

our similarity of equipment would completely give us away. A new cover story was, therefore, invented as follows:-

"We came from a German camp at Dombaas, where we had "worked for A/S KONSTRUKSJON, OSLO, building hut-barracks, "storehouses, etc. The name and description of the foreman "was so and so. The pay was so much, and we could describe "the type of work. We had ready to hand information regarding "the Germans, the place we worked, the traffic on the railway. "We were to explain that we were all unknown to each other "until we met at Dombaas, and therefore each man would have "to have clear his own life history. We would say that we "had participated in illegal activity, that the under-signed "had been head of the "cell" and that he, and he alone, could "give information regarding the nature of this activity, the "equipment provided for the escape, etc. Each man was to "say as little as possible, having regard to those left "behind. Our escape was explained as follows:-

"We started on 13th March, took the train to LOSNA where "our new equipment was supplied, and where we destroyed our "own clothes in order to hinder recognition. The further "details of the journey from LOSNA were to be as they had "been in reality."

103. My story:-

"Precisely as in reality up to 1941. After that date I "was unemployed owing to shortage of work. Was taken on "by the Home Front and carried out illegal activity. For- "bidden to supply information regarding the type of illegal "activity. On account of certain events the escape of the "whole "cell" was planned. Equipment was arranged and "collected at LOSNA by a cut-out. As escape was absolutely "necessary, we hitch-hiked on the goodstrain to LOSNA."

104. Wonderful weather, snow good but little of it. The country was flat but complicated and we had no maps of this

area. We followed first one and then another lumber-track, and got ourselves into somewhat of a muddle. It might have been better, perhaps, if we had made due east for about 20 kms. until we reached the main road along the KLARA river. But finally we reached a flotation dam, where we were able to obtain food and instructions as to how to find the sheriff. We got a lift on a lumber-sleigh to the main road, and there we abandoned our skis. On the road we were stopped by a Swedish patrol, who reported us to the Sheriff. We were given food and drink and were received kindly by everybody.

105. Three hours later the Sheriff came to fetch us. The similarity of our clothing aroused a certain amount of justified suspicion. We were lodged in a hospital at LIKENES, where we were de-loused and bathed, and our clothes dried and disinfected.

20.3.43. 106. The next day we were taken to the police station in the Assizehouse, where we lived as in an hotel. We were allowed to go out as we wished, and we took our meals in one of the hotels of the place. Our treatment was splendid in every way. We were all interrogated, but only very shortly. The cover story was accepted without any sign of suspicion..

22.3.43. 107. We had to stay at LIKENES until Monday, 22nd, when we travelled by car and train, without guards, to KJØSETER. There were altogether 10 refugees making up the party.

23.3.43. 108. In the absence of the Commandant, we reported to his secretary, in accordance with the operational orders. In the meantime, we had to be interrogated and examined, for reasons of security. Certain of the staff in the various departments understood the real situation (they had, perhaps, had a tip from the secretary), but they were very sensible, though at times their questions were a little indiscreet. We were supplied with new civilian gear.

109. The contact given to us had been under arrest since September. This made things rather difficult for us, as we had to deal with so many different departments.

24.3.43. 110. We left KJESETER for STOCKHOLM on four days leave.

25.3.43. 111. All Norwegian offices were closed, and we reported, therefore, to the British Legation, where I was referred to the proper person. There was, unfortunately, a little misunderstanding with regard to my name, but we soon cleared this up. We were extremely kindly and hospitably received. We were given money and ration cards, etc. to assist us until the Swedish offices opened on the following day.

26.3.43. 112. Owing to a stupid mistake on the part of the Refugee Office, our passports were surrendered to the Ministry of Social Affairs (Socialstyrelse) too early. We were able to get hold of them, nevertheless, and our permit-to-stay was extended during the course of the 27th. All was now in order for our departure on Sunday evening, but later we were informed that this had been postponed.

28.3.43. 113. We left BROMMA at 2000 hours, and after an uneventful crossing of the North Sea landed in the U.K.

29.3.43. At 0130 hours on the 29th we arrived, and proceeded to London by train.

OPERATION "GUNDERSTADT"

SCHEDULE I

Intelligence, Operational Plan.

Operational Orders for Attack and Withdrawal

In addition to all intelligence, sketches and photographs which were to hand before our departure from the U.K., the latest intelligence was obtained up to 26th February, 1943, which included: Disposition of German and Norwegian Guards; the orders of the day under normal conditions and during an alarm; details regarding communications with RIUKAN; the location of German guard barracks, etc.

THE APPROACH AND ATTACK

Alternative 1

Advance post: ET/SBUDALEN. Leave skis and packs at hut. Descend to NEVANN Road. Follow telephone wires to VAAER Bridge. Follow main road 1 km. to Power-line cutting. Climb down onto MAARA River. Climb up to the VENORK track which is followed to the point from which the attack is to be made. Attack. Retreat by bridge to VAAER after forcing the bridge guard, (2 Germans with automatic pistols). One man of the covering party to endeavour to get into positions for this previous to the explosion, assuming the demolition party able to enter building unobserved. Withdrawal to ET/SBUDALEN and by LARUSTAA to the "Potter Hut".

Alternative 2

Advance post: Juncture of Power-line Cutting and Main Road. Skis and sacks to be brought right down to the power-line cutting. Advance over the MAARA. Up the track and along the latter to the factory. Withdrawal by same route back to our equipment. It is calculated that the time elapsing between the alarm and the moment our equipment is reached is sufficient to allow the Germans to close the VAAER Bridge. Impossible to make our way along North side of valley./

valley. Instead, the power-line cutting could be followed down to KROSSO and NYUKAN Town, and from there by NYE'S Road up to the Mountain Railway Station (900 metres above sealevel), thence in to the mountains by LAMUJAA and the "Fetter Hut" to the main depot.

Remarks

In the first alternative there would be fighting on the bridge. The chances of a simpler and quicker route to safety were great; the chances of losing a man or two, greater.

In the second alternative it was necessary to carry all the equipment during the ascent; further, to follow the valley for 4 kms. into the stronghold of the enemy before starting a 700 metre climb. There was the risk that we would be seen by German patrols as it would take us about 2 hours before we reached NYE'S Road. If we were seen the result would be a disaster, the Germans would close VAANR, KROSSO and NYE'S Road by means of the mountain railway and the trap would be shut. If luck were with us we would all reach the mountains, but if luck were against us, hardly any of us would. One factor much in favour of this alternative was that the Germans would be quite ignorant as to the direction in which we had escaped.

In my opinion, and it was shared by Henrik Jens Poulsen, Alternative I was the better in spite of the danger of loss at the bridge, taking into account the two sick men and our lack of form. But it seemed that opinions varied somewhat, while some were indifferent. Each man was asked to express his opinion and five voted for Plan 2, two were indifferent and two were for Plan 1. It was therefore decided to follow Plan 2. As we were all in the same boat, we were fortified by the knowledge of what might happen and it proved that the final decision helped us to work as one team.

THE ATTACK

Intelligence

Fifteen Germans in the hut-barracks between the machine-room and the electrolysis plant. Change of guard at 1800 - 2000 hours, etc. Normally two Germans on the bridge. During an alarm
three/

three patrols inside the factory area and furthermore flood-lighting of the road between VEMOR and VAARR. Normally only two Norwegian guards inside the factory area at night, plus one at the main gates and one at the gunstocks. All doors into the electrolysis factory were locked except ^{one which opened} that opening into the yard.

The Plan

From the advance position at the power-line cutting, the following would be brought up: arms, explosives, a little food. No camouflage suits to be worn over uniforms. ^{Sverre} to lead the way down to the river and up to the ^{railway} track. Advance to the position of attack some 500 metres from the fence. The covering party, led by the second in command to advance ahead along the track, followed close behind by the demolition party, which ^I led myself. The position for attack should be occupied before 2400 hours in order to be able to see when the relieved guards returned to the barracks. According to sketches and photographs we would choose the gate by a store shed, some 10 metres lower than the railway gates, as being better suited for the withdrawal and as providing better cover for the advance. The attack ^{was to} start at 0030 hours.

The Covering Party

Duty: to cut an opening in the fence. To get into position so that any interference by German guards, in the event of an alarm, is totally suppressed. If all remains quiet to stay in position until the explosion is heard or until other orders are received from me; ^{the} ~~Fenrik Knut Haukelid~~, in ^{the} ~~command~~ of the covering party to use his own judgement if necessary. If the alarm is sounded during the advance into the factory grounds, the covering party to attack the guard immediately. When the explosion is heard it may be assumed that the demolition party is already outside the factory grounds and the order is to be given for withdrawal: the password ^{is:} "Piccadilly? Leicester Square?" The ~~covering party~~ consisted of:

Men

Fenrik Knut Haukelid
Fenrik Jens Poulsen
Sgt. Arne Kjellstrup
Sgt. Sverre Helberg

Arms

3 Tommyguns plus 6 magazines
10 Hand-grenades
5 .32 pistols plus 6 magazines,
4 .45 pistols plus 8 magazines.

Demolition Party

Duty: to destroy the H.C. plant in the cellar of the Electrolysis factory. At the ^{exact} simultaneous moment when the covering party ^{of the} take up their position, or go into action, the Demolition party ^{will} advance to the cellar door. One man, armed with a Tommygun, takes up a position covering the main entrance. Those carrying out the actual demolition are covered by one man with a Tommygun and one man with a .45 pistol. An attempt shall first be made to force the cellar door; failing that, the door to the ground floor. As a last resort the cable-tunnel is to be used. If fighting starts before the H.C. plant is reached the covering ^{party will} men shall, if necessary, take over the placing of the explosives. If anything should happen to the leader, or anything ~~to~~ upset the plans, all are to act on their own initiative in order to carry out the operation. Any ~~non-regular~~ ^{will} workmen or guards found shall be treated in a determined manner as the situation may demand. If possible no reserve charges shall be left behind in the factory.

It is forbidden for the members of both ^{demolition party} parties to use torches or other lights during the advance or the withdrawal. Arms are to be carried ready for use but are not to be loaded until necessary, so that no accidental shot raises the alarm. ^{sup.} If any man is about to be taken prisoner, he undertakes to end his own life. Rendez-vous after the explosion:

1. by the river if possible,
2. at the equipment dump in the power-line cutting
- or 3. at the "Fetter Hut".

If no contact achieved a return to SKRYTEN Lake to be made by way of SLETTDALSLÄGNET, where a message regarding the operation is to be left for despatch by the r/t men. At SKRYTEN Lake each man to take his share of the equipment, leave the remainder in the depot and start on his way to the frontier. In such a case each man may make his own decision as regards his route and his clothing. If captured, the suicide order holds good. In Sweden, ask the Commandant at KJESSTEN for Hans Johnson of the legation.

To each man was explained the part to be played by the others, with orders to use individual initiative if anything should happen, unforeseen by the leader.

The Demolition Party consisted of:

Fenrik J.H. Sønneberg	Charges. .45 Colt, 2 magazines
Sgt. Birger Strømsheim	" " " "
Sgt. Eredrik Knyser	.45 Colt, 2 magazines
Fenrik Caspar Idland	Tommygun, 2 magazines
Sgt Hans Størhaug	" " "

London in April 1943.
J.R.
Finn.

SCHEDULE II

REMARKS ON EQUIPMENT.

From the list it will be seen that everything had been cut down as much as possible owing to the fact that the equipment, for the most part, was to be carried in our rucksacks. At the same time, we had to reckon with severe winter conditions, and, therefore, nothing of importance could be left out.

Owing to landing quite a distance out of direction, necessitating heavier going to make contact with the advanced party, we had to cut down the equipment and operational material to ensure our reaching the objective even if weather conditions got bad. The cutting down on equipment can be seen from the list.

During the attack quite a lot was left behind at Better Hut (see list).

According to operational orders we were to avoid contact with the population, and were to make the retreat into Sweden on foot and in uniform. The distance from the depot at SKRYKON was approximately 500 km. Again we had to reduce the packs to enable us to carry as much food as possible (10 days supply) and also the necessary weapons. During the first part of the journey we also hauled a toboggan with food, but this we had to abandon, thus necessitating a further reduction of equipment at Hallingdal.

Coming to the border, another change had to be made. We had to get rid of our uniforms and other soldier-like equipment and of everything suggesting the soldier, so that we should be able to give ourselves up as civilian refugees to the Swedish authorities. Our clothing aroused some suspicion at first, but, taken in conjunction with a good cover story, we were passed out as civilians.

SCHEDULE II.

Remarks:

We were recommended to use the special jumping suit, helmet, etc., but as this would limit our movements when once on the ground we preferred to go with the white camouflage suit as jumping suit, and our ski-cap as helmet. We made use of the shock-absorbing pads.

When travelling and jumping in the snow suit, it is strongly recommended that it should be worn inside out and turned when one has finished unpacking containers and packages, otherwise it gets very dirty.

String vests: People with sensitive skins are apt to get sores, especially when carrying heavy loads. But, if possible, these should be worn as they keep you warmer and make your clothes dry much faster. It would have been more comfortable if the shoulder straps had been made of a piece of soft cloth instead of string.

Jock-strap/Rabbit-skin: This is a necessary protection against very cold head, ^{wind} but the jock-strap is not very convenient when ski-ing as it chafes. A small tight fitting summer pant lined with rabbit-skin, worn under the woollen pants proved to be excellent. Some of us found the rabbit-lining too warm, except in very cold and strong head-wind (i.e. ^{minus} 15 to 30 degrees Centigrade).

Vests and pants: Even for people in uniform, these articles should be free from British markings, especially printed ones. In many cases it might be convenient even for a soldier to appear in civilian clothing, and then it is rather difficult to get hold of underwear. (A pair of trousers and a jacket can always be found in a hut or sater.) They should also be as heavy as possible to give good warmth in winter time, and it is very important that the vests have long sleeves.

SCHEDULE II.

Army shirt: Very warm and comfortable. When in motion we found it too hot in most conditions, and used it as a reserve shirt to put on next to the body in the evenings - when our underwear was soaked with sweat or damp.

Battle-dress: Excellent as ski-ing suit. We made lots of small pockets in the linings for smaller articles of equipment, such as lighter spirit, map measurer, L tablets, and compass. A double set of buttons on the trousers saves lots of trouble and inconvenience in emergency. New battle-dresses should, if possible, be freed from gas protection before issuing as it results in skin trouble in many cases.

Wrist-warmers: This is an article well worth taking. It gives a certain amount of protection even if you have to work with bare hands.

Gloves with trigger-finger: Only the best quality should be issued, as the thinner ones are very inferior. To prevent the gloves being lost, they should always be linked together with a piece of string, so long that it does not hamper movement.

Socks and gloves: These should be furnished with buttons so that they may be joined together in pairs when being dried or not in use.

Boots: The footwear is of primary importance in winter time. Of course, it is difficult now (in war-time) to get excellent boots, but no effort should be spared to get the best possible. The demand on the strength of the boot varies with the job. Sometimes it must be a very strong, hard-wearing boot; in other cases it is sufficient to have a boot which is fairly good and will last long enough for the job. It need not be a Norwegian boot, but it must be a boot which is suitable. So many types of boot are used in Norway that one

SCHEDULE II.

should not hesitate to take a good British or foreign boot in preference to an inferior Norwegian one. Repair of boots for ski-ing. This should be done by specialists, and re-soleing should always be taken to underneath the heel. I strongly recommend R. Lawrie & Co., Newark both for repairing and the making of new boots.

Our footwear:

A German pair: Stood up very well to hard wear, but were not very water-tight. The type seemed to cause blisters easily.

A British pair: Very comfortable. Fairly water-tight, but did not stand up to hard wear. Ought not to be supplied to people supposed to be in the field for a long time.

Two British pairs (R. Lawrie Ltd.): Both were very comfortable and hard wearing, especially one of the pairs (actually made for me for the PHEASANT operation). Can be compared with the best quality of ski-boot in Norway. A sole-protector is recommended for long periods. This pair was the best of the lot.

A Norwegian pair (belonging to J.R.R.): Re-soled by R. Lawrie. Soft, water-tight, comfortable.

Boot covers: We used big socks, but they do not stand up to wear, of course. This is an essential article if you want to protect your boots, and it gives quite an extra warmth.

A good type of boot cover can easily be sewn, and sent to Dumfries for production on a large scale during the summer.

Ski-cap: Khaki-type, with leather lining, peaked. The leather lining makes them rather cold, as the leather does not absorb perspiration. Up in Dumfries, when asked, they changed the leather for thick khaki material. This made a very warm and comfortable cap. The lining could also be used as an ear-protector, if necessary.

SCHEDULE II.

Snow goggles: We used some very light celluloid ones, as these would not break, thus saving the weight of numerous spare ones. They were good but apt to get damp inside.

White camouflaged suit: We took with us two sets. During the period we usually wore one set at a time. Only in very cold wind or snow storm were both used. They were of a suitable type, but I think it is possible to make a few improvements. The head-opening should be arranged with a "zip-fastener" or sewn up a bit. One or two pockets should be provided. It would also be an improvement of great value if the material were stronger and completely windproof. The type is excellent.

Wrist watches: The watches supplied were of a very bad quality. Two were abandoned on landing because they did not work at all. To be able to follow the time during operations is of the greatest importance if any part has to be synchronized, and everything possible should, therefore, be done to supply the men with reliable watches.

During our operation and retreat we had only a few watches that were any good, and all of them were private ones. If they cannot be bought in U.K., they can easily be produced by the Legation in Stockholm.

48 hours emergency ration: Very tasty, but does not even keep for 24 hours during cold conditions. Perhaps something more nourishing could be provided as emergency ration for winter time.

White webbing - pistol holster: The holster is O.K. The shoulder straps might have been made of lighter material to save weight and also less wear on snow suit.

Magazine holster: a type of holster for magazines (0.45 and 0.32) ought to be made. We managed by sewing the necessary number out of handkerchiefs. Light canvas or other water-tight material should be used.

SCHEDULE II.

Sleeping bag: We used a down bag sewn by Hamptons Ltd., in accordance with drawings and a bag of mine (Norw.) which was partly made in the right way. The weight of it was 5 lbs., and when rolled up it did not take much space. It had a height of 7', a width of 3' and was provided with head zip-fastener and breathing-hole. In addition, we carried a white ground sheet, but no tent.

We spent many nights under the open sky, in quite a number of degrees below zero, and, although we very often had wet clothes on when going to bed, we slept warm and comfortably, provided that we paid attention to the preparing of our "bed" - branches and heather underneath the ground sheet. The new sleeping bag is much to be preferred to any of the previous types yet used, although smaller when rolled up, it is bigger and warmer.

Eating gear: Cup and spoon. When living on K. rations it is sufficient to carry only cup and spoon. A fairly large cup, preferably aluminium as enamel flakes off when the cup gets dented.

Cooking gear: Primus stove - We carried two but abandoned one after a very short period. Too much weight and limited supply of paraffin.

Cooking pans - Two pans, each large enough to prepare rations for 5-6 men at the time (3½ litres). Later on we changed one of the pans for a coffee jug, which fitted into the other pan, thus saving much space and making a very handy cooking set.

Paraffin supply - Two Qrt. tins of paraffin (enough for four fillings) each filling enabling us to prepare four meals - main course, and coffee and tea. We usually melted snow for water.

SCHEDULE II.

First Aid equipment: Rather inconvenient packing and not very satisfactory. Especially Jodinstick was missed very much.

A drug preventing coughing, for use in emergency, is desired.

Rucksacks: The Norwegian model is much superior to the British Army model, which is too heavy and useless in snow because of trouble with the straps.

The supply of rucksacks is limited, and, therefore, it is important that the quality of the rucksacks be judged with a view to the strength required. If it is a "tip and run" affair, calling for rather light pack, there is no reason to use a hard-wearing, first-class rucksack, which might be of paramount importance for people going on long period jobs.

We had chosen our sacks, bearing in mind the fact that they must stand one month's wear with heavy loads; the lighter the material of which they were constructed the better, provided it was strong enough. The wear was a bit heavier than expected, and some of the rucksacks had to undergo repair on the journey, but none proved to be beyond use, although a very thorough repair would have been necessary at the time we left them in Sweden.

White covers: Excellent. They kept the pockets empty of drift-snow, thus keeping the contents dry. Worth using by everybody during winter conditions, provided local situation permits it.

Toilet articles. Nothing special to remark: owing to weight we cut them down pretty low. A towel is not of much use in cold weather, but one must be carried in a big party.

Shaving: People in uniform who pass local inhabitants at a distance or without giving their language away, will most probably be taken for German troops or Hirdsmen, provided they are not unshaven. A bearded face on a man in uniform or civilian clothes will give rise to suspicion at once.

SCHEDULE II.

Ski-ing equipment: We selected the best skis at S.T.S. 26, prepared them with tar, and painted them white. We put on Norwegian leather bindings, as these are more easily repaired and not so hard on the boots. (Opinions on this point differ.) The bindings stood up to expectations. The skis were completely worn out when we reached Sweden, but even the best pair of Norwegian skis would not have stood up to the wear any better. The only means of protecting them is by using steel edges, and also paying special attention to them during use, which is rather difficult at most times in the field.

Sticks: selected at the depot in Dumfries. With the exception of one pair, they were satisfactory.

Ski-skins: These were only taken for special purpose, but were not used during the operation. Not an article of general importance.

Toboggan: Our home-constructed toboggan proved fairly satisfactory, although a few alterations in the type of the body itself might improve it. Our main trouble was that we always had to over-load it, and this made the hauling of it in mixed country a tremendous struggle.

When on the move, a sledge or toboggan always reduces ones marching distance, but, without some sort of sledge-equipment, the transport of material would have been very difficult indeed.

Repair outfit: This must contain material for repairs of all sorts, i.e. to skis, bindings, rucksacks, ski-sticks, etc., etc.

Binoculars: These were quite satisfactory. Because of the extra weight, we did away with the cases, and carried them in a sling round the neck, inside the snow suit.

SCHEDULE II.

Map cases: These were satisfactory for our purpose, as we destroyed our maps as soon as we had passed the area they covered. - But for operations where the maintenance of maps is important, this Army type map case is useless, and also too small. We did not use more than one case, as we took only one set of maps during the retreat, owing to weight.

Torches (small): Satisfactory - but the batteries were a bit weak, and very short-lived.

Orilux torch: This proved to be an excellent torch for ordinary use and signalling. It has very good and long-living batteries. I strongly recommend at least one of this type per party if a good, reliable torch is required.

Kreyberg's Rations: These rations met with great satisfaction, but, as regards quantity, it is rather difficult to give a fair judgment. During 30 days we (5 men) were living partly on "K.R." and partly on other food - taken in seters and huts - 90 man-days supply lasted us for 150 man-days.

No member of the party had any stomach trouble - everything regular. On the last part of the retreat we went rather short of food and the energy expended was considerable; this caused an empty feeling inside - we were always hungry and thinking about food.

Packing of rations: This was not at all satisfactory. Rations were packed in canvas bags, 5 man-days in each. A number of loose lunch packets were found in containers, but we did not know whether this was additional food or should have been in the bags, 5 in each. The size of the bags did not allow two to be put in a rucksack at a time, and the packing of the contents of the bags made it awkward to distribute the contents in the rucksack. The packets of salt were all broken, and biscuits, sugar, fruit, chocolate - everything - tasted of

SCHEDULE 11.

salt. Unfortunately, we were forced to re-pack two bags into the rucksack, and, of course, this made a mess of everything. During the course of several days travel, the paper bags broke, and the rucksack contained a mixture of broken biscuits, raisins, lumps of sugar, margarine, socks, wet gloves, etc., etc., but, thanks to good appetites, it went down all the same.

When everything is in such a mess it is very difficult to judge how much you may eat a day, and, even after warnings not to overstep the daily rations, we found that some members had practically nothing left except the food-blocks when we still had about four days journey to go.

The packing ought to be changed and improved, and a description of the ration is also necessary. I strongly recommend packing in cloth bags (light weight) rations of 1 man-day. This makes it easier to pack the rucksacks properly, and you never have to face hunger because you have overeaten your daily ration. A better packing of salt is recommended. Oxo cubes are useless, they only add weight, and can be dispensed with.

Weapons: First we decided on Sten guns, because of the weight of the gun and ammunition. During training in Scotland we abandoned this idea, owing to the unreliability of the weapon - one might get bursts when on single, and so forth. We decided to take Tommy guns instead, as these could be used as rifles up to 200 yards with good accuracy. The ammunition problem was also easier then, as we were also taking Colt .45 pistols. A Snipers rifle was also included to be used during retreat.

Tommy gun: Painted white. All moving parts completely dry-cleaned. The oil-pad taken out on all guns. Magazines also freed from oil and painted white.

Cover for Tommy gun: The one we got from Dumfries was not very satisfactory. We altered it and arrived at a fairly satis-

SCHEDULE II.

factory solution of the problem of how to keep the snow out when not using the gun. A pattern could be made and sent to Dumfries for further production.

Snipers rifle: Painted white; dry-cleaned. The sights were knocked out of position during landing, and we abandoned the rifle at the depot at SKRYKEN.

Pistols: Dry-cleaned. The mechanism kept very well. The outside got rusty because the weapon came into fairly close contact with the body and, therefore, got wet. The pistols may be kept with little oil in them.

Hand-grenades: These ought to be issued in working order, i.e. free from grease. It is rather a cold job to clean hand grenades in heavy frost, with bare hands, when the grease is frozen stiff. We managed to do this indoors, but that cannot be reckoned with usually.

Booby trap material: We preferred not to use it. If accidentally set off, it might cause us more trouble than wished for.

Charges, etc: Owing to transport difficulties, the number of charges was cut down to those necessary for attacking only the main target. Complete charges for this purpose were taken - equipping four men to do the job, if required.

Armourers' shears A very useful cutter for thick wire, bolts, padlocks, etc. Very silent in use. Well worth its weight (5 lbs.)

Burglary equipment: (for breaking into huts). ^(Jenny) Crowbar and stick-hacksaw. We used a fireman's axe, and found it suitable. It served both the purposes of crowbar and woodaxe, but it is rather heavy.

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During the Time of Attack	When Starting the Retreat	When Leaving the Toboggan	When Entering Sweden
1854	1854	1854	1854

[illegible]

SCHEDULE II - EQUIPMENT - PERSONAL & OPERATIONAL

Page 4

Equipment at different dates

When Leaving U.K.	When Starting on the Approach	During the time of Attack	When Starting Retreat	When Leaving the Toboggan	When Entering Sweden	Number of Articles:
	GUNNER - SIDING USM 400	USM 400	GUNNER - SIDING USM 400	GUNNER - SIDING USM 400	GUNNER - SIDING USM 400	Different Articles of Equipment
Various Equipment						
Snow goggles	1	1	2	1	2	
Torches - small	1	1	12	1	12	
Batteries	1	1	2	1	2	
Orilux torches	1	1	4	1	4	
Candle lights	1	1	1	1	1	
Waxed treads	1	1	1	1	1	
Dubbin	1	1	1	1	1	
Food Rations						
Kreyberg - special	130 days	50 days for operating and return to depot rations	50 days for operating and return to depot rations	50 days for operating and return to depot rations	50 days for operating and return to depot rations	
Mixed rations	20 days	50 days for operating and return to depot rations	50 days for operating and return to depot rations	50 days for operating and return to depot rations	50 days for operating and return to depot rations	
Extra supply of food for Swallow	all available space weather, the rest in containers handed over to Swallow on departure for Sweden.	Mixed rations partly with us	Mixed rations partly with us	Mixed rations partly with us	Mixed rations partly with us	
Weapons						
Tommyguns	5	5	5	5	5	
Spare magazines	10	10	10	10	10	
Ammunitions for Tommyguns (rounds)	300	300	300	300	300	
Sniper's Rifle .303	1	1	1	1	1	
Ammunition .303 (rounds)	50	50	50	50	50	
Colt Automatic .45 Pistol	6	6	6	6	6	
Spare Magazines	12	12	12	12	12	
Ammunition for Pistols (rounds)	200	200	200	200	200	
Handgrenades	10	10	10	10	10	
Chloroform - Pads	12	12	12	12	12	

SCHEDULE II. EQUIPMENT - PERSONAL & OPERATIONAL.

Equipment at different dates:

Different Articles of Equipment	When leaving U.K.		When starting on the Approach		During the time of Attack Retreat		When starting Leaving the Toboggan		When Entering Sweden.	
	Per Gen. Equip.	Per Swallow	Per Man	General Equip.	Per Man	General Equip.	Per Man	General Equip.	Per Man	General Equip.
First Aid Equipment	1	4	2	3	2	3	2	2	2	2
(Prof. Kreyberg)										
Soldiers First Aid Pad										
Rucksacks	1		1		1		1		1	
Norwegian Model										
White covers										
Toilet Equipment										
Razor										
Razor blades										
Shaving brush										
Shaving soap										
Soap										
Toothpaste										
Toilet-paper (packet)										
Towel										
Toothbrush										
Comb										
Skating Equipment										
Skis (Canadian)										
Bindings, Norwegian (ordinary)										
Sticks, Norwegian										
Ski-skis										
Skis - for all sorts of snow (boxes)										
Ski-tips - reserve										
Toboggan - complete with rods										
Repair outfit (large)										
Repair outfit (small)										
Various Equipment										
Fieldglasses										
Map holders										
Maps - complete sets										

Necessary Maps over Area

SCHEDULE II EQUIPMENT - PERSONAL & OPERATIONAL

Different Articles of Equipment

Number of Articles:

[illegible]

ACCORDING TO UNIT - PERSONAL & OPERATIONAL

THE UNIVERSITY OF CHICAGO

Defeat Hitler of World War

NOTICE OF SALE

**Personal Equipment when
Training:**

String vests
 Stock-Straps with Rabbitskin
 Vest - woollen
 pants - "
 Stockings - thick, pairs
 Socks - thick, woollen, pairs
 shirt - khaki
 scarf
 Battledress - blouse
 Battledress - trousers
 Wrist-warmer, khaki, pairs
 shoe-gaiters
 Ski-boots
 Mitts, woollen with trigger fin
 Windproof-gloves, pair
 White camouflage suit
 White camouflage gloves
 Zaiselova helmet
 Ski-cap, khaki with peak
 Handkerchief
 Braces
 Boots - covers - big socks

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Compass - Creditish model
Map: South-Norway 1:100,000
Innerv - Notebook/rental

— 100 —

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OPERATION "GUNNERSIDE"

SCHEDULE III

Details of the route, etc.

Equipment: One Silva compass per man.

Maps - Southern Norway 1:1,000,000 general map.
Supplied to each man in case anyone be-
came separated.

"Gradteigs" maps 1:100,000 over the whole
of the planned route. Two sets.

Two map holders.

One map measurer.

Note. To save weight one set of "Gradteigs" maps
was left at the main depot.

Route - The Advance.

Feb. 22-23 Skryken Lake - Hette Lake - Viu Lake - Kallungsjaa (Lake)
Saure Lake (D. 34 E. Tourist Map of Hardanger Vidde,
1:200,000).

Feb. 25 Saure Lake - Grasdalen (valley) - Grunnos Lake -
Langsjaa (lake).

Feb. 26 Langsjaa (lake) - Bjørndalen - Hjordalen (valley) -
Fjøsbudalen (valley).

Feb. 27-28 Fjøsbudalen (valley) - Vaaer - Vemork - Kvépseberg -
Vaaer Lake - Kvisbudalen (valley) - Langsjaa (lake).

Mar. 1 Langsjaa (lake) - Grunnos Lake - Grasdalen (valley) -
Saure Lake (Hardanger Vidde maps E. 25 W - D. 35 E -
D. 34 E. The whole of this stretch was covered under
the guidance of Fenrik J. Poulsen, who showed a wonder-
ful amount of local knowledge.)

Mar. 3 Saure Lake - Slettdalen (valley) - Kallungsjaa (lake) -
Viu Lake - Hette Lake - Skryken Lake.

Mar. 4 Skryken Lake - Haramatten (tourist hut) - Ors Lake -
Os-seter Seter Hotel (D. 33 E; E. 33 W).

Mar. 5 Osset - Breiset Seter - Halling Seter - Ramberg Lake -
Røyv Lake - Grevskar Seter by Rødungen (E. 33 W)

Mar. 6 Rødungen Lake - Ølfisker Lake - Skaarsrud Lake -
Store Lake - Nystøl by Bokkelv. (river) (E. 33 E)

Mar. 7 Nystøl - Bokki - Hallingdalselva (river) - Kastet -
Langtjern (lake). (E. 33 E)

Mar. 8 Langtjern (lake) - Lønne Seter - Svenkerudvollan -
Svarttjern (lake) - Røggjen Lake - Frøysank Seter -
N. Bjødalen Seter - Fjellstølen (E. 33 E and F. 32 W)

SCHEDULE III.

- Mar. 9 Fjellstølen - Makelans Seter - Nysset Lake -
Timannsstølen (seter) - Bondset Seter - Vestringsbygd -
Aurdalsfjord - Hjelie - Olebakk Lake - Fjellstølen
Hunting Lodge (F. 32 W).
- Mar. 10 Fjellstølen Hunting Lodge - Skinnangen Seter -
Stetten Seter - N. Stenedal north of Snæderud Farm -
Gronnstol Lake - St. Tangen Seter - Ny Seter -
Bergskardstølen v/Hosajøen (F. 31 W)
- Mar. 11 Bergskardstølen - Steinbu Lake - Sabu-Rosajøen (lake) -
Storleger Lake - Rokkvam Seter - Orm Lake - Bokka
(river) - Hornsjødammen - Reinas Seter (F. 31 W -
F. 31 E).
- Mar. 12 Reinas Seter - Rimsjøen (lake) - Svartheld Stream -
Svatsum - Kjømannsslett Høgda (hill) - Ny Seter -
Abor Lake - Fyken Seter - Skeikampen (mountain) -
Gammel Seter - (31 B.)
- Mar. 13 Gammel Seter - Linnvik Seter - Rugaknes Seter -
Losna (Lake) - Rudderud Farm - Boldals Hill - (31 B)
- Mar. 14 Boldals Hill - Glommen Seter - Svart Lake -
Bjør Lake - Ny Seter - Svart Mountain - Aasta (river) -
Graven Seter in Gaesadalen (31 B.)
- Mar. 15 Graven Seter - Myrnes Seter - Aasta River - Kvarstad
Seter - Ny Seter - Bjørnaas Seter - (32 A. and 26 C.)
- Mar. 16 Bjørnaas Seter - Djupaa (river) - Skramstad Seter -
Vivelstad (farm) - Glomma (river) - Himsjøen (lake)
(26 C.)
- Mar. 17 Himsjøen (lake) - Holset Seter - Julussa (river) -
Linnberget (farm) - Ulvaakjølen (lake) - Ulvaa (river)
(26 D.)
- Mar. 18 Ulvaa (river) - Trysilveien (road) - Ormaasen (seter) -
Renoset Seter - Vesliflisa (river) - Svart Stream -
Frontier Beacon No. 106.
- Mar. 19 Grensen (frontier) - Landsvegen (main road) -
Sheriff in N. Finnskog.

On the whole we were successful in finding our way. Here and there, when the country was particularly broken up by cross valleys or in forests, the route we followed was a little longer than planned, but the points we set out to reach were always attained. On the mountains, our route finding was mainly based upon map reading and the lie of the land, while in the low lands we had to depend on steering by compass. In Sweden it was simply a question of continuing eastwards until we met someone.

The total distance covered was approximately 700 kilometres. Crossing the valleys was often very hard work owing to the large

SCHEDULE III

differences in altitude, as the following heights will indicate:-

Hallingdal	from 1,000 m. to 180 m. to 1,000 m.
Valdres	" 1,000 m. " 300 m. " 1,000 m.
Etneidal	" 1,000 m. " 600 m. " 1,000 m.
Vestre Gansdal	" 1,000 m. " 400 m. " 1,000 m.
Gudbrandsdalen	" 1,000 m. " 200 m. " 1,000 m.
Asterdalen	" 800 m. " 200 m. " 500 m.

London in April 1942.

*J.R.
Gmt.*

FLIGHT - DROPPING - LANDING.

The flight took place in good weather with perfect visibility, but still we were landed about 25 km. out of direction. I think this must be due to the maps, and not so much to the navigator. When the weather is clear and visibility is good it is possible to get a good idea of position by identifying the rivers and main valleys, but the use of a larger scale map is necessary for the area in the exact neighbourhood of the dropping place. In any case, a talk between leader, pilot and navigator - over a large scale map - ought to take place before the flight, so as to make the men responsible for the dropping as familiar as possible with the country. They should be shown the most notable features of valleys, lakes and mountains on the route, thus giving them as much help as possible.

Our landing took place in perfect moonlight, with a wind-speed of about 25 m.p.h. As we jumped at about 1,200 feet, we spent rather a long while in mid-air. The snow plain and the moonlight made it very difficult to judge when we would be hitting the ground. It is, therefore, very important to be supple and collapse when landing, otherwise one might easily get hurt.

It is seldom possible to make the parachute collapse by running round it; the snow is, in most cases, too soft. The best way is to start pulling on one of the straps, in order to make it collapse that way. If that proves difficult, one of the shoulder-straps can be cut with a knife. Under no circumstances should one let the parachute go, as it will give one's landing away and spoil the security of the whole show completely.

Owing to circumstances and the large amount of equipment, we had to go in one stick, and from a Halifax that would mean a stick of about 2-3 km. when we got down. To save time and to get ourselves mobile as soon as possible, we arranged our dropping order as follows:-

1. Six containers, brown chutes.
2. Three men - A, B, C - white chutes.
3. Ski equipment, 1 package (A, B, C.)

4. Rucksack-package (rucksacks for A, B, C.)
5. Toboggans, weapons for party.
6. Three men - D, E, F.
7. Ski package, skis for D, E, F.
8. Rucksack-package (rucksacks for D, E, F.)

Before leaving the plane everybody was told the direction in which he was to search for the others, once on the ground, if visibility was bad.

The jumping went very quickly, and the despatchers worked very well so that when we got down we found that the distance between the first and last 'chute did not exceed 800 yards.

The containers came last in the stick, unfortunately, as this caused some confusion. But they landed very close together on a spot suitable for the depot, and this saved us lots of work. None of the men was dragged any distance, but one of the rucksack parcels was dragged about $2\frac{1}{2}$ km. and at such a speed that a skier could not catch up with it. Thanks to jumping in clothing in which we were ready to move at once and with our equipment dropped near, one man was able to give chase immediately and managed to keep it in sight. Had we lost sight of it it would probably have gone for ever. It found its way into the only open ice-crack we came across on Vidda, and this good fortune enabled us to reach and save it. One rucksack had its frame badly damaged and a sleeping bag was torn open.

All chutes had been dug in before we started on the depot, so as to let the drifting snow fill all tracks and traces of our landing as soon as possible.

Unfortunately, we had to open all the containers as we did not know the contents beforehand and had to search for some items of operational equipment. This caused long delay, and, as the snow was drifting hard, the containers were partly filled with snow before we could close them again. The depot was made in the form of a long trench, where the containers were placed end to end, and the bearing of the trench was taken. Poles were

placed in the snow at a distance, and bearings and distances taken to help to locate the depot if weather conditions should be bad.

The clearing up of the dropping place, including finishing of the depot, was done by 0400 hours, exactly four hours after landing, and by that time the drift snow had concealed all traces of landing completely.

REMARKS:

When being dropped in winter-time on snow it is of great importance to be able to get on your skis, ready to move, as soon as possible (especially if some of your packages suddenly disappear, dragged by their parachutes). It is, therefore, recommended not to use the special jumping suit on top of your clothing, as this will have to be taken off and "dug in" before you can move anywhere. In cold wind it is also a cold job to start changing clothes. If landing is to take place on a fairly even spot, with lots of snow, I do not think that shock absorbing pads are really necessary either. Everything that gives more work than is absolutely necessary ought to be considered twice before being taken.

On snow plains you will usually find the surface fairly hard, and it is seldom that one finds it quite calm. Packages are, therefore, rather apt to be dragged away by their parachutes, and the sooner you are ready to go after them the better. The ski-package should, therefore, be dropped as near to the men as possible. In no case must parcels be given parachutes which are too big. It is better to pay a little more attention to careful packing and use a somewhat too small parachute to prevent it going so easily.

Packing of equipment.

If it could be arranged for one member of the party to be present when packing, it would be both practical and desirable,

as it would make the unpacking so much easier.

In any case, a complete packing list giving the exact contents of each container or package must be issued to the leader of the party, so that he can make up his plans and orders for the unpacking before leaving. This saves a lot of valuable time, not to speak of inconvenience. It also necessitates the clear, visible marking of containers.

If some of the equipment is going to form a depot, these articles should be kept separate and packed in special containers, marked "depot". In our case, we did not know the contents at all, and had to open all containers and re-pack the whole lot. To have to do this in thick drifting snow, at very low temperature, is no great pleasure - the containers become filled with snow, your hands get frostbitten, and it can easily be avoided. Every detail which helps to make things easier on the spot is a step on the road to a successful operation.

If possible, the rucksacks should be packed in such a state that they are ready for carrying immediately they are unpacked from the rucksack-parcel. The inconvenience this saves if you land in bad weather can only be told by bad experience. If dropped in packages, however, the rucksacks must be very carefully packed. Sleeping bags should never be used to protect the rucksacks, as the canvas cover might be torn if the package is dragged, thus spoiling the sleeping bags. Rubber-pads ought to be used for the purpose of protection.

The dropping of rucksacks fully packed also calls for some support of the frame, otherwise they might get badly smashed on landing or if pulled along the ground. Such a supporter can easily be made to fit all sorts of rucksacks.

When jumping in snow each man should carry a small spade to enable him to bury his parachute (and eventually other jumping equipment) at the spot where he lands. This saves lots of time and labour, and also eliminates the risk of the 'chutes being

swept away by wind while you are occupied with other work.

If there is a great number of containers going with the party, it is of the greatest importance to send a sledge or toboggan with them. This sledge (or toboggan) should be big enough to take a loaded container. The sledge is to be used for collecting all containers on one spot for unpacking or making up a depot. In our case, we landed on a suitable spot for a depot, but to secure the safest possible landing a lake ought to be taken and this would entail moving all equipment to firm ground before a depot could be made; the use of a sledge for this purpose will save tremendous labour.

Marking of depot. This is certainly of great importance too. Never rely too much on big stones, etc., but take a good look at the hills and main valleys round about. If you get a few days snow storm all the "ground" details change completely, and only the main features remain unaltered. If there is an outstanding landmark - even 1 or 2 km. away - which is easy to find in any weather, bearing and distance from this point should be taken. To make it easier to locate the exact position, a few stakes might be put in the ground; the depot can then be found by cross-bearings and pacing.

As the stakes might easily be covered with snow, the depot should be made in such a way as to extend its area as much as possible. Containers should never be put on top of each other as this means the complete digging out of the depot even if you want only one special container. When the depot is extended there is a bigger chance of hitting it by using sticks to feel for it, if visibility makes it difficult to locate accurately.

Even if a tent is not to be taken for use during an operation, I think it is an item which should always go in the depot. In winter the weather changes very quickly, and if one is dropped at a remote spot and overwhelmed by a snow storm which prevents

every sort of movement, a tent large enough to accommodate the party might prove of paramount importance, as it is not always possible to dig oneself into a snowdrift or to build an igloo. A reserve supply of food should also be considered for such contingencies.

J. R. Rimeburg
2/11/11.

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