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of Defence

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[REDACTED]

13 February 2017

Dear [REDACTED],

Thank you for your email of 30 January in which you requested the following information:

*"I am writing an article on Operation Top Hat, the government expedition to Rockall in 1970. I commanded the landing party on that expedition. I have researched the information in the National Archives but that appears to relate only to the Cabinet Office and parliamentary (Hansard) records. I am aware that a number of files were produced by 39 Engineer Regiment (Airfields) and 12 Engineer Brigade at the time, including my bound report "Op Top Hat". I request access to all the MOD records concerning this expedition."*

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOIA).

A search for the information has now been completed within the Ministry of Defence, and I can confirm that some information in scope of your request is held.

Unfortunately, I have been unable to locate a copy of the report you wrote but I have located a report on Operation Top Hat that the Navy wrote from its perspective, which I have enclosed. Under section 40 of the FOIA – personal information - I have redacted faces of individuals within a photograph contained in the report, one of whom could be you? Section 40 is an absolute exemption under the Act and does not require a public interest test to consider if the information should be released.

You will note in the report it states that films of the operation were made and passed to the Institute of Geological Sciences, which is now the British Geological Survey. You may, therefore, wish to approach the Survey as follows:

British Geological Survey  
Natural History Museum  
Cromwell Road  
London, SW7 5BD

Tel: 0207 5894090

<http://www.bgs.ac.uk/>

Under section 16 of the FOIA and to be helpful, you might wish to approach the Royal Engineers Museum, who may have some information about Operation Top Hat. The museum can be contacted as follows:

Royal Engineers Museum  
Prince Arthur Road  
Gillingham  
ME4 4UG

Tel: 01634 822839

If you are not satisfied with this response or you wish to complain about any aspect of the handling of your request, then you should contact me in the first instance. If informal resolution is not possible and you are still dissatisfied then you may apply for an independent internal review by contacting the Information Rights Compliance team, Ground Floor, MOD Main Building, Whitehall, SW1A 2HB (e-mail [CIO-FOI-IR@mod.uk](mailto:CIO-FOI-IR@mod.uk)). Please note that any request for an internal review must be made within 40 working days of the date on which the attempt to reach informal resolution has come to an end.

If you remain dissatisfied following an internal review, you may take your complaint to the Information Commissioner under the provisions of Section 50 of the Freedom of Information Act. Please note that the Information Commissioner will not investigate your case until the MOD internal review process has been completed. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website, <https://ico.org.uk>.

Yours sincerely,

[Redacted]

[Redacted]

Disclosure and Litigation Leader

EXERCISE TOP HAT

1. TASK.

846 Squadron was tasked to carry out Exercise Top Hat. The Exercise took place over the period 17th May to 18th June 1971 and involved RFA ENGADINE and a troop of 39 Regiment Royal Engineers.

2. AIMS.

- a. The principal aim of the exercise was to lay a flat surface on the top of Rockall so that an all round visual light could be erected in the future. This was achieved by blowing the top five feet off leaving a flat area 12 feet by 5 feet.
- b. A secondary aim was to deck qualify one holdover pilot.

Both aims were achieved.

3. PREPARATION.

a. With the Royal Engineers

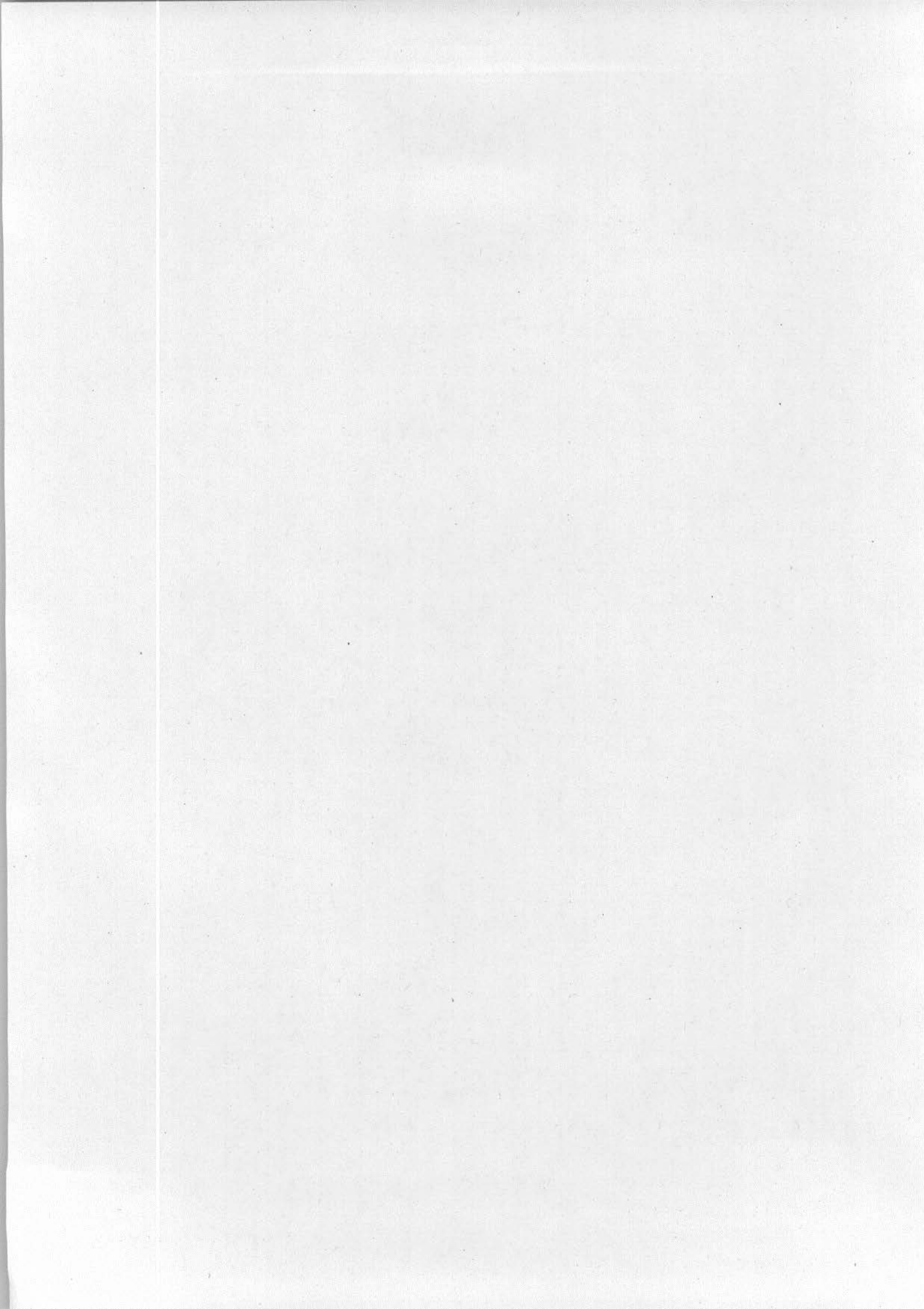
In order to ensure a successful conclusion it was vital that the Squadron liaised with the Royal Engineers and practised a pre set plan. To this end it was necessary for personnel to become accustomed to being winched on to a small ledge and to lower scaffold poles, timber and drilling tools down to them. At first all loads were underslung and the advice of JATE was sought as to the best length of strop to use. It was found however that the poles and lengths of timber were extremely difficult to control over confined spaces and it was decided to lower them by winch. This was most successful since the crewman was a) able to control the load and b) con the aircraft over the exact spot. In the end only the compressor weighing 1700 lbs was carried underslung. A full scale trial was carried out on Brissons Rock situated some 2 miles North of Lands End. Simulating operations from RFA ENGADINE was done by operating aircraft from St. Just Airfield. Great value was obtained from the trial since it gave confidence to the Engineers to operate under helicopters in confined spaces.

b. Spares

In order to obtain the 100% availability of 2 aircraft throughout the operation it was necessary to:-

- i. Increase the number of ratings on detachment.
- ii. Prepare a comprehensive back up stores list.

The maintenance detachment was split into two watches to cope with the flying task. This entailed keeping both aircraft on deck in a flying condition from 0330 until last light usually 2130. The detachment also provided manpower on ENGADINE for the Issue Centre Battery Room and mess sweepers. The total number of ratings amounted to 24 including 3 aircrewmen which proved just adequate. Three aircraft were prepared for the exercise (one as spare). The aircraft



3. b. were cleared of routine servicing operations for 7 days and 25 flying hours and major routine servicing and lifed components for 100 hours and one month. As RFA ENGADINE carried no Wessex V back up spares it was necessary to draw up a complete support store list. Items not held at Culdrose were despatched from the supply store depots. A comprehensive support stores list is at Annex A.

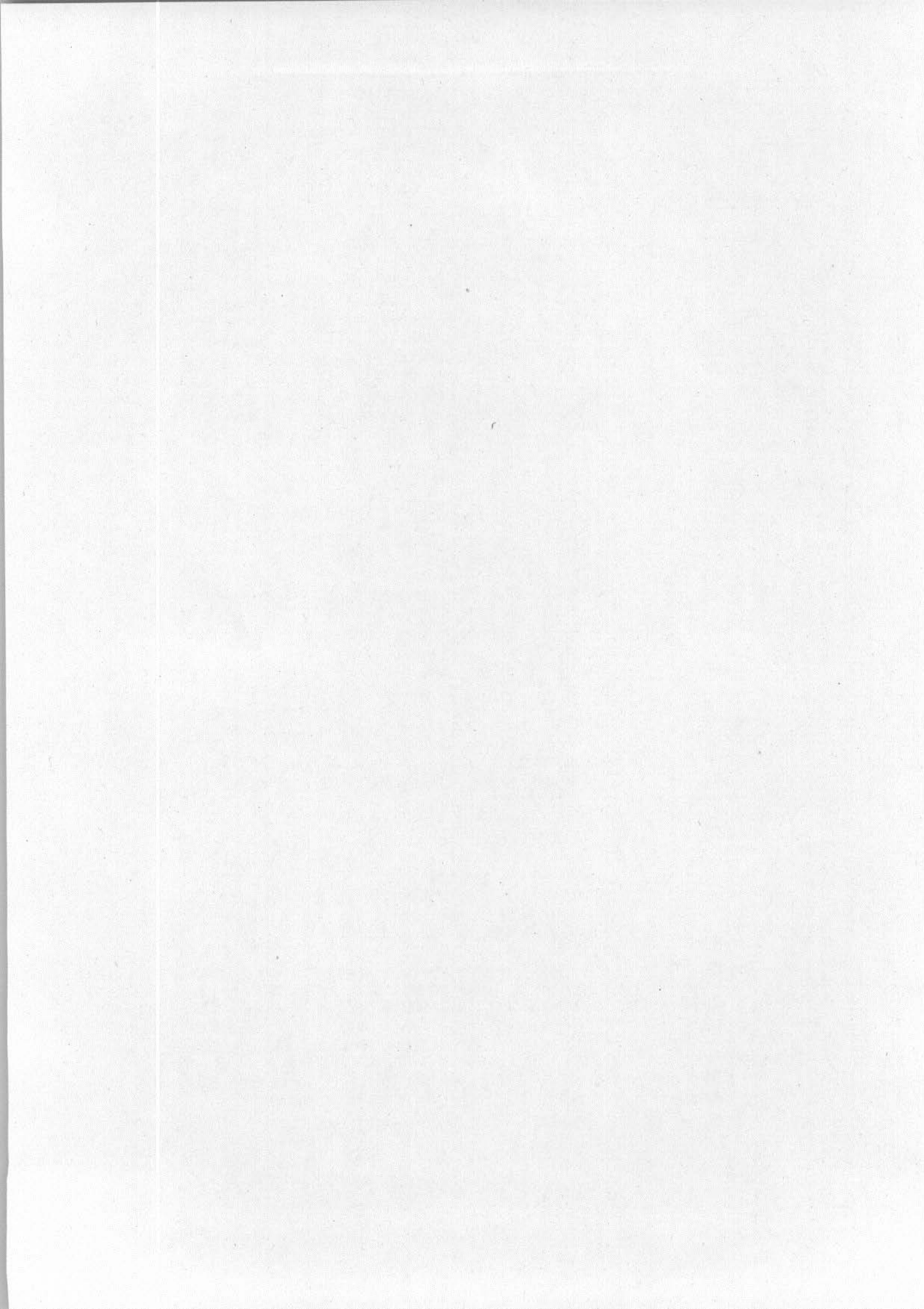
4. WEATHER.

The weather during the operation was on the whole marginal.  $1\frac{1}{2}$  days were completely lost due to deck movement and this appeared to be the limiting factor. The prevailing wind during the operation was from North through to East with a moderate swell. No problems were experienced with turbulence around the rock and all personnel and stores were lowered onto Hall's Ledge which was conveniently sheltered from the prevailing wind. However, it was realised that if the swell was from the South West it would be much higher and spray would break over the top of the rock. This would make it untenable for personnel on the rock. Hovering was possible in all directions but there was no suitable passenger drop off point when hovering in a direction from South East through South to South West. Thus it proved essential for success that wind and swell were from the North East a condition which is fairly infrequent.

5. SEQUENCE OF EVENTS.

- |           |   |  |
|-----------|---|--|
| 6th June  | - | Ground Party embarked.   |
| 7th June  | - | 0940 2 Wessex 5 embarked.<br>1140 Ship sailed.   |
| 8th June  | - | DLPs.  |
| 9th June  | - | 1245 ENGADINE arrived Rockall.<br>1430 2 aircraft recce.   |
| 10th June | - | 0300 2 aircraft airborne.<br>2130 Flying completed.  |
| 11th June | - | 0330 2 aircraft airborne.<br>by 1300 the weather worsened to gale force 8 but swell relatively small. Numbers on rock reduced.<br>1700 Engineers recovered. Drilling complete. |
| 12th June | - | No flying due to weather.  |
| 13th June | - | By 0600. Weather abated to allow flying. All gear brought back to ship prior to the 'blow'.<br>1515 Rock 'blown'.<br>2130 Flying completed.                                    |
| 14th June | - | 0800 Flying commenced.<br>a.m. drilling for the light beacon.<br>1830 Flying completed.  |
| 15th June | - | 0800 Flying commenced (Visitors Day).<br>p.m. RNAS Rockall opened.<br>p.m. ENGADINE sailed for Portland.   |

No new problems were encountered. The success of using the winch rather than the hook was very evident. A low hover could be established such that personnel only had to be lowered about 5 feet. After the blow a perfectly flat area remained in size about 12 feet by 5 feet. It was found to be extremely difficult to hover over the top because of the lack of any reference points. Flying commenced at first light and continued on an as required basis throughout daylight hours. Whilst there were personnel on the rock the rear aircraft was at 5 minutes notice and the forward one at half an hour. This was for SAR reasons.



Personnel on the rock were in constant touch with the ship by radio.

6. TRIALS.

Two trials were carried out:-

a. Modified Form 705A.

This was reported on separately. However the results showed that it was a distinct improvement particularly when operating from the deck.

b. Earthing Glove.

It was found that the earthing pole was clumsy and at times dangerous to handle when being used in high winds with little room to move. A heavy duty glove with an inlaid copper strip attached to chain was found to be much easier and safer to handle. Quite a lot of static was encountered particularly when handling radios and batteries.

7. STATISTICS.

Work Up

33 hours

Total: 82 hours

Operation

49 hours

8. OPERATIONS IN THE FUTURE.

It was found to be extremely difficult to maintain an accurate hover over the top of the rock because of lack of reference points. It is probable that the light will be too heavy to carry on the winch but if it could be broken down into winchable loads the problem of hovering would be eased. If it is envisaged that a Seaking carries out the task, thought must be given to the dangers of downwash on personnel perched on the top of the rock.

9. FILMS.

2 films at present unedited were made of the operation. Both are held by the Institute of Geological Sciences, Exhibition Road, London SW1. It is considered that these films could be edited and would be a useful guide to future operations.

10. AIRCREW MEN.

Because the whole operation was largely dependant on good Aircrewman techniques it is considered that certain points appertaining to their task should be mentioned.

a. The need for a winching mat or reinforced knee pad on the immersion suit was emphasised. All three aircrewmen's immersion suits were showing signs of wear after the exercise was completed.

b. The problem of controlling long light loads was eased by the use of a small strop.





10. c. The canvas bags made up for the operation were successful but rather too large. They measured about 3 feet by 2 feet across and were made of a canvas/PVC type material. A smaller bag more easily handled by one aircrewman with a strengthened base would appear to be the answer.
- d. Heavy loads such as a compressor can be a problem. A short strop is vital for lowering onto the rock (pilot hover reference) but a longer strop is desirable when placing the load onto a trolley on a pitching deck.
- e. It was found that the positioning of external loads onto the deck was far more accurate if the Aircrewman conned the aircraft.

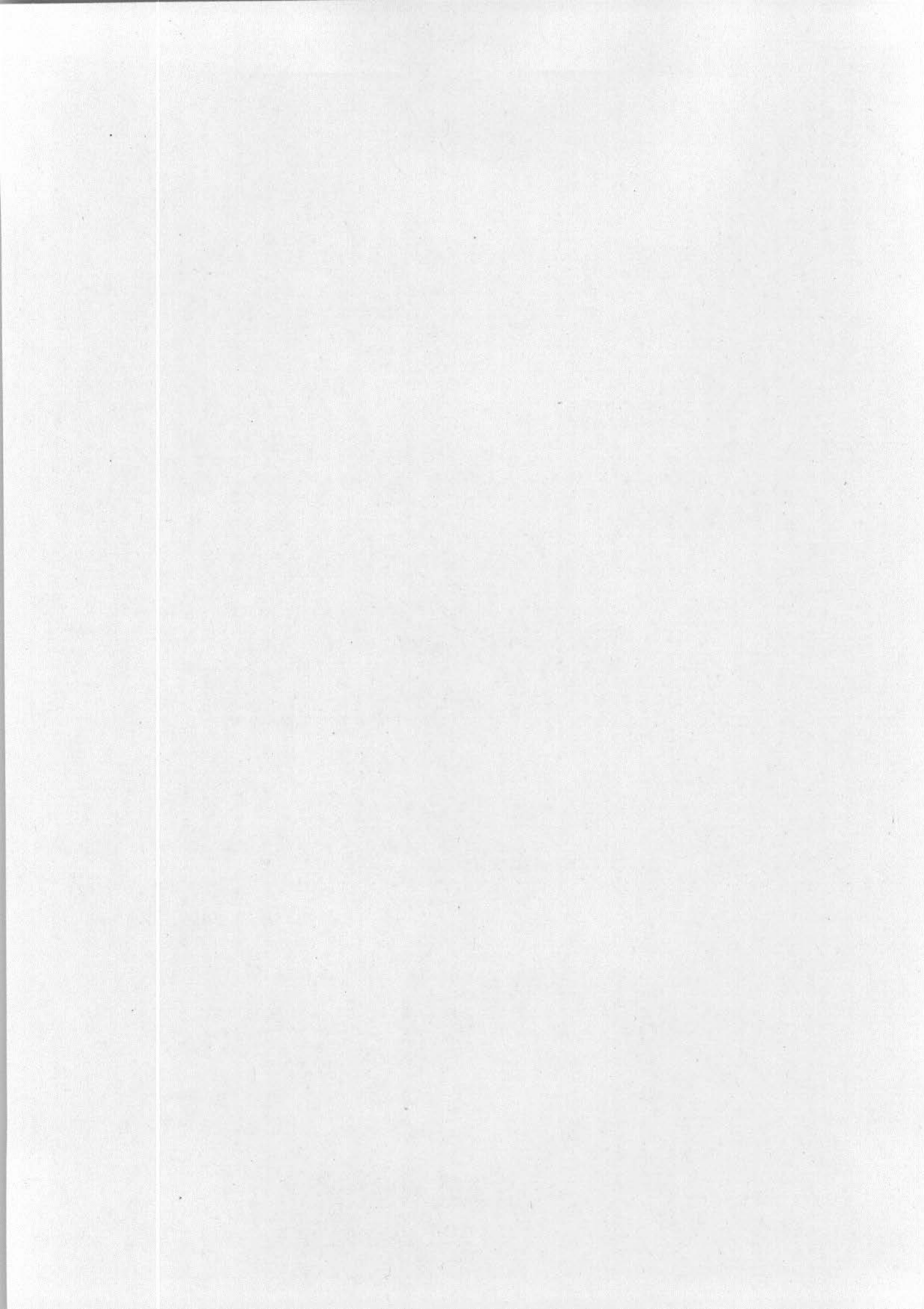
11. CONCLUSIONS.

- (1). Exercise Top Hat was a most successful exercise which was helped considerably by the excellent cooperation received from all the officers of RFA ENGADINE.
- (2). The continuous North Easterly swell was a major advantage in operating over the rock. Nevertheless even on the calmest of days it was not possible to make a landing by boat.
- (3). The training period prior to the operation contributed greatly to its success.
- (4). The operation highlighted the problem of positioning the navigation light because of the lack of any hover reference for the pilot.

12. RECOMMENDATIONS.

It is recommended that:-

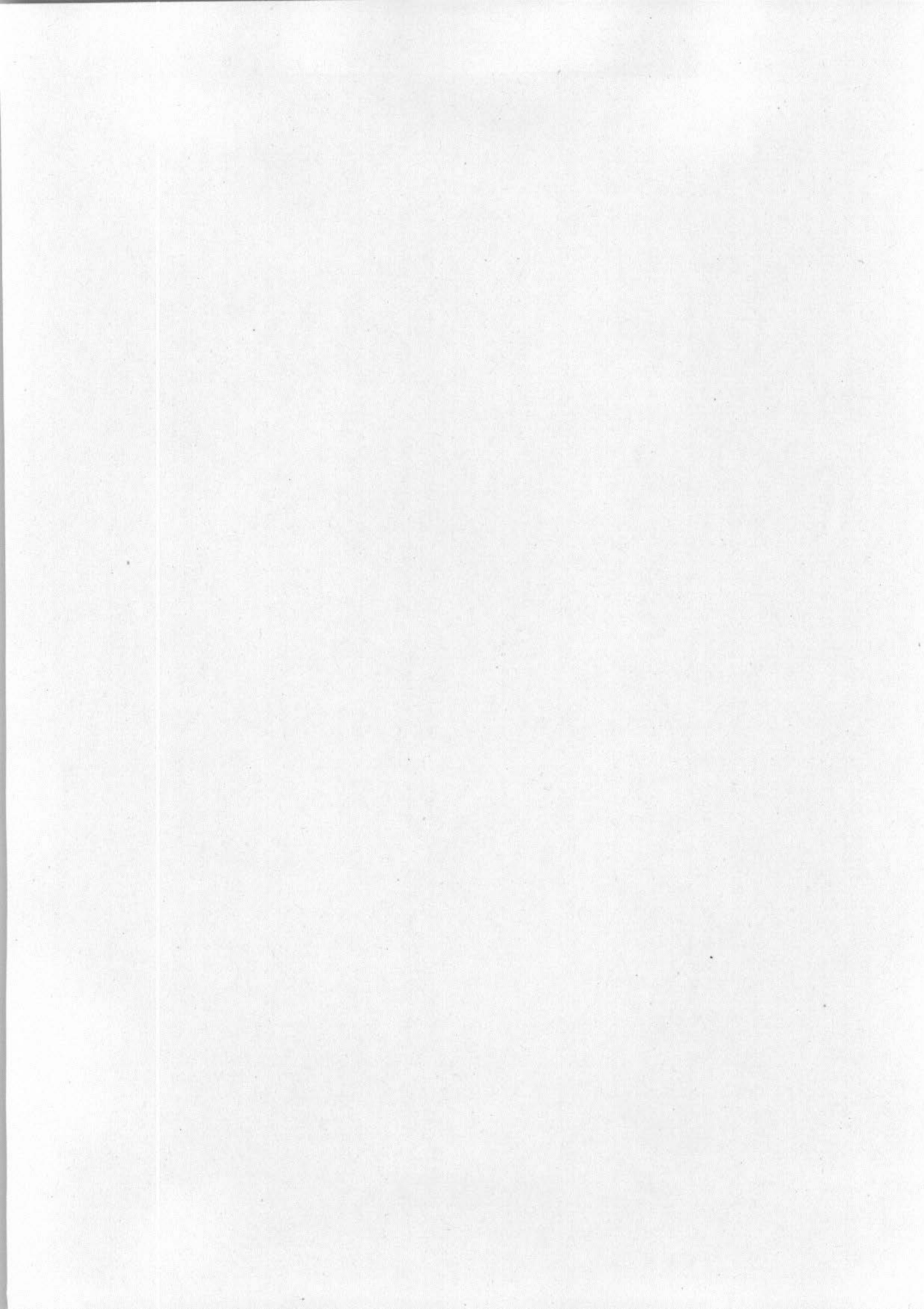
- (1). A stores back up kit for the Wessex V as at Annex A be promulgated to all Commando Squadrons.
- (2). Any future operation is planned for the time of year when the sea swell is from the North East.
- (3). All load lifting is carried out using the winch rather than the hook.
- (4). The 2 films are edited and made available to Naval sources.
- (5). A training period in similar conditions is carried out prior to any further operations.
- (6). An industrial glove together with an earthing chain be used for this type of operation rather than the conventional pole.



ANNEX A TO EXERCISE  
TOP HAT REPORT

LIST OF SUPPORT STORES REQUIRED TO OPERATE TWO WESSEX V AIRCRAFT FOR  
A PERIOD OF THREE WEEKS

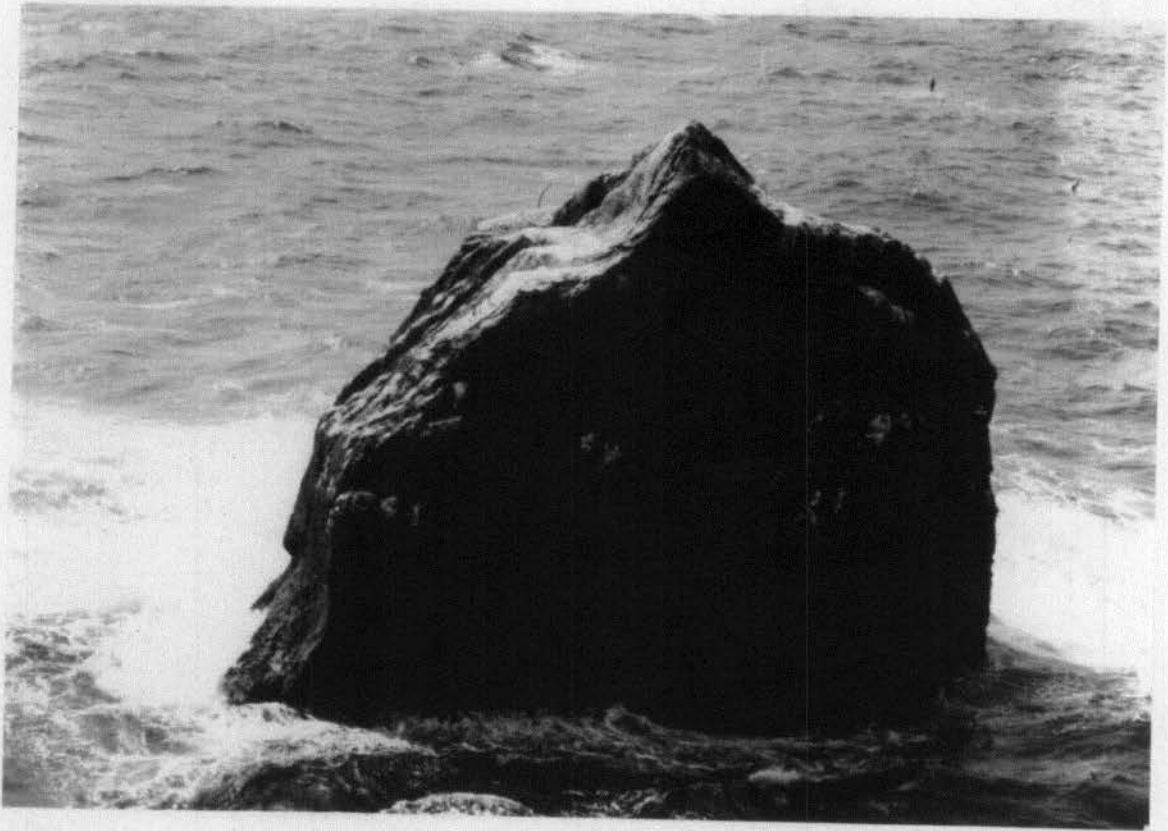
<u>ITEM</u>	<u>REFERENCE</u>	<u>NO.</u>
Gnome ECU	112	1
Gnome ECU	113	1
Tail rotor assembly	26 Wx 307	1
Main wheel	26 Wx 4279-4285	2
Tail wheel	27 A 4257-3786	1
Mini comp wash rig	64DE 51	1
Main rotor blades	26 Wx 1453065	4
Cabin fire extinguishers	27 N 299	1
Aircraft fire extinguishers	27 N 299	1
Winch hydraulic pump	37 J 13001	1
Main clacs	26 Wx 25456	1
Tail oleo	26 Wx 121	1
Main rotor blade dampers	26 Wx 204	4
Windscreen motor	27 Ww 1027	1
Rotor blade master cylinder	26 Wx 327	1
Sets of brake units	26 Wx 10240	2
Fuel computer	36 HS 10072	1
Throttle actuator	36 HS 9838	1
Starter motors	37 F 2017	2
HEIU	37 A 1793	1
Igniter plugs	36 DE 6076954	4
Compass indicator	6 B 3496	1
Compass amp unit	6 B 3824	1
Servo motor switching unit	6 TF 8198	1
CG & A Box	6 TF 8144	1
Altimeter	6 A 3155	1
Control inverter	6 A 6846	1
Main gearbox Tx	6 A 10389	1
Coupling gearbox Tx	6 A 9616	1
ECU	6 A 9615	1
Varley batteries	5 J 9496080	Set
Control unit	5 CZ 7491	1
Fuel guage forward	6 A 142-7024	1
Fuel guage aft	6 A 142-7025	1
Fuel amp	6 A 8606-7	2
Altitude indicator	6 TF 3608	1
Fuel pump	5 UE 103-2880	1
Inverter D2A2	5 UB 7800	1
ASI	6 A 6542	1
Blower motor	5 UD 7606	1
RA7B Tx Tr unit	5841-99-954-2617	1
RA7B amp	5841-99-954-2618	1
PTR 170	5821-99-913-2149	1
Cass dist box	0564-6110-99-951-4263	1
Cass station box	5831-99-951-4181	1
HF Tx Tr unit	5821-00-604-3307	1
HF ATU	5821-00-333-8518	1
Load lifting net	27 H 1053845	4
Earthing Pole	26 Wx 95590	4
SACRU	27 HR 199-1848	2



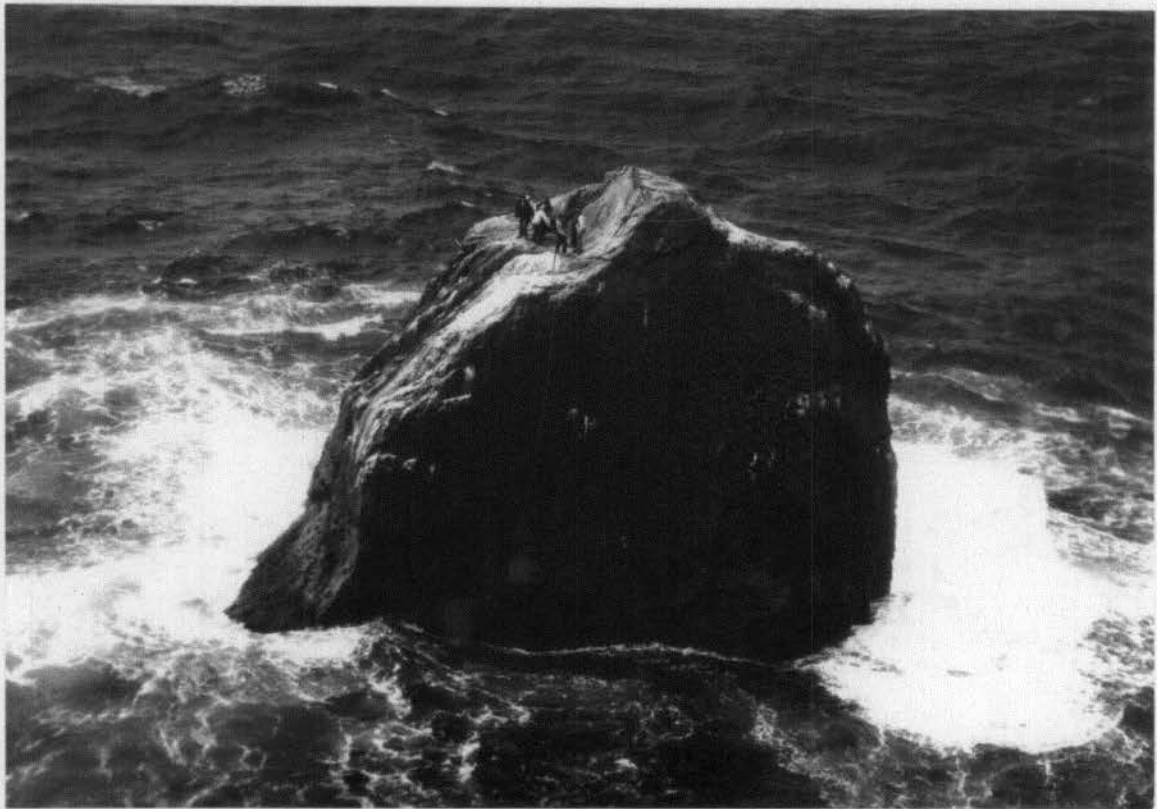
ITEMS WITH NO REFERENCE NO.

Winch  
Winch spares  
Wrist pin spares  
Pedal damper ACO 362 FT  
2 Drop tanks  
Stall margin test set

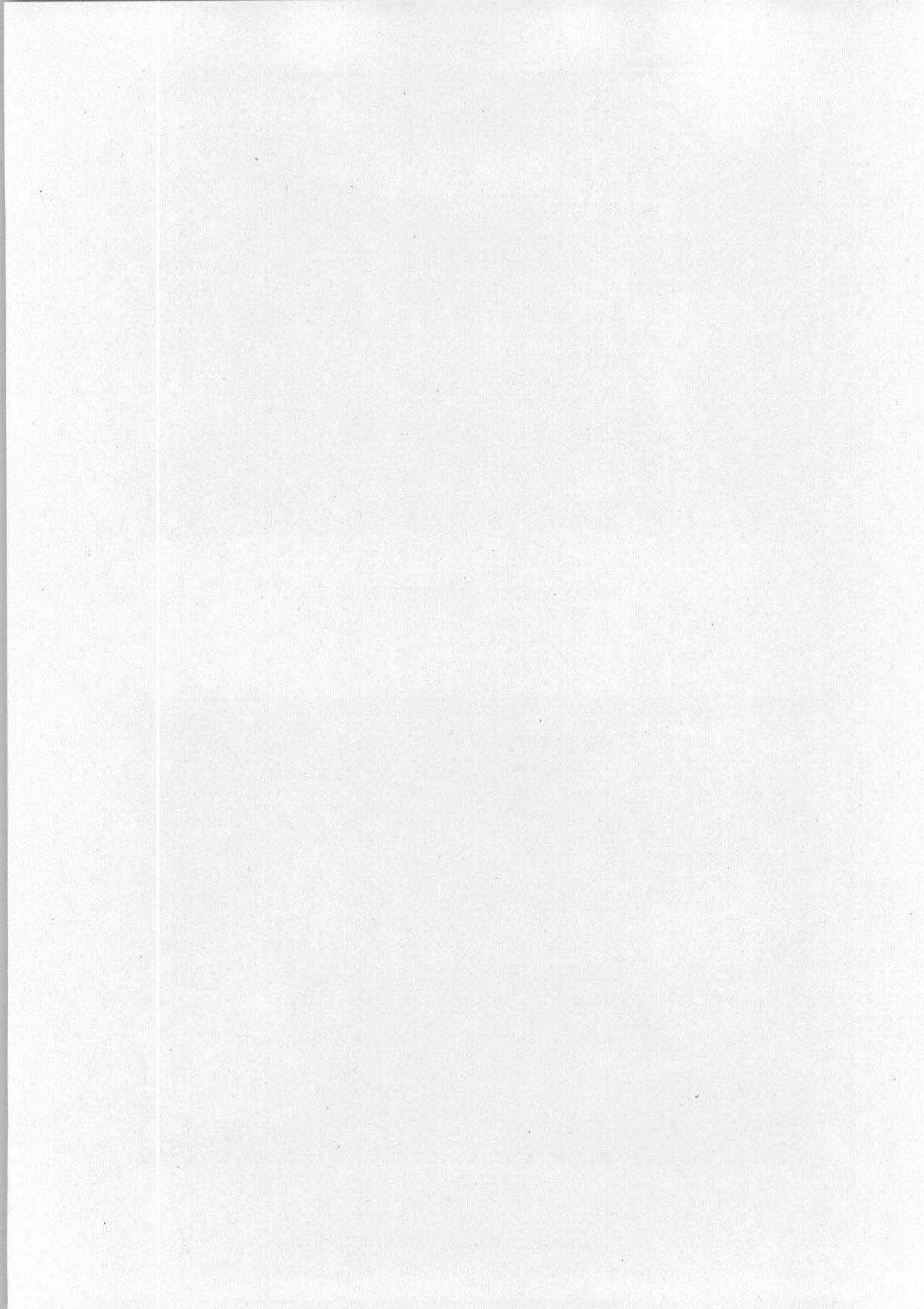




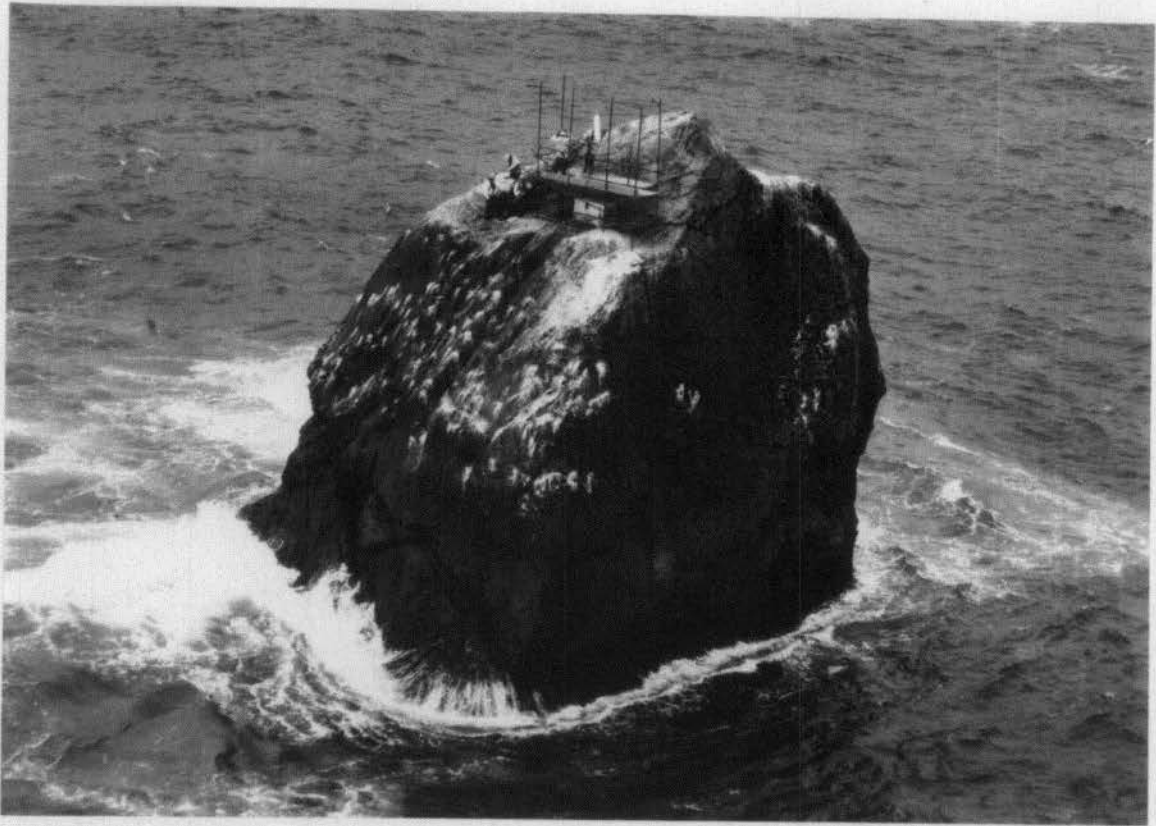
Rockall - Time immemorial to 1971



Rockall - 1971 to time immemorial.







Rockall Development Company.



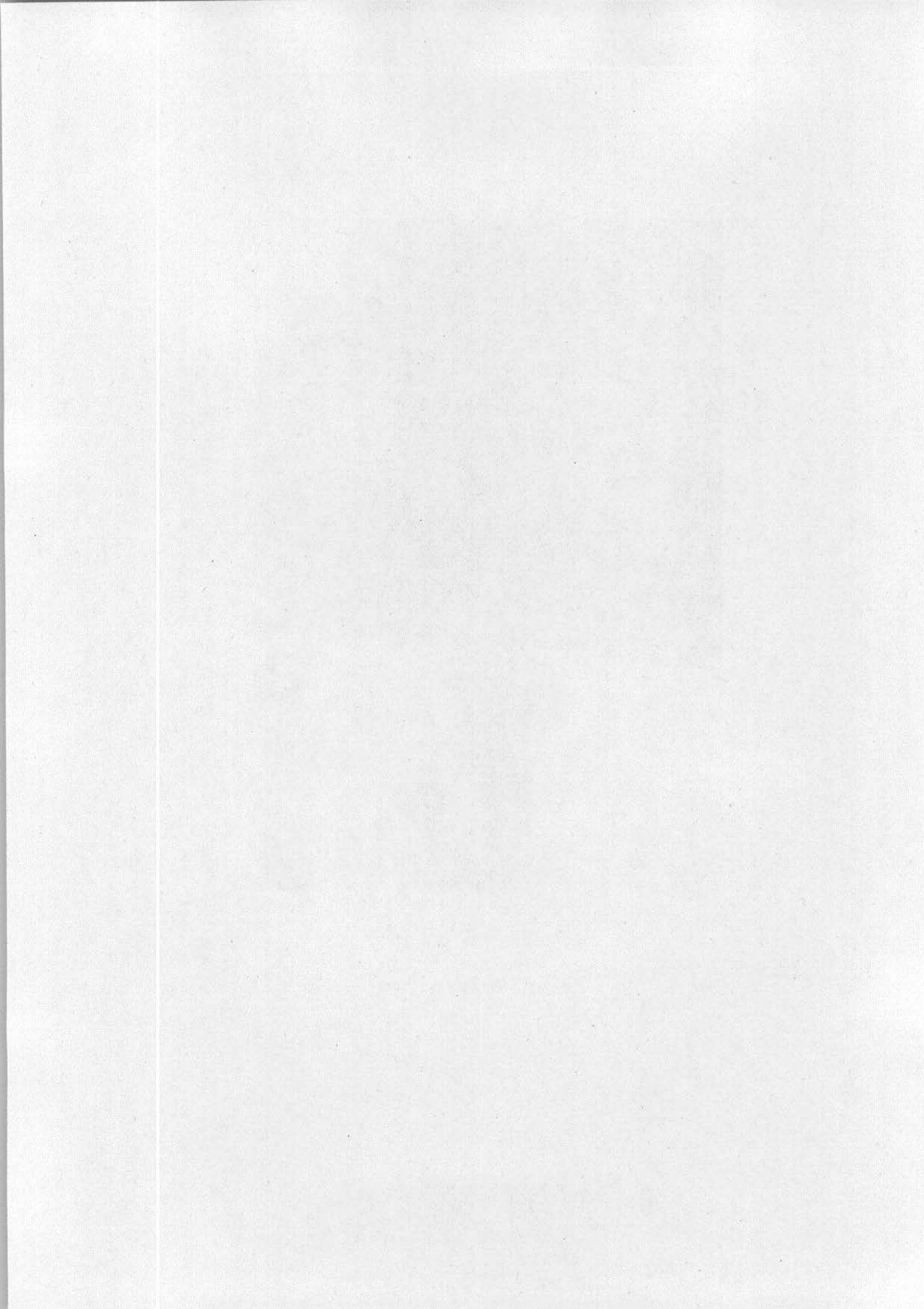
Rockall tourist attraction.  
(Sanderling 2" high)





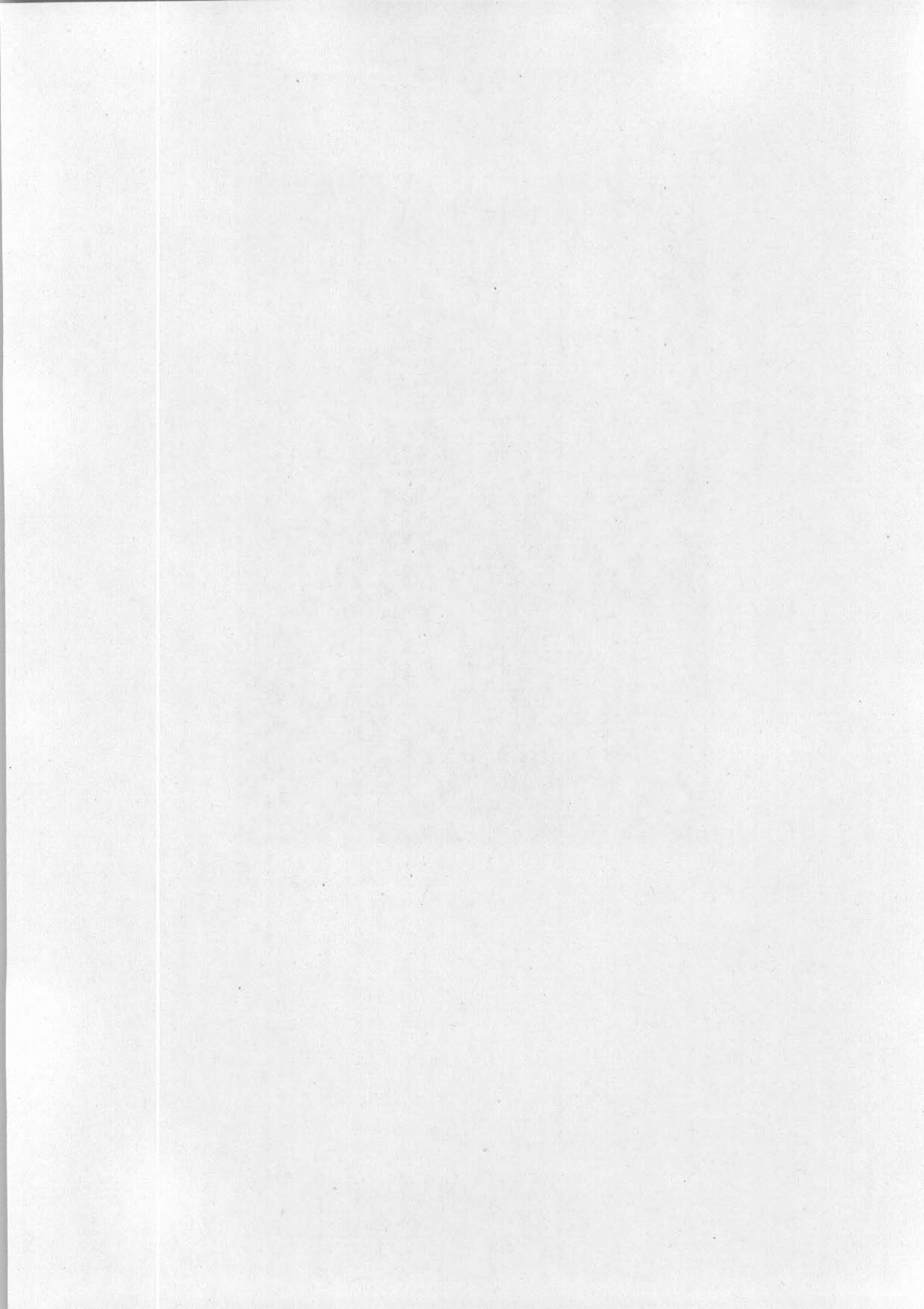
Lowering personnel

(NE wind allowed a very low hover to be maintained thus ensuring speed and efficiency).





Method of carrying poles and wooden boards. (Much quicker and safer than carrying underslung).

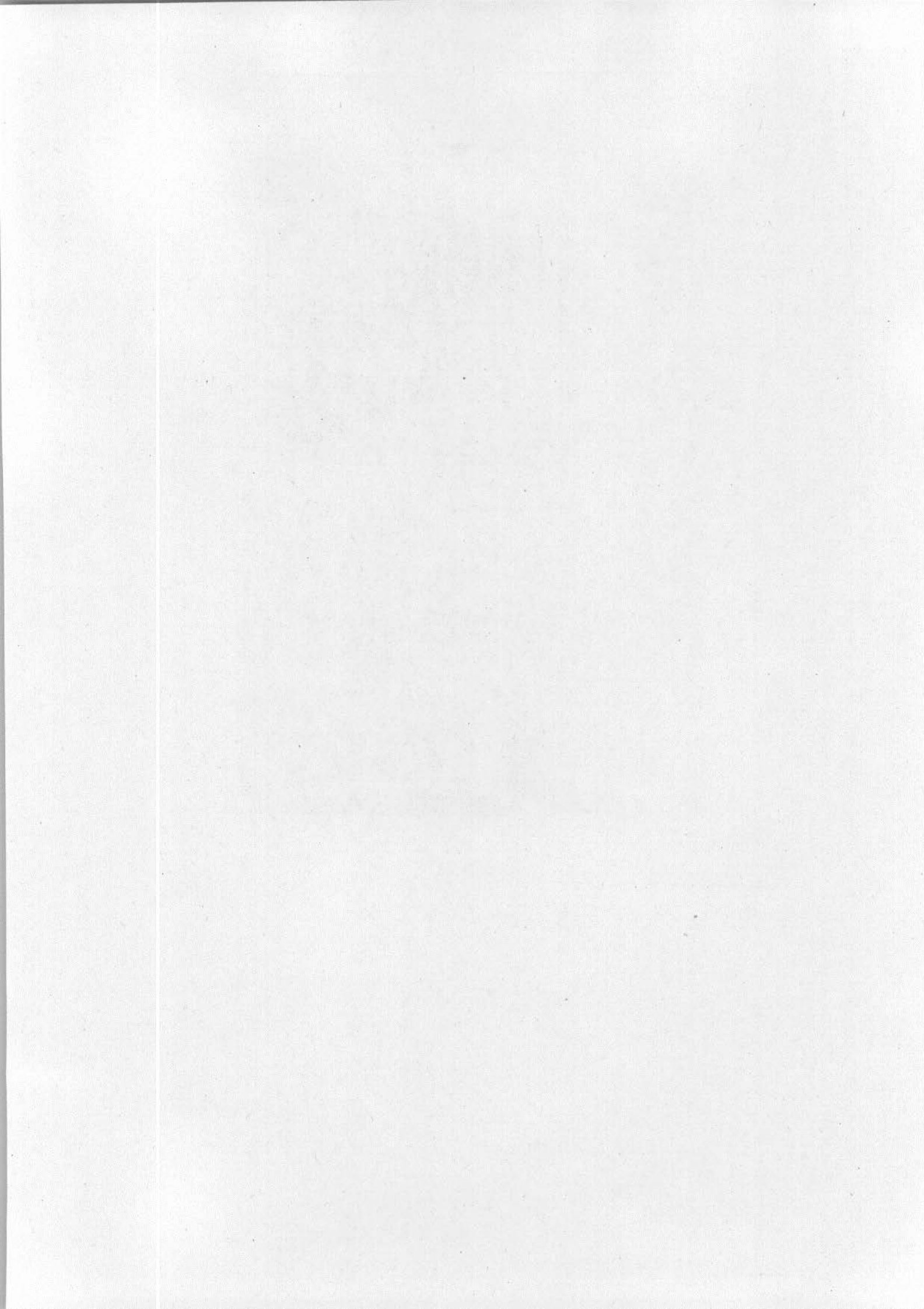




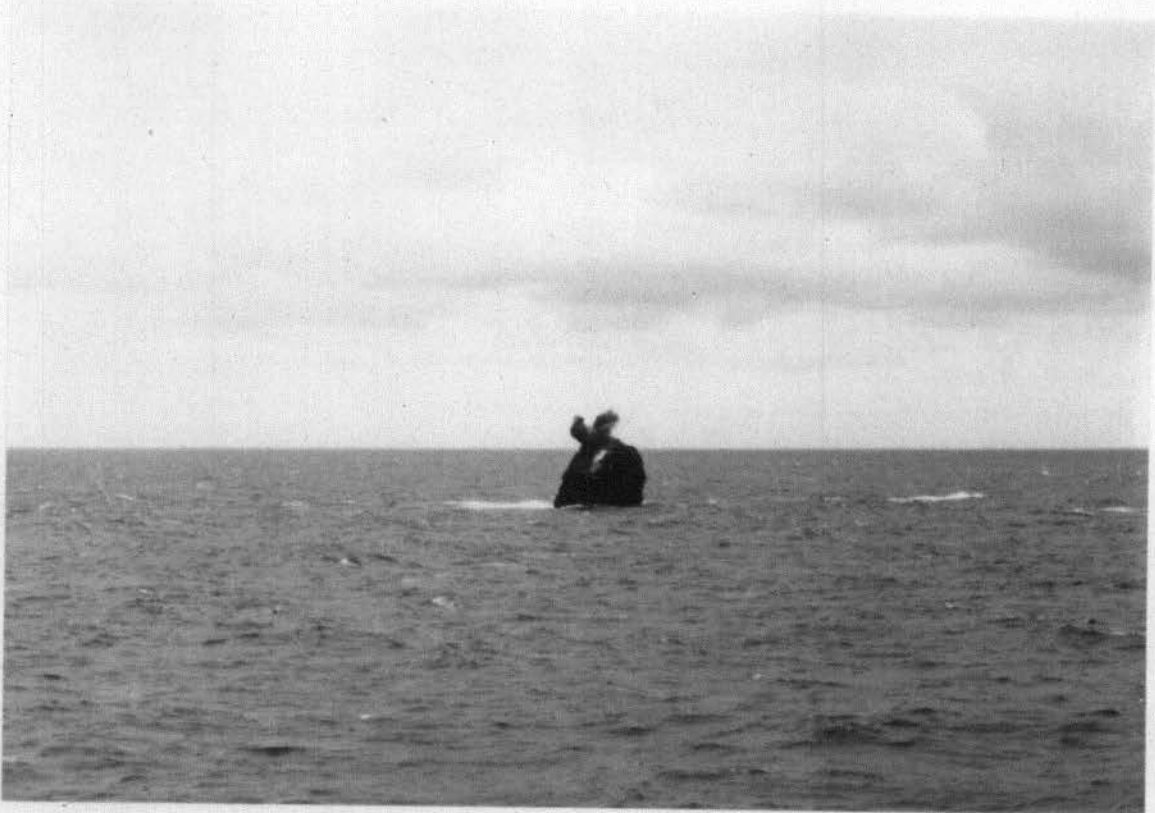
Compressor being dropped on to a moving deck.

NOTE: 1. Where trolley chocks were originally.

2. 8 foot stop.

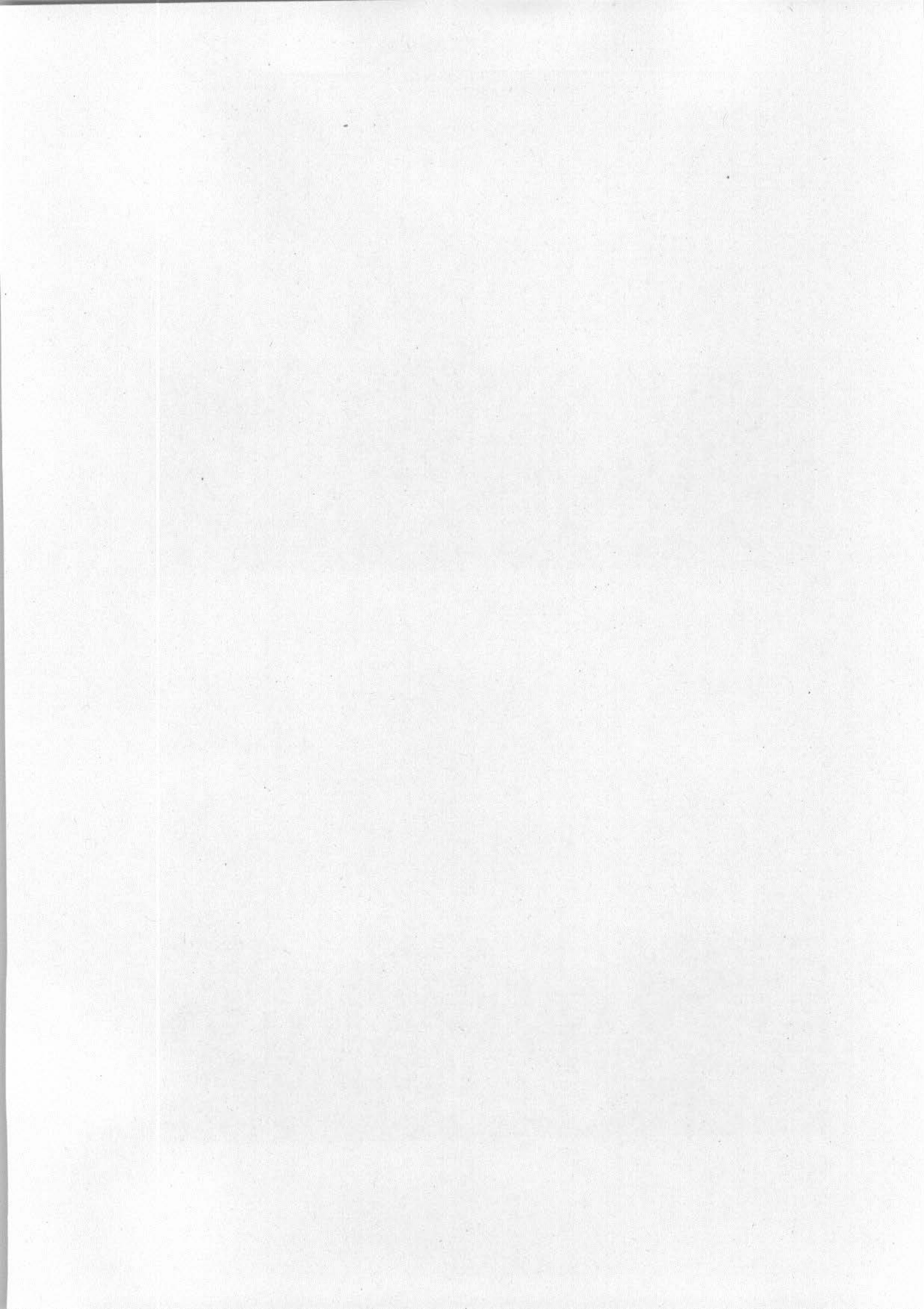






The Blow.





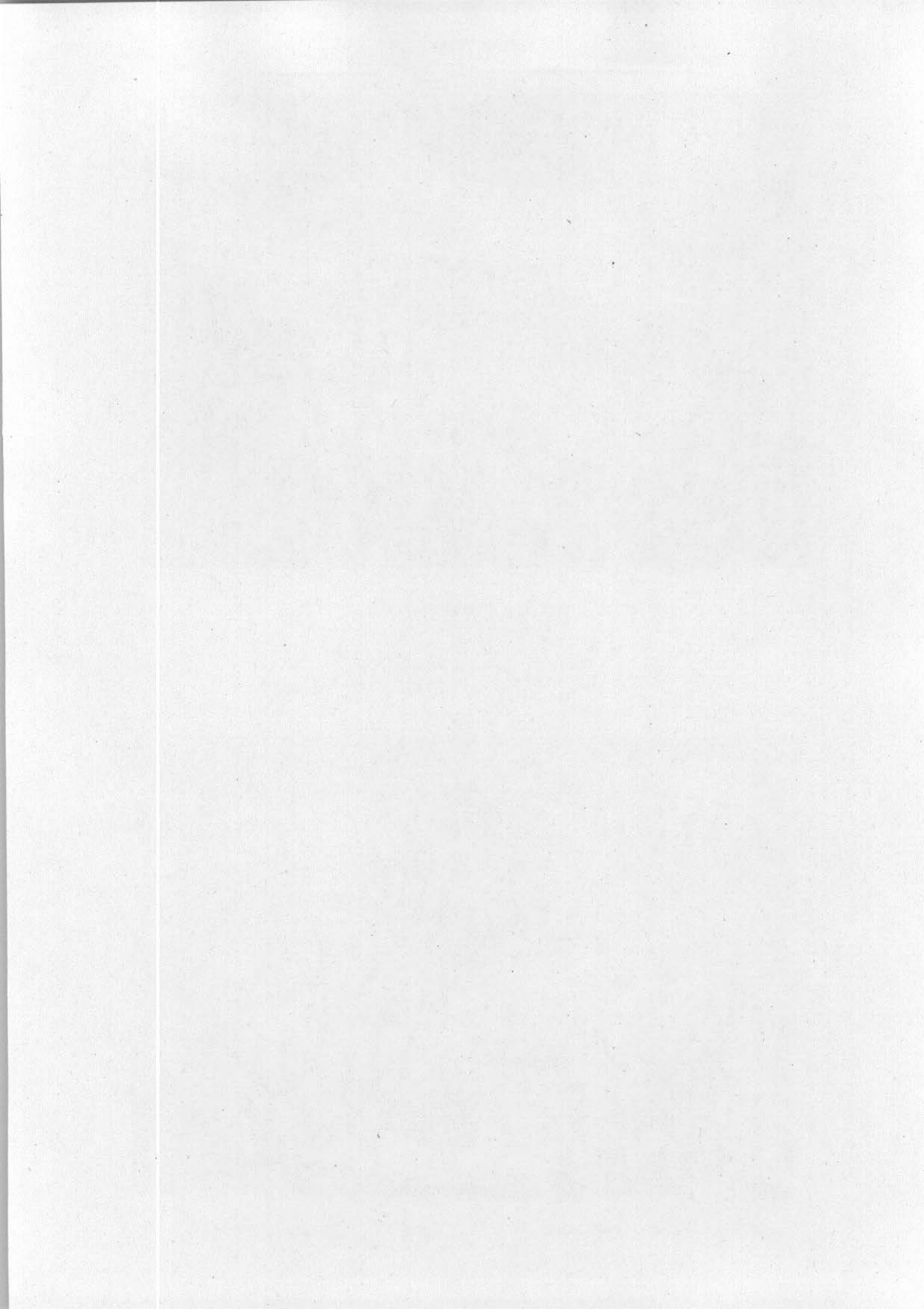


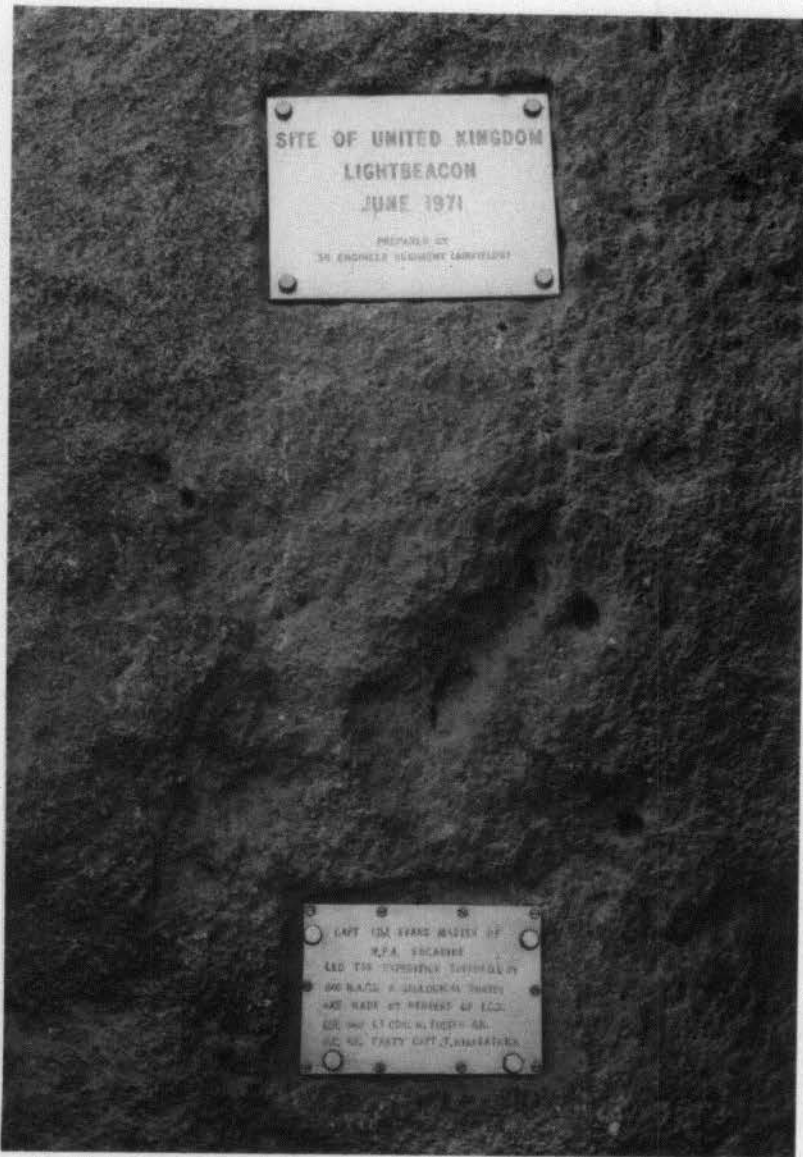
The fifth Naval Air Station?

- NOTE: 1. 846 Crest  
2. Spare plaque for 39 Regiment, RE.  
3. Spilt pot of yellow paint for Ground Equipment.

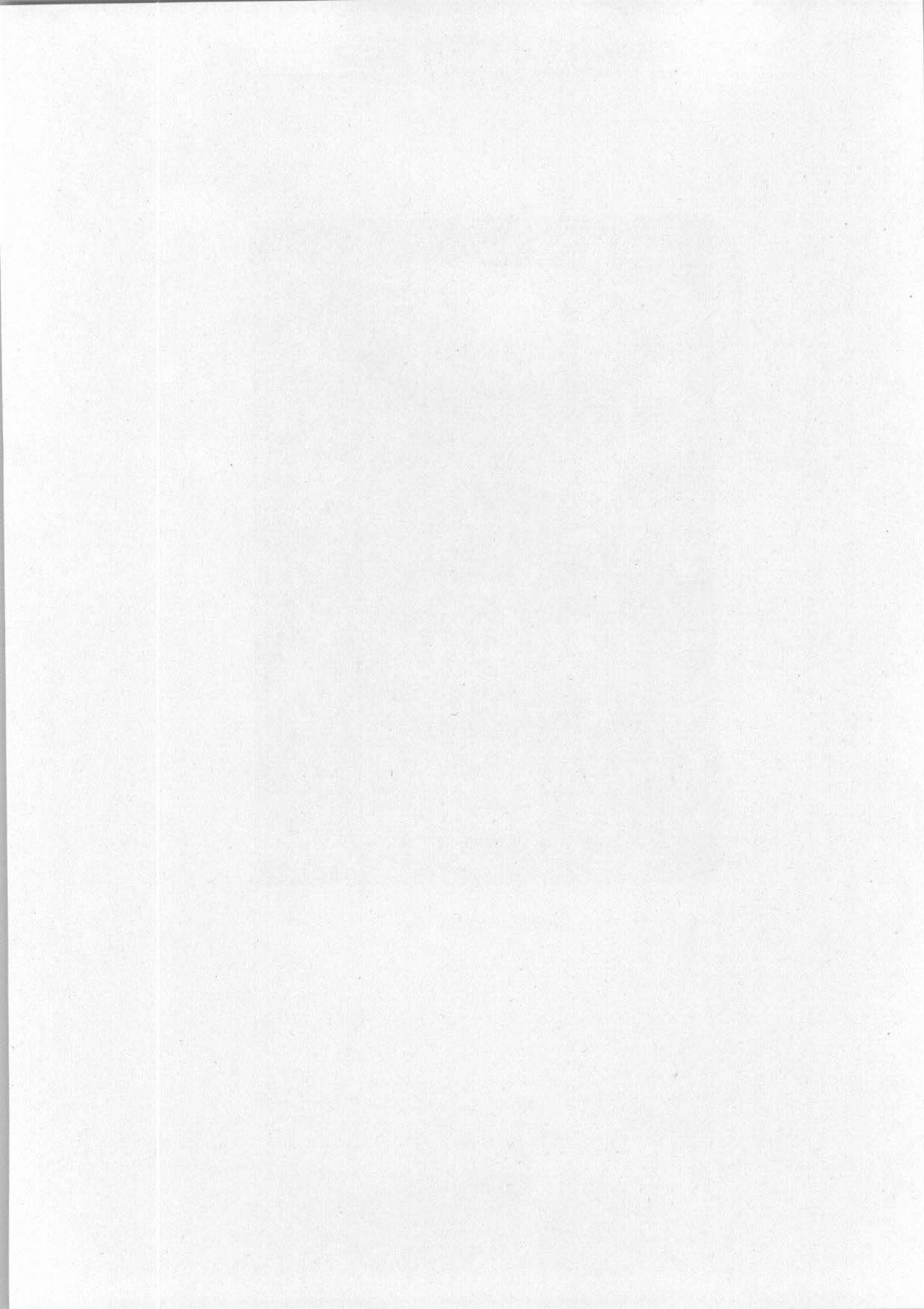


XG making the first landing on RNAS Rockall. (It is just possible to get two wheels on).





History being made.





Participants - Human.



Participants - Material.

