

1973



SEVENTEENTH COAST GUARD DISTRICT

GENERAL INFORMATION RELATING TO THE LORAN TRANSMITTING STATION

ATTU



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

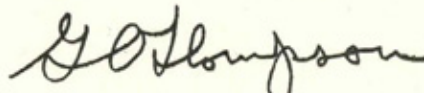
Address reply to:
COMMANDER
Seventeenth Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99801

14 December 1973

LETTER OF PROMULGATION

This letter promulgates a Loran Station Information Book for each of the nine Seventeenth District Loran Stations. These books are designed to provide information to commands and staff components concerned with the stations logistic support, operation and administration, and to training commands to familiarize themselves and their students with station equipment, environment, problems and routines. The Books purposely omit unnecessary details. Additional information regarding any phase of the stations operation, equipment, or plant can be obtained from Commander, Seventeenth Coast Guard District, Juneau, Alaska.

Loran Station Information Books will be reviewed periodically and new additions issued as the need arises.


G. O. THOMPSON

DISTRIBUTION:

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- No. 3 Engineering Diagrams

CHAPTER 1

GENERAL INFORMATION

GEOGRAPHY AND TOPOGRAPHY

Attu Island, the 368 square mile land mass which is the last of the Aleutian Islands, is the western most point of the United States. This island is composed of rugged mountains and hills with several narrow valleys. The USCG Loran Station is located in an area formed by two of these valleys on the eastern end of the island, the Peaceful and Henderson Valleys.

The island is naturally treeless, and the tundra which covers the ground is spongy and marshy in some seasons and completely frozen in others. Beneath the tundra, layers of volcanic ash are usually found. Numerous types of plants bloom from May through August. The wild flowers which grow everywhere during the summer are quite beautiful and the amateur photographer will have exciting days afield.

Forty miles to the east, Shemya Island, another of the Near Island group, supports approximately 1200 Army, Air Force, Navy and civilian personnel attached to the USAF Station.

WEATHER

The Aleutian Islands reputedly have the worst weather in the world. A favorite axiom of the Aleuts is "Never speak of the wind. If you do, there probably will be a storm."

The temperatures on Attu are fairly uniform, averaging about 33 F. in winter and 50 F. in summer. Cold winds from Siberia and ocean currents from the Bering Sea meet the warm air and currents flowing eastward across the Pacific. The interaction results in high velocity winds (willawaws) and dense fog, mist, rain and snow. Attu averages only 2 or 3 clear days a month.

POPULATION

There are no native inhabitants of Attu. The Aleut Indians who originally occupied a village at Chichagof Harbor were relocated during the Second World War. The only inhabitants are thirty-two Coast Guardsmen stationed at the CG Loran Station.

WILDLIFE

Wildlife on Attu is limited to Artic Blue Fox and numerous varieties of water fowl. The streams and rivers, however, teem with salmon and trout from late May till September. Several streams and lakes near the station provide an excellent source of recreation during these months.

HISTORY

Most of the recorded history of Attu originated during the World War II period when early in the war, the Japanese occupied Attu as part of their Aleutian Campaign. On the 11th of May 1943, the American forces landed on Attu in an attempt to retake the island. There followed eighteen days of bitter fighting in the cold and rugged terrain. Finally on 29 May, the Japanese occupation was eliminated when a final midnight Banzai charge of 800 men were crushed.

A majority of the American landings took place on the beaches of Massacre Bay in the vicinity of the present Loran Station.

By the end of the war, approximately 20,000 American servicemen were stationed on Attu. Most of these men departed shortly after the end of the war. However, the U.S. Navy maintained a communications station on Attu until the late 1950's. Upon their departure the Coast Guard renovated the building to house the new Loran A and C station.

which was commissioned in 1960. At that time the old loran A station at Murder Point was decommissioned.

CHAPTER II

OPERATIONS

AIDS TO NAVIGATION

LORAN C NORTH PACIFIC CHAIN:

The Coast Guard Loran Station on Attu transmits Loran C signals on the SH7 rate as the secondary X station in the North Pacific Loran C Chain. The master station is located on Saint Paul Island in the Pribilof Island group located in the Bering Sea. The Z secondary is located on Sitkinak Island just south of Kodiak. The Y secondary of the chain is located at Port Clarence, near Nome, Alaska. Electronically, Attu Loran is equipped with AN/FPN-42 transmitters and AN/FPN-41 timers for the transmission of Loran C signals. The Loran C tower is 625 feet high.

LORAN A ALEUTIAN CHAIN:

In addition to the Loran C mission, Attu also broadcasts on the Loran A 1L2 rate as a secondary station. The master for this rate is the Loran Station on Adak Island. Adak is a double master serving as master on the 1L3 rate with Cape Sarichef as the secondary station.

COMMUNICATIONS

The communications capabilities on Attu are considered excellent considering the degree of station isolation.

The teletype communications net includes the Seventeenth District Communications Center and Loran A Stations Adak and Cape Sarichef. In addition, this circuit can also be patched into the SARPAC net circuit.

SSB communications are used between the Loran C Stations in the North Pacific Chain which include St. Paul, Port Clarence and Sitkinak.

A continuous guard is maintained on the International Distress Frequency 2182 KHZ and weather broadcasts are made four times daily.

In addition to the SSB and teletype capabilities, Attu has a four channel micro wave telephone link with Shemya AFB giving direct access to the Autovon system. During certain hours of the day it is possible for station personnel to make long distance collect calls to their families at home.

VEHICLES

The station is equipped with various vehicles for transportation, aircraft unloading, snow removal and construction. These include one International Crewcab pickup, one Dodge 3/4 ton pickup, one M-37 Cargo and Personnel Carrier, two Thiokol tracked carriers, one Westekasmaskiner snow trac, one Ford 1 1/2 ton dump truck, one 7 1/2 ton Federal dump truck, one International tractor with snow blade/loader/forklift, one Ford tractor with front loader and backhoe, and one Sicard Snowmaster snowblower.

The tracked carriers are used for emergency evacuation and general transportation when snow prohibits the use of wheeled vehicles during the winter.

CHAPTER III

PERSONNEL

The USCG Loran Station on Attu Island performs an Aid to Navigation mission as specified in Aids to Navigation Manual, CG-222, and Appendix C thereto. Attu has a dual mission as X secondary in the North Pacific Loran C chain SH7 and as secondary station in the Aleutian Loran A pair (1L2). This dual mission, together with the degree of isolation, makes Attu one of the largest Loran Stations, personnel wise, in the Coast Guard.

COMPLEMENT

The billet of the Commanding Officer calls for LTJG, and an EMO in the grade CWO-2 is also assigned by the Commandant. The EMO is referred to as the station XO as an honorary title meaning second in command. His actual duties are specifically set forth in CG-222 and the Station Organization Book. He is assigned to insure smooth efficient operation of the Electronics Department. The Commanding Officer has assistants for various aspects of station operation to insure that the EMO can devote full time to the operation of Electronics Department.

The following is the authorized billet structure for USCG LORSTA ATTU:

Commanding Officer: LTJG

EMO: CWO-2

<u>DECK</u>		<u>ENGINEERING</u>		<u>ELECTRONICS</u>	
BMC	1	ENC	1	ETC	1
HM1	1	EM1	1	ET1	1
CS1	1	EN2	1	ET2	2
CS3	1	EN3	2	ET3	4
SK3	1	DC2	1	RM2	1
SN/SA	8	FN/FA	1	TT3	1

DEPARTMENTAL ORGANIZATION

The departmental organization consists of three departments, Deck Department, Electronics Department and Engineering Department. The EMO heads the Electronics department and is assisted by an ETC. An ENC is designated senior engineman and is the head of the Engineering Department. A BMC is Deck Department head and serves as an Administrative Assistant to the Commanding Officer.

DECK DEPARTMENT

The Deck Department is responsible for repair and maintenance of small arms and survival equipment, snow removal and ground up-keep, maintenance and cleanliness of areas assigned and building maintenance in conjunction with the damage controlman.

The CS1 is responsible to the commissary officer for all facets of general mess administration.

The HM1 is responsible for health, sanitation and hygiene of station personnel. In addition, he serves as administrative clerk for the C.O.

The SK3 is responsible for supply. In addition he performs daily checks required by the Radiation Surveillance Network.

The Deck Department also performs the duties required of the tide observing station and weather observing station established here.

ELECTRONICS DEPARTMENT

The primary mission of the Electronics Department is the operation and maintenance of the Loran equipment. Since Attu has a dual mission of Loran A and C, this is a 24 hour a day proposition. In addition to Loran operation, the department is also responsible for the communication equipment and comms operation.

An extensive antenna system requires constant inspection and maintenance by the department. Attu has a 625' Loran C transmitting tower, a Loran C receiving antenna, a Loran A transmitting antenna, a Loran A receiving antenna and two communications antennas.

With an electronic department of this size, supply is a major undertaking. Each year the department orders and processes supplies in the amount of approximately \$16,500.00, in addition to various district funded supplies.

ENGINEERING DEPARTMENT

The Engineering Department exists to support the Aids to Navigation mission of the station. In this respect, the most important duty is the operation and maintenance of the station power plant. Every facet of Loran operation depends on a steady dependable source of primary power.

In addition to power plant operations, the department is responsible for the station heating and fresh water systems. The Damage Controlman and Electrician are constantly concerned with station structural and electrical maintenance. The department also insures that the fire fighting equipment and alarm systems are kept in an optimum operating condition.

Vehicle maintenance is also assigned to the Engineering Department. The large number of station vehicles indicates the amount of automotive maintenance which is performed by the department annually.

STATION ROUTINE

The station routine has been established on a five day work week basis. However, the mission of the station requires eleven watchstanders daily on a seven day week basis. Station routine is flexible to allow for morale building holiday routine on occasions of log flights, delayed mail planes, or exceptionally nice days, which are an Aleutian rarity. In the same respect, it is often necessary to extend the working hours to perform scheduled maintenance, engine overhaul and corrective maintenance when problems arise.

A plan of the week is posted on Monday and sets forth the instructions, inspections and drills to be held that week.

The normal work uniform for enlisted is dungarees and for officers and chiefs is either work khaki or work blue.

All messing consists of home style meals. On Saturday and Sunday mornings a "cook your own" brunch is served and is enjoyed by all would-be chefs.

MORALE AND WELFARE

As previously mentioned, Attu is uninhabited save the thirty-two men stationed at the Loran Station. The island has no cities or towns and local liberty is non-existent. Recently, authorization for station personnel to take up to 21 days compensatory absence from the station during their tour, has been granted. The absence, if desired, will usually be granted between the 5th and 8th months of an individuals tour, consistent with the needs of the station

OUTDOOR RECREATIONAL FACILITIES;

For those who love the great outdoors nothing could be finer;

fishing and hiking reign supreme from spring through fall. Only about one-third of the island is accessible to the hiker, however, this area has much to offer. Within minutes walk of the station are battlegrounds and beach heads of the battle of Attu. Mt. Terrible, about one mile from the station, provides a challenge to most everyone who spends a tour here.

On the northeastern end of the island the valleys near Holtz Bay and Sarana Bay provide an excellent spot for overnight camping trips. From these spots one can travel to the site of the Japanese stronghold on the island. Also, the remains of the old Aleut Indian village are near at hand. In addition, Sarana Valley contains two of the most popular fishing spots, Lake Cories and Lake Nicholas.

Attu is a fisherman's paradise from May till September; during this period the streams and lakes of the island abound with salmon and Dolly Varden trout. The Peaceful River, a five minute walk from the station, provides every would-be fisherman a chance to try his luck.

Another popular activity during the spring and summer is glass ball hunting. Hundreds of balls used as fishnet floats by the Japanese drift onto the beaches of Attu each year. They range in size from that of a baseball to that of a basketball, the larger sizes being collectors items. Hardly a man comes to Attu who doesn't make a glass ball expedition during his year on the island as these balls make excellent souvenirs of Attu for the folks back home.

An outdoor small arms range has also been set up for the benefit of station personnel.

INDOOR RECREATIONAL FACILITIES:

A complete Ham Amateur radio station KL7CGB is located on the rec deck and is used for listening entertainment and phone patches to the states. The photo lab and ceramics shop are two of the most popular areas on the station. Movies are scheduled each day and thoroughly enjoyed by all. A soda and beer mess is located on the rec deck with the bar open each evening and on special holiday occasions. An old World War II gym is situated about 3/4 miles from the station. Recently, a group of men went to work on the interior and after several weeks produced a full basketball court. These basketball games have become a popular wintertime activity. They supply both a source of recreation and physical exercise for all. The gym also provides an excellent location for archery practice and badminton tournaments. Other indoor entertainment is furnished by the ping pong and pool tables located on the rec deck.

MAIL:

Reeve Aleutian Airways operates throughout the Aleutian Islands. On Tuesday and Friday, Reeves Flight Three departs Anchorage for Attu via Cold Bay, Adak, Amchitka and Shemya. Reeve Airways has the mail contract to transport the station mail from Anchorage and Adak on these flights. The mail arrives at Attu twice a week, weather permitting. Postage stamps are stocked by the exchange. Although there is no post office here, most any type of first class or parcel post mail can be handled. Average first class delivery time ranges from two to seven days, depending on location of origin and aircraft schedules. Parcel post packages take about ten days to two weeks.

Personnel at the station receive very good service from Sear's mail

order house in Seattle and from various film processing companies in the Northwest.

EXCHANGE AND LAUNDRY:

The station exchange carries all the basic necessities such as toilet articles, cigarettes, cigars, tobacco, candy and various sundries. Many other items can be obtained on special order. Variety of stock is limited so if you smoke a special brand of tobacco, cigarettes, etc., it may be advisable to bring a supply to tide you over until arrangements can be made to obtain these items.

The station has a laundry consisting of three household washers and dryers. Due to the isolation of the station and lack of any commercial facilities, each individual must do his own laundry. The exchange sells detergent, bleach and starch. Station irons are available for crew use.

CHAPTER IV

ENGINEERING

GENERAL ENGINEERING

POWER PLANT

The primary station electrical power is supplied by Caterpillar D-397 Series B Electric Set. Three of these sets are installed in the station generator room with a rated output of 300 KW each. Since the normal station load ranges between 190 KW and 220 KW any one set is capable of carrying the station load. Due to the isolation of the station and the dependence on stable, reliable primary power, the three generator system was established. With this setup there are two standby generators ready at all times. During periods of overhaul or corrective maintenance a generator can be placed in charlie status without an adverse effect to the station mission. This will leave an on-line generator and a standby generator for normal operation until the third generator can be placed in service. Station power supplied by the Caterpillar sets is 208 Volt 3 phase.

HEATING SYSTEM

Two American Standard, Ideal Oil Burning, model S-1036 boilers are installed for station heating and hot water supply. One boiler is sufficient to supply the station heating and hot water supply needs.

The heating system for the station is the standard single loop hot water system.

FRESH WATER SYSTEM

The station water supply is a small lake formed by a man made dam near the source of Aleut Creek. Water is gravity fed direct to three

cisterns located directly behind the station building. Water flows to the cisterns through approximately 2 1/2 miles of 2" pipe. Each winter it is necessary to check the lake and dam daily to insure the dam and spillway are clear of ice.

SEWAGE SYSTEM

The station sewage system does not utilize a septic tank or leaching field. Sewage is piped directly to the sea at an area located approximately four miles from the station.

In the near future, a sewage treatment plant will be installed approximately 400 yards from the main station building.

ELECTRONIC ENGINEERING

The electronics plant consists of two AN/FPN-41 timers and two AN/FPN-42 transmitters for Loran C operating into a 625' antenna. As X secondary in the SH7 rate, Attu presently operates in method B control.

For Loran A operation, Attu employs two AN/FPN-30 timers and two T325-C/FPN transmitters into a 115' antenna. Years of use and the resultant modifications and field changes have resulted in an extremely reliable system.

For communications with the loran net and others, Attu operates two AN/URT-17ASSB-FSK transmitters. Weather forecast broadcasts and monitoring of the guard frequency 2182 KHZ are accomplished on the AN/URC-34 transceiver. Installed receivers include two type R-840-URR and one type R388A-URR.

A TRC-35 micro-wave system provides a four channel link with Shemya AFB and points beyond for transmission and reception of telephone, teletype and AFRN news and music programs.

CHAPTER V

COMPTROLLER

SUPPLY

Adak is located 500 miles east of Attu in the Aleutian Chain. The CG Loran Station on Adak coordinates logistic requirements with the U. S. Navy for the Loran Station on Attu. The Naval Station on Adak supplies the required commissary stores on a quarterly and weekly schedule. Coast Guard and GSA stock items are shipped to Adak for shipment to Attu on the quarterly logistic runs. C130 aircraft from CGAS Kodiak have the task of transferring tons of supplies to Attu each quarter.

The Navy Exchange supplies the Attu Exchange with merchandise at a modest markup. In addition, the Naval Post Office assists the station with postal matters.

PAY

Pay records are maintained in the disbursing office of the Naval Station Adak. Station personnel are paid by checks received by mail each regularly scheduled pay day.

CHAPTER VI

GUIDANCE FOR RELIEF PERSONNEL

GENERAL

The first question that will arise after you find where Attu is located, is what to bring with you or send ahead. Naturally, a complete seabag is required. In addition, you may wish to bring various personal items. Personal effects may be shipped on your PCS orders or excess gear may be shipped parcel post, by you, to the following address:

Hold for:
ET2 John X. Doe
USCG Loran Station Attu
FPO Seattle, Wash. 98798

This address will also be your mailing address while stationed on Attu.

Civilian clothing consisting of sports shirts, sweaters, slacks, etc., may be worn for off duty wear. In addition, those who favor outdoor activities may wish to bring their own hiking boots, jackets, parkas, etc. The station will supply the necessary foul weather clothing for normal winter duties.

The station recreation locker has a complete supply of fishing equipment, however, ardent fishermen may find it advantageous to bring their own gear.

Private small arms are allowed on the station pursuant to District and Station regulations. You may carry side arms with you to Attu but these must be checked in with the CMAA immediately upon arrival.

Radio reception on Attu is extremely limited. Many people bring record players or tape recorders with them. A stereo and tape deck are installed on the Rec Deck for the use of all, however, many like to have recorders for use in their own rooms. The station exchange stocks a

variety of stereo tapes for recording. Tape recorders are also a convenient way of communicating with friends and family at home.

It will be to your advantage to insure that all necessary allotments are in effect prior to departure from your present unit. A checking account is desirable while stationed at Attu. Most transactions can be conducted more efficiently by check. You can obtain an account from your present bank or an account may be opened with the First National Bank of Anchorage after you arrive here.

TRAVEL TO AND FROM

All enlisted personnel with orders to Attu will be directed to report to CG Base Seattle, Washington, for processing and further transfer. Insuring that all records are complete and that an overseas physical and dental check have been accomplished prior to departing your present unit will minimize your stay in Seattle. Your overseas tour starts the day you arrive on Attu and you will be eligible for rotation one year from that date.

A transportation request will be issued in Seattle for your travel to Attu. Normal routing is by Western Airlines to Anchorage connecting with a Reeve Aleutian Airways flight to Attu the same morning.

Upon transfer at tour's end, a transportation request will be issued from Attu for your return travel to Seattle.

ADDITIONAL INFORMATION

Additional information about the station can be obtained by writing the Commanding Officer, Loran Station Attu.

All personnel receiving orders to report to Loran Station Attu are encouraged to correspond with the station as soon as possible. A station sponsor will be appointed who can provide you with the latest information, and answer many of the questions you will have about Loran Station Attu.

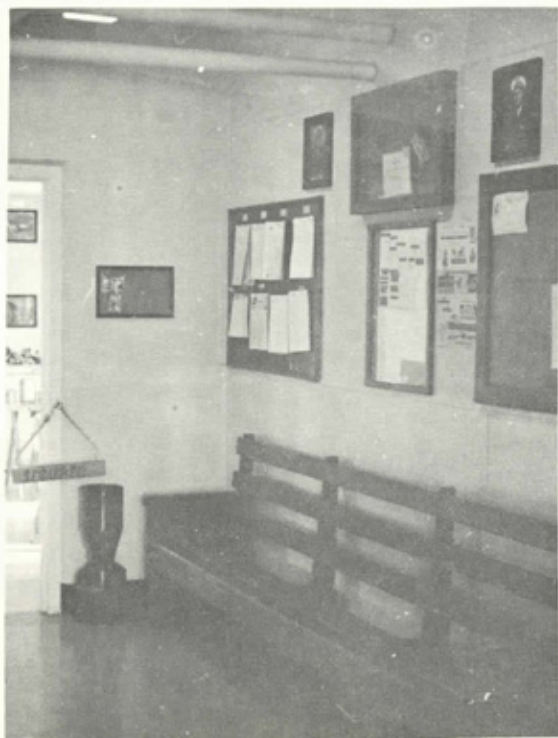
GENERAL INFORMATION
RELATING TO THE
LORAN TRANSMITTING STATION
ATTU

CGLORSTA ATTU IN PICTURES



U. S. Coast Guard
Loran Transmitting
Station, Attu Island,
Alaska

Station Building from the beach

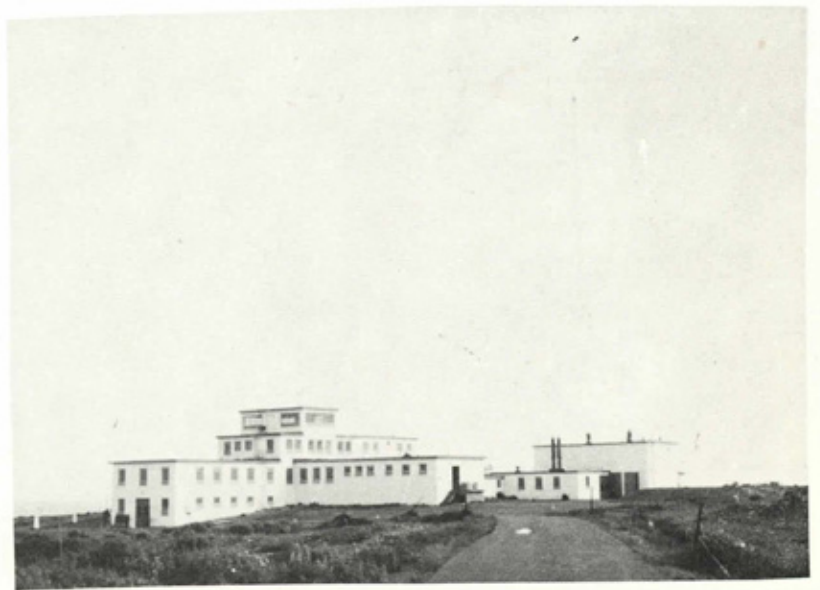


Station Lobby

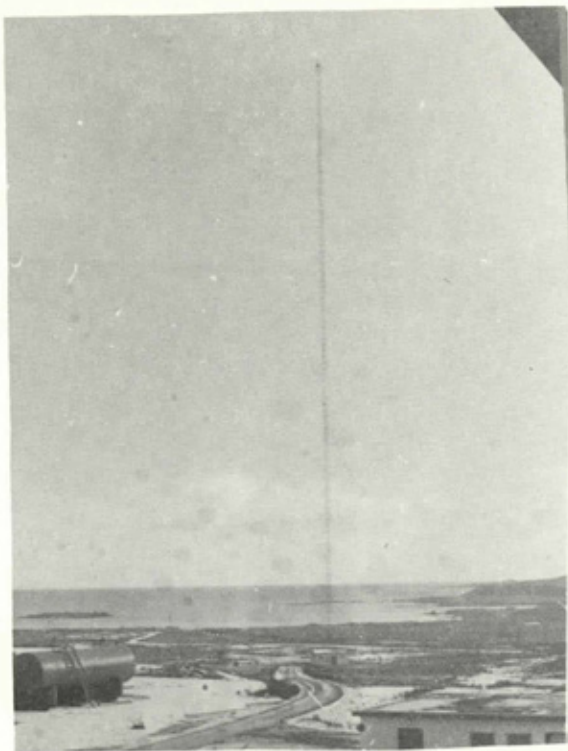


Station Building
from Northeast

Station Building
from Northwest



Garage Area
Volleyball Court

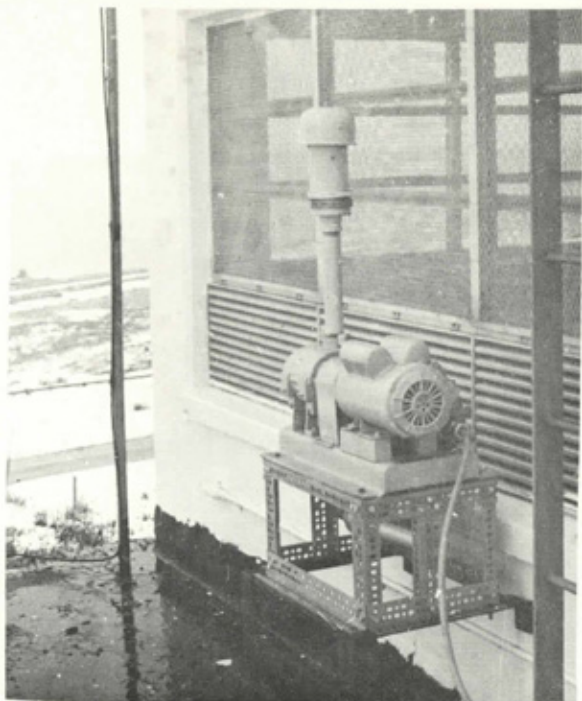


Loran C Transmitting
Antenna

Station fuel tanks



Loran A Transmitter
Antenna

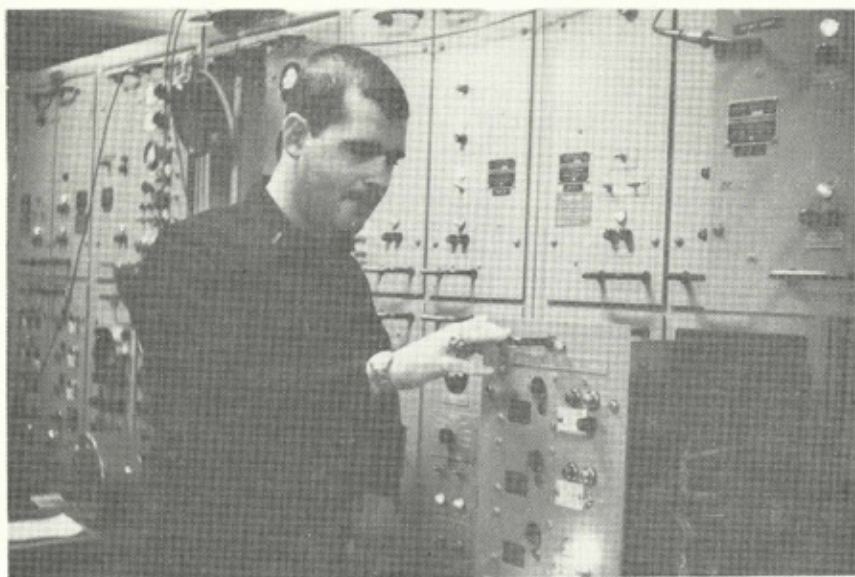


Air sampler for
radiation surveillance

Old Navy Gym

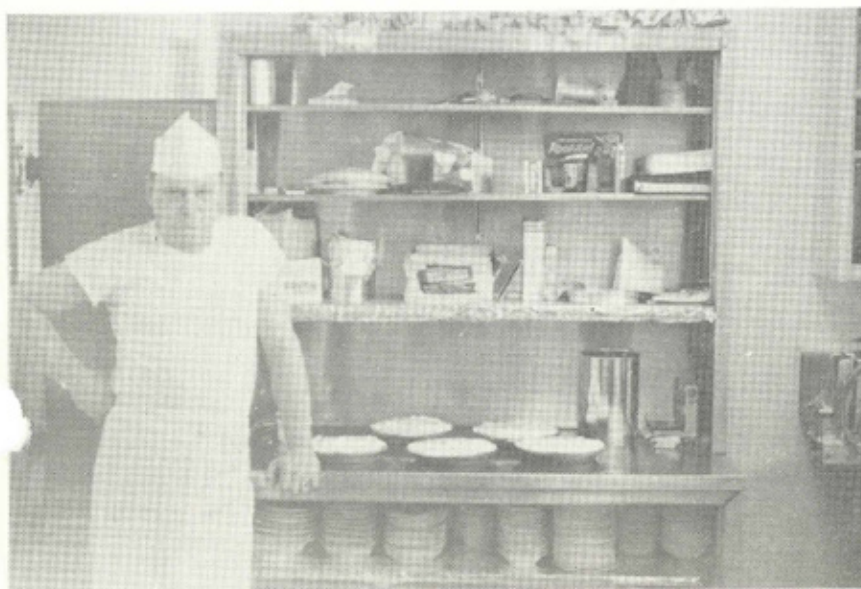


ET's at work in
Timer Room



CO checks the C Timers

Station Communication
Center



The Station Galley and
Chef.

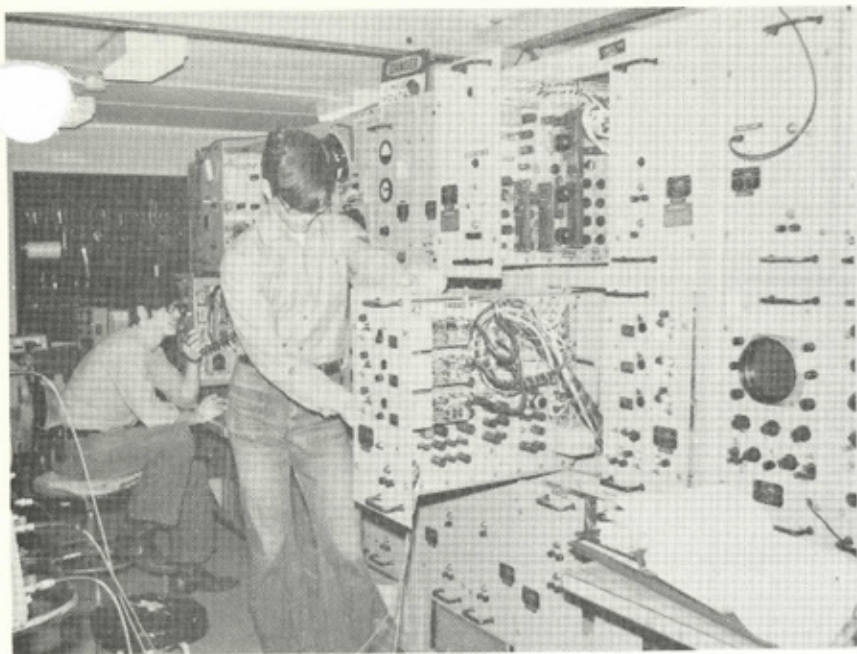


C-130 departing after
quarterly log run

Station Sno-Trac

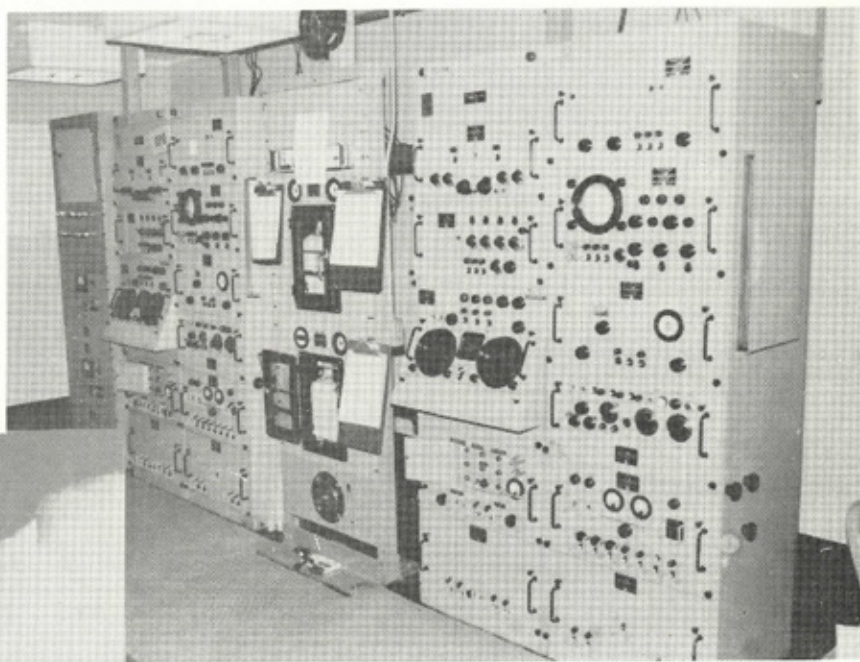


One of stations
pickup trucks



UNENDING ELECTRONICS
MAINTENANCE LORAN C

LORAN A TIMERS

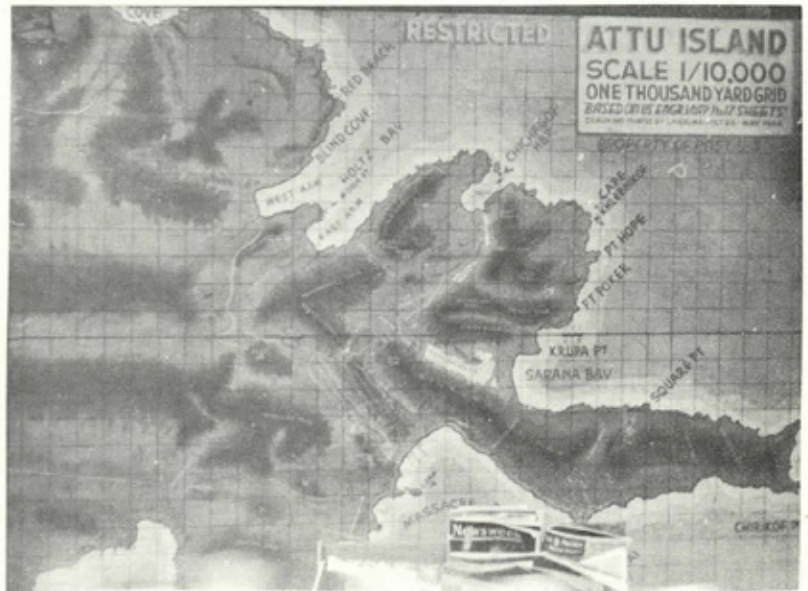


RUNWAY SNOW REMOVAL

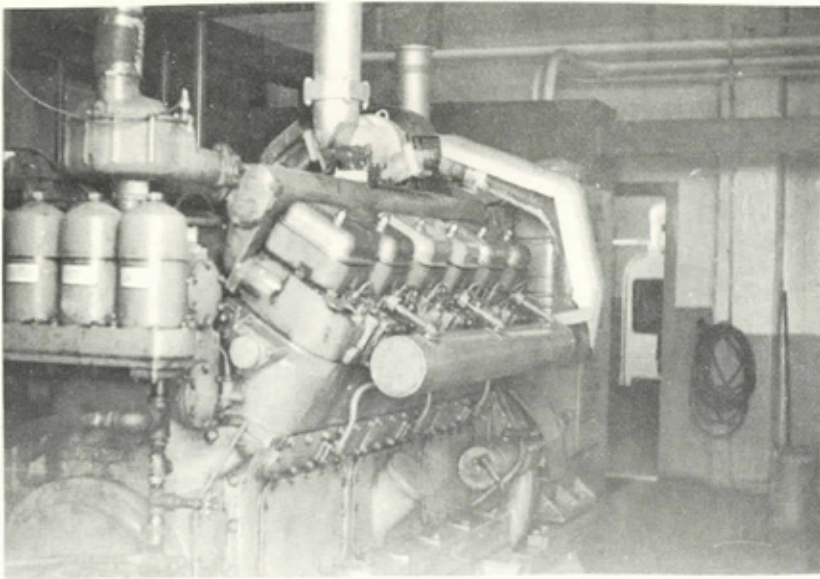


Phone Patch to
loved ones at home

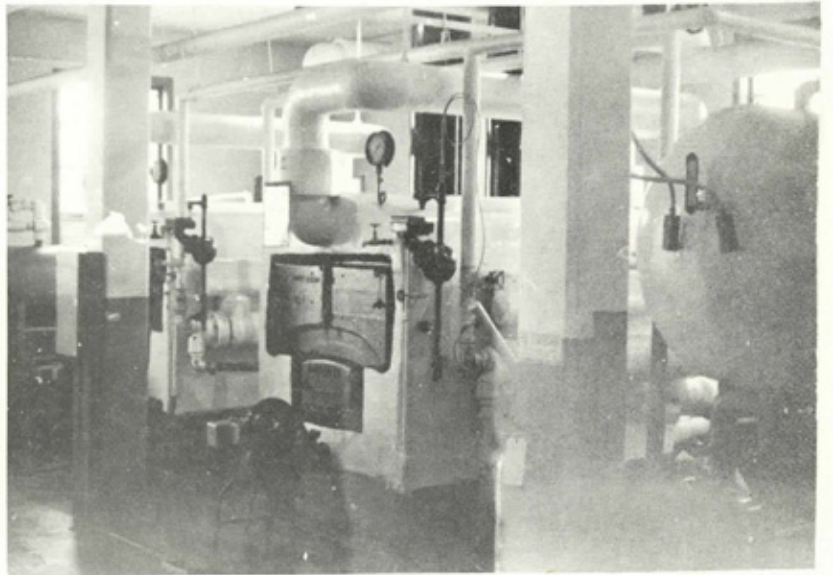
Map of Attu mounted
on Rec Deck wall.



Station Tractor



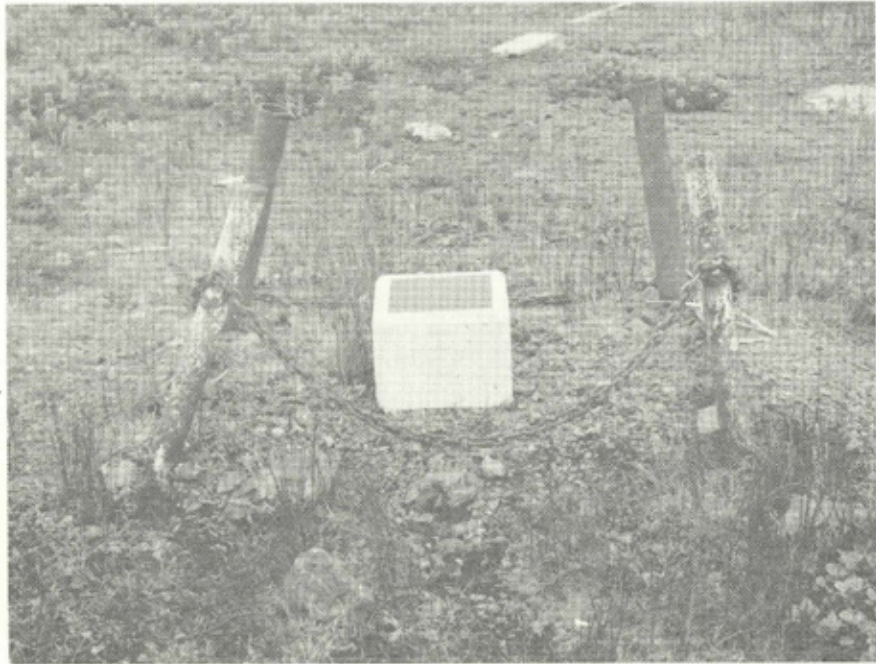
Station Electric Sets



Station Boilers



Eastern Attu from
front of station



MONUMENT HONORING THE JAPANESE COLONEL KILLED DURING
THE BATTLE AT ATTU



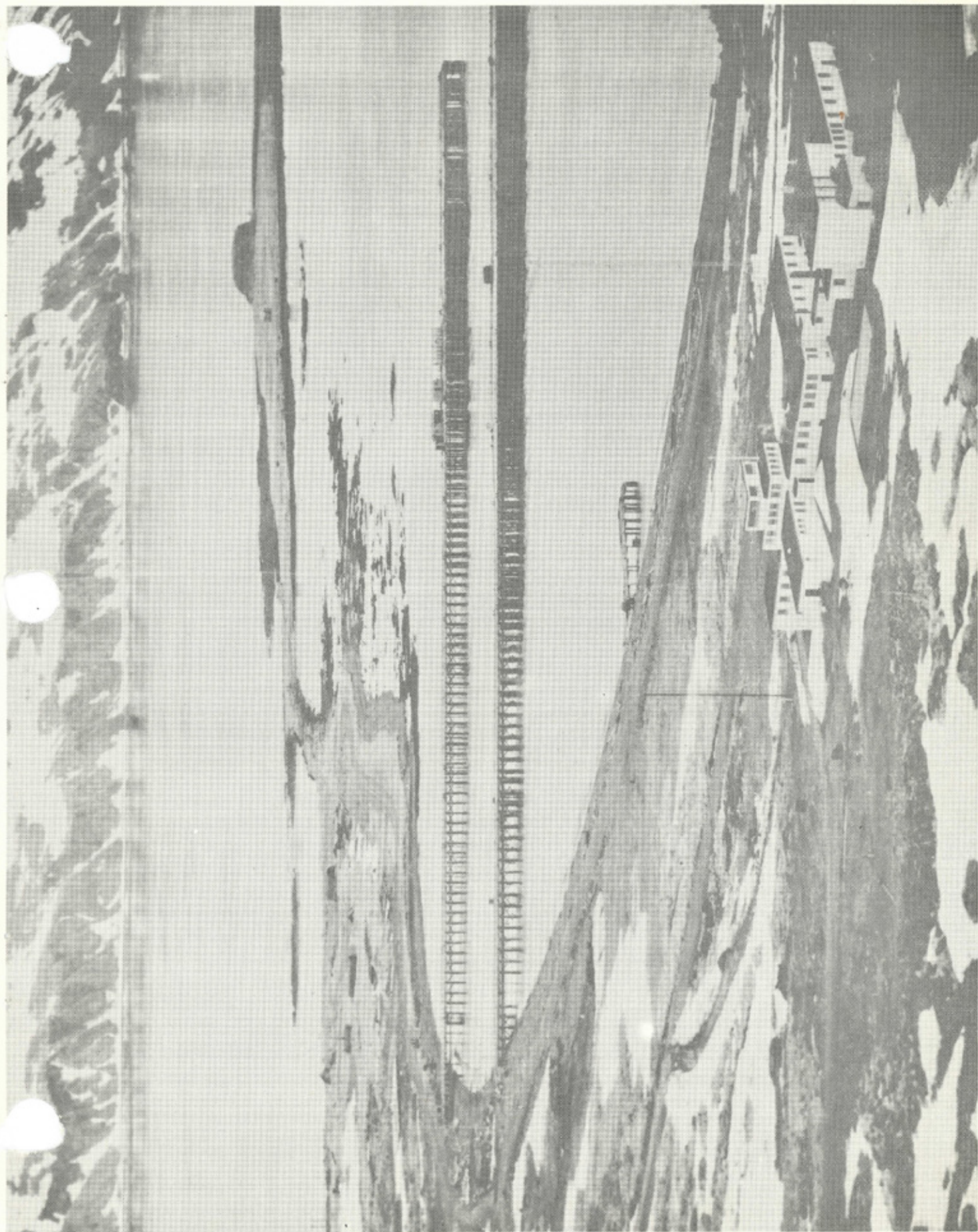
Coffee break on the
Mess Deck

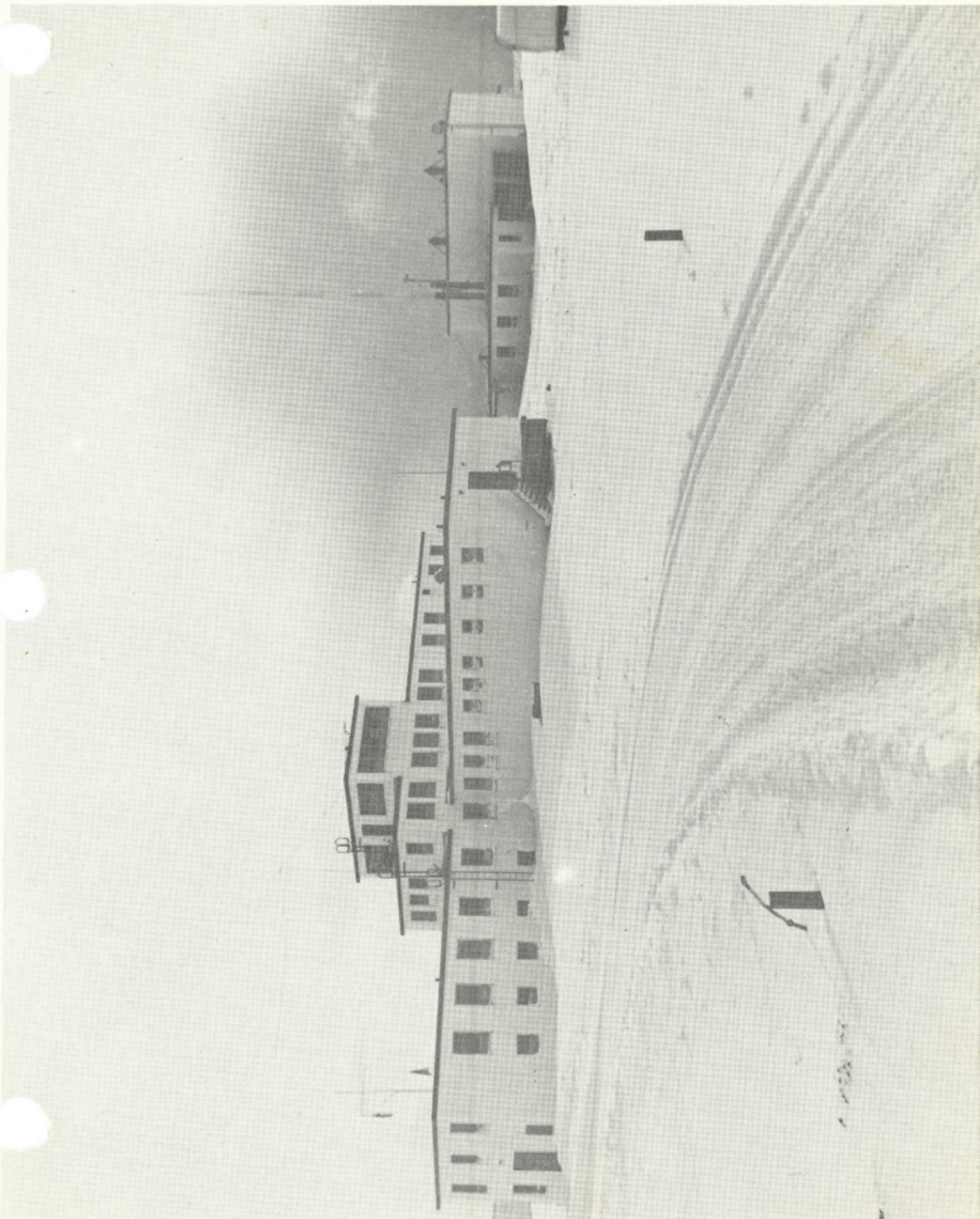


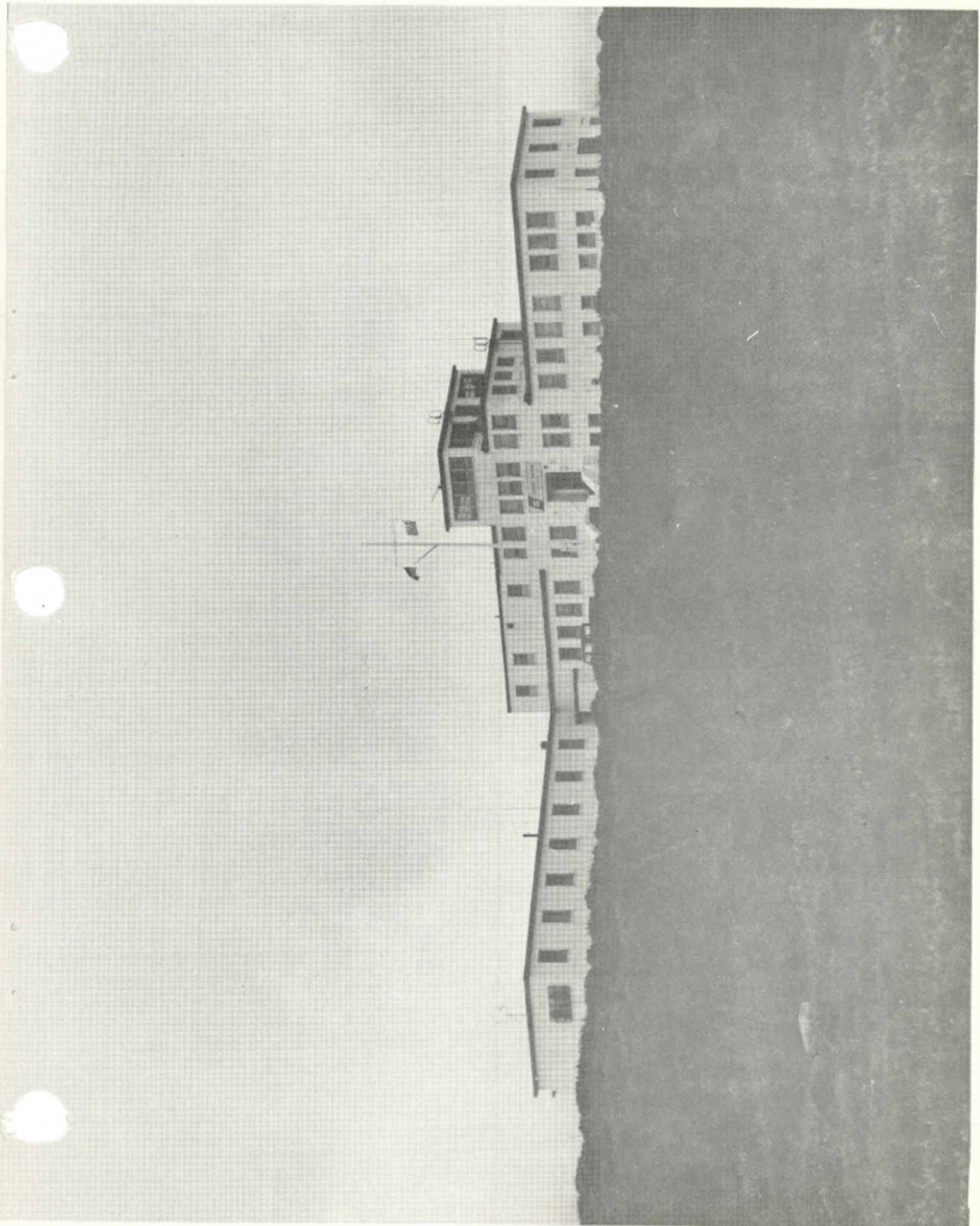
Rec Deck

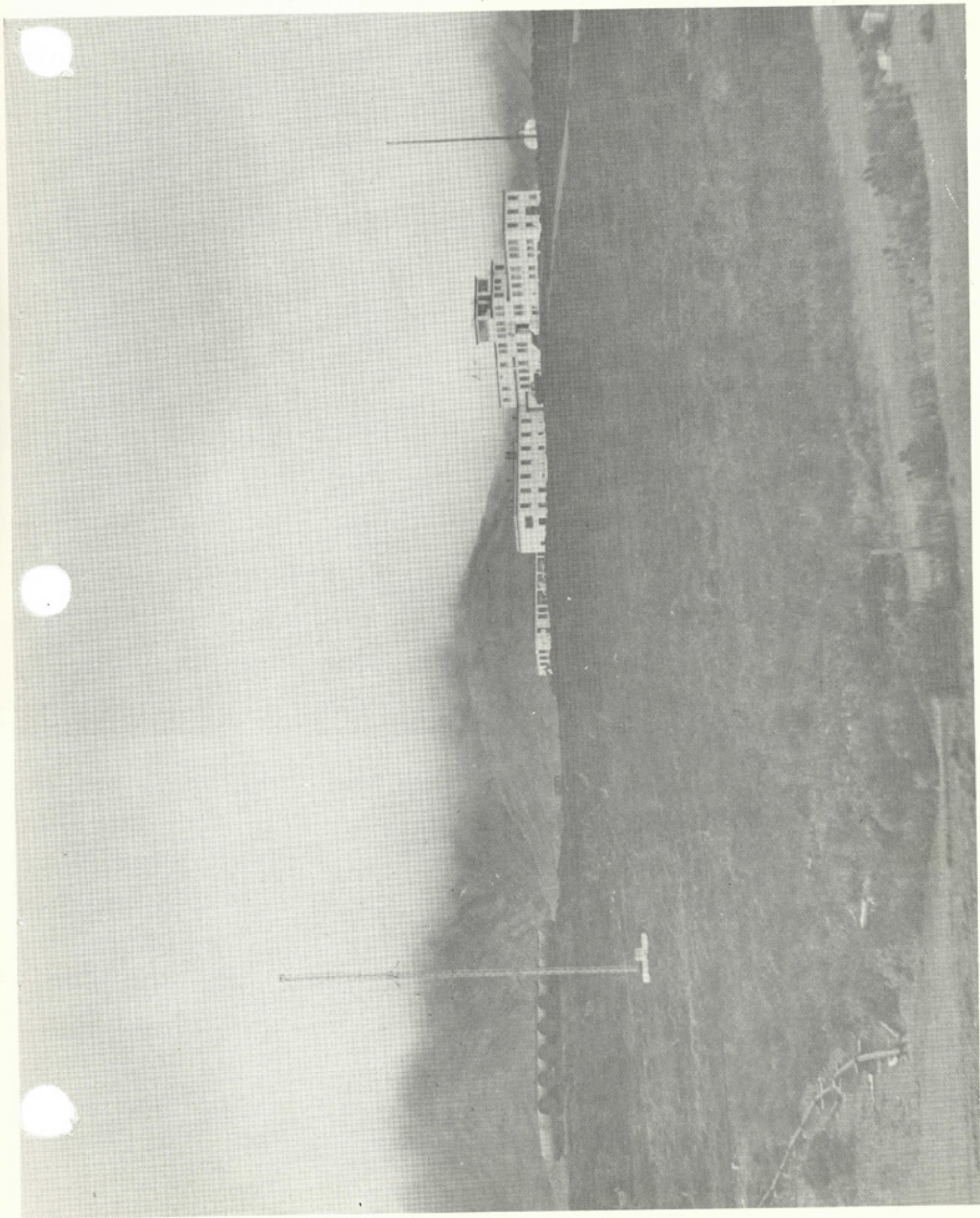


Soda/Beer Bar
on Rec Deck









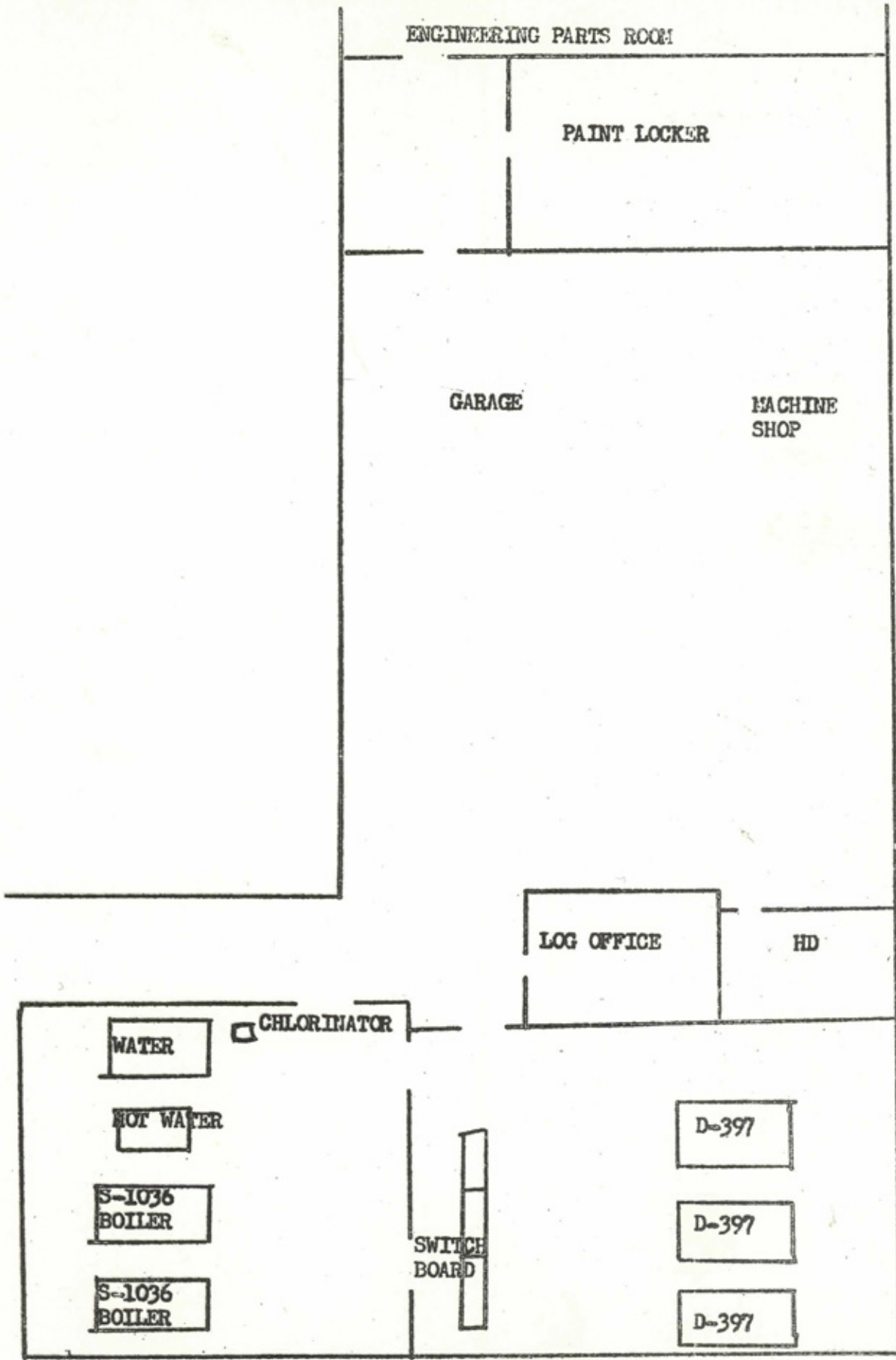
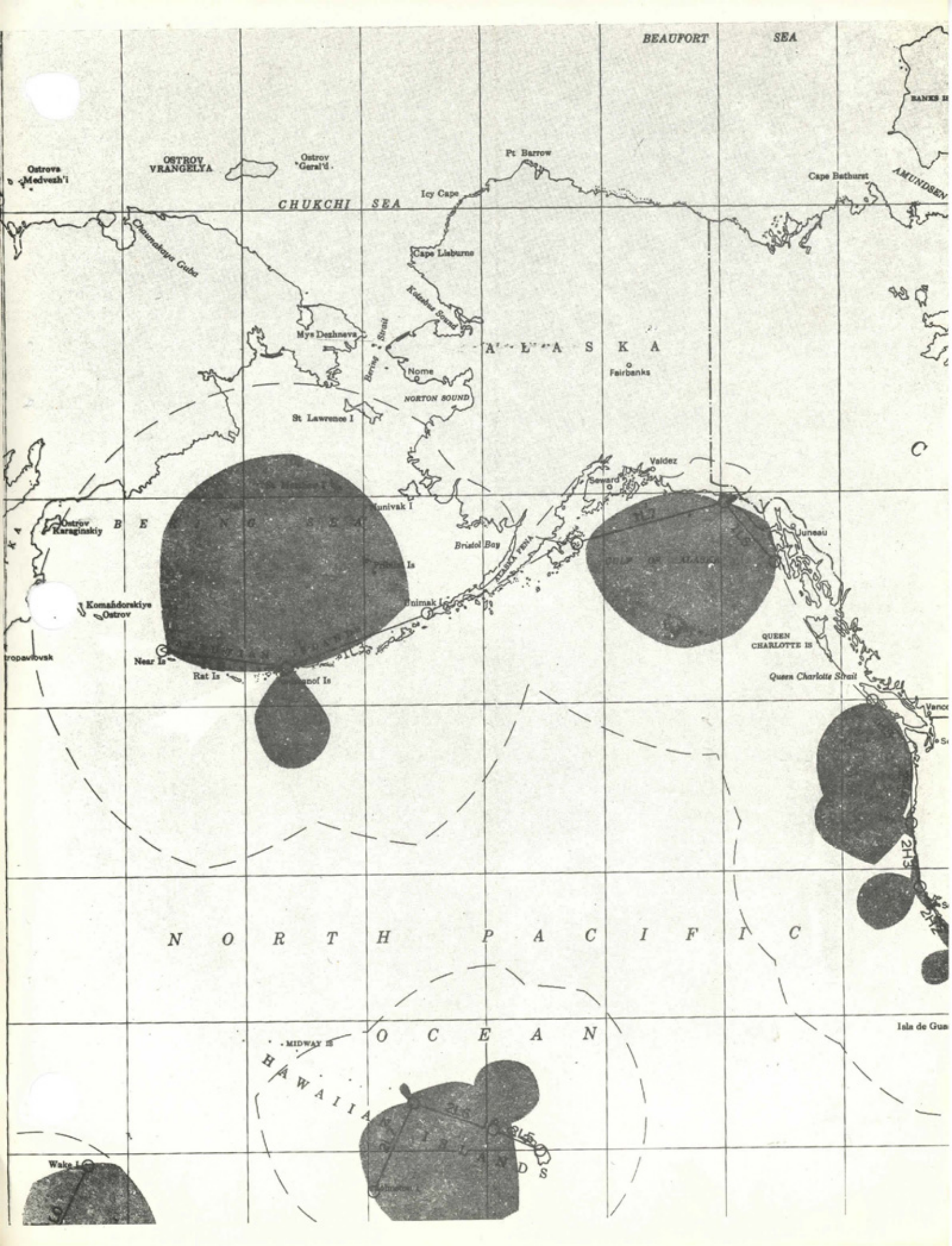


FIG 4



BEAUFORT SEA

OSTROV VRANGELYA

Ostrov 'Geras'ki'

Pt Barrow

CHUKCHI SEA

Icy Cape

Cape Bathurst

AMUNDSEN

Chamobaya Guba

Cape Llaburno

Kotzebue Sound

Mys Deshneva

Nome

A L A S K A

Fairbanks

NORTON SOUND

St Lawrence I

Valdez

Seward

Univak I

Bristol Bay

GULF OF ALASKA

Juneau

Ostrov Karaginskii

Komandorskiy Ostrov

Near Is

Rat Is

Is

QUEEN CHARLOTTE IS

Queen Charlotte Strait

N O R T H P A C I F I C

O C E A N

MIDWAY IS
HAWAIIAN ISLANDS

Isla de Gu

Wake I



BEAUFORT SEA

OSTROV VRANGELYA

Ostrova Medvezhi

CHUKCHI SEA

Pt Barrow

AMUNDSEN

ALASKA

SH7-Y

Dawson

St Lawrence I

NORTON SOUND

St Matthew I

BERING SEA

NOME

GULF OF ALASKA

SH7-X

Bristol Bay

Unalaska I

ALEUTIAN ISLANDS

QUEEN CHARLOTTE IS

Near I

East I

Adirondack I

Queen Charlotte Strait

NORTH PACIFIC OCEAN

MIDWAY IS

OCEAN

HAWAIIAN ISLANDS

Isla de Guadalupe

Wake I

