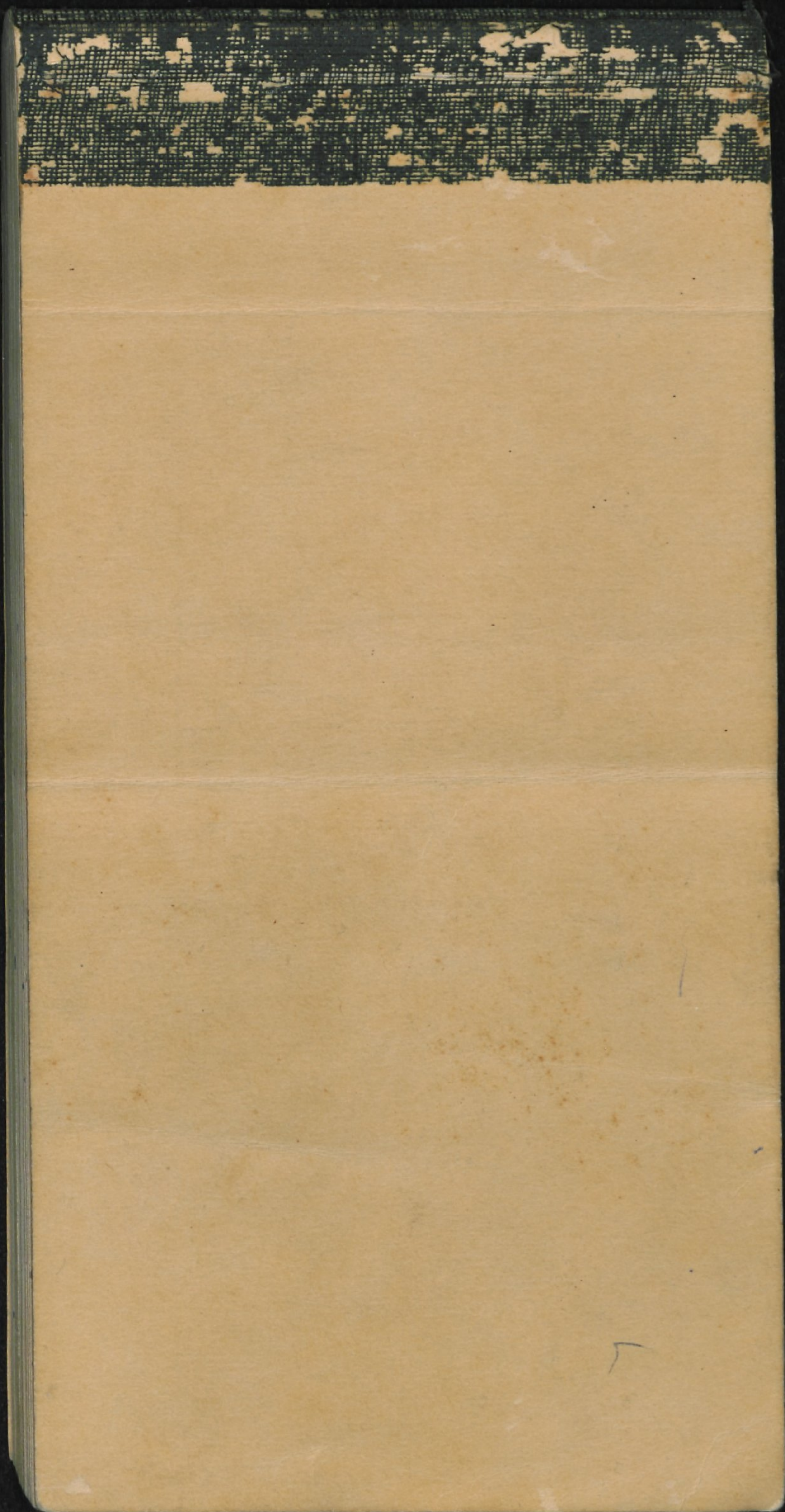




PRINCIPAL COMBATANT TYPES

BB Battleships

CV aircraft carrier

CA Heavy cruiser

CA Light cruiser

CB Large cruiser

DD Destroyer

(convoy)

DE Destroyer Escort vessels

SS Submarine

MINOR COMBATANT TYPES MINE CRAFT

CM mine layer

DM Light mine layer

AN Net layer

DMS High speed mine layer

AM mine sweeper

MINOR COMBATANT PATROL CRAFT

PG Gunboats

PG Corvettes

PR River Gunboats

PE Eagle Boats

PC Submarine chasers

PT Motor Torpedo Boats

Py yatch

AIRCRAFT AUXILIARIES

ACV Auxiliary Aircraft Carriers

AV Seaplane Tender

AVD Seaplane Tender XD Type

AVP Seaplane Tender Small

APV ~~##~~ Aircraft

DISTRICT CRAFT

YP Patrol vessels

PV Yatch Coastal

CM Mine Layer Coastal

AM Mine Sweeper Coastal

YMS Motor Mine Sweeper

NAVAL AUXILIARIES &

MISCELLANEOUS

AD Destroyer tender

AS Submarine tender

ASR Submarine Rescue vessel

AR Repair ship

APR Heavy Hull Repair ship

ARS Salvage vessel

AH Hospital ship
Fuel Store Cargo ship

AO Fuel oil tanker

AOG Gasoline tanker

AE Ammunition ships

AF Provision store ships

AK Cargo ships

AKS General store vessels

TRANSPORTS + LANDING CRAFT

AP Transport

AP Coastal Transport

APH High speed transport

of DD types + for wounded

LSD Landing Ship Dock

LCI(L) Landing Craft Infantry ^{Large}

LST Landing Ship Tank

LCI(L) Landing Craft Tank MCV

Base craft

AMB Harbor Mine Sweeper

AT- Ocean going tug

ATR Rescue Tug

AVC catapult lighters

AG Miscellaneous

AGS Surveying

Chapman

Lesson no 6 - Study - no
lecture - responsible -

Lesson no 5 - lecture + study

Lesson no 2 - Rules of the Road

Signal Flags -

Nav Reg 75 1/2 + 76 -

Quiz Sat - signal flags,

Lesson 6, work on rest of
week -

Inshore Patrol

Duty search for, locate, destroy
enemy vessels, sweep channels
patrol harbor underwater
defenses, harbor entrance
patrol, buoyage,

A separate task force
under C.O. in turn
under COM. 5ND.

Section bases Little
Creek, Ocracoke, Morehead-
Harbor Entrance
Control Post under IP

In wartime light-house
service or lighting
determined by In P.

In P. is local defense
force.

Maintain net & boom
in Hampton Roads across
from Old Point - Fixed
obstructions & gate in
navigable section tended
by gate vessels.

Cape Look-Out Light
is anti-torpedo refuge
for merchant vessels.

There is a protected anchorage near Cape Hatteras protected by mines.

At the Capes there are mines & nets.

There are maintained at Hampton Roads & Cape Look Out net patrol ships. at the capes there is an inside & an outer patrol.

A swept channel

from Cape Lookout & also
at the Va. Capes

Enemy fields have been
twice found near the
Va. Capes.

In addition to regular
patrol there are "Coastal
Pickets" mostly sail
with auxiliary motor.

They go outside of
anchorage patrol to
get warning information
of approaching submarines.
Off Va. Capes pickets

guard against mine
laying submarines -

Coastal Lookout System
is so far as the Inshore
Patrol is concerned is
a communications sys-
tem operated & maintained
by the Coast Guard -
Six districts - reports
to Army Commander
Post of local defense
forces. Army Patrols
certain sections of the
beach - Navy has

certain sections. But
Coast Guard had the
largest part. The
patrols are man on
horseback - Every point
along coast is to be
reached ^(Red flash) once an hour.
From C. G. to the C. G.
Station at va. Beach
then to H. E. C. P. & thence
to 5 N. D. Information
also goes to Director
of Port & thence to
5 N. D. -

HECP outer guard has
task of identifying
incoming ships as friendly.
Keeping friendly ships
off mines.

Magnetic loops and
hydrophones are maintain-
ed to spot the presence
of ships. Also signal
stations to communicate
with ships near harbor
entrance.

HECP officer has charge
of patrol vessels

around H.E.C.P. The office
located ~~near~~ at Fort
Story. Army also
has officer who
has authority to
fire batteries in an
emergency. Army has radar.
The section bases are
fitted to take care
of patrol vessels
+ transient vessels.

LT FRYETTE - FLAG SECRETARY

How military staff is
supposed to function -

Division between line
functions + staff functions.

Line function is the
actual running of the
ship or shooting of the
enemy.

Staff function is the
planning + working out
of kinks for the line
function -

Official Correspondence

(a) Information

(b) Discussions

(c) Conclusions

(d) Directives - (recommendations)

References - should set out enough so they will ~~not~~ ~~be~~ have to be looked up by addressees.

Distribution list used to send copy to district or base activities -

L T. GRAY

THURSDAY

Operational Intelligence began ~~with~~ the British after the battle of Jutland.

However it went to discord during the peace years. It was again begun in this war after the Fall of France.

Operational Intelligence in 5ND began in August 1942. A survey and selling trip to all the outlying bases in

the district. In the fall the program was put into effect.

Mission is the collection evaluation and prompt and full dissemination of information that will aid operators -

until the program was undertaken no briefing had ever been done in this district.

Briefing is the explanation to the captain

of a ship or plane pilot
what he is to expect
in the patrol area
and the relative position
of all ships in the
area.

Thorough and accurate
reports are absolutely
imperative.

Get to know the coastal
area of the 5th

thoroughly * the relative
position of the various
stations.

Plot maintain charts,
estimates of situation of
ships both friendly &
enemy. (a) Situation Board
gives estimate of position
at any time. Later position
can be estimated by
dead reckoning. (b) Subma-
rine Tracking chart
to show probable ~~and~~
course of submarine
from European bases.
(c) Submarine chart
of the whole Atlantic -

(2) Commandants, wreck
chart - all wrecks in

district waters -

(c) chart location coast guard station

daily report at 0000

* 1200 of the situation

showing every thing in,

+ under the district

waters - at those hours,

COMMANDER WILLIAMS

OPERATIONS 5ND

Task forces

20-29 Atlantic

40- South Atlantic

02 - Eastern Sea Frontier

02.1 - 1st

02.4 4ND

02.2 2ND

02.5 5ND

02.3 3ND

- 1
2. Operations
3. I Patrol
4. Chev Air Patrol
5. Port Director
- 6 - C. Z.

Asst Comdt - Capt Crenshaw
operations off-shore E.S.F.

02.5.2 Controller + Radmin

Section - In District {
PYC 26
SC 664, 712,
713, 714,
996
Corrobasset
+ Jackson
Antietam

16 C. Z. cutters for

escort work - E.S.F. ships
used under 5ND operations -

Operations Officer makes
up escort of surface
and air cover.

Operations Liaison
Officer furnished in-
telligence.

When any enemy activity
controller is the action
officer. He is dependent
on Intelligence watch
officer to get complete
and accurate information.
Furnish facts only but
no evaluation unless

requested by ~~comptrolbr~~
use as accurate language
as possible -

The function of the
operational intelligence
office in relation to
the operations maintain's
plot room & 24 hours
watch - he keeps up to
date charts - operational
daily intelligence
bulletin - 5x10 work
list - combat intelligence
report - submarine 5x10

report-daily-

Key to operations office
is the controllers desk-

Here a 24 hour watch
+ communication with
all bases, E.S.F., all
air stations, Sopars/afboat.

Controller in urgent
cases is to act first
and pass on the infor-
mation second.

Most information comes
in from air coverage
of district waters,

Operations taken action
on information and if
possible in advance of
the enemy submarine.

The main idea is
destroy or drive off
submarine before
he can reach any ships.

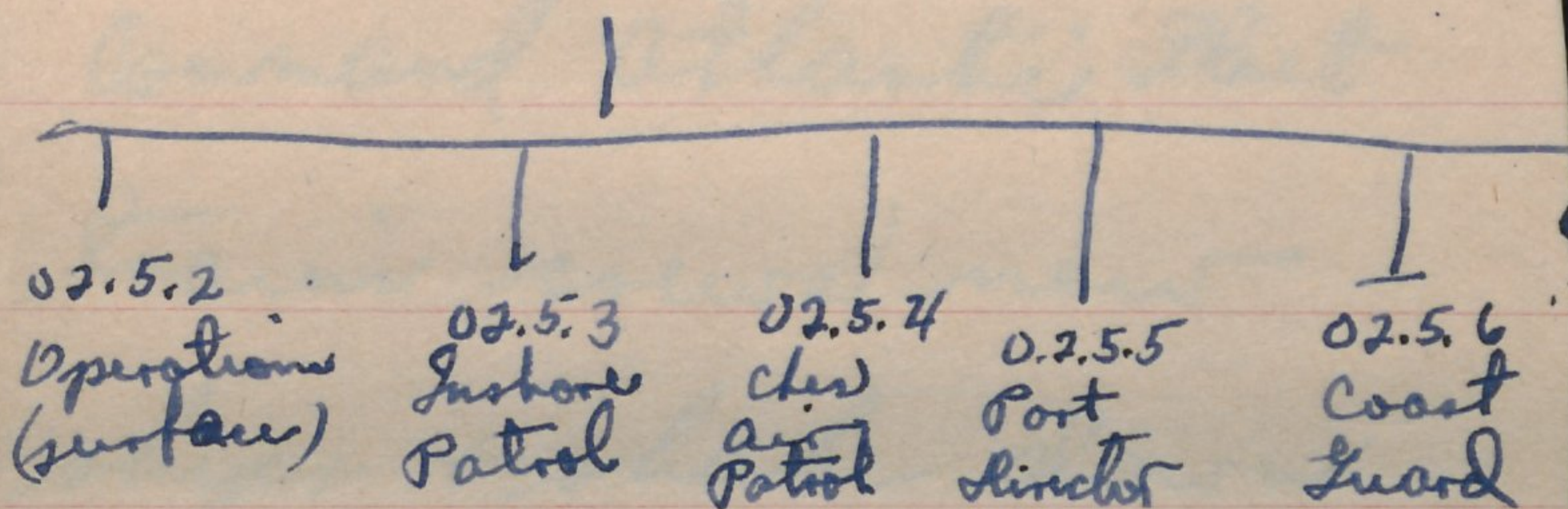
Coastal convoys were
begun in May 1942
and the scribers which
had been serious
immediately dropped
until today there are

very few sinkings
~~have occurred.~~

Communications control
the speed of gathering
information. Slowness of
communication from
shore to ship and ship
to shore is at yet
troublesome -

a great deal of mis-
information comes in
from shore stations,
particularly as to
flares.

02.5. (5ND)



Readiness Sectioni could be called
training sectioni - responsible
for training of escort
vessels & general readiness
of the escort vessels
for actioni -

Operational Training

Command Atlantic Fleet
train's crews new
ships + shake down
cruise - - - - -

District Operations
office has nothing
to do with the operations
of the ships of the Atlantic
Fleet. They furnish
information + services
only.

E. S. F. has plot of the
movement of ships.
Designations in color

plus number.

District Air Officer
keeps plot of shipping.
He receives from Air
Stations information of
planes to be available
the following day.

He requests planes to
do escort work.

L. T. GRAY

Every Nazi submarine
carried an emblem or
marking made at the
commanding officers
selection - all different -

Submarines can make
about 18 kts on the surface.
a few believed to
make 21 kts. They make
about 3 kts submerged
ordinarily but can
make about 9 kts for
a period of an hour.

Submarines will not
operate in shallow
water except to land
saboteurs agents. They
hang around the
100 fathom curve

so as to have plenty
of water to submerge.

In this district this
means ships travel
far out from coast
with result that most
reports come from
air coverage. Off
coast of the northern
states ships come
close to shore & most
reports come from coastal
observers.

Submarine travel

about 180 miles per
day on a cruise. We
track them by sightings
& radio fixes.

COMMANDER SWANSON

COMMUNICATIONS OFFICER

a service charged with the
responsibility of getting the
information to the persons who
need it.

Dispatch - plain language

~~Classified~~ & Unclassified

Ordering of supplies,
orders, request of leave

all are unclassified -

Restricted - no one is
see it who has not the

proper authority -
Restricted - 20 copies -

Confidential - not over
six copies (Encoded)

Secret - limited to the
action & information
addresses - Three copies -
(Encoded) _ _ _ _ _

Communications also
has charge of ~~new~~
installing, maintaining

all telephones. They
also monitor telephone
calls, all except intelli-
gence section.

Direction finder station
hooked together =

See Chapter 4. Communica-
tion's Instruction.

Priority code or symbols

O - urgent - enemy contact

OP - operational priority

P - priority

R - routine

D - deferred

mailgram

air mailgram

Letter

St. Wood

Security violation of
army ~~violate~~ frequency
handled by NID -

Communications Law
section 9-20 which
monitors navy circuits -

9-20 is located in
Washington -

FCC is supposed to
monitor general set-up -

Suspicious broadcasts
are the biggest headache
FCC should be consulted -

Portable monitoring
sets available F c c,
F.B.I. & Coast Guard
Communications Office -

The Coast Guard set can

be most readily obtained -
~~Through the following sources -~~
~~1. The Coast Guard Communications Office~~
~~of the U.S. Coast Guard~~
~~(2) Armed and Civilian Volunteers~~

L T. JAMES

- SHIPS -

Three general types^(a) fighting
ships (b) Auxiliaries (c) patrol
craft -

BB = named for states

CA {
CL } named for cities

CB: Six new named for
island possessions

DD = named for naval heroes

SS = named for fish

CR: battles of Revolution
ACR: old names as merchant vessels
+ old ships of the Navy.

AK: cargo ship named
after stars & planets but
so many that name system
broke down

AF = stores,

AE = ammunition, formerly
merchant marine C-3,
named for volcanoes.

AP = Transports named after
historical places, some
after world war heroes,
some after battles of
the A.E.F. - also merchant
marine names -

AM - steel hull	{	named originally
AMC - wooden hull		after birds
YMS wooden hull		"Pep" named
		such as
		Adroit -

CM - named after the
old monitors of the Navy

AO - named after islands

AV - ^{rivers.} bays + inlets -

4000 ~~fleet~~ ships in fleet

10-19 represent task
forced First (Pacific)
Fleet

20-29 represent task forced
Second (Atlantic) Fleet -

30-39 represent Third Fleet
(Sou Pac Force)

40-49 Fourth Fleet (South
Atlantic Force)

50-59 Fifth Fleet (North & Central
Pacific Force)

60-69 Sixth Fleet (Central & North
Atlantic Force)

70-79 Seventh Fleet (South West
Pacific Force)

80-89 Eighth Fleet (North West
Africa Force)

92 - Forces European waters

93 - S. E. Pacific waters

94 - Naval Transport

95-95 reserved for COMNAVSTA -

- - Force Group Unit - - -

02. 5. 1

↓

↓

ESF

5ND

Escort Group

Tonnage of ships

Gross: volume of internal space of ships expressed in tons $100 \text{ cu ft} = 1 \text{ ton}$.

Net: volume of the internal earning capacity of the ships expressed in tons.

Displacement tonnage: ~~The~~

Light: the weight of water displaced without fuel stores or cargo.

Loaded: weight of water displaced when loaded with fuel stores & cargo.

Dead weight Tonnage: The

cargo carrying capacity - the difference between loaded & light =

deadweight tonnage
figured by taking cubic
feet of the income earn-
ing capacity divided by
40—

LT. TAYLOR

CONVOY & ROUTING

ENS MORGAN

COASTAL OBSERVER

Chosen from civil popula-
tion because of strategic
location along coast &
knowledge of local ship-
ping and conditions. Most

of them operate small boats along coast. These men are under D.I.O. They have to be trained to know what to look for and how to observe. These contacts are handled through the nearest zone office.

Each contact is investigated and rated as to reliability.

Maps shows locations of each contact indicated by pin with a number. Each zone has map for

to its section of the
coast - They should all
be contacted with
fair frequency in
order to keep up their
value & interest -

L. T. WEBB

NAVIGATION

Charts - Mercator - Great Circle
Polyconic.

Meridional Parts - The length
of the meridian as increased
between the equator & any
given latitude ^{expressed} ~~or given~~

in minutes at the equator
constitutes the number
of meridional parts at that
latitude -

On a great circle chart
a great circle course is
a straight line -

usual practice is to
mark great circle
course & then approximate
same by transferring
to a mercator chart -

Characteristic of a rhumb
line on a mercator chart is

that it cuts all meridians
at the same angle.

Study Chapman ch 7 pg 165-

LT. JAYNE

ANTI-SUBMARINE

WARFARE 5ND

Jan 10, 1942 first attack
by submarine of New Zealand

Jan 14, 1942 first attack
+ sinking in 5ND. In March

23 ships were sunk in
5ND waters. April 26

ships were sunk. In May

8 ships were sunk, in

June there were no
sinkings. One unsuccessful
attack in July.

One A/S attack in
June until it rose to
40 A/S attacks. Three
subs definitely sunk
and seven probables
destroyed.

No submarines made attacks
from August until May
4, 1943 when one ship
was sunk by S.S.

June 15, 1942 - three ships

struck mines in swept
channel and one was
sunk next day. Eight
mines were swept up.

At a later date 12
mines were swept up -

L T. WEBB

Several series of charts.
1200 series, detailed
charts - 400 series are
the most

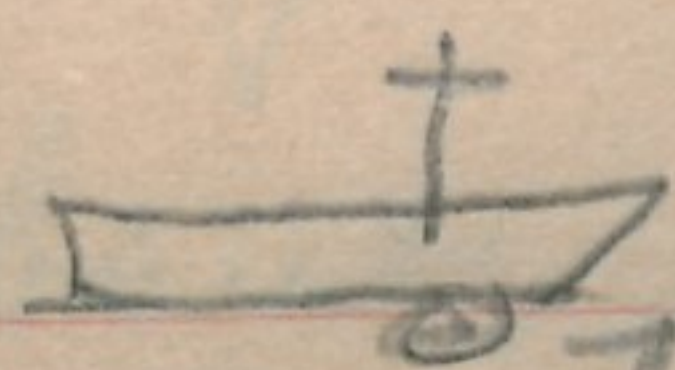
Chapman 3, 4, 8, 14, 15, 16, 17

18, 32, Page ^{184(B)} ~~184~~ and to

navigational section K, L, &

What are the main
data that may be
obtained from charts
The depth of water
on our charts is usually
mean low water.

ANTI-SUBMARINE WARFARE



projector beam
sound transmits at rate
of 5000 ft per second -

Pressure tends to bend
sound impulse downward
+ temperature tends to
bend it upward - They

usually off-set each
other so as send a
straight beam. Either
factor may vary -
British and same
as U.S. echo-ranging,
soundings start on port
& by 5° movement toward
bow, then aft on
starboard toward bow.
When contact is made
ship turns on course
of this bearing so as
to exhibit less target
to submarine. The

chemical recorder shows
range of SS. Relative speed
may be also calculated -

Four ranges of sending

0 to 1000

0 to 1500

0 to 2500 yds

0 to 5000 yds

Relative
course
across
ships

course
is also
determined
by chemical
recorder.

Doppler is the difference
in pitch of the sound
sent out & the echo
coming back - If SS
is coming toward ship
Doppler grows louder

+ is going away echo
is fainter -

Kaji submarine can
go at 9 Kts submerged
+ has a turning
circle of 250 yds. This
is a smaller circle
than a DD, The DEs
have shorter circle

Ship after making
contact with SS. sets
course as mean between
Left cut-on + Rt-cut on
until direction of SS

can be determined. Then
ship keeps collision
course with bow
of SS. until a range
of 700 yds is reached.
Then course is set to
put the ship ahead
of SS. & across its course.
This is in order to
have time explode
Depth charges, A 300 lb
Depth charge takes
57 seconds to sink
300 feet - If relative

speed decreases sharply
it is an indication that
SS has turned toward
ships. If relative speed
decreases slowly + the
bearing does not tend
aft it is an indication
of the SS has turned
away from the ships. From
range of 300 yds + under
the impulse + echo
are nearly simultaneous
+ operator can not tell
them apart - The
forward thrown motion

explosive can be used
by timing to determine
depth of submarine.
Fired at 300 yd range
they take 8 seconds
to strike water & sink
at rate of 95 ^{feet} ~~per~~ sec.
new depth charges of
600 yds. Side charges
are usually set shallow
& aft or deep - The
chemical recorder has
arrangement to determine
time of firing depth
charges - at present time

lethal distance of 21 ft
for a 300 lb. depth charge.

LT CLAUSETTE

MINE DISPOSAL

Ground magnetic mine
is a mine laid on the
bottom which is exploded
by a magnetic field
passing over it.

Acoustic mine is
actuated by sound
passing over it.

Ground mines are
influenced by magnetic

or acoustic impulse

Moored mines are
set below surface
& anchored -

Drifting mines are
used to harass enemy
fleet or protect a
retreat. They last
only 3 hrs in water -

5112

Ground magnetic mines
laid by the enemy -

Moored mines laid
by Navy. Controlled
mines laid by Army -

Intelligence has gathered
information of floating
object & object on
the beach.

Find out -

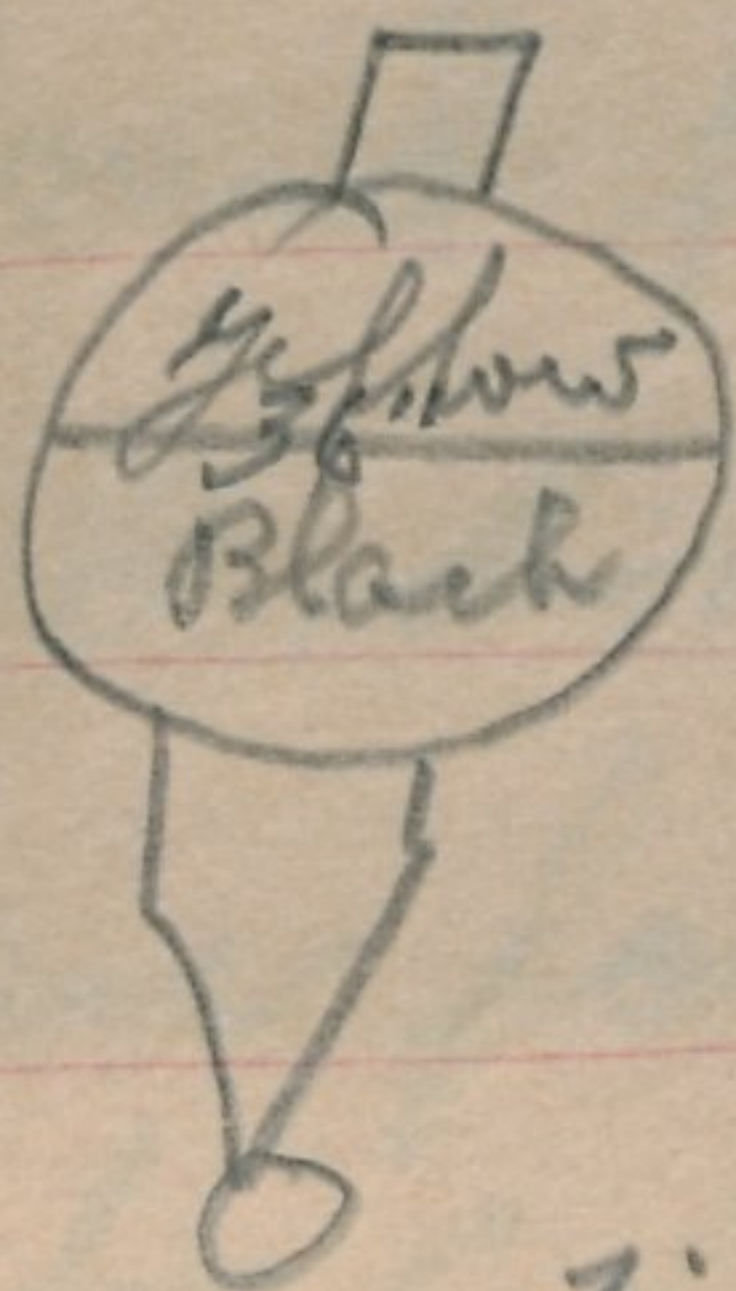
Size -

Shape - sphere or cylinder

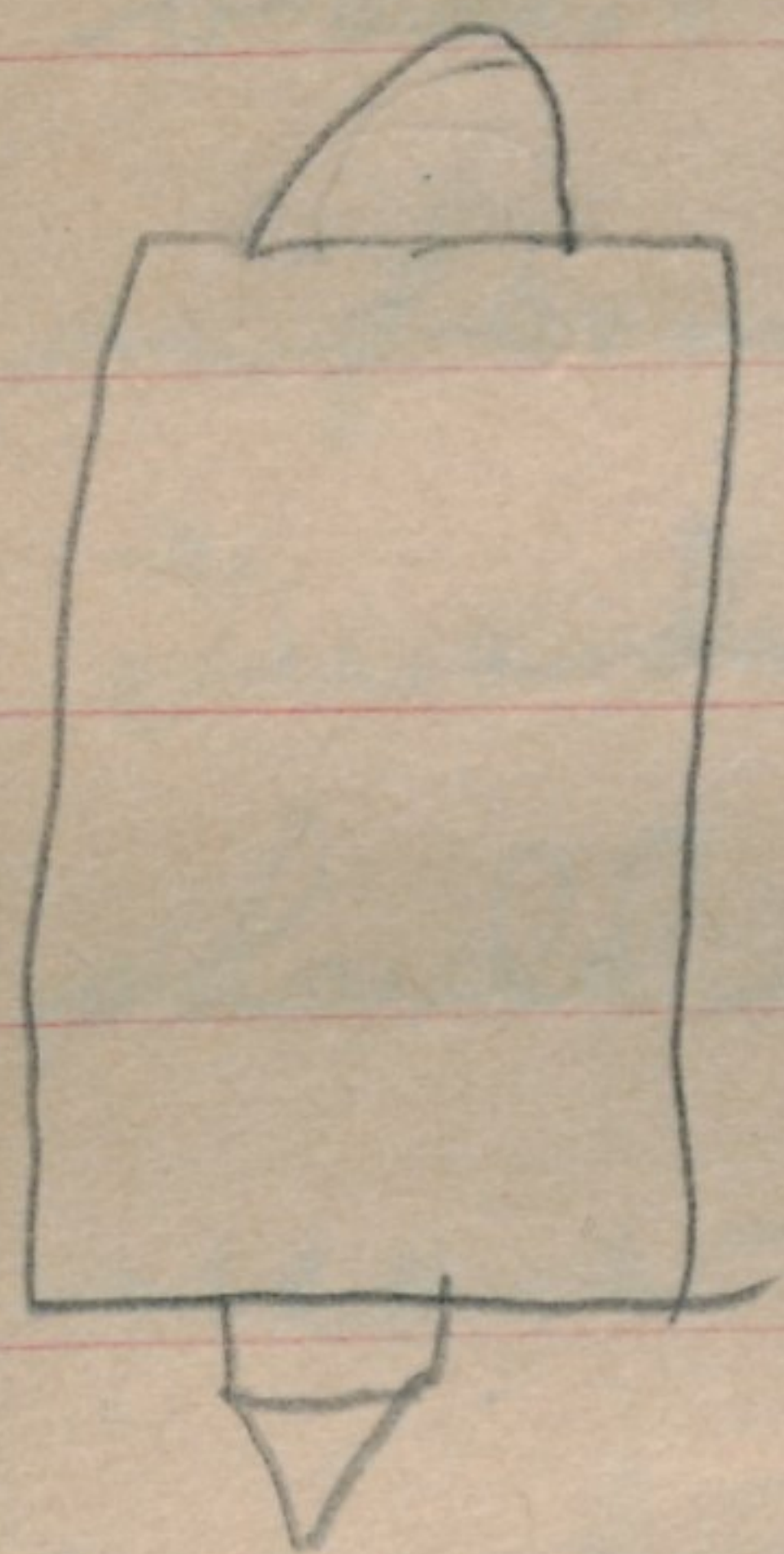
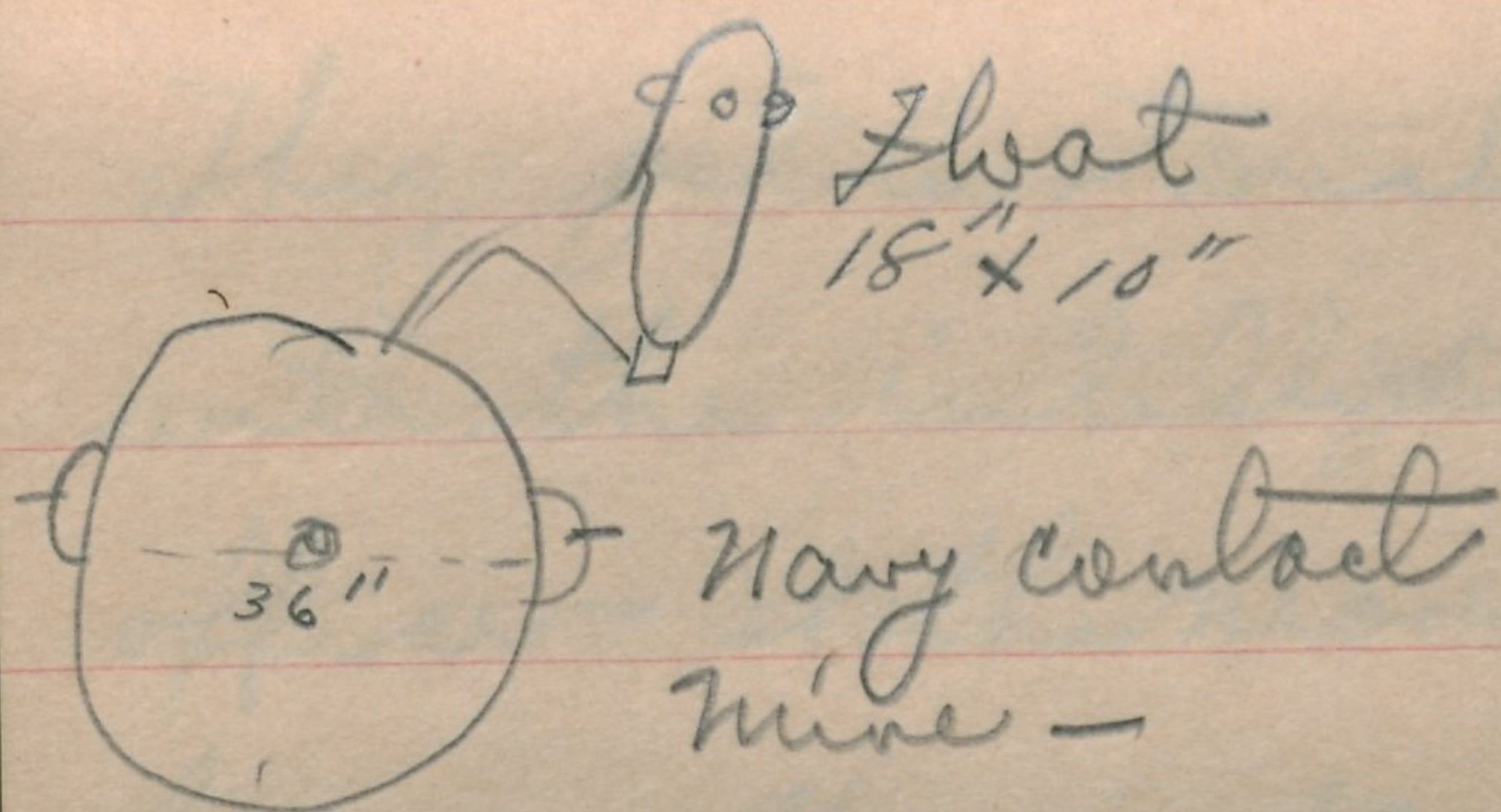
Color -

Lifting eyes, horns or
hooks. If it has

a length of cable -



ARMY
mine or mine
case. If used
as mine there
is no pipe on
top & whole is
painted black -
fired by electricity.



Army control
mine -

All shipping should be
warned when object is
found floating -

Ordinarily objects
are found on beach
by C. I. or Army patrol.

They get in touch
with the intelligence
officer at the nearest
base. He is to
inform mine disposal
guards or sentries
should be placed not
nearer than 500 yds
& preferably 100 yds. any
one approaching a mine
should have absolutely
no metal on or around
them. No noise should
be made.

Most of enemy mines are
cylindrical

a ground mine will usually break a ship's back, shoot up sand & mud & sound as a dull roar,

Contact mine is like torpedo in its action with explosion concentrated at one spot.

Intelligence officers have the first chance to question survivors.

Intelligence personnel gather information of conditions in our own fields.

anything concerning
under ordnance come
under mine disposal
officer - unexploded
depth charges or
torpedoes -

Plot all

mine watching
Organization set up
& trained by mine
disposal & B-S. All
things dropped from

ships & planes
should be plotted on
place, time etc.

all C. G. stations, all
Army, harbor entrance
patrol & wharf sentries
have instructions &
mine watch Manual.

Barnack or Lippitt
mine is one fastened
by a saboteur to the
keel of a ship for
damaging ~~it~~ at a later
date -

LT WEBB

Compass & Compass Error

Gyro compass is developed
~~to the~~ point where it
always points to true
north. It had the advantage
of having gyro-repeater
that show the reading
of the gyro-compass
Magnetic compass is
subject to error of
variation & Deviation -
angle of
variation is the difference
between the N pole & the
north magnetic pole.

deviation varies with the
heading of the ships -

C D M V T

1324W 128 12E 140

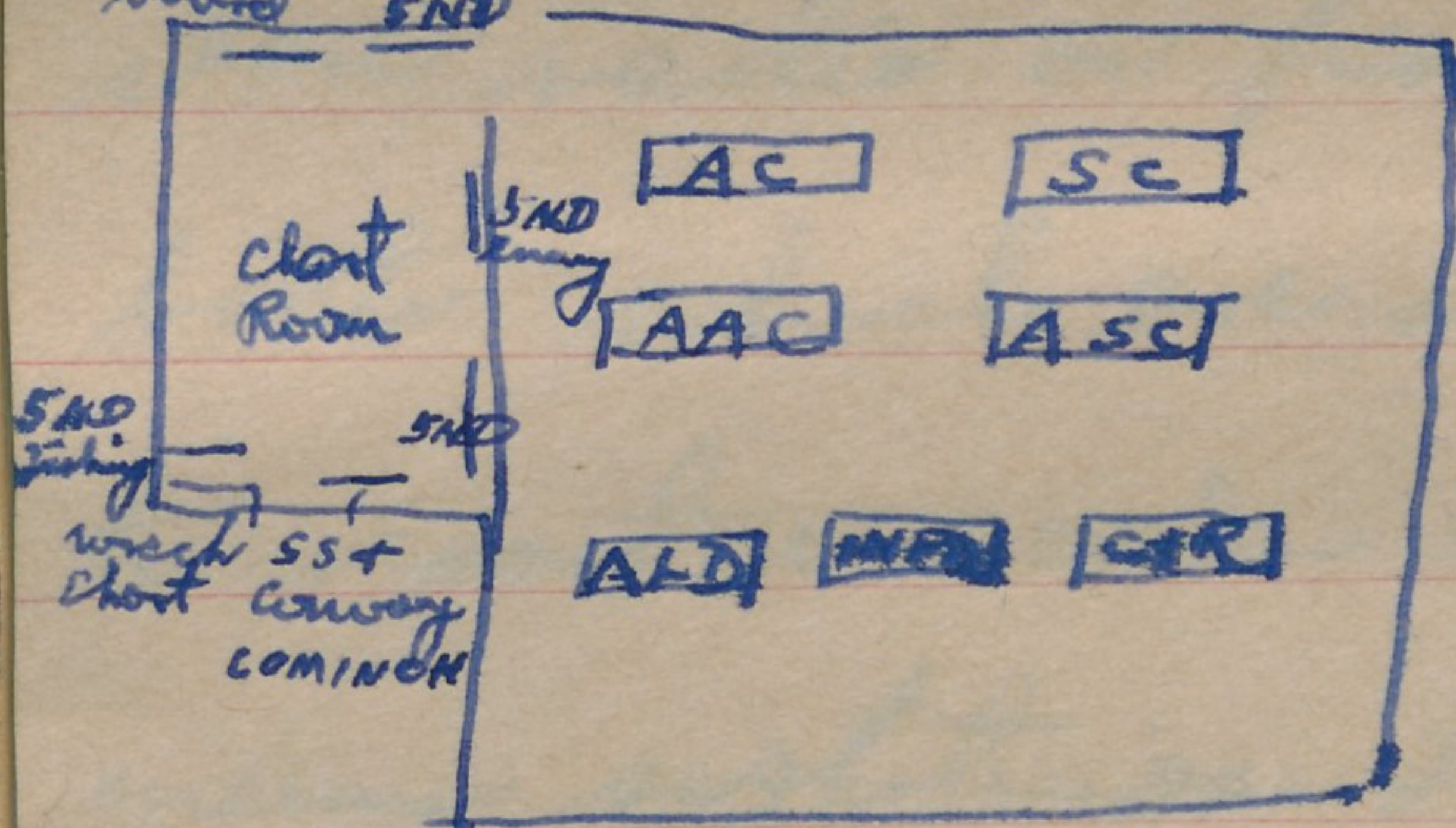
204 10E 214 6E 220

339 6E 345 10W 335

L T. GRAY

Joint Army Navy Operations

SS track attach
board



AC = air controller

SC = Surface Controller

AAC = Assistant Air Controller

ASC = Assistant Surface Controller

ALD = Army Liaison Desk

1455 PATROL -

CTR = Convoy & Routing

attack chart - all attacks
by enemy + attacks by our
ships on enemy -

Commercial Fishing vessels
Confidential Observer
Plan -

Idea to have ships to
shore radio on fishing
boats which are supposed
to report in code any
enemy sightings. They
have to report to control
boat on each trip
outside - The boat course
is sent to patrol activities

not much help on SS informa-
tion but have reported
floating mines -
despatches

ETA: Expected Time Arrival

ETD: Expected Time Departure

Serial or letter & number
always refers to a previous
letter on file & not to
a previous despatch -

Time is always calculated
in despatches on Greenwich

Time or Zero (ZED) Time -

we would ordinarily be in

Roger zone but due to advance

of war time we are in
QUEEN zone. always
have zone named in
time (1630 QUEEN) —

use phonetic alphabet
for initials (BAKER, CHARLIE)
spell out numbers (ONE, TWO)
X written X-ray is used
for period —

Paraphrase = changing
sequence without changing
meaning —

Messages are sometimes
padded to keep security —

Fox schedule is a broad
cast of everything of
interest to shipping -

Q message : confidential
message or dispatch
to tell of changes of
mines, nets etc.

QJ is Eastern Sea Frontier -

pg 142

— — — —	occulting
	flashing
	quick flashing
	quick group
••••• ••••• •••••	flashing
— — — — —	steady & group
	flashing -
— — — — —	steady

L T WOOD

wreck chart -

Submarines may hide
near wreck so that
contact with the S.S.
can not be made. In
the district waters,
inaccurate reports of
wrecks caused great
confusion - many duplica-
tions resulted. Coast
Guard has the responsi-
bility of setting buoys
to mark all wrecks -

Hydrographic Office
Daily Memorandum, Weekly Bulletin

sends out notice to
(weekly)
Mariners, Restricted
notice to Mariners, Coast
Guard notice to Mariners,
QTC = E.S.F. - despatches,
H. O. wreck charts &
lists -

any Navy vessel will
keep a complete file
on notice to Mariners, Restrict
ed notice to Mariners and
Q message -

A position - within 100 yds

B position - within 1 mile

C position - estimate -

name of ship

Size of ship, net tons -

Cargo of ship - may bring
up debris -

state of sinking, buoyage -

appearance of wreck
from surface & air -

When new chart is
made an sketch
is placed next to each
change.

all data including
operational despatches
were searched for
wreck reports & survivor

reports were plotted.

Salvage reports, aerial

+ underwater photographs.

a case history of each

ship sunk was made.

After publishing of the

first wreck lists the

number of attacks by

patrol crafts against

wrecks dropped sharply.

It put Operational Intelli.

gence into the Operations

Center.

Means of locating SS.

1. Sighting. 2. Sighting

disturbed water.

3. Hydrophones. 4. Magnetic

loops.

5. { Echo Ranging
Asdic

6. Radar (British RDF)

7. MAD

8. RDF.

9. Estimate

COASTAL INFORMATION

Three purposes:

(1) Supply to operations
such information as they
may be interested.

(2) Supplying intelligence
with information from

communications & operations

(3) Prevent enemy communications with the shore or landing of enemy agents from landing on shore.

The ability to distinguish between the unusual & usual or routine is important.

Sources of Information-

(a) Combat Intelligence Officers (2) Combat Intelligence Officers at Air Stations & Section Bases. (3) Controllers Surface & Air Logs (4)

Chesapeake Sector Army

S-Z daily reports (5)

Examination of despatches

(6) DIO log. (7) Examination

of vessels, Boarding Boat -

(8) Coast Guard - get Red

flash but not often

report suspicious circum

stances. (9) Coastal Observer -

(10) By telephone from

4ND, 5ND & E.S.F. (11) Special

arrangements with FBI

on coastal information

matters (12) FCC monitoring

(13) Customs. Radio intel

ligence is handled by
Coastal Information.
" Check of Information
" Day Book " entries of
all non-routine occur-
rence listed not by
date report received
but on date the event
happened -

Location's check against
suspicious activity plot
board (1) Inv. Pending (red)
(2) Inv. Neg. Rd (3) Visual
signals unexplained white
(4) Radio - Pink -

Is incident within

range of any enemy
craft thought to be off
-shore.

Name - suspect list -
Tip dissemination
Cards kept on (a) suspicious
small craft (b) fishing
vessels (c) new methods
or devices. -

Bi-monthly reports
Incident File

LT MOYLER

OP. TEL

In case of collision a
hour to hour memo to
air & surface controllers
were given. When all
information was in a
memorandum summary
was furnished.

COMNAV furnished
data for Atlantic's
SS plot. The data
gathered from elaborate
D/F system & filter
of disoriented information

LT MAYER

Noon combat intelligence

Submarine estimate.

midnight combat intelligence

report -

Daily operational intelligence

report - hydrographic

information, submarine

estimate - aids to navigation.

