

Log of
Crossroads Project
by

Dr. Leonard P. Schultz

Curator of Fishes

U.S. National Museum.

Call for George Malakatis his
mother - Mrs. Marcus "
Warfield 2909

art of
Jewelry making
Rose & Cirino

Rosette Morrison
Capital Ra 3120 Br 720.

art 2 E
(Norton, James H.
500 S 52nd St.
Richmond, California } picture of
baracuda

50174

Manufactured by
U. S. Government Printing Office



This crossroads project trip came up very suddenly about January 28 and it was not until Jan. 31 that I knew with some certainty that I would go.

It was a mad scramble to get a collecting outfit together and ready for shipment by Feb. 5. However, by everyone working at full speed this was accomplished and by the time I left on Feb. 13th things were organized.

Maps were prepared, tables of tides secured and other miscellaneous supplies such as 700 lb of cube root and 200 lb. of formalin - besides nets, and other supplies. an additional 600 pounds of cube root was ordered for taking aboard at Pearl Harbor.

All transportation and subsistence are to be taken care of by the U.S. Navy

Jan. 31, 1946

Fee for Passport (receipt)	1.00
Taxi fare (Morison & Schuth)	.40
Taxi for return	.30

Feb. 8

American Express Co Travelers Cheques at cost (receipt)	6.75
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Feb. 8, 1946 (work on field clothes)

4 shirts (receipt)	11.85
3 hose	1.17
4 pants	8.40

Feb. 9

2 pairs Tennis shoes (receipt)	5.90
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1 pair polaroid glasses (receipt)	1.95
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Feb. 13, 1946

Taxi to National Airport 1.00

Naval Air Transport ~~plane~~^{service}
plane left at 5:05 P.M.

Lunch on plane .60

Arrived at Olathe airport
at 11 P.M. (CS time) but
plane engine had oil leak so
we are staying over here.

Feb. 14 - Olathe, Kansas

Breakfast at BOQ .60

Lunch at BOQ .75

Tip for above meals .20 + .20

Plane is still out of commission
and it is 5 P.M. We trying to
get out on another plane to
Oakland, Calif. this evening.

We have had a long wait
possibly will be 20 hours.
Slept in chairs in officers wardroom
at airport last night.

Dinner .60

Feb. 15 - Olathe airport,
Kansas -
midnight lunch .40

Plane left at 2:45 AM after
more than 28 hours of waiting by
for us. I took 1 roll of Kodachrome
films and upon arrival in
Oakland mailed it for development.
Plane arrived at 9:30 AM.
I called Dorothea's mother twice .10

The station wagon from the Mare
Island Naval yard picked us
up at the Naval Airport
and we were on the ship at
1:30 P.M.

Breakfast .60
Lunch .60

Had a conference from 2 to 4 PM
with Settle, Lamarr, Barnes,
Sargeant on pelagic fishing
After arranging to leave ship I
again called Dorothea's mother
and we met at Ferry Boats
Late - with Marvin and Mrs.

Feb. 15th

Fare - Elwell and Family .
I called Dorothea and family
at 8 PM and talked with her,
Gloria, Merna, & Jimmy for $8\frac{1}{3}$ min.
telephone \$6.05

Bus fare .20
taxi to ship .25
Returned to ship at 11 P.M.

Feb. 16

Ship left docks about 8 AM, but
anchored in bay to take on dynamite.
Spent day looking over equipment and
getting it into dry quarters.
Wrist Watch \$23.00

Feb. 17 - Sailed out of San Francisco
Bay about 7 AM - by afternoon
I felt groggy as the sea was
rolling some.

Feb. 18 - sea sick to day - 25 to 30
mile an hour wind and rain.

Feb. 19 - sea sick but recovering.
can't keep warm.

Feb. 20 to Feb. 25th enroute
to Pearl Harbor.

Feb 17 - Seminar by oceanographers.
 Feb. 18 - " " W.F. Taylor
 Feb. 19 " " Martin Johnson
 Feb 20 " " L.P. Schultz
 Feb. 21 " " Kenneth Emery
 Feb. 22 " " J. Marr

Feb. 23 - Last night was the roughest yet - the ship rolled so much it was necessary to hang on to stay on the cot. Consequently I had very little sleep. The ship squeaked and groaned. We were at angles of 20 to 25°. We have had stormy weather all the way across, so far.

Designed a dredge or trawl yesterday and made plans to have it made.

Worked up tables of tides for use at Bikini and other atolls.

Feb 24 - Wrote several letters.
 Flying fish appeared at about 400 miles out east north east of Oahu at a water temperature of about 72 or 3 degrees

Feb 25 - I sighted the islands of Hawaii, Maui, and Oahu at 7 AM this morning about 100 miles away. Last evening at sunset, a school of flying fish rose $\frac{1}{2}$ mile off the port side of the ship, since they rose for above the horizon and I was standing about 30 feet above the water they were easily over 30 feet above the level of the sea.

Soap	.40
postage for mail	1.00

arrived in Pearl Harbour at 5 P.M.

Went to Pearl Harbor for Honolulu to look up supplies.

To Honolulu jitney	.25
return to Navy yard jitney	.25
found stores closed	
postal cards	.50
refreshments	.80

Feb. 26. Jitney to Honolulu	.25
Taxi to Bishop Museum	.85
Taxi back to Honolulu	.85
Return to navy yard by jitney	.25
official postage	.24

Pearl Harbor

Feb. 26. Bought the following bathing suits for my family and sent them by insured mail at a cost of .53

Bon Ton Co - for Marna	\$8.25
Liberty House - for Gloria	2.50
East India Store - for myself.	4.45
Scarf	
McInerney - Dorothea	13.55
McInerney - scarf for Gloria	1.20
	29.95

At the Bishop Museum I called on the Director Dr. Peter Buck, then on Dr. Cooke, Dr. Edmonson and Dr. Zimmerman. This took from 11 AM to 2 P.M. I ate lunch with Dr. Cooke & Dr. Zimmerman. They and other Hawaiian islanders are quite bitter about the army military law and cutting out the function of the civil courts during the war. Also they think an entomologist should have been sent from the islands on this Crossroads Project so that they would have better representation.

Feb. 26 Pearl Harbor

From 4 to 8 PM we were entertained by the officer in charge of our project at Pearl Harbor - Lt. Comdr. D.K. Couper. After a few drinks we ate dinner and returned to the ship. It was a long day and I am really very tired.

Lunch and dinner	1.00
tip	.25
Feb 27. Moved ship over to Dock 52	
this morning. I got off a letter to Dorothea	.06
and 30 cards to various people	.30
stamps for cards	.30
ptney fare to Honolulu	.25
Bus fare to Univ. Hawaii	.10

President Sinclair of U. of Hawaii invited the scientists to a luncheon at 12 noon. At this dinner we met several of the scientific group of the University including Dr. Jagger, Dr. ~~Hiatt~~ Hiatt, Dr. Edmonson, Dr. Horner, Dr. Murphy and others. It was a very nice affair.

We then went down to the aquarium and Marine Biological Laboratory of the University

Pearl Harbor

Feb. 27

This could be a wonderful set up
but not much is going on now.

Gitney back to Pearl Harbor .25
Tip to ward room steward .50

Feb. 28. Pearl Harbor.

Lt. Greenwood came aboard to see me
at 9:20 A.M.

Comdr. E.H. Bryan, Sr. (Comdr) Olives
and Sr. (Comdr.) Trueblood came
aboard to see me at 9:40 A.M.
of the FEA now changed to
some other agency whose name
I lack just now.

Tried to get some boxes squared
away for the trip to Bikini on
the after gun deck.

Sent a letter to Miss Carter .08

Went down to Honolulu to look
up a flashlight but could find
nothing.

Gitney down .25
" Returns .25

Feb. 28 - Pearl Harbor - While

Down in Honolulu Mr. Tracy
called up a friend of his father's
who took us out to dinner and
for a drive - Mr. Pratt also took
us to his home for a while. ~~and~~
We went for up on the side of
mountain and looked out over
Honolulu. With the lights
illuminated, white, red & green,
it was a beautiful sight. I
returned dead tired to the ship
having to walk from the submarine
gate to sail 2) ~~at~~ about
3/4 mile.

Sr. Brock came on board for the trip,
to night.

March. 1 - Left dock at 10 AM and
was out side of Pearl Harbor
by 10:40 AM. Expect to be enroute
for 8 days.

March 2 - Enroute to Bikini
During last two days made plans
with Brock for fishing, and
coordination of our work.
Hair cut - tip .25

March 3 enroute to Bikini atoll.
 March 4 " " " "
 " 5 " " " "
 " 7 " " " " crossed
 international date line, 180° meridian
 at 6 A.M. today
 Turned in our cameras today.
 March 8 enroute to Bikini atoll.
 " 9 " " " "

air mail postage for following letters.

Mrs. Fish	official	.06
W. M. Chapman	official	.06
Mr. A. M. Owl	official	.06
Carl L. Hubbs	official	.06
Miss Carter	official	.06
Dorothea		.06
Jimmy		.06
Marina		.06
Gloria		.06

March 10 - Arrived in Bikini atoll
 this morning - anchor dropped at
 11 A.M. Rain squall and wind
 shortly after anchoring. Made
 several records of time of flight for
 flying fishes past few days.
 Visited Bikini is. in evening.

March 11 - Left ship at 9:00 A.M. for
 a lookover of reefs and conditions
 south of Bikini atoll to Enyu island.
 Observed some fairly good coral heads
 in deep water and a workable place
 at southern tip of Enyu island.
 The first day out is always a
 hard one and to night I am very
 much all in.

March 12. Left the ship at 8 A.M. for
 Domoen island to look the
 reef over to the northwest.
 Here the conditions are rugged just
 as to the south with ~~sever~~ strong
 currents over the reef at high tide.
 Returned about 3 P.M.

Found a letter from Dorothea #4
 Sent letter to Dorothea .06
 March 13 - Stayed on board the ship
 today getting fish injected and
 equipment ready for use in
 about 3 or 4 days.

Received a letter #5 from Dorothea
 sent letter to Dorothea .16

March 17 (continued)
Tooth paste

.60

Mailed thru ship's office 8-50 foot sections Movie
Mailed 3 cards to my children .06

March 18 -

Prepared equipment for leaving ship for 2 nights to stay on Chieerete Island. Was supposed to get off at 9:30 AM but noon went by and the LCM did not appear. Finally we learned that the Saint Croix had been loading a tractor on it and at 3 P.M. it showed up. Then it stood off the ship waiting to tie up and about 4 P.M. was off! The whole day wasted standing around. About 6 P.M. we arrived off Chieerete Island but Coxworth would not land. He lacked courage and imagination. Sr. Ladd, Mr. Tracy and Morrison took the ship and went ashore in it but to move all of my fishing gear was too large a task so we started back. The tractor was

finally landed on Eniribiku Island so we made an unscheduled stop there. Camp was set up by 6 P.M. and we ate at 9 P.M. getting in our blankets by 11 P.M.

March 19.

Poisoned the outer reef - a strip about 300 feet wide - then with the help of 6 men we picked up fish from 10:30 AM until 1:30 P.M. I preserved about 11 gallons of many varieties of fishes. We worked rather hard and were very tired at night after a long day on Eniribiku Island.

March 20 - Poisoned a small lagoon cut off from Bisini Lagoon during AM. To reach this place of work we had to pack our equipment about a mile. We again returned to our camp about 1 P.M. Got on an LCM at 2 P.M. picked up Ladd, Tracy and Morrison

and then started our trip back.
The lagoon is terrifically rough
and we did not arrive
until 7:30 P.M. We were completely
exhausted, finally got something
to eat at 9:30 P.M. This ride
back across the lagoon, facing
a 25 to 30 mile an hour wind
and waves 10 feet high for
4 or 5 hours is terrific. I shall
not go again unless we can
have better transportation.

Anyway I had a letter from Dorothea
and Gloria - and Bothers when
I returned.

March 21. Took care of the fishes
from the last two days of
collecting, which amounted to
about 50 gallons. There were
134 species from the reef and
17 additional ones from the
lagoon-like pond.

Wrote letter to Dorothea .06

Received letters from #7 Dorothea and

Gloria, M. from Mrs. Fish, Miss
Carte and Dr. Chapman.

Letter to
Mr. Malcolm Johnson .06
R. J. H. Welsh, Harvard .06

Envelopes .50
Soap .20

March 22. Prepared gear for trip to
Reef at Bikini obs. on the outside.
Left ship at 9:30 A.M. in a duck.
We dove over sand along beach
for inspection then about noon
prisoned the reef in open
water over it 4 feet deep, with
about 30 pounds of cube net.
Preserved about 8 gallons
of fishes. Returned to ship
about 4 P.M. - After 4 hours
in the water I was exhausted.
But spent rest of P.M. taking care
of the preserved fishes.

March 23.

Hair cut - tip .50

Spent the day taking care of fish and wrapping some for packing and shipping later. Also became somewhat irked because there has been no attempt to get my place fixed up for working - so went to Barnes and urged him to go to the Captain - soon things began to pop and by night I had a canvas awning up for a wind break.

Wrote a long letter to Dr. Wetmore reporting upon conditions. .06

March 24 - Sunday

Letters sent as follows at 8:30 AM

Dorothea	.06
Jimmy	.06
Merna	.06
Gloria	.06

Received letters in P.M.

Dorothea
Merna - two
Jimmy

Quarry Corp. and returned reply .06

I spent all of day measuring fish and counting them in collections No 5-46-8 and still have a lot to do.

March 25.

Wrapped up fish after counting them and measuring - finished collection 5-46-8. My two assistants are putting the canvas skirt on the trawl to day and it may be completed to tomorrow

Letter to Mr. Higgins	.06
" " C. A. Schultz	.06
" " Dorothea	.06

A report came in last evening that the bomb burst would be delayed 6 weeks. I shall try to go home if this is true.

March 26

Went out with Vernon Brock while he dived and poisoned a couple coral heads in the Eastern end of the lagoon - picking up some fishes! About all I did was mix the derris root and preserve the fish, they came from 20 & 30 feet depth.

Brock and I were invited to eat dinner with Captain Schiano this evening. We had a very interesting evening with him.

Dr. Ladd has been taken seriously ill with kidney trouble and may go home by air tomorrow.

March 27

Sent letter to Dorothea .06
Sent printed matter to Dorothea .06

Spent day packing fishes for shipment prepared 2-16 gallon tanks and one bag of about 15 gallons. The foundation about ruins my hands.

During past few days we have completed our dredge or trawl and expect to use it tomorrow in the lagoon on ~~at~~ YMS.

Purchased wrist watch band	2.00
" Shaving cream	.50
" gum	.20

March 28 - YMS broken down so my trawl-dredge trip will have to be put off another day.

Went over on Bikini's Island but did not collect anything except some coconuts. I visited Sargent and Barnes to my room for coconut milk since they have had none.

Caught up on notes; straightened out my working quarters too

Yesterday received letters from

Dorothea	.06
Mamma	.06
Jimmy	.06
Mrs. Fish	
2 pair of socks	\$1.00

March 29. Went over on A6513 at 8:15 AM with dredge and made 2 hauls in AM - fouled coils as winds, then made 3rd haul in P.M. Everyone cooperated fully for a change. Only 3 fish were taken, but numerous small invertebrates along with much coral came up in the dredge.

Received letter from Dorothea # 9
" " " Marna

~~PAID~~ Paid for cooperative subsc. \$1.00
for air mail copy of N.Y. times

March 30

Prepared for shipment the fishes collected on Bikini reef about a week ago. Measured, counted sorted these for use in the experiment although I do not know exactly how I shall be able to use the information.

Sent letter to Dorothea .06
" souvenir of job place to Dorothea .06

Wrote up notes and prepared for tomorrow's trip.

March 31.

The local weekly newsheet "Crossroads" had an article in it concerning my fishing work in this Atom Bomb experiment. I am sending one to my office and one to Dorothea.

News-letter to Dorothea .06
Letter to Mrs. Fish of my office .06

Prepared material for trip that is to begin at noon today but we did not get off until 1:30 P.M. Landed on Romurikbu island with my 3 assistants and a pharmacist's mate.

After making camp among some cocoa nut palms, looking the reef over it was dark. We then took flashlights and went out on the reef to look it over, catching some mullets, 10 of which we cleaned for breakfast.

Bikini Atoll.

April 1. This morning we poisoned some coral heads in rather deep water at low tide on the ocean side of Romurikku Island. Results were fair but the coral heads were well separated and isolated with sandy bottom.

In the late afternoon it began to rain and continued at intervals of 30 minutes to an hour all rest of the day.

I took movies of the island and of fishing.

A jar or bottle had drifted in from the ocean covered with what was apparently flying fish eggs. This was preserved in the tanks.

April 2. We poisoned along a rock ledge on the lagoon side of Romurikku Island at low tide and had fairly good success. The water was not over 6 feet deep and we could

search the bottom fairly well.

Again we were to be picked up at 2 P.M. but the LCM did not show up until 5 P.M. We waited so long we had given up the arrival of the boat.

We then moved on down to Namu Island and camped there, being joined by Drs. Johnson, Taylor and Combs. Sargent.

After setting up camp we walked with aid of flashlights nearly around the island, catching mullets in our dipnets. Made some color sketches of fishes.

April 3.

Poisoned in the lagoon off Namu Is at edge of reef which resembled that at outer edge in some detail. The water was ten feet deep off this ledge of coral and no doubt many specimens settled out there.

April 3 (cont) By the time I had the fishes taken care of it was well along in the afternoon.

Movies were taken of this reef and our camp.

April 4.

Fished the very outer edge of the reef at ocean side off Namu Island. There were a large number of sea urchins, cat's eye shells and abundant coral growths but the surf was so strong that my poison was swept out to sea before it had a chance to do much. About 2 gallons of fishes were captured however.

Left the island at 3:30 P.M., arriving on the ship about 5:30 P.M.

Received letter from Dorothea

April 5.

Took 5 movie film packages and 2 rolls of Kodachrome to ship's office to be sent for development.

Wrote up notes for collections, etc.

I planned to go out and work today but my party need to heal their wounds, cuts and bruises, and I did too. My shoulder aches, and my hands have a dozen jabs in them from fish spines.

Sent letter to Dorothea . 06

April 6. Left ship this morning at 6 A.M. for YMS 413 with Vernon Block to run a station at Doro Island.

~~At~~ They fished for tuna all AM and at noon we anchored in Doro channel. We then took the skiff and rowed to

Boro Island, with a school of sharks following us. After landing with the skiff through the surf on the coral ledge, Brock and I poisoned a section of the reef about 9 P.M. The tide soon changed but we picked up 8 gallons of fish. After that we went back to the YMS 413 with Bob Bryant as "captain" and pickled my specimens. The crew were catching sharks on the tuna caught during the morning and from 4 to 6 P.M. things were exciting - with sharks being caught of fair size, ball net flying around knocking them out, until the final one a big white tip shark, measuring 7 or 8 feet overall and with an estimated weight near 300 lb. I saved the jaws.

That night with a marine light we picked up numerous fishes off the stern of the YMS 413.

April 7. Spent most of the forenoon taking care of the fishes caught yesterday, recording notes and resting. As yesterday was a very strenuous day.

At night we again used the marine light catching several kinds of fishes, including flying fishes, a pelagic dagger fish, along with what must be the pelagic stage of goatfishes, also some Myctophids.

I took pictures, Kodachromes of the sharks, and parrot fishes, a *Muraicanthid* etc. Lost two shirts - not stolen - value \$4.00
April 8. Returned to the ship about 11 A.M. and took care of my fishes by noon.

Received a letter from
Dorothea
Dr. Hildebrand
Miss Carter
Mrs. Fish

April 8

A \$2.00 check from Quarrel Corporation
which I sent to Rorothea.

Wrote up notes.

Wrote following letters.

	Rorothea	.06
Report to	Dr. Wetmore	.06
	Dr. Schmitt	.06
	Dr. Hildebrand	.06
	Mrs Fish	.06
	Miss Carter	.06

April 9

Worked on the wrapping, measuring,
counting of fishes collected last
week. Was able to do two tanks
of 8 gallons each.

Fixed the metal wrist band on my
wristwatch to day. The canvas
strap fermented and smelled like
yeast.

Worked up a tentative index of abundance
for the collections of fishes on Pomeroy
Isd.

April 10. Spent entire day wrapping
and preparing fish for shipment
back to U.S.N.M. Counting and
measuring them for the experiment
and index of abundance.

Am trying to get a bbl. ready for
packing large fish but as
usual things go slow with the
navy.

Bum	.20
Two shirts, 2 shorts, 2 socks	4.00
Received 8 movie film backs	

April 11.

Sent following letters

Dr. D. J. Oliver - Honolulu	.06
Miss Carter	.06
U.S.N.Mus. franked -	

Packed up the bbl. of fish so
that it includes the larger ones
caught so far. It took all
the fore noon to get the
material out of tanks and
into the barrel which was
an empty alcohol drum.

Made up a list of needs for a trip
to Rongerik Atoll.

Sent letter to C.A. Schultz .06
" " " Luis Pivas .06

April 12 -

Packed, wrapped the remainders of
the fishes in the 8 gallon tanks
for shipment and had the
big 55 gallon drum welded
closed after getting it packed.

Spent rest of P.M. on notes and
working on an index of
abundance for this atoll
and my reef collections.

Last night I used the merino
light but did not get
very much as the water was
too rough, big swells came
in that flooded everything
on the gang plank where I
use the light.

April 13 -

Lift the ship at 8 AM for AGS 13
to use the dredge all day on
the bottom of the lagoon.

Haul no one was a water haul so
we put it down and this time
got a net full but tore the
canvas and net. Repairs
were made. Dr. Taylor's
dredge was used and then
on no 3 haul my 4 ft
dredge caught on a coral
for a moment - the shackle
hook broke and let the
blocks & pulley along with
the cable go flying.

I did not quite get
out of the way, the cable
hitting me on the left
shoulder a terrific wallop.
To night my shoulder is
so lame I can hardly lift
my arm. Had I not
reacted quickly the moment
the blocks began to jiggle,
by starting to run I

el thinks I might have lost my
head as the cable missed ~~by~~
my neck by less than 6 inches.
I knocked Martin Johnson on
about 10 feet aft in my start
aided by the cable. I got
was, indeed a close shave.

Received following letters
Two from Dorothy April 10/4. .18
Marina April 2. .12
Mrs. Fish
Arch Schultz

Wrote Dorothy a 5 page letter .12

April 14.

Wrote up notes for yesterday's
work - and a letter to my
dad and Arch.

Letter to Dad .06
" " Arch .06

My shoulder is very lame today.
I am very fortunate to be alive today.

Spent most of day writing up a plan
of operation for the next 6 weeks
that of hope will take me back
to Washington about June 1.
This plan involves working up an
~~in~~ species index of abundance
for each locality where equal
effort has been exerted.

Went over to Bikini island for
a few hours in P.M. to picnic
with Capt. and party.

April 15
Ran two stations just south
of Bikini island on ocean
side.

Prepared equipment and expect
to leave for Ciry island
about 2:30 P.M.

Got off in LCV P at 3 P.M. for
Ciry island, and landed
an hour later. This island
has never been inhabited so
the hermit crabs and birds

are largely undisturbed. At night
I went out on the reef
and caught 4 shiny lobsters
- saving one for a specimen.
A land crab was also caught.

April 16.

Ran a station at ocean edge
in surf making a fairly
good catch of fish.
Took Kodachrome pictures
of fauna, vegetation etc.

at 3 PM an LCP arrived. Its
ramp would not work and
there was no working party
so I sent it back with
a request to send properly
equipped boat for landing
and loading.

Dr. Taylor joined my party this
afternoon.

Shipment of 1 Bbl and 5 tanks
went off today.

April 17.

Ran another station in
Lagoon off Dirty Island as
boat did not come back
yesterday but came about
9 AM today when tide
was out - it stood off the
island until 3:30 P.M. and
then we loaded onto the
LCM and went on
down to Cherry Island.

This camp, as that on Dirty
Island is not shaded
so we are uncomfortable
indeed. I sent Cali back to the
Bowditch as he was
somewhat ill. Brown
replaced him.

Had terrific cramps in my legs
right leg, calf muscles several
times last night. Believed
being in the water is not
good for me.

April 18.

Ran a station on Cherry Is.,
on Ocean side. It was
a difficult one to work because
of the current and deep water
on reef, also waves surging
in. Injured my legs on the coral.

An AGS 13 came for us about
3:30 P.M. - but it took them
so long to decide where and
how to pick us up that
we did not get away until
after 5:30 P.M. We arrived
on the Bowditch about
8 P.M. - no shower of
course until the next day
because of water shortage.

Received letter from Jimmy Schatts
written April 3.

Brought back on the Bowditch
5 pieces of hard wood for
experimentation back in
Washington.

April 19 -

Wrote up notes for collection,
which consists of copying
the material out of my
field note book. It is too
hazardous to take my
note books into the field
because of the rugged
conditions existing there
about.

Wrote a letter of a plan for
reef fish studies for rest of
crossroads project addressed
to Commander Barnes -

also furnished copies to
Dr. Wetmore .06
Lt. Comdr. Sargent
~~Mr. Higgins~~ .06

Wrote letter to Dorothy a. .06

Received letter from Marna

April 20

I brought back some wood for carving from Cherry Island,

The darker wood with white flowers was identified by Dr. Taylor as:

Pemphis

The other lighter wood with yellow flowers was Suriana

Sent letters to

Jimmy

.06

Merna

.06

Gloua

.06

Fred Ziesenheim

.06

Discussed photography with Barnes today now that I have been authorized to take pictures.

Turned into Comdr. Barnes with letters - two of them all exposed and unexposed films. This was ready April 15 but did not get into his hands until

Friday

April 21.

Spent day in writing reports and records, letters etc.

Had a seminar today from 10 AM to noon. Dr. Ladd, Mr. Tracy and Dr. Emory talked on the geology of the Atoll.

Spent afternoon on letter or

report to Dr. Wetmore. .00

))

April 22.

Worked like a beaver to get my Bikini fish collections packed for shipment back on the U.S.S. Lumber which leaves in a day or two for the States.

am sending them now so they will get to Washington by June 1 when I may be able to get back and work on them.

1 bbl and 5-16 gallon tanks were prepared and ready to go by evening. It was a big task.

Received letter from Dorothy. In evening wrote following letters:

Dorothy - sent \$5.00 check.	.06
Dr. Schmitt	.06
Mrs. Fish	.06
Fred Ziesenhorn	.06

Received the face mask that Fred got for me in Honolulu - postage on it was .57¢

dr. Feds letter & enclosed \$4 in paper money for payment on face mask.

April 23

Received letter from Chapman

Wrote letter to Chapman .06

Air mail envelope & paper .42

Lt. Comdr. Barnes a letter on needs of survey and living conditions on Bowditch.

~~At~~ Used my marine light from 9:15 to 10:45 and caught over 300 fishes + 2/3 qt of crustaceans off gangway of ship. Most things came up to the light than usual.

If we do not go to Rongoriki I will have little to do in this miserable stall.

April 24.

Sorted out the fish from the crustaceans that I caught last night. We secured several kinds, one or two not taken before.

The tentative schedule of the ship is as follows -
May 24 to June 15 - Eniwetok

June 15 to July 1 & 10? Rongerik.

Made up a tabular summary of my Bikini Atoll data today. Used marine light ~~last~~ to night for 2 hours then 2 of my boys used it until 1 AM.

April 25

Apparently the trip to Rongerik has fallen through because of no boat transportation. This leaves nothing for me to do for about a month as I do not have enough cubic foot to waste idly nor does it seem wise to poison in the atoll too much.

There were 576 fishes in last night's collection.

May try to get back to Washington for a time - perhaps a month.

Received letters from.

Quarrie Corporation
Two from Dorothy.

It was decided in conference that Dr. Taylor and I would return to the States as soon as it can be arranged as we can do no more work until the Bowditch moves to another atoll.

Used marine light again to night.

When I went up to the roof deck working space, the 1st Lt. had placed 3 drums of oil in front of my table and in front of the storage room so that I had no place left to work. It is that sort of constant treatment that is so annoying.

April 26

Had conference again about going to Washington for a month. It was decided to send both Taylor and I. There is nothing to do around here with transportation in the condition it is in as far as my work is concerned. All of my plans for use of suitable ~~ships~~ fall through as fast as I can make plans.

Used the marine light to night after the ship's movie. But caught fewer fish than usual as it was rougher.

Spent the bigger part of the afternoon outlining with V. Brock our combined needs for a small ship for use at low tides.

Turned over to Lt. Condr. Sargent a table summarizing my results of poisoning on the reefs at Bikini Atoll. ...

April 27. Lt. Condr. Barnes, Sargent, Mr. V. Brock and I conferred on the subject of having a YMS or as they suggested possibly a PGM, assigned to the biologists for use during the low tides. Valuable suggestions were made. Sargent was somewhat put out that I would attempt to do something in Washington about it and even threatened that he would resign or I would if I did it formally. He did not object however to an informal discussion with Reville. I had no intention of putting the matter in writing anyway and when this point was explained he was willing that I should talk the matter over. I have never considered resigning if working conditions in the field can not be smoothed out and our work load made lighter by reducing the camping, cooking, etc. + the work.

In general, the reef fish field work has not suffered greatly so far, ~~because~~ I was too modest in my boat demands and took whatever means of transportation there

to make any request to help the biologists.

apparently cooperation gets me nowhere,
was available. As I see it now the
First priority for use of a small ship
such as a VMS should go to Taylor, Morrison
and my reef fish studies during the
low tides and second priority to
Brooks, Mann and Taylor for rest of ^{the} 6
days, but during the period of little
or no tidal fluctuation they should
have first priority and we should
have second priority. This would
give them 6 days when the VMS
could be used as a dispatch or
communications boat.

I have drawn up an outline
to help crystallize my thoughts on
this matter, in case I go back
to Washington in the next few
days. I can not but feel that the
reef fishes have been slighted in
regard to water transportation.

~~But~~ Perhaps a discussion of this
matter might cause more trouble
than good if not handled
properly both there or by me,
yet the need for a small ship
is urgent in my work.
The ~~Boat~~ ^{Boat} had had too
much work assigned to it.

Received letter from Booth dated .06
March 26
Wrote letter to Booth .06

April 28. Sunday

Spent entire day on ship just
sitting around with nothing
much to do but read. Wasting of
time out here is a terrible ordeal
for me.

At night I prepared a preliminary
report for Lt. Comdr. Sargent
on work at Bikini Atoll that
was accomplished during March and
April.

Took a sea bath today to keep
my tanned skin in condition.

April 29
No word yet about airlift to D. C.
more waiting.

April 30

If no dispatch comes in today I shall work a station tomorrow on the reef. This sitting around with nothing to do gets me down in the lows of mentality.

Had my teeth cleaned by Dr. Budo, the ship's dentist.

Also worked up the number of fishes in my collecting stations for Phoenix and Samoa Islands, for possible use in comparison with the stations occupied in the Marshalls.

Received letters from

Dorothea

Mama

Gloria

Jimmy

Wrote letters to

Dorothea

Mama

Gloria

Jimmy

.06

.06

.06

.06

May 1 No word about going home so at 8:30 AM I went over on the reef and saw a fishing station at low tide.

A couple days ago the captured Jap battleship Nagato and a cruiser came into Bikini Atoll and anchored. I now count 24 ships.

~~May 1~~

Wrote letter to Dorothea .06

" " Dad .06

May 2

Went out on the reef west of Bikini Island and took some pictures, movies of the corals, showing the life there, fishes too in shallow water.

Acanthumus triostigus was in shallow water and I took some close-up in the movie film.

Wrote letter to Dorothea .06

Received letter from Dorothea

" " J. Pires

" " F. Perkins

May 3.

Wrote letter to F. Perkins .06

our trip to Erik's Island planned for this morning failed because of boat transportation

I have asked for a man to take my place - There is little use of wasting my time out here not accomplishing anything

Turned over to Barnes

3 movie magazines of Bikini reef.

one roll of Kodachrome

Requested Sargent and Barnes to try to get Herald, Earl S. out here as my substitute so that I could go back to Washington and work up the fishes. This work is too strenuous for me under the conditions that I have to work for such a long time.

Prepared a letter for Dr. Wetmore in regard to this request.

May 4, 1946

Sent Report and request for a substitute to Dr. Wetmore .06

No reply to dispatch concerning trip to ~~Parquet~~ Washington.

Went to Erik's Island today and spent most of day on reef. Had a very successful time taking photographs of the reef and corals. Came back to the ship completely tired out.

Did not collect many specimens but brought back some more wood of the ~~Penkhis~~ Penphis bush.

Received letter from Gloria

Ziesenheim
Eastman Kodak Co
U.S. N.M.'s office

Wrote letter to Dorothea .06

May 5th

Went over to the YP this AM and recorded measurements on an 800 lb shark, tiger Sphalerda curvirostris, caught off Boro Is. at measured 13' 11" from tip of snout to end of tail. It was a female without embryos.

Wrote letters all afternoon.

May 6th

Went out to the reef but it began to rain immediately and has rained all day. Could not take pictures as planned so returned to the ship.

mailed

Wrote letters to:	
Kodak Hawaii Lt.	.06
Dorothea	.06
Mrs. Fish	.06
Miss Carter	.06
L.R. Pivas	.06

##

Wrote and mailed letters to:	
Jimmy	.06
Mama	.06
Flora	.06

May 7.

Sat around the ship and read as there is nothing to do -

My trip to Bongorib that I planned is off - no boat transportation anywhere. Damn such navy planning as I have been subjected to,

Wrote letter to Dorothea	.06
" " " Dad	.06
" " " Quavie Corp.	.06

Received letters from	
2 from Dorothea	
Chapman	
Quavie Corp	

Rained most all day so we could not go on reef to take pictures.

May 8

Made a trip to Enyu Island to collect what ever I could. It rained all day, lightly, but kept us all damp.

Managed to pick up shells and crabs by turning over the rocks and slabs on the ocean side of reef.

Returned to the ship about 5 P.M.

Received letters from
Dorothea
Hildebrand
Quarrie Corp.

May 9

Another awful day with not much to do on the ship. Did manage to do an hour or two of work on specimens caught yesterday.

Public protection for watch .45

My wrist watch has stopped and I can't make it run.

May 10

Went over to the ocean side of reef off Bikini and poisoned in the surf at half tide in two feet of water. The debris was not may not have been good as it was some left from 1939. The fish caught were very few and all small ones.

Wrote letters to

Dr. Wetmore	.12
Copy to Mr. Higgins	.06
Dorothea	.06

May 11. Spent the day on board ship.

The gland on my shoulder is all swollen up and I can hardly use my arm. It has been sore now for two days.

Killed time by stringing cowrie shells for necklaces. Made 5 of them.

May 12. 8AM.

The Bureau of ships is certainly most discourteous in never answering our dispatch to return to the States for the 6 weeks delay. I have lost 6 weeks of valuable time and am so thoroughly disgusted with the Navy that this may be the last time I will have anything to do with it in regard to an expedition.

To night - 7 P.M. - Barnes showed me the dispatch that authorized Taylor and I to return to Washington - This came 16 days late and now it is too late to go back as we leave in 6 days for ~~Rongeris~~ Emiwetok. A relief was authorized for me too and probably will not get out here for 2 months yet if a man can be found. I asked for Earl S. Herdick

My shoulder has been sore today
The gland in my neck has gone

Journal little - perhaps tomorrow it will be better.

May 13.

Left ship at 8 was expecting to get off at 1 P.M. but as usual LCM did not show up until 1:30 P.M. We then loaded and Taylor and I went down to Rongerik Island.

During night low tide, walked around the island collecting invertebrates with flash light on the reef. Found a few interesting things worth keeping.

We camped covering ourselves with parchos - It rained 3 times, once about 1/2 inch grain fell and it was a miserable night without a tent.

6 pair of socks	2.40
6 skivvy shirts	2.10
6 pair shorts	2.40

May 14.

Ran a fishing station in the Lagoon to day off Romulo Island.

Made several color crayon sketches of the fishes caught.

We were supposed to be picked up at Romulo Is. at 3 P.M. by an LCM, but it never came. At 4:30 P.M. the GS 13 went by and picked us up. At 30 they had a radio message to pick us up.

We stood around in the hot sun all P.M. waiting for the LCM to be able to signal us in. Such things are exasperating.

Received following letters:

Two from Dorothea	.12
/ " Marna	.06
/ " Lucren	
/ " Miss Carter	
/ " Dad.	

My polarized sun glasses were broken in getting the equipment transferred from my camp on Romulo Island to the ship.

Receipt for repair \$4.00

May 15

Worked over specimens and made more color descriptions of fishes, spending most of day doing it.

Wrote a letter to Dorothea .06

Received ~~two~~ three letters from
Dorothea .24
Jimmy .06
Dad.

Was called into the Captain's Cabin with a Mr. Fenger and helped prepare a broadcast for a radio station network. Then went out in a sound Boat and looked for Manta rays. Saw 4 big ones.

May 16.

Went out on the reef 2 miles west of Bikini Island and took color photographs; picked up a few shells too.

I have felt awful today, headache, and no ambition. Something seems to take all my energy since the last trip to Rororok.

Wrote letter to Miss Carter .06

May 17.

Wrote letter to Dorothea .06

" " " Hubbs .06

Received 2 letters from Dorothea .12

" " " " " Marna .06

" " letter from Hubbs.

Secured loose gear for the sea trip beginning tomorrow.

May 18.

Wrote letter to Dorothea .06
Made a couple strings of shell beads into necklaces - that makes a total of 10.

Began to polish some cat eyes. I must keep busy even on useless things or I would go crazy out here with little to do.

Ship left Bikini Atoll at 3 P.M. for Eniwetok

Received letter from Dorothea .06

" " " " F. Perkins with news clippings

Air mail paper .50
Air mail envelopes .50
Gum .75

Eriwetoko Atoll

May 19.

Arrived at 11:30 AM at anchorage in the Lagoon of Eriwetoko Atoll.

There are two tankers on the entrance of deep channel on eastern side of Atoll.

Did not go ashore but wrote some letters, polished some cat's eye shells.

Handed Sargent my transportation needs for reef fish studies.

Sent Letters to Mr. W. B. Chapman .06
" " Mrs. Clara Face .06

May 20.

I Rana reef station on Eriwetoko Island. Went over in the Duck. Picked up a number of gun shells used in the battle of Eriwetoko, including a 40 mm shell.

The fish collection was fair.

May 21.

Rana fish station on Tuerou Island on the reef on south east end - the poison killed an enormous number of fishes that I could not pick up as they were in water too deep for such work. These two days have tired me out completely - will not run a station tomorrow but just look around.

Mr. Bates nearly drowned off the edge of the reef today. Laudon and Tracey pulled him in or he would have gone down in two or 3 minutes more. He was in a bad way, the current took him along the reef and he could not get ashore. His condition was better by the time we got back on the ship.

Sent letter to Dorothea .06

May 22.

Went on YMS 463 to Iqurris island and looked the reef over for future working. It is everywhere on the lagoon side but the ocean reef is fair for fishing with tube.

Made a small collection of invertebrates. Picked up a number of cowries of the small white kind.

Although I have done little today I am completely exhausted tonight. Had a very restless night.

Sent Franked 1st Class envelope to my self at U.S. Nat. Mus.

May 23

Hair cut.	.50
Letter to Dorothea	.06

Worked on specimens, wrapping them for shipment etc.

Wrote letters; Wrote up notes

Sent letter to Dr. Wetmore .06

~~May 24~~
May 24.

Received 2 letters from Dorothea
" " " " " Marina o Florida
" Life Mag. } from Dorothea
" Sci. News Letter }

Left Beroditch at 3 P.M. for YMS 463 and at 4 P.M. we set out for Northwest Passage on outside of Eriwetob Atoll, anchoring 2 miles from Rigili ds. Morrison went over to the island. I rigged up my marine light and used it from 8:30 P.M. to 11:30 P.M. Both Cali and I picked up fishes - I preserved 8 gallons of flyingfishes and 2 qt of small fishes. By the time I got things secured it was well after midnight.

May 25.

Wrote letter to Dorothea but will not mail it until tomorrow.

During afternoon the YMS moved from our anchorage & about 4/5 mile off Rigili Island where we stayed.

About 5 P.M. we began to fish for sharks and caught a few of the gray sharks.

Used the marine light at night from 9 P.M. to 11 P.M. ~~but~~ we took fewer fish, but of a greater variety.

During night several sharks were caught.

May 26.

After picking up Morrison we left for the Bowditch, getting back on board about 11:30 A.M.

After eating lunch I preserved the 5' 4" whitefin shark injecting it thoroughly with formalin.

Following letters were awaiting me on the ship.

Mrs. Fish
Mrs. Face
Dr. W. Schmitt

Sent letters to Dorothea .06
Gloria .06
Marna .06
Mrs. Fish .06

Mrs. Fish resigned to be with her husband as of ~~June~~ 15th.

May 27

I have worked all day getting ready for this week's series of low tides. Wrapped fishes for shipment - assembled equipment, etc.

Wrote letter to Dorothea .06

" " " Quarry Corp. .06

Went over to YMS 463 in evening & be ready to go early in morning to catch low tides. When we were to leave the Bowditch at 4 P.M. not a thing had been done - so I got after it and we were off 4:30 P.M.

May 28, 1946

On YMS 463 off Mui do.

Worked the reef on ocean side of Mui Island early this morning. Returned to the ship (YMS) about noon. The beaches of Mui Island are deep with the wreckage of the battle of Eniwetok - LCM, other craft, drifted across and lodged on this island.

Fished for sharks at night.

May 29

Worked the reef on ocean side in surf of Firiiri Island. Also poisoned a high tidal pool.

Took a few pictures to complete the film # 3 black & white

May 30

Worked the lagoon reef of Pigili Island. This was a beautiful reef of coral

growths. The waves were very high and we had plenty of grief getting to and from the ship to the reef.

Returned to Bowditch at 4:30 P.M.
Received letter from Dorothy .06
" " " " Dad

Wrote letters, and notes & night to get them ready for tomorrow as I will leave again on the YMS 463 for another 3 day trip.

May 31 -

Sent Letter to Dr. Wetmore .06
Sent " " Dorothy .12

Prepared one tank of fish for shipment measuring and counting the fish.

Prepared equipment for leaving on 3 day trip this afternoon at 2 P.M. on YMS 463. This time to north and east end of atoll. Got off at 5 P.M.

June 4 -

Comdr. Reville was on the ship today and I talked with him. He is sending Capt. Herald as a relief and should arrive in a few days to two weeks.

I spent most of day preserving specimens and getting things organized after 10 days of field work.

Sanded down two Howitzers shells that I hope to get back to the States as beef sakes.

Wrote letter to Dorothea .06
rec'd letter from Bill Stunore

June 5

Was ready to go to Fagurin Island at 10 AM as scheduled and got off at 10:15 at which time the DC boat in tow had its line cut on cable and by the time we recovered it half hour was gone, then one of the sound boat motors went dead and we returned

to the Bowditch - Finally by 11:45 we were off again but the further we went the rougher it got and by the time we were half way to the island we rolled 45°. A bucket with 2 qt jar of formalin turned over broke, and went all over the deck. Cali got some in his eye and I had to pour water in his eyes to wash it out.

It was so rough and we arrived at the island too late for the tide so after letting Morrison off with my man Steele, ~~to stay~~ all night we returned to the Bowditch. I was sea sick but the engine was worse than any of us. It was as rough as any time at Bikini.

Received letter from Dorothea .06
" " " Marra .06
" Sci. News letter .18

June 6

Bought case of Cocola for crew
of VMS 463 \$2.50
in appreciation of their
cooperation in last few days
of work.

Also a case of beer 2.00
Will try to get over to see them
in a day or two as that ship
is out to sea until the 8th.

Discovered today that during
rough trip on Sound Boat
yesterday my dark glasses
were broken by rough
weather. Somebody stepped
on my binoculars or fell
on it, & we rolled 45° for
2 hours.

- Cost of repairs 1.00

Wrapped one collection of fishes

Preserved a big 5' barracuda
that was caught off the
ship last night.

Went over to Runit Island
with Comdr Holmes and a

party today. Took pictures of
natives who came over to
fish.

I saw a large Manta ray
off Runit Is. - probably 8' x 10'
across.

Sent letters to Dr. R.R. Miller .06
" " " Miss Carter .06
" " " Mr. F. Perkins .06

June 7.
Sent letter to Dorothy .06

Spent entire day measuring and
wrapping fishes for shipment
to the National Museum.

June 8.
Intended to measure and wrap
fishes for shipment but it
has been so stormy, rain &
wind that I could not work
on the poopdeck.

Cleaned shells
Worked on my notes.

Eniwetok to Bikini

Wrote letters to:

Dorothea	.06
Mrs. Lake	.06
A. Comdr. Fred Ziesenkumme	.06
Lloyd McKeen	.06
Chris Schultz	.06

June 9

Wrapped, measured 1- 8 gal tanks of fish.

Left Eniwetok Atoll at 11:AM for Bikini.

June 10

Arrived at Bikini Atoll at 10:30 AM.

My working space is so cluttered w/ and tied up for the trip here I am unable to get anything done today. The canvas covers and sides are down so the table is windswept.

Sent letter to Dorothea	.06
" items to my office	.06

Bikini Atoll

June 11.

Packed the bbl. of fishes for shipment to National Museum.

Then at 9:30 AM had a conference with a group of newspaper reporters at Comdr. Revell's suggestion and wish which took until noon.

Comdr. Fred Ziesenkumme called on me at the Bowditch and ate dinner with us.

In P.M. at 12:30 & I finished packing 3 tanks of fishes and then went directly to another conference with Comdr. Revell and the scientists which lasted until after 4 P.M. at which time Comdr. Ziesenkumme sent a boat for us and Taylor Morrison, Emory and I visited his ship, had dinner with him, returning to the Bowditch about P.M.

Bikini

June 11 Continued

Received letters from Dr. Wetmore
Dorothea .06
A. Schultz
Violet Schultz

After returning to ship worked on my notes for a while.

The last 2 days have been full ones.

In the conference with Revell stressed the need of a YMS for use of Biologists for work during low tides. There is a possibility we will have some consideration.

June 12

Wrote letters to Violet Schultz .06
Chas " .06
Dorothea .06

Report to Dr. Wetmore .06
on work at Eniwetok Atoll.

Finished packing up specimens of fishes.

June 13. Went over to Mt McKinley for Identification cards and thrice to the Haven. met, to my surprise, Dr. L.R. Donaldson, Dr. Art Welander, Clarence Pätzke, a Dr. White and another man. Had a short but pleasant conversation. This took all AM.

In P.M. went over to the aircraft carrier Lidon to make application for Photographers permit getting back at 3 P.M.

I then poured the water off all the fish specimens and put alcohol in 1 bbl. of fish and 3 ~~of~~ 16-gallon tanks. These fish may get off on a freight ship tomorrow for shipment back to the Museum.

This business of running around had me completely ragged.

Bikini

June 14.

Soap	.30
Tooth paste	.35
Gum	1.00

Received letters from Dorothy
Dr. Miller .06

Wrote Letter to Dorothy	.06
Dr. Miller	.06
Mr. & Mrs. Stern	.06

Shipped off to National Museum
1 steel bbl and 6 boxes of
specimens - For two days
of had been trying to get the
bbl. welded and then it took
1 1/2 days to get it off.

Design Timmer left at both
until the shipment went off
the ship being continually
blocked by Lt. Kyle.
Timmer missed his dinner
at 6 P.M. during most of
the loading and got back
on the ship at 2 A.M.
to morrow

Bikini to Rongelap

June 15.

Bowditch left Bikini at 7 A.M.

Worked off summary tables of
my reef work so far and
handed them to Comdr Barnes.

Wrote Dr. Miller a letter	.06
sent copy to Dr. Wetmore	.06

Made preparations to go ashore
to morrow.

Bowditch arrived at Rongelap
at 3 P.M.

June 16.

Left ship at 7:45 although
had it scheduled for 7 A.M. Went
to Arbor ds at western end
to run a station. It was so
rough landing we had much
grief in getting ashore, the
out board motor got all wet
when it fell over board and
we had to row in and out.
My luck was all off as the

June 16 - Rongelap
the cube root flowed out to
sea and only covered a small
area. We did search it fully
though.

I had two new men to help
me and things did not go very
good as they had to be told
everything in detail to do.

Herald is in Bikini and may get
here tomorrow.

June ~~16~~ 17

Mailed letter to Dr. Miller .06
" " " Borothua .06

Went up north to north end of
Eniaelob island and set
a lagoon station, catching
a large variety of fishes.

Mr. Loro the Life Magazine
photographer went along and
took pictures of my reef
work. He took numerous
pictures in color of the
animal life.

We returned about 4 P.M.

June 18

Received letters from:

Borothua	.06
Jimmy	.06
Mama	.06
Gloria	.06
Mrs. Fish	
Miss Carter	
Guam Corp.	
Dr. Perkins	
Dr. Francis	

Ran two fishing stations at
Enybarob ds. today in
rather shallow water as
I could find no better place
to work.

Capt. Earl S. Herald arrived today
to help me with the reef fishes
and in a few weeks take over
the work out here so I can
go home.

June 19,

Herald and I worked a lagoon station at Mellu Is. of Rongelap Atoll. It was windy and rough.

Am very tired tonight but took care of specimens.

June 20.

Worked a station at north end of Kabelle Is with Herald today.

Have been leaving ship at 7 AM and returning at 6 P.M. daily since arrival, at ~~the~~ Rongelap.

June 21.

Spent entire forenoon with Mr. Goro, Life photographer, taking pictures of my working spaces, methods and fishes.

Measured, and wrapped a tank of fishes with Herald to give him the idea of the work I am doing.

Then at 2 PM went over to Rongelap Island, looking the reef over taking some pictures of the native village on the island.

Wrote up notes. Was very tired tonight as I swam around in the lagoon studying the ecology of fishes.

June 22.

Wrapped, measured a tank of fishes for shipment. Secured collecting equipment for going to sea today.

Board left Rongelap Atoll about 4 P.M. for rehearsal of Queen day tomorrow.

Mr. Goro, Life photographer, asked me questions about my work in regard to pictures taken by him.

June 23. At sea off Bikini.
 Atoll some 18 to 20 miles,
 rehearsing Queen day.
 Have a headache today and
 a little upset digestion.
 Can not work on packing fishes
 today as our lab. space is
 too exposed.

Mailed letter to Dorothea	.12
" " " Miss La Monte	.06
" " " Coulsons	.06
" " " C.A. Schuth	.06

The ship has been running in a
 2-mile square 18 to 20 miles off
 Bikini all day and will do so
 all night.

When the ship is underway it is
 not practical to work on the
 specimens on the poop deck.

June 24. Rehearsed the bomb drop today.
 The seawitch circled until 4 P.M.
 and then went into Bikini Atoll
 for the night.

Herald and I measured and wrapped
 one tank of fishes today.
 We then began recording the
 ecology of reef fishes.

June 25. Was at Bikini today
 leaving at 5 P.M.

Wrapped some fishes and
 worked on my notes.

Wrote letters to Dorothea .06

Received 4 letters from Dorothea .24

" " " letters from Jimmy
 " " " Dr. Miller

June 26. Arrived back at
 Rongelap Atoll about 7:30 A.M.

Then got busy and packed
 up for a trip to Rongerik for
 3 days.

Left Rongelap Atoll about 6 P.M.
for Rongerik.

June 27. Arrived off Rongerik
at 5 A.M. Anchored off Boobies Is.
at 6 A.M. went ashore about
7:30 and ran an ocean
station for fishes.

About noon a rain squall
came up and blew sand
against us like a sand
blast.

Anchored off Latobacks Is. at
6 P.M.

June 28
Ran a fish station off
the lagoon side of Latobacks
Is.

~~June 29~~ Anchored off Eniwetok
Is. at 6 P.M.

Bomer, the navy photographer
took 15 Kodachrome pictures
of numerous fishes.

June 29. Ran a fish station on
ocean side in surf.

Left Rongerik Atoll at 2 P.M.
and arrived on the
Bowditch at 6:30 P.M. at
Rongelap Atoll.

June 30

Received 2 letters from Dorothea
" " " " Quarni Corp.

Wrote letter to Dorothea .06

Spent all day writing up notes
on the Rongerik trip of the
past 3 days.

The Bowditch left Rongelap
today at 4 P.M. for observation
of Able day tomorrow.

July 1 - Able Day

Put following Able Day cancellation letters in mail on ship.

Dr. Witmore	.06
Clare Fae	.06
Arch Schultz	.06
Borothea	.06
Borothea	.06

Also wrote another letter to Borothea .06
Had a tooth pulled at 11 AM.
We are cruising about 18-20 miles N.E. of Bikini

The Atom Bomb blast went off on schedule at 9 AM. At 8:30 AM we were called to the drafting room while the Bowditch cruised 20 miles away in formation with dozens of others. At 8:55 everyone was at attention and at 8:56 each man without goggles covered his eyes with his arm. We adjusted the goggles at 8:57. Then at about 8:58 the loudspeaker called forth "Bombs away" - at exactly 9 AM the great burst of brilliant light came over the

horizon. So that I could see the after effects and not knowing if the light would blind me temporarily, I closed one eye, seeing the great display with the right eye. Then with the goggles off, I watched the whole after effects with both eyes. But neither eye was blinded.

This flash was very bright and at a distance of 20 miles I could feel a slight warmth on my face. Two minutes after the flash - came the noise - a low boom.

The bomb explosion gave a brilliant light, centered in a small spot that looked like the setting sun. Through the goggles it had a slight orange tinge, appearing over the horizon very low down, just above what would have been tree tops a mile away had any trees been in sight. The light faded quickly, lasting about a second or two.

Everything was now silent on our ship, the men had just

Uncovered their eyes and were straining to see the gigantic cloud columns pushing skyward. I even forgot for a few moments my terrific tooth ache and watched the cloud forming.

My impressions of the explosion was of a terrific up draft of smoke-like material going skyward at a fast rate. It shot up like the water coming out of a hose under high pressure, the top mushrooming a little as it reached some low flying clouds cumulus ones, perhaps about a mile up. The center shaft then shot right on through and began to spread out so I could not see the center anymore. At this stage about 2 minutes 2 minutes after the light flash, the noise a low rumble or boom reached us on the Bowditch. For the next 10 minutes the cloud rose upward and upward looking like a small thyrus cloud. Its top was all billowy and cauliflower like in shape when the leaves are picked off. This cauliflower-like part

separated from the irregular column below and floated upward leaving a small space below. The upper cloud was a pale peach color with a glow to it for a few minutes, perhaps, caused by the sunshine on the ice crystals that form when clouds turn into cirrus clouds or "thunder clouds". This upper cloud or cauliflower like part that mushroomed off from the irregular column below

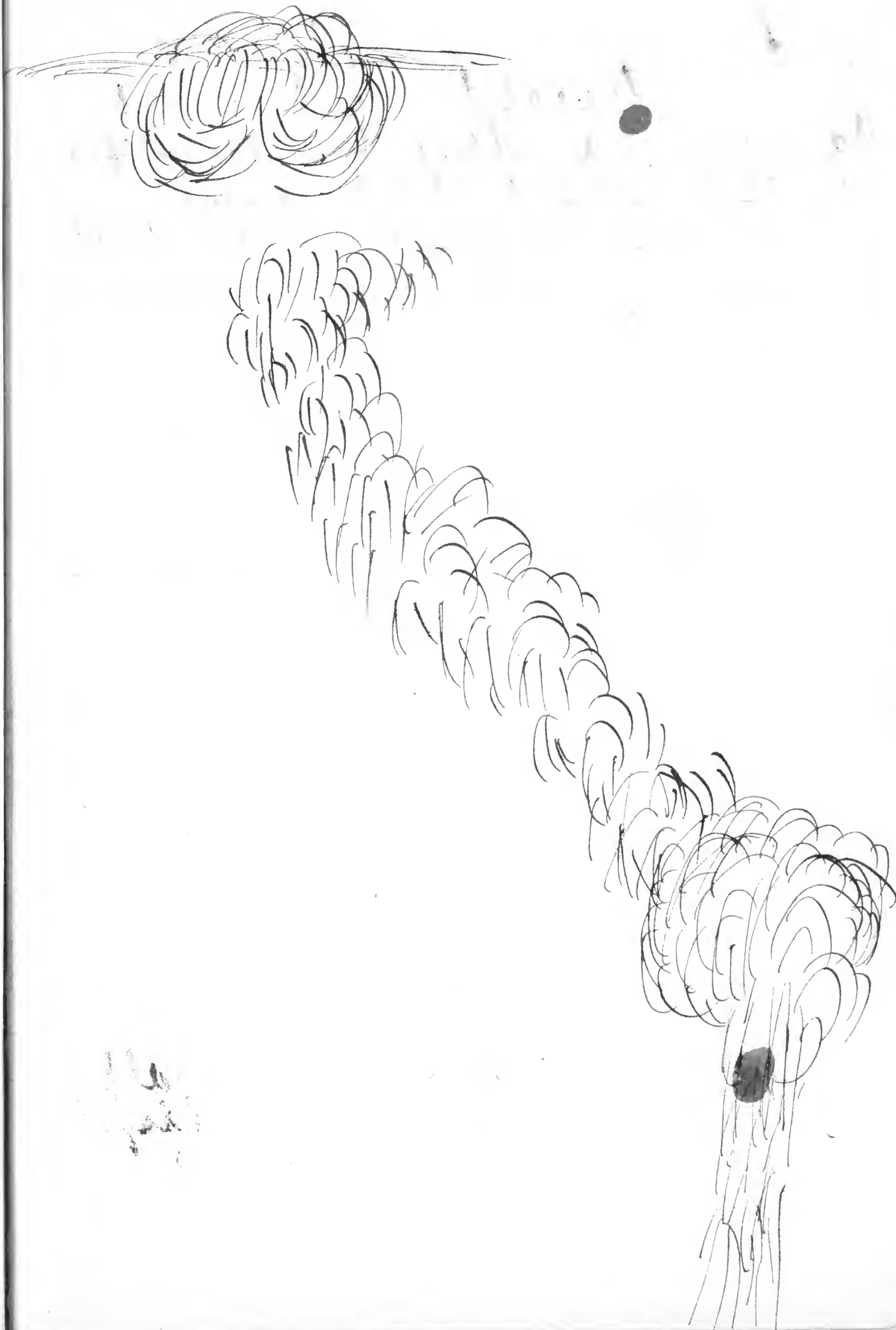


reached a height of about 6 miles, was determined by a sextant. At that height it began to spread out slowly into a cirrus cloud gradually becoming fainter and fainter as the morning went by.

Since the air currents were at greater velocity near the water and of different directions at various heights, the bomb cloud did drift as a vertical column. The lower part drifted westward, leaving the cirrus cloud more or less suspended in the sky over the lagoon while the lower parts drifted from under it. The very lowest part hanging together as a unit down where the cumulus clouds go sailing by out here, perhaps $\frac{1}{2}$ to a mile high.

About an hour after the blast there was a small rain squall that obscured the lower clouds and when it had passed we could no longer see the lower bomb-cloud.

The cirrus or upper cloud finally spread out into a thin wispy cloud and was lost to sight.



The damage to vegetation was not noticeable but some damage was done to the ships on the target area and ships were on fire. There were a few sunk and some were damaged.

Bikini

July 2. Was on Bowditch all day and Herald and I wrapped 7 tanks of fishes for shipment. We have several days work to do before collecting further specimens.

To morrow we plan to scout for fishes that might have been killed by the A bomb radiation.

Wrote a letter to Dorothy .06

July 3.

Got off at 8:30 AM, picked up a Dr. Gupill with Geiger counter on Haven, then progressed on Sound Boat #1 around ~~the~~ Bikini lagoon looking for any fish that may have been killed by the blast on July 1, sufficient time now having elapsed for them to float to the surface. No dead fish were found. In fact the Bird Life from

from Bikini Is. all the way to
the ~~so~~ west end seemed to
be normal and such birds
as the two kinds of Noddy
terns were busy fishing, along
with fairy terns, sooty terns,
and I saw some frigate birds
too. There were no dead birds
or fish on the beaches.

I also went through the target
area and hit a "hot spot" of
radio activity for a few minutes.
The bomb did not do as much
damage as it was expected to
do.

Upon arrival back at the ship
I looked over some films of the
target area taken 6 hours after
the blast. There were no
dead fish.

None of the men with gages counted
saw fish dead at any time
after the bomb blast.

Received letters - 3 from Dorothy .18
1 " Merna .06

Received letter from

Arch Schultz
Quarrie Corp.

sent two messages by Radio about Dad
~~July 4~~ having appendicitis
as told in Arch's letter.

July 4.

Spent whole AM and until 2 PM
on a press conference with
other scientists from the
Bowditch.

Wrote letter to Dad	.06
" " " Dorothy	.06
" " " C.L. Hubbs	.06

July 5.

Wrapped and packed fishes
for shipment to the National
Museum with Herald so that
he could get better acquainted
with the fauna out there.

Received letters from Bowditch 12
Jimmy
Dr. Wetmore
Dr. Burroughs
Dr. Miller

July 6.

Had short conference with Comdr. Barnes.

1. on stopping off at Johnson Is. for 2 or 3 days to collect fishes.
2. Suggesting a trip to the Southern Marshalls instead of going to Rongelap.
3. Arrange for working a low tidal series at Guam if possible.
4. Work 2 stations at Bikini to be able to give a positive statement for period after Able Day.
5. Work minimum of 10 stations after Baker Day if practicable.
6. Not necessary to revisit Eniwetok or Prongerik unless the radio-

active material arrives on those atolls which is not to be expected.

Comdr. Barnes was very much interested and was sincere in his statements that he would recommend my plans to Comdr. Revell. Of course Guam may be out of the question.

I plan on stopping off at Johnson Island.

July 7.

Finished packing and sealing 3 kegs of fishes for shipment back to the National Museum. This took most of yesterday and until 10:30 AM today.

Spent rest of day working up a report to Dr. Wetmore

V. Brock returned to the Bowditch today.

July 8. Herald went down to Western Passages to run marine light but I stayed on the Bar ditch working on a final report for the work to July, before leaving, perhaps the end of this week.

Worked up 3 tables and an outline of work for Herald to be carried out after Baker Day.

Sent letters to Dr. Wetmore	.06
Dr. Miller	.06
Dorothea	.06
Jimmy	.06

July 9

Spent entire day working up data for a report on work up ~~at~~ my leaving very soon.

Received letters - 3 from Dorothea	.24
1 " Marnie	.06
1 " Jimmy	
1 " Lebes	
1 " Sterns	
1 " Arch	

Herald came back from trip to Western end of lagoon but caught only a few fish with the slight at night in Bobo Channel

July 10

Continued to work up report and description of habitats
Labeled 2 boxes ^{of keys} for shipment
books to the National Museum.

Am awaiting word of airlift
back to Washington.

July 11.

Continued to work up notes on my reef collecting.

Wrote letters to - Dr. Burroughs .06
Dr. Francis .06
Mr. Perkins .06
Mr. Drant .06
L.W. Smith .06
Dr. Coulson .06
Dorothea .06

Packed my trunk and prepared some large envelopes for sending back correspondence to the Museum & me.

Cris Arcollo, one of the fishermen returned to Calif. to day.

Received a letter from Dorothea .06

July 12.

Wrote up habitat notes and poisoning techniques to day.

Comdr. Revell gave me permission to stop at Johnson Island and weather permitting expect to take off to day.

Yesterday and to day have been very stormy - to night at dusk we had a severe storm, wind, downpour, and some lightning.

Received from Lt. Comdr. Barnes all of the films that he had on board and ~~is~~ taking them back to the National Museum.

July 13.

Orders came through for me to leave Bikini at 1400 today and I expect to take off soon after lunch. The day is sun shiny. I am happy to be on my way home again.

Took plane from Bikini to Kwajalein - leaving at 1430 and arriving at 16:30. Upon arrival, amidst a big rain squall, finally got transportation to the air terminal on the island of Kwajalein and took off for Johnson Island at 9:30 P.M.

The plane to Kwajalein was a rough one without seats and upon landing in the lagoon jounced us around. We just sat on whatever we could.

Some of the Bikini newsmen were along and they one recognized me from a previous conference so I got boat transportation with the group to the air terminal on the island. Really it was a mess.

July 13.

After a long night on the plane, sitting in a bucket seat we arrived over Johnson Island at 8:30 after 8 hr. 20 minutes of ride.

Ate breakfast there at 9:20. Took off arriving at Honolulu at 1:25 PM local time.

It took an hour to go thru customs and I claim scheduled to leave at 6:30 to night.

lunch at noon	.80
magazines	.50
dinner	1.25
Billenting at night.	.25

July 14.

Magazines	.20
breakfast	.50

Read and wrote Jimmy a letter. .08

Waited all forenoon for word of our departure.

We left Hickman Air field at 1200 and after about an hour out one of the motors failed so our plane # 5540 turned back and we arrived at 3 PM. The pilot flew us around the Island before landing so that his gas load would be lighter.

We are scheduled to start again

Lt. James H. Meckes jr.
White Haven, Pa.

Lunch .80

at 1630. The above Lt. and I have been together the last day or so while traveling and we may be able to exchange some photographs.

We left on airplane 5625, after transferring from 5540 which had to turn back, at 1700.

July 15

after a long ride from Hickman field to Fairfield, California we arrived at 8:30 AM, traveling time 8 hours 21 minutes.

We passed through the various inspections and then when I went for my baggage found that it along with 12 others had been left at Hickman Field.

Berkeley Calif.

after trying in vain to find it
The Crossroads liason officer
radioed Hickhams field to
have the baggage on plane
5540 sent on.

That left me in quite a
fix - my clothes were all
dirty - I was too.

Breakfast .60
I decided to see Dorothea's
mother - took the bus to
Fairfield .15
Fairfield to Berkeley .69

Taxi to 1715 Portland Ave .75

Called Dorothea 6.75

In the evening, after I had
washed my clothes and
borrowed a shirt from
Marvin, we had a picnic
lunch with Aunt Mable
and Uncle Clarence.
They are building a new
house.

I am so tired that my
head has a peculiar buzz

all the time.

July 16
I slept until nearly 9 AM but
feel ever so much better
today.

Called ATC at Fairfield to
see if trunk was there .70

Took Dorothea's mother to
lunch 1.64

Trimmed her hedge in P.M.

Elwell came in evening and
I stayed all night & to
night with him.

Haircut 1.00

July 17.
Train fare to S.F. .20
Rode down with a friend of
Elwell to his telephone
bdg. ate breakfast, then
went out to visit
Dr. Chapman at the

Street car fare to Acad. .10

Academy of Sciences.
Stayed all day there,
visiting with Thim and
meeting several men at
the academy.

Dr.

In the evening went home
with Chapman for dinner,
met Maize and their 4
children Louis, Allen, Jane
and John.

Benny Schaffer and Vi were
at dinner too.

Called ATC about my lost
trunks and they had found
it - S.F. to Fairfield .50

Called Marvin B. to see if he
would go after it with me to
morrow - Palo Alto to Berk. .40

In the evening at Chapman's
Harlan Cheyenne and George
Myers came over and we
visited.

July 18.

Left Chapman's at Palo
Alto with him and came into
San Francisco, took the train
over to Berkeley (train F)
going to end of line then
walking to Mrs. Face's
house.

In P.M. Marvin, Mom and I
went to Fairfield airport
after my luggage which
had been lost all week.

Got it ok Transfer	1.00
Bananas	.60
Fruit	.50

Phoned Dowthera at 6 P.M. 6.25

Opened my trunks and got clean
clothes.

verified my reservation on
the NAT plane to
morrow at 4 P.M. but
must check in at 2 P.M.

July 19.

Dorothea's mother and I left
the house at 9:30 AM for
~~the~~ meeting Marwin at 12 noon
so he could take us to the
NAT Terminal

Bus fare	.10
Train fare	.10
Taxi to Broadway & 7th	1.00
Lunch	1.13

Marwin took us rest of way.
He was working near by so
we had to meet him at Broadway
& 7th, arriving at airport
at 12:30
checked in at 2 P.M.

The plane left the airfield at
4 P.M.

about ~~two~~ ^{two} hours out we ran into
rainy weather, so dense we could
not see the ground below.
It was not rough however.

We are now 3 hours out. There
is a storm a head and to
the right, lightning all
around flashing, the sun
is just setting. There is a
a small rain cloud and
the sun is shining through
the small ~~cloud~~ film of
rain, rosy as can be.

The clouds are billowing and
black ~~to the~~ on the starboard
side, also on the port side
a head. I presume it will
be rough as we pass through.
The ground is obscured by
thick clouds.

now we go up - up - up -
now down - down, now
we bump and I have trouble

writing.

All is fog and cloud. The plane is flying higher now above some of it.

Even the propeller - which is obscured and tips of wings it is so thick

time now is 10:08 east. Std. time.

Ahead it is blacker, and blacker, the lightning flashes closer, and stronger, most of the storm is on the starboard side and ahead.

Raining hard now -

we passed through two more thunder storms before midnight.

July 20.

At 1:20 AM EST we passed through another storm for a half hour.

About 2 I went to sleep waking at 6:30 AM. The day is cloudy below and above - probably over the eastern mountains of Ohio.

arrived at the Washington Air terminal at 10 AM.

Ticket to D. C. .75

Taxi from D. C. to District line 1.00



In Conference June 11, Comdr. Revelle
stated that reports were to begin
as follows

1st Report 5 days after A bomb Test
2nd " 25 " " A " "

3rd report April 1, 1947 - these
reports mostly military and of
preliminary nature.

Following schedule given June 11.

June 23 rehearsal

able day - July 1 to 20

3 or 4 weeks between tests

Baker day - July 20 to Aug 20 but
not later.

Earliest re-entry to lagoon

able day + 1 day

Baker " 2 day to 2 weeks.

Denominations #

50	D7,112469	Cashed Feb. 25th.
50	D7,112470	" April 27th
50	D7,112471	
50	D7,112472	
100	R6001118	
100	R6001119	
100	R6001120	
20	B23990489	Cashed March 23rd
20	B23990490	" " 27"
20	B23990491	" " 27"
20	B23990492	" June 3rd
20	B23990493	" " 3rd
20	B23990494	" July 2nd
20	B23990495	" " 2nd
20	B23990496	" " 16th.
20	B23990497	" " 20th.
20	B23990498	" " 20"
20	B23990499	
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20	B23992903	
20	B23992904	
20	B23992905	
20	B23992906	
20	B23992907	
20	B23992908	

Scientific Personnel

Calif.	Antonovich, M. A.	(mike)	fishermans
	Arcoleo, Chris		"
	Austin, T. S.		WHOI
	Barnes, C. A.	Dr. Proj. officer Lt. Comdr.	U.S.C.G.R.
	Brooks, V. E.	Chief of Fisheries	T. Hornum Wildlife
	Emery, K. O.	Dr. (Geologist)	Univ. S. Cal.
	Ford, W. D.	Dr.	WHOI
	Johnson, M. W.	Dr.	Scriffs I. O.
Left in March	Ladd, H. S.	Dr. (Geologist)	S. Geological S.
	Marr, J. C.		U.S. Wildlife S
	Morrison, J. P. E.	Dr.	U. S. Nat Mus
	Munk, Walter S.		Scriffs I. O.
	Riley, G. A.	Dr. Proj. officer	W.H.O.I.
	Sargent, M. C.	Dr. Lt. Comdr.	U.S.N.R.
	Schultz, L. P.	Dr.	U.S. Nat. Mus
	Taylor, W. R.	Dr.	U. Michn
	Tracey, J. I.	Chief Project officer	U.S. Geog. Surv.
	Traylor, M. K.	Capt.	U.S. M.C.R.
	Turner, H. J.		WHOI
	Von der W.		WHOI
	Wilson, W. K. (Bill)		Fisherman
	Baldwin, D. A.	Engineer	Navy Elec. Lab.
Left March	Dunn, W. E.		Fisherman T.H.
	Iselin, C. O. D.	Director	W.H.O.I.
	Kohler, T. F.		Fisherman T.H.

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JANUARY

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JUNE

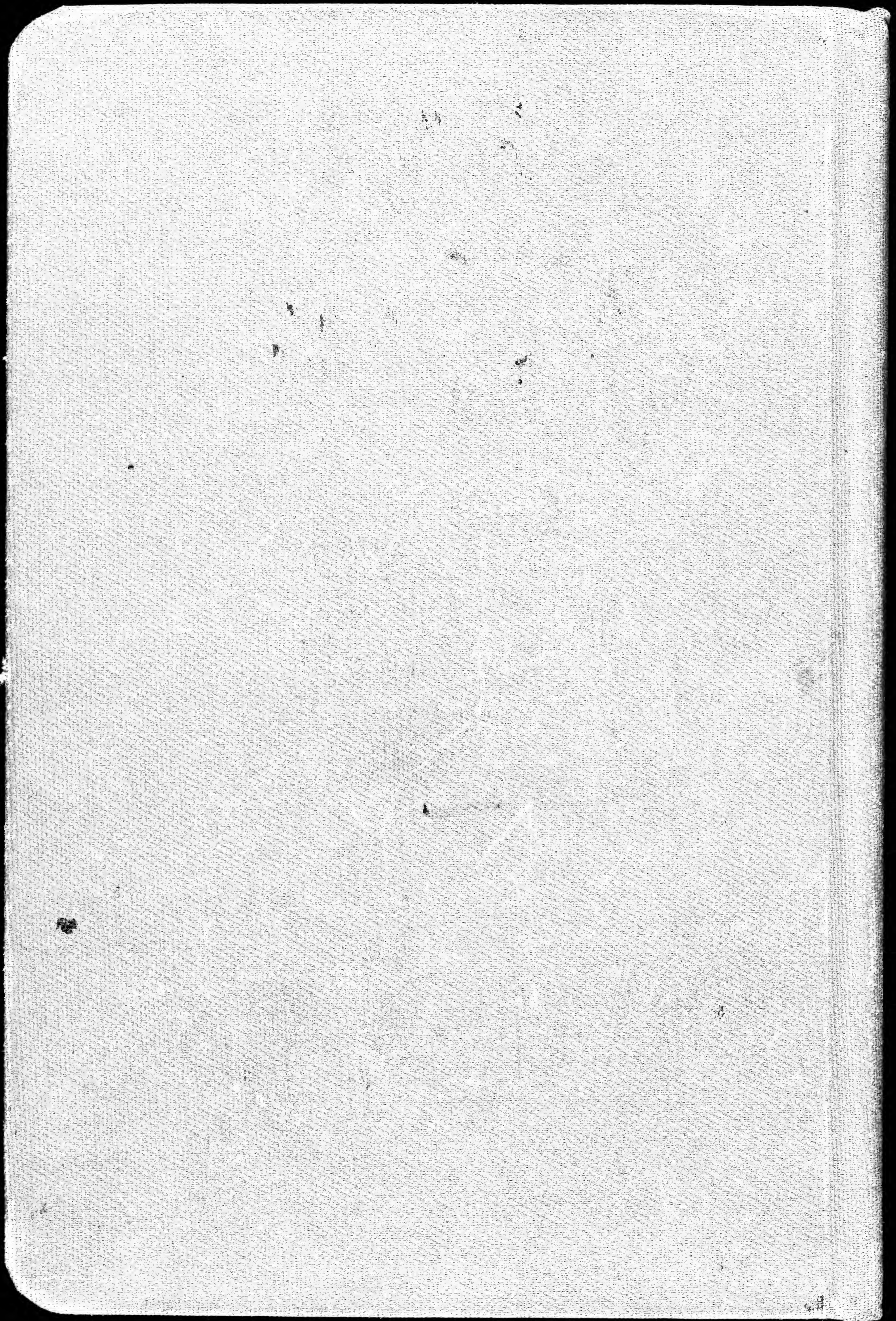
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DECEMBER

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come back
home
Cabin

go to cabin



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