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SEATTLE, WASHINGTON

411107

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Locality US Rehoboth - Parry Date 6 May 1958  
Personnel Lowman, Weeks, Weather Fair  
Palumbo Water conditions Swell

Location APFL

Radiation level(s) Slight Temporary increase in total gamma  
Folder 1958, 2/12/58-7/3/58

Operations:

"Standing to" under way for orders to  
re commence stations - Did some rearranging  
of boxes in preparation for P Weeks + R Pac to  
go ashore for land collections while FG Lowman  
stays aboard for "relations cementing"  
operation and ironing out wrinkles in techniques  
of sample preparation.

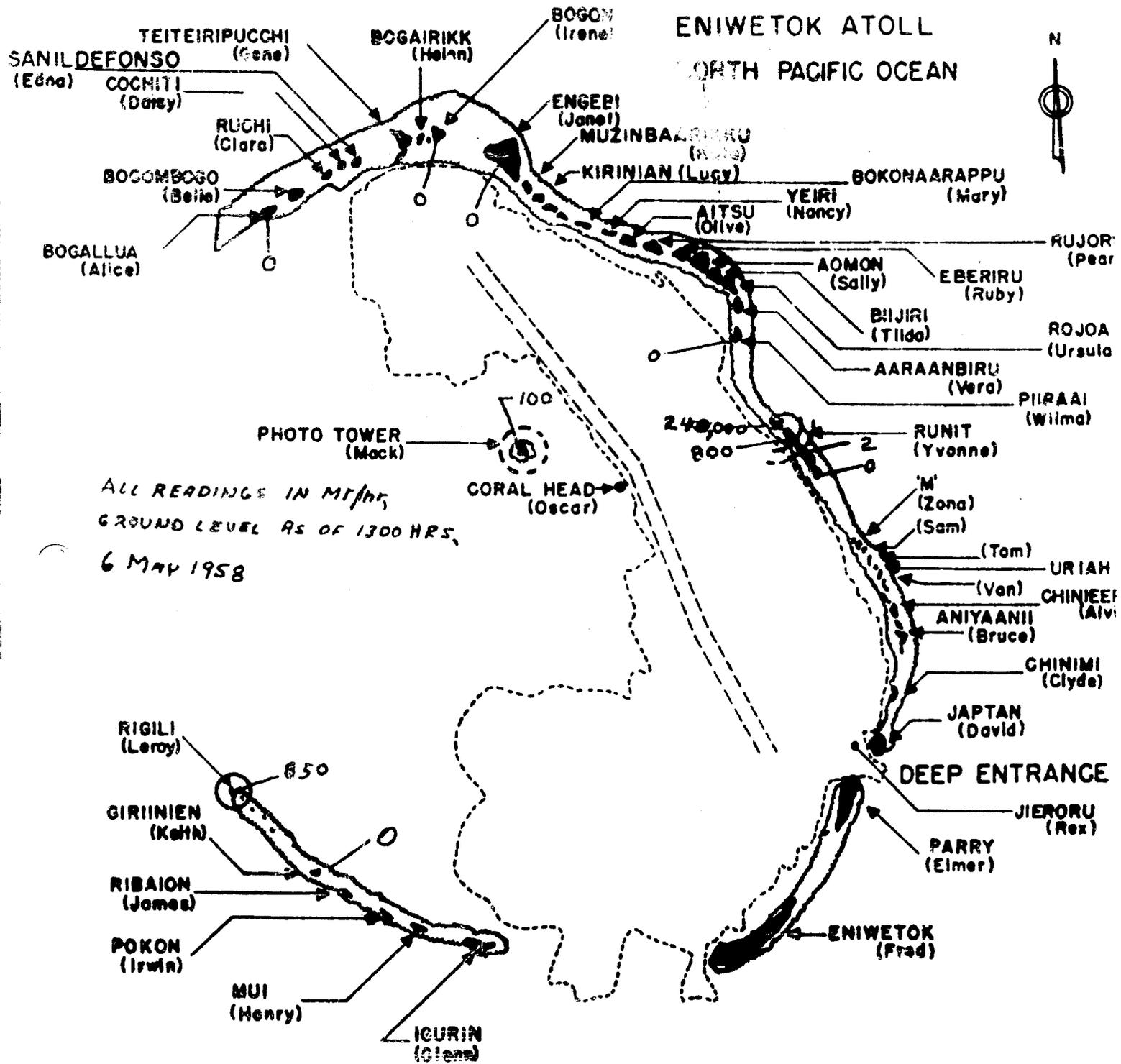
Broke out air compressor - + tested - slow way  
of getting air - but will dowell aboard ship - The  
facilities at EMBL are wonderful and and we  
can get air to 1800 PSI in a hurry -

Palumbo and Weeks boarded tug at 12:40 to report  
for Parry Island. Started P-S plankton tow at 12:20 with  
understanding with Capt. Hackett that the ship would remain  
down in the water. The tugboat did not approach  
Rehoboth on lee side until 12:25. The Rehoboth was  
forced to move ahead to avoid damage from the  
rough seas. At 12:30, with a speed of 10 knots the line  
on the plankton tow passed and we were able to get it in to  
about 1000 ft. The line was then hauled in and  
25 lb lead was thrown overboard. Snapped cable. Machine shop  
is to fix this tomorrow.

P-S tow was in use today using 100 lb weight, 100 ft cable.  
at 16:18, started in at 16:30. Wind was at 16:33. 10 ft plankton  
saw - temp 52.2°, surface temp 50.0°, 63°, thermocline at 180' 33

# ENIWETOK ATOLL

NORTH PACIFIC OCEAN



ALL READINGS IN METERS  
 GROUND LEVEL AS OF 1300 HRS,  
 6 MAY 1958

----- LIMITED RADEX  
 \_\_\_\_\_ FULL RADEX

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Locality Parry Date 7 May 1958  
Personnel Nelander - Weeks. Weather Warm  
Palumbo Water conditions Smooth  
Duckworth - Severance

Radiation level(s) None taken in Lab. Enclosed sheet  
for levels around this atoll.  
Operations:

Laid on Trip to Henry for 8 May 1230 PM.

Visited Rad safe to obtain readings around  
the atoll. Sheet is enclosed. Started working  
up water samples from the Rehoboth survey -  
Having trouble w/ MF because of quantity of  
particulate matter in the original sample.

Completed drying and weighing plankton samples, and  
MF paper from same obtained Rehoboth.

Obtained photos of <sup>all</sup> complete atoll islands Rongelap.  
Will mail to Dr. E. Held - Made arrangements  
for shipping water samples to NYU - As usual  
the question of who is to be charged for the  
shipping was a problem - Made it emphatic that  
Prog 40 does not get charged - Also made arrange-  
ments for plywood to replace that used aboard  
the Rehoboth for Lab benches etc. Worked on

1957 Eniwetok Fish report - Went diving at 1730  
in south channel - 50-60 ft - RP. DW. AW - Don'tras  
got the bug now & collected finger shells, fungia, and  
coral. Used air force rubber boat loaned by Capt.

Cooper who has gone suit with us before. Received  
correction sheets for UW 56 w/ thanks to all.

ant

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709

Locality Rehoboth Date 7 May 58  
Personnel L. W. Moore Weather 100%  
Water conditions medium rough

Radiation level(s) 3 m/hr

Operations:

Sorted with samples from May 6. Taking P decay, I species, and J decay. All plankton samples very similar in decay. I species and J decay. Doing J decay on water. P-6 sample examined and found particles, minimum diameter found. Follow particles across to surface.

P-5 14:27 plankton net in water; 14:32 700' cable out; started taking at 15:00; out of water 15:03. Surface temp 82.0°, 600' depth at net, temp 59.2°; thermocline 360'. 18 cc plankton. Hot.

P-9 16:37 net in water; 16:41 700' cable out; started taking at 17:13. Out of water at 17:15. Surface temp 82.4°; 620' depth at net; temp 62°. Thermocline at 320'. 25 cc plankton.

Trawl no 4. In water 22:40. 54 fathoms cable out; 23:00 at 20 feet depth. No fish. Medium size plankton (1/2 mm - 200 m) taken. Net fishing at 22:45, out of water at 23:15. Took a 10 cc plankton. Same I species as plankton taken at 1/2 M. net.

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Locality Rehoboth Date 8 May 58  
Personnel Lawmen Weather Fair  
Water conditions medium rough.

Radiation level(s) \_\_\_\_\_

Operations:

Randolph (ship's photographer) caught 16 lb dolphin. Took liver, muscle, and gills. Dried samples during day. About ren everyone out of the lab with the odor. Ren decay curves on subsamples of P-6 and P-7 plankton samples, also on ~~P-8~~ P-8 and P-9 samples. Decay rate =  $T^{-1.03}$ . Started  $\tau$  decays on water samples from P-6, P-7, P-8, & P-9. Ren  $\tau$  spectra on plankton,  $0.45\mu$  plankton, and water samples from above samples. Ren  $\tau$  spectra on drogue flzq - different from plankton. Running decay on drogue flzq.

P-10 in water at 18:45; 700' out at 18:49. Started recovery at 19:50. Surfaced at 19:52. Surface temperature 81.7°. Net went to 600' temp 56°. Thermocline starts at 340'. Took 34 cc plankton. Fractionated into 3 fractions as previously. Ren counts and  $\tau$  curves.

Long day today.

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Locality Parry - Henry Date 8 May 1958  
Personnel Welandor Weeks Palumbo Weather Warm + Clear  
Duckworth - Severance Water conditions Smooth

Radiation level(s) at Henry - no detectable readings w/ Mx. 5 meter

Operations:

Continued water treatment - Ralph Severance is pitching in on this project to help us. Lt Duckworth is writing reports. Worked on fish paper - Obtained plywood from J-4 and took (6) 5 gal tins of ocean water to J4 Capt Thomas for air shipment to Dr Harley, NYO. Charge is still questionable, but it will not be Prog 40 - esp<sup>o</sup> since we have no funds any way! Prepared for trip to Henry + squared up the junk around the lab. This place can get awful messy in a few hours -

Left 1230 for Henry by H 21 (Pisachi?) - Helicopter. Collected some fish, invertebrates, plants, soil, algae to get an idea of radioactivity - pre-shot. - in this area. We expect possible contamination from 2 under water shots.

We would like word from Held and Barham concerning tissues to be sampled, or dissected & the animals preferred, both from Henry as well as from Bell. We were able to get a Coconut crabs, Conchita & Sea Cucumbers on this trip as well as 3 clams from outer reef. Aw Pickup at 1730. Coconut crab bit Don's thumb enroute to Elmer.!

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Locality ELMER Date 9 May 1958  
Personnel Welandor, Weeks, Palumbo Weather Warm + Fair  
+ 4 NMRL personnel Water conditions Rough  
See below for two new arrivals.

Radiation level(s) \_\_\_\_\_

Operations:

Day spent processing samples from Henry and packaging plants - soils from Janet. We do not have instructions as to treatment of invertebrate samples and so are taking bulk samples wet weights of the tissues or organs taken in other series. Samples will be dried and shipped to LRB, Seattle for dryweights + plating. Since we still have no idea as to numbers for plates, we cannot assign some. This holds for all samples, and will hold for the Belle collectors laid on for tomorrow 10 May. Unless we hear from you soon, we will have to continue in this manner and you will have to assign numbers to these samples.

The water treatment of the Rehabeth samples is still under way - we probably won't begin to finish these samples before we are due to return to the rolling house boat. Visitors today included Henry Seblack and Lt. Cmdr. W. Chapman and Cmdr. W. Chambers from NMRL. They will also board the Rehabeth. Tried aqua lunging today, but the life boat was left on the beach unattended and got away. Tried to recover by swimming, but short legs not powerful nor enough in condition to catch it. Boat was recovered by M. boat upon request at 6:30 pm - one hour after take off.

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Locality Rehoboth Date 9 May 58  
Personnel Lowman Weather Fair  
Water conditions medium rough

Radiation level(s)

Operations:

Ran decay curves and spectra on all post cactus shots, P-11 in water at 12:25; 700' line out at 12:30; started recovery at 13:11; surfaced at 13:13. Net was torn at recovery so discarded and rigged a new net. Approximately 10cc of plankton. Surface temp.  $81.6^{\circ}$ , net went to 610' depth-temp.  $63^{\circ}$ . Thermocline started at 410'. Fractionated the plankton and counted fractions - made spectra and started decay curves.

Ashed extra P-6 sample (plankton) with a welding torch and dissolved in HCl. Gamma spectrum essentially same as total sample (unashed) but peaks were cleaner. Prepared Dowex-50 resin and ran sample thru. Borrowed oxalic acid from ship's doctor for oxalate fraction. Got 3 fractions ① anions ② oxalate and ③ cations - separated from column with conc. HCl. Fractions too hot for spectrometer so divided each in two. Very clean separations but some of the cations remained on the resin. Ran spectra on fractions (2MEV & 1.5MEV) and found peaks that are not fission product peaks.

Reran decay curves on post cactus shots.

Am glad I stayed aboard ship - this date is the gray we've been looking for. Gibson (from Navy Hydro) who is helping our group and wants to learn about radioactive contamination was very helpful. Finished in early morning.

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Locality Rehoboth Date 10 May 58  
Personnel Lewman Weather Fair  
Water conditions medium-rough

Radiation level(s)

Operations:

Ran decay curves and  $\gamma$  spectra on post-census samples (plankton & water).

Ran  $\gamma$  spectra on ion-exchange fractions with frequent calibrations with  $Co^{60}$  and  $Ni^{22}$ .

P-12 (new net) in water at 1300; 700' cable out at 13:05. Started recovery 15:00; surfaced at 15:05. 37 cu plankton - practically no radiation in sample. Surface temp.  $81.6^{\circ}$ ; depth of net 630', temp.  $63^{\circ}$ . Thermocline started at 340.

Randolph caught a dolphin 15 1/2 lbs. Took liver and muscle. Good stretch with drying operations.

Ship's machine shop brought us three new plankton buckets. Crude looking but very useful.

Reran decay curves and selected samples for  $\gamma$  curves.

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76P.8.

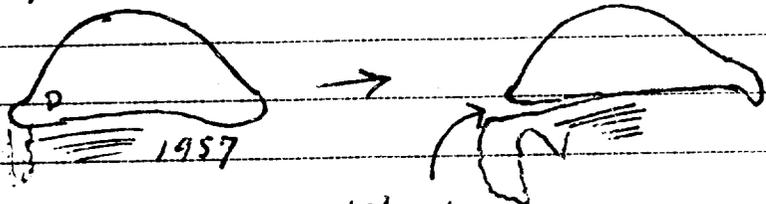
Locality ELMER. Belle Date 10 MAY 1958  
Personnel Welanders, Weeks. Weather overcast 87.5°  
Palumbo + 4NMRL Water conditions Rough

Radiation level(s) at Belle w/ CO-V-700 at 3ft = 0.3-0.7 mr/hr

Operations:

MORNING chores included weighing, packaging, water treatment and preparation for Belle collection. Most of the Henry samples are now packaged & will be sent off Monday if possible for Seattle; directions for processing will be included or sent separately.

Took off at 12:35 in H-21 w/ Weeks, Welanders, Palumbo and Severance aboard. Arrived Belle 12:55. The major change in the contour of the ~~at~~ island is as follows.



Island  
Partly washed out near area D

The mangrove planted in 1954 is doing very well - it is 36" tall, with several branches w/ green healthy leaves - and contains a bundle of prop roots. The other plant is dead. Collected *Scaevola*, *Moss* and *Portulaca*; Plants #1208 and 1211 have disappeared completely. Stakes found lying on ground rotted at base. Covered two clumps of *Scaevola* w/ PE in area C on beach fringe. Collected 4 *Cerastium* in old shell hole - it was loaded w/ them. Took random soil sample in Area C. D and profile in Area D. Plants in Area D are 6.5" (tallest) and #1319 is healthy + 36" tall.

WJ  
46

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Locality

Date

10/11/54 Continued

Personnel

Weather

Water conditions

Radiation level(s)

Operations:

Collected fish in area F to F1, the poison drifting into the pool. Took many goatfish, Candidia Cygnus along with other varieties. Saw many sharks around Belle, one about 6' long in pool with us may have been Carcharhinus menisera. Needless to say none of us ventured far out from shore.

Invertebrates were ~~to~~ not in great abundance. Collected 2 small clams, spider snail, and ~~about~~ few small conch. Area as far as coral is concerned does not seem much improved over last year.

Algae collected in poison area and in area to the east between Clara and Belle. Saw lots of Codium, Spiridia, Turbinaria, but little Halimeda, Conorpa, or Lingbya.

All planes were cancelled because of an impending storm, an Oriskany was sent from Albie to pick us up - it got hung up on beach. Land area G-1 and it took us all over an hour to get it off. Boarded it and pulled up by LCU - Oriskany and all. Left Belle at 1730 aboard LCU at 1745 and 12 to Elmer at 2120. Stowed away all samples before returning to the barracks.

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Locality Rehoboth - Perry Date May 11 '58  
Personnel Louisen Weather fair  
Water conditions medium rough

Radiation level(s) \_\_\_\_\_

Operations:

Run  $\gamma$  spectra and decay curves. Dried ion-exchange fractions down for later work. Packaged samples.  
Arrived ~~at~~ Perry Island at 12:30<sup>(noon)</sup>. Went to bed and slept until 6:30 in the evening. Went to lab and prepared additional supplies for post Wahoo. Went to bed 10:00 PM.

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Locality ELMER Date 11 May 1958  
Personnel Welander, Weeks, Palumbo Weather Rain - Sun  
Lewman Water conditions Rough

Radiation level(s)

Operations:

Processed samples from Belle and completed packaging Henry samples. Frank Lewman arrived from the Rehoboth about 12:30 - pale and tired. Reported picking up fallout in plankton and water samples. Continued processing samples after bull-session and lunch - Don is becoming familiar with our methods and is really helping out in the dissections and processing and is also doing Yeoman work on the collecting trips. After dinner down to the lab to pick up chemicals etc for shipboard work. A really long day - it will be nice to get back to the easy going shipboard duty - Amen <sup>D.W.</sup>  
These boys apparently get tired from sea sickness, not - a

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Locality Perry Island - Rehoboth Date May 12 '58  
Personnel Weeks, Welander, Colombo, Weather Fair  
Lowman Water conditions Medium rough.

Radiation level(s) Butternut, Fir

Operations:

Got up at 5:30 AM.

Went to Rehoboth (Colombo & Lowman) at 08:15 to work on past census material. Re-cloning P-6 emions and carriers. Returned 12:30.

Welander and Weeks packaged samples from Belle Island.

Picked up motor & pump for large 5 tank. Other motor started out. Picked up canvas booties and wax paper for shipboard use.

Had meeting in afternoon with Comdr. Hacker; the hydro people; Duckworth, Chambers and Chapman. Outlined procedures & departure date for Wahoo.

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24/11/58

Locality Elmer - Rehoboth Date 12 May 1958  
Personnel Welander - Weeks Weather Fair  
Lawman - Palumbo Water conditions Normal

Radiation level(s) \_\_\_\_\_

Operations:

Packaged part of Belle collection.  
Lawman - Palumbo later to Rehoboth  
to prepare solutions for chemistry.  
Returned at 1230 to Parry Island.  
Had meeting w/ Hydra + Capt Hackett  
see Rehoboth log for details -  
obtained pump for shipboard duty,  
Assembled all samples in box for  
shipment (counts omitted - will send  
later -)  
Bought 9 lures for \$4.83 -  
Welander - for Rehoboth fishing.

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21  
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D

Locality Elmer Date May 13, 1958  
Personnel Palumbo, Weeks, Lowman Weather Stormy in morning fair afternoon  
Welande Water conditions Rough Temp. 86°

Radiation level(s) ?

Operations:  
Koa today at 6:30. Frank + Ralph went on board Rehebeth to run Resin columns of Carter Plankton. Weeks + Welande cleaned up lab sent off packages of samples to Seattle and package of Rangely photos for Held.

Samples as follows:  
From Henry Island. Collected May 8<sup>th</sup> 1958  
Fish: 5 specimens numbers 1 to 15.  
Invertebrates: #1-6 (Ctenobites) Specimens #7-11 (Tridacna Crocea)  
Spec. #12-14 (Holotheura atra).  
Land Plants - 3 colonies (fins + red), Pandanus, + Scaevola

Algae: Lagoon algae - 6 packages

Collection believed important as area will be contaminated by 2 under-water bursts.

Belle Collection May 10, 1958

Fish: Specimen numbers 16 to 133.  
Invertebrates: Ctenobites #15 to 18, Tridacna very small #19  
Land plants - Scaevola, Messerschmidia, Portulaca from Hensch

Algae - 4 packages

In the case of the fish these can be stored as is for the present or, if help is available, routine ashing & re-packaging (rather messy) will be a great help.

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Locality \_\_\_\_\_ Date May 13, Continued  
Personnel \_\_\_\_\_ Weather \_\_\_\_\_  
\_\_\_\_\_ Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

Worked on patching the several rubber boats at the lab. found it to be a difficult, complicated process & still not sure of success. The patching material as well as the boats are rather old. If ~~of~~ patching of any kind (Pressure or clamp patches) are available in Seattle we could use some.

Directions for plant-algae samples.

- 1) Dry ash one half of sample - save remainder for wet ash.
- 2) Place portions of ash on plate numbered according to series following Rongelap numbers.
3. weigh, ashed plate etc.
4. Calculate back to wet weight (RP will do later)

Notes: For small samples dry ash entire sample - for Henry samples Ed. may want wet ashed portion.

Directions for Soils

1. Mix sample + place 100mg dry soil on plate.
2. Dry ash plates 15 hrs etc.
3. Count
4. Take ash weights (?)

R P  
aw

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2115  
780

Locality Perry - Rehoboth Date May 13 '58  
Personnel Weeks, Palumbo, Welander Weather Fair  
Loumen Water conditions Medium Rough

Radiation level(s) \_\_\_\_\_

Operations:  
Palumbo & Loumen to Rehoboth at 0815. Weeks & Welander  
helped load replacement 50 gal/min pump aboard M-125.  
Also took wax paper to cover wooden decking on ship  
Following Wahoo. Cleaned labs and rearranged equipment and  
supplies. Ran decay curves and heights. Ran standards in spectrometer.

ES

100 E

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Locality Perry Island Date May 14 1958  
Personnel Wielander, Weeks, Columbus, Weather Fair  
Lowman Water conditions good

Radiation level(s)

Operations:

Arrived aboard ship at 0930 and found a general contamination level of 5-10 mR. Mostly air fallout and was searched throughout the ship. At 10:14 in AM total  $\gamma$  bkgrd on specimens was 215,000 c/m. at 10:21 218,000 c/m. at 10:50 445,000 c/m.  $\gamma$  bkgrd on #2 rats 76 c/m. at 07:38; 901 at 08:02; 855 at 08:15; 90 at 1300. Placed 25 lb. lead sack over specimens at 10:52 and at  $\gamma$  bkgrd to 44,500. Ran total  $\gamma$  counts on gummy hamburger, cheese, and macaroni that had been contaminated from ~~water~~ water dripping down from washdown system. All above preferred risk for 10 day consumption. 60 lbs of hamburger deep fried as well as cheese & macaroni. Total  $\gamma$  at 4:40 PM 61,300 c/m. (all counts from now on with lead sack) At 2:15  $\gamma$  bkgrd 82,600. Took air sample thru millipore filter for 1/2 hrs 5,900 c/m.  $\gamma$  bkgrd at this time 639 c/m. Tried to get cleaned up to deck carrying equipment - couldn't clean ourselves so gave up. At about 2:20 the  $\gamma$  counts gave up and the peaks started drifting downward. Weeks & Lowman started trouble shooting. Wielander & Columbus here the labs cleaned up & polyethylene over the fallout labert lab tables. Are we ever farked up!

Just before sailing at 1500 Capt. Hackers was called to beach and ordered by ~~TF~~ <sup>TF 7.3</sup> to fulfill a request by TG 7.1 to get a 5K water sample one hour after shore land. Duckworth's group immediately realized their own programs would be finished since the contamination would surround our instruments. The captain reversed that I talk to Cmdr Brown of TG 7.3 and ask to be

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Locality \_\_\_\_\_ Date May 14 continued

Personnel \_\_\_\_\_ Weather \_\_\_\_\_

\_\_\_\_\_ Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:  
 referred of the aids. This decided and explained that our programs would be canceled out if this aids were followed out. Comdr. Brown stated that he would contact Z.I. and relay our message.

At 2:10:00 the following TWIX was received:  
 From: CTG 7.1 ENI MARSHALL ISLAND  
 To: USS REHOBOTH  
 INFO: TG 7.3 ENI MARSHALL ISLAND

BT  
 (UNCLASSIFIED) TO CDR. HACKETT FOR PROGRAM 40 (LOWMAN) AND PROJECT ONE POINT ONE THREE. INPOSE TO UTILIZE THE USS REHOBOTH TO SECURE WATER SAMPLING FOLLOWING WAHOG EVENT AT APPROXIMATELY H PLUS ONE HOUR. SAMPLE TO BE SURFACE WATER IN A LIVE ROENTGEN FIELD PD UNDERSTOOD SUCH A REQUIREMENT MAY CAUSE INTERFERENCE WITH PROGRAMS FORTY AND ONE POINT THREE. ON OTHER HAND CMM. REHOBOTH CONSIDERED TO BE BEST MEANS OF SECURING WATER SAMPLE PD IN COM. ARRIVE AT A DECISION DESIRE YOU TRANSMIT IMMEDIATELY YOUR REASONS WHY REHOBOTH SHOULD NOT BE UTILIZED FOR THIS PURPOSE. REF THIS MSG 1544-JEE

Comdr. Hackett called a meeting in the wardroom of all three scientific groups plus several ships officers. After an hour of discussion and revisions of reply the following twix was returned.

FROM: USS REHOBOTH TO: CTG 7.1 INFO: CTG 7.3

BT  
 YOUR MSG 1544-JEE X PROGRAM 40.1 DIVIDED INTO TWO SECTIONS CMM ONE TO BE PERFORMED BY UNIVERSITY OF WASHINGTON

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Locality \_\_\_\_\_ Date May 14 cont

Personnel \_\_\_\_\_ Weather \_\_\_\_\_

Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

PERSONNEL AND THE OTHER BY NAVAL MEDICAL RESEARCH INSTITUTE WIRTH  
UNDER DIVISION OF BIOLOGY AND MEDICINE COM AECX OBJECTIVES OF THE  
UCFW GROUP TO DETERMINE INITIAL FATE OF WATERBORNE RADIOACTIVE  
MATERIAL IN SEA WATER COM ITS UPTAKE BY MARINE ORGANISMS AND ITS  
DISTRIBUTION RELATIVE TO TIME IN SEA X NAVMEDRESINST OBJECTIVE TO  
EMPLOY INSTRUMENTATION FOR MONITORING RADIOLOGICAL ENVIRONMENT  
IMMEDIATELY EXTERNAL TO AND IN THE INTERNAL WATER SYSTEMS OF  
THE SHIP X A SECOND OBJECTIVE TO DEFINE THE LIMITS OF THE  
RADIOACTIVE WATER MASS INCLUDING DEPTH MEASUREMENTS IN SPACE  
AND TIME X PARA X AN INITIAL CONTAMINATION OF 5 RENTGENS  
WOULD RENDER BOTH MONITORING AND GAMMA ANALYTICAL  
EQUIPMENT USELESS THEREBY COMPLETELY NULLIFYING THE  
ACCOMPLISHMENT OF ABOVE PROGRAM WHICH HAS BEEN CONSIDERED  
THE SHIP'S PRIMARY MISSION DURING THIS PHASE AS SET FORTH  
IN CTG 71 LTR J3-H-692 DTD 5 FEB 58

Stayed up until 12:30 PM for analysis but none came. Hope  
we did the right thing

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520  
P20

Locality Kellogg Date May 15 1958

Personnel Polunbo Weeks Walcott Weather Fair

Lawman Water conditions smooth

Radiation level(s) 5-8 MR/hr

Operations:

At 8:00 AM in the lab Polunbo checked nets, prepared some more plankton nets for use and set up millipore water filter for water samples. Weeks and Lawman worked on 5 specimens. Is now working better.

2700 g #2 bagged 474, 3#1 205 gm  
total 2 bkg. 68 gm

Prepared for big push tomorrow w/ VAHOO.

In evening Cmd. Hockett responded to our message from 7.3. We have been relieved of collecting the water sample. What a relief.

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Locality Rehoboth Date May 16, 1958  
Personnel Personal, Melander, Lee Weather fair  
Hammer Water conditions smooth

Radiation level(s) 3-5 mr/hr

Operations:

Spectrometer giving trouble. Replaced V 14 and peak shifts diminished. Tried to get probe in operation. 2 hour motor burned up. Spin overboard. Rather than burn out a second motor Don Art and Ralph moved the control box and records to sleeping room and placed probe in a compartment near the hull of the ship. Put plankton net over w/c bucket and washed out about 500 of contamination. Washed out mid water haul net. Washed all glassware and polyethylene lab equipment.

At about 11:00 AM Gordon Jacks and two other red safe men boarded ship. Shot (Wahoo) delayed until 12:30, having trouble w/ target fleet. Asked Jacks who wanted 5 x water sample. NRDL and LASL were the ones Jacks plans to use. Rehoboth to assist Wahoo bubble for Red Safe.

Anchored a 4 miles south of ground zero at about noon. At 12:30 Wahoo detonated. For about one second nothing happened then everything broke loose. Took 30 pictures of the sequence. Our ship really rock & shaking.

Tug 105 Mactoba got in ahead of us and hit an 800m field in just a few yards. Backed down at full speed. We edged into bubble. SW of ground zero at 1.0 miles. In just a few yards the readings with forecasters went from zero to 800 mr/hr. At one time on side of the ship read 1000/hr and the other side 500/hr. Moved west and edged into bubble to 600m/hr. Continued rest of bubble at 10-20 m/hr level. Moved downwind and placed dupes in leading edge of bubble. Took plankton-13

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Locality R. Baker Date May 16 '58 cont.

Personnel \_\_\_\_\_ Weather \_\_\_\_\_

Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

In water at 16:10. 50' line out at 16:11, pulled in to 30' at 16:20.  
out of water at 16:46. Surface temp 81.9°. 22 cc plankton, 147  
ml water. Took very small piece of sample for Bcount. Made several  
separations.

P-14 in water at 19:07, out 19:30. 20-40 feet of ~~depth~~ <sup>depth</sup>. 90  
feet of wire out (no BT on net). Net reading 30 mr/hr at center  
end; 10 mr/hr at each end. Were in 10 mr/hr field at start of tow,  
drifted out of course. Collected area. 8 cc of plankton. 2 plankton  
organisms not enough for 2 specimens.

Nansen cast (Meyer hydrom W-1 series 513-519) at 19:10.  
11°14'N 162°9'E Average field 10 mr/hr. Depths are not calculated  
yet - down to 1900'.

T-5 started 2:22:00 ended 2:31:20. To 50 sections of line out.  
16 sections depth. BT didn't work. Hauled up in 10 foot increments.  
Ended up at 50 feet. Silicidic (30) 2 cc of ferret, silicid, euphasid,  
erub larvae etc. Haul taken at approximate depth of scattering layer at 70'

Started ashing P-13 plankton (11 cc) w/ murex + H<sub>2</sub>O<sub>2</sub> at 19:00 hrs.

Got water sample from Ralph Scrimshaw taken in 12 mr/hr field  
Designed W-1 50 cc taken 1900-1900. 19 cc.

Ran bicarb separations on water samples after filtering,  
sieved filtered water. Prepared all samples and ran  
Bcounts and B-separations.

Entered at 2:00 AM May 11

cont 50



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 7/10

Locality Rehoboth Date May 18, 1958  
 Personnel Weeks, Lowman Weather Fair  
Palumbo & Melander Water conditions Smooth

Radiation level(s)

Operations:

Bkgs	Counter No.	Time	Bkgs	Counter No.	Time
382	1	0023	293	1	2053
353	1	0745	271	1	2210
381	2	0800	286	1	2252
297	1	1241	289	2	"
320	2	1455			
387	1	1839			
378	2	"			

Counted water samples, Plankton & decays.  
 Ship's course was generally east to west or west to east - back and forth over the target area with some circling and drifting. Target area not well defined, the radioactivity being rather diffuse over the whole area.

# P-19 in water at 1040 out at 1115. 700ft of wire cable. PT <sup>63.5</sup> at 600' Thermocline 200' ~~80~~ 81.5'  
 Surface. Deep scattering layer appears to be at 1200'  
 T-7 in water at 1545 to 1200' for 1/2 hour.  
 Net out of water at 1745. Hauled net at about 5 knots. Skipper refused to go faster. Caught several lanternfish, 3 hatchet fish, inphousids, crab larvae, jelly fish, etc. Behind all fish inhabitants of area below the machine. Hauling midwater trawl on Rehoboth is a major operation entailing a crew of about 15

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Locality \_\_\_\_\_ Date May 18 Continued  
Personnel \_\_\_\_\_ Weather \_\_\_\_\_  
\_\_\_\_\_ Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

run compared with 3 on the "Brown Bear." Complications arise mainly from the fact that the winch is on the forward part of the ship with the cable running three blocks at the peak of the bow and then back over the boat deck and finally to the boom about  $2/3$  way of the length of the ship. Signals have to be relayed via telephones, by hand or by use of lights — all such signals being 2nd, 3rd or 4th hand by the time they reach the winch men.

T-7 was started North east of the target area and the course was generally a large clockwise circle ending west of Sigili — about 12's miles of track.

P-20 in at 1830 700' of cable out, brought up to 600' at 1850 and out of water at 1930. Thermocline at about 260'. 2700 plankton.

P-21 in water at 2304 — 50' wire out, then 150' wire out at 2319; out of water at 2340 1500 plankton.

RK

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 170

Locality Rehoboth (MGS-50) Date May 19, 1958  
 Personnel Lownan, Lubin Weather Fair  
Weber & Klander Water conditions Smooth  
We have had very little rain during this operation.

Radiation level(s)

Operations:

Bkg	Counter #	Time	Bkg	Counter No.	Time
139	1	0728	305	1	1853
266	1	0743	307	1	2200
248	2	"	26,400	Y-spec.	0830
273	1	1003	19,500	"	0845
260	2	"	19,700	"	0915
316	1	1215	18,000	"	0930
370	1	1845	17,900	"	1015
246	2	"	18,200	"	1240
			17,900	"	1310
			17,900	"	2015

Ship course: at 0858 (161°45' E; 11°22' N) started westward  
 taking plankton tows at every 5 to 10 miles intervals  
 15 minutes each. The plankton was filtered on a  
 micro-filter (this was a 5cc volume of plankton at each  
 station to get an approximate quantitative measure)  
 and counted wet as soon as possible. The westward  
 leg of the course was continued until we were about  
 50 miles west of the target area of Wahoo. The  
 total gamma counts (see below) were about the same  
 for the stations on this leg. We were then concerned  
 about getting into the fallout of other nuclear expts and  
 decided to go south to see if we could locate the  
 edge of the radioactivity. In the south leg of the

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Locality: \_\_\_\_\_ Date: May 19, 1958 Continued  
 Personnel: \_\_\_\_\_ Weather: \_\_\_\_\_  
 \_\_\_\_\_ Water conditions: \_\_\_\_\_

Radiation level(s): \_\_\_\_\_

Operations:  
 plot we passed the dredge which had been placed on the landing (west edge) edge of the target area on Wahoo minus about 2<sup>3</sup> hours. It is believed here that the dredge would travel faster than the radioactive area of Wahoo, thus we assumed we were beyond the Wahoo water & had entered water radioactive from other shots (probably Buttonnut). We continued the southward course for about 20 miles <sup>(may 20<sup>th</sup>)</sup> down which the counts diminished somewhat gradually to about 80,000 to 85,000 cpm total gamma (from 200' to the north). We then followed a course eastward (May 20<sup>th</sup>)

Blanket	Time	Location	C/Min Total gamma	Depth/Tow
P-22	0855-0913	161°45'E 11°22'N	1,000,000	100' of wire
P-23	1000-1015	161°48'E 11°21'N	870,000	" " "
P-24	1100-1115	161°30'E 11°20'N	969,000	" " "
P-25	1230-1245	161°28'E 11°18'N	1,400,000	100' <del>100'</del> wire
P-26	1352-1407	161°17'E 11°16'N	1,100,000	100' x 150' wire out
P-27	1814-1829	161°25'E 11°15'N	500,000	100' ?
P-28	1935-1950	161°24'E 11°14'N	625,000	100' ?
P-29	2004-2022	161°25'E 11°11'N	400,000	100' wire out

Dolphin (*Comphacna hippurus*) caught at 162°37.6'E, 11°11.6'N. being processed.  
 An 18 cm squid, picked up on deck, was also sampled.  
 Counted samples for decays, Spectrometry, etc.:::

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3

Locality \_\_\_\_\_ Date May 19, 1958 Continued

Personnel \_\_\_\_\_ Weather \_\_\_\_\_

\_\_\_\_\_ Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

For the plankton haul #22 the deep scattering layer was estimated to be at 10' (2050 fms). We have managed to obtain the original graphs from the Ede recorder showing the scattering layer or layers at various depths, at different times of the day and night.

At the present time we are of the opinion that the plankton & other animals of the sea managed to concentrate tremendous amounts of radioactivity during the night after the shot. The following day some of these plankton sank to lower levels of water removing <sup>the</sup> radioactivity away from the surface so that no sharply defined target area of radioactivity could be detected by instruments above the water.

The hypothesis seems to be confirmed by counts of the plankton, by the fact that radioactivity can be detected in great quantities in animals of the deep scattering layer and from the data obtained from Duckworth using an under-water probe to about 500' depths. Duckworth was able to obtain a high degree of correlation between the radioactivity & the depth of the scattering layer.

L. J. 106

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File

Locality Kohala (AGS-50) Date May 20, 1958  
 Personnel L. ... J. ... Weather Fair + Warm  
W. ... & J. ... Water conditions Smooth

Radiation level(s)

Operations:

Blg	Counter	Time	Blg	Counter	Time
254	1	0936	19,230	Y spec	0135
216	1	1053	16,400	" "	0650
223	1	1305			

Ship's course continued south to 161°17' E 10°56' N where the lowest counts were obtained on 5 cc of plankton. We then started due east hoping to reach "clean" water, but the counts rose as high or higher at 162°02' E 10°56' N and at 162°10' E 11°04' N, a position just south of the target and well out of the area of water flow from the water target. Actually, the counts taken on the south edge were 1/10 to 1/5 those in the bubble area.

Plankton #	Time	Location	Total	Depth of Tow	amt. Plankton
P-30	0101-0116	161°17' E 10°56' N	71,000 <del>83,000</del>	10-20'	5cc
P-31	0245-0200	161°16' E 10°56' N	59,000	150' wire	
P-32	0400-0417	161°22' E 10°56' N	267,000	150' "	
P-33	0617-0635	161°35' E 10°56' N	173,000	150' "	
P-34	0855-0913	161°48' E 10°56' N	172,000	150' "	
<del>P-35</del>		<del>161°51' E 10°56' N</del>			
<del>P-36</del>		<del>161°51' E 10°56' N</del>			
<del>P-37</del>		<del>162°06' E 11°04' N</del>			
P-35	1510-1530	162°10' E 11°04' N	245,000	150' wire	

T-8 trawl haul: net in water 1306 to 1200' by 1343; starting up at 1358 and out of water at 1504. Caught about 1000 fish (plankton hatchfish, 10 to 200 mm), amphipods, etc.

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Locality Rikobath Date May 20, 1958 Continued

Personnel \_\_\_\_\_ Weather \_\_\_\_\_

Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

Rikobath entered Baniwatah Lagoon and anchored about 1600. Frank and Don went ashore after <sup>discussing</sup> ~~discussing~~ counters.

I started packing gear in preparation for shore duty.

Please send some stamped, addressed, self-sealing envelopes for the log & other business matters.

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706

Locality Elmer + Rehoboth (AES 50) Date May 21, 1958  
 Personnel Lawman, Roberts Weather fair  
Wecker + Wetland Water conditions Smooth

Radiation level(s) \_\_\_\_\_

Operations:

Another shot delayed. Taxis from shore to ship held up. Frank + Don came out to the ship in the skiff - the ship is 2 miles from Elmer. On the way they disturbed several ships by asking the way to Suquamish. This isn't quite a straight version - we contacted <sup>no</sup> ships.  
 Busy packing up all day, hoping to get ashore and under cover before another fall-out. Waited for a F-boat till about 1700 but none came so went ashore by water Taxis

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FGL 100

Locality Elmer & Khaboth Date May 22, 1958  
Personnel Louman, Palumbo Weather Fair  
Wecker and Welander Water conditions Smooth

Radiation level(s) \_\_\_\_\_

Operations:

Arranged for M-boat and large open truck to go out to Khaboth to pick up our gear. Gear in Lab. by noon. Started ~~to~~ unpacking and setting up electronic equipment and started counting. Set up resin columns.  
Spung up mits to dry, cleaned up boxes, ~~with~~ piling up cassettes in a corner. Things are getting to look shipshape & the work is getting back on normal basis.

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FG-1 210

Locality Elmer Date May 23, 1958  
Personnel Lannon, Palumbo Weather Fair  
Weller & McLaughlin Water conditions Smooth

Radiation level(s) \_\_\_\_\_

Operations:

Sorted samples for drying and counting.  
Cleaned up lab. Ran resin columns, Sorted  
out some of the gear.  
Copied the "scattering layer" charts in condensed  
form.

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Locality Elmer Date May 24, 1958  
Personnel Lawman, Palumb Weather 1 air - still very little rain  
Wicks & Helander Water conditions Smooth - for here

Radiation level(s) \_\_\_\_\_

Operations:

Counting samples, Ran Kevin Coleman.  
Attended party for Rehabilitation Officers in afternoon.

Cove 9 West of ...  
 Ashobela ...  
 ...

Station Number	Date	Time in	Time out	Kind of tow
P-13	5-16 58	1610	1650	Plankton
P-14	"	1907	1930	"
T-5	"	2220	2320	Fish Trawl
P-15	5-17 58	1015	1045	Plankton
P-16	"	1405	1508	"
P-17	"	1705	1800	"
P-18	"	2140	2155	"
T-6	"	2200	2300	Fish Trawl (lost)
P-19	5-18 58	1040	1115 <sup>9:11:00</sup>	Plankton
T-7	"	1518	1745	Fish Trawl
P-20	"	1830	1930	Plankton
P-21	"	2304	2317	"
P-22	5-19	0858	0913	"
P-23	"	1000	1015	"
P-24	"	1100	1115	"
P-25	"	1230	1245	"
P-26	"	1352	1407	"

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Locality Elmer Date May 25, 1958  
Personnel Lowman, Palumbo Weather Fair  
Welles & Helander Water conditions Normal 94°F

Radiation level(s)

Operations:

~~Get more water, fresh.~~

Set up for Resin Columns (8 in all)

Set up for chemistry (Sea water).

Started wet ashing specimens:

T-7 fish, T-7 shrimp, 1 small jack.

5 plankton samples. Algae refuse to  
go in solution (Turbinaria).

Background is dropping. Counted  $\beta$   
&  $\gamma$  and  $\gamma$  spectra.

Frank arranged for a trip to target  
area on Rehoboth tomorrow for plankton.

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Locality Elmer Date May 26, 1958  
Personnel Lawson, Palumbo Weather Normal 85°F  
Weber & Helander Water conditions Normal

Radiation level(s)

## Operations:

Resin columns on 8 sampler were run by Ralph till about 0130.

Frank spent night and almost all day on Rikoboth in Target area. Obtained plankton & water sample.

Yellowwood occurred at 1400, big and dirty.

Ran all of the pre-shot water samples onto plates - ready for counting.

Frank counted till 0130; the Sycamore event at Bikini was postponed again - this one could well wrap up our operation here unless the weather boys predict the winds with accuracy.

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Locality F Line Date May 17, 1958  
Personnel L. A. Mearns, Palumbo Weather Normal 79° F  
W. Beck & W. Melander Water conditions Normal

Radiation level(s)

Operations:

Counting, samples, prepared resin columns,  
- tested equipment - placed chemical equipment  
on shelf for convenience of chemist.

Prepare fish samples as follows:

1. Dry ash all of sample

2. Repack sample, with label, in plastic  
bags and store for future work.

(If time does not permit dry ashing, the samples  
probably could be stored as received in bottles.

3. Plate or card numbers can be given to these  
sample when they are ashed and counted.

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EIMER

Locality Louisa, Columbia Date May 28, 1958  
Personnel Wicks & Wilander Weather Normal Temp 85° at 0920  
Water conditions Normal

Radiation level(s)

Operations:

Continued counting samples and processing resin fractions. Spent some time obtaining HNO<sub>3</sub> - apparently not in great supply here. We were finally able to get 6 1/2 bottles thru the help of several of our friends here, and got it from Walt Gibbins.

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Locality Elmer Date May 29, 1958  
Personnel Lauman, Palumbo Weather Normal 93°  
Weeks, Ueland Water conditions normal.

Radiation level(s) \_\_\_\_\_

Operations:

Continued  $\beta$ - $\gamma$  counting and X spectrometry.  
Also resin columns. Lab. work all  
day.

Got word of a victim of a stone fish  
at Fred about ~~the~~ 1900. Found out later  
patient was to be moved to Elmer so we are  
awaiting news. H + N sent a photo grapher  
over for color and black & white pictures.

Sycamore event at Bikini is still a threat.  
Frank making counts well into the night

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Locality Elmer Date May 30 1958  
Personnel Lawson, Palumbo Weather Normal 87°  
Wick & Wilander Water conditions Normal

Radiation level(s) Tobacco puffed off to the north - Janet? 1400.

Operations:

Continued counting  $\beta$ ,  $\gamma$ ,  $\gamma$ -spectrometry, resin columns, as fast as they will go.

Had many visitors curious about Stone fish, who had heard about the accident at Fred.

Apparently the patient was in swimming & felt a sting on his foot. 2 or 3 swimmers converged on the scene & saw the stone fish which they caught while the victim was high-tailing it for the hospital. Fortunately only one of the 13 spines entered the foot & so far the patient suffered edema of the ankle and knee, fever of a mild nature and a headache.

We have the stone fish in our freezer and Don has the task of showing it to the visitors with the appropriate lecture.

RP  
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Locality Elmer Date May 31, 1958  
Personnel Rabunke, Jourman Weather Normal to stormy rain  
Weeks & McHarder Water conditions Rough

Radiation level(s) Specimen? event at Bikini ~ 1515

Operations:

Continued counting  $\beta$ ,  $\gamma$ ,  $\gamma$  spectrometry,  
HFHCl separation of anions found in previous  
samples, etc.

Obtained badges for CMB area & may  
move counting equipment to beaker if fallout  
appears.

Tire shop fixed up 2 of the rubber boats -  
we hope the patches hold.

Prepared W-1 to 3  $\text{NaCO}_3$  samples for total  
 $\beta$  counts.

Most samples counted total  $\gamma$ ,  $\beta$  and  
the dry weight taken.

At midnite Bkg started up by 0130 June 1  
the  $\gamma$  spect. bkg had doubled. Reading outside went to  
7mr/hr.

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Locality Elmer Date June 1, 1958 Sunday  
Personnel Lowman, Palumbo Weather Normal 86.5°F  
Weeks, Welander Water conditions Normal

Radiation level(s) Just about doubled at 0030 <sup>(@ 1,000  $\mu$ hr)</sup> but were down to 19,000 r  
at 0900.  
Operations:

Continued counting,  $\beta$ ,  $\gamma$ ,  $\gamma$  spectrometry, continued  
HF-HCl anion separation.

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Locality Elmer Date June 2, 1958  
Personnel Loren, Palumbo, Weather Normal 88°F  
Weeks & Welander Water conditions "

Radiation level(s) \_\_\_\_\_

Operations:  
Continued counting  $\beta$ ,  $\gamma$ ,  $\gamma$ -spectrometry, resin  
column runs,  
Began compiling labels of samples, localities,  
depths, etc.

for  
RP

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Locality Elmer Date June 3, 1958  
Personnel Louren, Palumbo, Weather Normal 89°F  
Webster & Wolander Water conditions Normal

Radiation level(s) Rose & rose at 0630.

Operations:

Continued counting of ~~var~~ 7 species. Making and checking tables.

Writing on Materials & Methods for Wahoo report.

Sent TWX to Louren regarding feature program dates.

We have 3 Jacks, 3 sharks, 4 lionfish, 1 puffer, 3 groupers, 1 squirrelfish, 1 stonefish, 3 butterflyfish, 1 snapper, 3 blennies, 10-15 surgeonfish, 5 gobies, and 1 dandel fish in our aquaria besides miscellaneous invertebrates hardly worth mentioning?

Constructed lead shield for gamma head consisting of 80 bricks, each 2.5" Total 1 ton. Background on 2 Mev dropped from 15,000 c/m to 2,000 c/m.

Started outline and writing on materials and methods. This is slow work since we have so much to describe.

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Locality Elmer Date June 4, 1958  
Personnel Weeks, Klefaunder Weather Rain and Sun  
Lewman, Palumbo Water conditions Rough to normal

Radiation level(s)

Operations:

Morning spent making beta and gamma counts, repairing or replacing tubes and resistors in spectrometer and weighing plankton samples to calculate density of micro and macroplankton. Also packaged all "pre-Whopperie Cactus fallout" fish and plankton samples since we can no longer do anything with them.

At 1730 went to "Ham" shack & called in on "phone Patch" to Seattle. All above personnel had talks with the wives which helped morale. Every Wednesday at 1730 communication is made with a Seattle "Ham" and usually reception is loud & clear. We would like Lauren's phone (Home phone) number, just in case, as soon as possible. We cannot discuss classified material, but there may be other matters which could be of interest.

2

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Locality: Elmer Date: June 5, 1958  
Personnel: Lowman, Palumbo Weather: Normal 88°F  
Weiss & Wilander Water conditions: Normal

Radiation level(s) Beta  $\beta$  165 + 127 c/m for #1 & #3 counters  
 $\gamma$  - " 1050 c/m

Operations:

Continued  $\gamma$  spectra, some resin column separations,  
writing of report (materials & methods) and making  
and correcting tables.

We suggest that a copy of each report pertaining  
to the work here be sent for reference purposes.  
These can be stored in our practically empty  
safe. We have had requests for our  
reports from several people lately and, of  
course, we ask them to write to the Lab  
for them. We took out only those we thought  
amust, but our list was not long enough.  
We need especially the Troll and the Wallen  
reports for reference to materials and methods,  
and even though we won't get them in time,  
we feel they and the others should be stored  
here.

Made reservations for Frank and Ralph to  
leave June 16<sup>th</sup> and Art July 1<sup>st</sup>. Don's fate  
is still unknown.

RP

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Locality ELMER Date 6/6/58

Personnel Lalman, Wielander, Weather Fair

Weeks, Gilumbo Water conditions NORMAL

Radiation level(s)

Operations:

Continued with gamma counting,  $\beta$ -decays and tabulation of data. Visited by Dr. W.W.T. Crane and Dr. H. Hickey UCRL chemists and later Jere Knight of LANS, one time radiochemist and now interested in nuclear structure. We discussed radiochemical techniques, relative yields of various nuclides etc. and the possibility of obtaining this later information to better evaluate our data.

The UCRL chemists use ion-exchange methods almost exclusively along with standard methods as a preliminary step. They obtain all their Dowex Resins from Bio-Rad, University Ave. Berkeley, California because organic impurities are removed before shipping.

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Locality Elmer Date June 7, 1958  
Personnel Lauren, Colombo Weather Normal 87°  
Wilbert & Melinda Water conditions Normal

Radiation level(s)

Operations:

Continued  $\gamma$  counting,  $\beta$  decays and tabulation of data. We are copying original data and checking this material so that a copy will be left here until the logs & originals are safely in Seattle.

Word came from JTT 7 that Lauren would be out in a few days.

Frank running an ion-exchange column for rare earths.

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Locality Elmer Date June 8, 1958  
Personnel Lawson, Palumbo Weather Normal 86°  
Weeks & Melander Water conditions Normal

Radiation level(s)

Operations:

Continued  $\gamma$  spectra,  $\beta$  decays, tabulating and checking data.

George Anton asked us to meet with him in the morning saying he had news or rumors of a "crash" program that may concern us.

First he related that in talking with a Col. Jeffrey of 7.3 became concerned about the disestablishment of the limited area. This topic has been talked about by George Anton quite frequently of late and apparently the Col. grabbed the ball & has started a Lt. Col. Gibson on the subject. <sup>F.S.</sup> The data, apparently, with now be investigated by Gibson.

G. Anton suggested we write up some plans for a "crash program" to sample the radioactive area in the sea outside the atoll as a preliminary to the Silverstein. He indicated that the Silverstein data may be too late for political reasons and that some answer may be needed in a hurry.

We pointed out to Anton that Lauren Donaldson would soon be on Elmer & that we would not presume to set up a program without his help as well as the O.K. from Seymour and D.B.M.

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Locality Elmer Date June 9, 1968  
Personnel Welanden, Weeks Weather Good Temp 89°  
LOWMAN PALUMBO Water conditions NORMAL

Radiation level(s) Umbrella at 1115

Operations:

Replaced 2" well-type crystal with 2" flat crystal in spectrometer. Much of the background hash has been eliminated. Ran samples collected by Billschell of fallout on funnels and cloud on 4MeV and 2MeV as well as water from target area collected by Rad safe (Bill Tammany)

Visit by Col Gibson, Col. Lechasse, and George Anton regarding post shot survey. J-3, JTF is interested with regard to opening the restricted area. Lechasse was interested in the fish contamination concerning the eating of.

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KB

Locality Elmer Date June 16, 1958  
Personnel Louman, Palumbo Weather Normal - 88°  
Wecks & Wilander Water conditions "

Radiation level(s) \_\_\_\_\_

Operations:

Continued  $\gamma$  spectra,  $\beta$  decays, tabulation of data, and checking. Resin columns on the particulate material and on the solution from the water sample from Umbrella Target area.

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12

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SEATTLE, WASHINGTON

JPD,  
CH  
FCC  
✓  
JRW  
KB

Locality Elmer Date June 11, 1958  
Personnel Lawson, Faber Weather Normal 89°  
Wicks & Wilander Water conditions "

Radiation level(s) 0530 Maple at Bikini: shot barracks at 0548

Operations. Continued X spectra, B decays, tabulation of data and checking.

Don & Ralph went to Elmer this evening to stay overnight & catch an early plane for Hawaii. They will try to obtain as many samples as they can in the short time they have there.

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Locality Elmer Date June 12, 1958  
Personnel Louman, Welander Weather Stormy - Rain 79°  
Wolke & Palumbo Water conditions Normal to rough

Radiation level(s)

Operations

Trip to Kungie cancelled. Would be travellers returned  
Elmer 10:00 AM. Plane trouble caused return after 6:00  
Take off.

Prepared Package for mailing - Following included in one large  
Package: 2 pks of flags from drague  
2 pks of Chill shock salt from Rehoboth evaporators  
1 pkg Rehoboth Plankton sampler  
1 " H<sub>2</sub>O  
1 " Trawl samples  
1 " Algae samples  
1 " Extra plankton and MF Papers  
1 " Pre Wahoo samples  
1 " Co. R-1 to W-3 lumped  
1 " Dolphin Tissues  
1 " Squid  
1 " Microplankton P. 6 to P. 21  
2 coconuts from Henry (#6, #7) - same as previous  
shipment  
2 pkg checker cards  
1 pkg miscellaneous samples.

Packed 3 boxes for Silver stain survey & cleaned  
up the Lab in preparation for Doc's visit on  
arrival Tomorrow morning.

1 pkg fish specimen 135 - Jack fraulenz

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757.1  
PRB  
RB

Locality Elmer Date June 13, 1958  
Personnel Lawman, Palumbo Weather Morose  
Weeks & Welander Water conditions

Radiation level(s)

Operations:

Continued Vespertina, completed Tables  
~~Began~~ Continued packing for Silverstein trip.  
Worked on Umbrella water sampler.

Found out from 7.1 that Lawman would be  
accompanied by Dean Budd, Jim Cantrell, Bill Champion,  
Tim Joyner, & Ron Eisler.

Laid on a trip by M-Boat to Vera. with  
Henry Schlacks

INDEX  
TABLE

RB

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SEATTLE, WASHINGTON

Locality Elmer Date June 14, 1958  
Personnel Louman, Palumbo Weather Normal  
Wells, & Welander Water conditions Normal

Radiation level(s) \_\_\_\_\_

Operations:

~~Left~~ Left for Vera 0800 by M-boat with Duke collected some samples at Vera.

Prised a coral head off southern end of Runit in about 25' of water. Collected fish with some success. Collected helmet shells off Runit & returned about ~~08~~ 1300

Worked on Umbrella bottom sample.

RB

25

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SEATTLE, WASHINGTON

Locality Elmer Date June 15, 1958 (Sunday)  
Personnel Lawman, Palumbo Weather Normal  
Weber, Welander Water conditions Normal

Radiation level(s) \_\_\_\_\_

Operations:

Sorted, labeled and folded Wahoo charts of which we have 23 ~~total~~ originals - about 2 copies each plus the transparencies for duplicating same.

Frank & Ralph will carry one full set to Seattle & we will send the other copies by a later plane.

Finished packing all samples for air shipment or mail to Seattle. Shipping 1 box of water samples, soil, extra plankton & fish via J-4. Mailing samples of Wahoo series of plankton, water fractions, fish plates etc via T-1 mail office - 1 box only.

Added to box for air mailing the following (See list for June 12<sup>th</sup>):

Pkgd for mailing	}	1 PKg - 1 cigar box - vials w/ fractions of resins
		1 PKg - 1st eozoid tubes w/ fractions
		1 PKg R - fractions
		1 PKg R - fractions + others
		1 PKg - Miscellaneous (vials + whole plankton)

→ 2 Rats dissected - Janet April 26<sup>th</sup> 1958. Tissues lumped and weighed wet and frozen over to day.

wet weights of samples:

Bone - 3.695 gms
Muscle - 44.327
Liver - 12.872
Ovary - 3.699

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SEATTLE, WASHINGTON

FL  
108  
920

Locality Elmer Date June 16, 1958  
Personnel Laurson, Palumbo Weather Normal - 91°F  
Weeks + Welander Water conditions Normal to stormy.  
Rain.

Radiation level(s) Aspen at Bikini + Walnut at Eniwetok Yesterday

Operations:

Laurson + Palumbo left for Itabaki  
0930.

Sent off water samples & preserved specimens  
from Wahoo event, by air <sup>freight</sup> to Seattle.

Sent off dried specimens from Wahoo event  
by Parcel post - air to Seattle.

Painted rest of the shipping boxes.

Water has been shut off most of the day -  
interfering with lab. work.

Continued to count T spectra of  
Wahoo + Umbrella specimens.

Don also worked on timer & printer.

Painted and repaired more shipping  
containers for the Silverstein trip.

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Locality Elmer Date June 12, 1958  
Personnel Lansman, Welander Weather Stormy - Rain 79° at 5:00  
Wolke & Palumbo Water conditions Normal to rough

Radiation level(s)

Operation

Trip to Kusaie cancelled. Would be travellers returned at Elmer 10:00 AM. Plane trouble caused return after 0700. Take off.

Prepared Package for mailing - Following included in one large Package:

- 2 pks of flags from drague
- 2 pks of Chill shock salt from Rehoboth evaporators
- 1 PKg Rehoboth Plankton sampler
- 1 " " H<sub>2</sub>O
- 1 " " Trawl samples
- 1 " " Algae samples
- 1 " " Extra plankton and MFPapers
- 1 " " Pre Wahoo samples
- 1 " " Co<sub>2</sub> Pv-1 to W-3 lumped
- 1 " " Dolphin Tissues
- 1 " " Squid
- 1 " " Microplankton P.6 to P.21
- 2 coconuts from Henry (#6, #7) - same as previous shipment
- 2 PKg McBer cards
- 1 PKg Miscellaneous samples.

Packed 3 boxes for Silver stain survey & cleaned up the Lab in preparation for Doc's visit on arrival Tomorrow morning.

1 PKg fish specimens 135 - Jack Frankony

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SEATTLE, WASHINGTON

JSP.

PRO  
KB

Locality Elmer Date June 13, 1958  
Personnel Lawsman, Palmbe Weather Normal  
Weeks & Welande Water conditions \_\_\_\_\_

Radiation level(s) \_\_\_\_\_

Operations:

Continued inspection, completed Tables  
~~Begin~~ Continued packing for Silverstein trip.  
Worked on Umbrella water sampler.

Found out from 7.1 that Lawrence would be  
accompanied by Dean Budd, Slim Cantrell, Bill Champion,  
Tim Joyner, & Ron Eisler.

Laid on a trip by M-Boat to Vera. with  
Henry Schlacks

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RB

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Locality Elmer Date June 14, 1958  
Personnel Lowman, Palumbo Weather Normal  
Wells & Wilander Water conditions Normal

Radiation level(s) \_\_\_\_\_

Operations:

~~Left~~ Left for Vera 0800 by M-boat with Duke collected some samples at Vera.

Prised a coral head off southern end of Runit in about 25' of water. Collected fish with some success. Collected helmet shells of Bruce & returned about ~~08~~ 1300

Worked on Umbrella bottom sample.

RB

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Locality Elmer Date June 15, 1958 (Sunday)  
Personnel Lawman, Palumbo Weather Normal  
Weber, Welander Water conditions Normal

Radiation level(s)

Operations:

Sorted, labeled and folded Wahoo charts of which we have 23 ~~total~~ originals - about 2 copies each plus the transparencies for duplicating same.

Frank & Ralph will carry one full set to Seattle & we will send the other copies by a later plane.

Finished packing all samples for air shipment or mail to Seattle. Shipping 1 box of water samples, soil, extra plankton + fish via J-4. Mailing samples of Wahoo series of plankton, water fractions, fish plates etc via T.I. mail office - 1 box only.

Added to box for air mailing the following (See list for June 12<sup>th</sup>):

Pkgd for mailing {  
1 Cigar box - vials w/ fractions of fresh runs  
1 PKG - Luteoid tubes w/ fractions  
1 PKG R - fractions  
1 PKG R - fractions + others  
1 PKG Miscellaneous (vials + whole plankton)

→ 2 Rats dissected - Janet April 1958. Tissues lumped and weighed wet and put in oven to dry.

wet weights of samples:

Bone	- 3.695 gms
Muscle	- 44.327
Liver	- 12.872
Ovary	- 3.699

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SEATTLE, WASHINGTON

FL  
100  
100

Locality Elmer Date June 16, 1958  
Personnel Laurson, Palumbo Weather Normal - 91°F  
Weeks + Welander Water conditions Normal to stormy.  
Rain.

Radiation level(s) Aspen at Bikini & Walnut at Eniwetok yesterday

Operations:

Laurson + Palumbo left for state side  
0930.

Sent off water samples & preserved specimens  
from Wahoo event, by air, <sup>freight</sup> to Seattle.

Sent off dried specimens from Wahoo event  
by parcel post - air to Seattle.

Painted rest of the shipping boxes.

Water has been shut off most of the day -  
interfering with lab. work.

Continued to count T spectra of  
Wahoo & Umbrella specimens.

Don also worked on timer & printer.

Painted and repaired more shipping  
containers for the Silverstein trip.