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APPLIED FISHERIES LABORATORY
SEATTLE, WASHINGTON

411107

BEST COPY AVAILABLE

Locality US Reloboth - ParryDate 6 May 1958Personnel Lowman, Weeks,Weather FairPalumboWater conditions SwLocation APFLRadiation level(s) Slight Temporary increase in total gammaFolder 1958, 2/12/58-7/31/58

Operations:

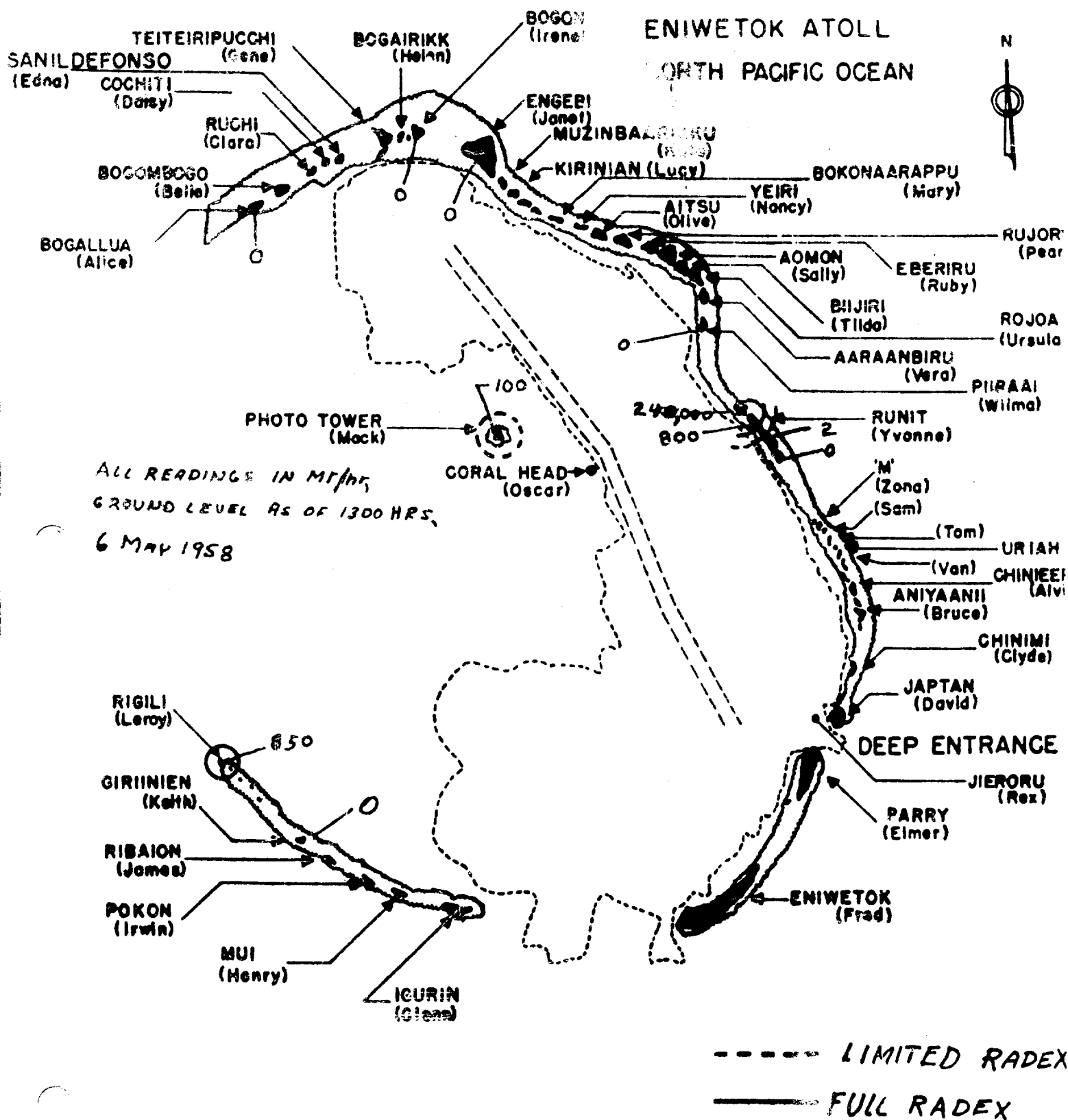
HARDTACKI

"Standing to" under way for orders to
re commence stations - Did some rearranging
of boxes in preparation for DWeeks + 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 do well aboard ship - The
facilities at EMBL are wonderful and and we
can get air to 1800 PSI in a hurry -

Palumbo and Weeks boarded ship at 1240 to report
for Parry Island. Boarded P-6 plankton trawl at 1230 with
understanding with Capt. Hackett that the ship would remain
down in the water. The tugboat chief refused to approach
Reloboth on lee side anchor at 1225. The Reloboth was
faced to move ahead to avoid damage from the
rough seas. At 1230, a 2 1/2" spread of plankton was towed
across plankton trawl. Plankton trawl was towed to
float on 900' BT line. Plankton trawl was towed
25 lb lead was being used. Snapped cable Machine shop
is in. Ship was moving to the right.

P-6 plankton trawl was being used 11' as a weight, towed
at 1611.8, started in at 1613.0, ended at 1613.3. 10' plankton
surface temp 52.2°, surface temp 60.0°, thermocline at 180' 33



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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
Operations: for levels around this atoll.

Laid in 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 ^{all} complete atoll islands Pongalap.
Will mail to Dr. E. 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't has
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 WLL-56 w/ thanks to all.

part

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7099

Locality Rehoboth Date 7 May 58

Personnel L. W. Miller Weather 15.1

Water conditions medium rough

Radiation level(s) 3 m/hr

Operations:

Sorted with samples from May 6. Taking 3 decay, 8 species, and 8 decay. All plankton samples very similar in decay. 8 species and 8 decay. Doing 8 decay on water. P-6 sample examined and found particles, all diameters found. Follow particles across to radioactive.

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 59.20; thermocline 360'. 18 cc plankton. H&T.

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 82.40; 620' depth at net; temp 62°. Thermocline at 320'. 25 cc plankton.

Trawl no. 4. In water 22:40. 54 fathoms cable out; 2:45 at 20 fathoms depth. No fish. Medium size plankton (1/2 mm - 200 mm) taken. Net fishing at 22:45; out of water at 23:45. Took a 10 cc plankton. Same 8 species as plankton taken at 1/2 M. net.

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Locality Rehoboth Date 8 May 58
Personnel Lowman 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 γ decays on water samples from P-6, P-7, P-8, & P-9. Ren γ spectra on plankton, ^{45}Ca plankton, and water samples from above samples. Ren γ spectra on drogue flz - different from plankton. Running decay on drogue flz.

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 γ curves.

Long day today.

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Locality Parry - Henry Date 8 May 1958
Personnel Welanders, 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 T-4 and took (6) 5 gal tins of ocean water to T-4 Capt Thomas for air shipment to Dr. Harley, NY 100. Charge is still questionable, but it will not be. Prog 40 - esp^d 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 Bonham 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 crab, *Cenobita* & 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 Welandir, 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 collection 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 Rehobeth samples is still under way - we probably won't begin to finish these samples before we are due to return to the rolling houseboat. Visitors today included Henry Schlack and Lt. Cmdr. W. Chapman and Cmdr. W. Chambers from NMRL. They will also board the Rehobeth. Tried aquaculturing 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:

Run 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° , net went to 410' depth-temp. 63° . 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. Run 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 γ spectra on post-curve samples (plankton & water).

Ran γ spectra on ion-exchange fractions with frequent calibrations with Co^{60} and Na^{22} .

P-12 (new net) in water at 1300; 700' cable out at 13:05. Started recovery 1500; surfaced at 15:05. 37 cu plankton - practically no radiation in sample. Surface temp. 81.6° ; depth of net 630', temp. 63° . Thermocline started at 340.

Randolph caught a dolphin 15½ 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 γ curves.

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78P.8.

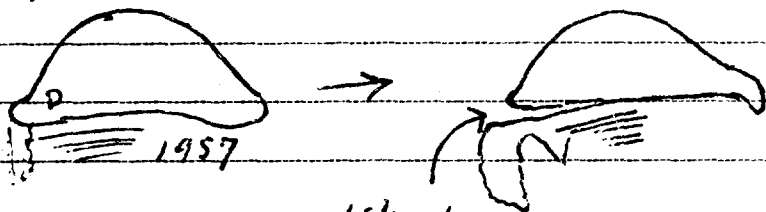
Locality ELMER. Belle Date 10 MAY 1958
Personnel Wekster, Weeks. Weather overcast 87.5°
Palumbo + 4NMRL Water conditions Rough

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

Operations:

MORNING chores included weighing, packaging, water treatment and preparation for Belle collection. Most of the Herry 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, Wekster, Palumbo and Severance aboard. Arrived Belle 12:55. The major change in the contour of the ~~atoll~~ 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*, *Mess* and *Portulaca*; Plants #1268 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 *Cenchrus* in old shell hole - it was loaded w/ them. Took garden 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.

WV

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Locality

Date

10 / May 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, Coloist Surgeons along with other varieties. Saw many sharks around Belle, one about 6' long in pool with us may have been Carcharias 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~~ ^{small} ~~conch~~ ^{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, Spicidia, Turbinaria, but little Halimeda, Cantharus, or Lysibia.

All planes were cancelled because of an impending storm, so a D.K.W. was sent from Alie to pick us up. It got hung up on headland area G-1 and it took us all over an hour to get it off. Boarded it and pulled up by LC4 - Oak and all. Left Belle at 1730 aboard LC4 at 1745 and in 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 L. Nielsen Weather fair
Water conditions medium rough

Radiation level(s) _____

Operations:

Run 8 spectra and decay curves. Dried ion-exchange
fractions down for later work. Packaged samples.

Arrived ~~at~~ Perry Island at 12:30^(noon). 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, Plumb 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 ball-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 ^{D.W.}
These boys apparently got tired from sea sickness, not - a

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Locality Perry Island - Rehoboth Date May 12 '68
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. Reclining P-6 engines and catwalks. Returned 12:30.
Welander and Weeks packaged samples from Belle Island.
Picked up motor & pump for large 8 tank. Other motor
shattered out. Picked up canvas boaters and wax paper
for shipboard use.
Had meeting in afternoon with Comdr. Hackett; 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
Lowman - Palumbo Water conditions Normal

Radiation level(s) _____

Operations:

Packaged part of Belle collection.
Lowman - Palumbo later to Rehoboth
to prepare solutions for chemistry.
Returned at 1230 to Parry Island.
Had meeting w/ Hydro + Capt Hackett
See Rehoboth Log for details -
Obtained pump for ship board duty.
Assembled all samples in box for
ship mount (Counts omitted - will send
later -)
Bought 9 lures for \$4.83 -
Welander - for Rehoboth fishing.

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

Radiation level(s) ?

Operations:

Koa today at 06:30. Frank + Ralph went on board Rehebeth to run Resin columns of Caster Plankton. Melke + Welande cleaned up lab sent off Packages of samples to Seattle and package of Ringolap Photos for Held. Samples as follows:

From Henry Island. Collected May 8th 1958

Fish: Specimen numbers 1 to 15.

Invertebrates: #1-6 (Ctenobites) Specimen # 7-11 (Tridacna Crocker)

Spec. # 12-14 (Holotheura atoa).

Land Plants - 3 colonies (faint), Pandanus, + Scaevola

Algae: Lagoon algae - 6 packages

Collection believed important as area will be contaminated by 2 underwater 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 Henderson

Algae - 4 packages

In the case of the fish these can be stored as is for the present or, if helpful, continue asking & repackaging after we finish ash. I 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 same.

Directions for plant-algae samples.

- 1) Dry ash one half of sample - save remainder for wet ash.
- 2) Place portion of ash on plate numbered according to series following Bongelap 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 min etc.
3. Count
4. Take ash weights (?)

RP
aw

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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-boat.
Also took wax paper to cover wooden decking on ship
Following Wahoo. Cleaned labs and rearranged equipment and
supplies. Ran discy cores and began standards in spectrometer.

ES

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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 in fallout and was scattered throughout the ship. At 10:14 in AM total γ bkgrd on spectrometer was 215,000 c/m for 10:24 218,000 c/m for 10:50 445,000 c/m. γ bkgrd on #2 was 76 c/m at 07:38; 96.1 at 08:02; 88.5 at 08:15; 90 at 1300. Placed 25 lb. lead sack over spectrometer at 10:52 and γ bkgrd to 44,500. Ran total γ counts on galley hamburger, cheese, and macaroni that had been contaminated from ~~water~~ ^{water} ~~water~~ ^{water} dripping down from washdown system. All above preferred risk for 10 day consumption. 60 lbs of hamburger, dup sized as well as cheese & macaroni. Total γ at 4:40 PM 61,300 c/m (all counts from now on with lead sack). At 2:15 γ bkgrd 82,600. Took air sample thru millipore filter for 1/2 hrs. 5,900 c/m γ . γ bkgrd at this time 639 c/m. Tried to get cleaned up to deck concerning equipment - couldn't do so ourselves so gave up. At about 2200 the γ counts gave up and the peaks started drifting downward. Weeks & Lowman started pebble shooting. Wielander & Columbus here the labs cleaned up & polyethylene over the fallout latent lab tables. Are we ever sorted up? ~~4~~

Just before sailing at 1500 Capt. Hackler⁵⁰ was called to beach and ordered by ~~15~~ ^{TG 7.3} 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 serve as 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 order. This was did and explained that our programs would be canceled out if this order was followed out. Cmdr. Brown stated that he would contact 7.1 and relay our message.

At 210000 the following TWIX was received:

From: CTG 7.1 ENL MARSHALL ISLAND

To: USS REHOBOTH

INFO: TG 7.3 ENL MARSHALL ISLAND

BT

(UNCLASSIFIED) TO CMDR. HACKETT FOR PROGRAM 40 (LOWMAN) AND PROJECT ONE POINT ONE THREE. PROPOSE TO UTILIZE THE USS REHOBOTH TO SECURE WATER SAMPLING FOLLOWING WAHGG EVENT AT APPROXIMATELY H PLUS ONE HOUR. SAMPLE TO BE SURFACE WATER IN A LIVE ROENTGEN FIELD PD UNDERSTAND 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 CASE WE ARRIVE AT A DECISION DESIRE YOU TRANSMIT IMMEDIATELY YOUR REASONS WHY REHOBOTH SHOULD NOT BE UTILIZED FOR THIS PURPOSE. REF THIS MSG 1544-JEE

Cmdr. Hackett called a meeting in the wardroom of all three scientific groups plus several ship's 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. 5

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Locality _____ Date May 14 1967

Personnel _____ Weather _____

Water conditions _____

Radiation level(s) _____

Operations:

PERSONNEL AND THE OTHER BY NAVAL MEDICAL RESEARCH INSTITUTE X RCTH
 UNDER DIVISION OF BIOLOGY AND MEDICINE CMM AECX OBJECTIVES OF THE
 U OF W GROUP TO DETERMINE INITIAL FATE OF WATERBORNE RADIOACTIVE
 MATERIAL IN SEA WATER CMM ITS UPTAKE BY MARINE ORGANISMS AND ITS
 DISTRIBUTION RELATIVE TO TIME IN SEA X WAMPED RESIST 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 PARAX AN INITIAL CONTAMINATION OF 5 ROENTGENS
 WOULD RENDER BOTH MONITORING AND CMMIA 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 74 LTR JB-H-692 DTD 5 FEB 68

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

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Locality Kelohoth Date May 15 1958
Personnel Columbo Weeks Walcott Weather Fair
Loumen Water conditions smooth

Radiation level(s) 5-8 MIR/112

Operations:

At 8:00 AM in the AM. Weeks and Colombo checked nets, prepared some more plankton nets for use and set up millipore water filter for water samples. Weeks and Loumen collected on 2 specimens. Is now working better.

At 2:00 PM bagged 474, 3rd 205 dm
total 2 bags 679 dm

Prepared for big push tomorrow w/ IVAHOO.

In evening Cmd. Hackett requested reply 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 Robert Melendy, Les Weather clear

Johnson 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 meter burned up from overload. Rather than burn out a second meter Don Art and Ralph moved the control box and recorder to conning room and placed probe in a compartment near the hull of the ship. Put plankton net over w/c bucket and washed out about 5 mi 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. NRD1 and LASL were the ones Jacks plans to use. Rehoboth to outline Wahoo bubble for Red Safe.

Anchored at 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 took a shaking.

Tug 105 Mactocha got in ahead of us and hit an 800 mr field in just a few yards. Backed down at full speed. We edged into bubble. Saw gas bubble at 1.0 miles. In just a few yards the readings with Geacocks went from zero to 800 mr/hr. At one time on side of the ship read 10 mr/hr and the other side 50 mr/hr. Moved west and edged into bubble to 60 mr/hr. Continued rest of bubble at 10-20 mr/hr level. Moved downwind and planned to get in leading edge of bubble. Took plankton-13

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Locality Robber's 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~~. 90
feet of wire out (no BT on net). Net reading 30 mr/hr at center
end, 10 mr/hr at cod end. Were in 10 mr/hr field at start of tow,
drifted out of concentrated area. 8 cc of plankton. 2 plankton
organisms too small for B specimen.

Nansen cast (Wing hydro W-1 series 513-519) at 19:10.
 $11^{\circ}19'N$ $162^{\circ}9'E$ Average field 10 mr/hr. Depths are not calculated
yet - down to at 900'.

T-5 started 22:20 ended 23:20. To 80 fathoms of line out.
16 fathoms depth. BT didn't work. Healed up in 10 foot increments.
Ended up at 50 feet. Siltsides (30) 2 cc forae, sordid, euphasids,
crab forae etc. Haul taken at approximate depth of scattering layer at 70'

Started ashing P-13 plankton (11 cc) w/ nomic + H₂O₂ at 19:00 hrs.

Got water sample from Ralph. Samples taken in 12 mr/hr field.
Designed W-1 500. Taken 19:04. 14 cc.

Ran bicarb separations on water samples after filtering.
Sieved filtered water. Prepared all samples and ran
Bcounts and Bspecimen.

Entered lab at 2:00 AM May 11. 15
UNW

on 5
00

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57-12

Locality Rehoboth Date May 17 '58
Personnel Weeks, Deland, Polumbo Weather fair
Lawman Water conditions smooth

Radiation level(s) _____

Operations:

Looked for bubble and measured in all day. Contaminant has spread fairly evenly throughout the top 300 feet. Has moved about 10 miles downwind in 20 miles. Found the diague where expected. Found the ends of dead fish in windrows - also lot of debris from P-11 Island which was pretty well torn up. Polumbo started resin column separation ^{of P-13} at 0957. Got good separation.

P-15 in at 1015 out at 1045, 200' wire BT no good 200' plankton 1850 H₂O. Made usual separations and samples for B48.

Got 4 crewmen from ship's hydro division to help with work. Very good men.

Ran 2 sweeps and 3 casts including drags all day.

P-16 in at 1405 out at 1505 150' plankton 400' wire 335' depth. Thermocline 280' Surface 21.7°

W-2 220-220 depth 2300m. Depths will be given later. Used 800' for ^{CO₂} precipitation to reduce counting problems.

P-17 in at 1705, 400' line, taken in to 200' at 1710. Taken out of water at 1800 BT depth 320'. Surface 19°. Thermocline below sampling site. 140' plankton & a 2 1/2" jack.

P-18 out at 2040 BT no good. In at 2155 200' plankton - very hot. This sample was taken by one of the crew who thought we wanted a plankton hauler this time. We really have eager help.

T-6 Mid-water hauler: 200' out at 2200 down to 150'

At 2215 hauled in net to 100' depth; at 2230 hauled out at 50'; at 2245 hauled out at 50'. Net up at 2300 but lost net at the house where signal to stop trawl did not get there. Riggins net.

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P10

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

Radiation level(s)

Operations:

Bkgs	Counter No.	Time	Bkgs	Counter No.	Time
382	1	0023	293	1	2052
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 ^{63.5} at 600' Thermocline 200' ^{81.5} Surface. Deep scattering layer appears to be at 1200' T-7 in water at 1515 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, hatchet fish, inchausids, crab larvae, jelly fish, etc. Behind all 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 "Brauer 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 barge about $\frac{2}{3}$ 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 Northwest of the target area and the course was generally a large clockwise circle ending west of Sigiti — about 12's miles of trawling.

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'. 27cc plankton.

P-21 in water at 2304 — 50' wire out, then 150' wire out at 2319; net out of water at 2340 15cc plankton.

RK

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Locality Rehoboth (AGS-50) Date May 19, 1958
Personnel Lowne, Lumb Weather Fair
Weber & H. Clander Water conditions Smooth
We have had very little rain during this operation.

Radiation level(s)

Operations:

Blg	Counter #	Time	Blg	Counter #	Time
239	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 (16°45' E; 11°22' N) started westward. Taking plankton tow at every 5 to 10 miles intervals, 15 minutes each. The plankton was filtered on a microfilter (this was a 5cc volume of plankton at each station to get an approximate quantitative measure) and counted 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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2

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 leading (west edge) edge of the target area on Wake minus about 2³ hours. It is believed here that the dredge would travel faster than the radioactive area of Wake, thus we assumed we were beyond the wake water & had entered water radioactive from other shots (probably Buttonnut). We continued the southward course for about 20 miles ^(may 20th) down which the counts diminished somewhat gradually to about 80,000 to 82,000 c/p.m. total gamma (from 900' to 100' north). We then followed a course eastward (may 20th).

Blanket	Time	Location	Total gamma	Depth
P-22	0855-0913	161°45'E 11°22'N	1,000,000	100' of wire
P-23	1000-1015	161°43'E 11°21'N	830,000	" " "
P-24	1100-1115	161°33'E 11°20'N	909,000	" " "
P-25	1230-1245	161°28'E 11°18'N	1,400,000	100' 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°11'N	625,000	100' ?
P-29	2004-2022	161°23'E 11°11'N	400,000	100' wire out

Dolphin (*Corophacina hippurina*) caught at 162°37.6'E, 11°11.6'N. being processed.
An 1.8 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 ^{most} of the radioactivity away from the surface so that no sharply defined target area of radioactivity could be detected by instrument 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.

V. 106

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for

Locality Kahala (A-5-50) Date May 20, 1958
Personnel L. J. J. J. J. J. Weather Fair + Warm
W. J. J. J. J. Water conditions Smooth

Radiation level(s) _____

Operations:

Blg	Counter	Time	Blg	Counter	Time
287	1	0936	19,230	Y spec	0135
216	1	1053	16,400	" "	0650
223	1	1305			

Ship's course continued south to $161^{\circ}17'E$ $10^{\circ}56'N$ where the lowest counts were obtained on 5 cc of plankton. We then started due east hoping to reach "clean" water, but the counts ran as high or higher at $162^{\circ}02'E$ $10^{\circ}56'N$ and at $162^{\circ}10'E$ $11^{\circ}04'N$; 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 $\frac{1}{10}$ to $\frac{1}{5}$ those in the bubble area.

Plankton #	Time	Location	Count	Depth of Tow	amt. Plankton
P-30	0101-0116	$161^{\circ}17'E$ $10^{\circ}56'N$	91,000	10-20'	5cc
P-31	0245-0260	$161^{\circ}16'E$ $10^{\circ}56'N$	59,000	150' wire	
P-32	0410-0417	$161^{\circ}22'E$ $10^{\circ}56'N$	267,000	150' "	
P-33	0617-0635	$161^{\circ}35'E$ $10^{\circ}56'N$	173,000	150' "	
P-34	0855-0913	$161^{\circ}48'E$ $10^{\circ}56'N$	172,000	150' "	
P-35		$162^{\circ}02'E$ $10^{\circ}56'N$			
P-36		$162^{\circ}10'E$ $11^{\circ}04'N$			
P-37		$162^{\circ}06'E$ $11^{\circ}01'N$			
P-35	1510-1530	$162^{\circ}10'E$ $11^{\circ}04'N$	240,000	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 (Plankton, hatchetfish, (octopus) etc.)

6

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Rikabath

Date: _____

May 20, 1955 Continued

Personnel

Weather

Water conditions

Radiation level(s)

Operations:

Richards entered Bismarck Lagoon and anchored about 1600. Franks and Don went ashore after ^{discovering} ~~discovering~~ ^{discovering} country.

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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F56

Locality Elmer & Rehoboth (AES 50) Date May 21, 1958Personnel Lawman, Libundo Weather fairWeeks & Wetland Water conditions Smooth

Radiation level(s) _____

Operations:

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

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FGL 100

Locality Elmer & Khabalah Date May 22, 1958
Personnel Laurman, Palumbo Weather Fair
Weeks and Welander Water conditions Smooth

Radiation level(s) _____

Operations:

Arranged for M-boat and large open truck to go out to Khabalah to pick up our gear. Gear in Lab. by noon. Started ~~for~~ unpacking and setting up electronic equipment and started counting. Set up resin columns.

Spung up nets to dry, cleaned up boxes, ~~with~~ piling up crates in a corner. Things are getting to look shipshape & the work is getting back on normal basis.

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FG-1 100

Locality Elmer Date May 23, 1958
Personnel Lannon, Palumbo Weather Fair
Weiler & Melander 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 in - Still very little rain
Wicks & Helander Water conditions Smooth - for here

Radiation level(s)

Operations:

Counting samples, Ran Kestin columns.
Attended party for Rehoboth Officers in afternoon.

Coastal Institute
Abbeville
May 1958

Station	Date	Time in	Time out	Method
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
P-19	5-18-58	1040	1115 ^{911^{PM}}	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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SEATTLE, WASHINGTON

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

Radiation level(s) _____

Operations:

~~Set up for R. resin columns, 8 in all~~

Set up for R. 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 refuses to
go in solution (Turbinaria).Background is dropping. Counted β
& γ and γ spectra.Frank arranged for a trip to Target
area on Rehobeth tomorrow for Plankton.

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Locality Elmer Date May 26, 1958
Personnel Larman, Palumbo Weather Normal 85°F
Wecker & 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 Rehoboth 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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(If time does not permit dry ashing the samples probably could be stored as received in the 13. Plate or card numbers can be given to these samples when they are ashed and counted.

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EIMER

Locality Louisa, Columbia Date May 28, 1958
Personnel Wicks & W. H. H. H. Weather Normal Temp 85° at 0720
Water conditions Normal

Radiation level(s)

Operations:

Continued counting samples and
processing resin fractions. Spent some time
obtaining HNO_3 — apparently not in great supply
here. We were finally able to get 6
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 β - γ 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.

Sy camore 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°
Week & Wilander Water conditions Normal

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

Operations:

Continued counting β , γ , γ -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
F
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Locality Elmer Date May 31, 1958
Personnel Rabunke, Jounan Weather Normal to stormy rain
Weeks & McHarder Water conditions Rough

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

Operations:

Continued Counting β , γ , γ 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 NaCO_3 samples for total
counts.

Most samples counted Total γ , β and
the dry weight taken.

At midnite Bkg started up by 0130 June 1
the γ spec. bkg had doubled. Reading outside went to
7 mr/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 ($\approx 1,000$ cpm) but were down to 19000 cpm at 0900.
Operations:

Continued counting, β , γ , γ spectrometry, Continued
HF-HCl anion separation.

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

Radiation level(s) _____

Operations:

Continued counting B, X, Y spectrometry, resin
column runs,
Began compiling tables of samples, localities,
depths, etc.

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

Radiation level(s) Rose & were at 0630.

Operations:

Continued Counting 2' & ~~2~~ 7 spectra. Making
and checking tables.

Writing on Materials & Methods for Wahoo
report.

Sent TWX to Lauren regarding future
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 25" x
Total 1ton. Background on 2Mev 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.

For
file
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Locality E/NEK Date June 4, 1958
Personnel Weeks, Klefaunder Weather Rain and Sun
Lawman, 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-Whicoffie 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 connection 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.

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Locality Elmer Date June 5, 1958
Personnel Lowman, Palumbo Weather Normal 88°F
Weber & Welanders Water conditions Normal

Radiation level(s) Beta ~~high~~ 165 + 127 c/m for #1 & #3 counters
 γ - " 1050 c/m

Operations:

Continued γ spectra, some resin column separations,
writing of report (materials & method) 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 16th and Art July 1st. Don's fate
is still unknown.

RP

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Locality ELMER Date 6/6/58
Personnel Louman, Welander, Weather Fair
Weeks, Fikumbi Water conditions NORMAL

Radiation level(s)

Operations:

Continued with gamma counting, β -decays and Tabulation of data. Visited by Dr. W.W.T. Crane and Dr. H. Hickers UCRL chemists and later Jere Knight of LLNL, 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
Wilbert & Melinda

Weather

Normal 87°

Water conditions

Normal

Radiation level(s)

Operations:

Continued T_2 counting, β 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 Lauren, Palmer Weather Normal 86°
Weeks & Melander Water conditions Normal

Radiation level(s) _____

Operations:

Continued γ spectra, β 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. Gibson, apparently, with now he 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 C.K. from Seymour and D.B.M.

END

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Locality Elmer Date June 9, 1968
Personnel Welanden Weeks Weather Clear 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 4mer and 2mer 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.

120
KB

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

Radiation level(s) _____

Operations:

Continued I spectra, β decays, tabulation of
data, and checking. Resin columns on the
particulate material and on the solution from
the water sample from Umbrella Taper area.

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Locality Elmer Date June 11, 1958
Personnel Lawman, Palumbo Weather Normal 89°
Wicks & Willander Water conditions "

Radiation level(s) 0530 Maple at Bikini: shock 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 Lansman, Welander Weather Stormy - Rain 79°
Wolke & Palumbo Water conditions Normal to rough

Radiation level(s) _____

Operations _____

Trip to Kure cancelled. Wouldbe 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 " " H₂O
1 " " Trawl samples
1 " " Algae samples
1 " " Extra plankton and MF Papers
1 " " Pre Wahoo samples
1 " " Co₂ Rv-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
2 PKg checker cards shipment
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 Frankeny

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UNIVERSITY OF WASHINGTON
LABORATORY OF RADIATION BIOLOGY
SEATTLE, WASHINGTON

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PRO
KB

Locality Elmer Date June 13, 1958
Personnel Lawsman, Salento Weather Normal
Weeks & Welande Water conditions _____

Radiation level(s) _____

Operations:

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

Found out from Z.I. that Lawsman 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

EX-100
JUN 14 1958

RB

UNIVERSITY OF WASHINGTON
LABORATORY OF RADIATION BIOLOGY
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.

Praised 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

50

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LABORATORY OF RADIATION BIOLOGY
SEATTLE, WASHINGTON

Locality Elmer Date June 15, 1958 (Sunday)
Personnel Lawman, Palumbo Weather Normal
Weeber, 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 12th):

Pkgd for mailing {	1 cigar box - Vials w/ fractions of resins
	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. Tumor 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

Locality Elmer Date June 16, 1958
Personnel Laurman, Palumbo Weather Normal - 91°F
Weeks & Welander Water conditions Normal to Stormy.
Rain.

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

Operations:

Laurman & Palumbo left for Itabiki
0930.

Sent off water samples & preserved specimens
from Wahoo event, by air ^{freight} 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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LABORATORY OF RADIATION BIOLOGY
SEATTLE, WASHINGTON

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

Radiation level(s)

Operation

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

Prepared Package for mailing - Following included in one large
Package: 2 pkgs of flags from drague
2 pkgs of Chill shock salt from Rehoboth evaporators
1 PKg Rehoboth Plankton sampler
1 " " H₂O
1 " " Trawl samples
1 " " Algae samples
1 " " Extra plankton and MF Papers
1 " " Pre Wahoo samples
1 " " Co₂ Rv-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
2 PKg checker cards shipment
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 frankling

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SEATTLE, WASHINGTON

JSP.

PRO
KB

Locality Elmer Date June 13, 1958
Personnel Lawman, Palumbo Weather Normal
Weeks & Welande Water conditions _____

Radiation level(s) _____

Operations:

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

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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

UNIVERSITY OF WASHINGTON
LABORATORY OF RADIATION BIOLOGY
SEATTLE, WASHINGTON

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

Radiation level(s) _____

Operations:

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