DAILY LOG SHEETS FROM ENIWETOK LABORATORY

410963

April 18, 1956 through September 29, 195-

Book No. _____

UNIVERSITY OF WASHINGTON
APPLIED FISHERIES LABORATORY
SEATTLE, WASHINGTON

Locality Seattle - Eniwetok Date 18 April 1956 - 21 April

Personnel Bonham - Palumbo Weather

Water conditions

Radiation level(s)

Operations:

Left SeaTac at 8:30 PM, arrived PortHand 9:45pm left PortHand 10:30 PM
Excess baggage 36 lbs - KB paid $10.80 Total
19 april, 1956
arrived Honolulu at 7:20 am. met by Mr. Andrade of H&N who took us to Transient area for billeting. Reported to Liason office Joint Task force for arrangements to Eniwetok. all set for 0500 20 April.

20 April 1956
left Hickam 0500 Crossed Intern national Date Line: date now 21 April 1956 Arrived Kwajalein 12:35 pm visited shell museum next to the airport. left Kwaj at 2:10 pm arrived Fred 4pm. arrived Elmer 5:30 pm. checked in at Security, obtained Temporary badges, had supper + take to quarters, not in military area. After dinner visited AEC barracks + met Tom Hardison, Ernie Wynkoop, Bob Taft, George Barrows, Jim Snyder, Jack Livingston, Wade Gibbons (UCRL), Jim Reeves, Ed Butts, Dr. Mathews (Sanitary Engineer Albuquerque), Col Jattis (Canton) and others. not much shop talk.—

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Locality Parry Island Date 4-22-56

Personnel Palumbo & Benham Weather E : 20° main. 16mph p.m. estim.

Water conditions

Radiation level(s)

Operations: Exchanged temporary bridges for permanent at Security ~~co-affiliations as to~~ JTF number are in such question that no mess hall seating assignment has been made, and we remain in the military tent area. Ernie, Tom, & Ed will work it out when they get time. At EMBL, met Cassidy, instrument man for NYOO. Their automatic counting equipment almost fills the dehumidified rooms, but they will make us some room there. The warehouse has been cleared for other uses and our equipment moved to EMBL, to which a northward extension of about 12 feet has been added for storage. This is ~~not yet~~ completed but has to be equipped with shelves. It now houses NYOO samples. The main lab is crowded w/ glassware from the warehouse, but the 3 cabinets on the south wall are about as we left them in November, 1955. The AFL cabinet was likewise undisturbed. Careful search failed to reveal plankton collars w/bayonet coupling, net ends, Waring Blendor, counting rate meter, typewriter, gunny-sacks of field shoes, rotenone distributing sacks, or refrigerator. We uncrated a 215-lb box of compound microscope and light. Both freezer boxes, on porch and inside are operating, ~~but not~~ and the walk-in box. A concrete pond adjoins the porch, south side, but no water in it yet. The outside aquaria contain living spider snail, anemones, stone fish. On the porch are NYOO equipment and a large wire fish trap, rubber boat package, Gilmartin's cans of plants (in good shape), and the 5 cabinets of museum specimens, 3 of fish, 1 of invertebrates, and 1 of bottled algae. We walked to and from lab, since transportation is about as scarce as housing. Tried to clean up some of the mess in the lab. 3

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Locality Parry Date 4-23-56 Mon.

Personnel Palumbo & Bonham Weather Sunny

Water conditions

Radiation level(s)

Operations: Planned tentative schedule of pre-collections for the week and interviewed Tom Hardison to arrange transportation He said we had been wrongly assigned to Headquarters and that for smoothest operation we should be in ~~7+~~ J.T.F.-7.1 rather than in his group 7.5 So he sent us to Cdr. A.C. Jackson, T.F. Supply Officer-(J-4) who after discussion w/ Admiral Hanlon (sp.?) arranged an interview w/ Dr. Ogle, Scientific Advis to Adm. Hanlon, Dr. Felt, Commander T.G. 7.1, Los Alamos, Major Chiment of Group 2 (Scripps), and Jim Reeves, head man of A.E.C. Ogle asked for clarification of the problem by a statement of our purpose. We mentioned radio-biological monitorin of aquatic organisms, possible crash programs, and the oceanic survey on the destroyer Walton June 10-20 and again in September. This was news to them. They apparently knew nothing of the oceanic survey or of the Walton in the ships' movements, and Ogle expressed the feeling that this may duplicate work planned by Scripps' and other ships in the area, except for work on fish. They put us in 7.1 rather than 7.5 since the latter simply serves 7.1 during the operation. If we were in 7.5 (AEC) requests ~~to~~ by them for services for us would be out of order, while if we were in 7.1 that group would care for our needs as part of their responsibili Jim Reeves assured us further that this interview was essentia that our situation had to be thus clarified. ~~Tom Ha~~ Armand Kell will try to locate us in a barracks of 7.1. and will get us a brown (photographe[illegible]) badge, as he will do for others of our group who

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Locality _____ Date 4-23-56 Mon Cont'd.

Personnel _____ Weather _____

_____ Water conditions _____

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Radiation level(s) _____

Operations:

arrive later.

Arranged an L-20 trip to Janet for tomorrow morning, a trip to Vera for the next day, and if Major Perley can arrange it, trips to Leroy and Henry, and to Belle before the end of April.

Tom Hardison through Col. Kerwin arranged for us to get a vehicle on temporary basis from Major Bowen at the Motor Pool.

Ken Perry of Security got the shotgun out of their safe for us. George Bernier says we can get some film from them, in all probability, if ours does not arrive in time.

Background on counter is 19.2 @ 1400 V. Plateau run. Proximity of multi-curie sources is impeding low-level counting by NYOO.

Prepared for tomorrow's trip to Janet.

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Locality Elmer - Janet Date 4-24-56
Personnel Bonham - Palumbo Weather Rain showers
Water conditions

Radiation level(s) at Janet in rat colony 1" 3ft r - ave 4mr/hr 5" Cutie range 0 - 8mr/hr 5" Pie"

Operations:

Obtained shoes and Coveralls from RadSafe, Takeoff at Elmer at 0805 by L-20; Land at Janet at 0825. Looked for rats in usual area without success. Looked for Cucumbers east of lagoon without success found 3 west of pier 200 yds by a 6" pipe. Collected plant specimens and surface soil in rat colony, also water in lagoon. Continued looking for rats and finally RP saw three in bunker area west of block house. Kelly saw one other. Caught none. Returned to airstrip. Takeoff 11:35 arrive Elmer 12:05. Put specimens in refrig. Called Eniwetok PXne Rescue Sta. - They do not have any at all! Poor action.

Made arrangements with Comb Perley for boat and car service to Yvon for 4-25-56 and to Belle for 7-26-56. Contacted Burgess, Hardware for all the Duco cord & Lacquer Caps etc. Kelly picked up. Will package enough for Yvon collection and Belle collection and arranged for Cutter to be boat freighted to Yvon for pickup. There will not be explosives allowed on aircraft since one accident has already occurred on or near aircraft.

4 pkg Scotchtone and 1-9.5/ft roll of Tri-X film arrived today from Seattle

Pickup Jeep in exchange for 3/4 ton we had been

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Locality _____ Date 4-24-56 TV. Cont'd

Personnel _____ Weather _____

_____ Water conditions _____

_____ _____

Radiation level(s) _____

Operations:

morning.

Dried samples of island soil and bottom soil, plant specimens, and algae (Hypnea species very abundant) from Janet. Filtered water samples w/o suction thru MF. Will add acid (Na)$_2$CO$_3$ to formol samples and seed set any count, don't expect to. Just want to try out the procedure.

Am checking the counts for background and standard counts.

Prepared algae plates for counting here and for Chicago here. Major face sheet collections of all organisms will be made at Vlra and at Belle Janet (rats ~~plan~~ tape tried again if time permits) and plankton-pelagic fish if time and suspect plant.

Hoping get chlorpicrin extra early next week to Troy - Henry - these items are at premium and we may have to depot to boat in which case smell plankton fish also.

Hank Burgess helped us round up primacord, caps, generator, tape, and grease; stored in EMBL overnigh

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Locality Ursula, Vera, & Elmer Date 4-25-56 Wed.

Personnel Palumbo & Bonham Weather Cloudy a.m, clear p.m.

Water conditions

Radiation level(s)

Operations: 0800 water taxi to Ursula; collected 3 H. atra & 1 stichopus. By DUKW to Vera, ~~##~~ southern end, lagoon side. Spread 1 jugalug of rotenone (in sack); while it worked, collected mantle of 3 Tridacna crocea, 10 Acropora, 3 encrusting sponges, 3 H. atra, a tan, and a black warty cucumber; collected the fish kill - fair. Shot 30' Primacord in 6' of water, mid-island, lagoon side, but got no fish; any present were obscured by turbidity or hidden in coral crevices. Lack of time prevented another attempt, but rotenone sample will do. Dug out 1 Ocypode; found no Coenobita. Survey meter reading beside road, south end, using "Cutie Pie" U.S. NRDL-NN-0321, El-tronics Model CP-3DM, gave 1-2 mrep/hr either 1" or from ground. 1330 hrs DUKW pick-up to Ursula & Tilda air strip and L-20 @ 1415 to Elmer. Put specimens in freezer. Visited by Burch, 7.1 Safety advisor re storage of primacord & caps: Said <8 caps in locked safe, ok Should remove primacord to explosives shed - will do tomorro

Two 4' rolls of 2" hose or tubing in burlap arrived c/o Tom Hardison for Donaldson; stored on porch; also 2 crat

Collected algae and land plants as per proposed schedule for monitoring; at south end of island near R beacon - Lyngbya, Halimeda and Caulerpa; Messerschmidia Scaevola and Triumfetta. Collected 500 ml sample lagoon water and bottom sand below low tide; also island soil top inch south end island in several spots.

Other lab occupants busy in lab and we tried to work around them. Some - time up and

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Locality _____ Date 7-25-56

Personnel _____ Weather _____

_____ Water conditions _____

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Radiation level(s) _____

Operations:

Chased around for discussion w/ Armond Kelly. Ship position not clear yet will stay tied up in Headquarters. Put in for missing typewriter. No work shoes available from supply - my ICB Red Safe boots are almost wide enough for me. I have been wearing 2 RDs' old sneaks. Priced sneakers in PX - $2.30; but supply limited to size 12! Others at $3.05 available in all sizes, but are low. Suggest You bring our shoes if you need C or D widths. There are no old shoes kicking around.

Water samples filtered, plants & soils into drying oven, and prep for Tomorrow's Bikini trip.

Looks like Bella and Vita will represent our pre sample; may have trouble getting in Henry stuff for Ed since plans are being hurried and things are getting tight - but will do our best, Ed - like plan a plankton trip - may be Re-Sat if possible - with fellows fishing. On this last trip look out of the Western.

Both KB and RP read from Sam, even our bad spots.

Counting background rates from 15.3 to 19.2 c-m Sources not exposed.

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Locality Elmer, Belle Date 4-26-56 Th.

Personnel Palumbo & Bonham Weather 20-25 estim. mph.

Water conditions

Radiation level(s) Belle F (Cotie Pè) 2-4 mr/hr.

Operations: Left Elmer by L-20 0830. Left Gene ~ 0915 by DUKW w/ Dan Jones (LASL). Arrived Belle F ~0945, to learn that thru a misunderstanding Jones did not have our primacord as we thought. DUKW took him over to Alice where he very kindly collected 3 Holothuria atra, ocean side. We fished in shallow water of F area (in a frigid shower) with rotenone, getting on a few small fish. Collect the scheduled plants, algae (3 s clams, corals, sponges, and Coenobita, legs but could find no cucumbers or Ocypode; saw Ocypode holes. Took meter readings (above), soil and water samples. Departed Belle 1300; DUKW went toward Clara > half way ~~but~~ then lagoon-w but got stuck ~ 20 min. at reef edge. Finally worked loose on the rising tide. Left Gene in L-20 @ 1400. At Elme froze samples. Lt. Beiler notified us of our assignme to JTF 7.1; we shall occupy a 6-man room next to his i a 70-man barracks; gave him, on request, names and dates of arrival (approx.) of others EH & RO. June 3; LD, J.D., A.S, A.W, FSL, & NOH, 6-1 Tom Hardison mentioned receiving notification of shipment of ra meter, Waring blendor, etc. Cmdr. Perley arranged for passage of KB on M-boat-w/DUKW w/party to Leroy tomorrow 1400–2000 with 30-60 minutes ashore; will try to get algae & cucumbers on the high tide, and terrestrial crab samples in case Ed wants. On 4-24-56, Chambers (w/ Burgess in Safety) to of large groupers: 337-lb sent to Wn. D.C., 364-pound caught at Bikini, 371-lb off Elmer; and 471-lb on Elmer, in our wal in box now— it looks unbelievable! All caught within a year.

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Locality ..... Date 4-26-56 Th. Contd.

Personnel ..... Weather .....

..... Water conditions .....

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Radiation level(s) .....

Operations: The 364--pounder which Chambers once had on and lost was finally caught w 9/16" thick barbless hook baited w/ 5-lb hal of a fish, and 1/4" nylon line. Most of these fish were beache for landing.

Talked w/ Col Schmitt Ike of DMA about our program. He said the tractor will arrive here on June 10. it will be outfitted w/ wash down gear and our gear for plankton etc and it is expected that the ship will be here 3-5 days for these details, then it will go out w/ our crew until June 20th at which time all our gear will be off loaded since there is no guarantee that this same ship will be available for the September cruise. The 3-5 days spent outfitting the ship will give Al and Frank a few days more to work with. The program of the 4F2 is now in the show and all the top dogs here are aware of its scope and importance.

Evening spent on log work counting etc.

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Locality Elmer, Leroy, Skokomish Date 4-27-56 Fri
Personnel Palumbo & Bonham Weather Cl. showers + Sun
Water conditions Lagoon rough

Radiation level(s)

Operations: Opened some Hiatt cases at lab and removed to porch. Plankton tows by RFP 0415 AM in Cable boat. fished in ten possible. No luck at all. 0930 - Depp-passage tow ½ hr 2 - 12" nets Temp of water 81° F. took water sample. Plankton catch four
10:55 - Off Bruce ½ - ¾ mi. tow ½ hr. 2 - 12" nets. water temp 82° F Took water sample. Four catch
12:05 Docked Elmer.
1300. Kelly off on M-Boat trip to Leroy with service party.
RP in Lab. weighed dried plant samples, ran some counts. Talked w/ Dr. Gordon Dunning at the Lab. will send separate letter about this comes up for Dr. Dunning will be here 3 weeks before going to Japan. Left Elmer 1300 hrs on Leroy trip in M-380 w/ Bob Isa operator and Vance Cathey deck hand, 2 hrs going, 1½ hr there, & 3 hrs returning. Collected 3 ~~Strelopes~~ H. Jeuppspilot, 5 Coenobita, 2 Coypode, some Acropora, algae, 2 coconuts, leaves of Scaevola, Messerschmidia & Cordia, and Bob Isa got us 2 Birgus these could help fill the void if we can't get to Henry pee-shot. Capt. Hal Shaw, Capt. Chas Luke (UW Masters' in Physics 1948) and Lt. J.C. McNeilly of service party drove weapons carrier ashore as M-boat landed at north spit 1500 on 2.5'-3.0' tide (incoming). Arrived - Elmer 1930. Collecting done at north end Leroy.

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Locality Elmer - & Henry Date 4-28-56 Sat.

Personnel Palumbo & Bonham Weather Good

Water conditions

Radiation level(s) At Henry under Pandanus tree at east end of road, using Cutie pie 2-4 mr/hr

Operations: Left Elmer 1100 by H-19 (lucky us!) for Henry with Preston of UCRL, the pilot, and the pilot's assistant who helped hunt for coconut crabs. Spread bread along road near burrows, but had to return too soon for it to lure the crabs. The pilot located 3 Birgus about 1/4 way from E end of road, which we jug-a-lugged. 5 Coenobita with shells were taken under the Pandanus tree at E. end of road; soil & plants also taken here. No Ocypode were found, but an Eriphia was taken near the sea cucumber (3 H. atra & 2 St. chorus) collecting site, seaward from the Pandanus tree. No coral or sponges seen and time was too short for going farther. Copter arrived Elmer 1215. Ed's Birgus, Coenobita, plants (Pandanus fruit, Morinda fruit, etc. as requested by Ed) packaged in a box labeled "Henry 4-28-56," in freezer on porch.

At Security, got our 7.1 brown identification badges. First mail from home arrived today. wet Chaetodon muscle from Vera counted 20/min (1.72 grams) ~~of~~ gross, minus 16 bg. = 4/min.

Plate numbers assigned to the various groups for this operation: Fish 1-1000, Invertebrates 1001-3000, plants 3001-5000, water 5001-5500, Soil-sand 5501-6000, Plankton 6001-7000, Birds 7001-7500, Rats 7501-8000.

Algae washed up on beach - also collected.

Soil-sand packaged bulk for radioassay & Chem if needed.

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4/29-5/3 AW FRL AHS PRO DS

Locality Elmer Parry & Janet Date 4-29-56 Sun.

Personnel Palumbo & Bonham Weather Good

Water conditions

Radiation level(s)

Operations: Left Elmer 0805 by L-20 for Janet. Collected 3 rats by bunkers using shovel and swatters. Dug ~~one~~ two out of burrow in pile of dirt; got one of these; other escaped. Uncovered one by moving dead tree; got it. Got third running in open. Workmen reported seeing rats other places near bunkers. Rat traps are still in bunker, 6-10 in number. Dug one burrow which proved to be of an Ocypode, collected, not a rat; surprizing for so far from water. Left airstrip 10:30 for Elmer.

Examined plankton taken 27th. Deep Entrance differe from Bruce chiefly in presence of many copepods at D.E. and their virtual absence at Bruce, but the presence of much debris at Bruce.

Yesterday Ralph initiated a guest log with Tom Hardson the first signer. Today's included Germishauser of Edgerton (sp). Greer, & Germshauser and 6 others. Fed the fish including 2 stonefish, anemones, and crabs.

Sampled fish at pier: papia, 2 Lethrinus, Remora, Cherinemus, rainbow runner, and a "minnow".

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Locality Elmer Date 4-30-56 Mon

Personnel Palumbo & Bonham Weather Good

Water conditions

Radiation level(s)

Operations: Got supplies: chlorox, sponges, mouse traps, and carborundum hone; work order at J-6 for muffle furnace racks. Ralph & I moved to Barracks 108, Room 4. Collected sea cucumbers 2 Holothuria atra & 1 Actinopyga mauritiana to seaward of barracks area, and algae near lab. 5 H. atra & A. maur. seen near lab but not collected. Got film: W/Geo. Bernier, rolled off 4 rolls of Tri X, 35-mm. 5½ feet each, from 95-ft roll of designation 1-TX-402-35 (George's number). Got ~ 40 shot-gun shells from Ken Perry, left in his custody by Frank. Stamped cards and dissected Vera cucumbers.

Experimented with mortar and pestle - algae Asparagopsis and Caulerpa homogenized well enough, but Sargassum leaves were too slippery and took much too long. Plated out samples of Thio looked good.

Soils and plankton samples are being treated exactly like they were for Castle series. Enough soil is being sent for Cl ion analysis etc. if needed. Etc includes salt absorption studies and for other labs.

This lab is looking more like a biology lab daily & less like an instrument lab. It's still a struggle to get thru the air conditioned rooms and porch, but we are making headway.

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Locality Elmer Date May 1, 1956
Personnel Rinhart - Palumbo Weather Sunnic - Changing
Water conditions
Radiation level(s)

Operations:

Scoured all possibilities for blender - no luck until I contacted Jack Livingston - There is a large box for us w/ 6 waring Blendors + et's to be delivered today. Arrived PM - Rate meter and all accessories - it had been at Cad Safe - no address on packing slips except Elmer - also arrived - 1 Ranger and 1 box unopened. from NYOC for L.P Donaldson 2 large 7 ft tanks, 2 water pumps + large probes boxed up.

1 waring Blendor dug up in box from L.A. Hawaii when looking for Nitric Acid. Several boxes marked acid, others unmarked have been left unopened will find out what's in them gradually - Packing slip removed before arrival at Lab -

Am in force Sunday studies unattended by Mgt Peterson visited lab - Quite interested in helping us collect and process when their load slacks down

Homogenized 6 hrs 4-25-56 plant samples - find the it takes 1 part H2O - 1 part plant or 2 pts water - 1 pt pea to do a good job. Have to do some juggling to get correct wet weight, but is fine if proportions are kept standard. Punch cards, weight column will appear some, but first setup will give calculations made Stems and dead parts can be chopped up better in 10 - 15 glass tissue grinder tops not good enough

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Locality _____ Date May 1 1956

Personnel _____ Weather _____

_____ Water conditions _____

_____ _____

Radiation level(s) _____

Operations:

After homogenization, three plates are made, weighed wet, dried w/ infra red lator, and sealed in small bags - make a neat package. Scintillation will ash etc. Took one afternoon and part of evening to work up 12 specimens - 24 plates.

Continued dissecting cucumbers; made 24 plates; counted on 1" end window tube.

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Locality Elmer Date 5-2-56 Wed

Personnel Palumbo & Bonham Weather

Water conditions

Radiation level(s)

Operations: Continued cucumber processing. Collected Elmer pre-shot beach sand and island soil at Lab.
Processed Belle plant samples
KB collected soil behind lab intertidal and Island. RP located 2 more waring Blenders. in same load as Rate meter Received more supplies for LRD from N400. 2 boxes with Recorders etc.
Found that small glass tops on blenders work well & Lots Hx8 used. This not good since samples too Soupy & plates hard to handle. Halimeda and algae in general work nicely. Stems and fruits are tough. may consider changing to Choice of land plant tissues to facilitate this job.
Plates dried under infrared later package easily * We need more 1½ inch plates. We are now using weighed but unnumbered plates. write the number in pencil, hope you can read it.
Paul & Ed should definitely carry plates until then

END

END

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Locality Elmer --- Date 5-3-56

Personnel Palumbo & Bonham Weather

Water conditions

Radiation level(s)

Operations: Continued cucumber processing. Ralph located, and started using, for sea water sample filtering, the suction pump in the varnished box, that was at the lab previously. Received the second envelope of containers; this was 5" tubing, pliofilm, the first was peanut bags, cellophane.

The Gast Hypro pump hidden behind N4 Oc Gear does not function properly — Aspirators are almost as good — will try to remedy the situation tomorrow. Spent all afternoon except part morning filtering (2) - 100 ml samples from Jamet, Belle, Vha and did not finish 2 plankton Station samples — My feelings were as to first filtration.

5/4 - 5/6/56

AHS
FGL
CW
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Locality Elmer-- Date 5-4-56 Fri.

Personnel Palumbo & Bonham Weather

Water conditions

Radiation level(s)

Operations: Refrigerator (Gibson 8 ft³, new) delivered to lab. Continued trying to set up rate meter. Got it working ok. Appears to be suitable for hot, but not for pre-shot, samples. Assembled new tube, & cable on shield and attached to second counter; No response; spurious counts when timer goes on & off.

Rewired Hylac pump from case & K3 disassembled switch. Looks like there was a leak in the system somewhere, because at present the pump won't even run enough to finish doing all water samples. Today's [illegible] in jars on the cold floor outside, so tomorrow will dry in small bags, seal and plug and you can [illegible] plates in Seattle. Will send code & log with samples.

Rate meter continues to work ok, but sample changer (feeder) has its faults. Micro-switch to turn off recorder & stop plate does not work, or at least was not in correct position at night yet.

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Locality Elmer Date 5-5-56 Sat.
Personnel Palumbo & Benham Weather Good
Water conditions Mid
Radiation level(s) 21 c/m.

Operations: Everybody up early. Sealed ashed cucumber plates 1001 thru 1044 for shipment. Each plate is sealed in plio film and inserted in its carrying card these cards with their plates in place are ~~re~~ stacked tou each other so that mutual pressure helps keep the ash from shifting. There will be some shifting of ash, but it is hoped that the ash will not shift are the edge of the plate and get underneath the pla If ash does not get under the plate, ~~the~~ removal the plio film could best be done by burning, perha These plates have been counted at EMBL but shoul be counted in the Nucleometer for final Post Ne data. Other samples will be dried but not ashed EMBL, as stipulated in our planned program of monitoring.

The rate meter continues to work well, and is admirable for continuous background recording wh large (≥ 1.5-fold) fluctuations are expected. At t slowest speed the 103-foot tape runs 3/4" per hour and lasts 2 months; at fastest speed, 6" per minute = 3 1/3 days total life. Slowest speed is suitable for bg Only one type of chart came with the machine an it would be desirable to have extras on hand. Suggest ordering 12 Record Charts No. 4309-X @ $1.50 each from Esterline-Angus Co., Inc., P.O. Box 596, Indiana 6, Indiana. Prices in lots: 24-47 @ $1.40, 48-95 @ $1.30.

May be available Seattle

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Locality Elmer, Vera, Zona, Bruce. Date 5-6-56 Sun.

Personnel Palumbo, Bonham. Weather Good

Water conditions smooth

Radiation level(s) Vera 200-300 mr/hr @ 1110 1125 hrs. Other localities <

Operations: With Lewis Blake, Wm. Springs, and Pohlman left Elmer @ 0900 on M-boat 212 w/ Operator Gledhill & deck hand. Took plankton tow in Deep Entrance 0910-0935 w/ #12 (10) net 12" in diameter; the #6 net (10c) ripped off the canvas and was lost; 2nd plankton tow at 1130-1200 w/ same net ½ mi off Vera toward Wi 3rd tow 1255-1325 1 mile off Alvin toward Bruce. From 2 to 4 fishing lines operated most of the runni time using feather jigs and red squids but no tuna caugh 5 fish were caught near shore: 3 jacks, 2 by Blake & 1/8 mile off Elmer, and 1128 at Vera, and 1 by Pohlm 1500 at Bruce; Blake also caught a 7-inch brown grouper and 2-line mackerel at Bruce ~ 1500 hr. At Vera Cutie Pie readings were 300 mr/hr in 10 a ashore 1110-1120, KB collected 3 accum. H. atra at Si end where collected previously and RFP got algae, coral sponges, and sand (plants also), from the cable area mid-island where the M-boat landed. At Zona, lan ½ mr/hr; saw many sooty terns, an egg in a nest, a fledgling perched and no signs of heat damage, th no coconut palms present. Collected acc. Actinopyga on outer reef, sponges, corals, algae on inner reef

At Bruce, north end, 1500 hrs, 0 mr/hr. Got 3 H. from tidal pool at NE edge of island; corals & alg from NW edge at boat landing.

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Locality ..... Date 5-6-56 Sun. Cont'd

Personnel ..... Weather .....

..... Water conditions .....

Radiation level(s) .....

Operations: Springs & Blake got young coconut sprouts for planting at Elmer. Coconut palm fronds were noticed by the deckhand, and the tops of the trees to be singed on the north side which is surprising in view of the distance from the north end of Yvonne and the lack of evidence at Zond.

Tatom brought in moorish idol and Fungia collected this afternoon from the south reef of Elmer.

Counted Vera soil sand samples. Vera ~~sand~~ soil was collected 100' inshore from boat landing at cable area where Messerschmidia leaves were taken. Two plates were made, one #1 by loading the 1½" plate with sand and then pouring off all but 5 mg of fine dust. Vera soil plate #2 contains 73 mg of coarser sand dipped from the top of the jar. When first counted at 2000 hrs. #1 was ~43,000 c/m and #2 ~ 10,000 c/m.

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rec'd. 5-15-56

Locality Elmer — Date 5-7-56 Mon
Personnel Palombo + Bonham — Weather cloud
Water conditions

Radiation level(s) Bg. 27 c/m on EMBL #C3 (up to today has been 15-22)
Operations: Very island soil* decayed from 43,000 last night to 35,000 at 0800. Rate meter faulty, will get count this plate.

Ralph collected on Elmer reef behind lab at 0900: 3 dead mullet, 4" long, 2 young sea cucumbers ½" long and algae

LeVine, chief of instruments div. of NYU arrived and reorganized & dehumidified their equipment in the rooms to give us all more room: moved centrifuge, ~~and~~ small safe, Toledo balance into main lab. They now occupy the front dehumid. room except for furnace & oven; under oven is their air compressor; in the rear dehumid. room they have space made by removal of centrifuge & safe; temp. in 1st room 70°F in 2nd 37°F. Plan temporary removal of panel over door between 2 rooms to cool Room 1. The lab is now pretty full with NYU & AFL. Hope no other investigator plans to occupy this lab before NYU leaves on or before Sept. 1.

J-4 warehouse called that they had some of our stuff in storage belonging to ... We found all the missing items that had been in the warehouse behind the Res. Engineer's office: plankton nets, shoes, rubber boots, etc.

Also there is plankton gear: 3, 4-inch bayonet-fastening collars for adapting "cod-end" bags to nets, plus 1 collar not in working order; 4 new and 3 good used (attached to collars) cod-end bags, 1, 2-inch diam limnological

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Locality Elmer — Date 5-7-64 (cont'd)

Personnel ____ Weather ____

Water conditions ____

Radiation level(s) ____

Operations: plankton buckets; ½-meter plankton nets for 3½ inch diameter buckets = 2, new, unused, at 7-ft and 80 meshes per inch; 2 almost new, marked Nylon #1 & #2, October 1963, complete with hoops, bridles, and inlet collars; 1, 3½" stainless buckets with screen for above nets; 3 extra 3½ inch adapting rings to attach buckets to nets; 1 thimbles, 3 rings (2"), 4 snaps, 200' unused No 9 (~ 9/64") sash cord, 200' of good 3/8" sash cord, scraps of plankton netting, and 1 rusty ½-m iron hoop, and 2 extra, new ½-meter stainless steel hoops.

Packaged samples and cards for mailing tomorrow:

4 plankton 6001-4
12 water 5001-12
11 soil 5501-11
44 plants + algae 3001-44
50 invertebrates 1001-56 (See attached note among cards)

No fish; yet to be finished.

Spent afternoon organizing and stowing equipment; quite a job since we now have no warehouse space. Have started stacking empty crates on windward side of lab.

Leaving with a few things in the refrigerator to keep them moist in water to prevent deterioration of rubber linings etc.

P.S. I called Luis Cole - 4HC 435 - remember! No news excepting gauge meter. Thanks for help since April 15th, and for trying to keep pressure down.

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Locality Elmer Date 5-8-56 Wed Tues
Personnel Bonham - Palumbo Weather
Water conditions
Radiation level(s)
Operations:

Continued processing various plant, animal, soil and water samples. Algae from Elmer show increase in activity. Vein algae and soil very hot — samples being sent for chemistry and for decays. Decays being run here. Asparagopsis project moving very slowly but KB cucumber program in full swing. Ratemeter back in operation; increased voltage to 1320 and get best results; at 1250v got no correlation between different scales.
EMSL counter set up NO. 2 (new pig + RCL tube) now operating — again made possible by regulating the voltage, now counting at 1250v. Who needs "electronicians"?
Schlegel ~~of~~ studying latest list of "Digest of Oceanographic Data for the Marshall Island Area" by A.R. Gordon, Jr., U.S.N. Hydrog. Office, March 1956, 37 pp, a good popular summary of waves, swells, currents, temps, salinity, ~~dyn~~ density, geology, oil, botany, biology.
Mailed samples to each listed yesterday.
Sent TWX re [illegible] to all [illegible] Princeton [illegible]

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Locality Elma Date 6-9-56 Wed

Personnel Palmisano + Bentham Weather Cool

Water conditions Moderate

Radiation level(s) 21-23 on 3 counters

Operations: Collected on reef south of Elma: got some algae, some pul gum w/some marbled elvis snails and new the Id worked T-test for 3 forms (2 metric) in crenulata H. nitra with counts from 1 to 8 per 4 sq. in. total

Counters working well

Received unidentified letter from Lewis and others. RP answered same about 10 minutes after receipt.

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Locality Elmer — Date 5-10-56 Th.

Personnel Palumbo & Pinkham — Weather Cloud

Water conditions Moderate

No rain today, very little yesterday

Radiation level(s) 21-25 c/m

Operations: Collected on south of Elmer about 1/3 way to Fuca. Gravia-like, red-encrusted sponges, and white tube sponges, 3" or less, and Lyngbya. Water got wipe with tides from 6 Cmer; sent storm bringing logs than Halimeda and almost no bathing on previous brought back 2 sponges and 1 small plant. Between 1 & 2 of the species of the big new plant to be Halimeda. Small plate of sponges (wet) about 24 to 36 c/mm and eelgrass (2/m); but not common.

Received CEMR taking part samples of 4-29-56.

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Locality Clam Date 5-11-56 FTI.
Personnel Palumbo & Benham Weather Good
Water conditions Moderate

Radiation level(s) 21-27

Operations: Processed Elmer fish of 5-6 & 1-56. Walked 1 rep 2 to island half way to Fred: slate pencil sea urchins common; Holothuria atra & Actinopyga common all the way; large H. atra measure 14" x 2½".

Arranged helicopter trip to Leroy & Henry for 1330 tomorrow, including KB, KFP and Ira Whitney and ER (Ted) French on "HOC".

Water samples and plankton samples collected on Ven 5-6-56 Trip processing completed.

Ven land fauna completed.

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Locality Elmer - Henry, Leroy Date 5-12-56
Personnel Palumbo & Bonham Weather Good
Water conditions Moderate
Radiation level(s) 2 mr/hr on Elmer.
Operations: Left Elmer 0815 by helicopter with E. R. French Ira Whitney; at Henry collected Land plants, algae, soils, water. lagoon, H. atra Sea cucumbers, coral, sponge, and small Cucumbers—
Meter readings w/ cutie pie ionization chamber 2 mr/h

Left Henry arrived Leroy 1040 and collected similar samples as at Henry plus coconuts and 1 large - 13" clam, Hippopus sp. by whitney. arrived Elmer 1145. Monitor found coral to be rather warm. + 10 mr/hr.

Hippopus kidney counted 200 c/m wet and entire contents of clam minus the shell was dissolved in HCl and saved for chemistry — samples of various species collected were prepared - Land plants were cold; algae from Le were hot and remainder saved.

AEC office received wire from HM Hedge Dis Adv Pomape that natives had become ill from eating barracuda flesh; also inquired if ichthyologists would be interested. After long deliberation, AEC personnel said they would be if immediate short flight could be arranged. Mr. Butts, AEC, made the arrangements for 1 day Trip for Sunday 5-13-56.

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Locality Elmer 7 - Penape Date 5 15 56 Sun.
Personnel Palumbo and Bannan Weather Good Moderate wind & rain
Water conditions Moderate

Radiation level(s) 2.1 - 2 - 1m.

Operations: Met Ira Whitney, last Elmer to Jeep by Grumman Albatross 935 arrived C 700. Left Fred by Grumman Albatross 935 arrived Penape 1052. Met by M. M. Hedges and arrived in town 11:40. At his house visited with Mrs. H., Mr. H. Anthony and conferred on barracuda poisoning. The two other passengers on the plane, Clark, Deputy Manager of NVIC, and Dr. Shrichtenberg, an M.D. likewise conferred. The group recommend at the remaining panel to include the consult. physician Dr S.H. Watt, the native surgeon Dr Silas E. Iwaniec, Extension Agricultural, and N. Wainuck General Supply Assistant. Dr. Watt told of his own experience from eating three barracuda that had been caught just off the reef two weeks ago - he got quite ill, about 2 pm, and within 8 hours began to experience numbness in his legs; it spread upward and was accompanied by diarrhea, muscular weakness, and partial loss of equilibrium. Even now he still feels some of the effect. There are also simply and dramatic personal [illegible] to the effects of this symptom complex which [illegible] (Ciguatera) [illegible] told by a fisherman that the only [illegible] Ira's specimens was by [illegible] [illegible] to the bones in the flesh [illegible]

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Locality ---
Date [illegible]
Personnel
Weather
Water conditions

was not clear whether the green appeared in

Radiation level(s) the ... in the body cavity or in the

Operations: the second bone. Last year about this

time 7 people in Metal[illegible] village (pop. [illegible])

were similarly poisoned. Two of the fish

from this year's catch were sent to Col Persian

at Fred, Eniwetok, by Mr Hedges.

Specimens obtained for radio-assay were:

muscle of 6 Sphyraena japonica (barracuda),

belly muscle of 1 and tail muscle of 2 yellowfin tuna

[illegible], and side muscle of 1 marlin.

Invertebrates were: 1 crab, large, from mangrove

swamps, (sold at door of Hedges' house by young (ca. 35¢)

Ponapean women); 1 large + 1 small [illegible] and

Achatina fulica from vegetation in village, and

2 sea cucumbers [illegible] from [illegible]. [illegible]

of these samples counted dry [illegible] (at time

of writing, a day or 2 later) were background.

[illegible] 2 at Ponape 1630, [illegible] Fred 2000.

Personnel [illegible] [illegible]

Algae and coral collected at [illegible] visited

Agric Expt station and spent some time

with Mr Inagaki, agriculturist. Also took

photos of some plants, people and general

views.

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Locality Elmer — Date 5-1+-56 Mon.

Personnel Pillmore + Donham Weather cloudy

Water conditions moderate

Radiation level(s) Bg's 20-25

Operations: Once by duty boat to Pier, brought back jeep on OSSO boat trip. Tk 2 photographed ~~specimen~~ stonefish that had been speared until put into the equarium yesterday, but died overnight, photographed large crab from mangrove swamps at Pompe (Kota F 394) Fish F 394 6, 11, 12 Processed Fish samples.

Processed Lamp. Many samples of water, Soil + algae's

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Locality Eniwetok Date 5-13-56 Tue

Personnel Fallout Program Weather cl.

Water conditions moderate

Radiation level(s) Rys 20-21

Operations: Received investigation of pilot; developed 2 rolls of 35 mm Tri X in ephemeral pond at the Parasite Camp of 5-13-56

Shortest of the young birds, gender pending, have small orange down look similar with design of head-tail with a slight crest on the head. Legs bottom second about 6X pelle. Have iris of eye about half of head is white, not all of it.

Made first absorption column with Alcoa powder. Re-washed the stuff through, getting little absorption and slight fade. Used ammonium to elute. Zinc Cat. The activity is low in absence of less than typical and techniques in case should a nice study to play with.

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Locality Friday Harbor — Date 5-16-56 Wed.

Personnel Palumbo & Benham — Weather Partly cloudy

Water conditions moderate

Radiation level(s) Bg's 20-24

Operations: Replaced specimens in faunal display case by past experience, disrupted by whale jostling the tank; cleaned aquaria glasses on porch; mailed logs thru 5-13-56 and a "Welcome to Jones Laboratory" brochure. Completed cards for fish and invertebrates to date.

Continued Asparagopsis study with finished germlings. Results look good at this stage. Want to get the last of the data. Let KB wait to wait awhile other plants still pretty warm.

Checked on coming equipment for boat trip. Nice set-up. You will try to get something out. I'd suggest you check from your end the Hales Pass bit, since the two counties and islands involved. Agreed men have partially assembled the big tank for the probes. will test soon. Will help install aboard ship.

Walking bit today. He was an excellent laboratory and consistently willing to help. Sorry to see him go.

Have rejected one slide under fume hood. Can't seem to keep out dust.

Remember also our recent background — dark sponge

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Locality Elwell — Date 6/11/66 TH

Personnel Thomas Hinman — Weather

Water conditions

Radiation level(s)

Operations: Counting & weighing. Rate meter registered constant at 1 [illegible] counting counted a few bottles as well as continuous counting. The sample was split into fifths, the sixth which was to be plated from was split into sixths for short time. For the growing plates of maximum range count efficiency to be tested, in the intervening stips and counted without dilution, ones with high counting of grams will be diluted with distilled water to use. The RM is useful for giving a continuous record of background (on the records) of samples when changes of rate during the counting is of interest.

Periphyton algae, Lacey [illegible] samples Prepared.

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Locality: Elmer

Date: 6-18-56

Personnel: Palumbo & Bonham

Weather: Rained steadily. Might as well be in Seattle

Water conditions: Moderate

Radiation level(s): 23-35 c/m bg on counters

Operations: Counting and packaging samples.

Tried alcohol, benzine, acetone extractions of pigments from Asparagopsis. There is apparently very little chlorophyll. The rest of the separations [illegible] not worth [illegible] to be done.

Visit by Schlegel and Hazelwood of USNavy Underwater Demolition Group who are doing a study of sedimentation in the lagoon, who do lots of aqualunging and who own a compression unit. Have made tentative arrangements to go with them to observe their methods and to collect a few bottom samples of our own. They work [illegible] water [illegible] to about 20-35 feet only.

[NYOO method for water [illegible] (E. Frim [illegible])
Seawater - 200 ml sample
add [illegible] Na_2CO_3, let stand about 20 minutes; filter. Count paper.
Remainder acidify & add 50 mg [illegible]
to the same sample, [illegible] $CaCO_3$ OK]

~~[illegible] apparently [illegible]~~
~~[illegible]~~ [illegible] self [illegible] too high [illegible]
Hazelwood [illegible] that most [illegible] in the [illegible] company.

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Locality ____ Date 5 Jul 56 (cont'd)

Personnel ____ Weather ____

____ Water conditions ____

Radiation level(s) ____

Operations:

Raw milk that was diluted at 1/100 1 litre sample; mild 20 mg fe''' + HNO3 + HCl standard filter ether shake; count ether layer bkg; is emptied into cuvette and will be in the filtrate.

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Locality Elmer F. Janes
Date 5-19-66 Sat.
Personnel Palumbo & Denham
Weather Rain, cloudy.
Water conditions moderate

Radiation level(s) Bgs. 19-27

Operations: Prepared and mailed the following samples to Seattle and cards to Seattle:
Fish 1-33 inclusive except #30 lost (duplicate anyway)
Inverts. 1051-1123 " " 1064-5, 1116, 1118-9, 1120-1 (for deep)
Plankton 6665-1 "
Water 5013-5024 "
Soil 5512-15
Plants 3045-3106
2 Pkgs. plants, bulk.
Leroy hot clam, bulk

Col's Schnittke and Thompson brought to the lab Liason officer Capt. Coleman who helped arrange for the vessel on the ocean survey. He emphasized the need for a tracer on the undelivered equipment shipped mid-April from Seattle. We sent TWX asking Lauren to start tracing from that end and to TWX us the designations of the shipment so that we might be able to locate it more quickly when it arrives and possibly anticipate its arrival, or even trace it from this end. A shipment is expected early in June, but if it is not in that shipment, air transportation would be required to get it here before June 16. Capt. Coleman said wash-down equipment is installed on the vessel already and it was his recollection that the ship was to be ready to sail, rather than merely to have the equipment installed, on June 16

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Locality ..... Date 5-1-75 to Sat, Cont'd.

Personnel ..... Weather Cloudy, rainy

..... Water conditions .....

Radiation level(s) .....

Operations: Left Elmer 1600 by M-19 (1-20's not landing on Jones); arr. Sand I 1625 collected 2 adult and 2 juvenile rats at bunker area; Centrostephanus echinates, Fimbrigestilis eginosa and Sida Fallax went to lagoon beach 1730 where MX-5 and Elmer collected 1 Stichopus, H. leucospilota 2 holothuria atra, 2 sponges (tan, under rock), and 3 coral's (Acropora), Halimeda, Caulerpa, Lyngbya, Asparagopsis, & Bryopsis; Calgeon water, bottom sand. Mud was sampled in rate collecting area.

Tide readings:

Sand Flat MX-5 - 1 mr/hr.
" " Coquille - 1 "
Coquille Flat MX-5 - 1 "
" Coquille - 30 "

Along road toward Pier MX-5 - off scale, > 20 mr/hr.
At Dock MX-5 off Pier " - 3 mr/hr.
Along road from Pier to end of Coquille 5-5 mr/hr on Coquille.
At 30C - 10. brownish sea bass Epinephelus tauvina was caught off the deep pier today and brought to the Lab. Its belly was split. Sand separates above Hall's Island. Load to pick up sand at adjacent Sand Spit. Log list over 10 mi. in Pacific ocean.

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Locality EIMER -- Date May 20, 1956 Sun.
Personnel Bonham - Palumbo Weather Rainy
Water conditions
Radiation level(s)

Operations:

A.M. Lab routine
P.M. Printed Ponape pictures - John Harding

ed then Unclassified, ~~C~~ Official use Only -
On following day (intend here to write space), 21st, we weighed out a No CO3 standard following the idea used by NYCC for calibrating their counters. This laboratory has recently determined the emission rate of this 1.3 - 1.4 mev β to be 197 d/m/mg. The counting efficiency may be determined by making a standard plate to simulate the amount and spatial distribution of the material being counted on samples. On thin tape strips of samples there is introduced an occasional standard of this kind, as well as blanks for Bg. One A standard simulating our samples was weighed out to fill the entire plate 455 mg (+50 d/m); counted in our 3 units, these gave efficiencies for: EMBL-1 = 16%, EMBL-2 = 16% and EMBL-3 (Gas Mixer) = 12% (because the sample here is more distant than in 1 & 2). Our greatest source of error is in the spatial distribution of the samples on 1½" plates prepared as they are these 1" tubes. By counting only over 1" plate would be better, but we consider our evaluation of the 1¼" plates to be only rough indication of total radioactivity.

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Locality Elmer--- Date May 21, 1956 Mon.

Personnel Bonham - Palumbo Weather Clear mostly

Water conditions

Radiation level(s) 19 - 26

Operations:

Every body up early.
Lab routine all day
During the evening Col. Schmitke (DMA), A.D. Epley (HQ-7) and Col. J.D. Faulk (J-3 HQ) visited the lab to inquire as to the progress being made on expediting material to go shipboard.

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Locality Elmer — Date 5-22 to Tues.
Personnel Palumbo & Buham — Weather Mostly cloudy
Water conditions Moderate - rough

Radiation level(s) 17.26 Bq.

Operations: counted decays + Sam Lords.
Sorted Asparagopsis sponges, Ptychodera, and a Solaris from Lab. Reef for monitoring; counted almost background.
Received TWX that shipment delayed; ETA 6th or 7th; no information on box designations; needed by Schmitke to transfer to air shipment at Hawaii, as would be necessary to get it here by the 6th when Walton is due. To elucidate, if shipment were to arrive Elmer, 6th-7th and required 2 days to off-load, the Walton, arriving 6th would be idle 2-3 days, which liason personnel very much want to avoid.

Continued Asparagopsis work

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Locality Elliot Date 5-23-56 Wed.

Personnel Palumbo & Benham Weather Partly cloudy

Water conditions Rough.

Radiation level(s) 20-25

Operations: Sampled Asparagopsis & sponges on fab-Reef - Sponges = 40 c/m/g wet.

Received mail from Lab: Vouchers signed & returned; letters from Ed re. standard RaDbE 1306 + " " " " samples sent to Lab. Mailed 3 days' log sheets to Seattle.

Received 1 Roll coaxial cable for LRD from N400 Janet

Ran absorption curve on red pigment of Asparagopsis which was reading 5,000 c/m

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Locality Elmer City — Date 5-24-56 Thurs.

Personnel Palumbo & Benham — Weather Partly cloudy

Water conditions Rough (3'-8' waves)

Radiation level(s) 13-27 c/m Lg.

Operations: Copepods and sponges from lab were counted with 22 and 60 c/m/g, respectively
counted trays & standards
Received 8 boxes shipped May 15, 1956 from AFI, Seattle by air.
Box 1 1 Nuclear Chicago scaler; + intan tube
" 2 1 " " " " model D 181
3 2-500 plastic plankton bottles
4 1-1 " " " "; 72 2" sq mm plastic bottles
1 spare pot for winch.
5 6 water sampling bottles & messengers; 700 sieves, 1 Nicpuse tool; 4 plankton net covers; 1 bottom pot; 1 dataplate
6 1 Radiation shield
7 1 " "; 12 R.C. Cakes; 1400 cells-days (1-59)
8 1 meter-flow; 4 1-m nets, 2 bucket nets; 1 pressure regulator; 1 spare parts kit; 11 duplicate tubes; 1 copy Filing Directions; 3 thermometers.
9 1 Sampler, w/o tube.

We have the tube for sampler with (end missing) but without the hole for wire — the part of the sampler that holds the tube is too long; apparently it was the wrong length tube for that housing. If an additional sampler is needed a new tube and shoulder should be bought that is 1 inch outside diameter and not over 7/8 mm wall before it's machining — discovery since it is that far from the 4

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Locality --- Date 5-24-56 Th (Cont'd)

Personnel Weather

Water conditions

Radiation level(s)

Operations: End of Th morning to the time of reporting for work:

The high voltage on the second decrease at EMBL-2 went off and the AVOC electronic experts say it is in the transformer. They will run it down some evening when they get time.

Left just prior for tomorrow's trip to the entire area - Edna - New Elugelab.

Accumulated dosages: Bikini to 50 mr; KB = 70 mr; to date, as per Rad Saf report.

Got mission badges & pocket dosimeters at Rad Saf for us and Dr. Lewis F. Blake, and Francis W. Eulalie who will go along for fishing tomorrow 0900 - with UDTmen Schlegel and Hazelwood to help pick up sediment trays in the 14 fathom water. After which we used up a full tank looking around. Collected sand sample, Halimeda, water, and coral at 35 ft. depth. Brose starting cord on Johnson motor. Also collected helmet shell, fungia, conus, and 1 Conus marmoreus. Halimeda shorter than same collected on outer reef. Hurricane area.

Rain meter used for last samples since then. Two scales broke at 10,000 c/m.

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Locality Elmer, Elna, Flora, Lagoon Date 5-25-56 Fri.

Personnel Palumbo, Benham. Weather Good; mostly sunny

Fishermen: LF Blake & FW Badali. Water conditions moderate, lagoon

NYOO - E.K. French. a/c slight swells.

Radiation level(s) 50 mr/hr at Flora

Operations: Finished assembly equipment and personnel. Departed Elmer 0800 by M-boat 273 w/ DUKW 349 aboard. Ran directly to Gene; Off Tilda Blake and then immediately Badali caught bonita, but Blake's only was landed. Blake caught a jack off Gen Inlet or Gene. M-boat towed the DUKW w/ passengers at Gene; sailed to 1030 hrs. vicinity of Flora (New Eluge lab) which is now much higher and more extensive, having been built up by surf from the lagoon side. Landed, and walked the beach to opposite E end of Edna. Coral colonies of pink color 1"-2" diam. Encrusted clams about same size. Probably surf rather than radioactivity limits growth here. Collected coral & clam mantle; ~~Flora~~ Flora on outer reef, and H. atra in narrow boulder area outside Flora. Drove to sand spit of NE Edna where retrieved 8 pinnacarded fish, getting mainly needlefish, small mullet, puffers and miscellaneous fish. Collected hermit crabs at Flora. Ralph surveyed plants on Edna. Collected 3 plant specimens. DUKW landed Edna 1215 for lunch. Left Edna late in mid-hall, courtesy of Jan 30 UNIV. OF WASH. Departed Gene 1336 w/ M-boat w/ DUKW. Plankton tows: #. Off Gene Inlet 1345-1400; # from Mack town in lagoon (Off Wilma) 4

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Locality --- Date 5-25-56 Fri (Contd)

Personnel Weather

Water conditions

Radiation level(s) running south 14:50 [illegible], and third boat in Dept. [illegible] running E

Operations: from small red buoy to [illegible] Point (S) end to 1607 - 16:32 (2 min) Coast [illegible] (in "lagoon") mainly foraminifera and fish eggs; many algae [illegible] in D.E. haul water temp 52.5°F in lagoon hauls, and 52°F in D.I. Arrived Pier 16:50; mounted by Rad Saf. "Inspection", turned in contamination boots, and mission badges, and pocket dosimeters at Rad Saf, and unloaded at lab.

Forgot to say: Badali caught bonito on return trip off Yvonne, but lacked it. Slowly and we got only the entrails & third of it, the rest being inside the 3-4 foot sand shark that followed it to the boat.

Mike Olden delivered to us the papayas, 1 pineapple and 2 small green, and 1 green coconut that had been sent over, courtesy Bob Tafft, from the ITF camp that had been to Rongelap.

Worked up some samples.

Photographed a [illegible] Pectinarid with an undulating concentric light banded pattern on dark background; [illegible] in 16 fathoms on lagoon side of Eluoiri strip 5-24-56 by peering through head; Ektar 35 by artificial light on daylight Kodachrome, and Wide camera [illegible]. Monitored general collection w/ IM-5 very hot.

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Locality --- Date 3-25-56 Fri. (Page 3)

Personnel Ritchie Weather

Water conditions

Radiation level(s)

Operations: Mij. Richiya (Sp?) says by-pass activity around Rongelap village is about 0.03 mr/hr & about 4 x bg. for the instrument he has. 2 miles papaya will go to the coconut that we may sample, from Rongelap.

Collected: bottom sand sample near New Elugelab; algae along reef margin flat; island soil, central survey point Edna; Land plants at 300 w area; and 1 large netted green spherical glassus ballei. Impression of the area visited was one of shifting sands, much barrenness, and no change in reef appearance from last visit of March 1955. Had expected increase in size of coral and algae colonies, but this was not the case.

Collected water samples at Plankton stations

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Locality Elmer — Date 5-26-56 Sat

Personnel Palumbo, Benham Weather

Water conditions

Radiation level(s)

Operations: Using MX-5, Sr 1746, monitor around lab:

Lab ext. Background	0.03 mr/hr
Collections of coral stored by Lab.	2. "
Plankton nets after towing in salty fresh water, and drying outside overnight #1 (coarse)	3. "
#2 (fine)	5. "
Coveralls (KO)	0.5 "
Shoesoles (KFP)	0.5 "
" " (KB)	1.0 "
Collecting nets & bags	6.5 "
Blasting box	0.05 "
Floor of Lab & 3' from floor	0.05 "
1 meter from Co-60 source, shielded, in doorway between Lab & added room (Fumiko's office)	3.0 "
Counting room	0.03 "
Inside of plankton buckets	0.1 "

Returned principal, MX-5, & exchanged coveralls.

Prepared plant samples collected at Rongelap by Major Ritchie (Task Force Rad Safe officer). Saving remainder for chemistry if desired.

A 1.5g. wet sample of Rongelap papaya counted background.

Marked logs & letter to Lab. Sponge from Lat reef this morn counted 350 c/m/1.3 g wet.

Col Schoettke and 20% of Rongelap natives do not wish to return. Those who do, will, in November if our survey shows it to be O.K.

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Locality Elmer Date 5-21-66 Sun.
Personnel Fujimoto + Benham Weather Good
Water conditions Moderate
Radiation level(s) Bg. 20-30 c/m.
Operations: Counted and packaged samples; filled out cards. Collected wet sorted wet from 1/2 reef Asparagopsis 30 c/m/g net, and sponge.

Spear fisherman brought in 13½" stonefish from reef south of Elmer: WT = 2200 g; ovaries = 55 g; liver = 86 g; dig. tract = 130 g; Stomach empty; no parasites in stomach or gills; froze & kept carcass; made samples of muscle & liver. (Synanceja verrucosa)

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Locality Elmer — Date 5-28-56 Mon
Personnel Palumbo & Bonham — Weather Partly cloudy
Water conditions Moderate

Radiation level(s) 22-27 Bg.

Operations: Every body up early, and again. Counted decays. Yesterday's Elmer lao reef sponge sample counted dry 510 c/m net; wet wt = 2g. Mike Olden of NY00 checked EMBL-2 (decascaler) and verified that the high voltage transformer is burned out. It is designated thus:

TTI-2242 Power Transformer 1310A-10			
1-2	117V	50-60 cy	
case	2000V	RMS	start
3	2000V	RMS	5 MADC
4-5	6.3V	1A	
6-7	2.5V	2A	
Primary	1600V	Test	
Secondaries	5000V	"	
Transformer Tech, Inc.			

However, Mike says any high voltage transformer that gives: 6.3V @ 1 amp, 2.5V @ 2 " 2000 v @ 5 MADC will do.

One decascaler and the rate meter are still functional. We have not unpacked the scalers received 5-24-56, but shall do so soon to be sure they will operate. If the scaler EMBL-2 is needed urgently by our groups upon their arrival, the first one out might wish to bring a transformer with them. Otherwise it may be procured through regular channels, primarily Hiatt of EMBL manager.

Background gradually increased on the rate meter from 27 at 1200 hrs to 51 @ 1452 hrs. A 1.064 g sponge collected 12.5 hrs, dried in oven for 2.7 hrs, and counted 180 - 50 = 130 c/m @ 1500 hrs.

Sandia men loaned a thermometer, saying they are scarce on the Island, apparently the only supply is

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Locality Elmer — Date 5-28-56 Mon. Contd.

Personnel / Weather

Water conditions

Radiation level(s)

Operations: Record of our exposure on previous tides of 5-25-56 to Elmer showed 2225 mr/hr. for both of us. This must be minimum because we were about an hour on 50 mr/hr Gamboy.

Background Rate Meter: EMBL @ 1740 hrs = 55 ± 2% mr/hr then I drove by on MBL I before noon, @ 0730 = 72 c/m; @ 1200 = 69; 1600 = 84; 1630 = 90; 1655 = 87; 1715 = 88. Apparently by Rad stabilized temporarily

To summarize this fallout: Began to show at noon; peaked between 1600-1700 hrs @ 50-60 c/m on rate meter, the average 55; declined steadily to 40 c/m @ midnight.

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Locality Eniwetok — Date 5-29-56 Tues.
Personnel Hollembeak Bradshaw — Weather Cloudy
Water conditions Moderate

Radiation level(s) Rad. Insk. declined from 4 to 2 mr/hr to 30 on 1000 hr = Bg. on EMBL-1 = 31-66

Operations:

Letter of 22nd from Samoa says Edie Paul ETA 2nd or 3rd; R.F.B. K.B. should leave 6-7; & Al, Frank, Art, Neal, & Lee will arrive 5th. We arranged to depart the 7th and should meet the group on Honolulu on the 7th. Our Pan Am departure from Honolulu is 8:30pm on the 7th, arriving SeaTac Fri morning, flight 822; subject to confirmation. Many thanks for the counts/min/gram as of 5-18 to 21 on the 3 irradiations 1001-1047, Ed!

A few days ago the salt water was piped to the west end of the tank from the 1½" line supplying the aquaria, up to the porch roof, over, and down. The pipe must have had fish supplying the line. The salt water aquarium supply was changed today & they tied the line into a higher tank near the fish trap. The concrete fish pond was filled, and the valves supplying the aquaria were adjusted, but with low capacity fish, a grouper, and a damsel fish. The fish in the blacks bought a small [illegible] uninjured stonefish which we put with the other stonefish that has been here since before we moved (and refuses food). A sponge

Sponge from Eat reef (3) not counted 4-16 c/m net collected Halia, Actinopyga (3) = Cyanidesmia (3) = 6 c/m Background on Rate Meter (EMBL-3) ... from 30 c/m @ 1400 hrs to 50 c/m @ 1900 hrs.

Slight Nonionik fallout this noon — NYC

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Locality Elmer + Fred Date 5-20-56 Wed.
Personnel Palumbo + Bonham Weather Good, almost overcast
Water conditions Moderate

Radiation level(s) High bg. EMBL-1 = 8-7-100 EMBL-3 = 55-60
Operations: All fish except one puffer in aquaria died, as well as 3 out of 5 horned pumpkin starfish and auger snails. ~~Will have to~~ Changed ~~that~~ salt water supply back again to old pump which is the outflow from powerhouse diesel cooling. New source was contaminated from sanitary [illegible]

Bob in Cantu of LST 618 donated an inch-board moddy tow but it landed in the forward gun tub of LST 618 at noon (1930) last night and was still there this morning. Cantu had him on his tank. It monitored 1 mr/hr with an IM-85/PUR (an end window survey meter which we could use) 2 snails had perked up + monitored 5 mr/hr and did not fly away until after being passed over it. The 1st bird was frozen; bearded vireo (ca 11°27.6' N, 164°32.2' E; to Pacific Ocean) [illegible]

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Developed 2 rolls 39-exposures each of Tri X, mostly photomicrographs; some macro-specimens. Reloaded 4 cartridges w/ Tri X.

2-g. Sponge from last cast counted 700 on 2nd shot and 5800 on 1st shot day of EMBL-3; Aspidosiphon (2g) counted 2500 on 1st day on 1st shot of EMBL-3.

Cdr Pal to bed with Pigeon's ghost to help locate [illegible] which is near to Engebi Is. Seas about 1' [illegible] and [illegible] Good water [illegible] light [illegible]

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Locality --- Date 5-30-56 (cont.)

Personnel Weather

Water conditions

Radiation level(s)

Operations:

Drove up to fish. Saw a humpback whale with white bodies and a tail completely white. Upper side brown. Swam like it had a broken back. Finally left whale and continued on to Discovery Bay. Set net at Utsalady. Checked Bay. Beautiful white sand beach. Bay bounded

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Locality Elmer-- Date 5-31-56 Thurs
Personnel Palumbo & Bonham Weather Good
Water conditions moderate

Radiation level(s) EMBL-1, 9c c/m EMBL-3, 6.6-7c c/m.

Operations: Ran decays; collected Asparagopsis, other algae and sponges on reef.

6 UDT men, Spiegel & Hazelwood brought in large 36" Tridacna from which a muscle sample was taken, and a large 2' x 6" sea cucumber Thelenota ananas from a coral head about a mile SW of Elmer. The giant cucumber had eviscerated (discarded by UDT) but was still large w/ 1" tubecles, some branched, a typical tomato red color; photos in color & b&w.

A yellow edge Tydemania expeditionis was attached to the Tridacna above reported previously from deep water lagoon dredges by J. C. Bonham.

Phytoplankton and water samples of 5-25-56.

Met with Major Palmastro, Sig. Sec. Supply Officer will try to obtain office space in the Admin. Bldg. when the USS Glynn moves out of Seward.

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Locality Elmer Date 6-1-56 Fri
Personnel Palumbo & Banham Weather Cloudy rainy
Water conditions Moderate-slight

Radiation level(s) EMBL-1 70-84 EMBL-3 55-65
Operations: cleaned 2 aquaria. Tabulated decay & log data. Collected & counted sponge from lab reef

Lt. Dunlap USN conferred about Walton's plans. He is liason for us to his superior Capt Munson. He will confer w/ Ed & Paul.

Talked to Paul Zigman NRDL - nice guy. Wanted to be remembered to Paul Olsen.
Film-mission-badge reports for dawet trip of 5-19-56 RFP = 50 mr, KB = 70 mr.
Unloaded litre of [illegible] water from lagoon [illegible] to Neptune for [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]

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Locality [illegible] Date [illegible] 1956

Personnel [illegible] Weather [illegible]

Water conditions Moderate

Radiation level(s) [illegible] EMBL-3 = 50 c/m.

Operations:

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] samples - 2 [illegible]

[illegible] of algae [illegible]

[illegible] to ZI

[illegible]

Plotted invertebrate decays: related to 5-5-56: Vera collection ~ -1.2. Leroy tan cucumber tissues ~-0.6. Leroy coral -1.1.

John Harding of Classification explained that each project officer (that is we, ourselves) is responsible for classifying his photographs just as each individual is responsible for what he says in letters. He looked at the two last rolls of film and pronounced them unclassified, OUO.

Lab reef sponge counted dry 8100/2g. wet

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Locality Eniwetok Date 6-3-56 Sun.

Personnel Palumbo & Bonham Weather AM rain; PM clear

Water conditions Moderate - Slight

Radiation level(s) EMEL-1 = 62-67 CIIBL 3 - 50

Operations: Sponge from Lab reef counted dry 3550 per 2.5 g wet. Cucumber got about same. Froze giant sea cucumber. Cleaned aquaria.

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cality Elmer Date 6-4-56 Mon.

rsonnel Palumbo, Held, Olson, & Bonham Weather Good

Water conditions slight

diation level(s) EMBL-1 = 60 EMBL-3 = 45

erations: Held & Olson arrived Elmer about 1 pm.
spent afternoon unloading animals
to Farmers pickup and the Lab.
Captain Minor T.B. Papoose Calvin is in
charge of Sigurdson Creek and will arrange
for boat for loading.

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Locality Elmer — Date 6-5-56 Tues

Personnel Held, Olson, Palumbo, & Bonham — Weather Cool

Water conditions Slight

Radiation level(s) 43 on EMBL-3; EMBL-1 = 60

Operations: Collected cucumbers on Elmer- lab & south reef. Col. Thompson returned 2 shell books for Capt Rudolph Draegher, medical officer on the "Estes. These "American Sea Shells" by R.T. Abbott, and "Illustr. Handbook - Shells - Color" by Hirase and Taki have been missing without record since our arrival; glad to see them. Also received another copy of Japanese shell book (same, but different cover) in the mail from Hiatt.

Plate of residue from concentration of 1 liter of tap water counted 75 c/m, net; not all of residue was recovered, probably ~ 50%.

Lab reef sponge, 380 c/m net / 3g; from pool near junkers.

Spent afternoon on Walter conferring with Olson, Held, Hiatt, Capt Arthur Emerson, Lt. Comdr. Lt. Thornbrough, Chief Eng. Drake, concerning our installation & tank. Enough, except, to do it. Very pleased by situation, especially personnel.

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Locality [illegible] Date 6-6-56
Personnel Field & Lab, Palumbo & Bonham Weather Good & hot
Water conditions slight
Radiation level(s) [illegible]
Operations: [illegible] from [illegible] at 0815 All power off in Lab

Departure of Palumbo & Bonham has been set up for today, after lunch. Took load of equipment to Milton tied at deep pier.
K.B. carried fish plates 44-49 incl.
" Invert. plates 1154-1187 and
Fish cards 34-49; Invert. cards 1124-1187; also decay plates 1064, 1065, 1116, 1118, 1119, 1120, & 1121, and cards for same.
Package sample of dried plywood joists and Cladophora to Stanley & Taylor.
Closed Hydrocarbon Straightlines and Calc. Valves as have closed all loose ends & began the file index.
Palumbo had carrying plate to lab & finished
Data cards today. Finished [illegible]

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Locality PUGET SOUND Date 6-7-56

Personnel Wash Seymour, Weather

Lowman, Held Water conditions

Radiation level(s)

Operations:

A.M. PLANKTON TOW, 15 MIN, DEEP ENTRANCE #6 & #20 NETS. THIS INITIATES SERIES TO BE MADE ON TUE, THU, SAT. 0800. BOAT HAS BEEN APPROVED BY CMDR PERLEY ON A CONTINUING BASIS - CHECK WITH MARINE OPERATIONS JUST BEFORE EACH TRIP FOR SPECIFIC BOAT NO.

WITH LT. LEE BURKE ABOARD WALTON DETERMINED SUPPLIES NECESSARY TO EQUIP SHIP FOR OUR NEEDS

P.M. LT BURKE CAME ASHORE WITH US. OBTAINED SUPPLIES & PUT ABOARD WALTON. LOCATED WINCH & ACCOMPANYING GEAR ABOARD GAMMON BUT CANNOT UNLOAD UNTIL LATER BECAUSE OF HEAVY EQUIPMENT WHICH MUST BE REMOVED FIRST. LT NORRIS & CPO THE (illegible) & CMDR FARRELL, T-3 KEEPING US POSTED AS TO UNLOADING.

SEYMOUR & LOWMAN ARRIVED ABOUT 16:30

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Locality ELMER Date 6-8-56

Personnel SEYMOUR, LOWMAN Weather

OLSON, HELD Water conditions

Radiation level(s)

Operations:

A.M. ABOARD WALTON FOR SEYMOUR + LOWMANS' FINAL INSTRUCTIONS ON INSTALLATION OF GEAR. INSTALLATION STARTED BY CREW.

P.M. SERIES OF MEETINGS WITH LT. KORBELL, TOM HARDISON, CMDR [redacted] Litchfield 7.3, + LT. CMDR FARRAND RE UNUSUAL SITUATION DELAYING UNLOADING OF GAMMON. CONCLUSION & DEPARTURE OF WALTON WILL BE DELAYED UNTIL 12 JUNE BUT WILL BE AVAILABLE FOR A FULL TEN DAYS AT SEA.

SCINTILATION PROBES + ASSOCIATED EQUIPMENT DELIVERED ABOARD WALTON.

COLLECTED ASPARAGOPSIS SAMPLE ON SEAWARD REEF FOR REP AT 1600.

LT. BURKE (WALTON) VISITED AT BARRACKS ALONG WITH BOB GILKEY.

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Locality ELMER Date 6-9-56

Personnel Donaldson, Welander, Seymour, Olson, Lowman, Hines, Held Weather Clear Water conditions Good

Radiation level(s)

Operations:

AM Donaldson, Welander, Hines arrived about 0700. 15 min plankton Tow #6 & #20 ½ meter nets deep entrance between 1st & 2nd channel buoys - too much swell & tidal current here to make this practical as a regular station although a good haul was made - try further inside lagoon next time. Lowman, Olson, Welander aboard Walton to set up gear. Donaldson, Seymour, Hines met with 7.3 personnel & Cmdr Emerson (CO/Hq) and determined ships track. Departure set for 6/11 PM.

PM Collected Asterionopsis & Sponge from seaward reef for RSP & KB. Picked up additional supplies for Walton from J-4. All except Held spent afternoon aboard Walton. All gear except winch unloaded from Commo by 2200. Scheduled for transhipment to Walton (Farrand 7.3 & Bill Roher (H&N have made arrangements).

Conference on Marine Survey held in 7.3 quarters with Capt. Munson, Ltcm Farrand Ltcm. Perley(?) Cmdr Emerson (Capt. Walton) Dr Shelton (HQ TF 7.0 Fallout Detection Unit) Weisenburg, Krayeson, C. O'Brien, Hines Seymour and Donaldson. Past experiments were discussed and movement of water predicted. After consideration of fallout, drift, working time, subsequent experiments, speed of the ship, working Time

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Locality ELMEL - WALTON Date 10 JUNE 56

Personnel DONALDSON, HINES, SEYMOUR, LOWMAN, WELANDER, OLSON, HELD Weather GOOD

Water conditions GOOD

Radiation level(s)

Operations:

LAST OF GEAR UNLOADED FROM GAMMON + TAKEN TO WALTON BY T-BOAT AT 1300. [redacted] DISCUSSED OVERALL OPERATIONS + PROCEDURE FOR WALTON TRIP + OFF SITE TRIPS TAKING ADVANTAGE OF WEEKLY SERVICE FLIGHTS FROM ENIWETOK TO WOTHO, KUSAIE, KWAJALEIN, PONAPE, RONGERICK, TORAWA, UJELANG,

Worked on installation of gear on Walton.

Letter from LRD to Robt. Boss regarding proposed track of ship & transmittal of information.

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Locality ELMER - WALTON Date 11 JUNE 80

Personnel LRD, NN, FGL, AHS, ADW, PRD, ~~CH~~ Weather Good

Water conditions Good

Radiation level(s)

Operations:

Installation of gear on Walton. Drylabs with water bottles ~~&~~ while ship at anchor (depth about 150'). Picking up last minute supplies. All except ~~CH~~ left personnel pier in Walton's whaleboat 1545 to meet ship at refueling barge. Expected to return to Wetok for 4 hr refueling stop Sat. 16 JUNE.

Letter from LRD to Thos. Hardison requesting off-site flights. First set for 18 JUNE - ~~CH~~ & Bob Tagg to Walton.

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Locality Elmer Date 12 June 56

Personnel Held (LRD, DHS, NH, FGL, RDW, PSO aboard Weiton at sea) Weather Heavy rain in afternoon

Water conditions good

Radiation level(s) Bg

Operations:

Plankton Tow 0800-0900 deep entrance. Asparagus collected on seaward reef 1130. Carpenters started building shelves in storeroom. No detectable fallout by 1830. Wrote letter to J-4 in LRD's name authorizing CDD shipment of samples & equipment from Oakland to Seattle by water transport.

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Locality E-EMER Date 13 JUNE 56

Personnel HELD (LRD, AHS, HGL, ADW, PRO, NOH aboard Walton) Weather

Water conditions

Radiation level(s)

Operations:

EMBL COPY OF TAYLOR PLANTS OF BIKINI FORWARDED TO LCDR T.S. HANSON, JTF 7 REP BIKINI C/O CO. H.R. FLEMING BLDG 221 EIMER for ISSAC (Scripps) Telephonic request.

Collected Asparagopsis for USP.

Worked on cleaning up lab.

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ality ELMER Date 14 June 56

sonnel Held (LRB), AWS, WDW, FSL Weather Intermit. Heat Rain

PRO, Noll (and Walter) Water conditions generally Calm, occasional squalls

diation level(s)

erations:

Prepared specimens from Henry collection of 4/28/56. Circumstances forced delay of plankton tow until 1600. Asparagopsis collected after plankton tow. Walk-in freezer burned out compressor - fish mighty ripe - will discard after they have been refrozen. Dr. Biggs VCRL medical physics visited lab, went along on plankton tow.

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Locality Elmer Date 15 June 56

Personnel Held (LRD, RDW, FGL, AHS, PRO, NOH aboard Walton) Weather Good

Water conditions Good

Radiation level(s)

Operations:

Classified letter regarding reports rec'd—in safe. Set up Geo. Eversion for photography aboard Walton through Newman, J-6, + Walton, H&N; & boat to meet Walton at refueling barge through Lt. Blaise, 73. Lt. Dunlap, 73 called back in afternoon to "tentatively cancel" boat for 0900. Continued preparation of Henry 4/28/56 material. Asparagopsis collected for RSP 1730 — haven't been able to find a sponge for K.B.

2130 rec'd message from Walton through 73 requesting transportation from Walton to Parry & inclusion of Hines on Wathe trip 18 June. Hardison off island-Ed Butts will try to make necessary arrangements

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Locality Elmer Date 16 June 56

Personnel LRD, ADW, FGL, AHS, PRO, NOH, ~~CH~~ Weather good — showers

Water conditions good

Radiation level(s)

Operations:

Walton in to reject 0930. Met at refueling barge on arrival by CH & Geo Bemis. Olson stayed aboard with Bemis to take photos of installations. Rest of party ashore to obtain supplies, check on continuation of course etc. Party returned to ship about 1500. Hines & ~~CH~~ remaining at Perry. Plankton tow 1530 followed by Hyperiopsis collection. Notified Watho plane will leave tomorrow AM - 0830. Will be picked up for return 18 June about 1400. Parker for Watho trip.

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KB

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Locality Elmer – Wotho Date 17 June 56

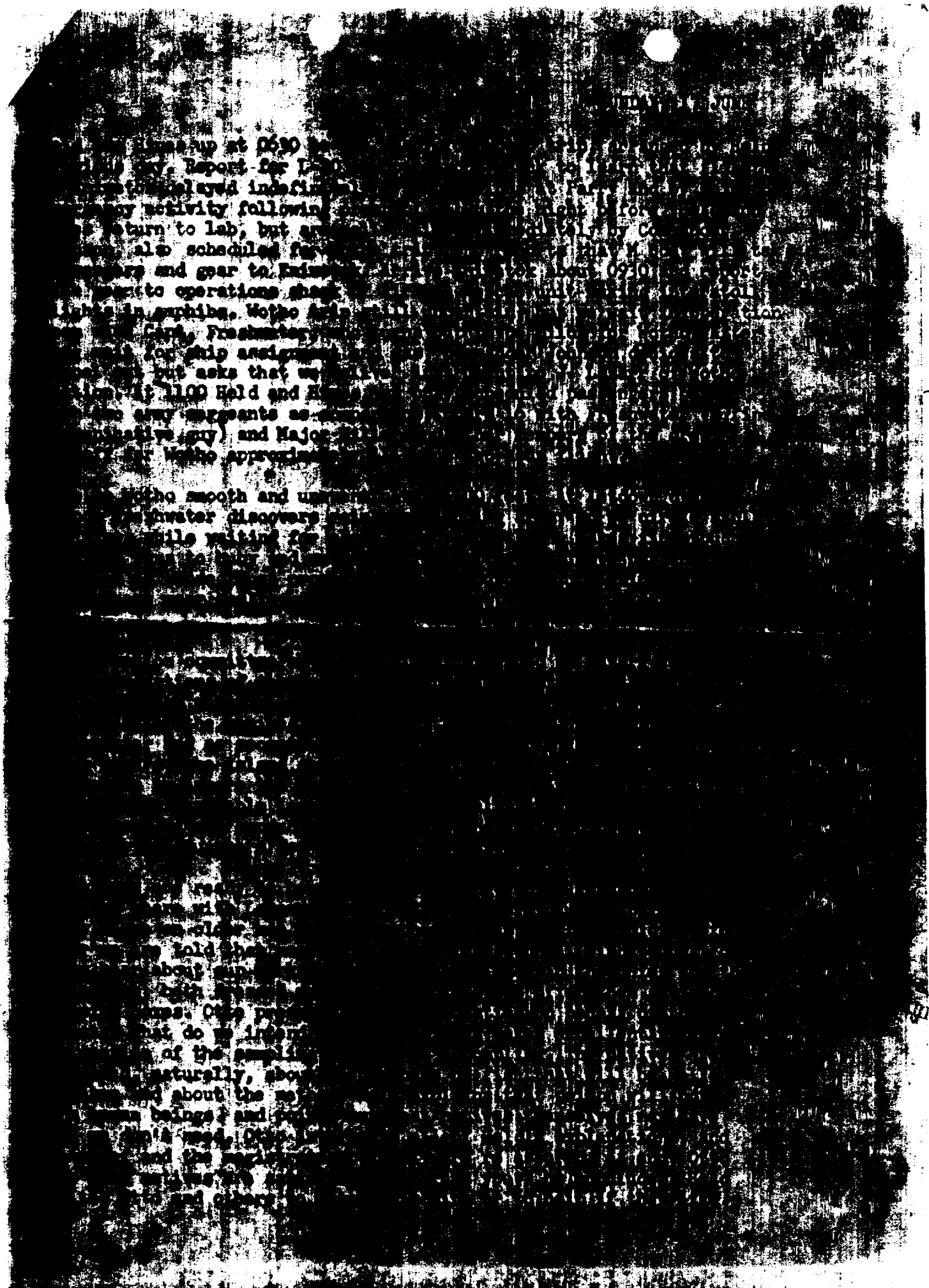
Personnel NOH, ~~[illegible]~~ (LRD, AHS, PRO, ADW, FGL aboard Walton) Weather Good (Storm last night) N Winds

Water conditions

Radiation level(s)

Operations:

T.O. ~~for~~ Wotho delayed until about 1100 – 2 hr trips. See attached note by Hines.



The Wotho lagoon is small, quiet, and very beautiful. The poisoning was conducted in the afternoon at two small coral heads about 300 yards down the lagoon beach from the pier, and Held and Hines were assisted by Otto, Stephenson, and several other volunteers, native and otherwise, who were interested in the process. The waters are so still that the rotenone hung beautifully about the coral, but despite this the catch was not large and the fish disappointingly small in size and variety. By 1600 the first collection had been finished and Lazarr offered to take Held and Hines on a short tour of the island by weapons carrier while he set out some instruments in anticipation of a shoot Bikini shot the following morning. We visit power and communications stations at distant corners of the island, returning just in time to change for dinner. Held uses the [illegible] tour to pump Otto about native knowledge of coconut crab.

The Wotho station consists [illegible] house, a cook shack built on the [illegible] recreation room [illegible] housing and mess [illegible] center of this station area is a [illegible] of approximately 30 by 40 feet, and in this area [illegible] including the natives, gather for movies, [illegible] actually are wooden frames [illegible] to sleep ten men in cots along the walls. As presently arranged, however, the Lazarr party, [illegible] counters and weather [illegible] benches at the far end. The station area is clean and [illegible] maintained.

After dinner Sunday evening [illegible] the babies, began to [illegible] the movie, the men and [illegible] and the little boys and [illegible] in old copies of American [illegible] for the show -- p thirty [illegible]

About 2100 Held and Hines [illegible] for coconut crab, the juvenile [illegible] the road that we had covered [illegible] behind the light from the lantern and [illegible] then when Held spotted [illegible] six crabs, one a female [illegible] Held put in the reefer in the cook house [illegible] expecting to be called early for the Bikini [illegible] he would get us up to watch.

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Locality WOTHO — ELMER **Date** 18 JUNE 56

Personnel NOH, EH (LRD, AHS, ADW, PRO, FCL aboard Walton) **Weather** good **Water conditions** good

Radiation level(s)

Operations:

See attached notes by Hines

[illegible] 19 JUNE [illegible]

The Bikini shot is sch[illegible] up, [illegible] before this to get his instruments ready. [illegible] are out of bed in plenty of time to go to the beach to watch the shot, but nothing happens and Lazarr later reports that there has been an indefinite postponement.

After breakfast Held completes sampling of fruits and vegetables, takes a soil sample, arranges for a plankton tow behind the 3 h.p. outboard, and gets in touch with Otto, who had promised to lead an expedition to hunt small coconut crabs. The plankton tow takes place at 0830 and the samples are stored with the [illegible]. Shortly after 0900, Held and Hines then get on long pants and meet Otto on the island road for the coconut crab hunt.

Otto leads us diagonally across the island [illegible] the copra areas where there are piles of coconut husks at frequent intervals. These he searches, with help from Held and Hines. The search is not very productive, however; for, [illegible] crabs [illegible] name is smaller than those discovered the previous evening. [illegible], however, question Otto at some length about the crab, the [illegible] of it, and other things.

[illegible] Wotho village, [illegible] road, gives [illegible] than coconut — [illegible]. Livestock incl[illegible] are small, for the [illegible]. The Wotho church [illegible] which building across [illegible] similar — but seem[illegible] lagoon side.

Otto shows Held and Hines [illegible] the church is almost bare of furnishings and decor[illegible] speaks from behind a small, plain table covered by an altar cloth containing a scriptural quotation embroidered in Marshallese. The wall at the altar end of the room is covered by native mats in which patterns have been worked, although mats on the other walls are plain. Otto points out which of the timbers of the main structure are Marshallese woods and which are [illegible] washing driftwood. He also shows us the notched and decorated timbers at the rear of the church that are maintained, he said, in remembrance of the dead. There is, as at other atolls, no common burying ground, the dead being buried in small family plots.

Held and Hines had met the Wotho minister on arrival at the atoll and Mr. Hines had sat with him and his family for a time before the movie the evening before. On the way back from the crab hunt we met him again as Otto went from one house to another inquiring if there were shells or Wotho handiwork available for trading. On learning what Otto was doing the minister and Joseph, the judge, bring out colored belt decorated with shells. Otto explains that they want us to have the belt. We assume that the belt is something for which they would be glad to have a gift in exchange, but Otto, interpreting, explains (in loose quotation), "They say they want you to have this as evidence of friendship between your nation and Marshallese." We thank them, through Otto, and tell Otto that we shall send something for the church as a gesture of friendship [illegible]

Held and Hines, before [illegible], get out a small supply of item intended for trade with the [illegible] beads, thread, candy, buckles and so on. These we give to Otto to distribute as he saw fit, we being frank about our interest in obtaining shells or other items of interest. The result of this is that Otto, [illegible] native suit, gathers a belt [illegible] and a bracelet from the house [illegible] sister, a large cowrie shell from another house, and three beautiful [illegible] that he promises to clean and give to us [illegible]. [illegible] the belt that the minister gave us, accepting our [illegible] Otto's sister is much interested in white thread [illegible] she says, the copra boat has only black thread or none at all. Accordingly, we assure her that we will send along some additional supply on our return to Eniwetok. Joe Lazarr also wants thread or other items to give, so an arrangement is made whereby we promise to send to Lazarr the gift for the native church, the thread for Otto's sister, and the thread that Joe himself wants.

We discover, on our return to the station just before noon, that the captain of the plane wants to leave by 13:30, if possible, for the trip to Eniwetok. Held, hoping to pick up a [illegible] for Bonham, had asked Lazarr if we could use the jeep for a final trip to a small reef where Otto said cucumbers were plentiful. After lunch we wait for the jeep, which is on an errand, and get the gear and samples ready for transfer to the plane. [illegible] minute jeep returns and Lazarr drives us to reef — [illegible] takes a minute search for samples. We return, load gear into small boat, [illegible] returning to Eniwetok, say goodby to [illegible] and are out to buoy to board plane.

The flight to Eniwetok is short — [illegible] and thirty minutes. At airstrip we find L-20 waiting for us. Load [illegible] gear in truck and get aboard for quick hop to Parry. Gear comes by [illegible] boat and this we pick up (after shower and clean-up) and take to lab. Plankton nets are washed, cards and mags, and miscellaneous samples are stored in reefer and elsewhere before chow time.

Miscellaneous:

The Wotho chow was superior. A single cook, working seven days a week, was putting out meals that were invariably good.

The lagoon at Wotho is not large but it was as quiet as any we have seen. The rotenone clouds hung in the water for long periods, the dissipation being even and gradual.

We had promised the natives that they could have any fish we did not need, but no arrangement was made as to who was to collect. Only Otto showed any interest in gathering the surpluses, the other natives apparently being content to let the whole matter drop.

Wotho natives have no boat of any kind. There is no boat builder at the atoll and a whaleboat left at the island five years ago apparently has been permitted to decay without any use whatever. Someone (probably Stephenson) reported that the island council was reported to have about $1,000 in the treasury that might be used for purchasing a boat, but meantime interisland trips apparently are made altogether in the 3 h.p. outboard when it is not needed for official duties.

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Locality ELMER - HENRY Date 19 June 56

Personnel NOH, CH (LRD, AHS, ADW, FGL, PRO aboard Walton) Weather good

Water conditions good

Radiation level(s)

Operations:

See attached notes by Hines

KB

TUE X, 19 JUNE

Held and Hines on plankton tow (Elmer to red buoy) from 0800 to 0900. Take trolling rod and get 4 pound yellowtail on way out to tow area. Return to lab shortly after 0900 and spend morning processing and packaging and in general work. Held makes arrangements for overnight trip to Henry, setting up helicopter for 1600 and checking at security office about seals and so on. Two times during day Held forced to stop work to brief visitors, the second group consisting of admirals and generals killing twenty minutes between appointments.

Mr Peel REG Finance Director Mr Cook brought down by Ed Butts

After lunch Held notified helicopter takeoff moved forward to 1530. We pick up lunches and report to operations shack at 1500. Smooth ride to Henry landing area at far end of island. We pack gear to camp site, get established there, and then walk down to far end of island for afternoon survey of former road.

Many larger crabs noted on island, but few females and few small crabs of interest. We spend half hour observing crab climbing tree. Held stung on top of head by wasp. We return to camp, erect tent, and collect beach boxes for table and chairs for supper.

At dusk we walk down ocean side of island, picking up occasional samples from reef. At one point we find large spread of letters and other characters carved into coral slabs, some of the characters apparently being Japanese. After dark we start down island path again, using coleman lanterns supplemented by electric lantern. The colemans provide a fine spread of light, but there are few crabs of interest although we see some of magnificent size. At the completion of the island survey, we return to camp and stow ourselves away for the night in sheets that Held had brought for cover. Screen tent, man pup tent, proved highly desireable

Between 0700 and 0830, when the helicopter is due to pick us up, we clean away three piles of coconuts looking first for a female with eggs and then for any young crabs or other items of interest. Held finds the female, but there is little else in the vicinity.

Miscellaneous:

Japanese characters and Marshallese names carved in coral might prove of interest if there was time to investigate.

The island road, which Held says was virtually clear in November, now is so overgrown as to be almost totally obscured in places. The landing area on the tip of the island also is covered by new vegetation.

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SEATTLE, WASHINGTON

Locality Henry — Elmer Date 20 JUNE 56

Personnel NOH, CH, CLRD, AHS, ADW, FGL, PRO aboard Walton) Weather Good

Water conditions Good

Radiation level(s)

Operations:

See attached note by Hines

WEDNESDA 20 JUNE

The search in the coconut piles producing nothing but the single female with eggs, we load gear, strike camp, and carry all baggage to the landing area. Helicopter arrives promptly at 0630 and we are back at Parry by 0900.

We deposit gear and samples at lab, Held making a special container for female coconut crab. We work at lab for balance of morning, Held writing samples and Hines with notes of activities of week.

Before lunch we check for mail and go to communications office for word on the arrival of the Walton. In afternoon, Held returns to lab while Hines, who had hit the sack for a few minutes, while Held got a haircut, slept until 1500. Held took eggs from coconut crab and begins studies of them. Hines continues notes. We return to barracks at 1800, go to chow, and then to show with Bob and Karen.

After movie we talk until midnight with Bob and Karen while Held weaves hat from coconut frond brought back from Henry.

KB

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ocality ELMER Date 21 JUNE 56

ersonnel NOH, LRD, DHS, FGL, ADW, PRO, ~~ED~~ Weather Good

Water conditions Good

adiation level(s)

perations:

See attached notes by Hines

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THURSDAY, 21 JUNE

Walton due today. Weld and Rimes out for plankton tow at 8:30 (Elmer to red buoy) and then proceed to Walton, which is anchored in lagoon.

Gang on Walton already has much of gear disembarked and packed. Since other transportation than Mboat needed; however, arrangements made for U boat at ~~1200~~ 1330. Gear packing finished while crew removes welds from probe tank and winch. We wait aboard Walton until U boat arr ives, having lunch on board and planning to join Walton crew in picnic on Friday.

U boat takes equipment from Walton at 1330. Emerson arranges for copies of overlay of Walton survey to be delivered Friday. With gear and equipment ashore, survey party goes to barracks while fork lifts take gear to lab.

Weld arrives at lab just in time to intercept visit by Admirals Strauss and Händley and other members of their party, to whom he explains lab operations. Clinton Anderson, also a member of the Party together with Dr Ogle.

June 22 to July 10
A.H.S.
FOR
RFP

JUL 16 1956

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Locality Elmer Date 22 June 56

Personnel LRD, RHS, HOH, ADW, EGL, PRO, ~~EH~~ Weather Good

Water conditions Good

Radiation level(s)

Operations:

Preparation & counting of Walton samples. 1630 to Japton for picnic with officers & crew of Walton. Returned to barracks about 2000 with Emerson, Thorndyke & Burke of Walton & spent the remainder of the evening conversing.

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SEATTLE, WASHINGTON

Locality Eniwetok Date 23 June 56

Personnel LRD, ADW, AHS, FGL, PRO, NOH, SGL Weather good

Water conditions good

Radiation level(s)	time	0825	1200	1500	1700	1740	1800	2220
Operations: Clam	#1	44.1	44.2	42.3	43.2	41.1	42.4	40.9
	#2	33.7	34.4	33.3	30.8	32.3	33.1	32.6

0800 AHS, NOH, SGL Plankton Tows. Day spent preparing samples, counting, evaluating data by all hands. Asparagopsis collected.

Letter to Dr. Boss from LRD re return of Walton to Eniwetok & sending of plankton & water samples to Dr Parker. Summary sheet of radioactivity in Walton samples enclosed in letter to Boss.

Samples (9 plankton, 1 water, 1 filter paper) sent to Dr. HM. Parker, Hanford, with covering letter by LRD.

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cality Eniver Date 24 Jun 56 - Sunday

rsonnel LRD, NOH, FGL, ADW, Weather good

AHS, PRO, CH Water conditions good

Time 2057

diation level(s) #1 42.0

perations: #2 330

AM - Chores & continued sample preparation & counting at lab.

PM - AHS, PRO, LRD, NOH, FGL - excursion to Fairbanks PX.

Meeting of entire group on return regarding future plans.

NOH to depart for ZZ Thu 24 June

AHS " " " " Sat 30 "

FGL & CH " " " " Thus 5 July

Decided to start 24 hr counting until Walter samples completed.

Following Wathe Plants weighed wet & dried!

1 Breadfruit - 306gms; 2 segments Keys Pandanus, ripe - 260gms; Cauleipa vexilliana - 23gms; Arrowroot tubers, washed - 34gms; Morinda, 3 fruit - 60gms; Halimeda - 8gms, Messerschmidia, terminal leaf clusters w/stems - 73gms; Cocounts, 2 green, served in mess hall, meat only saved - #1 102gms #2 57gms } 159gms.

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Locality ELMER Date 25 JUNE 56

Personnel LRD, NOM, ADW, AHS, FGL, PRO, C.H. Weather Good

Water conditions Good

Radiation level(s) Operations: C/m

Time	0450	0815	1210	1956
#1	41.6	39.5	39.4	35.9
#2	33.6	27.8	29.5	30.8

Continued preparation & counting of Walton samples & evaluation of data. Collected Asparagopsis & 2 sea cucumbers (H. stra & Actinopygia m.) for K.B. Hines checking out for possible trip home tomorrow.

Took Operational Summary of Melta trip to T-3 with copy to 7.1 Capt. Mercure promised to get copies sent to the ship & onward and to the Melton. Seymour & Donaldson had conference with Duncan Cuny and Dr. Ogle 7.1 on program and reports. Attention was called to 7.1 request for program summary within 15 days of last shot.

Reducing Report - distribution.

1 AEC - DMA
1 Headquarters - ASWP
2 TE - 7.1
1 D Division Los Alamos, attention Lucy Connolly
5

1 AEC Bend & Med.
1 " Hanford
1+ A.F.L.

Classification to be Confidential

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Locality EL MAR - JANET Date 26 June 56

Personnel LRD, ADW, DHS, NOH, PJO, FJL, [illegible] Weather Good

Water conditions Good

Counter BKg C/m Radiation level #1 0212-39.7; 0605-40.0; 1213-42.2, 1658-117; MAX at 1730-154

#2 0217-31.8; " -27.4; 1313-29.0; " - 50.7;

Operations:

deep entrance, red buoy.

0800 Plankton Tow A-1 45 minutes [illegible] tically, and [illegible] large [illegible]

PM AHS collected Asparagopsis beyond detectable fallout observed.

When radiation levels approached twice bg all samples were sealed against contamination, including plates already prepared.

NOH requested to be available for special flight to ZI which may depart PM of 27 June

Counting of water samples delayed until background becomes stable again.

Lowman & Hines to Janet by L-20 1300-1600. Observed rats - collected four + plants - tricuspetta, sida, Cenchrus, Lepturus, Fimbristyla.

Circled Mike Crater on return.

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JUL 16 1956

Locality Parry --- Date 27 June 56

Personnel Hines, Ludd, Olson, Leonard Weather Hazy - clouds

Seymour, Nolander & Shoalwood Water conditions moderate.

	1800	2110	2132	2154	2215
Radiation level(s) #1	43	47.1	46.7	45.2	42.7
#2	31.4	39.9	37.1	36.4	32

Operations:

Letter w/data from Walton survey from LRD to Ross. Hines departed Elmer for Z I. about 1500. Continued processing & counting Walton samples & evaluating data.

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JUL 16 1956

Locality ELIAER Date 28 JUNE 56

Personnel LRD, FGL, AHS, PRO, ADW, SH Weather Good

Water conditions Good

0706

Radiation level(s)

Operations: #1 40.1
#2 30.2

Completed counting Walton samples 1312. Seymour & Held made repeated plankton tows in deep passage w/ 2 ½ meter nets (#64 #20 mesh) - total of 10 paired 15 min hauls (20 samples). Continued plotting & evaluating Walton data. Packing Walton gear.

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Locality Same -- Date June 30, 1956

Personnel Kelly, Lawson, Olson, Seymour, Wahrhaftig, Knudsen Weather Fair

Water conditions moderate

Radiation level(s)

Operations:

Continued work on the Matlox system. Seymour and Kelly waiting up the plankton data, Lawson-Wahrhaftig trying to work out some method of using the pack results and Olson-Knudsen waiting a tuning of the net data.

Seymour and Kelly took plankton tows in the Juan de Fuca Passage 7:15 - 8:30 a.m. Vicinity prepared for shifting to O.F.L.

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Locality Yukon — Date July 1, 1956

Personnel Reed, Lucas, Olson Weather Rainy

Seymour, Wilson & Arnold Water conditions Muddy

Radiation level(s)

Operations:

Held field day, with aid of myself personnel aboard at Tanana and moved equipment packed on second main runway trip of light Cessna. Exhibit was stored in the northeast corner of the room in a wet pile. Pack and gas were aboard ship and crew boarded Tanana

Continued work on Walter site with good success in getting the final outlet [illegible] ready for Seymour & Wilson for erecting by the Technical experts.

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Locality Elwha — Date July 2, 1956
Personnel Neil, Lowman, Olson, Weather Moderate - Rain
Seymour, Wick, Bradburn Water conditions Moderate

Radiation level(s)

Operations:

Continued to work on the Walton data. Wick working on the Wicks fish. Neil working on creek. Seymour and Bradburn worked the rapids in the E.M.B.L. for sculpin. None were found. Olson sorted a number of small fish in the E.M.B.L. that were dried in the sun on the roof. Stopped 1 setnet & set two gill nets of small mesh. Fish feeding report is unfavorable - it is still high. One set had the food fish disappear.

Col Shiner, from Comm. Dept of Wash. was here during noon hour visiting the laboratory. Dr. Leighton accompanied Col Shiner.

Bradburn & Olson went over to Indian Creek and Pollock gaffed 4 D. Trout with 1 Brook Trout. Put them in the tank for the present.

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Locality Clear — Date July 3, 1952

Personnel Field, Foreman Olsen, Seymour, Hendricks, Knudsen — Weather Rain

Water conditions Moderate

Radiation level(s) Mukluk 0604

Operations:

Completed work here on Walton Lts and prepared accurate chart title etc for final Seymour report. Sent it to U.S.I. via the night mail plane. Finished up in final station today. Left Pavy at 2000

Amount of Asterias collected, was killed, mixed well, sealed and sent to Ralph via Seymour

Background on #2 counter

0730 - 509 c/m

0835 - 420 "

0850 - 1029

0930 - 723

1010 - 600

1100 - 440

1800 - 235

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Locality Perry Island **Date** July 4, 1956

Personnel Hild, Brown, Olson **Weather** Cloudy - cool

Welander & Gradwell **Water conditions** moderate

Radiation level(s) Levels falling slowly. 0945 - 123 c/m

Operations:

Picked up 4 rats at N-4 for counter. Packed the two Nelson - Chicago in insulation and placed them together with the two pigs in special box. All four were placed in the air conditioned room.

Box of salt water crabs was obtained from N-4 to give to the natives on Bikini with Willy Williams until a box could be sent up from Japan by Capter. Collected two rats at 2 pm for post dip capture. Collected two rats at 2 pm for analysis. Life did not finish up until 7:45 pm. Radiation 300 mr. Oil required to take it out. See above

arrangements made with N-3 for the official trip to Kwajalein. Maj Marx and Sgt. Johnson need to see about trips. Special orders must be written for each trip.

Organisms collected.

1 ♀ rat - 6 embryos 1 ♀ rat 3 full grown embryos saved for chemistry

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OCT 16 1956

Locality Parry I - Kusaie Island Date July 5, 1956
Personnel Held, Lowman, Olson Weather Cloudy
Welander & Donaldson Water conditions Moderate

Radiation level(s)

Operations:

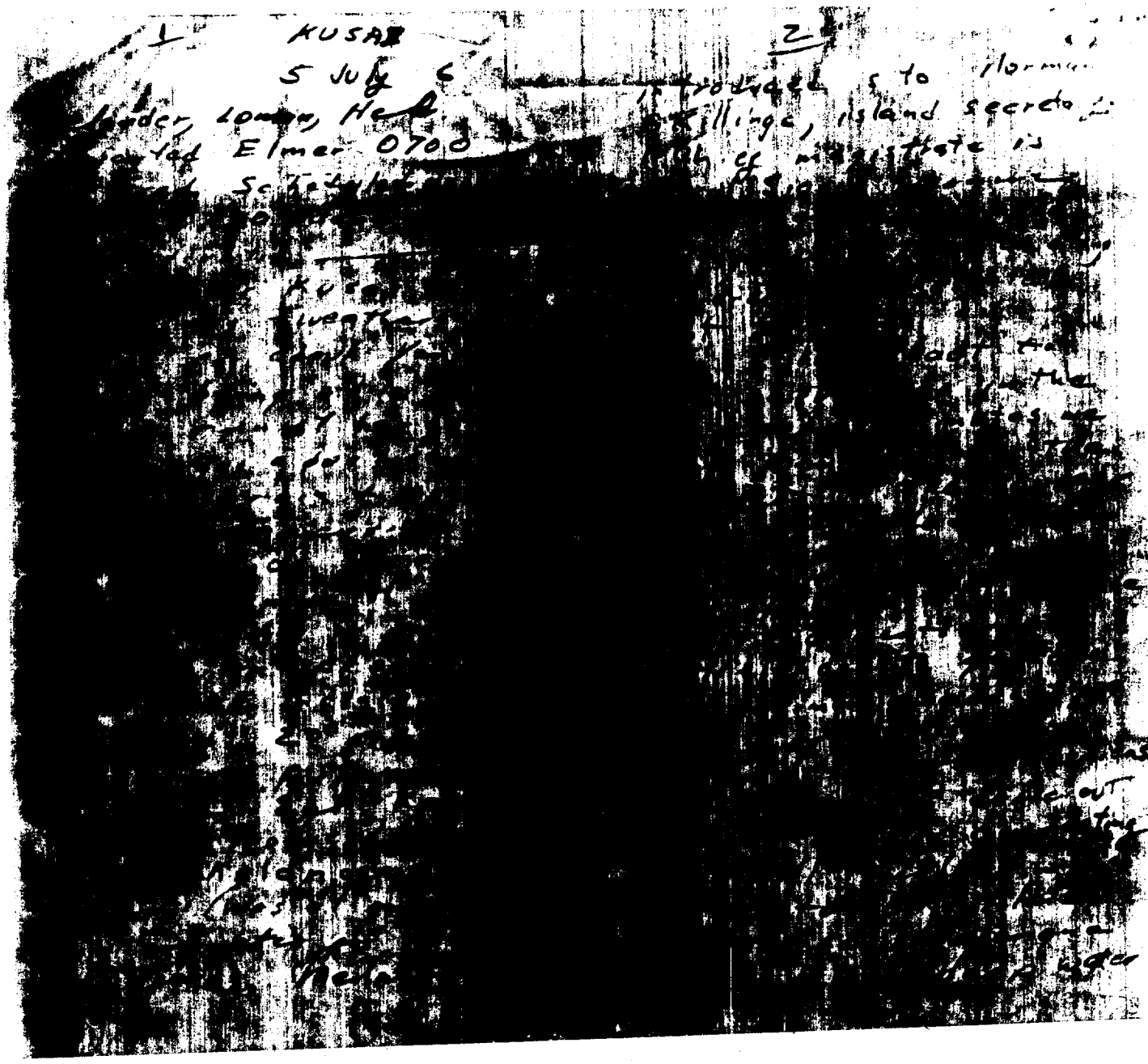
Held, Lowman + Welander left by M boat at 0700 to take a flight to Kusaie at 0800.

Olson collected Asperagopsis on morning low tide and dried for packing for shipment.

Donaldson and Olson by M boat for plankton collection in the Lelu entrance. Tow made on incoming tide

Lt. Col. Blue D.M.A. came by the Laboratory (EMBL) to discuss the Rongelap fall out and return of the natives & took the position that Bur of Bio. Med would be able to make a decision after we have completed the resurvey - any other action would be premature. Bob Gresson showed data from Rongerik with additional fall out from the present cruise showing increased levels from the present cruise.

Henry Sadowski, 33 Hendrix Street, Brooklyn 7, New York would like to have copies of the Kusaie pictures. #G.L.



KU AB
5 JUN 52

5

There were occasional burrowing sea anemones with an expanded diameter of about 6" + with extremely sticky tentacles.

Grapsus was noisily evident in the crevices of the causeway which was built of corraline rock.

Frank took a photo looking from main island to small island.

After fish poisoning returned to base. Then John Melander had fruit + hermit crabs brought to us. There are also coconut crabs used for food but could not get any. Fruit brought: bananas, breadfruit, papaya, coconut, pineapple, lime, grapefruit (like green). Apple (not anything like our

6

apples - will have to photograph or describe in more detail after cutting open + a large fruit (about size of breadfruit,

The hermit crabs they brought appeared to be coking two very small ones at that. So the went again, and a group of us [illegible] Fond Lan Fond [illegible] the usual [illegible] but did get [illegible] large specimens of a smooth clawed land hermit. C. [illegible] (Capt Hall) is on the island living with John Melanders [illegible] ations.

7

Melander says timber for dock sawn from old mangrove trees + resistant to rot. Freight rates Ponape - Kusai are 5=/ton

Took off [illegible]. 1615 hrs.

Population, according to Melander, is a "little over 2,000."

8

SA-16 CREW - KUSAI TRIP

Pilot	Capt.	Robt. E Frostwater
Co-pilot	1st Lt	Ray E Dowell
Nav.	1st Lt	Dallas D. Sawyer
Engr	S/Sgt	Robt. L. Reynolds.
R O	S/Sgt	Norman L. Baldwin

+

Maj. Powell

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Locality [illegible] Date 6 - July - 56

Personnel [illegible] Weather [illegible]

[illegible] Water conditions [illegible]

Radiation level(s)

Operations:

Wet wts of samples collected at Kusai 5 July

Turbinaria	35.46 gms	Sponge	17.00 gms
Halimeda	43.72 "	Breadfruit	261 gms
Sea Cucumber (Body wall)	29.51 "	Papaya Green, entire	241 gms
" " (gut + contents)	32.18 "	Orange, entire	330 gms
Soursop	261 gms	Mountain Apple	54 gms
Pineapple	214 gms		
Bananas, green, peeled (3)	218 gms		
Coconut Milk (green)	284 gms		

UNIV. OF

[illegible] to [illegible] at 0530 [illegible] Tarawa [illegible] arrived at 1130 [illegible] flight of 500 miles [illegible] Officer in charge of the [illegible] of the atoll [illegible] to Betio island. The last 3 [illegible] depth [illegible] the beach [illegible] the reef. The beach [illegible]

Note: Please send to John Harley, NYO for Lab Report 56-2 "Method of calculating [illegible] Gamma dose from Beta measurements"

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Locality [illegible] Date 6 July (cont)

Personnel [illegible] Weather Calm

Water conditions Smooth

Radiation level(s)

Operations:

The road passed through a number of villages. The Gilbert Island [illegible] British [illegible] [illegible] [illegible] [illegible] of people [illegible] [illegible] of [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] the [illegible] the [illegible] fish [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] in [illegible] hundreds both by day and by night. [illegible] [illegible] [illegible] catching fish with [illegible]

[illegible] [illegible] [illegible] [illegible]

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Locality: T[illegible] Gilbert Island
Date: 6 July 195[illegible] (cont)

Personnel: [illegible] ~~[illegible]~~ Olson and [illegible]
Weather: Calm

Water conditions: Smooth

Radiation level(s):

Operations:

[illegible]

[illegible]

[illegible]

[illegible] { [illegible]

[illegible] { [illegible]

[illegible] Island Colony. { [illegible]

[illegible]

[illegible]

[illegible]

[illegible] Baker [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] fish, including

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

UNIV[illegible]
UNIV. [illegible]

[illegible]

[illegible] Island [illegible]

[illegible]

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SEATTLE, WASHINGTON

Locality [illegible] Date [illegible]

Personnel [illegible] Weather [illegible]

[illegible] Water conditions [illegible]

Radiation level(s)

Operations:

[illegible]

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SEATTLE, WASHINGTON

Locality Perry Island Date

Personnel Dunbar, Olson Weather Rain

and visitors Water conditions Rocky

Radiation level(s)

Operations:

Left at 7:30 am [illegible] upon the tide
covered flat the mid [illegible] bay.
Tied with [illegible] Small Sweet
Myrcoffee Island to Perry Island camp for
trip to the water.
Net and Boat working with fish collected
at Kennedy freezing Tuesday Sept.
Dunbar made an examination of the stomach
contents of Perry Island to obtain the stomach of Pacific
Sculpin [illegible]
Staff gage was located along the beach.
Of these we were able to obtain a total of 53 on
the beach at the Southern end. The sculpins
were found in either side of the bay.
It is noted that the water has risen after the
partition in the bay. Current [illegible] and
direction of current to be noted. Size of the normal
tide [illegible] for the area.
Collection for examination of [illegible]
Specimens brought up to lab for
first time in the [illegible]

100

100 c.c.
7-16-56

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SEATTLE, WASHINGTON

Locality Parry Island Date July 9, 1956
Personnel Olson, Wheeler & Smallwood Weather Showers
Water conditions

Radiation level(s)

Operations:

Geo - please order the collection of shells and plates in "Bikini and nearby atolls: Part I, Ecology: Plates 65-73 and charts 1-11 - U.S. F.S. Professional Paper, 260-A" 1954.
Ups early, very specimens right.

Plant material collected at Tarawa 1100 July 6-7, 1956

Coconut milk	-	Bikman Island	160 c.c.	
"	meat	"	"	39.7 grams wet wt.
Limu	skin	Ataiang	"	17.5 " " "
"	pulp	"	"	50 grams " "
"	ocean	"	"	1.4 " " "
Bananas	skin	Bitaretari	"	30 " " "
"	pulp	"	"	36 " " "
Papaya	skin	Atachiro	"	58 " " "
"	pulp	"	"	100 " " "
"	seeds	"	"	4.5 " " "

Material mailed to A.F.L. UNIV.

1 Envelope ① Liver ② Osphragesine
2 Packages ② Auton tube 1" x 2" tube - for F.F.L.
③ Marks fish samples - gills material + plate. cards 50-54
c. Kusai fish samples - plate + cards 55 to 60
d. Kusai Crab samples - gills
e. " Gills plant - with oil
f Faunt - rat samples 4-29-56 - 5-11-56
g Kusaie - sea cucumbers

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Read 7-16-56

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Locality Perry Island Date July 9, 1956 (Cont)

Personnel Weather

Water conditions

Radiation level(s)

Operations:

Liver collected at Kwajalein 5 July 1956

(a) Liver, 1 line 17. grams wet wt.
(b) Gall, 1 " 31 " " " " } put in oven
(c) Testes " 1 " " " "

Tarawa samples processed for drying

5- Limit crabs dried entire or with legs and abdomen removed and dried.

1- sample Algae- green and lettuce

1 cucumber H. atra
a. integument
b. gut
c. gonad.

1 cucumber H. atra
(a) integument
(b) gut
(c) gonad

1 Actinopyga - 2 parts

1 Tarawa egg
a - shell
b - yolk
c - white

Wheeler processed Tarawa fish for background counting and stored for identity if required.

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1000
7-16-56

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Locality Perry Island Date July 10, 1956
Personnel Donaldson, Olson, Welander Weather Uncertain
Water conditions moderate

Radiation level(s)

Operations:

Donaldson and Olson collected plankton in the
deep passage at 0630 to 0840 hours.
During the morning a conference was held
on the Sept marine survey with Dr H Seth Clemo
& B & M. Capt Coleman USN AT-3 Lt Col Goulds and
Lt Col Raymond, U.S. Marine Corps. and L.P.D.
The decision largely hinged around the date for
starting the survey, the area to be covered, and the
need to use Sept 1 was the recommended starting
date if the test go as now planned it should be
possible to get underway by that time.
The question of the retention of the restricted
zone after the test program was completed was
discussed. I took the position that such a decision
was a political one not a problem for fishery
Fish wise considered as a possible basis in
question. My comment was that the fish do not
respect restricted zones and would enter every
migratory passing for east to west - so would
pass through the zone and into open water.
Prof Pigeon M.I.T. stated would if [illegible] day
at the F.M.B.L. [illegible] the [illegible] the fish
in the food chain.
Water bottles were hoisted up at the
machine shop - and retch pins for the after
cable [illegible] and a [illegible]

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July 11-13 AHS FOL.

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SEATTLE, WASHINGTON

Locality [illegible] Date [illegible]

Personnel [illegible] Weather [illegible]

[illegible] Water conditions [illegible]

Radiation level(s)

Operations:

[illegible]

UNIVERSITY OF WASHINGTON
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ality Life Date July 11, 1960

sonnel Bradley, Olson, Nichols Weather

Clay, Litt, Pratt Water conditions

diation level(s)

erations:

Put out two lampara sets by hand in the
mouth of the village.
Seine was set out on the ebb tide
to run the ebb tide of a good full
of fish was noted. Most of the species
were present, a few were noted that
were not usual collections.
The net lifted from the sand was
taken in by a power block by the
seine boat. It was noted that usually the net
as it came in did not ride on it's
cork line and fell in a smaller area
left such in the regular fashion
[illegible] stayed
straight out all the time after
lifting the net it was taken by hand
by the crew of the seine boat to the
beach, one end of the net to the Indians,
on the opposite end to the Fishery,
Pupil Biologist was in charge of the Coho
marking experiment at the Big Beach

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SEATTLE, WASHINGTON

Locality [illegible] **Date** [illegible] 13, 19[illegible]

Personnel [illegible] **Weather** [illegible]

[illegible] **Water conditions** [illegible]

Radiation level(s)

Operations:

[illegible] the village [illegible] the [illegible] ... Camp [illegible] the [illegible] and [illegible] we had [illegible] fill [illegible] [illegible]

The [illegible] Camp [illegible] rough [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible]

We [illegible] the [illegible] [illegible] station [illegible] El[illegible] [illegible]

[illegible] [illegible] planting [illegible] [illegible] that [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] with the [illegible]

[illegible] [illegible] flight [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible]

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RP
AHS

Locality [illegible] Date [illegible]

Personnel [illegible] Weather [illegible]

Water conditions [illegible]

Radiation level(s)

Operations:

[illegible] of [illegible] day [illegible] of Pumping
and [illegible] 9.35 to 4.55
Fuel for Pumps and cold [illegible]
Shut plant down

Fishers [illegible] 10 [illegible]
Small [illegible] 12 " " "
" " [illegible] 13 " " "
Tenders (Hyland) 15 " "
Canneries 19 " "
Packers (Union) 2 " "
Coast Pack 3 " "
" Libby 2 " "
" [illegible] 1 " "
Bellingham 12 " "
" Libby 13 " "
" Pack 21 " "
Sayer Canning Co. 14 " "
Pinafore 13 " "
[illegible] with 4 [illegible]
" Trout pens 35 " "

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SEATTLE, WASHINGTON

RR.
AHS.

Locality Perry Island — Date July 15, 1956 (Sunday)

Personnel Olson, Wilder, Donaldson — Weather Calm - bright

Water conditions

Radiation level(s)

Operations:

Cleaned up laboratory put away Trimm equipment and tables cloths.

Continued to process Canopus fish, fruit, invertebrate

Sea Cucumber H. atra	Integument	82 grams	wet wt
	Gut	83 "	" "
	Gonad	11 "	" "
" " " "	Integument	54 "	" "
	Gut	61 "	" "
	Gonad	6 "	" "
Giant clam Hippopus	mantle	19.3 "	" "
	muscle	11 "	" "
	kidney	4.8 "	" "
	Gill	3.1 "	" "
	Visceral mass	13.5 "	" "
Algae Halimeda		51. "	" "
Turbinaria		5. "	" "
2 Crabs - discarded	entire	not weighed	

Need Jul 6 1956 AHS FOL. RP KB. 53 211

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Locality Pearl Island Date July 16, 1956
Personnel Gunderson, Olson, + W. Sanders Weather Showers
Water conditions Calm

Radiation level(s)

Operations:

Ant packed fish for shipment to the lab.

H-N Came with a fork lift and put the winch in a crate which we left on the porch in the most protected place

The water sample bottles that had been to the shop for repair were placed in the locker with the ships gear.

Ed Camping equipment was cleaned up and packed in the loft for storage. All items were check in except the electric light that was held out for future use if needed.

The tarps for the probe was cleaned and sealed to await the Sept / survey.

Conference was held on Sept one survey needs again I tried to impress the need for an adequate boat to do the job with a time allowance sufficient to accomplish the mission.

The real problem is to get a ship with a fuel range sufficient to stay out for a time and not have to return to Kwajalein for fuel. The best proposal seemed to be one of a zig-zag course to Guam of about 2500 mile and fuel with a return zig zag course to Eniwetok Clarence Brockhurst, Munson, Coleman and took part.

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Read
Jul 6 1/23 - 56

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Locality Pony Island Date July 17, 1956
Personnel Donaldson, Olson, & Weitkamp Weather fair
Water conditions calm.

Radiation level(s)

Operations:

Calm before the storm was rudely upset by a wire from Paul B. Pearson requesting a plankton, fish, water survey along 162° ± to outline limit of radiation. This to be done at D+4 days. Dr Clams, Hardin Capt Coleman, Donaldson, wasted most of the day trying to think up all the reasons why such an operation was impossible not feasible, etc, etc, etc. A long wire of explanation of position was sent Dr Bentsen saying in general that facilities, people & time were not available now. It was also pointed out that this would delay the Bongelap survey to late Sept or Oct. It was pointed out that the plankton collected in the deep entrance was as good or better index of ocean plankton than a few samples made in the open ocean. The impossibility of collecting fish in the sea from any of the Navy facilities was also pointed out. I suggested chartering a Japanese vessel to do the job - that was a "popular" comment.

Plankton tows were made in the deep passage at 0925 - 0945 lots of jelly fish in the tows.

Asterophyton was collected on the outer reef at 1730.

Packed for the Ujelang trip scheduled for tomorrow.

Bongelap trip now scheduled for D+1 and D+2 an R.T.R. 16 will be used and make two flights

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Recd July 20, 1956
AHS
RP
FOL
KO

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SEATTLE, WASHINGTON

Locality Pacific Islands Ujelang Atoll Date July 18, 1956

Personnel Bradshaw, Olsen - Weather Calm - showers

Wolander - Water conditions smooth

Radiation level(s)

Operations:

Left Parry at 0800 by "M" boat with fuel load of gear for Fred. Joined at Fred by Dr L. Blake. Left Fred at 0900 by ASR-16 and arrived at Ujelang atoll at about 1000. Plane tide was to carry and passenger and crew were carried ashore in small skiff powered by outboard motor.

A ship belonging to Griffes was reported as having drifted over from Calpernis and was into the atoll after some months of it had been and drifted out to continue its voyage.

The camp at Ujelang is operated by 14 PH for Rad-Safe. There are 3 14 & H employees, one Public Health service and 3 Navy men stationed on the atoll who have the usual field equipment, air in tent, with generator, evaporator, etc.

Collections were made on or near the main island (Ujelang Island). Fish collection were made on a rising tide on the lagoon side east of the village. Permission to collect was obtained from the ship. A carton of gums and salt water mask helped convince the chief that collections were ok. Tools and my camera gear such the truck and many pulls the interpreter.

Return flight 1500 to 1600 - Radiological Lab by 1700 time to put away gear and schedule for tomorrow

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Recd July 20 1956
AHS
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Locality Parry Island — Date July 19, 1956
Personnel Donaldson, Olson + Weidler — Weather Calm - Light
Water conditions Smooth

Radiation level(s)

Operations:
Plankton collected 0820 - 0840 at slack tide, large numbers of jelly fish in the collections.
Asperagopsis collected at 0800 from outer reefs.
Collections from Uyilang were prepared for drying.

Bulk samples		
Valisneria	115 grams wet wt	
H. stoma (3 combined)		
gonad	10.0 " " "	
Integument	114. " " "	
Lipid content	144 " " "	
Pandanus - fruit	92.3 " " "	
Papaya fruit	328. " " "	
Bread fruit	273 " " "	
"	330 " " "	
"	200 " " "	
Arrow root (old)	45.6 " " "	
" " (new)	97.0 " " "	
Coconut milk	360 ml. " "	
" meat	94 grams " "	

Hermit Crabs 1 large + 6 small dried entire.
Confirmed our D+4 survey assignment of the day with Claus, Albert, Calemme, Donaldson, etc. Decided to try and get ahead for a combined survey to start about August 8-10 and include a side trip to Ulithi, Claus left for Washington at 1400

Week July 25 1956
AHS
KB

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Locality Camp Island Date July 25, 26, 27
Personnel Donaldson, Olson, + Nilsson Weather Showers
Water conditions First white caps in water

Radiation level(s)

Operations:

Another conference with Capt Coleman, Col Coleman TU-3 Cdr Bankhardt O.M.a. Dr Albert B.+M. and LRD. All the problems and possibilities of a short survey were discussed. Capt Coleman relayed the message Adm Wehrling that the ting requested for the short or combined survey was not available. In fact no ship is immediately available. NTLF 7.3 strongly recommended that data on fallout in and on water be obtained from ASWAP programs of NYOO, N.R.D.L. and Swifts. They hope that Dr Clews and Dr Albert will convey the info to DBM. I suggested a meeting in Washington between Aug 10 & 15 to review our data now available and discuss additional problems to be developed during the Sept survey.

Sent wire to A.F.L. on return of L.R.D. and A.D.W. and requested Sagamaw and Tanner ship ops. be scheduled for Aug. 1-3.

Shipped samples of algae J193-3195
Plankton 6064-6070 (omitting 6068)
Fish 74-80

KB

N.C.E
7-6-27

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Locality Carry Island **Date** July 21, 1957

Personnel Donaldson, Olson, Reinhardt **Weather** Hot. Little breeze.

Water conditions Calm

Radiation level(s)

Operations:

Plankton was collected on a outgoing tide between 0935 and 0955.

Asperagopsis was collected at low tide on the outer reef.

Message 17 (Twx) at 0536

TWX received from Dr Donaldson B+M with list of items to collect at Pongelap with order of preference. Twx from 73 re assigning a vessel for Sept 1 and out lining the time and conditions for trip to be arranged by us as soon as fuel situation is completed.

Sulphur was obtained at J-4 and pipes were cut by N T M for soil samples

Background at 0500 314
1600 567
1700 1463
2000 7658
} on counter

1800 - 25 Mr on finding 45 mr retrieve survey meter

2000 85 mr " " 10 " " "

Tests of background stayed about the same during the night except for drops during showers.

Summary of Project 35 collection past and planned turned in to T.I. (Lt. Col Cross) This is the requested summary x

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Recd 7/11/56 Carbon Copy - Original to 24 Col Cannon as requested. July 21, 1956. DHS FOL KB RP DS

Subject: Outline of report of Program 35 of T.G. 7.1

To: Commander Task Group 7.1

Objectives were to measure the amount and distribution of radioactive materials in the fauna and flora on the islands and waters of the Pacific Proving Grounds and adjacent areas.

1. Pre test surveys were conducted to determine the level of residual contamination from previous test programs.

2. Marine Survey: During the period of June 11 to 21, 1956 a survey operating on the U.S.S. Walton (D.E. 361) measured the radiation in plankton, water, and fish samples. Fifty three stations in the area between 11° to 14° N and 159° to 166° E were covered during the 3300 mile cruise. A continuous record of the radiation in the surface water was obtained with a probe. Plankton samples from oblique tows to a depth of 200 meters and water samples from the surface, 25, 50, 75, and 100 meters indicated radioactivity at each station. Highest radiation readings in plankton and water samples were from stations north of Bikini Atoll. Radiation decreased in amounts around the edge of the survey area.

3. Algae have been collected on the reefs of Eniwetok and the level of radiation, especially the short lived materials, as I^{131}, determined.

4. Plankton samples from the deep passage at Eniwetok were obtained on a three times a week schedule. Such samples should be useful in evaluating the drift of radioactive material from Bikini.

5. Foods of the native people of Wotho, Tarawa, Kusaie, Ponape and Ujelang were monitored.

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6. Residual radiation in the soil, water, and foods of Rongelap Atoll is being evaluated prior to the return of the native people.

7. Post test surveys will be conducted of biological contamination and the movement of radioactive material around and out of Eniwetok lagoon.

8. Rat populations on Janet will be studied to evaluate numbers of survivors, level of food contamination, and amount and kind of radiation in various tissues of the residual population.

9. Post test survey of Bikini Atoll will be conducted.

10. An oceanic survey will start on September 1,1956 at the eastern edge of the mass of radioactive water and proceed to the western edge of the contaminated water mass. This survey will be similar to the one conducted June 11 to 21, 1956 but extend farther to the west.

Director of Program 35

Lauren R. Donaldson

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Locality Perry Island Date July 22, 1956 (Sunday)

Personnel Donaldson Olson Nilsadee Weather Showers - thin

Water conditions Moderate to high

Radiation level(s) 0700 - 9913/cm, 0900 - 14,754/cm, 1100 - 8705/cm
1500 - 7441 cm.

Operations:

Eighteen of eighteen - at 0656 (Hvem). Not much of a swell was noticed about 4-5 feet rise and fall.

Dr Albert D Bram came to the laboratory to talk over again the request for a short survey and to show me a copy of a wire he was sending to Denham saying Bob Kaspar could collect water samples from TU-3 and after analysis at NYOO send in the data to D B rm. Dr Albert was concerned about the level of fallout on Parry Is.

Meter readings at 3' gamma - mlp.
25 mr in the building 218
100 + mr in the vicinity - outside.

Arranged for Rongelap trip with my Geo mark II 73 Packard counting equipment ready for a 0600 departure.

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Locality Pony - Ponglap Islands Date July 23, 1956 (D+1)
Personnel Donaldson, Olson, Nelander, Taft and N. Malictin Weather Rain
Water conditions Rich.

Radiation level(s) 13 mr inside 95 mr outside with survey meter - Counter 5225 at 1815

Operations:

Left Pony at 0600 for Fred in rainston departed Fred at 0700 for Ponglap arrived at 0930 and was in the lead by 1000. Left Ponglap 1520 arrived Fred 1725.

Taft and Nelson surveyed the island with a Beckman MX-5 with tube < 28 mg km^2.

Readings were obtained at 1" and 3' shield open & cloud.

Station #1	grassy area in clearing under adult coconut trees	1"	1.5 Bkg - .4 K
		3'	1. " - .4 "
" #2	Eating house - construction site	1"	3.0 " - .5 "
		3'	2.0 " - .4 "
" #3	Under Pandanus in fallen leaves	1"	4.5 " - .7
		3'	3.0 " - .5
" #4	Low grassy area near beached well	1"	1.1 " - .4
		3'	1.0 " - .3
" 5	Under Asterdia trunk	1"	1.3 " - .3
		3'	1.1 " - .3
" 6	Under Cocoanuts	1"	4.0 " - .4
		3'	1.7 " - .3
" 7	High tide line ocean side, occasionally washed.	1"	.6 " - .2
		3'	.4 " - .2
" 8	Copra harvest area in clearing under coconut palms	1"	4.0 " - .7
		3'	1.1 " - .3
" 9	Clearing covered with heavy grass	1"	1.5 " - .4
		3'	1.3 " - .4

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Rec'd July 27 '56

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Locality Parry & Ronglap Date July 23, 1956 (Cont)

Personnel Weather

Water conditions

Radiation level(s)

Operations:

Station #10 Arrow root patch under pandanus and coconut trees 1" 2.0 R.Y - .5 R
3' 1.5 " - .3 Y

" #11 Sand at high tide line 1" .8 " - .3 "
3' .7 " - .2 "

" #12 Under Guettarda & dead leaves 1" 3.0 " - .5 "
3' 1.5 " .4 "

" #13 Top of coral ridge in Scaevola thicket 1" 1.0 " .3 "
3' 1.0 " .3 "

" #14 Under pandanus growth & dead leaves 1" 4.0 " .7"
3' 1.5 " .4"

" #15 Fine sand under Scaevola 1" .8 " .3 "
3' .3 " .2"

" #16 Under coconut trees in coconut harvest area 1" 6.0 " 1.0"
3' 1.8 " .4

Soil samples were collected in 1 gal pails for shipment to NYOO.

1st sample collected about 100' from lagoon near the village. Samples were collected from 1 square at 0-2"; 2-4", 4-6" depths.

2nd sample collected in the native village near papaya, pandanus and arrow root sampling station. These soil samples also contain 12"x2" at 0-2", 2-4" and 4-6" depths.

A second set of soil samples were obtained by using a pipe of about 1/2" inside diameter into

Recd July 27 56

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Locality Parry & Poplar Date July 23, 1956 (cont.)

Personnel Weather

Water conditions

Radiation level(s)

Operations:

the ground and upon removing the ends of the fish were sealed with corks thus retaining the sample in the same position as sealed ~~in place~~.
These samples are to be separated into 2" depths for drying and packaging. Rications compiled:-
1. Inter tidal areas - on the Lagoon side
2. Area high tide line " "
3. Both of ~~these~~ areas, about 2 yds from the lagoon
4. & Sea Coconut area near 2nd mark.
5. Midisland clearing among coconut trees.
6. about 30 yds from mean tide line on ocean side.

Fish were collected on the coral area on lagoon and on part of the village. Plankton nets were towed as the tide receded. No Clams were obtained. Hermit crabs were obtained were obtained in the coconut grove and on the ocean side of the island. No Cucumbers were obtained on the lagoon side. One special trip was made back to the ocean reef for samples.
Fruits were collected in the resident areas.
Flight back to Eniwetok arrived back at E.M.B.L. at 6:15 - put the collections away.
Said samples were put to dry in incubator other samples stored or frozen because of high background at E.M.B.L.

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Read July 27 '56

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SEATTLE, WASHINGTON

Locality Parry Island, Kabelle Island Date July 24, 1956
Personnel Knudsen, Olson & Wheeler Weather Good
Taft + Calkins P.H.S. Water conditions moderate

Radiation level(s) At 1715 survey meter reading 10 mr inside 55 mr
net ride, counts at 0605 - 2580
Operations:

Left Parry at 0600 by M boat with two jeeps
arrived at Kabelle at 0930 and were in the
field at 1000. Taft and Calkins monitored
the island with a Beckman MX-5 with tube of
< 28 mg/cm² Stations are indicated by number in chart.

1" High tide line on sand	1"	.7 mr β+γ	.3
	3'	.5 "	.3"
2" Among coastal trees	1"	9.0 "	2.5 "
	3'	5.0 "	1.5 "
3" Under edge of Scaevola (Heat effect indicated in general. Low ground covered with dense vegetation)	1'	20.0 "	7.5 "
	3'	9.0 "	2.0"
4" Under Suriana on fallen trees	1"	6.0 "	1.0
	3'	4.0 "	.6
5" Heavy shading	1"	20 "	4.5
	3'	10 "	2.5
6" Under Scaevola with heavy foliage	1"	16.0 "	6.0
	3"	8.0 "	4.0
7" Portulaca + grass - heavy cover	1"	2.0 "	.5
	3'	1.6 "	.5
8" Bare ground in open (Measured with	1"	5.0 "	1.5
	3'	4.0 "	.7
9" Open area under Suriana	1"	10.0 "	3.0
	3'	4.0 "	.6

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SEATTLE, WASHINGTON

Locality Pump I. Kitsilano Date July 27, 1954 (Sat)

Personnel Weather

Water conditions

Radiation level(s)

Operations:

10. Under Peonia in bird netting area 1" 7.0 β+γ 1.0 c
3' 4.0 " 2.0 "

11. Bare sand 40' from high tide 1" 2.0 " .4"
3' .9 " .4"

12. Eelgrass in Mesorchabditis 1" 5.0 " .8"
3' 2.0 " = .5"

13. Under Peonia in bird area 1" 10.0 " 2.2"
3' 5.0 " .7"

14. Under Fucus near bird 1" 6.0 " .8"
3' 4.0 " .6"

Fish ... caught ... Cottid ... Channel Station
The intertidal ... algae ... Fucus and Enteromorpha
algae ... and sea ... Crab ... mouth ...
mid part ... island.
1st soil sample ... consist ... start 1 cm ... 0-3"
Log part 2-4", and 1 cm ... 4-6" ...

2nd soil sample ... consist ... 0-2", ... 2-4" ... part ...
Soil sample ... first 1½" ... Diatoms ... soil
1 Diatoms ... in soil
2 ... light ... in ... algae ...
3 ... from ... algae ... soil ... sample
→ 5 Under ... UNIV.
6 Under ... in bird netting area
→ 4. ... mid ...

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Wed July 27 '56

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Locality Penn - Kabelle Date July 24, 1956 (Cont)

Personnel Weather

Water conditions

Radiation level(s)

Operations:

10. Under Peconia in bird nesting area 1" 7.0 β+γ 1.0 r
3' 4.0 " 2.6"

11. Bare sand 40' from high tide 1" 2.0 " .4"
3' .9 " .4"

12. Clearing in Mesembrianthemum 1" 5.0 " .8"
3' 2.0 " .5"

13. Under Peconia in bird area 1" 10.0 " 2.0"
3' 5.0 " .7"

14. Under Lantana near bird 1" 6.0 " .8"
nesting area 3' 4.0 " .6"

Fish were collected in the channel between the inside mud and the bird nesting area. Crabs and cucumbers edge from the sand area. Crabs and cucumbers were found at the inside.

1st soil sample in coconut grove about 1 sq foot 0-2", 1 sq foot 2-4", and 1 sq foot 4-6" for H.V.D.

2nd soil sample about high tide line on beach near 1 sq foot 0-2", 1 sq foot 2-4", & 1 sq foot 4-6".
Soil samples in first 1½" directly under soil.
1 Mid tide zone on lagoon side
2 About high tide on the lagoon side
3 Debris from the lagoon about 6 feet among trees
→ 5 Under Coconut trees.
6 Under trees in bird nesting area
→ 4 [illegible]

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Rec'd July 27 '56

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SEATTLE, WASHINGTON

Locality Puget Sound Date July 25, 1956
Personnel Dixon, Wilimovsky & Quickstad Weather Foggy
Water conditions moderate

Radiation level(s) 0.35 mr/hr max in hull 1/2 mr outside
Operations: Counter background 1763 at 1930.

Decided to try and take to HMS the 2 species of Parelaphostrongylus in order to test for possible transmission by Pomphorhynchus laevis.

Lt. Tinsman and I boarded visited the ship to discuss our program. The things we have and things we hope to accomplish during the next few months.

Lt. Cdr. K.T. Matter J.A. Sci. and Ab Willig visited the lab to repair on the ship for the Sept. survey. The ship assigned - DE 699 Marsh a twin diesel ship with a range of 6-7 days at 12-14 knots. Ship is assigned to the 7th Fleet. Cdr. Matter suggested an informal communication to the Commanding Officer with the proposed trip and a copy of the Matter collection report. I gave Cdr. Matter a list of Baldwin, Sigman, Ingalls and Hopkins as the persons to contact for support and direction. I also pointed out that the 7th Fleet is infested with the Oriental liver fluke.

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Locality Bainbridge Island Date July 26, 1956 Thursday
Personnel William O Lang Wade Weather
Water conditions
Radiation level(s)

Operations:

Visited the Bob Lawson Coyote Island Farm to collect samples of soil from Rogue Island, 500cc of salt water, 5-500cc tubes of water, water and 1 tube of soil with Rogue Island and 500cc tubes of salt water.

Shipped to A.F.L. via air Rogue Island samples, distilled water, salt water and soil samples.

Lawson left 3 pm with frozen Rogue Isl samples. Specimens were taken out of Refrig at Fire station & a tanks of CO^2 gas run in between packages of samples until refrig were full.

Set up trip to Bellingham Radsafe reported readings of 320 mr at Bellingham & 160 mr at Jones. Bob left reported high counts in water at Bellingham 200000 c/m/?

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Locality Elmer — Date July 27, 1956
Personnel Olson & Welander — Weather Clear & some Clouds
Water conditions Calm — no wind

Radiation level(s) ~ 160 mr at Janet ( ) about 250 mr at Belle (160 to 350).

Operations:

Left 0800 by Helicopter for Janet. Stayed on Janet 15 minutes. Saw 3 nests under various timbers & cardboards. No dead nests. All higher bushes & trees showed heavy damage, otherwise area looked normal — all tents swept away.

Arrived at Belle about 0900. Tide going out. Picked up 4 Cenobita, 2 sea cucumbers Halimeda. Fished Radon area inside (lagoon side) of island by laying pairs within 5 - 10' of shore wards of Point drifted lagoon- to the west. Obtained more than 75 fish (Point) of about 25 species.

Returned 1100 arriving 1130 at Elmer.

Processed Mussle samples & fish (45 specimens) and the invertebrates & algae.

Land plants at Belle had lost most of their leaves & some height (average height about 3'-4'. Most looked like they would recover. Many full leaves on Scaevola, some sprouts.

Several goatfish, wrasses, alive seen by Paul in pool (shallow) on island — apparently washed in by waves? Mangroves planted in hole, 4 looked healthy.

Damage to vegetation on Belle negligible compared to after Nectar.

No dead birds seen on Belle, Noddy flying in vicinity.

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Locality Elmer Date July 28, 1954
Personnel Crew + Welander Weather Sun + Clouds
Water conditions Calm
Radiation level(s) 0.2 mr/hr - 25 mr outside lab.
Operations:
Alan Parker, 2 others started 0800
+ left till 1130 by N. end of Island at
north, also dug entrance pit + called there
several times but could not get any
response till noon.
Collected + preserved fish from
Bell Island — all very bad.
Afternoon: Cleaned up lab, fish removed packings.
Packaged tissues from Norpac + Bell.
Plankton tow taken in deep entrance 1110

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Locality Elmer Date July 29, 1956 Sunday

Personnel Olson Welander Weather Summy

Water conditions Calm

Radiation level(s) .15 mr/hr inside .18 mr/hr outside 0830 1023 o/m

Operations:

Art brought bait to dup water pier for fishermen. End of day only catch was one snapper.

Packed crate for shipment home.

Packaged samples from oven.

Rearranged AFL locker in more orderly manner & stowed more equipment inside like plastic bags, log books, plankton jar.

@ 1500 took Bob Grannon & Hard Ladewski both NYO down to dynamite coral hole south of CMBL for aqua lung. Out of three tubes taken down only one worked satisfactorily.

Art purchased cough syrup for ZI today.

KB

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Locality Elmer--- Date 7-30-56

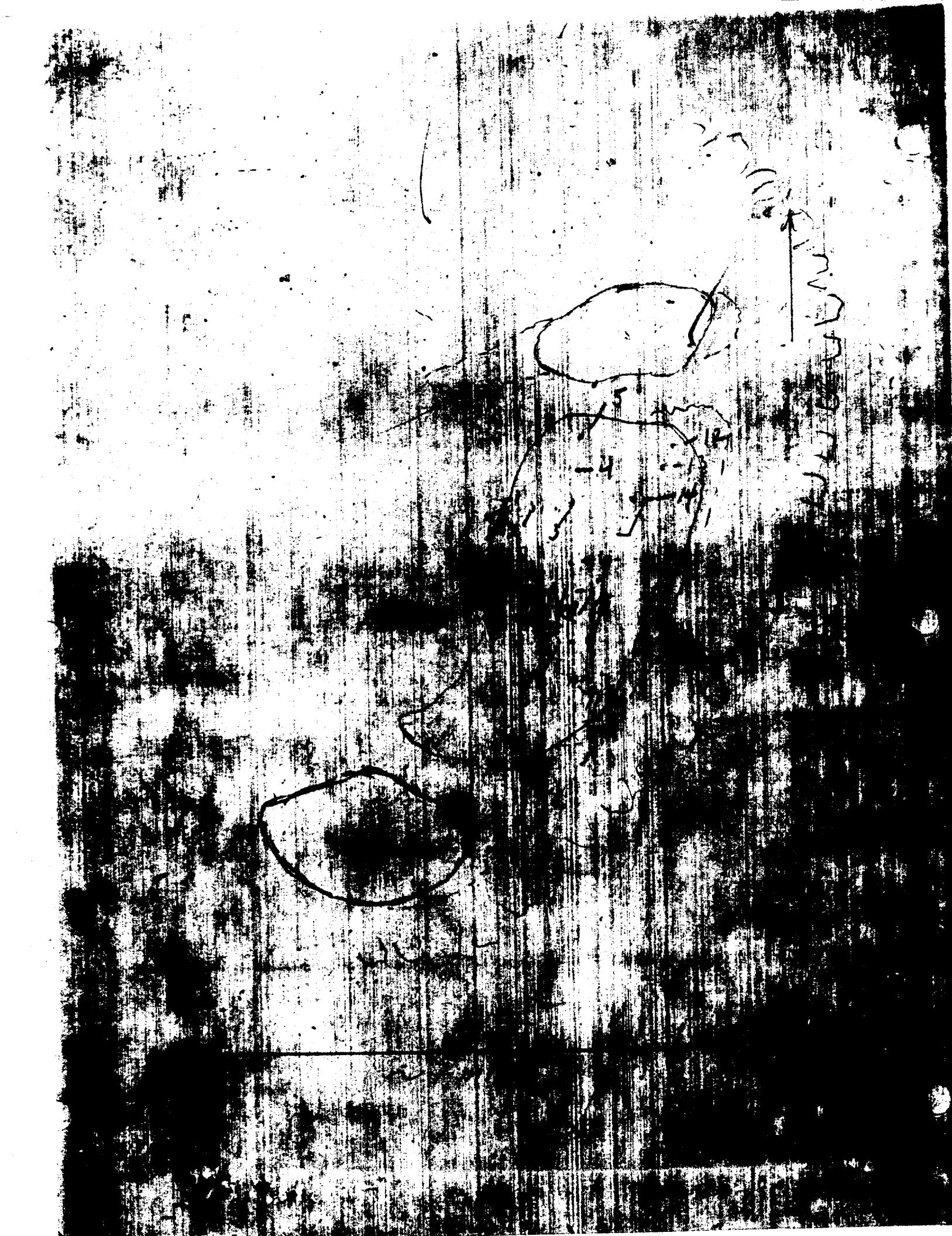
Personnel Olson Welander Weather Clear & Overcast slight Rain

Water conditions Average

Radiation level(s) 966 c/m background. 0.7 mr/hr inside 10-15 mr/hr outside.

Operations:

Check out clog for ZI.
Packaging final samples for shipment home
Delivering crate to J-4 for shipment home.
Straightening up lab & equipment
Contacted refrig regarding deep freeze on porch defrost.
Air conditioning unit gave up ghost. Will require replacement unit.
Returned blasting cap detonator to Hank Burgess, Safety Engineer.
Placed Robot 35 mm camera & shotgun & shell with Security office.
Bulk 100' ft roll 35 mm black & white Tri X left in storage with TU-8. Have 4 rolls Kodachrome with TU-8 for processing

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P.C. ai DS PRD KB AHS

Locality ELMER Date 9-17-56

Personnel Palumbo Weather sticky

Water conditions

Radiation level(s) Bg counting room — approx 24c/m

Operations:

Arrived Parry Island 1100 after being delayed at Hickam 17 hrs. also slight delay at Kwajalein atoll. Prepared for Deep entrance plankton tow (tomorrow) — Set up rate meter and ran plateau w/ Ra DTF std. set to count at 1350 V. Marsh delayed and is expected 9-20-56.

Lab has been completely revamped and is in fine shape.

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Locality Elmer - deep channel Date 9-18-56
Personnel Palumbo Weather warm w/Rain squalls
Water conditions

Radiation level(s) Bgd Lab - 20-24 c/m

Operations:

0830 Mboat w/Dr Blake to deep channel buoy for plankton tow - 30 Minutes - ½ Mile Nets (2) - Good haul - fished also until 1100 - Caught in Rex - barge area 1 bonita, 1 Apreon vireaus, 1 jack, and 1 mackerel which got away after landing it - Froze 3 specimens and will take hunks to monitor here. Red Sea mentred muscle from 94th time Caught Sunday - 73, 58, 8, 0 d/m ± ? - Lt. Morgan dipthera counting for them of Indian Chicago equipment.

Processed plankton and water samples during the PM. Preserved plankton "extra + small "scad" - (re Hiatt) caught in plankton tow.

Prepared for tomorrows trip to Belle. Retimed the clock for efficiency against K+ Dil Std. To obtain d/m from C/Min/45 records - multiply by 2.96 or 3

Water samples from departure today - particulate fraction = 120 d/m - MF-880 ml pH 5.55

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Locality ELMER -- Belle Date 9-19-56

Personnel Palumbo Weather 44° at 3 PM on Beach

Water conditions

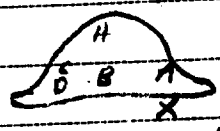
Radiation level(s) [illegible]

Operations:

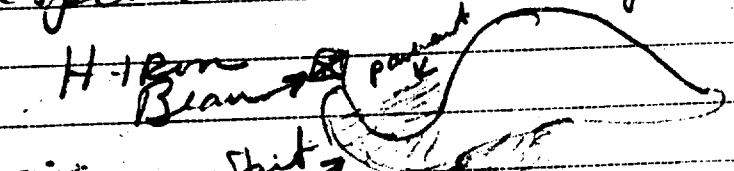
COEC [illegible] H-14 Schlacks and Curry

off Red Bluff area surveyed.

From air Belle looked to be in pretty poor shape — Vegetation bent towards Alice, lots of brown foliage, bare branches and bare patches. Landed at



X and walked around area A and made observations of logged plants, collected a composite soil sample and composite leaf samples of Monarch midia — moved to area H and did likewise — Collected algae in area F and F-2; most coral heads covered w/ a fuzz of Spyridia or Rhizodonium. Coral colonies also covered and saw only a few colonies that "looked alive". Walked to area C and D via "Empty" Hermit crab hole, collecting more soil and leaf samples. Stalks in area were either broken off at the ground or blown over and some were blackened. plants # 1211 gone and # 7209 not discernable since stalks blown about 3 Mangroves in hole down fine other is poor. Big Sand spit near Alice changed markedly —



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(P.2)

Locality _____ Date 4-14-56

Personnel _____ Weather _____

Water conditions _____

Radiation level(s) _____

Operations:

Algae covered area E-1 similar to last observation. Prominent algae were Padina, Enteromorpha, Spyrodia, and Rhizoclonium. Saw only one clump of Halimeda. Collected samples for plating.

Saw no Tridacna, sea cucumbers, spiders, snails, nor hermit crabs in areas E-1, F-1, and F-2. None seen by other two people. I had asked them to look for them before they started out. Schlack and Carey took meter readings across both transects w/ AN/PDR/39 (left FIB w/ modifications) (Turtle)

	3 ft	1"
lowest	38	44 milli
highest	46	60
avg	40	40
area D	44	60

General condition of plants was poor, but new growth is taking over - leaves to 3" long on new shoots - old leaves holey and dead esp. on Scaevola plants. No flowers seen except on 2 Messa plants. Tallest plants w/ leaves at 6 ft. but sparse. Jim worked up plants w/ homogenizer - Hal. 87,000 d/m/gm; Scaev. leaves 2400 d/m/g -

N.B Elva plants no existent - looks like a complete shift in plant vegetation from June. Plants mostly burned or brown but Ipomoea looks ok from the air -

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Locality ELMER Date 9-20-56

Personnel Palumbo - Seymour, Weather fair
Hall, Lowman, JR Anderson Water conditions

Radiation level(s) Bgd 30 c/m in counting room

Operations:

USS Marsh arrived at 0800. Palumbo met ship at deepwater pier and all hands "turned to" offloading equipment - All gear off by noon. PM spent in sorting & packaging or crating equipment for storage at the EMBL. Items were cataloged and lists will be completed tomorrow. Winch will be sandblasted and repainted. Starting switch needs attention.

Dr. Wolf of DBM here for a few days. Talked with Al re Marsh results.

Frank repaired register on Scale #142 and put all probe equipment in one box - for shipping to AFL if occasion arises.

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Locality ELMER Date 9-21-56

Personnel Seymour, Held, Lowrey, J. Donaldson, Palumbo Weather Fair, rain showers

Water conditions

Radiation level(s) Bgd .30c/m

Operations:

AM - Continued storage readying of shipboard material. List completed - in detail -
Session to discuss extra atoll and inter-atoll collections. Frank & Ralph will go to Bikini 9-22-56 (Sat) and stay until monday afternoon 9-24-56 and try to collect at Nan, Bikini Id, and Fox - Held & Donaldson will finish Belle collections and look at Edna Saturday & work up those collections and the Jemo collections on Sunday. Monday - All hands will work up Bikini Collections Tues - and Compos is set for 9-26 & 27-56
Caucus held to discuss summary of "Marsh" trip -
Packed for tomorrows trips. Frank & Ralph look for Sea anemones at South Beach - no luck.
Back in evening to complete odds & ends
All leaves Sat. early AM - he hopes -

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Locality Belle, Edna, Bikini Atl Date 9-22-56
Personnel J Donaldson, Held Weather Cold & rainy at Bikini
Lowman, Palumbo Water conditions

Radiation level(s)

Operations:

To Belle & Edna w/ Curry & Schlacks. Collected fish & clams, corals, hermit crabs at Belle. Collected fish at Edna. Corals in F-area dead or dying. Deep hole & adjacent reef covered w/ green filamentous algae (Rhizoclonium?).
2PtFGL To Nan, Bikini via goney bird (A-3) at 0810. arrived at 0955. Via Mboat and Duks to Bikini Atl for collections after making paired plankton tows - 30 min. Collected marine specimens, fish algae on western tip, seaside, and various land plants & soil samples in central part of island. Most tall coconut palms have tops knocked off clean, but a few have planted to grow again. Found many papaya, morinda, pandanus, and a few coconuts - the vegetation in general consisting bush, young coconut trees, all over the island & other growth of typical appearance.

Survey Meter Readings - MX-5	1"	3'
	ave 3mr	3mr
	B	BV
	Max 6	5

Some invertebrates & fish collected hermit crab and Heliopora. Soil profile taken near photo tower. Water filtered at plankton station. Returned 4:30pm. Night fishing off pier collected barracuda, also caught bait 14

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Locality Bikini - Fox (Bikini) Date 9-23-56
Personnel Lowman - Palumbo Weather Warm
Holt - J. Davidson Water conditions

Radiation level(s) Fox above 10 m - 4/hr. 5 - Blakeman Rad Safe
Operations: reported 30-90 ave. as high as 500 m/hr 1 week ago
at Bikini Collection of Gram was processed -

at Bikini - to Fox where Plankton tows were made
off Fox (2 mm) and in Tova Crater (5 min). Fox is denuded
of topsoil, but found Messerschmidia at East end
of island about 3' high maximum and Scaevola
up to 2 ft tall - found 1 patch of Sesuvium growing
vigorously behind a bunker. First collection made
off crater island Lagoon - where algae also was
collected. No inverts seen either in lagoon or on
ocean beach. Saw 1 small shark in seaward
tide flats, but missed him (geology pick). Halimeda,
Sphaerococcus and Padina predominant algae on lagoon
beach pavement and coral heads. Water in crater
looked milky. Took 3 gallon jugs full of water off Fox -
for some plankton VS. organisms as activity. Islands west
of Bikini denuded of topsoil now are merely
sand spits w/ an occasional bunker or shrub here
sticking up out of the sand. UNIVERSITY OF WASH. UNIV. OF WA.
Plankton tows off Nan - deep entrance - in at
5:40 pm. Cleaned up, shoved the coconut crabbing
w/ Hank Romich, Gilbreath (medic) and Dr. Medved. Got
2 small crabs - also picked up dead crabs and
shot crabs on the beach - ocean side beyond
Sta. 70.

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Locality Bikini - Bikini (Nan) Date 9-24-56
Personnel Lawson - Columbo Weather fair - rain
Hall - J. Donaldson Water conditions

Radiation level(s) Nan - 0.1-0.3 mr/hr in test area

Operations:
at EMBL - Processing of Bikini and Eniu collections.
at Nan Rained in Lagoon N.W. Station 70 and south of pier. Rough seas - poor catch. Collected Coral, sponge + Poicillopora. To Oceanside for another passage - no fish caught - Collected algae, sea cucumbers, coral and sea urchins. Rained off and on. to northern group for soft samples, Coconuts, Scaevola, and Pandanus fruits.
Take off from Nan at about 1:15pm. arrived Eniu at 2:25pm; Elmer 3:00pm. Stored gear and samples, finished odds + ends of Bikini - Eniu and called it quits. Palumbo + Lowman slightly ill from fox trip, especially F62's nose and legs.

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Locality Elmer Date 9-25-56

Personnel Lawman, Holt Weather warm

Donaldson, Columbo Water conditions fair

Radiation level(s)

Operations:

Processed jointly Bulking collections -
Bulk samples - weights -
How Id: Arrowroot coma-scrubbed — 2675 gms
Papaya Skin 2270
Seeds 1495
meat 12,062

[redacted]

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Locality Elmer and Ponape Date Sept 26 1956
Personnel Palumbo Donaldson Heid Weather Warm - Fair
Lowman Water conditions Smooth

Radiation level(s)

Operations:

Depart 0400 from Fred for Ponape by Albatross.
Arrived Ponape 1100 In PM went to the outer reef
and poisoned a coral head inside of reef. Good collection
of fish, algae - also a sponge. Worked by 3 sharks during
part of collection.

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Locality Ponape - Elmer Date Sept 27 1956

Personnel Palumbo Donaldson Held and Lowman Weather Warm-fair

Water conditions Smooth

Radiation level(s)

Operations:

Collected coconuts, ironwoods, ferns, elephant ear, vanilla and Calladiums. Picked up runs from fruzer and some coconut crabs, Shopped in the stores and visited the agricultural experiment station. Poisoned for fish in the river above the dam and got only one eel and Gambusia. Got some bananas for eating.

Left by boat for the plane at about 1330 and arrived at Elmer at about 1835. Ate supper and stowed gear away.

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Locality [redacted], Elmer Date Sept 28 1956

Personnel Palumbo, Donaldson, Held, Lowman Weather Fair

Water conditions Smooth

Radiation level(s)

Operations:

Processed Bikini and Pineapple samples. Ed & Jack went to Henry by H2e to collect coconut crabs, soil, sea cucumber, and plants.

Ed & Lowman went out by Generator intake and collected some 2 coconuts for Dick Wood, U of W.

Ed and Jack made preparations for departing to 21° until 1:00 AM Sept 29.

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Locality Elmer Date Sept 29 1956

Personnel Palumbo, ~~Donaldson~~ Lowman Weather Fair

Water conditions Smooth

Radiation level(s)

Operations:

Ed & Jack departed c430.

Ralph & FOL went by H-14 to Jewett to observe & collect rats, plants, and soil, at 0900.

Most of the large Messerschmidtia and Scaevola bushes have been uprooted and torn up. What remains however is putting on good growth and is green. Almost all of the Ipomea vines are dead and the area formerly covered by this species is being taken over by Trivmfetta and somewhat by sandburrs. Many of the sandburr plants are dead with the result that the old rat colony area is sparsely covered by this species and the rats appear to have moved out of the site to a new area between the bunkers and the Mike-end of the island. Sand burrs are growing profusely in this area and there is plenty of old lumber under which the rats can make openings to their nests. Only saw two rats - caught one. There are plenty of signs of rats in the area, however, although I doubt if there are as many as there were a year ago.