

Daily Log
July 9, 1956
Through

RG

Location APFL
Box 1

Title DAILY LOG
July 9, 1956 - Sept. 29, 1956

UNIVERSITY OF WASHINGTON

APPLIED FISHERIES LABORATORY

SEATTLE, WASHINGTON

Locality Parry Island Date July 9, 1956
 Personnel Allen, W. L. & Donaldson Weather Shower
 Water conditions _____

Radiation level(s) _____

Operations:

Trace - please order the collection of charts and plates in:
 "Bikini and nearby atolls; Part I, Geology; Plates 65-73
 and charts 1-11 - U.S. F.S. Professional Paper, 260-A" 1950.
 Up early, very spectacular sight

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

Coconut milk	Bikini Island	160 c.c.
" meat	" "	39.7 grams wet wt.
1/2 inch skin	Abiang	17.5 " " "
" pulp	" "	50 grams " "
" seeds	" "	1.4 " " "
Banana skin	Bitarotoni	30 " " "
" pulp	" "	36 " " "
Papaya skin	Abachero	5? " " "
" pulp	" "	1.0 " " "
" seeds	" "	4.5 " " "

Material mailed to A.F.L.

- Envelope
2. Package -
 - ① Loge
 - ② Asparagus
 - ③ Anton tubes 1-2 tubes - for F.F.L.
 - ④ Mocho fish samples - bulk material - plate cards 55-54
 - a. Kusaie fish samples plate - cards 55-60
 - d. Kusaie Crab samples - bulk
 - e. " bulk plant material
 - f. Plant - wet samples 4-29-56 & 5-19-56
 - g. Cucumbers - see Cucumbers

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Locality Pony Island Date July 9, 1956 (Cont)

Personnel _____ Weather _____

Water conditions _____

Radiation level(s) _____

Operations:

Time collected at Kurai 5 July 1956

- (a) Skin of line 17 grams wet wt.
- (b) Pulp of " 31 " " " }
- (c) Ludoform " 1 " " " } put in oven

Tarawa samples processed for drying

5- hermit crabs dried entire or with legs and abdomen removed and digested

1- sample algae - given sea letters

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

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

1. Octopus - 2 cones

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

W. Lander processed Tarawa fish for background counting and reserved for chemistry if needed.

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Locality Perry Island Date July 19, 1952
 Personnel Donaldson, Olson, Milender Weather showers
 Water conditions moderate

Radiation level(s) _____

Operations:

Donaldson and Olson collected plankton in the deep passage at 0800 to 0840 hours.

During the morning a conference was held on the Sept marine survey with Dr. Walter Cleaves & B.M. Capt. Coleman USN T-3 Lt. Col. J. Smith and Lt. Col. _____, U.S. Marine Corps, and J.P.D.

The discussion largely revolved around the date for starting the survey, the area to be covered, and the vessel to use. Sept 1 was the recommended starting date of the test so 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 biology.

Fish were mentioned as possible points in question. My comment was that the fish do not respect restricted zones and some freely migratory, moving from east to west, - so will pass through the zone and into open water.

Prof. Clayton M.I.T. spent most of the day at the F.M.B. photo graphing the two stone fish in the porch tank.

Walter bottles were picked up at the machine shop. and catch pens for the upper cable clamp and a stainless steel spring.

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Locality Perry Island - Panope Date July 11 - 53.
Personnel Donaldson Olson - Weather Calm - rain.
7 border Water conditions Calm

Radiation level(s)

Operations:

Up early for a look see at Najera clouds in the way.

Left Perry Island with our jeep at 0800 were joined at the m. Post landing by Dr. Walter Claus D.B.M. Lt. Col. W. Hitt U.S. M.C. and Maj. Geo. Mangan. At Fred we were delayed an hour because of possible need for the A5R-16 for a rescue mission or landing personnel back on Pitkin.

Left Fred at 0940 and arrived at Panope Harb at about 1300. Capt. Frohman and crew did a very fine job of putting us down on the water.

We were met by the Council and into the village Mr. Edward Iwaniec, District Agriculturist, Trust Territory Govt., Panope, Caroline Islands, took charge of our party in the absence of Mr. H. Hedges.

From our quarters we went to the Kengamony Village on Panope to try and interest some fishermen to go out for tuna for us. Most men and many women of the island were on the reef diving for trochus shell. The two week open season was on and the yield expected to reach 150,000 pounds of shell or about \$50,000 worth - so the men were not interested in fishing - at this time.

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Locality Panopee Date July 12, 56
 Personnel Donaldson, Orlan, Kelenker Weather _____
Clous, Witt + Marx Water conditions _____

Radiation level(s) _____

Operations:

Mr & Mrs Swanson took us by launch to the ocean reef dead north of the village.

Point was put out about one hour before low tide near the inner edge of the reef a good bill of reef fishes was collected. Most were the things we were familiar with. A few were collected that are rare in our usual collections.

The reef differed from the usual reef we work on in having a gradual slope on the ocean side. We were told that usually this reef is so rough that one can not work on it. Our unusual low tide coupled with smooth water left much of the reef bare.

The coral on the reef was very rank with much stinging coral, we all had a few sore spots.

After the reef we went to the Swanson's home for a lunch, tour of the station and a rest.

In the evening I went to visit the Riddle's, Raymond D. Riddle, is now manager of the Coop. was a highschool student of mine at Shelby mountains

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Locality Panapa - Panap Is Date July 13, 1956
Personnel Donaldson, Olson, Melander Weather Calm
Cluse, Witt & Moore Water conditions smooth

Radiation level(s)

Operations:

In the village of Panapa are four reserves of native food, the Casp, the two Ischitis, and Roberts' we had to make them all and purchase food.

The roads on Panap are so rough that most of the transportation is by foot for the jeep, trucks etc were broken down.

We walked up to the weather station and the Agri Exp Station where El Swainia loaded us down with, sugar cane, coconuts, breadfruit, pineapples, lemons, tamar, tapioca, sweetpotato, bananas.

A number of coconuts were given us for planting at Eniwetok. These nuts are a special variety that produce nuts as young as three years, close to the ground. The nuts are very large with a high copra yield. Our problem will be to protect them until they get started.

Had a lunch of coconut milk and bread fruit with the Swainia.

The plane picked us up at about 3:00 P.M. local time - 4:00 P.M. Eniwetok time. Return flight was smooth not even a rain squall. The sea was the smoothest I can remember having seen. Down at Ford at 7:00 P.M. and a late dinner at 8:30.

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Locality Perry Island Date July 14, 1956
 Personnel Donaldson, Olson, McLeander Weather Rain
 Water conditions Smooth

Radiation level(s)

Operations:

McLeander spent entire day working up Panope fish
 Donaldson and Olson make a Skagiton tow 9.35 to 9.55
 Plants from Panope were worked up for drying.

Panope plant material:

Tapioca tuber	101	grams	wet wt.
Sweet potato - white	122	"	"
" " red	134	"	"
Taro tuber (dry land)	138	"	"
Banana peel	19	"	"
Peeled bananas (green)	56	"	"
lime peel	5	"	"
" tissue	25	"	"
" seeds	435	"	"
Bread fruit seeds	42	"	"
" tissue	129	"	"
" peel	22	"	"
Sugar cane - stalk	144	"	"
Pine apple	132	"	"
Coconut milk	400	ml.	
" nut young	35	grams	"

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Locality Perry Island Date July 15, 1956 (Sunday)
 Personnel Olson, Melander, Erickson Weather Calm - bright
 Water conditions _____

Radiation level(s) _____

Operations:

Cleaned up laboratory put away Louisa, Squaw, and shells, cloths.

Continued to process Pacific fish, fossils, invertebrates, etc.

Sea cucumbers	H. etc	Integument	22 gms	not wet
		Shell	83	" "
		Shell	11	" "
" "	" "	Integument	5.4	" "
		Shell	6.1	" "
		Shell	6	" "
Great clams	Hippopus	mantle	19.3	" "
		muscle	11	" "
		Kidney	4.8	" "
		Gill	3.1	" "
		Visceral mass	13.5	" "
Algae	Halimeda		51	" "
	Turbidaria		5	" "
2 Crabs	- hermit	entire	-	not weighed

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Locality Perry Island Date July 16, 1956
 Personnel Donaldson, Olson, & Milander 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
 crabs 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 back
 with the ships gear.

Ed's camping equipment was cleaned up
 and packed in the box for storage. All
 items were checked in except the electric
 light that was held out for future use
 if needed.

The tank for the probe was cleaned
 and sealed to await the Sept 1 survey.

Conference was held on Sept 11 survey needs
 again I tried to emphasize 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 miles
 and fuel with a return zig-zag course to Eniwetok
 Clarence & Brookhart, Munson, Coleman all took part.

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Locality Perry Island Date July 17, 1956
Personnel Donaldson, Olson, & Melander Weather fine
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 $162^{\circ}E$ to outline level of radiation. This to be done at D+4 days. Dr. Clause, the diem. 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. A long series of complaints of position was sent to headquarters saying in general that facilities people & time were not available now. It was also pointed out that this would delay the Rongelap 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 many 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. Asparagopus was collected on the water reef at 1730. Packed for the Ujeling trip scheduled for tomorrow Rongelap trip now scheduled for D+1 and D+2 an A.S.P. 16 will be used and make two flights

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Locality Perry Island, Upland Atoll Date July 12, 1956
 Personnel Donaldson, Olson - Weather Calmer showers
W. Lander - Water conditions smooth

Radiation level(s)

Operations:

Left Perry at 0800 by "M" boat with full load of gear for 17th. Arrived at Ford by 10:00. Left ground at Ford at 0900 by ASR-16 and arrived at Upland atoll at about 10:00. Plane took up to a buoy and passengers and crew were carried ashore by small skiff powered by outboard motor.

A ship belonging to Scripps was reported as having drifted over from California and come into the atoll, after some months of use it broke loose and drifted out to the entrance to the lagoon.

The camp at Upland is operated by 14 AM for Radio-Safe. There are 3 AM employees, with Public Health Service and 3 Army med stationed on the atoll. They have the usual field equipment. Live in tents, with generator, refrigerator, etc.

Collections were made on or near the main island (Upland Island). Field collections were made on a rising tide near coast on the lagoon side east of the village. Permission to collect was obtained from the chief. A carton of gums and salt water soap helped convince the chief that collections were a.k. Coats are very scarce - pigs work the beach and may pick the coats down.

Return flight 1500 to 1600 - back at the lab. by 1700 time to put away gear and clean up for tomorrow.

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Locality Perry Island Date July 19, 1956
 Personnel Donaldson, Sloan Weather Clear - bright
R. Sander Water conditions Smooth

Radiation level(s)

Operations:

Plankton collected 0820 - 0840 at ebb tide, large numbers of jelly fish in the collection.

Asperogorgia collected at 2800 from water surface.

Collections from upland were prepared for drying.

Bulk samples:

Hedysmum 115 grams wet wt.

H. atom (3 cardinal)

gourd 10.0 " " "

Integument 11.4 " " "

test and content 14.4 " " "

Pandanus fruit 93.3 " " "

Papaya fruit 32.9 " " "

Breadfruit 27.3 " " "

" 33.0 " " "

" 20.0 " " "

Arrow root (alk) 45.6 " " "

" " (raw) 97.0 " " "

Coconut milk 36.0 ml.

" meat 9.4 grams

Hermit crabs 1 large + 6 small sized entire.

Conferences on D+4 survey were on most of the day with Claus, Albert, Calman, Donaldson, etc. Planned to try and get approval for combined survey to start about August 8-10 and include area maps to be representative. Claus left for Washington at 190

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Locality Craig Island Date July 20
 Personnel Henderson, Olson, & W. Johnson Weather Shower
 Water conditions Faint white Caps in water

Radiation level(s)

Operations:

Another conference with Capt Coleman, Col Coleman, T. U. Ch. Bunkhardt D.M.A. R. Albert B.M. and L.P.D. All the problems and possibilities of a short survey were discussed. Capt Coleman relayed the message from W. Johnson that the trip requested for the school or combined survey was not available. In fact, no ship is immediately available. J.T.L.F. 73 strongly recommended that data on fallout in and on water be obtained from A.S.W.A.P. programs of NYDA, N.R.D.L. and Supts. They hope that Dr. Claus and Dr. Albert will convey the info to RBM. 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 note to A.F.L. on return of L.P.D. and A.D.M. and requested signatures and approval of survey to be scheduled for Aug. 1-3.

Specified samples of algae 3193-3195
Plankton 6064-6070 (including 6065)
Fish 74-80

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Locality Perry Island Date July 20, 1956

Personnel Waldman, Olson, - Weather Partly little breeze

Waldman Water conditions Calm

Radiation level(s)

Operations:

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

Aspergillus was collected at low tide on the outer reef

December 17 (Tues) at 0556

TNY received from Dr. Dunbar Br M with list of items to collect at Pongileki with order of preference.

TNY from 7.3 on assigning a vessel for Sept 1, and not leaving the time and conditions for trip to be arranged by me as soon as fuel and pattern is completed.

Supplies were obtained at J-4 and papers were sent by N R M for soil samples.

Background at 0800 37.9

1600	567	} m counter
1700	1463	
2000	7658	

1800 25mc in talking to me about survey
 2000 85mc

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

Summary of Program 35 activities past and planned turned in to 7.1 (St. Col Cruise). This is the requested summary x

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Locality Perry Island Date July 22, 1956 (Sunday)
 Personnel William O'Brien & W. Anderson Weather Showers - rain
 Water conditions 7 minutes to birds

Radiation level(s) 0700 - 9913/cm, 0900 - 14784/cm, 1100 - 8705/cm
1500 - 7441/cm.

Operations:

Eighteen sightings at 0556 (1 hour). Not much of a water, sea conditions about 4-5 feet waves and full.
 Dr. Albert D.B.M. came to the laboratory to talk over again the request for a short survey and to show us a copy of a wire he was sending to Seaboard saying Bob Hansen would collect water samples from TU-3 and after analysis at NY00 send in the data to D.B.M. Dr. Albert was concerned about the level of fallout on Perry Island.
 Mute readings at 3' gamma - only
 25 mcr in the building 218
 100+ mcr in the vicinity - outside.
 Arranged for Perry trip with Maj. Leo Marx
 973 Packed collecting equipment ready for a 0600 departure.

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Locality Perry - Ponglape Islands Date July 23, 1956 (D+D)
 Personnel Amason, 2 men, 17 ducks Weather Rain
Taft and 4 Malitin Water conditions Brisk

Radiation level(s) 23 m inside 95 m outside with survey meter & counter

Operations: 5225 at 1815

Left Perry at 0600 for Ford in rainstorm departed Ford at 0700 for Ponglape arrived at 0930 and were on the beach by 1000. Left Ponglape 1530 and Ford 1725.

Taft and helpers surveyed the island with a Beckman M-5 with tube < 23 mg hr⁻².

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

1	grassy area in clearing under adult coconut tree	1' 1.5	3' .4
		3' 1.0	.4
2	Eating houses - construction site	1' 3.0	3' .5
		3' 2.0	.4
3	Under Pandanus on fallen leaves	1' 4.5	.7
		3' 3.0	.5
4	Low grassy area near beach well	1' 1.1	.4
		3' 1.0	.3
5	Under Pandanus bushes	1' 1.3	.3
		3' 1.1	.3
6	Under Pandanus	1' 4.0	.4
		3' 1.7	.3
7	High tide line ocean side, occasionally washed	1' .6	.2
		3' .4	.2
8	Coconut forest area in clearing under coconut palms	1' 4.0	.7
		3' 1.1	.3
9	Clearing covered with long grass	1' 1.5	.4
		3' 1.3	.4

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Locality Perry's Pongelapa Date July 23, 1956 (cont)

Personnel _____ Weather _____

Water conditions _____

Radiation level(s) _____

Operations:

10	Across root patch under pandanus and coconut trees	1" 2.0	P.Y.	15.8
		3" 1.5	"	12.8
11	Sand at high tide line	1" .8	"	3.3
		3" .7	"	2.2
12	Under <i>Stentaria</i> on dead leaves	1" 3.0	"	5.5
		3" 1.5	"	4.4
13	Top of coral ridge in seaweed thicket	1" 1.0	"	3.3
		3" 1.0	"	3.2
14	Under pandanus growth on dead leaves	1" 4.0	"	17.0
		3" 1.5	"	4.4
15	Fine sand under seaweed	1" .8	"	3.3
		3" .3	"	1.2
16	Under coconut trees in coconut harvest area	1" 6.0	"	60.0
		3" 1.8	"	4.4

Soil samples were collected in 1 gal pails for shipment to NY 00

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

2nd sample collected in the water village near *Papaya pandanus* and across root sampling station. These soil samples also in 12" x 2" at 0-2", 2-4" and 4-6" depths.

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

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Locality Parry, Ponglake Date July 23, 1956 (cont.)

Personnel _____ Weather _____

Water conditions _____

Re-Bation level(s) _____

Observations:

The ground used upon removing the ends of the pipes were sealed with water then returning the samples in the same position as when impaled.

These samples are to be separated into 2" depths for drying and packaging. Locations sampled:

1. Inter tidal areas - on the lagoon side

2. Above high tide line

3. Bank of village, about 90 yds from the lagoon

4. In low drainage area near 2nd well.

5. Mid-land clearing among coconut trees.

6. About 30 yds from ocean side of island.

Fish were collected from the coral area on the lagoon side in front of the village. Bottom was worked over the coral as the tide receded. No clams were obtained.

Hermit crabs were obtained from the coconut grove and on the ocean side of the island. No crabs were obtained on the lagoon side. As a special trap was made back to the ocean reef for samples.

Fruits were collected in the resident areas.

Flight back to Ford uneventful arrived back at F.M.B. at 6:15 - put the collections away.

Soil samples were put to dry in incubator. Other samples covered or frozen because of high temperature at F.M.B.

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Locality Perry Islands Kabelle Island Date July 24, 1956
 Personnel Donaldson, Olson & Melander Weather Good
Taft - Calmer P.H.S. Water conditions moderate

Radiation level(s) at 1715 sunny water reading 10 mc inside & 55 mc
out side, counter at 0605-2580

Operations:

Left Perry at 0600 by m boat with two jugs
 arrived at Kabelle at 0930 and used on the
 beach at 1000. Taft and Calmer mounted
 island with a Bushnell M4-5 with table of
 stations are indicated by number on chart

1	High tide line on sand	1" 7.0	0.7
		3" 5.0	0.3
2	Among scattered trees	1" 9.0	2.5
		3" 5.0	1.5
3	Under edge of Scaevola	1" 20.0	7.0
	(1st spot indicated in general. low ground covered with dense vegetation)	3" 9.0	2.0
4	Under Gortaria on fallen leaves	1" 6.0	1.0
		3" 4.0	.6
5	Heavy clearing	1" 20	4.5
		3" 13	2.5
6	Under Scaevola outside of dead foliage	1" 16.0	6.0
		3" 7.0	4.0
7	Potulua - grass - heavy cover	1" 2.0	.5
		3" 1.6	.5
8	Base ground to leaf of Mesocricetus	1" 5.0	.9
		3" 4.0	.7
9	Open space under Gortaria	1" 10.0	2.0
		3" 4.0	.8

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Locality Permy - Kabelle Date July 29, 1956 (cont)

Personnel _____ Weather _____

Water conditions _____

Radiation level(s) _____

Operations:

10.	Under <i>Peromia</i> in bird nesting area	1"	7.0	P+Y	1.0 P
		3'	4.0	"	0.6"
11.	Beach sand 4.5' from high tide	1"	2.2	"	1.4"
		3'	1.9	"	1.4"
12.	Claying in <i>Muraenichthys</i>	1"	5.0	"	1.8"
		3'	2.3	"	2.5"
13.	Under <i>Peromia</i> in bird area	1"	10.0	"	2.0"
		3'	5.0	"	1.7"
14.	Under <i>Gasterosteus</i> near bird nesting area	1"	6.0	"	1.8"
		3'	4.0	"	1.6"

Fish were collected in the channel between the islands (north end of Kabelle) above and adjacent edge from the same area. Crabs and coconuts from mid part of the island.

1" soil sample in coconut zone about 1 sq foot 0-2", 1 sq foot 2-4", and 1 sq foot 4-6" for N/00.

2" soil sample above high tide line near fresh set 1 sq foot 0"-2", 1 sq foot 2"-4", and 1 sq foot 4"-6"

Soil samples in pipe 1 1/2" diameter driven into soil:

- 1. Mid tide zone on lagoon side
- 2. Above high tide on the lagoon side
- 3. In holes from the lagoon about 60 yds among trees
- 5. In under coconut trees.
- 4. Ocean side above high tide line.

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Locality Perry Island Date July 25, 1956
 Personnel John H. Anderson & Jackson Weather 143y
 Water conditions moderate

Radiation level(s) 0.835 survey meter 5 m. inside 4.5 m. outside
 Corrections: Counter background 1763 at 0930.

Decided to try and take to A.P.H. half of each
 Pongulap sample in a frozen state for processing
 because of the contamination of Perry and extreme
 high background.

Col. Thomas Shea 7.1 D.M.A. visited the lab
 to discuss our program - the things we have done
 & things we hope to accomplish in the
 next few months.

Lt. Col. H.T. Watten 7.3 Sec. and to Adm. Helling
 visited the ship to report on the ship for
 Sept 1 survey. The ship assigned - D.E. 199
 a trawler down ship with a range of
 6-7 days at 12-14 knots. Ship is assigned to
 the 7th fleet. Col. Watten suggested an informal conference
 with the commanding officer with the proposed text
 and a copy of the Watten operations report.
 I gave Col. Watten a list of Boardman, squares 14-18
 and 1 coordinate as the persons to contact for support
 and direction. I also suggested that the 7th fleet
 be informed of the importance of the ship to the

Anderson

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SEATTLE, WASHINGTON

Locality Pangy Island Date July 26, 1956 ThursdayPersonnel Donna O. Lewis, W. Hansen Weather _____

Water conditions _____

Salinity level(s) _____

Observations:

Delivered to Bob Hansen a gal. cans of soil from Pangy Island, ^{500cc} ~~liters~~ of well water, ^{500cc} ~~liters~~ of winter water and ^{500cc} ~~liters~~ of cast water for Pangy. Also 6 gal. of soil from Kabelle Island and ^{500cc} ~~liters~~ of salt water.

Shipped to A.F.L. via air Pangy plant samples, winter water, well water and salt water samples.

Hansen left 3 pm with frozen Pangy samples. Specimens were taken out of Kettle at Fine station & a tank of CO₂ gas run in. Three packages of samples sealed paper was put set up trip to Belle, ^{Janey} Kadesa report readings of 320 m² at Belle & 160 m² at Janet. Bob left reported high counts in water at Belle 200,000 c/m³?

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Locality Elmer Date July 27, 1956
Personnel Olson & Welser Weather Sun + some clouds
Water conditions Calm - no wind

Radiation level(s) ~ 160 mR at Janet () about 250 mR
at Belle (100 to 350).

Operations:
Left 0800 by Helicopter for Janet. Stayed on Janet 15 minutes. Saw 3 rats under various tin boards. No dead rats. All higher levels trees showed least damage; otherwise normal - all tents swept away.
Arrived at Belle about 0900. Tide going out. Picked up 4 Canabite, 2 sea cucumbers, Polinards. Paired shallow area inside lagoon (side) of island by laying prism within 10' of shore. Prism drifted lagoon-side to the west. Obtained other 75 fish ^{total} of about 25 species.
Returned 1100 arriving 1130 at Elmer. Processed massive samples of fish (45 species) and the invertebrates, & algae.

Land plants at Belle had lost most of their height & some height (average height about 3'-4'). They looked like they would recover. ^{Many fall leaves on Seattle, some plants alive}
Several goatfish, Wrasse, big Paul in pool ^(shallow) on island - apparently killed in by waves? Mangroves planted in hole, 4 looked healthy. Change to migration at Belle negligible compared to after Victor. birds seen on Belle, the flying in vicinity.

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Locality: Elmer Date: July 28, 1956
Personnel: Olsen & Welander Weather: Sun & Clouds
Water conditions: Calm.

Salinity level(s): ~ 4 m inside ~ 25 m outside lab

Observations:

Olsen, Dr. Blake, 2 others started 0800
& fished till 1100 off Rex Island &
north, also deep entrance. Saw & tooted three
several schools of tuna but caught only
one school all morning.

Wetland removed & processed tissues from
fish. Fish - all very hot!

Afternoon: cleaned up lab, did some packing

Packaged tissues from Pongelup & Belle.
Plankton too taken in deep entrance 1110

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Locality Elmer Date July 29, 1956 Sunday
 Personnel Olsen W. Anderson Weather Breezy
 Water conditions Calm

Radiation level(s) 15 m/hr inside 18 m/hr outside ⁰⁸³⁰ 1023 c/m

Operations:

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

Packed crate for shipment home.

Packaged samples from oven.

Rearranged AFK locker in more orderly manner & stored more equipment inside like plastic bags, log books, plankton gear.

At 1500 took Bob Graneman & Hans Sadenstam both NYO

down to dynamited coral hole south of CMBL for aqua lunging.

Out of three tubes taken down only one worked satisfactorily.

Art purchased cough syrup for ZI today.

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Locality Blmer Date 7-30-56
Personnel Olsen Welander Weather Overcast slight Rain
Water conditions Change

Radiation level(s) 966 c/m background, 0.8 mc/hr inside 10-15 mc/hr outside

Operations:

Check out day for ZI.

Packaging final samples for shipment home

Delivering crate to J-4 for shipment home.

Straightening up lab & equipment

Contacted refrigeration regarding deep freeze on porch defrost.

Air conditioning unit gave up ghost. Will require replacement unit.

Returned blasting cap detonator to Hank Burgess, Safety

Placed Robot 35 mm camera & shotgun & shell with security

Bulk $\frac{1}{4}$ 100' roll 35 mm black & white Tri X left in storage
with #4-8. Leave 4 rolls Kodachrome with #4-8 for
processing

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Locality Elmer Date 9-17-56

Personnel Palumbo Weather sticky

Water conditions _____

Radiation level(s) By counting room - approx 24/hr

Operations:

Arrived Parry Island 1150 after being delayed at Hickam 17 hrs. also slight delay at Kwajalein atoll. Prepared for Deep entrance plankton tow (Lomonow) - set up radio meter and ran platform w/ Ra DTF std. set to count at 1350V. Marsh delayed and is expected on 9-20-56.

Lab has been completely revamped and is in fine shape.

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Locality E 1/2 mi., deep channel Date 9-18-56
 Personnel P. Colombo Weather warm w/ Rain squalls
 Water conditions _____

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

Operations:

0830 Mboat w/ Dr. Blake to deep channel
 buoy for plankton tow - 30 min. tow - $\frac{1}{2}$ Mite
 nets (2) - good haul - fished also
 until 1100 - Caught in Rex. barge
 tow 1 branta, 1 *Apus virens*, 1
 jack, and 1 mackerel which got away a flea
 landing it - froze 3 specimens and will
 take birds to monitor here. Red Safe
 monitored muscle from 94th tuna caught
 Sunday - 73, 58, 8, 0 d/m \pm ? Lt. Morgan
 did then counting for use of nuclear Chicago equip-
 ment.

Processed plankton and water samples
 during the PM. Preserved plankton's exha + small
 "bead" (see Hatt) caught in plankton tow.

Prepared for tomorrow's trip to Belle.

Rate meter checked for efficiency against
 Rad. Std. To obtain d/m from E-AN 45
 records multiply by 2.98 or $\frac{3}{2}$

Water sample from departure today: particulate
 fraction = 120 d/m - MF - 880 ml per 5055

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ELIFF ~~Field~~

2-19-50

19120

Weather 74° at 3 PM on Beach

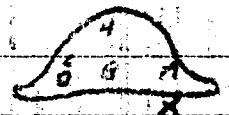
Water conditions

Altitude level(s) Bgd EMOL 22 c/m

Operations:

0800 to Belle via H-19 Schlacks and Curry
Rad Safe accompanied.

From Ann Belle looked taken 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 tagged plants, collected
a composite soil sample and composite

leaf sample of *Messerschmidia* - moved to

Area H and did likewise. Collected algae in

Area F-1 and F-2, most coral heads covered

by a fuzz of *Spyridia* or *Rhizodermis*. Coral
colonies also covered and saw only a few colonies

that "looked alive". Walked to area C and D

via empty tunnel cut hole, collecting more
soil and leaf samples. Stakes in area were

either broken off at the ground or blown over
and some were blackened. Plants # 1211 gone

and # 7209 not discernible since stakes blown about

Mangroves in hole doing fine. Other is poor. Bug

and spit near Alice changed markedly.



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P. 2

Locality _____ Date 9-19-56
 Personnel _____ Weather _____
 _____ Water conditions _____

Radiation level(s) _____

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

Saw no Turdax, sea cucumbers, spider webs
 or 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 Curry took meter readings across both transects.

AN/PDR/39 (old TTB w/ modification) (K. & H.)	3 ft	1"
Lowest	38	44 m/m
Highest	46	60
Avg	40	40
Area D	46	60

General condition of plants was poor, but new growth is
 taking over - leaves to 3" long on new shoots - old leaves holey
 almost up especially on Scaligeria plants. No flowers seen
 except on 2 Mess plants. Tallest plant w/ leaves at 6 ft,
 but sparse. Plants worked up plants w/ horns freezer -
 87,000 d/m/gram; Scals leaves 2400 d/m/gram -
 Etha plants non-existent - looks like a concrete slab -
 the islands vegetation poor; General plant mostly burned
 brown - but from air looks ok from the air.

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Locality ELMER Date 9-20-56
Personnel Perumbo - Seymour, Weather fair
Held, Lowman, JR Donaldson Water conditions

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

Operations:

USS Marsh arrived at 0800. Perumbo met ship at deep water pier and all hands "turned to" off loading 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 overhauled 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 AF2 if occasion arises.

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Locality ELMER Date 9-21-56
Personnel SEITH, Hald Lowman Weather Fair, rain showers
J. Donaldson, Palumbo Water conditions _____

Radiation level(s) 12g 30cm

Operations:

AM - Continued storage & reading 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. Hald &

J. Donaldson will finish Belle collections and look

at Edna Saturday & work up those collections

and the Jean collections on Sunday, Monday -

All hands will work up Bikini collections Tues

and Ponape is set for 9-26+27-56

Census held to discuss summary of "March" trip -

Packed for tomorrow's trips. Frank & Ralph look for sea anemones at South Beach. no luck.

Back in evening to complete odds & ends

AL leaves Sat. early AM - he hopes -

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Locality Belle, Edna, Bitum Id Date 9.22-56
 Personnel J. Donaldson Held Weather cold + rainy at Bitum
Lowman Palumbo Water conditions _____

Radiation level(s) _____

Operations:

To Belle + Edna w/ Curry + Schick. Collected fish + clams, hermit crabs at Belle. Collected fish at Edna. Corals in French boat or dying. Deep hole in adjacent reef in coral w/ green filamentous algae (*Rhizoclonium*).
 PFG to Nan, Bitum via gorney bird (A-3) at 0810. arrived at 0955. Via Mboat and Duke to Bitum Id. for collections after making paired plankton tows - 20min. Collected marine specimens, fish, algae on western tip, ocean side, and various land plants + soil sample in central part of island. Most tall coconut palms have fronds knocked off clean, but a few have started to grow again. Found many papayas, breadfruit, pandanus, and a few coconuts - the vegetation in general was very lush, young coconuts all over the island + other growth optimal appeared.

Wing Net Readings -

MX-5'	1"	3'
ave	3m	3m
	B	Bv
max	6	5

Saw no invertebrates other than collected hermit crabs and Heligons. Soil profile taken near photo tower. Took plankton station. Returned 4:30pm. After fishing off pier collected bananaeada, also night bank butterfly fish.

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Locality Belle Fox (Bikini) Date 9.23.56
 Personnel Lowman, Palumbos Weather Warm
Held J. Donaldson Water conditions _____

Radiation level(s) Fox above 20 m = 1/mr. 5 - Blakeman Rad. Saf.
 Operations: reported 30-90 av. as high as 500 m/hr 1 week ago
at Belle Collection of Guam was processed -

at Bikini - to Fox where Plankton tows were made
 off Fox (20 min) and in Teva Crater (60 min). Fox is denuded,
 no top soil, but found Mesostichus mounds at East end
 of island about 3' high maximum and Scaloria
 up to 2 ft tall - found 1 patch of Sesuvium growing
 vigorously behind a bunker. Fish collection made
 off center island lagoon - where algae also were
 collected. No insects seen either in lagoon or on
 clean beach. Saw 1 small shark in seaward
 tank flats, but missed him (geology pick). Halimeda,
Spirulina, 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.
 Measure plankton vs organisms vs activity. Islands west
 of Bikini denuded of topsoil now are merely
 sand spits w/ an occasional bunker or scrap heap
 sticking up out of the sand.

Plankton tow off Nam - deep entrance. In at
 4:30 pm. Clamed up, chow + other coconut crabbing
 + Frank Romsch, Gilbrail (marine) and Dr. Medved. Got
 small crabs - also picked up hermit crabs and
 ghost crabs on the beach - ocean side beyond
 the 70.

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Locality Belle - Bilum (Nan) Date 9-24-56
 Personnel Louisa Colombo Weather fair - rain
Held. J. Donaldson Water conditions

Radiation level(s) Nan - 0.1-0.3 m/hr in tent area

Operations:

at EMBL - Processing of Belle and her
 Collections

at Nan. Poached in lagoon N. of Station 70 &
 south of pier. Rough sea. poor catch. Col
 1 clam, sponge & Poilopora. To Occasion
 for another poisoning - no fish caught. Collected
 sea cucumbers, coral and sea urchins.

off and on. To northern grove for soil for
 coconuts, sea shells, and Pandanus fruits.

Take off from Nan at about 1:15 pm. arrived at
 2:25 pm; Elmer 3:00 pm. Stored gear and
 samples, finished odds & ends of Belle. 2
 and called it quits. Colombo & Town
 slightly red from fox trip, especially Town
 and legs.

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Locality Flower Date 9-25-56

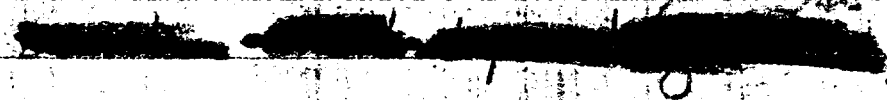
Personnel L. W. ... Held Weather warm

J. Donaldson; Palumbo Water conditions fair

Radiation level(s)

Operations:

Processed parts Bettina collection -
Bulk samples: meat - fish - 420
How Id: arrowroot corns - scrubbed - 22675 gms
Papaya sketches - 420 - 2270
seeds - 346 495
meat - 12,062



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

Radiation level(s) _____

Operations:

Departed ~0900 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. Watched by 3 sharks during
part of collection.

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Locality Ponape - Elmer Date Sept 27 1956
Personnel Perumbo Donaldson Held Weather Warm-fair
and Lowman Water conditions Smooth

Radiation level(s)

Operations:

Collected coconuts, iron nuts, tara, elephant ear, vanilla
Cellelaums. Picked up tuna from freezer and some coconut
Shopped in the store and visited the agricultural experim
room. Paired for fish in the river above the dam
got only one eel and Gambusia. Got some bananas for
dinner.

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

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Locality ~~Pearl and Hermes~~ Elmer Date Sept 28 1956
Personnel ~~Pelumbi, Donaldson, Held~~ Weather Fair
Lawman Water conditions Smooth

Radiation level(s)

Operations:

Processed Bikini and Portoper samples. Ed and Jack went to Henry by H20 to collect coconut crabs, soil, seaweeds, and plants.

Ed & Lawman went out by ~~Gemmer~~ intake and collected some zoeniths for Dick Wood, U of W.

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

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Locality Elmer Date Sept 29 1956
Personnel Pelumbo, ~~DeHaven~~ L. Warren Weather Fair
Water conditions Smooth

Radiation level(s)

Operations:

Ed & Jack departed 0430.

Ralph & Felt went by H-19 to Jersey to observe & collect rats, plants, and soil, at 0900.

Most of the large *Messerschmidia* and *Suaeda* bushes have been uprooted and run up. What remains however is putting on good growth and is green. Almost all of the *Ipomoea* vines are dead and the area formerly covered by this species is being taken over by *Triumfetta* 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. Sandburrs 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.