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1971-1972

UNIVERSITY OF WASHINGTON
LABORATORY OF RADIATION BIOLOGY
SEATTLE, WASHINGTON

Locality Perry Is. Date Aug 19
Personnel Walter Pelumbo Central (1/2 Weather fair-showers
day) Champion Weeks Lowman Water conditions smooth

Radiation level(s)

Operations:

Worked on weighing & recounting plankton plates, the
resin column expts. and the γ spectrometry. Have narrowed
the trouble down to diodes in the discriminator circuits.
Borrowed Tektronix scope from H+N Red Safe.

The two Nansen Bottles from home arrived today
& thanks a lot. We were on the edge of going out of business.

Sim left for the mainland shortly after noon.
Borrowed an analyzer (same model as ours) from
H+N red safe and started running curves in the
ion exchange separations.

Carl Minkken & Bill Tomsony came down to see how
the separations were made.

Rebuilt the lead 1950 around the γ spect. pickup
end. Bkg on 2MEV 354 c/m. Bkg on β counters 30 c/m.

Laid on trip to Janet and Belle Is. for
tomorrow. All trips, transportation, mail etc. now
handled by A.E.C. as the 7.1 people have gone out
of business here.

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SEATTLE, WASHINGTON

Locality Elmer, Frigate Belle Date Aug 20, 1953
Personnel Lomman, Palumbo, Weather Fair - some showers
Webb & Welandert Water conditions smooth
Champion

Radiation level(s)

Operations:

Left for Janet & Belle by H-21 at 0910. Stopped at Janet about 0930 for 1/2 hour. Plants were growing in various places east & west of the "building". Grasses grow up to 10" high, Lepturus, Fimbristylis, Chenopods, all a few inches high. Portulacaceae seen rat holes, and Don saw rat so there is a possibility that rats may be present.

Arrived at Belle about 1015. Many plants growing from the roots of old, charred plants. Scaevola, Messerschmidia, Portulacaceae, Knuttardia, Trissinifolia, and Boerhaavia. Collected algae in Area F-1 & Poison area. Chaetomorpha colonies (long, stringy green filaments) covered the entire area except for a few isolated spots.

Poisoned in "hole" on NE side of island & caught many herring, some jacks, surgeonfish, wrasse, gobies, snappers, etc. The herring are much larger than we have obtained in the Marshalls before.

Left Belle at 1400

Collected a Random sample of soil top inch and a sample at "8-10" depth in Areas A to H

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P.2

Locality Janet, Belle, (cont'd) Date 8-20-58 Cont'd

Personnel _____ Weather _____

Water conditions _____

Radiation level(s) _____

Operations:

Janet island is a mess of torn up bunkers and sand piles with scattered clumps of budding Messerschmidia and Scenedesmus which are at present originating mostly from dead stems. These adventitious buds are similar to those noted before, and some of the leaves are 5-6" long already. They appear to be green and vigorous. Ipomoea plants are mostly 3-4" tall, but an occasional plant 10" tall was found. Clumps of Leptocarpus were found as well as fruiting plants of Fimbristylis, the common sedge plant. Portulaca plants up to 4-5" tall were seen and some collected as well as seedling Boerhaavia plants. The ground was covered with tiny green seedlings and it is felt that Janet will be a green island again in a few months.

Belle Island appeared brown from the air, similar to its appearance after Nectar. The plants were blown down and vegetative sprouts of Scenedesmus and Messerschmidia ^{are} scattered all over the island. Portulaca plants are well established as are an occasional Gracilaria and Triumfetta plants. The algal growth is as vigorous as we have ^{ever} seen it at Belle. Fish were difficult to pick up because of the heavy ^{algal} "mats" growth. The predominant algae are Chaetomorpha, Gracilaria, Synsphaera sordida, Spyridia and Pardina and clumps of Halimeda stipitata.

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Locality Elmer Date Aug 21, 1958
Personnel Lownan, Weeks Weather Stormy - Rain
Weland & Champion Water conditions Occasionally rough.
Palmbo

Radiation level(s)

Operations:

Dried & packaged most of the plants
from Janet & Belle.
✓ Spectra on the rain fraction, going
24 hours/day.
Dissected the fish from Belle & started
digging the samples.
Found Tubigden in the plankton.

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Locality Elmer Date Aug. 22, 1958
Personnel Lowman, Palumbo, Weather Fine
Weeks, Champion, Water conditions Normal
Wolander

Radiation level(s)

Operations:

Finished dissecting fish & invertebrates from Belle. Packaged all plants from Belle. Analyzer in shape again for T spectrometer. Repaired scaler & obtained an extra decade unit.

Don Cole of UCR let Ralph & Art scrounge (Beach comb?) their lab. & we came out with some loaded of course.

Continued with Resin column work, adding the 2nd separation or the iron on each experiment (Kraus + Moore - Downey - 1).

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Locality Elmer Date August 23, 1958
Personnel LOWMAN WELANDER Weather FAIR - Windy
WEEKS, CHAMPION, PALUMBO Water conditions Rough

Radiation level(s)

Operations:

Kraus Moore separation for Transition elements started early this AM on the midnight shift while working with the gamma spectrometer. Most of the primary separations now completed & the fractions are being gamma counted and analyzed.

Packing boxes for Silverstein survey as well as two "extra" boxes for surplus Lab equipment that we want to save for future use.

Calculations being made for decay of the Collett plankton samples and also for gamma emitters. Still have many fractions to be analyzed.

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Locality ELMER Date Aug 24 1958
Personnel Welander, Lowman, Weather Fair
Weeks, Champion, Water conditions Smooth
Palumbo

Radiation level(s) _____

Operations:

Sunday breakfast served cafeteria style for the first time in months. Morning spent in laboratory work, mostly running gamma counter and calculating the data.

After lunch we took Frank Beebe of Supply Division for his first Aqualung lesson, at the south end of the island. We stayed in shallow water. Frank & Lowman's ear did not bother him at 10-15' depths attained. Art & Ralph "supervised" the front end of the raft while Frank and Frank handled the other end. Cleaned up the gear and continued laboratory work.

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Locality Elmer Date Aug 25 1958
Personnel Louise, Kielander Weather Variable
Champion Weeks Water conditions Normal
Palumbo

Radiation level(s)

Operations:

Tried to clean up the Lab and consolidate "clean survey" gear so as to give the Rongelap program personnel room to place their gear and a place to work.

Finished last resin column and cleaned up the Lab. Still analyzing the fractions on a 24 hour basis.

Rongelap group arrived at 1800 and had ball sessions with all concerned. Their trip was apparently a successful one and an enjoyable one. Only casualty was Ron Eister who suffered a swollen leg from coral abrasions.

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Locality Elmer - Vera Date Aug 26 1958
Personnel Lowman, Wlelander, Weather Sunny + scattered showers
Wicks, Champion Water conditions Normal
Palumbo

Radiation level(s)

Operations:

Take off at 0830 for collection at Vera. Wlelander, Wicks, Champion, and Palumbo, as well as Edward Ryan of U of Hawaii who is interested in crabs and fish thyroids.

Worked in the lagoon, off the center of the island. Collected Lynghya and Halimeda in this area. Fish collection fair - lots of small fish and a few large goatfish - also collected two spider snails, a hermit crab, and a large Tridacna about 16" across. While bringing the shell into the beach, Don slipped and dropped the clam, cutting himself on two fingers, bled profusely and was bandaged with strips of his own shirt. Later at Perry it took 9 stitches to close the three cuts. The land plants were growing well, all species doing fine. Collected Scaevola, Messerschmidia, Sida, Boerhaavia, and Morinda as well as soil at 0.2" and 6.8"

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Locality Elmer Date Aug 27 1958
Personnel Walter Palumbo Weeks Weather sunny w/ showers
Champion Lowman Water conditions smooth

Radiation level(s)

Operations:

Processed Vera collections. Worked on γ analyzer and worked on γ spectra.
Sent first results of resin column analyses to Al Klement as requested. Sent data on plankton stations #2 & #3 and fish liver.
Am getting ready to go home.

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Locality Eliner - Vera Date Aug 26 1958
Personnel Lowman, Welsander, Weather Sunny + scattered showers
Weeks, Champion, Water conditions Normal
Palumbo

Radiation level(s)

Operations:

Take off at 0830 for collection at Vera. Welsander, Weeks, Champion, and Palumbo, as well as Edmund Ryan of U of Hawaii who is interested in crabs and fish thyroids.

Positioned in the lagoon, off the center of the island. Collected Lynghya and Halonida in this area. Fish collection fair. lots of small fish and a few large goatfish - also collected two spider snails, a hermit crab, and a large Tridacna about 16" across. While bringing the shell into the beach. Don slipped and dropped the clam, cutting himself on two fingers. Bled profusely and was bandaged with strips of his own shirt. Later at Perry it took 9 stitches to close the three cuts. The land plants

growing well. All species doing fine. Collected Scaevola, Messerschmidia, Sida, Boerhaavia, and Morinda as well as soil at 0.2" and 6.8"

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Locality Elmer Date Aug 27 1958
Personnel Walter Polunbo Weeks Weather sunny w/ showers
Champion Lowman Water conditions smooth

Radiation level(s) _____

Operations:

Processed Vera's collections. Worked on γ analyzer and worked on γ spectra.

Sent first results of resin column analyses to Al Klement as requested. Sent data on plankton stations #2 + #3 and fish liver.

Am getting ready to go home.

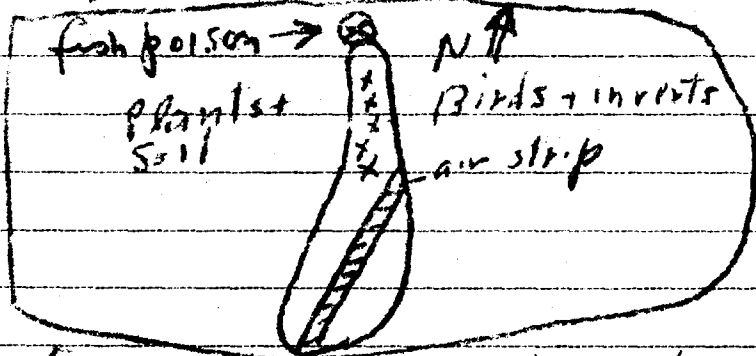
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Locality Elmer - Fred - Nam Date Aug 21 1958
Personnel Polumbo Welander Champion Weather fair - w/ showers
Weeks Lowman Water conditions smooth

Radiation level(s)

Operations:

Welander left for Seattle today right after lunch.
Weeks, Champion and Polumbo went to Nam Island
Bikini by C-54. Left Perry Island at 0730 by boat.
Takeoff at 0830. Landed at Nam 0945. By DUKW to
northern tip of island where Bill and Ralph poisoned and
collected algae. Got good kill including surgeon
fish, parrot fish, wrasse, groupers and
jacksels. Algae collected were Halimeda and
Udotea. Don Weeks collected plants - walked
down island and collected more plants,
soil and two fairy terns and one sooty tern.
After lunch went to south end of island to



look for coconut crabs + hermit crabs. No luck with
either. Took off at 1445 from Nam arrived Fred at
1600 + Elmer by 1121 at 1830. Put all samples
away etc.

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Locality ELMER Date August 29, 1958
Personnel Lowman, Weeks, Weather Hot - No breeze
Champion, Palumbo Water conditions Smooth
Eisler, Joyner, and Kimmel

Radiation level(s)

Operations:

Processed Nan plants, algae, and soils + Vera fish. Worked on spectrometer and calculations and sent second TWX to Al Klement re Collett samples chemical determinations. Made mass attempt to sort out gear, empty boxes, "dead weight", and samples and swept out storage room, main Lab, front porch and adjoining tent. One man can walk around without barking shins on piled up junk.

Packaged plants and soils from Vera + most of the Collett samples. Will keep Collett plates here for decay count after Silverstein trip.

Eisler, Lowman, Joyner, Kimmel, and Palumbo went aqualinging in "deep" hole. Currents strong so Lowman transferred lessons for Eisler to south channel beach.

The weather indicates start of the doldrums - there was absolutely no breeze all day long and the lagoon was flat as a mirror.

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Locality ELMER. Keith Henry Date Aug 30 1958
Personnel Lowndes, Weeks, Kinnel Weather F. AIR
Silo Chapman, Tyson Water conditions NORMAL
Palumbo

Radiation level(s)

Operations:

Takeoff 0830 by H-1 to Henry then to
Keith. Collected shorebird, soil, fish, algae
and land plants. Returned 1530

At Kala continued preparing for Silverstein
which is due at 1700 - no show at 1800 yet.

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Locality Elmer Date Aug 31, 1958
Personnel LOWMAN PALUMBO Weather Fine
Walter Chapman Jones Water conditions Normal
Eister Kimmel

Radiation level(s) _____

Operations:

Prepared for Silverstein Trip - packed
some of counting gear, spectrometer now
working.

Prepared 16th plants - Non fish &
packaged dried specimens.

The ship arrived 12:30 today. No
way of getting aboard.

Frank & Ralph conferred w/ Mr. Smith of AEC,
Cmdr. Swift of the Silverstein and the HEN
people involved re our requirements, we
laid down our needs for fork lift, flat bed,
awning etc. Plans are to load Sept 2nd
and get underway Sept. 3rd.

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Locality EMER Date Sept 1 1958
Personnel Lowman et al. Weather Fair
Water conditions normal

Radiation level(s) _____

Operations:

visited the USS Silverstein to plan laboratory space and counting room space. Will use the Aft Officers Quarters passageway for the Chem Lab, the sick bay for the beta counters and a passageway for the spectrometer. We will be quartered in the AOG (3) and in the chief's quarters (4). Winches and platforms will be installed as in the Collett on the port side of the funnel. Returned to beach before lunch. Frank returned to ship to take measurements of tables etc take prefabrication ashore. Others to Lab to finish packing counting equipment and remainder of processing.

LOWMAN
1958

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Locality Elmer Date Sept 2 1958
Personnel Loutray and 6 men. Weather WARM
Water conditions Smooth

Radiation level(s)

Operations:

Bearded us Silverstein after lunch with
all our gear - for the important task of getting
up our laboratory supplies and equipment
topside. Cister + Champion stayed ashore
to finish the fish sampling. Kimmel to
Rangley w/ Dr. Held's group

By 1730 most of the equipment was
placed in positions and tied down. Still some
work to be done on the winches + on the
spectrometer. The crew and officers
turned to with spirit and aided us in every
way possible.

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Locality USS Silverstein Date Sept 4, 1958
 Personnel Palumbo, Jayner, Eister, Weeks Weather Rainy - some fair weather
Kimmel, Champion, Lowman Water conditions Smooth

Radiation level(s) _____

Operations:

Took following stations:

#43 15°00' 161°45' 0250 hrs
 #44 15°51' 161°39' 0712 "
 #45 16°40' 161°39' 1050 "
 #46 17°00' 160°44' 1517 "
 #47 16°05' 160°21' 1832 "
 #48 15°00' 160°00' 2250 "

	D/M/α/β		D/M/L/β								
	Plankton	0M		25M		50M		100M		300M	
		Filter	CO ³	Filter	CO ³	Filter	CO ³	Filter	CO ³	Filter	CO ³
#43	4730	191	2750	70	2130	160	3280	84	0	490	0
#44	6596	350	6700	330	5850	330	10,600	130	750	0	0
#45	610	0	920	90	0	70	1050	0	0	0	0
#46	5000	490	1200	460	8700	450	7350	0	0	0	0
#47	630	160	3400	60	1590	0	2100	0	0	0	0
#48	6300	250	11,000	330	11,300	0	2000	0	42.5	0	0

Transmitted data for stations 40 thru 45 to Al Klement
 thru Eriwetska (Variety -3)

Run & spectra - mostly Co⁵⁸ Co⁵⁷ Co⁶⁰ Ba¹⁴⁰ La¹⁴⁰ Zr⁹⁵ Nb
 and varying amounts of Zn⁶⁵.

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Locality VSS Silverstein Date Sept 5 1958
 Personnel Same as Sept 4 Weather Showers
 Water conditions Smooth

Radiation level(s) _____

Operations:

Took following stations:

* 49 14°26' 159°22' 0150 hrs
 50 13°47' 158°41' 0500
 51 13°16' 158°09' 0805
 52 13°44' 157°38' 1050
 53 14°25' 157°01' 1410
 54 14°55' 156°24' 1707
 55 14°20' 155°45' 2105

	D/M/CC/A Plankton	D/M/L/B									
		0M		25M		50M		100M		300M	
		F	CO ₂	F	CO ₂	F	CO ₂	F	CO ₂	F	CO ₂
49	7400	680	13,200	300	11,700	350	8400	60	660	100	0
50	3300	400	13,100	300	10,500	800	21,700	0	850	Blank	Blank
51	5200	590	7610	250	6050	360	8790	250 950	950	0	0
52	3100	320	5380	226	4780	224	3800	122	850	0	0
53	4900	462	19,840	679	15,880	0	1100	70	0	0	570
54	4400	1800	15,900	520	15,000	490	11,290	0	0	0	0
55	5000	728	14,300	600	10,800	0	1500	0	0	0	0

Ran 8 spectra - some picture

Transmitted data on stations 46 thru 52.

Trolled 20 hours at dusk at 7 knots with 4 lines - no luck.

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Locality USS Silverstein Date Sept 6 1957
 Personnel Palmer Jaynes Esler Weeks Weather Rained all day
Kimmel Champion Lowman Water conditions Smooth

Radiation level(s) _____

Operations:

Took following stations:

# 56	13° 35'	154° 58'	0100 hrs
57	12° 52'	154° 14'	0440
58	12° 03'	153° 18'	0950
59	12° 46'	152° 35'	1340
60	13° 28'	151° 51'	1722
61	14° 14'	151° 05'	2135

	d/m/cc ^B	d/m/g ^B									
		0 M		25 M		50 M		100 M		300 M	
		F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³
56	2700	250	0	200	5400	180	7900	120	420	0	0
57	2000	330	8660	70	3290	104	2550	0	0	383	850
58	270	0	0	0	740	210	5250	87	1590	112	0
59	8500	400	16,300	400	12,750	435	13,400	0	1100	0	0
60	2400	156	4100	126	2650	84	3000	0	425	0	0
61	3500	98	3800	98	3800	84	3800	0	2100	0	500

Caught a small Remora (3") in plankton on station 59
 total counts of 8300 d/m/g. Mostly Zn⁶⁵ - some Co^{57, 58, 60}

Transmitted data on stations 53 thru 58.

Trolled for about an hour at dawn - had 4 lines out - no luck. Plan to get some better fures at Guam for return trip.

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Locality USS Silverstein Date Sept 7 1958
 Personnel same as Sept 6 Weather showers
 Water conditions smooth

Radiation level(s) _____

Operations:

Took following stations:

62 15° 00' 150° 16' 0130 hrs.
 63 14° 00' 149° 15' 0630 hrs.
 64 13° 00' 147° 55' 1105 hrs.
 65 13° 56' 146° 57' 1540 "
 66 14° 45' 146° 08' 1827 "

	Plankton d/m/cc/β	d/m/l β									
		0M		25M		50M		100M		350M	
		F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³
62	750	56	1176	0	950	70	913	0	0	0	0
63	1600	98	2230	98	2125	70	1300	0	0	0	0
64	2200	0	800	0	640	98	7600	0	0	0	0
65	480	0	0	0	740	0	0	0	0	0	0
66	900	98	1960	0	1900	104	2100	0	0	0	0

Took flying fish near station 63 liver 1100 d/m/g/β muscle 87 d/m/g/β
 Trilled on station. No luck. Prepared data for transmission tomorrow
 AM on stations 59 thru 66. Couldn't raise Eniwick today.
 Arrive at Guam tomorrow at 0800. Will take a station at about
 0930.

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Locality USS Silverstein - Guam Date Sept 7 1954
Personnel Champion Welch, Kinross Eister Weather Fair w/ Showers
Joyner, Pelumbo, Lowman Water conditions smooth

Radiation level(s)

Operations:

Took station #67 $13^{\circ}53'$ $145^{\circ}06'$ Plankton had 128 d/m³ and all water samples were zero. Arrived at 2800 and were supplied with a carry-all and a diver from the ship - Ernie Rogers. Made a courtesy call to the Trust Territory and had a short visit with the deputy director Mr. Oilmartin. Was referred by him to Dr. Liming, a plant physiologist and acting biologist with the Government of Guam. Went to the Agricultural Expt. Station at 1130 to see Dr. Liming and inquire about making a fish poison station on the east side of the island. The Govt of Guam has a law against the use of poison or explosives for collecting fish. However, Dr. Liming wanted to see how it was done so after consultation with some of the officials he went along with us to be sure that we weren't incarcerated by the police. Got a good collection of fish and as soon as we had changed into dry clothes were caught in a blinding rain storm so were wet all over again.

In the evening went to a wetting-down party at the Pump Room sponsored by the Exec. Mr. Evans.

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Locality USS Silverstein - Guam Date Sept 7 1958
Personnel Champion Weeks, Kenneth Eiler Weather Fair w/ Showers
Joseph Polunke, Lawrence Water conditions smooth

Radiation level(s)

Operations:

Took station #67 $13^{\circ}53'$ $145^{\circ}06'$ Plankton had 128 d/m μ and all water samples were zero. Arrived at 0800 and were supplied with a very full and a dinner from the ship. Ernie Rogers. Made a courtesy call to the Trust Territory and had a short visit with the deputy director Mr. Gilmartin. Was referred by him to Dr. Liming, a plant physiologist and acting biologist with the Government of Guam. Went to the Agricultural Expt. Station at 1130 to see Dr. Liming and inquire about making a fish poison station on the east side of the island. The Govt of Guam has a law against the use of poison or explosives for collecting fish. However, Dr. Liming wanted to see how it was done so after consultation with some of the officials he went along with us to be sure that we weren't incarcerated by the police. Got a good collection of fish and as soon as we had changed into dry clothes were caught in a blinding rain storm so were wet all over again.

In the evening went to a wetting-down party at the Pump Room sponsored by the Exec. Mr. Evans.

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Locality Guam & Silverstein Date Sept 9 '58
 Personnel same as Sept 8 Weather fair
 Water conditions smooth

Radiation level(s) _____

Operations:

At 0830 Palumbo + FGL paid a courtesy call to the Secretary of the Govt of Guam, Mr. Bass, to thank him for the consideration shown in helping us get our samples. Had an interesting but short conversation. Took the tourists to the Top of the Mar for a panoramic view of Guam. Traveled on to the Navy PX and parted with our money. Boarded the Silverstein at 1100 to start the second leg of the trip. No seasickness so far on the trip.

Took following stations:

68 12° 14' 145° 32'
 69 11° 14' 146° 35'

"	D/M/V ^{cc} Plankton	0M		25M		50M		100M		300M	
		F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³
#68	490	84	0	122	1700	84	0	0	0	0	0
#69	339	56	0	0	531	56	0	0	0	70	0

Ran γ spectra.

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Locality Silverstein Date Sept 10 58
 Personnel Jayner Kimmel Wreck Eiler Weather Fair
Changin Palumbo Lowman Water conditions Smooth

Radiation level(s) _____

Operations:

Took following stations:
 #70 10°15' 147°35'
 71 10°50' 148°24'
 72 11°20' 149°00'
 73 11°57' 150°18'
 74 11°00' 151°20'
 75 10°00' 152°20'

	D/M/CCP		D/M/L/B									
	Plankton		0 M		25 M		50 M		100 M		300 M	
	F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³
70	810	0	0	0	0	0	0	0	0	0	0	0
71	1200	226	4350	0	2100	0	0	0	660	0	0	0
72	970	0	910	70	1060	98	3940	0	856	98	0	0
73	4400	560	0	400	11300	506	4100	0	1200	0	0	0
74	1800	0	2300	0	2100	0	0	0	0	0	0	0
75	1400	174	5110	70	4350	0	1960	0	0	0	0	0

In afternoon saw many schools of fish. Tried hand grenades on some schools and trolling on others. No success.

On afternoon station lost plankton bottle. Checked all bottles and found hinge bolts.

The lack of support has caused some problems with simultaneous collection of plankton and water. The cables get tangled with each other.

Sum Data _____

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Locality Silverstein Date Sept 11 58
 Personnel Simon Sept 10 Weather Fair
 Water conditions Very smooth - no wind

Radiation level(s)

Operations:

Took following stations

- # 76 9° 09' 153° 30'
- " 77 10° 02' 154° 22'
- 78 11 01' 155° 04'
- 79 11° 57' 155° 45'
- 13° 00' 156° 25'

	D/M/L/β	D/M/L/β									
		0 M		25 M		50 M		100 M		300 M	
Plant	Time	F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³
76	1900	70	0	0	0	0	0	0	0	0	0
77	2200	0	1050	37	1050	0	740	0	0	0	0
78	1200	98	2100	0	1600	220	3400	0	0	0	0
79	6000	590	14000	550	11,000	380	14000	98	0	0	0
80	2900	500	3900	190	4500	420	8700	0	0	1400	4200

Rem & series. Sent data to Washington

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LABORATORY OF RADIATION BIOLOGY
SEATTLE, WASHINGTON

Locality Silverstein Date Apr 12 58
 Personnel Weeks Champion Palumbo Weather Fair
Jayner Kimmel Elster Lawman Water conditions very smooth

Radiation level(s) _____

Operations:

Took following stations:

81 12° 00' 156° 56'
 82 11° 01' 157° 28'
 83 10° 03' 158° 00'
 84 11° 00' 159° 06'
 85 10° 22' 159° 56'
 86 9° 46' 160° 46'

Plankton	D/M/cc A		D/M/L β								
	0M		25M		50M		100M		300M		
	Fiber	CS ³	F	CS ³	F	CS ³	F	CS ³	F	CS ³	
81	2400	87	3800	140	4200	200	6500	100	2200	0	0
82	180	0	0	0	0	0	0	0	0	87	0
83	230	0	0	0	0	0	0	56	0	0	0
84	640	56	1700	0	2100	140	2100	960	3400	84	1300
85	270	0	0	0	0	0	0	84	0	174	0
86	120	0	640	0	420	0	0	0	0	0	0

Run of curves.

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 SEATTLE, WASHINGTON

Locality Silverstein Eniwetok Date Sept 13 1958
 Personnel Same as Sept 12 Weather Fair
 Water conditions smooth

Radiation level(s) _____

Operations:

Took one station 87 10° 30' 161° 43'

Plankton	0M		25M		50M		100M		300M	
	F	CO ³	F	CO ³	F	CO ³	F	CO ³	F	CO ³
87 150	0	0	0	0	0	0	0	0	70	0

Arrived at Eniwetok about 0730. Were met at the dock by Jack Livingston, Hank Burgess and the H&N gang assigned to remove gear from the ship. Unloaded by 10:30 and transported gear to the lab. Weeks and Bowman returned to ship at 11:00 and received a few odds & ends.

Took last message to AEC office for transmission to Al Klement.

Started cleaning up gear

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SEATTLE, WASHINGTON

Locality Perry Is. Date Sept 14 1958
Personnel Weeks Columbus Jayner Champion Weather Fair
Kimmel Eisler Lowman Water conditions Smooth

Radiation level(s) _____

Operations:

Packaged plankton samples from Silverstein + Collett for shipment to Seattle. Started rearranging boxes with plankton gear for storage. Started inventories. Some went swimming. The rest of us tested Vekony hubot did down weather here - Natives say it is the hottest day so far at Perry this year.

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SEATTLE, WASHINGTON

Locality Parry Island Date Sept 15 58
Personnel Same as Sept 14 Weather Fair-Cloudy in morning, showers
Water conditions Smooth

Radiation level(s)

Operations:

Took winches to HAN machinery repair for overhaul and greasing. Took Hansen bottles apart, sifed and packed them. Packed water samples for NYO & Hickey and sent them to shipping & receiving. Inventoried all boxes of gear, packed and lashed and stored in the store room. Packed the specimens and shipped to Seattle. Packed our water samples for shipment to Seattle. Weeks went to Red safe and repaired their spectrometers. In afternoon calibrated their spectrometer. Cleaned out the hut and prepared it for empty box and boat storage. Started washing dishes & glassware and placed on shelves. The lab was a mess so started cleaning it. Checked out counters, packed and stored them.

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SEATTLE, WASHINGTON

Locality Permyls Date Sept 16 58
Personnel Ester Joyce Weeks Polumbo Weather fair + hot
Kimmel Champion Lowman Water conditions smooth

Radiation level(s) _____

Operations:

Finished stacking gear boxes in store room. Placed all empty boxes in tent. Cleaned out the store room and rearranged EMBL gear. Cleaned EMBL stationery, tools, and scales locker and arranged same in some kind of order. ~~emptied~~ Emptied U of W locker, inventoried, and replaced in order. Cleaned entire lab, washed all work tables, threw out junk and swept. Cleaned up the porch and stored the gear in the tent. Place now spick & span. Cleaned auxiliary gear and stored.

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SEATTLE, WASHINGTON

Locality Perry Is, Vera & Wilma

Date Sept 17 '58

Personnel Sam & Sept 16

Weather Fair

Water conditions Smooth

Radiation level(s)

Operations:

Ernie Wynkoop, Ha Soa ^(Perks) and our gang took an M boat to Vera-Wilma to collect clams for heavy metal analysis. Fished on way. Kimmel caught one Tuna and most of rest of us caught at least one Mackerel. Couldn't land at Wilma so beached M boat at Vera. All except Ernie and Ron took rubber boat and went to surge channel between Vera & Wilma. Collected several large Tridacna & Hippopus. Jim speared a grouper and had a couple of sharks chasing him around the channel. Wes + knowing everything available at them. We got the boat to him and the sharks lost interest. Ha Soa, Pelumbis & Lowman took the boat out to deep water in the lagoon and the rest swam back to Vera. Collected 10 halmet shells. Arrived back at Perry at 2.30. Lowman gave a talk at the Hospital at 3.30 and the rest took the samples to the lab. Samples were dissected w/ exception of Hippopus which were dissected in the evening.

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SEATTLE, WASHINGTON

Locality Pearls Date Sept 18 58
Personnel Balumbo Weeks Eisler Champion Weather Fair
Jayner Kimmel Lowman Water conditions Smooth

Radiation level(s) _____

Operations:
Balumbo left for stores at 0230, Weeks, Champion, and Jayner followed at noon. The rest of us finished drying the biological samples and packaged them. Started packing what shells will be shipped to Seattle for a shell for Henderson. Started cleaning the helmet shells. Took biological samples to Red Safe and ran 8 spectra. Same as usual. Carions in the kidney, Adams in the visceral mass.

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SEATTLE, WASHINGTON

Locality Perry Is. Date Sept 19 '58
Personnel Kimmel Eisler Lowman Weather Fair
Water conditions smooth.

Radiation level(s) _____

Operations:

Finished packing all boxes and sent to shipping & receiving.
Packed green fish for Hank Banner for shipment to U. of Hawaii. They
are working on poison problem in red snapper. Finished washing
dishes at lab, swept & dusted and locked the place up. Ran
max & curies in Red Safe. Went swimming.

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SEATTLE, WASHINGTON

Locality Perry Is - Mack Tower Date Sept 20 '58
Personnel Eisler Kimmel Lowman Weather Fair
Water conditions Smooth

Radiation level(s) _____

Operations:

Packed personal gear and got records together. Kimmel
went to Mack tower with Henry Schlenker to collect some alpha
samples. Cleaned out barracks and took books to library. Due
to leave for Ford at 0800 time for flight to Honolulu.

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