407970

Wet weight Total sample (gms) — (Calculated) — R

Collection 1320a

Box 9

Folder 54

	Wet weight total sample (gms)	Strontium-90 (nCi)/m Ca wt	Sr^{90} d/m/sample	Calcium per sample (gms)	Sr. Unit
Coconut	176.7	0.087 ± .016	20.61 ± 1.85	0.22	42 ± 3
Bread	30.2	5.579 ± 0.004	3.97 ± 1.99	.002	850 ± 43
[illegible]	92.3	0.328 ± .018	49.9 ± 2.7	.012	2200 ± 120
Green [illegible]	138.7	0.0624 ± .014	10.5 ± 2.3	.013	460 ± 100
[illegible] fish Cooked	38.6	0.081 ± .028	5.55 ± 1.90	.004	620 ± 220
Kiyu [illegible]	100	0.198 ± .095	6.1 ± 2.9	.0011	2600 ± 1300
Pandanus	27.4	3.06 ± .088	267 ± 7.7	.0059	20,400 ± 600
Rice	34.6	0.068 ± .030	6.4 ± 2.8	.0046	620 ± 280

Water [illegible] ml [illegible] 17.7 ± 1.5 (? Ca)

BEST COPY AVAILABLE

	NRDL	AEL
2.06 mg/gm	0.6 3.73 1.36 1.1	3.3
0.093 "	0.447	.622
0.15	0.277	
0.14		
0.13	~~1.3×10⁻⁴~~ ~~5.9×10⁻⁵~~	
0.075	.25, .105	
0.15	.624 .478 ~~3/2.2~~ ~~1.1×10⁻⁴~~	~~4.5~~
0.109		

DOE

Strontium Units in Ring Up Diet

Gms. Hay	Increase in Ca	Total Grams in Sample	mg/Ca/1 m	Total mg/m	total sr d/m
176.7	20.6 / 15.4	25'	2.00	454.	20.6
30.2	3.97 / 2.39	50.	0.093	4.65'	3.97
92.3	49.9 / 30.2	152.	0.15'	22.8	49.9
108.7	10.5' / 5.96	164.	0.14	23.	10.5'
38.6	5.55 / 3.13	68.6	0.13	8.9	5.55'
10.8	6.10 / 2.14	50.8	0.07'	2.31	6.10
27.4	267 / 83.7	87.3	0.15'	13.	267.
34.6	6.4 / 2.34	94.5'	0.11	10.4	6.4
		882.2 gms		569.0	370.02

17.7 (wt.)

= 28.

$\frac{388}{2.2} \times \frac{1}{0.569} \simeq 300$ strontium units

17.7 (watts)

.88

$\frac{388}{2.2} \times \frac{1}{0.569} \cong 300$ strontium units

[without fondaux $\cong$ 95 strontium units]

884 573

	Calcium Con	
	HASL	Pant AFL
Arrowroot	.642 ~~mg/gm (wt)~~	3.3 (Pulp + skin)
Breadfruit	.447	.628
Coconut milk	.277 ; .474 (Kabelka)	
Green Coconut		
Fresh fish cooked		
Rip Coconut	.376 ; .250 (Kabelka)	
Pandanus	1.06	4.5 [illegible]
Rice		

DO NOT [illegible]

Part of Foodstuff Rongelap Atoll = ~~mg~~ µc/gm (wet)

Data NRDL	Present Data HASL ~~(Present Data)~~
3.73 (Eniaetok) 1.36 (Sifo) 1.1 (Gejen)	2.06
	.093
.143 (Gejen)	.15
	.14
	.13
.25 (Eniaetok) .015 (Gejen)	.075
.624; .478 (Eniaetok)	.15
	.11

Survey Meter Readings at Rongelap Atoll

Feb. - Mar. 1958

Rongelap Island	Values expressed in millireps per hour*			
	3' above ground		1" above ground	
Area Shield:	closed	open	closed	open
Southwest edge of village near road				
Under Morinda, over dead leaves	.02	.2	.1	.6
Open area over sedge	.03	.18	.04	.2
Under coconut trees 6' from road	.02	.2	.09	.6
Open area over grass	.03	.15	.04	.2
Under Pandanus over dead leaves	.03	.16	.08	.6
Southwest edge of village, seaward side				
Above high tide line	.03	.15	.04	.4
At high tide line	.01	.15	.015	.08
Intertidal zone	.01	.18	.01	.10
3.1 miles west of Magistrate's house				
In coconut grove 25' south of road	.05	.35	.07	.7
In coconut grove 100' south of road	.04	.35	.08	.6
West end of island about 0.1 miles east of road end				
15' south of road over open area	.03	.3	.08	.7
10' north of road over Scaevola	.03	.2	.05	.2
60' north of road over sand and Wedalia vines	.03	.25	.08	.5

* With a Beckman MX-5

Rongelap Island (continued)

Area Shield:	3' above ground closed	3' above ground open	1" above ground closed	1" above ground open
North edge of village				
Under coconut trees	.03	.15	.08	.6
Open area, grass	.03	.2	.08	.7
Area of soil profile #1	.03	.2	.07	.7
Under Pandanus	.04	.2	.08	.6
Under Messerschmidia	.03	.15	.07	.6
Average	.029	.21	.064	.48
Kabelle Island				
Area				
Center of Island under Pisonia	.1	.6	.4	1.0-1.5
Under Pisonia	.1	.6	.15	.7
Under Pisonia, over guano on Boerhavia				1.1
Proceeding from lagoon shore toward seaward shore across center of island				
Just above high tide line	.1	.5	.2	1
About 40 yds. from shore, open area	.3	1.4	.7	3
About 100 yds. from shore, Pisonia and coconut trees	.2	.8	.4	1.5
About 100 yds. from shore, mound under coconut trees	.3	1.1	.5	2
About 200 yds. from shore, under Pisonia	.13	.8	.8	1.0

Kabelle Island (continued)

Area	Shield	3' above ground closed	3' above ground open	1" above ground closed	1" above ground open
About 200 yds. from shore, sandy area		.1	.8	.35	1.3
About 175 yds. from shore, under Pisonia & Scaevola over sand		.25	.6	.3	1.2
About 400 yds. from shore, Scaevola thicket, over dead leaves		.13	.6	.2	1.0
About 400 yds. from shore, Scaevola thicket, over sand cover with black lichen or algal growth		.13	.8	.4	1.4
Proceeding from seaward shore toward lagoon shore across center of island					
High tide line, over sand		.03	.4	.04	.4
10 yds. from shore in Scaevola thicket, over leaves		.07	.5	.08	.6
same area with leaves brushed away				.2	1.0
adjacent leaves, within arm's reach				.08	.7
same area as above with leaves brushed away				.2	.9
30 yds. from shore under Messerschmidia		.09	.6	.11	.7
same area with leaves brushed away, over humus				.3	1.3
same area with leaves and humus brushed away				.4	1.4
same area over sand 1.3" below soil surface				.05	.35
	Average	.14	.72	.29	1.1

Kabelle Island (continued)

Note: Attempts were made to measure radiation from various portions of plants, bird nests, etc., but it was found that differences in readings with relation to distance above ground masked any other differences that might exist:

Readings with shield open:

1" above ground	2.0
2' " "	.8
3' " "	.6
4' " "	.4
7' " "	.25

Enia etok Island

Area	3' above ground closed	3' above ground open	1" above ground closed	1" above ground open
Readings taken across center of island at widest portion from lagoon shore to seaward shore.				
Near first house under coconut trees	.1	.6	.3	1.0
Pile of humus and ashes	.08	.5	.2	.9
Under Pandanus over dead leaves	.06	.6	.3	1.4
Under coconut trees	.07	.6	.2	1.1
Coconut grove about 1/3 way across island	.07	.6	.2	1.1
Pile of coconut husks	.08	.17*	.08*	.25*
Open area with interspersed patches of grass and dried black lichen or algal growth	.15	.8	.3	1.2

* These values were double checked and found to be correct.

Eniaetok Island (continued)

Area	3' above ground closed	3' above ground open	1" above ground closed	1" above ground open
Open area just above high tide line, over sand	.05	.5	.1	.8
Open area just above high tide line, over algae	.05	.5	.15	1.1
At high tide line	.015	.15	.02	.25
Intertidal zone, beach pavement	.01	.11	.02	.04
Average	.067	.47	.17	.83

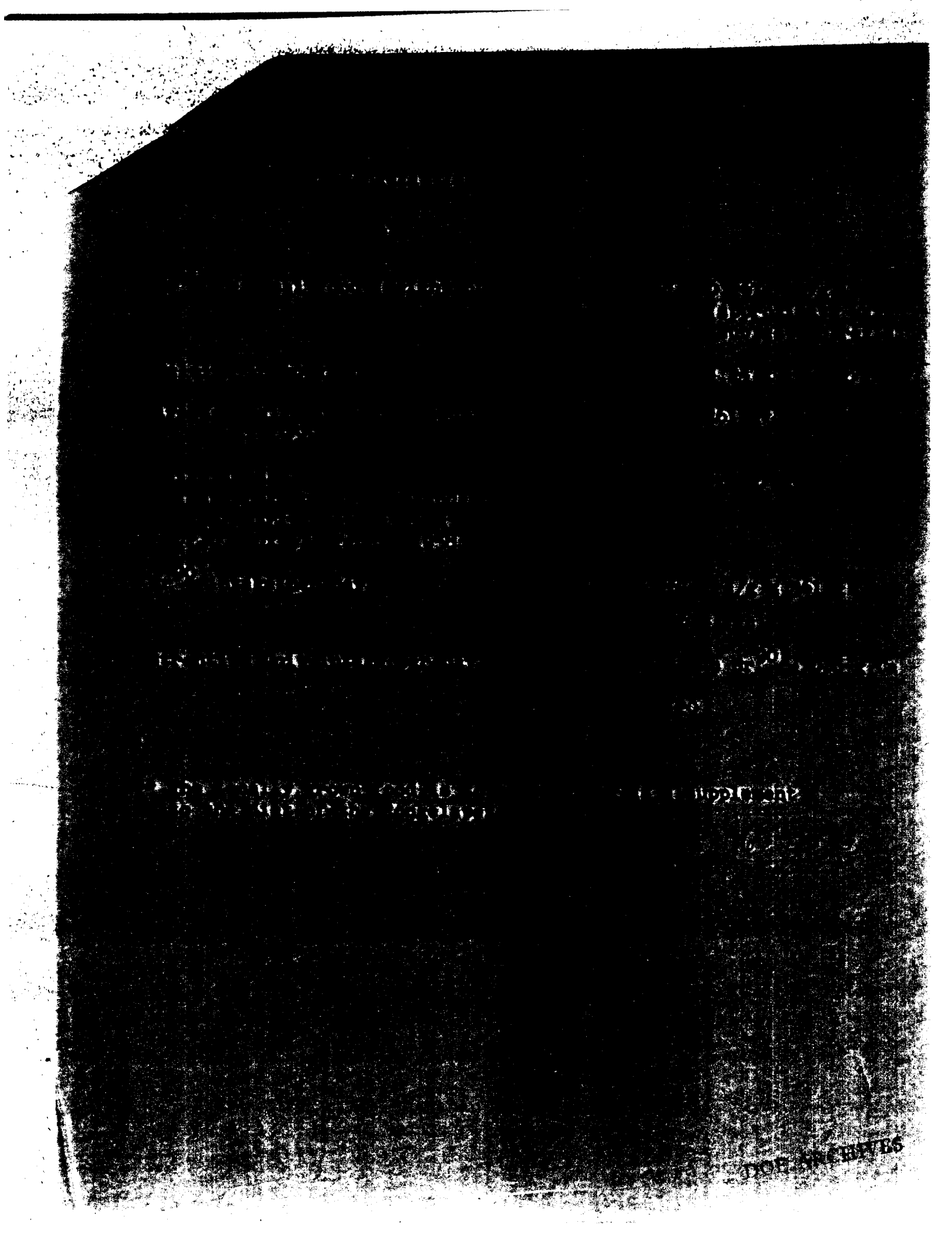
MEMO ROUTE SLIP
Form AEC-93 (Rev. May 14, 1947)

☐	See me about this.	☐	For concurrence.	☐	For action.
☐	Note and return.	☐	For signature.	☐	For information.

TO (Name and unit)	INITIALS / DATE	REMARKS
Mr. Manning		Ans 04991
TO (Name and unit)	INITIALS / DATE	REMARKS
TO (Name and unit)	INITIALS / DATE	REMARKS
FROM (Name and unit) John Wolfe		REMARKS
PHONE NO. 5003	DATE 5/1/59	

USE OTHER SIDE FOR ADDITIONAL REMARKS

U. S. GOVERNMENT PRINTING OFFICE : 1957—O-422007



Food
Sr^{90}

HASL Number	Sample	DATA ON PORTION OF SAMPLE RECEIVED AT HASL: Grams rec'd. at HASL, Measured	d/m Sr^{90} in HASL Sample, Measured	d/m Sr^{90} per gram (wet weight), Calculated	mg Ca per gram, Measured	mg Ca in HASL Sample, Calculated	S. U., Calculated	DATA ON TOTAL SAMPLE: Total g Sample	Total Sr^{90} in* Sample (d/m), Calculated	Total mg* Ca
8603	Arrowroot	176.7	15.4 ± 1.4	0.087 ± .006	2.06	365	19 ± 2	236.7	20.6 ± 1.8	487
8604	Bread	30.2	2.39 ± 1.2	0.079 ± .040	0.093	3	390 ± 21	50.2	3.97 ± 2.0	5
8605	Coconut Milk	92.3	30.2 ± 1.6	0.328 ± .018	0.15	14	1000 ± 55	152.3	49.9 ± 2.7	23
8606	Green Coconut	108.7	6.96 ± 1.5	0.064 ± .014	0.14	15	210 ± 45	168.7	10.5 ± 2.3	24
8607	Cooked Fish	38.6	3.12 ± 1.1	0.081 ± .028	0.13	5	280 ± 100	68.6	5.55 ± 1.9	9
8608	Ripe Coconut	10.8	2.14 ± 1.0	0.198 ± .095	0.075	1	1200 ± 590	30.8	6.10 ± 2.9	2
8609	Pandanus	27.4	83.7 ± 2.4	3.06 ± .088	0.15	4	9300 ± 270	87.4	267.0 ± 7.7	13
8610	Rice	34.6	2.34 ± 1.0	0.068 ± .030	0.11	4	340 ± 130	94.6	6.4 ± 2.8	10
8611	Water	(500 ml.)	17.7 ± 1.5	---	--	--	---	--	---	--
	TOTAL							889.3	370	573

* Calculated to entire sample including amount not sent to HASL.

Errors expressed are one standard deviation of counting and do not include possible chemical errors.

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : G. M. Dunning, Chief, Radiation Effects of Weapons Branch, Division of Biology & Medicine

DATE: May 1, 1959

FROM : I. E. Wallen, Aquatic Biologist, Environmental Sciences Branch, Division of Biology & Medicine

SUBJECT: ADDITIONAL RONGELAP DATA

SYMBOL: BMES:IEW

Following a telephone conversation with Dr. Held of the University of Washington on April 15 we sent you some data concerning strontium-90 levels at Rongelap Atoll. We have now received 3 tables of data on radioactivity in Pandanus which fit as pages 82a, 82b and 82c in your data book. Copies are enclosed for your retention.

Enclosure:
As stated above

Sr^{90} in [illegible] Summary Table

Isl. No.	Date collected	Number samples	Sr^{90} per gram of sample	[illegible]	[illegible]
Nondelap	January, 1955	1	[illegible]		
Nondelap	October, 1955	1	[illegible]		
Bongdelap (first end)	July, 1956	1	[illegible]	[illegible]	[illegible]
Bongdelap	July, 1957	1	[illegible]	[illegible]	[illegible]
Rongrelap	March, 1954	1	[illegible]	[illegible]	[illegible]
Rabbitt	March, 1954	1	[illegible]	[illegible]	[illegible]
[illegible]	March, 1958	1	[illegible]	[illegible]	[illegible]

Note: Three [illegible] samples, one each from Rongrelap, Rabbitt, and [illegible] are now in process and the results will be available later.

Strontium^{90} in Pandanus Samples Collected at Rongelap Atoll - March, 1953

Island	Sample	Sr^{90} d/m per gram[2] dried sample	Sr^{90} d/m per gram wet sample	Per gram[3] wet sample mg Ca	Strontium units
Rongelap	Leaves # 14	69± 4	19± 1	3.88±.07	2295
	Leaves # 31	40± 1	11± 1.5	4.00± 0	1253
	Leaves # 36	62± 4	17± 1	3.86±.02	2053
	Leaves # 94	51± 3	14± 1	3.00± 0	2132
	Fruit # 88[1]	0	0	2.44±.13	0
Kabelle	Leaves # 65	177±40	49±10	6.87±0.61	3239
	Leaves # 75	25± 2	7± 1	3.54± .01	896
	Fruit # 88[1]	0	0	2.96± .05	0
Eniaetok	Leaves #104	62± 3	17± 1	5.69± .03	1367
	Leaves #114A	107± 4	30± 1	3.38± .09	3457
	Fruit #107[1]	0	0	2.33± .01	0
	#114B[1]	0	0	4.51± .05	0

1) Limit of detectability of Sr^{90} in these fruit samples is 2 d/m/g dried sample.

2) Errors given for activity values are obtained from counting error.

3) Error given for calcium values are standard deviations for replicate analyses.

Strontium^{90} in Pandanus Samples collected at Rongelap Atoll - August, 1958

Island	Sample	Sr^{90} d/m per gram[4] dried sample	Sr^{90} d/m per gram wet sample	Ca mg per gram[4] wet sample	Strontium units
Rongelap	Leaves # 1	103±3	29±1	3.84±.03	3406
	Leaves # 2	78±2	22±1	4.95±.22	1966
	Leaves # 3	66±2	18±1	3.07±.11	2715
	Leaves # 8	38±2	11±1	2.85± 0	1667
	Trunk[2] Borings # 2	0	0	3.68± 0	0
	Fruit #22[1]				
Kabelle	Leaves # 7	74±4	21±1	3.26±.01	2869
	Branch # 7	28±1	-	(3 11.54±.83	1101
	Bark # 7	102±4	-	(3 6.25±.03	7360
	Fruit # 7[1]				
Eniaetok	Leaves #10	55±2	15±0.5	4.56±.11	1524
	Leaves #11	91±4	25±1	4.37±.06	2611
	Fruit #10[1]				

1) These fruit samples are now being processed and the results will be available later.

2) Limit of detectibility of Sr^{90} in this sample is 46 d/m/g dried sample.

3) These results are in mg of calcium per gram dried sample. Wet sample weights are not available for these samples.

4) Errors for activity values are determined from counting error.

5) Errors for calcium values are standard deviations for replicate analyses.