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Analysis of Samples Sent by Radiological Safety Section JIF-1 404477

To the Los Alamos Laboratory

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XXIV-12-50
per col. K. D. Miller
No

Sample from U.S.S. Skate - Periscope mast - nineteenth July nineteen hundred forty-six. W. A. Loeb by request of Commander Harris:

Beta Disintegration - Nine Million One Hundred Thousand
Alpha Disintegration - Eighteen Hundred and Thirty
Beta to alpha Ratio - Five Thousand

Mine Cable Cutter C. 2.5 ms per hour. .035 R per day:

Beta Disintegration - Ninety-three thousand four hundred
Alpha disintegration - Twenty-eight
Beta to Alpha Ratio - Three thousand five hundred

Frame One hundred and twenty B. .5 ms per hour. .015 R per day:

Beta Disintegration - Nine thousand one hundred and sixty
Alpha Disintegration - Zero

Navigation Desk - Gun mount shield. 3.5 ms per hour. .045 R per day:

Beta Disintegration - One hundred eighty two thousand
Alpha Disintegration - Fifty
Beta to alpha Ratio - Three thousand six hundred

Base of five inch gun aft A. .6 ms per hour. .02 R per day:

Beta disintegration - One hundred fifteen thousand
Alpha Disintegration - Fifty
Beta to alpha Ratio - Twenty-three hundred

Sample Number three. Point from port side - port hole range finder. Top of Number One five inch mount. Wainwright:

Beta Disintegration - Five hundred
Alpha Disintegration - Zero

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Energy Commission.

Robert A. Haynie 11/12/50
P. H. Belcher

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Number one Sample - deck skid tread - Wainwright. FR 31111.
Port forecastle:

Beta Disintegration - Three thousand eight hundred and thirty
Alpha disintegration - Zero

Sample of rust, paint, a wooden deck from weather decks of
USS Parake:

Beta disintegration - One hundred eighty-four thousand
Alpha disintegration - Twenty-eight
Beta to alpha Ratio - Sixty-Six thousand

Sea Raven - Frame one hundred and five. Superstructure - Access Hatch:

Beta disintegration - Fifty-three thousand
Alpha disintegration - Thirty-eight
Beta to alpha ratio - Fourteen hundred

Sea Raven - Paint taken from amidships. Frame One hundred and five:

Beta disintegration - One hundred and thirty thousand
Alpha disintegration - Twenty-three
Beta to alpha ratio - Five thousand six hundred

USS Wainwright (DD four one nine) August Eighteenth. Radcafe samples:

Beta disintegration - Nine hundred and twenty thousand
Alpha disintegration - Two hundred and sixty-three
Beta to alpha ratio - Three thousand five hundred

Samples Number two. Paint sample from number one five inch turret -
Wainwright:

Beta Disintegration - Thirty thousand six hundred
Alpha disintegration - twelve
Beta to alpha Ratio - Two thousand five hundred

Samples Number four. Fourth Port, aft, port side. Forecastle
OK (Supply office) Wainwright:

Beta disintegration - Zero
Alpha disintegration - Zero

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Analysis of Samples Sent by Radiological Safety Section JTF-1

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Whiting (Av-Fourteen). Ships water line scale, paint and rust. Beta disintegration per minute per gram - Thirty-three hundred.

Whiting (Av-Fourteen). Boat exhaust pipes outside of hull at water line. Beta disintegration per minute per gram - Three-hundred ninety-three thousand.

Whiting (Av-Fourteen). Number two auxilliary condenser. Deposit removed from interior condenser zinc plate. Beta disintegration per minute per gram - one hundred sixty-one thousand; alpha disintegration per minute per gram - one hundred and ninety-four; ratio of beta to alpha - eight hundred and thirty.

Whiting (Av-Fourteen). Number one evaporator (first effect tube nest). Beta disintegration per minute per gram - one hundred and seven thousand; alpha disintegration per minute per gram - twenty-three; Ratio of beta to alpha - four thousand six hundred and fifty.

Whiting (Av-Fourteen). Number 2 evaporator (first effect tube nest). Beta disintegration per minute per gram - one hundred and eighty-two thousand; Alpha disintegration per minute per gram - ninety-nine; Ratio of beta to alpha - One thousand eight hundred and forty.

Whiting (Av-Fourteen). Evaporators number two unit. Beta disintegration per minute per gram - one hundred ninety-two thousand; Alpha disintegration per minute per gram - one hundred and one; Ratio of beta to alpha - one thousand nine hundred.

Whiting (Av-Fourteen). Evaporators number one unit. Beta disintegration per minute per gram - thirty-five thousand two hundred; alpha disintegration per minute per gram - ten; Ratio of beta to alpha - three thousand five hundred and twenty.

Henrice. Evaporator scale. Beta disintegration per minute per gram - one hundred and sixty-six thousand; alpha disintegration per minute per gram - fourteen; Ratio of beta to alpha - eleven thousand eight hundred and fifty.

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Analysis of Samples Sent by Radiological Safety Section JEF-1

To the Los Alamos Laboratory

Sample Code No.

Description

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#1	USS-Nevada - 12th September
A	Bright red from bulk head of deck house FRM 90
B.	Grey Samples from #3 Barbetts
C.	Dull Red sample from Stack
#2	USS Hughes DD 14th September Paint Samples from stack trunk.
#3	L.S.T. 133 14th September. Paint Samples from bulk head of superstructure Port FRM 40.
#4	USS-Bracken - 14th September - APA 64
A	Paint Samples main deck FRM 50 STB Side
B	Fabric from FRM. Sitting on foosle deck.
#5	USS-Salt Lake City - 13th September. Paint Samples O1 deck FRM 90
#6	LST - 661 - 14th September. Paint samples from top of superstructure O1 deck.
#7	USS-Brule - APA 66 - 14th September
A	Paint Samples O1 deck. Port FRM 70
B	Fabric from top on foosle.
#8	LST #52 - 14th September. Paint samples from main deck FRM - 30.
#9	USS-Rhind - 13th September. MD 404. Paint Samples from stack trunk.
#10	LST 545 - 13th September. Paint sample main deck, port FRM 30.
#11	LST 220 - 13th September Paint samples main deck, port FRM 10. Midships.
#12	USS Pennsylvania - 13th September
A	Paint Samples #3 Barbetts

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Sample Code No.

Description

- B Fabric from rudder of FGF-5 located on fan tail.
- #13 USS-Independence - 15th September. CUL-22.
- A Paint samples from bridge.
- B Fabric from EBF, rudder side facing blast.
- #14 Barrow APA-61 - 14th September.
- A Paint Samples from bulk head of after deck house STB FR 138.
- B Fabric from FGF midships.
- #15 Paint samples from Gassonade APA - Q-5. Main deck STB 90 Frame - 12th September. Reg. No. RSS-031.
- #16 Paint samples from USS Crittenden APA-77 - Main deck port Frm. 150. Reg. No. RSS-029. 12th September.
- #17 Paint Samples from Carteret - APA-70 on main deck. Port frame 150 - 12th September. Reg. No. RSS-026.
- #18 Paint sample from USS Mayrant DD-402 Sample taken from outside bulkhead of after deckhouse. Stb. Frm. 150. Reg. No. RSS-025.
- #19 Paint samples from USS New York. Portside of the #4 turret. Reg. No. RSS-027 - 12th September.
- #20 Prinz Eugen. Paint Sample from top of ready box O1 deck Stb. Frm. 100. Reg. No. RSS-028. 12th September.
- #21 USS Dawson - Paint Samples main deck port frame 90. Reg. No. RSS-030 12th September.
- #22 Sample Corol Flaking off shipjack- 10th September. Reg. No. RSS-032

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Sample Code No.

Description

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#23

Paint Samples from USS Ralph Talbot DD-390 - 7th September, 1946. Taken from steek trunk (part). Reg. No. RES-024.

#24

Paint Sample from USS Falcon APA-81 Taken on stb. side Frm. 100. Reg. No. RES-022.

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BOX No TR 5787 Results of Beta and Alpha Analysis

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FOI DEPT Operation Crossroads

Sample Code No.	Beta disintegrations/min		Alpha disintegrations/min	
	Per gram	Per cm ²	Per gram	Per cm ²
1 A	157,800	6,820	187	8.1
1 B	166,200	15,250	175	14.1
1 C	172,700	8,900	164.4	8.5
2	64,900	5,240	75.2	4.7
3 B	596,000	8,720	546	8.0
4 A	108,200	5,000	32.4	1.0
4 B	170,000	4,540	171	3.8
5	63,200	6,520	15.2	3.0
6	226,000	88,400	116	31.5
7 A	535,000	54,400	391	23.0
7 B	156,900	9,700	184	8.9
8	1,737,000	124,000	2540	183
9	854,000	45,600	68.3	3.6
10	47,200	8,440	18.6	3.3
11	110,200	13,880	1.4	0.2
12 A	17,300	2,810	0.8	0.1
12 B	244,700	9,670	59.0	1.9
13 A	340,800	17,470	110	5.7
13 B	172,300	8,900	8.9	0.5
14 A	30,150	2,115	1.3	0.1
14 B	107,800	5,890	77.0	4.2
15	24,730	2,025	4.8	0.5
16	461,000	38,780	7.9	0.7
17	3,670	1,037	2.7	0.7
18	4,230	423	1.8	0.1

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Sample Code No.	Beta Disintegrations/mig		Alpha disintegrations/mig	
	Per gram	Per cm ²	Per gram	Per cm ²
19	1,000	100	9.5	0.9
20	288,000	87,100	13.2	25.9
21	696,000	89,200	523	29.4
22	384,000		701	
23	77,500	16,190	10.5	2.2
24	118,800	14,780	43.1	6.4

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* 1000000 1.05