

~~CONFIDENTIAL~~

11-5-46

THIS DOCUMENT IS ONE OF PAGE(S)

NO. 5 OF 2 COPIES, SERIES A

UNCLASSIFIED

Analysis of Samples Sent by Radiological Safety Section JTF-1

404477

To the Los Alamos Laboratory

~~SECRET~~
XXIV-12-50
per col. K.D. [unclear]
No

BEST COPY AVAILABLE

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 Deck - 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. .8 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

REPOSITORY Los Alamos NAT 740

COLLECTION

BOX No

FOLDER

TR 5787

Operation Crossroads

~~CONFIDENTIAL~~

Classification changed to _____
by Authority of the U. S. Atomic
Energy Commission.

Robert A. Raynie 11/10/50
P. H. Belcher

UNCLASSIFIED

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

11-5-46

THIS DOCUMENT CONSISTS OF 9 PAGE(S)
NO. 5 OF 5 COPIES, SERIES B

UNCLASSIFIED

~~SECRET~~

Number one Sample - deck skid tread - Wainwright. FR 20110.
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

~~SECRET~~

UNCLASSIFIED

~~CONFIDENTIAL~~

REPOSITORY Los Alamos NATL LAB
COLLECTION _____
BOX No 7B 5787
FOLDER Operation Crossroads

~~CONFIDENTIAL~~

THIS DOCUMENT ~~CONSISTS OF~~ 5 PAGE(S)
UNCLASSIFIED NO. 5 OF 3 COPIES, SERIES 2

11-5-4

Analysis of Samples Sent by Radiological Safety Section JTF-1

To the Los Alamos Laboratory

~~SECRET~~

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.

Henries. 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.

REPOSITORY

LOS ALAMOS NAT LAB

COLLECTION

TR 5784

BOX No.

Operation Crossroads

FOLDER

UNCLASSIFIED

~~CONFIDENTIAL~~

~~SECRET~~

UNCLASSIFIED

~~CONFIDENTIAL~~

THIS DOCUMENT CONSISTS OF 9 PAGE(S)
NO. 5 OF 5 COPIES, SERIES 7

Analysis of Samples Sent by Radiological Safety Section JAF-1

To the Los Alamos Laboratory

Sample Code No.

Description

~~TOP SECRET~~

#1	USS-Nevada - 12th September
A	Bright red from bulk head of deck house FEM 90
B	Grey Samples from #3 Barbette
C	Dull Red sample from Stack
#2	USS Hughes DD 14th September Paint Samples from stack trunk.
#3	L.S.T. 153 14th September. Paint Samples from bulk head of super- structure Port FEM 40.
#4	USS-Braeken - 14th September - APA 64
A	Paint Samples main deck FEM 50 STB Side
B	Fabric from TBM. Sitting on foosle deck.
#5	USS-Salt Lake City - 13th September. Paint Samples O1 deck FEM 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 FEM 70
B	Fabric from top on foosle.
#8	LST #52 - 14th September. Paint sample from main deck FEM - 30.
#9	USS-Rhind - 13th September. DD 404. Paint Samples from stack trunk.
#10	LST 545 - 13th September. Paint sample main deck, port FEM 30.
#11	LST 220 - 13th September Paint samples main deck, port FEM 10. Midships.
#12	USS Pennsylvania - 13th September
A	Paint Samples #5 Barbette

REPOSITORY Los Alamos NAT LAB

COLLECTION TR 5787

BOX NO Operation Crossroads

FOLDER

UNCLASSIFIED

~~CONFIDENTIAL~~

~~TOP SECRET~~

~~CONFIDENTIAL~~

UNCLASSIFIED

THIS DOCUMENT CONSISTS OF 9 PAGE(S)
NO. 2 OF 5 COPIES, SERIES 7

~~SECRET~~

Sample Code No.

Description

- B Fabric from rudder of F6F-5 located on fan tail.
- #13 USS-Independence - 13th 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 Gasconade APA - Q-5. Main deck STB 90 Frame - 12th September Rg. No. RSS-031.
- #16 Paint samples from USS Crittenden APA-77 - Main deck port Frm. 150. Rg. No. RSS-029. 12th September.
- #17 Paint Samples from Carteret - APA-70 on main deck. Port frame 150 - 12th September. Rg. No. RSS-026.
- #18 Paint sample from USS Mayrant DD-402 Sample taken from outside bulkhead of after deckhouse. Stb. Frm. 150. Rg. No. RSS-023.
- #19 Paint samples from USS New York. Portside of the #4 turret. Rg. No. RSS-027 - 12th September.
- #20 Prinz Eugen. Paint Sample from top of ready box O1 deck Stb. Frm. 100. Rg. No. RSS-028. 12th September.
- #21 USS Dawson - Paint Samples main deck port frame 90. Rg. No. RSS-030 12th September.
- #22 Sample Corol Flaking off shipjack- 10th September. Rg. No. RSS-032

REPOSITORY Los Alamos NEEL LAB

COLLECTION

BOX No

FOLDER

TB 5787

Operation Crossroads

UNCLASSIFIED

~~CONFIDENTIAL~~

~~SECRET~~

~~CONFIDENTIAL~~

11-5-46

UNCLASSIFIED THIS DOCUMENT CONSISTS OF 9 PAGE(S)
NO. 5 OF 5 COPIES, SERIES A

Sample Code No.

Description

~~SECRET~~

#23

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

#24

Paint Sample from USS Falcon APA-31 Taken on stb. side Frm. 100. Reg. No. RSS-022.

REPOSITORY LOS ALAMOS NAT LAB
COLLECTION _____
BOX No. TR 5787
FOLDER Operation Cross Roads

~~SECRET~~

UNCLASSIFIED

~~CONFIDENTIAL~~

BOX No TR 5789 Results of Beta and Alpha Analysis

~~SECRET~~

FOUNDER 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	18,350	178	14.1
1 C	172,700	8,900	184.4	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	31.6
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	17,500	2,810	0.8	0.1
12 B	244,700	9,670	89.0	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	107,900	5,890	77.0	4.2
15	24,730	2,025	4.3	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

UNCLASSIFIED

~~CONFIDENTIAL~~

~~SECRET~~

~~CONFIDENTIAL~~

UNCLASSIFIED

THIS DOCUMENT CONSISTS OF 9 PAGE(S)
NO. 5 OF 5 COPIES, SERIES D

11-5-46

~~TOP SECRET~~

Sample Code No.	Beta Disintegrations/mig		Alpha disintegrations/mig	
	Per gram	Per cm ²	Per gram	Per cm ²
19	1,000	169	9.5	0.9
20	288,000	87,100	15.8	25.9
21	696,000	89,200	523	29.4
22	284,000		701	
23	77,500	16,190	10.5	2.2
24	118,000	14,780	43.1	6.4

REPOSITORY Los Alamos NAT Lab
 COLLECTION _____
 BOX No TR 5787
 FOLDER Operation Crossroads

~~TOP SECRET~~

UNCLASSIFIED

~~CONFIDENTIAL~~

REPOSITORY LOS ALAMOS NAT LAB

COLLECTION _____

DOC No TR 5989

TITLE Operation Crossroads

UNCLASSIFIED

~~TOP SECRET~~

11-5-46

Herbert Scoville
Bldg 2 Rm L-2030
Navy Bldg
W.D.
Pho. Rmpt 7400 Ext. 4250

~~CONFIDENTIAL~~

~~SECRET~~
Dowdy
Und

Send copies of all Crossroads
data to Mr. Scoville and also
to Col Stafford S Warren at Rochester
N.Y. All must be secret and sent
through proper channels, Area engineer
etc,

UNCLASSIFIED
~~CONFIDENTIAL~~

* 1000000 6.5% 1000000

* 1000000 1.05