

Tritium Laboratory
September 15, 1998

SWAB REPORT #233

SWAB DATE: 31 August 1998

R/V Nathaniel B. Palmer
NBP Radioisotope Vans

James D. Happell
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Distribution:

SWAB COMMITTEE
Robert Kluckholn, ASA
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REPORT FOR SWAB # 233

LOCATION : Seattle, WA
 TECHNICIAN: Charlene Grall
 VESSEL/LAB: R/V Nathaniel B. Palmer

DATE : 31 August 1998
 STATUS: All areas onboard
 tested free of radioisotope
 spills except some tritium
 found in incubator NSF05957.
 Radioisotope Van also had
 major tritium contamination.
 See COMMENTS below.

SAMPLE #	SAMPLE IDENTIFICATION	NET ACTIVITY EXTRACTED	
		³ H dpm/m ²	¹⁴ C dpm/m ²
1	Machine blank	-	-
2	Initial bucket blank (C.O.#1)	88	0
<u>Electronics Lab (See Figure 1)</u>			
3	Fwd alcove, deck below computers	70	0
4	Deck below computers stationed near stbd entrance	0	0
<u>Bio Lab (See Figure 1)</u>			
5	Inside incubator NSF05896	85	0
6	Deck below incubator	0	0
60	Drip pan of incubator	44	35
7	Deck below fume hood	55	0
<u>Walk-in Cold Rooms (See Figure 1)</u>			
8	Workbench port of sink in fwd Cold Room	0	0
9	Deck below workbench port of sink	176	0
10	Workbench port of sink in aft Cold Room	35	0
11	Deck just inside entrance to Aft Cold Room	140	0
<u>Dry Lab (See Figure 2)</u>			
12	Deck inside fwd port entrance	52	0
13	Inside aft incubator NSF04967	77	0
14	Inside center incubator NSF02883	49	0
15	Inside fwd incubator NSF05957	1,309	0
16	Deck between cryo-fridge and ultralow freezer	81	0
17	Top of cryo-fridge NSF013861	130	0
18	Top of ultralow freezer NSF05893, including handle	46	0
19	Deck below stbd and aft workbenches	81	0
20	Deck just inside aft double-door entrance	55	0
21	Aft workbench/sink area	13	0
22	Deck inside aft port entrance	36	0
<u>Forward Dry Lab (See Figure 2)</u>			
23	Deck below computer stations recording CTD data	35	0
24	Deck below ship monitoring computer stations	0	0
25	Computer workbench used by rad people	44	0
<u>Hydro Lab (See Figure 3)</u>			
26	Stbd sink area	95	0
27	Deck below sink area	9	0
28	Misc. areas Deck of Haz-Mat locker	0	0
29	Deck of fwd alcove of Shop	0	0

SAMPLE #	SAMPLE IDENTIFICATION	NET ACTIVITY EXTRACTED	
		³ H dpm/m ²	¹⁴ C dpm/m ²
30	Stbd doorway of Rigging Room	52	0
<u>02 Deck/Helodeck (See Figure 4)</u>			
31	Portside deck next to rail where rad waste storage barrels were located	0	0
32	Deck below where rad van entrance was located when it was onboard	26	0
33	Aft area of deck where incubators stood	89	0
34	Final bucket blank	53	0
35	New bucket blank (C.O. #2)	44	0
36	Helicopter hangar deck inside stbd hatch	90	0
37	Deck where rad waste storage barrels stood	60	0
38	Deck against port bulkhead where rad waste storage barrels stood	63	0
39	Deck inside fwd port door into Hangar	35	0
40	Fwd deck area where water would collect and slosh	91	0
41	Fwd deck outside aft entrance of Workshop	5	0
42	Deck just port of outboard motor storage	61	0
<u>02 Deck/Shop (See Figure 4)</u>			
43	Inside refrigerator which is designated for future radioisotope storage	145	0
44	Deck inside aft entrance	39	0
45	Deck below sink	163	0
<u>Bruischat 24' Van (See Figure 4)</u>			
46	Deck of foyer "Clean" area	65	0
47	Deck in center of van	58	0
<u>01 Deck (No Figure)</u>			
48	Deck inside Science Office	166	0
49	Deck inside stairwell down to Maindeck labs	21	0
<u>Radioisotope Van (See Figure 5)</u>			
50	Inside refrigerator	31,541**	0
51	Deck below sink	2,281*	0
52	Inside cabinet left of and below sink	428	50
53	Workbench between sink and LSC	6,535*	0
54	Floor at base of fume hood	3,024*	58
55	Workbench across from sink where centrifuge s	1,669	0
56	Inside lid and inside centrifuge	406,261***	0
57	Lid of LSC	688	56
58	Floor inside entrance	2,005*	67
59	Inside exhaust stack for fume hood (no fig.)	1,229	65
61	Final bucket blank	67	0

COMMENTS

The ship, itself, is completely free of contamination by tritium or radiocarbon. However, incubator NSF05957 located in the Dry Lab, obviously had been used to store tritium at some time. This should be cleaned if it is to be used by non-radioisotope scientific personnel. The radioisotope van is slightly contaminated with tritium, but the refrigerator and especially the centrifuge are more heavily contaminated with tritium and need decon and cleaning before any further use.