

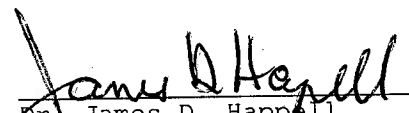
Tritium Laboratory
June 5, 2009



SWAB REPORT #522

SWAB DATE: 26 May 2009

USCG Healy and Radioisotope Vans


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Technical data below applies unless otherwise indicated.

Typical instrument background for tritium and C14: 7 and 15 cpm, respectively.

All data are means of at least three runs and are expressed in dpm/m² extracted; machine and wash solution blanks have been subtracted.

Typical error: 10% or 50 dpm/m², whichever is larger, for both tritium and C14.

Criteria for SWAB Results

Category	Tritium (dpm/m ²)	C14 (dpm/m ²)	Recommendations
A	< 500	< 50	No action
B *	500-10,000	50-10,000	Needs cleaning before <u>natural tracer</u> work. No health hazard. Does not apply to Radiation Vans
C **	10,000-100,000	10,000-50,000	Must be cleaned before any use. Includes Radiation Vans
D ***	>100,000	>50,000	May be a health hazard. Notify local Radiation Safety Official

Note: C14 and S35 have peak energies of 156 and 167 KeV, respectively; thus S35 will be registered as C14 by our counting techniques.

Recommended Cleaning Procedure

Wearing ordinary household rubber gloves:

Tritium: Wash and scrub with radioactive cleanup detergent such as COUNT-OFF (50 ml or 1/4 cup COUNT-OFF to 1 gallon of water), using sponges to distribute solution and reabsorb it.

C14: Wash with 1% sulfuric or 2% hydrochloric (muriatic) acid with good ventilation (will dissolve carbonates, releasing ¹⁴CO₂). Follow up with wash as if for tritium.

Disposal of Cleaning Materials (gloves, sponges, etc.)

Categories A and B: Dispose as ordinary garbage.
C and D: Dispose in radiation waste system.

Note: In case Category C or D is encountered, we try to notify the institution promptly by telephone.

REPORT FOR SWAB # 522

LOCATION : Seattle, WA
 TECHNICIAN: Cecilia Roig
 VESSEL/LAB: USCG Healy

DATE : 26 May 2009
 STATUS: See **Comments**.

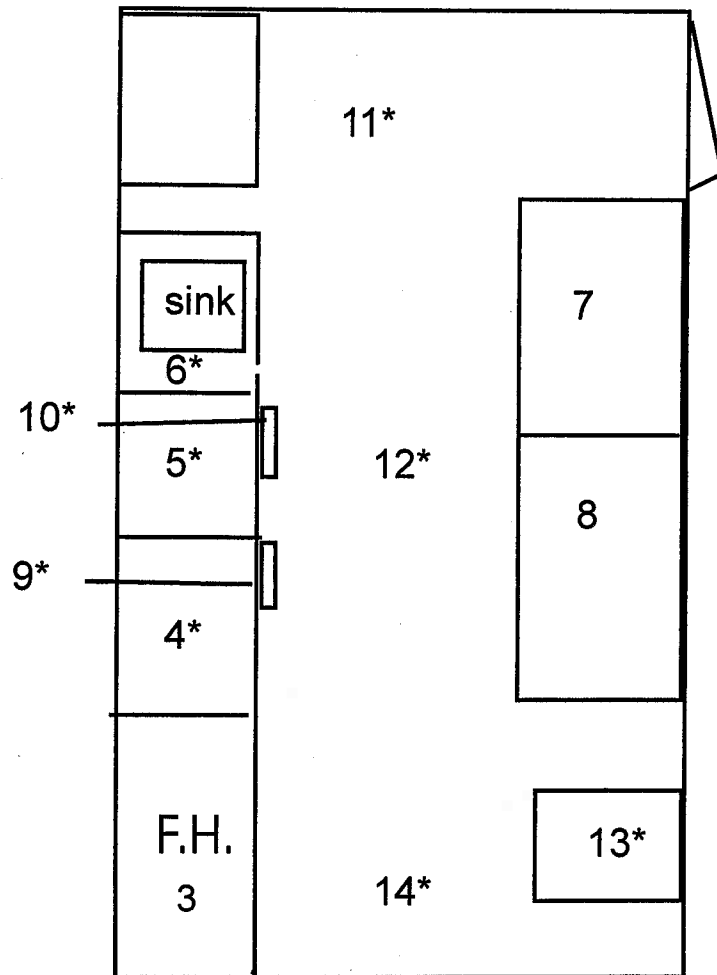
SAMPLE #	SAMPLE IDENTIFICATION	NET ACTIVITY EXTRACTED	
		3H dpm/m2	14C dpm/m2
1	Machine Blank	-	-
2	Initial bucket blank C.O. #1	0	0
<u>Radioisotope Van - Polar Programs (See Figure 1)</u>			
3	Inside fume hood	0	38
4	Benchtop right of fume hood	19	165*
5	Benchtop left of sink	418	5,071*
6	Sink area	0	523*
7	Benchtop across from sink	0	0
8	Benchtop across from freezer	0	0
9	Inside freezer	112	681*
10	Inside refrigerator	69	3,483*
11	Deck at entrance closest to sink	0	417*
12	Deck in center of van	249	3,076*
13	Top of LSC	8	795*
14	Deck at entrance next to fume hood	50	311*
<u>Scientific Lab - Polar Programs (See Figure 2)</u>			
15	Intermediate bucket blank	0	0
16	Inside fume hood	0	0
17	Benchtop right of fume hood	0	6
18	benchtop left of sink	0	0
19	Sink area	0	0
20	Inside freezer	0	0
21	Inside refrigerator	0	0
22	Deck at entrance next to fume hood	0	0
23	Deck in center of van	58	0
24	Deck at entrance next to sink	13	0
<u>UNOLS Shared Use Van (See Figure 3)</u>			
25	Inside fume hood	0	0
26	Benchtop right of fume hood	0	0
27	Benchtop left of sink	0	0
28	Sink area	0	0
29	Benchtop across from sink	0	0
30	Benchtop across from freezer	0	0
31	Inside freezer closest to sink	0	0
32	Inside freezer closest to fume hood	4	0
33	Deck at entrance closest to sink	0	0
34	Deck in center of van	50	0
35	Deck at entrance closest to fume hood	0	0
36	Final bucket blank, C.O. #1	0	0
<u>Main Lab (See Figure 4)</u>			
37	Initial bucket blank , C.PO. #2	0	0
38	Deck in front of aft sink	0	0
39	Deck in center of staging area	0	0

SAMPLE #	SAMPLE IDENTIFICATION	NET ACTIVITY EXTRACTED	
		3H dpm/m2	14C dpm/m2
40	Inside fume hood	5	0
41	Deck in front of fume hood	0	0
42	Deck outside entrance to Artic Gear Locker	33	0
43	Deck outside entrance to Walk-in Scientific R	0	0
44	Deck in front of fwd sink	0	0
45	Deck at top of stairs	0	0
46	Deck at entrance to Dry Assembly Area	4	0
47	Deck at lower level stbd. Staging Area	0	0
<u>Wet Lab (See Figure 1)</u>			
48	Deck under shower	0	0
49	Inside fume hood	0	0
50	Deck in center of lab	0	0
51	Stbd. benchtop	0	0
52	Sink area of Climate Control Room 2	0	0
53	Sink area of Climate Control Room 1	0	0
54	Deck between Climate Control rooms	0	0
55	Deck in front of sink	0	0
56	Deck in vestibule	12	0
57	Final bucket blank, C.O. #2	15	0

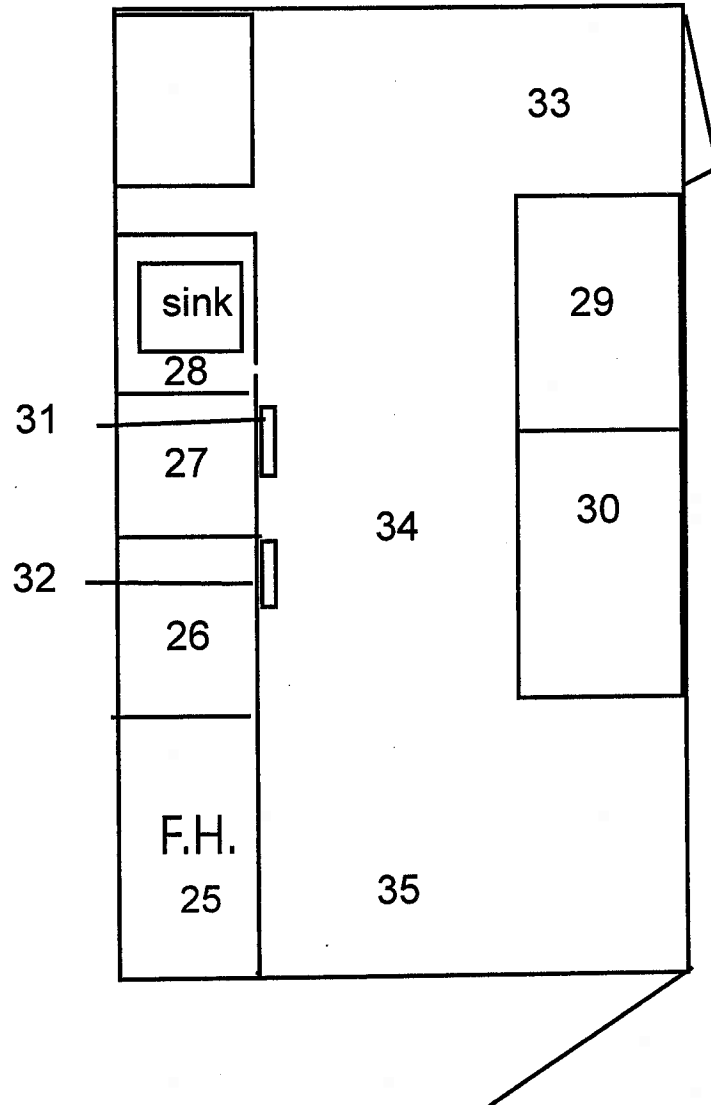
Comments

All areas tested on ship and vans were free of any tritium contamination. Minor C14 contamination was found only in the radioisotope van. Deck on radioisotope van should be cleaned to prevent tracking to other areas.

RADIOISOTOPE VAN - POLAR PROGRAMS



UNOLS SHARED-USE VAN



USCG Healy

Figure 4
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