Tritium Laboratory
3 June 2008

UNIVERSITY OF Miami
THE ROSENSTIEL SCHOOL

SWAB REPORT #487

SWAB DATE: 20 May 2008

USCG HEALY

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Distribution:
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COMMENTS TO SWAB REPORTS

10 October 2001

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/m^2 extracted; machine and wash solution blanks have been substracted.

Typical error: .10% or .50 dpm/m^2, whichever is larger, for both tritium and C14.

Category	Criteria for SWAB Result: Tritium (dpm/m^2)	C14 (dpm/m^2)	Recommendations
A	< 500	< 500	No action
B *	500-10,000	500-10,000	Needs cleaning before natural tracer 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 $^{14}CO_2$). 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 # 487

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

DATE: 20 May 2008
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	18	0
	Main Lab (Figure 1)		
3	Deck stbd. of drinking fountain	0	1
4	Deck in front of aft sink	0	0
5	Deck in front of door to water closet	0	0
6	Deck in front of fume hood	0	0
7	Inside fume hood	0	0
8	Deck inside aft staging area	12	0
9	Deck inside entrance to Walk-in Sci. Ref.	0	0
10	Deck center of Arctic Gear Locker	0	4
11	Deck in front of Arctic Gear Locker	3	0
12	Deck in port passageway fwd. of Main Lab	14	0
13	Deck in front of fwd. sink	0	0
14	Deck at bottom of stair to 01 Deck	1	0
15	Deck between two center benches	0	0
16	Deck stbd. of benches	0	0
17	Deck at top of stairs	17	0
18	Deck of Dry Assembly Area	18	0
19	Deck of Lower Level Staging Area	0	0
	Wet Lab (Figure 1)		
20	Inside fume hood	0	0
21	Deck center of Lab	0	0
22	Deck inside door to passageway	0	0
23	Deck outside Walk-in freezer	0	0
	Bio/Chem Lab (Figure 1)		
24	Sink area inside Climate Control Chamber 2	0	4
25	Sink area inside Climate Control Chamber 1	46	0
26	Deck between climate control areas	0	0
27	Deck in front of sink	0	0
28	Inside fume hood	0	5
29	Vestibule at entrance to Bio/Chem Lab	0	0
30	Final bucket blank C.O. #1	15	0
31	Initial bucket blank C.O. #2	0	0
	Chem Van (on ship, Figure 2)		
32	Sink area	4,666*	0
33	Bench top across sink area	516*	1,226*
34	Bench top right of sink area	204	0
35	Bench top under first aid kit	1,893*	0
36	Deck in front of sink area	1,109*	3
37	Deck in middle of van	889*	2
38	Deck at entrance	389	0

SAMPLE #	SAMPLE IDENTIFICATION	NET ACTIVITY EXTRACTED 3H dpm/m2	14C dpm/m2
	Bio Lab Van (in parking area, Figure 3)		
39	Bench top right of sink	41	0
40	Bench top across sink	0	2
41	Bench top under first aid kit	5	0
42	Bench top in front of door	11	0
43	Deck area in front of sink	3	0
44	Deck in center of van	35	0
45	Deck at entrance	0	0
	Small Radioisotope Van (on ship, Figure 4)		
46	Inside fume hood	10	29
47	Bench top across fume hood	0	797*
48	Inside refrigerator bottom	49	214
49	Inside refrigerator bottom	71	1,114*
50	Deck in front of fume hood	31	331
51	Deck inside entrance	51	1,465*
52	Final bucket blank C.O. #2	0	0

Comments

All areas tested on ship and Bio Lab Van (in parking area) were free of isotope contamination. Chem Van (on ship) has minor tritium and C14 contamination. Deck in front of sink in Chem Van needs cleaning to prevent tracking contamination into the ship and the rest of the Chem Van will require cleaning before any natural tracer work. The small radioisotope van has minor C14 contamination. The deck at entrance of small radioisotope van needs cleaning to prevent tracking into the ship, the rest of this van does not require cleaning if only used for isotope work.

Figure 1.
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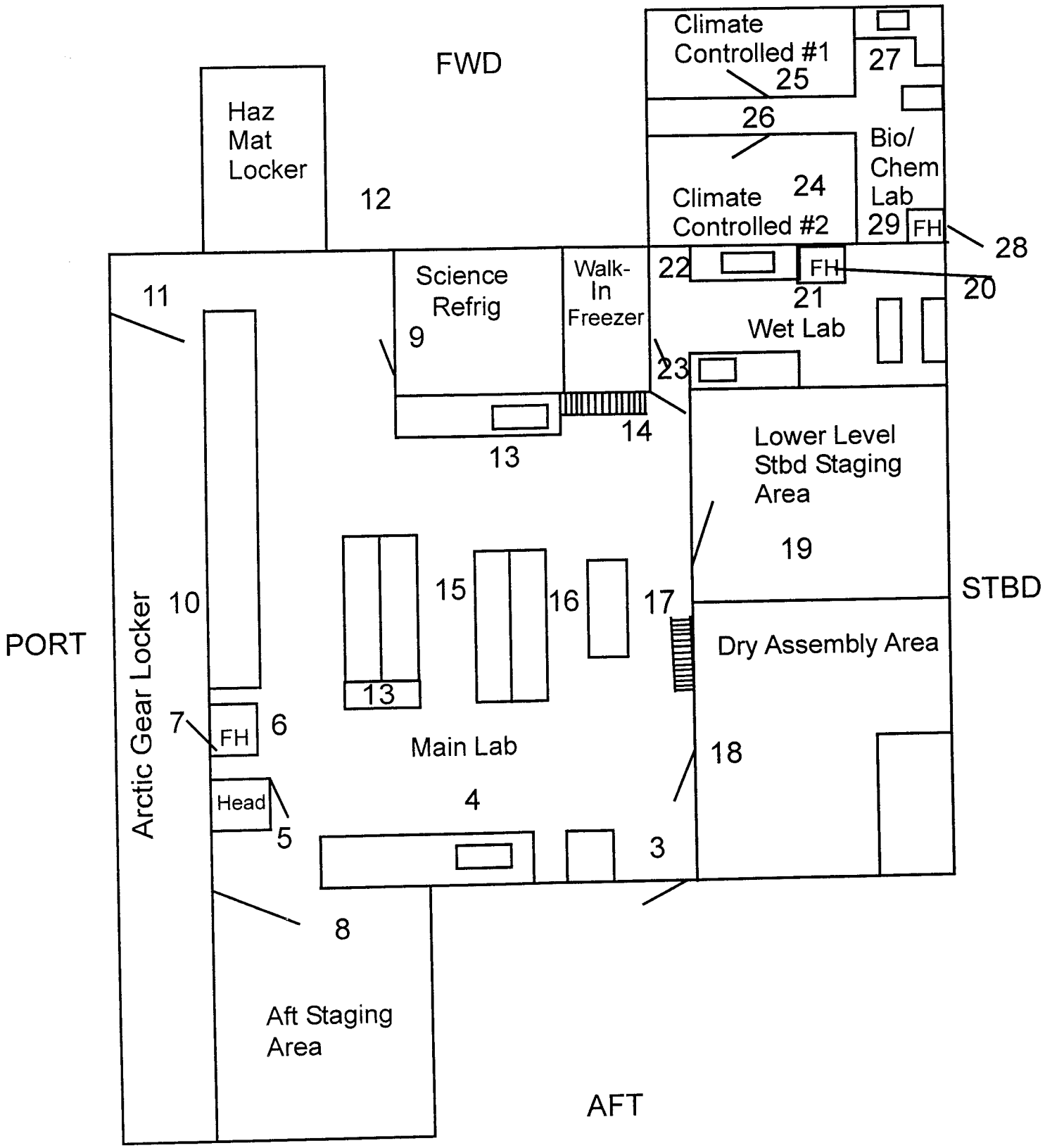

Figure 2
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USCG HEALY CHEM VAN

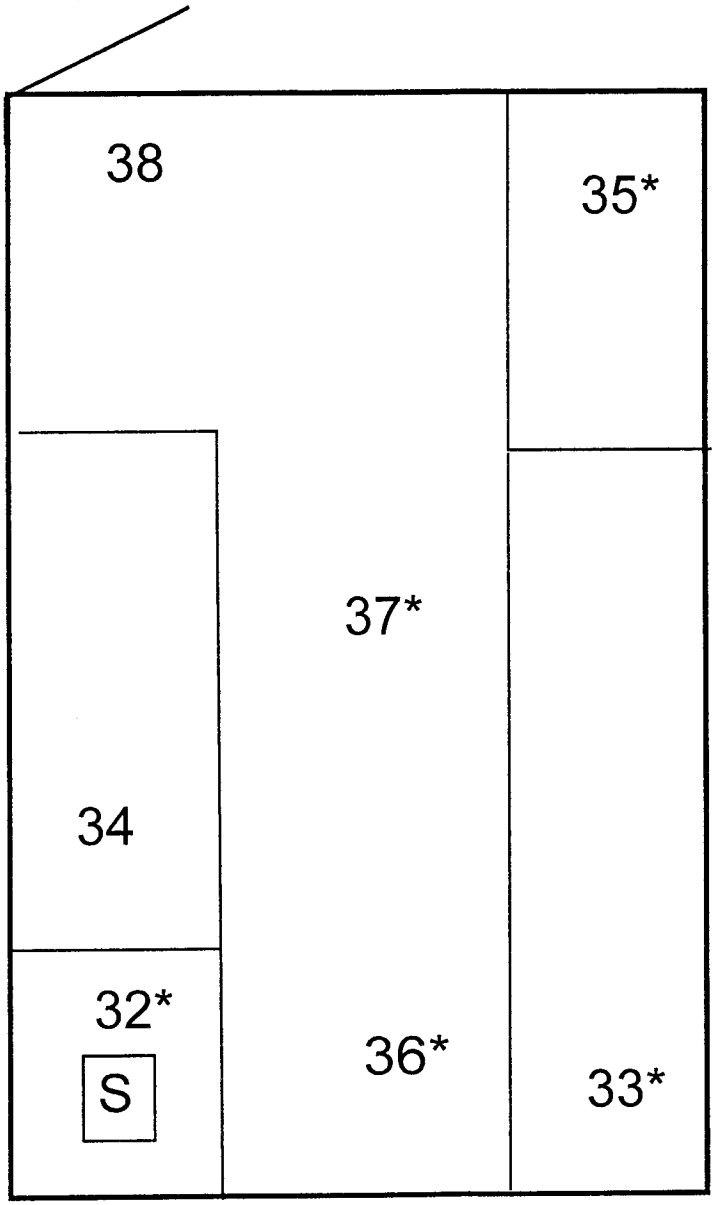

Figure 3
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USCG HEALY BIOLOGY VAN

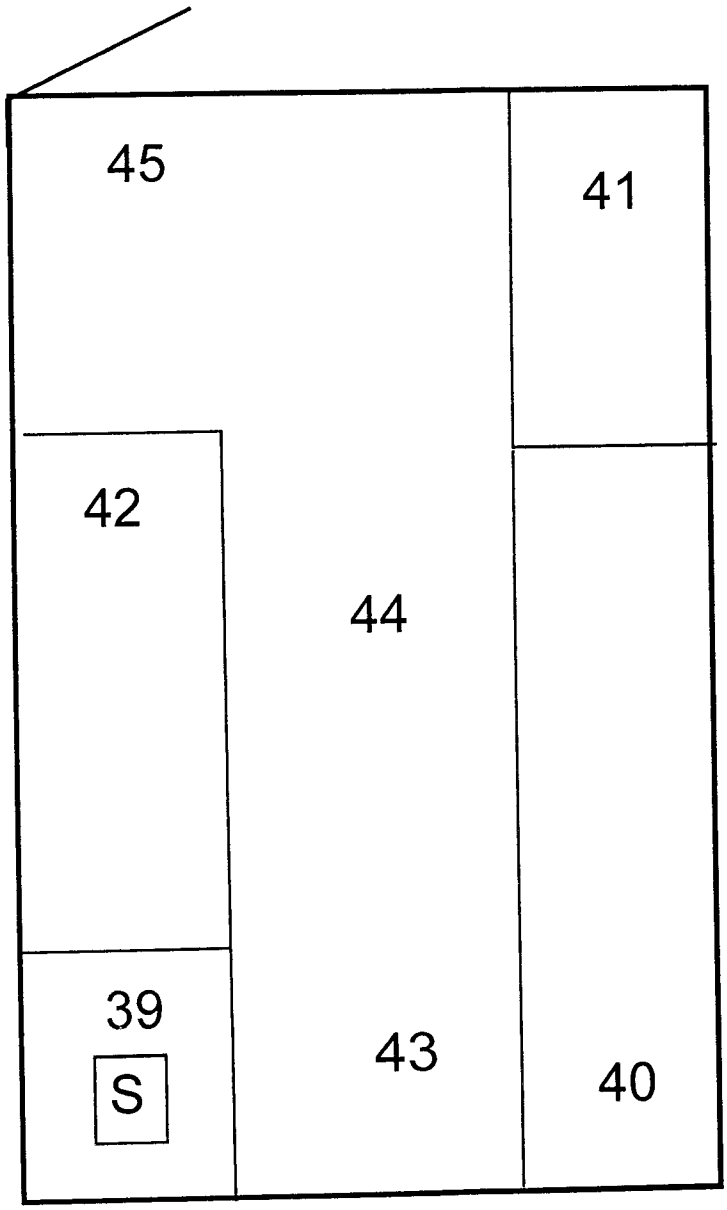

Figure #4
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SMALL RADIOISOTOPE VAN