



11 August 2014

SWAB REPORT # 733

SWAB DATE: 3 August 2014

R/V Sikuliaq

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Distribution:
SWAB Committee
Steven Hartz

COMMENTS TO SWAB REPORTS

12 May 2014

Typical LSC instrument background values for ^3H and ^{14}C are 2 and 5 cpm, respectively. The LSC is a Tricarb 2910 TR with the low level counting option.

All samples are counted for 60 minutes, the instrument background is subtracted, and activities are reported in dpm/m^2 . Bucket blank activities are not subtracted. Counting errors (2 standard deviations) are also reported in dpm/m^2 . An error larger than the activity indicates that the activity is not significantly different from zero.

Criteria for SWAB Results

Category	^3H (dpm/m^2)	^{14}C (dpm m^2)	Recommendations
A	<500	<50	No action
B*	500-10,000	50-10,000	Needs cleaning before any natural tracer work. Decks in radiation vans with activities above $1000 \text{ dpm}/\text{m}^2$ should be cleaned.
C**	10,000-100,000	10,000-50,000	Must be cleaned before any use.
D***	>100,000	>50,000	May be a health hazard. Notify local radiation safety official.

Note: ^{14}C and ^{35}S have peak energies of 156 and 167 KeV, respectively; thus ^{35}S will be registered as ^{14}C by our counting techniques. Categories A, B and C are not a health hazard.

Recommended Cleaning Procedure

Wearing ordinary household rubber gloves:

^3H : Wash and scrub with radioactive cleanup detergent such as COUNT-OFF (50 ml COUNT-OFF to 4 liters of water), using sponges to distribute solution and reabsorb it.

^{14}C : Wash with 1% sulfuric or 2% hydrochloric (muriatic) acid with good ventilation (will dissolve carbonates, releasing $^{14}\text{CO}_2$). Follow up with wash as if for ^3H .

Disposal of Cleaning Materials (gloves, sponges, etc)

Categories A & B dispose as ordinary garbage, C & D contact your institution's radiation safety office.

Note: If category C or D is encountered, we try to notify the insitution promptly by phone or email.

REPORT FOR SWAB # 733

LOCATION: Woods Hole, MA
VESSEL/LAB: *R/V Sikuliaq*

DATE: 3 August 2014
TECHNICIAN: Yudy Mendoza

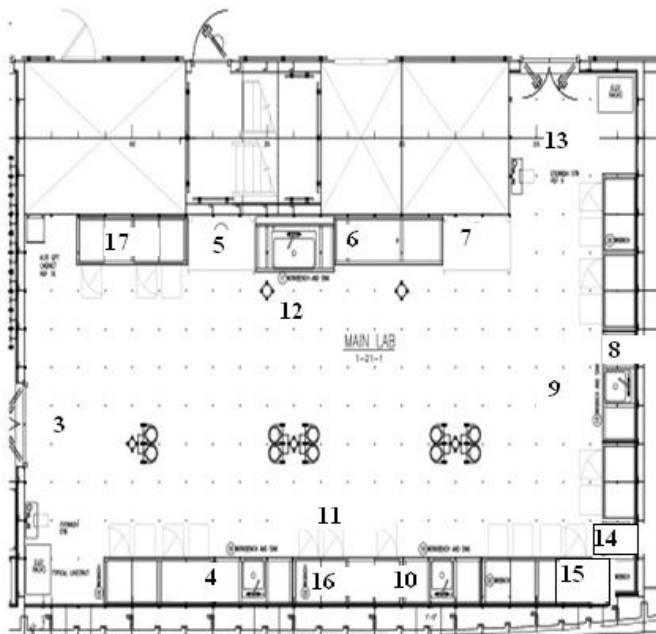
Sample #	Sample Identification	³ H dpm/m ²		¹⁴ C dpm/m ²	
		activity	error	activity	error
1	1st Vial Bkgnd	0	± 0	0	± 0
2	Initial bucket blank C. O. #1	5	± 58	0	± 0
	<u>Main Lab (Figure 1)</u>				
3	Deck at aft entrance	7	± 28	11	± 34
4	Port benchtop aft of sink	8	± 35	12	± 35
5	Inside aft fume hood	44	± 48	11	± 29
6	Starboard sink area	0	± 0	24	± 37
7	Inside forward fume hood	7	± 103	0	± 0
8	Forward sink area	24	± 38	23	± 34
9	Deck in front of forward sink	7	± 32	9	± 34
10	Forward port sink area	13	± 42	5	± 31
11	Deck between port sinks	1	± 23	3	± 34
12	Deck in front of starboard sink	5	± 22	13	± 34
13	Deck at starboard entrance	0	± 0	2	± 37
14	Inside So-low freezer 1213843	0	± 0	5	± 38
15	Inside So-low freezer 1213844	25	± 46	7	± 29
16	Benchtop between port sinks	0	± 0	13	± 43
17	Aft starboard benchtop	0	± 0	16	± 42
	<u>Wet Lab (Figure 1)</u>				
18	Forward port benchtop	39	± 56	0	± 0
19	Deck at starboard entrance	0	± 0	8	± 42
20	Inside fume hood	34	± 56	0	± 0
21	Starboard sink area	0	± 0	0	± 0
22	Inside Cospolich freezer	0	± 0	4	± 76
23	Inside Cospolich refrigerator	16	± 56	0	± 0
24	Deck at center of lab	0	± 0	9	± 37
25	Aft port benchtop	2	± 36	2	± 33
26	Deck in front of port sink	0	± 0	11	± 36
	<u>Baltic Room/ Hangar (Figure 2)</u>				
27	Deck at aft entrance	0	± 0	3	± 48
28	Deck outside starboard entrance	0	± 0	0	± 0

Sample #	Sample Identification	^3H dpm/m ²		^{14}C dpm/m ²	
		activity	error	activity	error
<u>Climate Control Chamber (No Figure)</u>					
29	Starboard top shelf	8	± 105	0	± 0
30	Starboard bottom shelf	20	± 37	17	± 33
31	Aft top shelf	0	± 0	27	± 37
32	Aft starboard bottom shelf	0	± 0	0	± 0
33	Deck outside entrance	0	± 0	18	± 36
<u>Science Freezer (No Figure)</u>					
34	Starboard center shelf	0	± 0	0	± 0
35	Starboard bottom shelf	19	± 66	0	± 0
36	Aft center top shelf	0	± 0	28	± 37
37	Aft center bottom shelf	5	± 92	0	± 0
38	Deck outside entrance	8	± 27	15	± 34
<u>Analytical Lab (Figure 2)</u>					
39	Starboard benchtop	0	± 0	25	± 38
40	Inside fume hood	30	± 38	24	± 33
41	Sink area	0	± 0	26	± 37
42	Deck at entrance	0	± 0	0	± 0
43	Inside So-Low refrigerator	0	± 0	0	± 0
<u>Main Deck Miscellaneous (Figure 2)</u>					
44	Deck at forward entrance of Computer Lab	14	± 37	11	± 33
45	Deck at aft entrance of Computer Lab	0	± 0	0	± 0
46	Deck at entrance of Science office	37	± 65	0	± 0
47	Deck outside laundry and science stores	0	± 0	4	± 37
48	Deck at entrance to electronic workshop	0	± 0	0	± 0
49	Final bucket blank C. O. #1	0	± 0	6	± 44
50	Initial bucket blank C. O. #2	0	± 0	6	± 51
51	Main deck stairs landing	0	± 0	0	± 0
<u>01 Deck (No Figure)</u>					
52	Center deck in mess/lounge	0	± 0	5	± 40
53	Mess deck in front of hot food server	0	± 3	5	± 35
54	Deck at entrance of stairs	2	± 0	0	± 0
55	Deck at aft end of passage next to winch control room	0	± 0	16	± 38
<u>Upper Lab/03 Deck (Figure 3)</u>					
56	Deck at entrance	0	± 0	2	± 43
57	Deck outside entrance	0	± 0	0	± 0
58	Final bucket blank C. O. #2	0	± 0	21	± 37

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error.
All areas tested on the Sikuliaq were free from radioisotope activity that requires cleaning.

Main Lab



Wet Lab

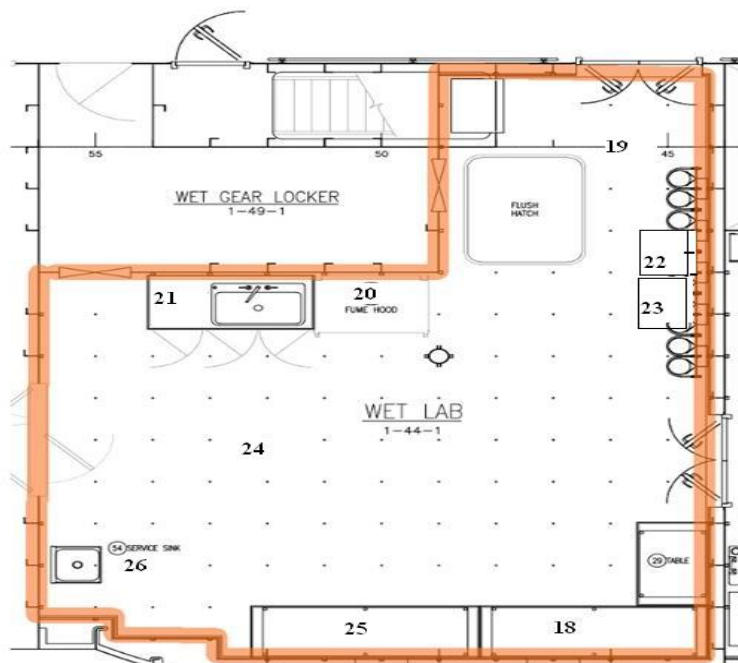


Figure 2
 SWAB # 733
 3 August 2014

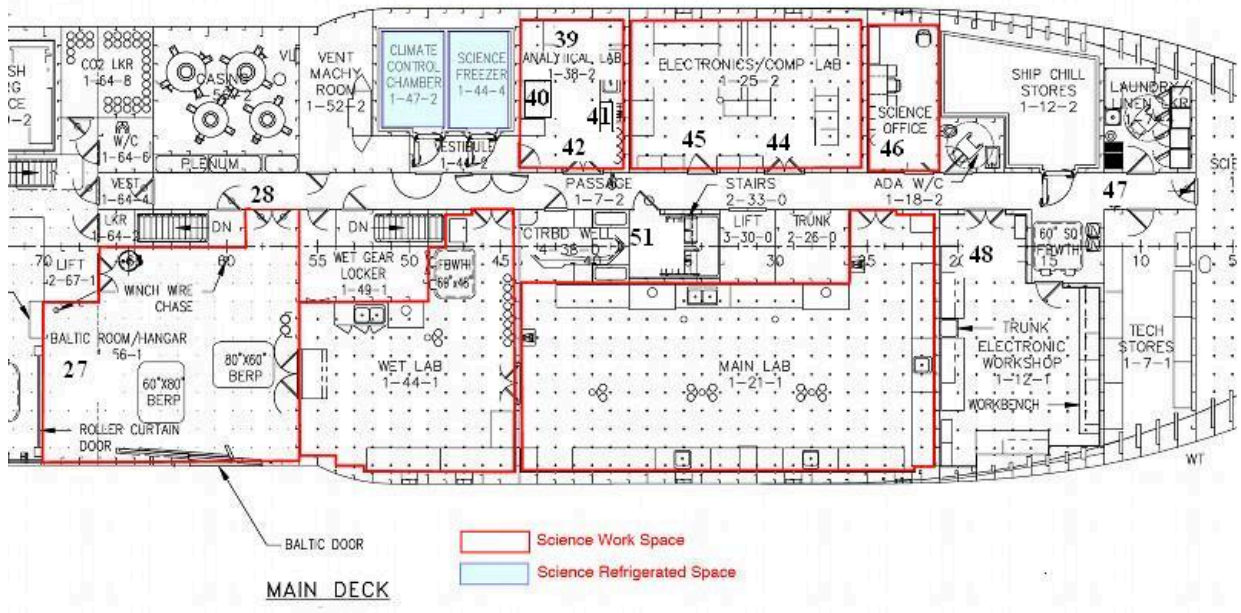


Figure 3
SWAB # 733
3 August 2014

