UNIVERSITY
OF MIAMI

Rosenstiel School of Marine, Atmospheric, and Earth Science
Tritium Laboratory

4600 Rickenbacker Causeway
Miami, FL 33149-1031

P: 305-421-4100
F: 305-421-4112
tritium@miami.edu

26 January 2026

SWAB REPORT # 1137

SWAB DATE: 13 January 2026

University of Washington Lab Instruments

James Happell Digitally signed by James Happell Date: 2026.01.26 15:22:41 -05'00'

James D. Happell

Distribution:
UNOLS office
Maureen Walczak
Megan Schatz

COMMENTS TO SWAB REPORTS 15 December 2021

The LSC is now a Quantulus GCT 6220, with the SWAB counting assay having background cpm of 0.3 & 1.2 for ^{3}H & ^{14}C. This replaces an LSC with background cpm of 1.6 & 5.5 for ^{3}H & ^{14}C.

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. All activities significantly above background will be in **bold**.

Criteria for SWAB Results

Category	^{3}H (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 dpm/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 Proceedure

Wearing ordinary household rubber gloves:

^{3}H: 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 $^{14}CO_2$). Follow up with wash as if for ^{3}H.

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 # 1137

LOCATION: Seattle, WA
VESSEL: Oceanography

DATE: 13 January 2026
TECHNICIAN: Schatz & Stelling

Sample #	Sample Identification	^{3}H dpm/m^{2} activity	±	error	^{14}C dpm/m^{2} activity	±	error
1	1st Vial Bkgnd	0.0	±	0.0	0.0	±	0.0
2	Initial bucket blank	-0.4	±	6.9	0.9	±	0.6
3	Rm 361 door handles	-0.3	±	0.1	0.8	±	0.2
4	Rm 361 floor by main door	0.2	±	0.3	1.3	±	0.6
5	Rm 361 sink handles	-0.2	±	0.0	0.4	±	0.0
6	Rm 361 floor by sink	0.5	±	0.7	0.8	±	0.5
7	Rm 361 floor by fume hood/sink	-1.9	±	2.5	0.9	±	0.6
8	Rm 361 fume hood/sink handles	-0.2	±	0.1	0.9	±	0.2
9	Rm 361 flammable cabinet handle	-0.7	±	0.9	1.3	±	0.6
10	Rm 361small live incubator	-1.5	±	2.0	1.0	±	0.6
11	Rm 361 glassware	-1.3	±	1.8	1.3	±	0.6
12	Rm 361 live lab carboys	0.0	±	0.0	1.7	±	0.8
13	Rm 357 plankton wheels	-0.1	±	0.0	1.1	±	0.3
14	Rm 357 PC bottles used for dilution experiments	-2.0	±	2.7	0.6	±	0.6
15	Rm 310 epi microscopes	-1.5	±	2.0	1.3	±	0.6
16	Rm 310 15 ml and 50 ml tubes	-0.1	±	0.0	0.7	±	0.1
17	Rm 319 door handles	-2.6	±	3.6	1.6	±	0.6
18	Rm 321 door handles	-0.3	±	2.9	0.9	±	0.6
19	Rm 321 microscopes	-0.7	±	6.6	1.7	±	0.6
20	Rm 319 floor by door	-1.4	±	1.8	1.4	±	0.6
21	Rm 321 floor by door	-0.7	±	1.0	1.3	±	0.6
22	Rm 319 sink handles and sides	-1.4	±	1.9	1.3	±	0.6
23	Rm 319 floor by fume hood	-1.1	±	1.4	0.9	±	0.6
24	Rm 319 fume hood	0.1	±	0.0	1.7	±	0.8
25	Rm 319 Fridge where C14 was stored	0.2	±	0.0	0.5	±	0.1
26	Rm 321 sink	-2.3	±	3.1	0.9	±	0.6
27	Rm 321 floor by sink	-1.0	±	1.3	1.0	±	0.6
28	Rm 319 Wild microscopes and counter	-1.2	±	1.6	0.8	±	0.6
29	Rm 319 countertops of drawers and table	-1.1	±	1.5	0.7	±	0.6
30	Rm 321/319 computers and monitors	-1.4	±	1.9	1.4	±	0.6
31	Rm 321 tools	-1.5	±	2.0	1.2	±	0.6
32	OSB microscale	-0.4	±	0.5	0.6	±	0.5
33	OSB sink	0.5	±	0.7	0.6	±	0.5
34	OSB floor by sink	0.3	±	0.7	0.5	±	0.5
35	OSB fume hood	-0.1	±	1.1	0.3	±	0.5

36	OSB floor by fume hood	-0.8	±	1.1	1.6	±	0.6
37	OSB door handles of 435B	-0.6	±	0.8	0.6	±	0.5
38	OSB chairs from surplus 6	-0.2	±	3.4	0.4	±	0.5
39	OSB glassware	-0.3	±	0.8	1.4	±	0.6
40	OSB small dewar	0.1	±	0.1	1.4	±	0.6
41	OSB Emerson lab dewar	-1.7	±	2.3	1.4	±	0.6
42	Rm 319 glassware in cabinet on left	-1.1	±	1.5	0.8	±	0.6
43	Rm 319 glassware in cabinet in middle	-2.2	±	2.9	2.0	±	0.7
44	Rm 319 glassware in cabinet on right	-1.1	±	1.5	0.6	±	0.6
45	Rm 319 items in drawers on south wall	-1.1	±	1.5	0.6	±	0.6
46	Rm 319 carboys	-2.1	±	2.9	1.4	±	0.6
47	Rm 319 glass tubes	-0.6	±	0.8	1.0	±	0.6
48	Rm 321 hoeffer box	-1.1	±	1.5	**4.1**	**±**	**0.8**
49	Rm 321 consumables	-0.2	±	0.2	0.3	±	0.5
50	Rm 321 antivibration table	-1.4	±	1.9	1.6	±	0.6
51	Rm 302 Muffle oven	-1.0	±	1.4	1.9	±	0.6
52	OSB countertops	-2.1	±	2.9	1.0	±	0.6
53	OSB dental school microscope	-0.9	±	1.3	1.2	±	0.6
54	OSB step stool	-1.9	±	2.6	1.3	±	0.6

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error. Reports may now contain values less than zero. Decay counting background samples will be distributed about the background vial, which means that negative values are possible. In the past we rounded the negative values to zero. Values are only significantly above background when they are positive and larger than the error. Please note that we are now using a Quantulus 6220 LSC which counts very near natural background. While the cleanup standards have not changed all values above background will now be in bold. These values are report in dpm rather than dpm/m2 because the area sampled and amount of water used are not known. There are no ^{3}H values that looked to be above background. The only ^{14}C sample that looks to be above background is #48.