



11 December 2014

SWAB REPORT # 753

SWAB DATE: 5 December 2014

R/V New Horizon

James
Happell

Digitally signed by James
Happell
DN: cn=James Happell,
o=Univ. of Miami, ou=RSMAS,
email=jhappell@rsmas.miami.
edu, c=US
Date: 2014.12.11 15:32:39
-05'00'

Dr. James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
Gary Lain

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 # 753

LOCATION: San Diego, CA
VESSEL/LAB: *R/V New Horizon*

DATE: 5 December 2014
TECHNICIAN: Charlene Grall

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	23	± 60	0	± 0
	<u>Main Lab (Figure 1)</u>				
3	Inside Norland refrigerator	0	± 0	0	± 0
4	Deck outside forward entrance	0	± 0	0	± 0
5	Deck in front of -80 freezer	0	± 0	11	± 37
6	Port sink area	0	± 0	2	± 39
7	Benches across from port sink	5	± 41	2	± 30
8	Port benchtop aft of sink	0	± 0	0	± 0
9	Top of chest freezer	0	± 0	18	± 38
10	Port benchtop center section	13	± 32	16	± 33
11	Starboard benchtop by Wet Lab entrance	31	± 50	0	± -2
12	Aft starboard benchtop between computer stations	0	± 0	9	± 42
13	Deck in center of lab	0	± 0	20	± 36
14	Deck at aft entrance to Ocean Lab	0	± 0	0	± 0
	<u>Ocean Lab (Figure 1)</u>				
15	Port forward sink area	16	± 84	0	± 0
16	Port aft sink area	38	± 63	0	± 0
17	Benchtop aft of port forward sink	0	± 0	10	± 37
18	Benchtop opposite of aft sink (bare wood	0	± 0	21	± 57
19	Deck in front of aft port sink	19	± 144	0	± 0
20	Deck at stair to lower decks	0	± 0	15	± 37
21	Aft sink next to fume hood	0	± 0	8	± 38
22	Inside fume hood	14	± 28	25	± 34
23	Benchtop adjacent to fume hood	0	± 0	1	± 0
24	Benchtop opposite of aft sink	16	± 60	0	± 0
25	Benchtop aft and starboard of stair to lower	0	± 0	14	± 39
26	Deck below fume hood and sink	0	± 0	15	± 35
27	Benchtop next to aft port sink	0	± 0	3	± 46

Sample #	Sample Identification	³ H dpm/m ²			¹⁴ C dpm/m ²		
		activity	error		activity	error	
<u>Wet Lab (Figure 1)</u>							
28	Forward port benchtop	0	±	0	0	±	0
29	Forward starboard benchtop	0	±	0	0	±	0
30	Aft sink area	0	±	0	30	±	38
31	Benchtop adjacent to sink	0	±	0	9	±	37
32	Small port benchtop forward of sink	0	±	0	0	±	0
33	Aft deck outside entrance	0	±	0	0	±	0
<u>Mess/Laundry (Figure 1)</u>							
34	Mess deck in front of hot food server	0	±	0	0	±	0
35	Mess deck in front of coffee machine	0	±	0	0	±	0
36	Mess deck in Laundry room below dryer/wa	10	±	46	2	±	25
<u>Upper Lab (Figure 1)</u>							
37	Deck outside forward entrance	0	±	0	1	±	55
38	Deck inside aft entrance	0	±	0	0	±	0
39	Final bucket blank	0	±	0	11	±	39

Comments

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

SWAB #753
5 December 2104
Figure 1

R/V NEW HORIZON

