



9 December 2013

SWAB REPORT # 708

SWAB DATE: 3 December 2013

R/V New Horizon and CalCofi van

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Distribution:
SWAB Committee
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COMMENTS TO SWAB REPORTS

23 November 2010

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 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 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 dispose in radiation waste system.

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

REPORT FOR SWAB # 708

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

DATE: 3 December 2013
TECHNICIAN: Cecilia Roig

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	14	± 50	0	± 0
	<u>Main Lab (Figure 1)</u>				
3	Deck outside forward entrance	22	± 51	0	± 0
4	Inside Norland refrigerator	21	± 40	5	± 28
5	Ice inside -80 freezer	47	± 52	0	± 0
6	Port sink area	0	± 0	0	± 0
7	Benches across from port sink	16	± 27	22	± 34
8	Port benchtop aft of sink	0	± 0	2	± 37
9	Forward benchtop	22	± 56	0	± 0
10	Aft port benchtop	0	± 0	5	± 36
11	Deck in front of -80 freezer	0	± 0	16	± 37
12	Deck at entrance to wetlab	4	± 16	16	± 34
13	Port benchtop below aft porthole	20	± 36	11	± 32
14	Deck at aft entrance to Ocean Lab	2	± 8	21	± 35
15	Ice inside of chest freezer	13	± 28	15	± 33
16	Deck in front of sink	23	± 64	0	± 0
	<u>Wet Lab (Figure 1)</u>				
17	Forward port benchtop	1	± 0	0	± 0
18	Foward starboard benchtop	26	± 48	0	± 0
19	Aft sink area and benchtop	2	± 138	0	± 0
20	Benchtop next to sink	34	± 39	14	± 31
	<u>Ocean Lab (Figure 1)</u>				
21	Aft port sink next to fume hood	20	± 41	4	± 26
22	Deck below fume hood and sink	11	± 39	5	± 31
23	Benchtop aft of port forward sink	4	± 272	0	± 0
24	Port forward sink area	28	± 53	0	± 0
25	Aft sink area	61	± 50	0	± 0
26	Inside fume hood	16	± 54	0	± 0
27	Benchtop starboard of aft sink	10	± 52	0	± 0
28	Benchtop under stbd porthole	32	± 36	17	± 32
29	Benchtop opposite of aft sink	0	± 0	0	± 0
	<u>Miscellaneous Areas (Figure 1)</u>				
30	Mess deck in front of hot food server	4	± 0	0	± 0
31	Mess deck outside lounge entrance	27	± 54	0	± 0

Sample #	Sample Identification	³ H dpm/m ²		¹⁴ C dpm/m ²	
		activity	error	activity	error
32	Mess deck in front of aft door	33	± 42	6	± 26
33	Walk-In freezer - Deck	28	± 60	0	± 0
34	Intermediate bucket blank	0	± 0	14	± 36
35	Benchtop across from sink	38	± 53	0	± 0
	<u>Calcofi Van (Figure 2)</u>				
36	Deck at entrance	11	± 40	2	± 26
37	Benchtop right of sink	31	± 30	35	± 34
38	Inside fridge	15	± 66	0	± 0
39	Bench top right of fridge	20	± 56	0	± 0
40	Sink area	18	± 33	13	± 32
41	Final bucket blank	43	± 51	0	± 0

Comments

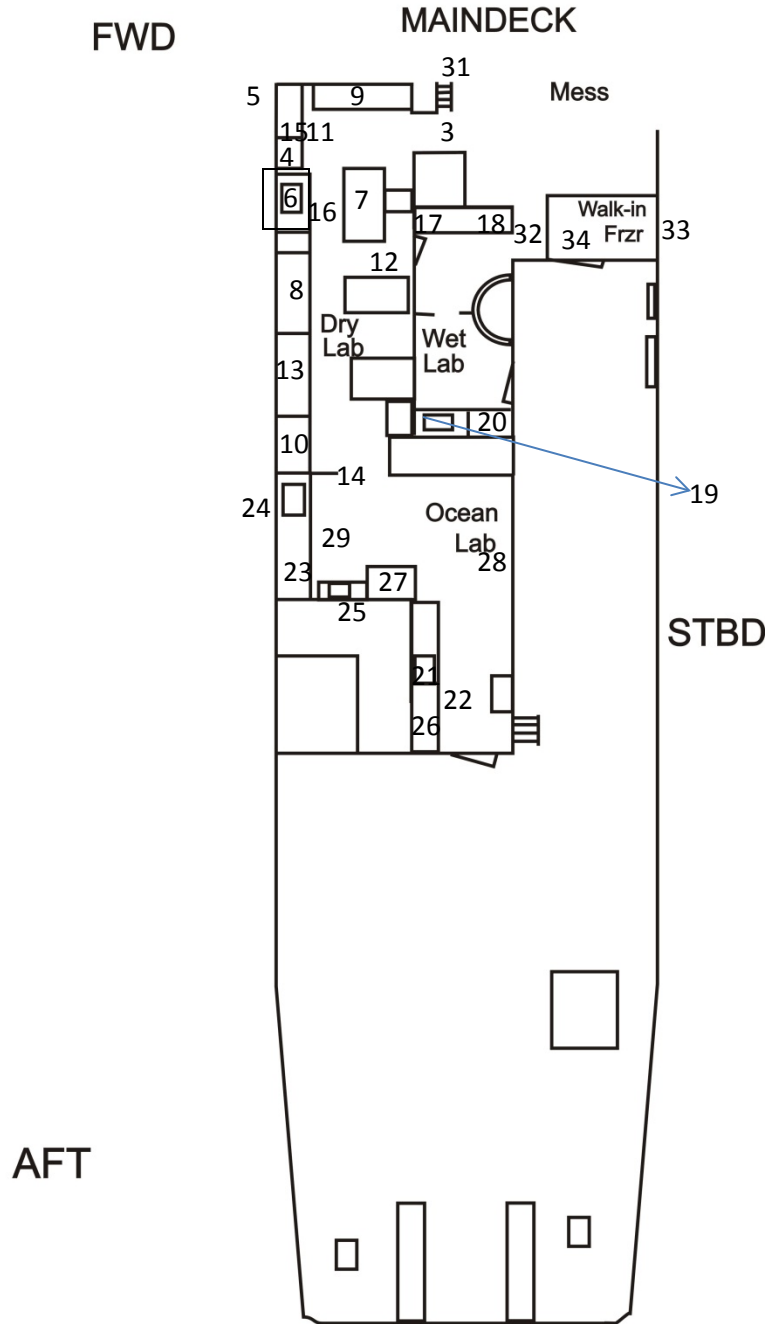
Please note that the error reported for each isotope is the two-standard deviation counting error. All areas tested were free from radioisotope activity that requires cleaning.

R/V NEW HORIZON

Figure 1

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3 December 2013



CalCOFI Van

