



20 November 2012

SWAB REPORT # 657

SWAB DATE: 7 November 2012

R/V New Horizon and CALCOFI Van

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Distribution:
SWAB Committee
Gary Lain

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 # 657

LOCATION: Point Loma, CA
VESSEL: R/V *New Horizon* & CalCOFI van

DATE: 7 November 2012
TECHNICIAN: Charlene Grall

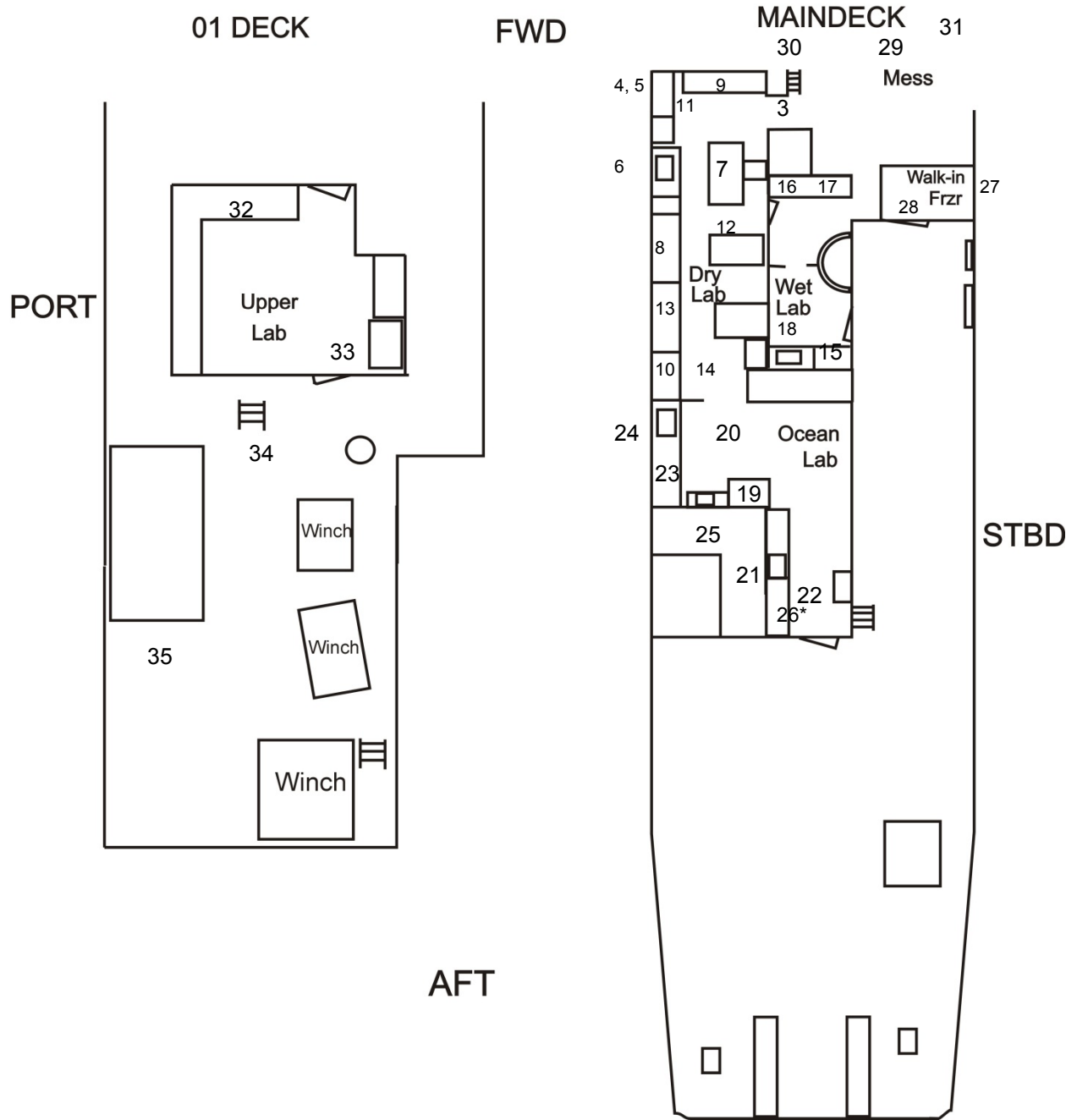
Sample #	Sample Identification	³ H dpm/m ²		¹⁴ C dpm/m ²	
		activity	error	activity	error
1	1st Vial Bkgnd	0	± 0	0	± 0
2	Initial bucket blank	10	± 50	0	± 0
	<u>Main Lab - See Figure 1</u>				
3	Deck inside forward entrance	1	± 0	0	± 0
4	Inside Norland refrigerator	0	± 0	16	± 38
5	Top of chest freezer	27	± 52	0	± 0
6	Port sink area	0	± 0	34	± 37
7	Benches across from port sink	16	± 99	0	± 0
8	Port benchtop aft of sink	32	± 63	0	± 0
9	Forward bench top	6	± 46	0	± 14
10	Aft port benchtop	0	± 0	9	± 41
11	Deck below chest freezer	24	± 44	4	± 26
12	Deck at entrance to wetlab	0	± 0	11	± 36
13	Port benchtop below aft porthole	0	± 0	20	± 35
14	Deck at aft entrance to Ocean Lab	0	± 0	3	± 34
	<u>Wet Lab - See Figure 1</u>				
15	Aft sink area and benchtop	9	± 67	0	± 0
16	Forward port benchtop	27	± 60	0	± 0
17	Foward starboard benchtop	12	± 31	14	± 33
18	Temporary benchtop opposite of sink	0	± 0	8	± 40
	<u>Ocean Lab - See Figure 1</u>				
19	Benchtop starboard of aft sink	0	± 0	0	± 0
20	Benchtop opposite of aft sink	0	± 0	0	± 0
21	Aft port sink next to fume hood	0	± 0	4	± 35
22	Deck below fume hood and sink	0	± 0	22	± 38
23	Bench top aft of port forward sink	8	± 59	0	± 0
24	Port forward sink area	0	± 0	0	± 0
25	Aft sink area	21	± 106	0	± 0
26	Inside fume hood	0	± 0	*163	± 40
	<u>Miscellaneous Areas - See Figure 1</u>				
27	Walk-In freezer - Benchtop	0	± 0	0	± 0

Sample #	Sample Identification	³ H dpm/m ²		¹⁴ C dpm/m ²	
		activity	error	activity	error
28	Walk-In freezer - Deck	0	± 0	0	± 0
29	Mess deck below drink machine	5	± 0	0	± 0
30	Mess deck in front of hot food server	4	± 24	9	± 33
31	Mess deck outside lounge entrance	3	± 35	2	± 32
<u>01 Deck - See Figure 1</u>					
32	Upper Lab fwd benchtop	0	± 0	3	± 105
33	Deck below sink by aft entrance	0	± 0	0	± 0
34	Deck at base of stairs to 02 Deck	0	± 0	0	± 0
35	Initial bucket blank C. O.#2	0	± 0	19	± 36
36	Deck where CALCOFI van door opens	0	± 0	0	± 0
<u>CALCOFI Van - See Figure 2</u>					
37	Benchtop right of sink	3	± 7	37	± 35
38	Inside fridge	12	± 5	*261	± 43
39	Bench top right of fridge	0	± 0	25	± 36
40	Sink area	0	± 0	12	± 34
41	Bench top across from sink	0	± 0	27	± 36
42	Deck at entrance	10	± 37	7	± 32
43	Final bucket blank C.O.#2	0	± 0	5	± 49

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error. All areas tested on the ship were free from radioisotope spills except in the fume hood in Ocean Lat which contained minor ¹⁴C. Samples taken in the CALCOFI Van were also free from radioisotope contamination, except sample taken inside the refrigerator. This sample also had minor ¹⁴C contamination. The fume hood should be decontaminated. In the CALCOFI van, no action required at this time.

R/V NEW HORIZON



CalCOFI Van

