



Tritium Laboratory
9 December 2014

SWAB REPORT #752

SWAB DATE: 3 December 2014

R/V Knorr

**James
Happell**
Digitally signed by James
Happell
DN: cn=James Happell, o=Univ.
of Miami, ou=RSMAS,
email=jhappell@rsmas.miami.ed
u, c=US
Date: 2014.12.09 12:39:11 -05'00'

James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
David Fisichella

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 institution promptly by phone or email.

REPORT FOR SWAB # 752

LOCATION: Woods Hole, MA
VESSEL: *R/V Knorr*

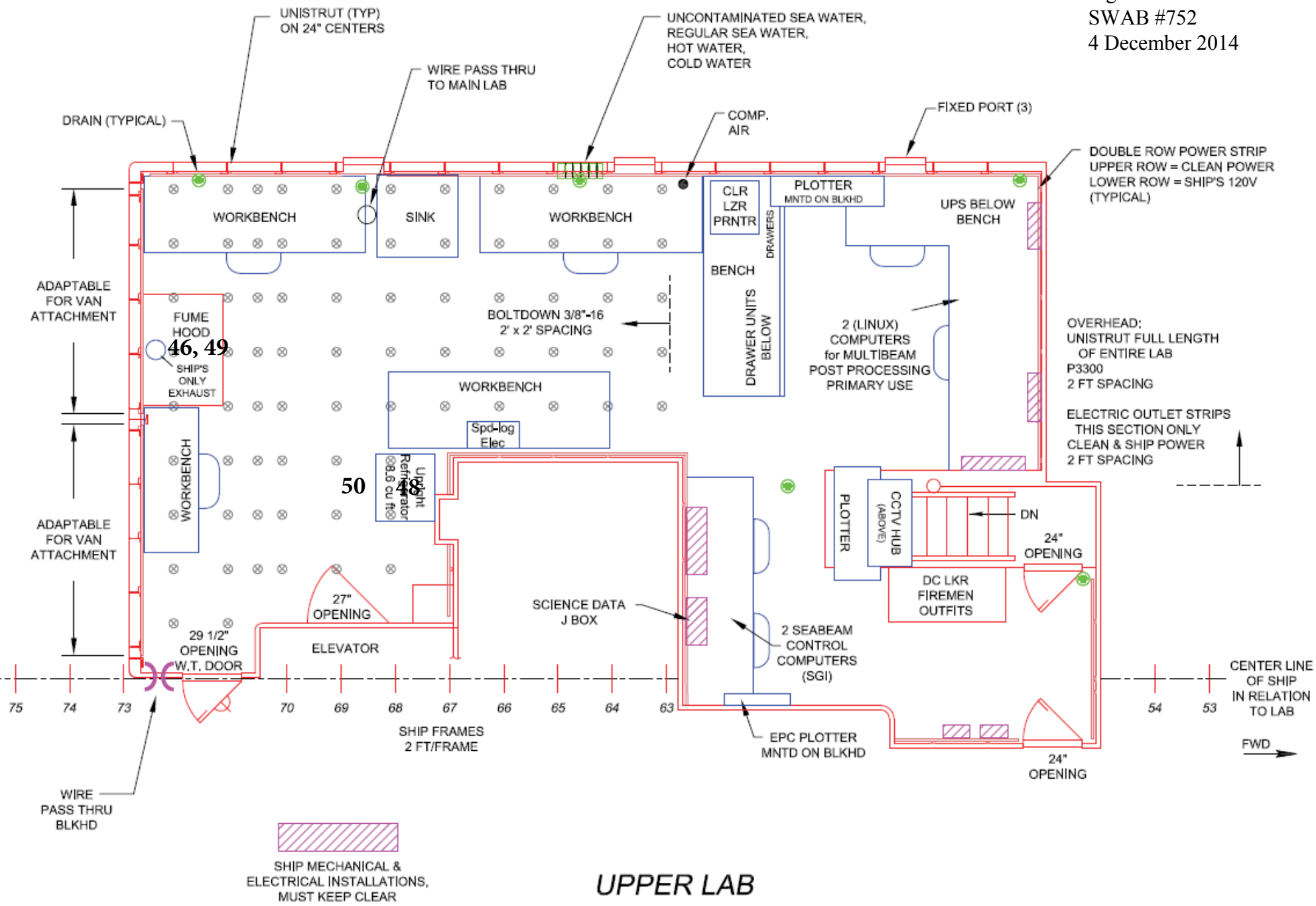
DATE: 3 December 2014
TECHNICIAN: Amy Simoneau

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
45	Initial bucket blank	2	± 0	0	± 0
46	01 Lab inside fume hood	0	± 0	21	± 38
48	01 lab inside Cospolich	1	± 18	5	± 35
49	01 lab inside fume hood under teflon inse	6	± 0	0	± 0
50	01 lab deck in front of Cospolich	34	± 44	12	± 31
51	Final bucket blank	0	± 0	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 ³H or ¹⁴C contamination that requires cleaning

Figure 1
 SWAB #752
 4 December 2014



UPPER LAB
 R/V Knorr, 01 Deck, Port