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OF MIAMI

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Tritium Laboratory
15 August 2023

SWAB REPORT #107

SWAB DATE: 10 August 2023

R/V Atlantis

James Happell Digitally signed by James Happell
Date: 2023.08.15 14:58:17 -04'00'

James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
Sarah Fuller

COMMENTS TO SWAB REPORTS 12 May 2014

Typical LSC instrument background values for ^{3}H 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	^{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 # 1070

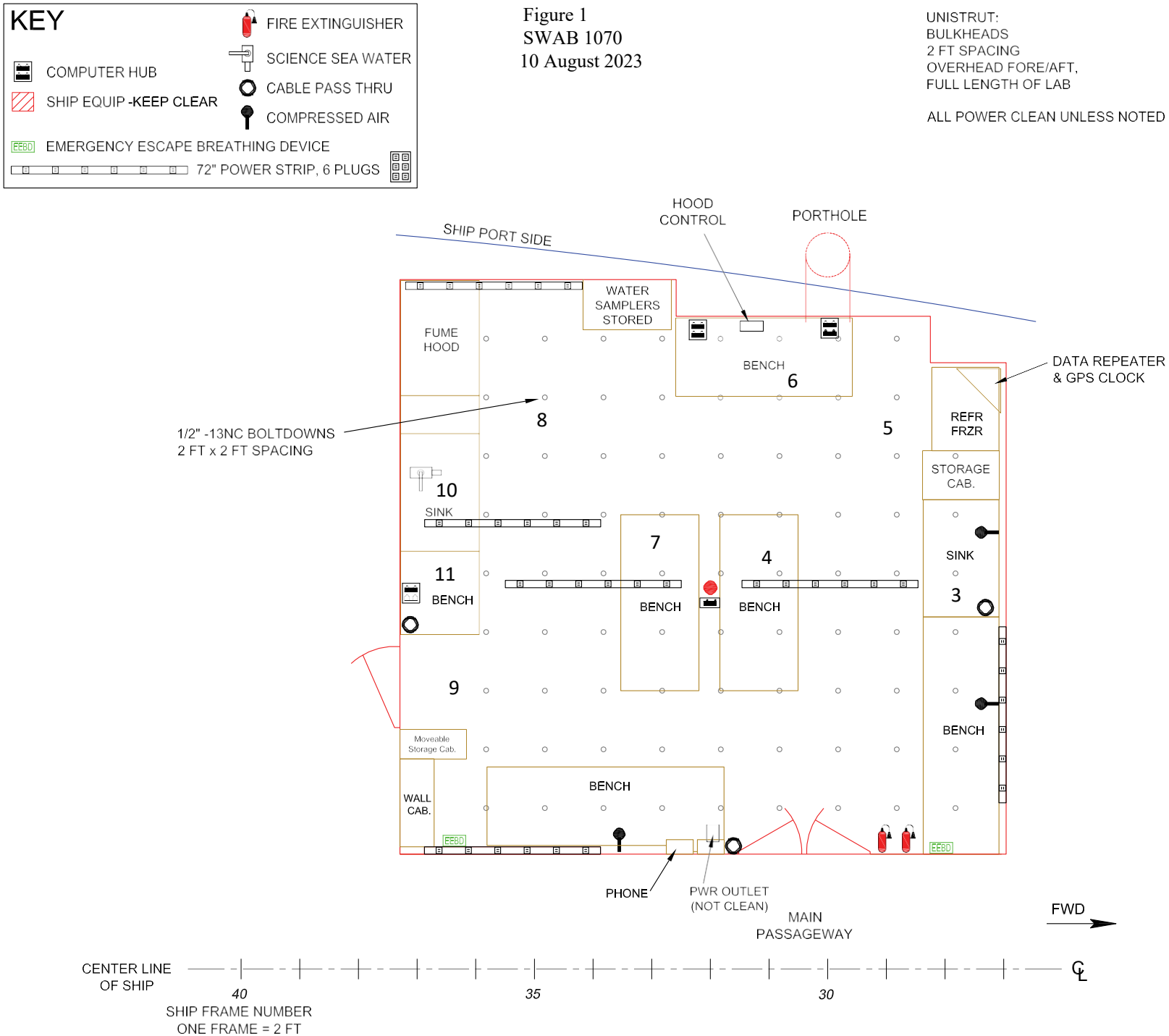
LOCATION: Astoria, OR
VESSEL/LAB: *R/V Atlantis*

DATE: 10 August 2023
TECHNICIAN: Alison Heater

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 (C.O.#1)	-10	±	16	-14	±	15
	Bio-Analytical Lab (Figure 1)						
3	Forward sink area	5	±	108	-8	±	9
4	Benchtop across from forward sink	10	±	17	10	±	11
5	Deck in front of refrigerators	-12	±	20	-1	±	24
6	Port benchtop	-27	±	38	-15	±	15
7	Benchtop across fron aft sink	-13	±	22	-14	±	14
8	Deck between fume hood and aft sink	-3	±	65	-2	±	2
9	Deck inside aft entrance	-16	±	27	12	±	12
10	Aft sink area	20	±	28	-5	±	5
11	Aft benchtop adjacent to aft sink	-10	±	16	1	±	24
12	Deck slightly aft of inboard doors	12	±	27	-3	±	3
	Wet Lab (Figure 2)						
13	Benchtop innoard	1	±	16	-12	±	12
14	Benchtop outboard	4	±	93	-17	±	17
15	Final bucket blank	1	±	16	-26	±	27

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error. The reports may now contain values less than zero. When 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. The bio-analytical lab was cleaned because of ^{14}C contamination in SWAB 1068. All areas tested were free from isotope contamination that requires cleaning.



BIOLOGICAL/ANALYTICAL CLEAN LABORATORY

Atlantis Main Deck, Room 1-27-2

12/30/2013

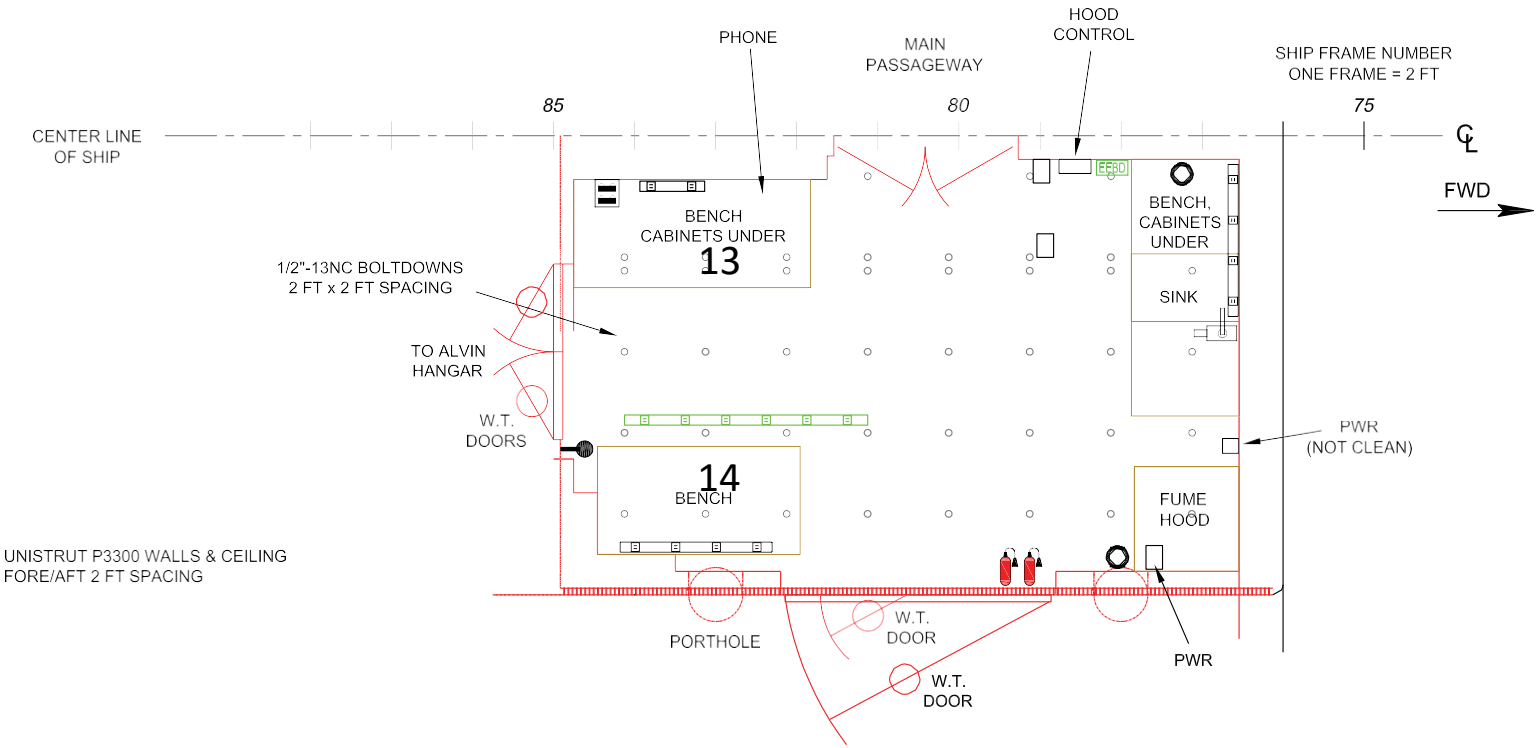
Figure 2
SWAB 1070
10 August 2023

KEY

- FIRE EXTINGUISHER
- SCIENCE SEA WATER
- CABLE PASS THRU
- COMPRESSED AIR
- COMPUTER HUB
- SHIP EQUIP -KEEP CLEAR
- EEBD EMERGENCY ESCAPE BREATHING DEVICE
- 72" POWER STRIP, 6 PLUGS

UNISTRUT:
BULKHEADS
2 FT SPACING
OVERHEAD FORE/AFT,
FULL LENGTH OF LAB

ALL POWER CLEAN UNLESS NOTED



WET LABORATORY

Atlantis Main Deck, Rm 1-76-1

12/30/2013