

Tritium Laboratory
16 August 2011

SWAB REPORT # 592

SWAB DATE: 10 August 2011

R/V Hugh R. Sharp and Radioisotope Vans

James D. Happell

Distribution:
SWAB Committee
Tim Deering

REPORT FOR SWAB # 592

LOCATION: Lewes, DE
VESSEL: R/V Hugh R. Sharp

DATE: 10 August 2011
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 C.O. # 1	0	± 0	24	± 36
<u>Main Lab (see Fig. 1)</u>					
3	Inside Whirlpool freezer top	20	± 34	22	± 35
4	Inside Whirlpool refrigerator bottom	0	± 0	22	± 37
5	Top of Holiday freezer	407	± 74	0	± 0
6	Benchtop across from Thermo -80 freezer	33	± 48	6	± 27
7	Port benchtop across from sink	47	± 47	15	± 31
8	Stbd. bench aft section	0	± 0	29	± 38
9	Stbd. bench middle section	114	± 52	30	± 30
10	Benchtop across from Whirlpool fridge	243	± 66	0	± 0
11	Deck under forward starboard benchtop	16	± 31	25	± 35
12	Deck under aft starboard benchtop	40	± 49	8	± 28
13	Starboard benchtop across from sink	68	± 48	23	± 31
<u>Wet Lab (see Fig. 1)</u>					
14	Forward benchtop	15	± 29	26	± 35
15	Benchtop aft of stbd. sink	33	± 40	23	± 34
16	Aft sink area	0	± 0	34	± 37
17	Inside Frigidaire freezer	34	± 46	12	± 31
18	Inside Frigidaire refrigerator	0	± 0	16	± 38
19	Inside Roper freezer	0	± 0	19	± 36
20	Inside Roper refrigerator	45	± 49	9	± 28
21	Vestibule aft of Main Lab	87	± 49	35	± 33
22	Vestibule aft of Wet Lab	180	± 67	0	± 0
23	Starboard corner of Fantail near incubator	0	± 0	30	± 37
<u>University of Delaware Radiation Van (see Fig. 2)</u>					
24	Inside fume hood	**12531	± 315	*313	± 20
25	Lid of LSC	*7174	± 244	*186	± 18
26	Benchtop adjacent to LSC	*2948	± 151	*242	± 29
27	Sink area	**25946	± 451	*590	± 25
28	Deck inside single door entrance by sink	**41323	± 570	*779	± 26
29	Benchtop opposite sink	345	± 57	*298	± 44

Sample #	Sample Identification	³ H dpm/m ²		¹⁴ C dpm/m ²	
		activity	error	activity	error
30	Benchtop opposite LSC	*1225	± 107	37	± 14
31	Benchtop opposite fume hood	185	± 60	22	± 25
32	Inside refrigerator	**18842	± 375	*1089	± 44
33	Inside freezer	51	± 50	10	± 28
34	Deck between freezer and LSC	***167461	± 1155	*3132	± 49
35	Deck at double-door entrance	*4349	± 191	*231	± 25
36	Final Bucket blank (CO#1)	5	± 14	29	± 36
<u>Van Pool Radiation Van (see Fig. 3)</u>					
37	Initial Bucket blank (CO#2)	30	± 46	9	± 30
38	Benchtop across from sink	0	± 0	47	± 37
39	Benchtop adjacent to LSC	16	± 23	45	± 36
40	Top of LSC	0	± 0	*183	± 42
41	Inside and adjacent to fume hood	72	± 52	17	± 29
42	Sink area	0	± 0	*97	± 40
43	Benchtop adjacent to sink	0	± 0	*89	± 40
44	Benchtop adjacent to fume hood	0	± 0	49	± 38
45	Inside refrigerator	0	± 0	35	± 38
46	Inside freezer	0	± 0	31	± 37
47	Deck at double-door entrance	34	± 15	*230	± 43
48	Deck inside single door entrance by sink	109	± 31	*253	± 44
49	Final Bucket blank (CO#2)	0	± 0	0	± 0

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 of ³H and ¹⁴C contamination, although ³H was found at above background concentration in several areas of the main lab. The Van pool radiation van was free of ³H contamination but had minor ¹⁴C contamination. No action required in this van.

The University of Delaware radiation van had minor ¹⁴C and minor to major ³H contamination.

The fume hood, sink area, refrigerator and deck in this van need cleaning before any additional use.

We recommend your radiation safety officer be notified about the amount of ³H found on the deck between the LSC and freezer.

Figure 1.
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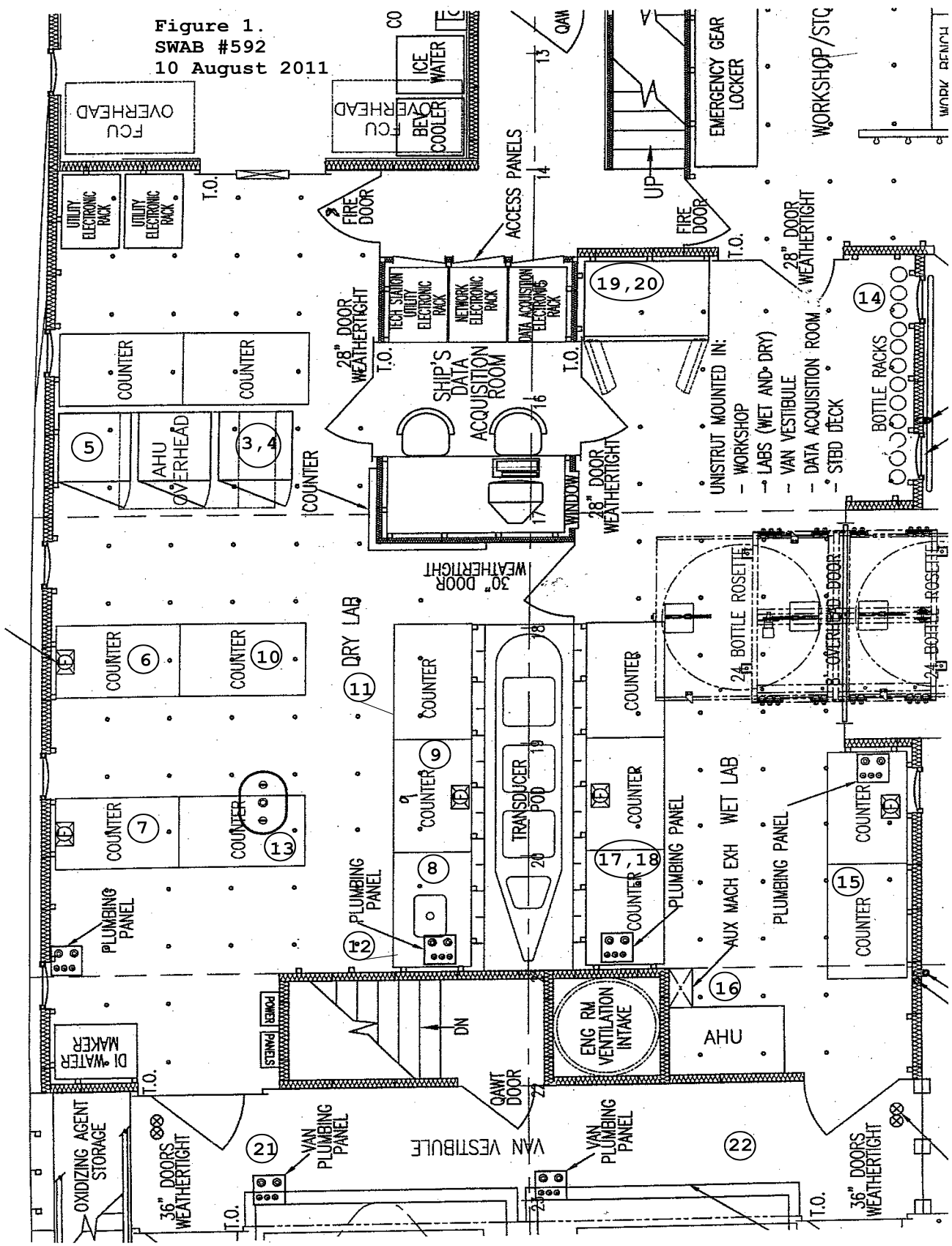


Figure 2.
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University of Delaware Radioisotope Van

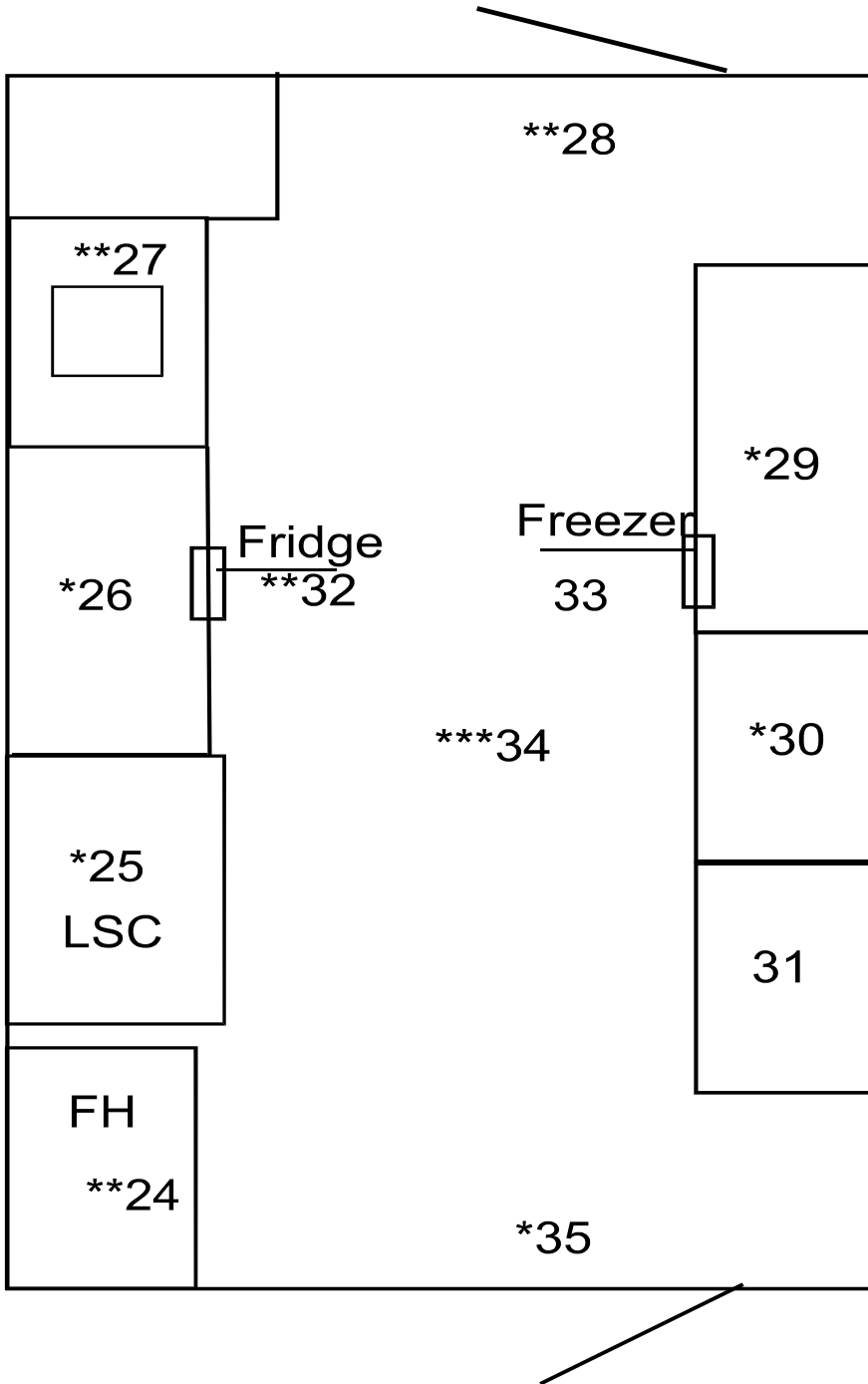


Figure 3.
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Van Pool Radiation Van

