SWAB REPORT # 587

SWAB DATE: 14 July 2011

R/V Atlantis

James D. Happell

Distribution: SWAB Committee David Fisichella

REPORT FOR SWAB # 587

LOCATION: Astoria, OR DATE: 14 July 2011

VESSEL: R/V Atlantis TECHNICIAN: Cecilia Roig

| 2 Initial bucket blank C.O. #1 Main Lab (See Figure 1) 3 Revco # 1 0 ± 0 13 ± 0 10 ± 35 5 Inside freezer top 0 ± 0 0 ± 0 39 ± 35 7 Deck in front of freezers 10 ± 17 47 ± 36 8 Port sink area 0 ± 0 38 ± 37 10 Deck inside aft port entrance 0 ± 0 38 ± 37 10 Deck inside aft port entrance 31 ± 42 19 ± 32 11 Aft center benchtop 10 ± 30 16 ± 34 12 Stbd. sink area 0 ± 0 32 ± 38 13 Inside fume hood 0 ± 0 *64 ± 39 14 Deck inside aft double doors 0 ± 0 32 ± 36 15 Inside Cospolich top 0 ± 0 *58 ± 37 15 Inside Cospolich bottom 11 ± 24 28 ± 35 17 Fwd. sink area 4 ± 11 33 ± 35 18 Deck in front of Cospolich 0 ± 0 26 ± 33 19 Inside fume hood 17 ± 42 9 ± 31 20 Aft sink area 10 ± 165 0 ± 0 14 ± 35 22 Deck inside stbd door 0 ± 0 29 ± 36 15 ± 34 | Sample # Sample Identification | ³ H dpm/m ² | | | ¹⁴ C dpm/m ² | | | |
|--|---------------------------------------|-----------------------------------|---|-------|------------------------------------|----------|-------|--|
| Main Lab (See Figure 1) 0 ± 0 23 ± 36 3 Revco # 1 0 ± 0 13 ± 0 4 Revco # 2 0 ± 0 10 ± 33 5 Inside freezer top 0 ± 0 0 ± 0 6 Inside refrigerator bottom 0 ± 0 39 ± 35 7 Deck in front of freezers 10 ± 17 47 ± 36 8 Port sink area 0 ± 0 38 ± 35 9 Deck inside fwd, port entrance 0 ± 0 38 ± 35 10 Deck inside aft port entrance 31 ± 42 19 ± 32 11 Aft center benchtop 10 ± 30 16 ± 34 12 Stbd, sink area 0 ± 0 32 ± 38 13 Inside fume hood 0 ± 0 *64 ± 33 14 Deck inside aft double doors 0 ± 0 *58 ± 35 Bio/Analytical Lab (See Figure 1) 15 Inside Cospolich top 0 ± 0 32 ± 36 16 Inside Cospolich bottom 11 ± 24 28 ± 35 17 Fwd, sink area 4 ± 11 33 ± 35 18 Deck in front of Cospolich 0 ± 0 26 ± 38 19 Inside fume hood 17 ± 42 9 ± 31 20 Aft sink area 10 ± 165 0 ± 0 21 Deck in front of fume hood | | activity | • | error | activity | € | error | |
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| 18 Deck in front of Cospolich 19 Inside fume hood 20 Aft sink area 21 Deck in front of fume hood 22 Deck inside stbd door Miscellaneous Areas (See Figure 2) 23 Deck inside fwd. walk-in 24 Benchtop inside fwd. walk-in 25 Aft. benchtop inside aft. walk-in 26 Deck inside aft walk-in 27 Deck inside aft walk-in 28 Deck inside aft walk-in 29 Deck inside aft walk-in 20 Deck inside aft walk-in 21 Deck inside aft walk-in 22 Deck inside aft walk-in 23 Deck inside aft walk-in 24 Deck inside aft walk-in 25 Aft. benchtop inside aft. walk-in 26 Deck inside aft walk-in | * | | | | | | | |
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| 20 Aft sink area $10 \pm 165 \qquad 0 \pm 0$ 21 Deck in front of fume hood $0 \pm 0 \qquad 14 \pm 39$ 22 Deck inside stbd door $0 \pm 0 \qquad 29 \pm 36$ $\frac{\text{Miscellaneous Areas (See Figure 2)}}{23 \text{ Deck inside fwd. walk-in}}$ 24 Benchtop inside fwd. walk-in $0 \pm 0 \qquad 19 \pm 35$ 25 Aft. benchtop inside aft. walk-in $0 \pm 0 \qquad *53 \pm 37$ 26 Deck inside aft walk-in $0 \pm 0 \qquad 43 \pm 37$ | - | | | | | | | |
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| 22 Deck inside stbd door 0 ± 0 29 ± 36 Miscellaneous Areas (See Figure 2) 23 Deck inside fwd. walk-in 4 ± 18 15 ± 34 24 Benchtop inside fwd. walk-in 0 ± 0 19 ± 35 25 Aft. benchtop inside aft. walk-in 0 ± 0 *53 ± 37 26 Deck inside aft walk-in 0 ± 0 43 ± 37 | | | _ | | | | | |
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| 23 Deck inside fwd. walk-in 4 \pm 18 15 \pm 34 24 Benchtop inside fwd. walk-in 0 \pm 0 19 \pm 35 25 Aft. benchtop inside aft. walk-in 0 \pm 0 *53 \pm 37 26 Deck inside aft walk-in 0 \pm 0 43 \pm 37 | 22 Deck inside stod door | U | ± | Ü | 29 | ± | 36 | |
| 23 Deck inside fwd. walk-in 4 \pm 18 15 \pm 34 24 Benchtop inside fwd. walk-in 0 \pm 0 19 \pm 35 25 Aft. benchtop inside aft. walk-in 0 \pm 0 *53 \pm 37 26 Deck inside aft walk-in 0 \pm 0 43 \pm 37 | Miscellaneous Areas (See Figure 2) | | | | | | | |
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| 26 Deck inside aft walk-in 0 ± 0 43 ± 37 | * | | | | | | | |
| | - | _ | | | | | | |
| | | _ | | | | | | |
| | 27 Deck center of waik-in vestibules | U | | 20 | 22 | <u> </u> | 33 | |

| Sample # | Sample Identification | ³ H dpm/m ² | | | ¹⁴ C dpm/m ² | | | |
|----------|--------------------------------------|-----------------------------------|------------|-------|------------------------------------|-------|-----|--|
| | | activity | ϵ | error | activity | error | | |
| | Electronics/Computer Lab (See Figure | e 2) | | | | | | |
| 28 | Deck inside stbd. doors | 12 | \pm | 18 | *51 | \pm | 36 | |
| 29 | Deck inside fwd. door | 0 | \pm | 0 | 29 | \pm | 36 | |
| 30 | Deck inside dark room | 0 | \pm | 0 | 37 | \pm | 37 | |
| 31 | Final bucket blank C.O. #1 | 0 | \pm | 0 | 15 | \pm | 38 | |
| 32 | Initial bucket blank C.O. #2 | 0 | ± | 0 | 13 | ± | 37 | |
| | Wet Lab (See Figure 3) | | | | | | | |
| 33 | Inside fume hood | 0 | \pm | 0 | 12 | \pm | 35 | |
| 34 | Sink area | 0 | \pm | 0 | 6 | \pm | 35 | |
| 35 | Deck inside aft double doors | 0 | ± | 0 | 37 | ± | 37 | |
| | Hydro Lab (See Figure 3) | | | | | | | |
| 36 | Inside Cospolich top | 0 | <u>±</u> | 0 | 15 | \pm | 39 | |
| | Inside Cospolich bottom | 0 | <u>±</u> | 0 | 22 | \pm | 37 | |
| 38 | Deck in front of Cospolich | 4 | <u>±</u> | 23 | 12 | \pm | 34 | |
| 39 | Inside fume hood | 2 | <u>±</u> | 13 | 10 | \pm | 34 | |
| 40 | Deck inside aft door | 0 | \pm | 0 | 28 | \pm | 36 | |
| 41 | Port sink area | 0 | \pm | 0 | *71 | \pm | 37 | |
| 42 | Deck inside stbd. doors | 0 | \pm | 0 | 2 | \pm | 83 | |
| 43 | Intermediate bucket blank | 6 | ± | 72 | 0 | ± | 0 | |
| | Rad Van WHOU 2001400 (See Figur | e 4) | | | | | | |
| 44 | Inside fume hood | 0 | 土 | 0 | *551 | ± | 53 | |
| 45 | Bench top above freezer | 0 | 土 | 0 | *7,777 | ± | 152 | |
| | Sink area | 0 | 土 | 0 | **33,832 | ± | 311 | |
| 47 | Benchtop above Fridge | 0 | 土 | 0 | **23,058 | ± | 258 | |
| | Inside freezer | 0 | 土 | 0 | *729 | ± | 57 | |
| 49 | Inside fridge | 210 | ± | 48 | *209 | ± | 40 | |
| | Deck in front of freezer | 2 | ± | 0 | **11,147 | ± | 182 | |
| | Deck in front of sink | 0 | ± | 0 | ***123,550 | ± | 593 | |
| 52 | Deck inside entrances | 0 | \pm | 0 | **71,974 | \pm | 453 | |
| 53 | Final bucket blank C.O. #2 | 0 | ± | 0 | 42 | ± | 37 | |

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error. All samples taken on the ship and van were clean of any ³H contamination. Minor ¹⁴C contamination detected on a few samples taken on the ship, these areas should be cleaned before any natural tracer work. ¹⁴C was found throughout the radiation van, with the deck in front of the sink at potential health hazard levels. Your insitution's radiation safety office should be notified before attempting cleaning. Cleaning recommendations are attached. The van needs to be retested after cleaning.