



24 November 2025

SWAB REPORT # 1134

SWAB DATE: 19 November 2025

*R/V Sally Ride, Rad Van 2408-01, and GP Van 2408-05*

---

Dr. James D. Happell  
Associate Research Professor

Distribution:  
SWAB Committee  
Matt Durham  
Gary Lain

## COMMENTS TO SWAB REPORTS

12 May 2014

Typical LSC instrument background values for  $^3\text{H}$  and  $^{14}\text{C}$  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  $\text{dpm/m}^2$ . Bucket blank activities are not subtracted. Counting errors (2 standard deviations) are also reported in  $\text{dpm/m}^2$ . An error larger than the activity indicates that the activity is not significantly different from zero.

### Criteria for SWAB Results

| Category | $^3\text{H}$ ( $\text{dpm/m}^2$ ) | $^{14}\text{C}$ ( $\text{dpm m}^2$ ) | 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 $1000 \text{ dpm/m}^2$ 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:  $^{14}\text{C}$  and  $^{35}\text{S}$  have peak energies of 156 and 167 KeV, respectively; thus  $^{35}\text{S}$  will be registered as  $^{14}\text{C}$  by our counting techniques. Categories A, B and C are not a health hazard.

### Recommended Cleaning Procedure

Wearing ordinary household rubber gloves:

$^3\text{H}$ : 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.

$^{14}\text{C}$ : 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  $^3\text{H}$ .

### 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 institution promptly by phone or email.

# REPORT FOR SWAB # 1134

LOCATION: San Diego, CA

VESSEL: *R/V Sally Ride*

DATE: 19 November 2025

TECHNICIAN: Jim Happell

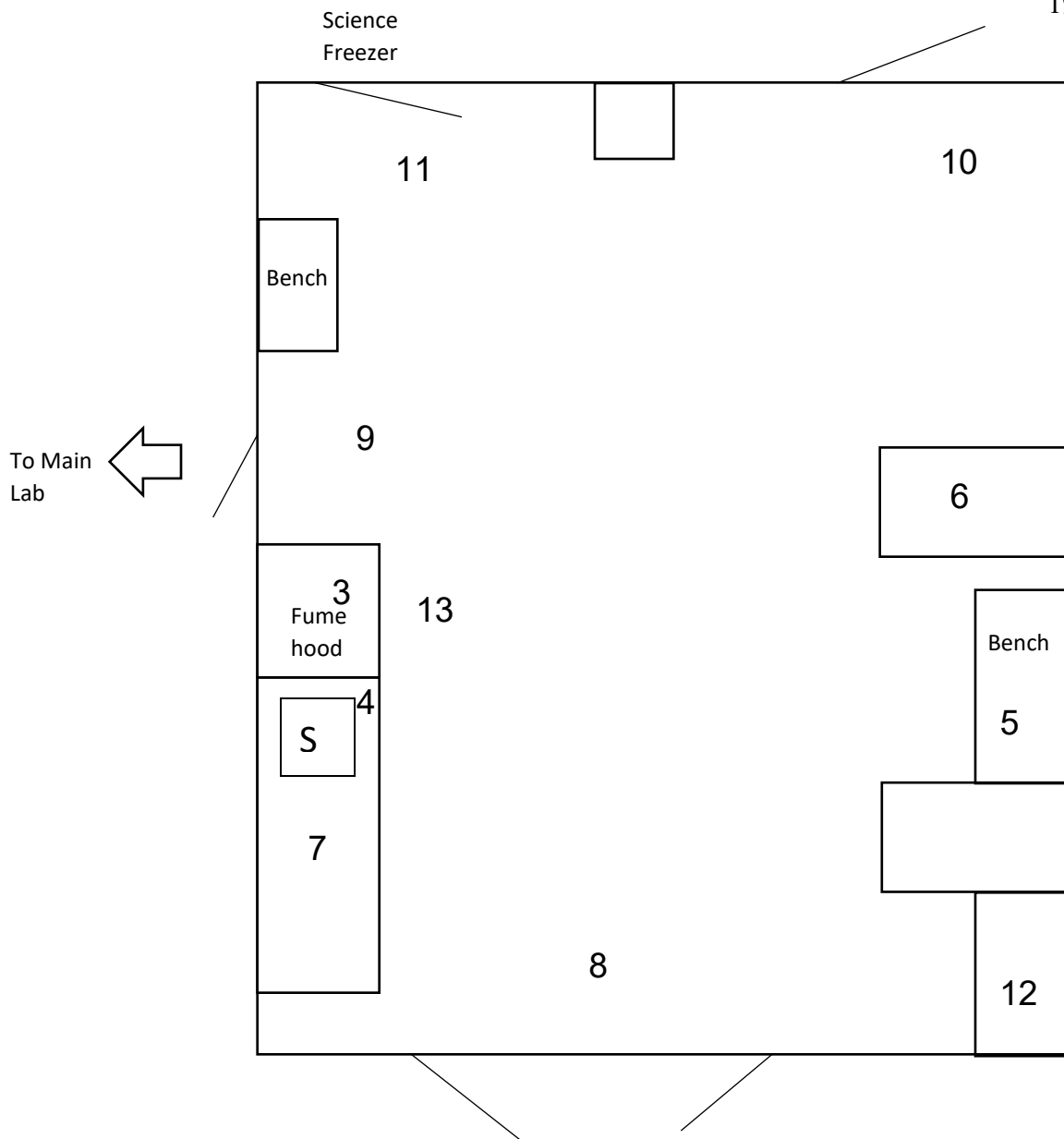
| Sample # | Sample Identification                             | <sup>3</sup> H dpm/m <sup>2</sup> |       |     | <sup>14</sup> C dpm/m <sup>2</sup> |       |           |
|----------|---------------------------------------------------|-----------------------------------|-------|-----|------------------------------------|-------|-----------|
|          |                                                   | activity                          | error |     | activity                           | error |           |
| 1        | 1st Vial Bkgnd                                    | 0                                 | ±     | 0   | 0                                  | ±     | 0         |
| 2        | Initial bucket blank C.O. # 1                     | -5                                | ±     | 26  | -3                                 | ±     | 19        |
|          | <u>Wet Lab (Figure 1)</u>                         |                                   |       |     |                                    |       |           |
| 3        | Inside fume hood                                  | -21                               | ±     | 49  | -6                                 | ±     | 18        |
| 4        | Sink area                                         | -9                                | ±     | 49  | 0                                  | ±     | 6         |
| 5        | Starboard benchtop                                | -24                               | ±     | 56  | -2                                 | ±     | 12        |
| 6        | Wood benchtop opposite of fume hood               | -26                               | ±     | 61  | -1                                 | ±     | 9         |
| 7        | Port benchtop aft of sink                         | -16                               | ±     | 38  | 6                                  | ±     | 15        |
| 8        | Deck inside aft entrance                          | -53                               | ±     | 125 | 11                                 | ±     | 17        |
| 9        | Deck inside port entrance                         | -6                                | ±     | 31  | 4                                  | ±     | 14        |
| 10       | Deck in front of forward entrance                 | 6                                 | ±     | 28  | -19                                | ±     | 119       |
| 11       | Deck outside Scientific Freezer MD-1              | -4                                | ±     | 23  | 8                                  | ±     | 13        |
| 12       | Starboard aft benchtop                            | -2                                | ±     | 9   | -8                                 | ±     | 159       |
| 13       | Deck in front of fume hood                        | -10                               | ±     | 54  | -16                                | ±     | 45        |
|          | <u>Main Lab (Figure 2)</u>                        |                                   |       |     |                                    |       |           |
| 14       | Inside port fume hood                             | -14                               | ±     | 75  | -4                                 | ±     | 23        |
| 15       | Fwd sec port benchtop                             | 1                                 | ±     | 12  | 1                                  | ±     | 12        |
| 16       | Fwd port center benchtop                          | -12                               | ±     | 28  | -9                                 | ±     | 25        |
| 17       | Aft section of port benchtop                      | -12                               | ±     | 28  | <b>18</b>                          | ±     | <b>14</b> |
| 18       | Benchtop across from starboard fume hood          | -36                               | ±     | 84  | 6                                  | ±     | 18        |
| 19       | Deck inside aft entrance                          | 39                                | ±     | 29  | 2                                  | ±     | 7         |
| 20       | Forward port and center benchtop (center section) | -13                               | ±     | 32  | 1                                  | ±     | 0         |
| 21       | Aft port center benchtop                          | 4                                 | ±     | 11  | 11                                 | ±     | 13        |
| 22       | Deck inside forward entrance                      | -16                               | ±     | 38  | -16                                | ±     | 24        |
| 23       | Benchtop opposite to starboard sink               | 19                                | ±     | 44  | -17                                | ±     | 26        |
| 24       | Aft center benchtop                               | -13                               | ±     | 31  | 13                                 | ±     | 14        |
| 25       | Benchtop opposite to MilliQ spares cabinet        | -4                                | ±     | 19  | -7                                 | ±     | 19        |
| 26       | Starboard sink area                               | -10                               | ±     | 52  | -1                                 | ±     | 9         |
| 27       | Inside starboard fume hood                        | -9                                | ±     | 50  | 0                                  | ±     | 4         |

| Sample # | Sample Identification                           | $^3\text{H}$ dpm/m <sup>2</sup> |   |       | $^{14}\text{C}$ dpm/m <sup>2</sup> |   |           |
|----------|-------------------------------------------------|---------------------------------|---|-------|------------------------------------|---|-----------|
|          |                                                 | activity                        | ± | error | activity                           | ± | error     |
| 28       | Deck in front of fume hood                      | -8                              | ± | 42    | 7                                  | ± | 14        |
| 29       | Deck in front of starboard sink                 | -26                             | ± | 61    | -2                                 | ± | 12        |
|          | <u>Main Deck (Figure 3)</u>                     |                                 |   |       |                                    |   |           |
| 30       | Deck outside starboard entrance to Wet Lab      | -11                             | ± | 59    | 12                                 | ± | 14        |
|          | <u>Radioisotope Van 2408-01 (Figure 4)</u>      |                                 |   |       |                                    |   |           |
| 31       | Benchtop across from sink                       | -2                              | ± | 9     | -2                                 | ± | 13        |
| 32       | Benchtop adjacent to sink                       | -18                             | ± | 100   | 9                                  | ± | 15        |
| 33       | Benchtop adjacent to fume hood                  | 31                              | ± | 27    | 1                                  | ± | 3         |
| 34       | Inside fume hood                                | 5                               | ± | 23    | 1                                  | ± | 10        |
| 35       | Deck in front of fume hood                      | 9                               | ± | 50    | -10                                | ± | 62        |
| 36       | Benchtop under LSC                              | 8                               | ± | 19    | 5                                  | ± | 12        |
| 37       | Inside incubator next to sink                   | -26                             | ± | 62    | <b>32</b>                          | ± | <b>15</b> |
| 38       | Inside incubator across from LSC                | -13                             | ± | 31    | -15                                | ± | 98        |
| 39       | Deck in center of van below LSC                 | -4                              | ± | 21    | 2                                  | ± | 14        |
| 40       | Sink area                                       | -23                             | ± | 53    | -9                                 | ± | 26        |
| 41       | Deck inside door                                | 2                               | ± | 10    | 5                                  | ± | 13        |
|          | <u>General Purpose Van #2408-05 (Figure 5 )</u> |                                 |   |       |                                    |   |           |
| 42       | Benchtop adjacent to sink                       | 1                               | ± | 29    | 0                                  | ± | 3         |
| 43       | Benchtop adjacent to fume hood                  | -13                             | ± | 31    | -11                                | ± | 30        |
| 44       | Inside fume hood                                | -6                              | ± | 35    | -7                                 | ± | 20        |
| 45       | Benchtop with LSC                               | -8                              | ± | 43    | 4                                  | ± | 14        |
| 46       | Benchtop across from sink                       | 15                              | ± | 35    | -7                                 | ± | 19        |
| 47       | Inside refrigerator                             | -16                             | ± | 39    | 5                                  | ± | 15        |
| 48       | Inside freezer                                  | -29                             | ± | 68    | 2                                  | ± | 48        |
| 49       | Deck in front of fume hood                      | -1                              | ± | 5     | 2                                  | ± | 13        |
| 50       | Deck inside door                                | -2                              | ± | 12    | -4                                 | ± | 25        |

### Comments

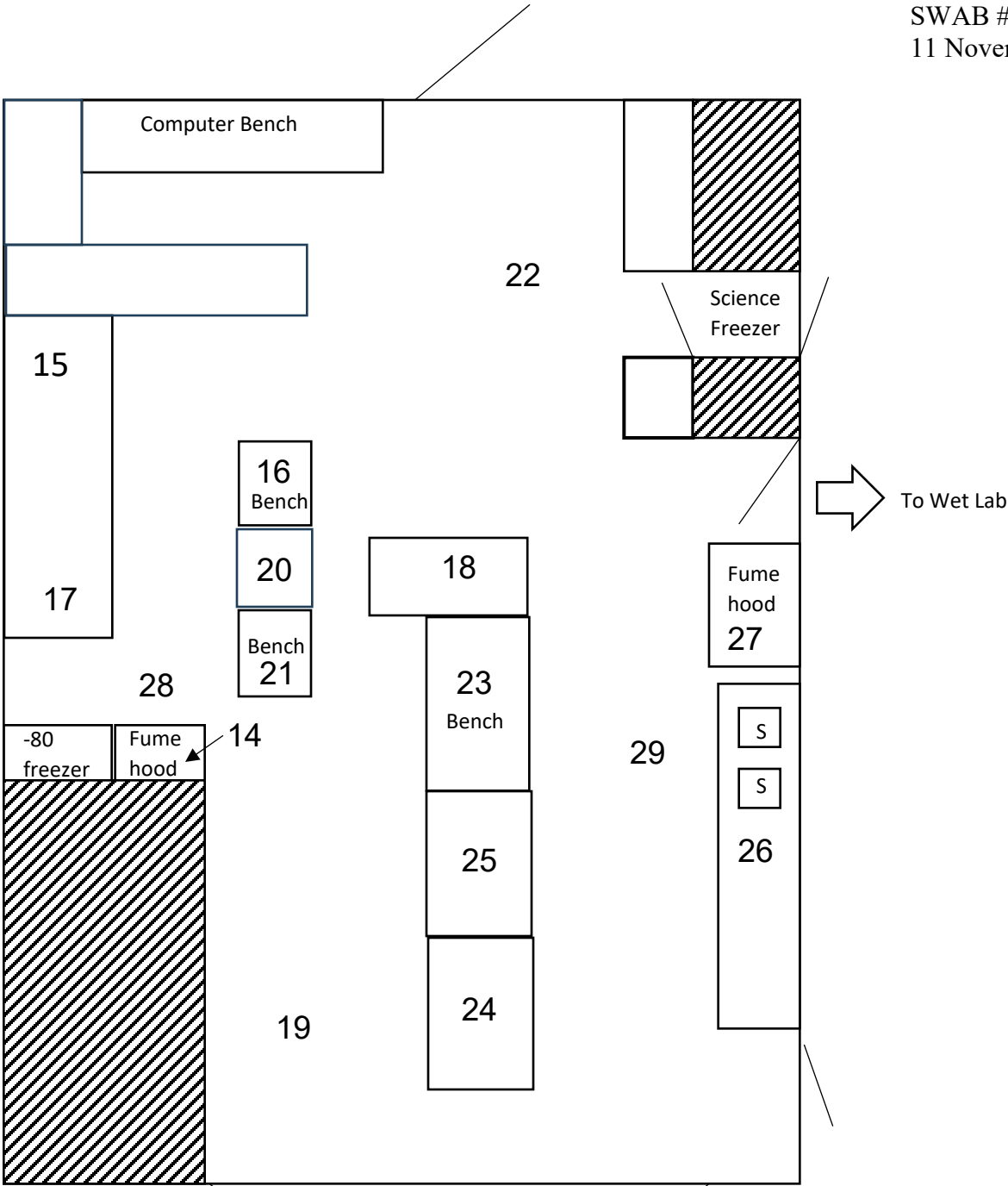
Please note that the error reported for each isotope is the two-standard deviation counting error. Reports may now contain values less than zero. Decay counting background samples will be distributed about the background vial, which means that negative values are possible. In the past we rounded the negative values to zero. Values are only significantly above background when they are positive and larger than the error. Please note that we are now using a Quantulus 6220 LSC which counts very near natural background. While the cleanup standards have not changed; all values above background will now be in bold. All areas tested on the ship and the two vans were free from isotope contamination requiring cleaning.

Figure 1  
SWAB # 1134  
19 November 2025



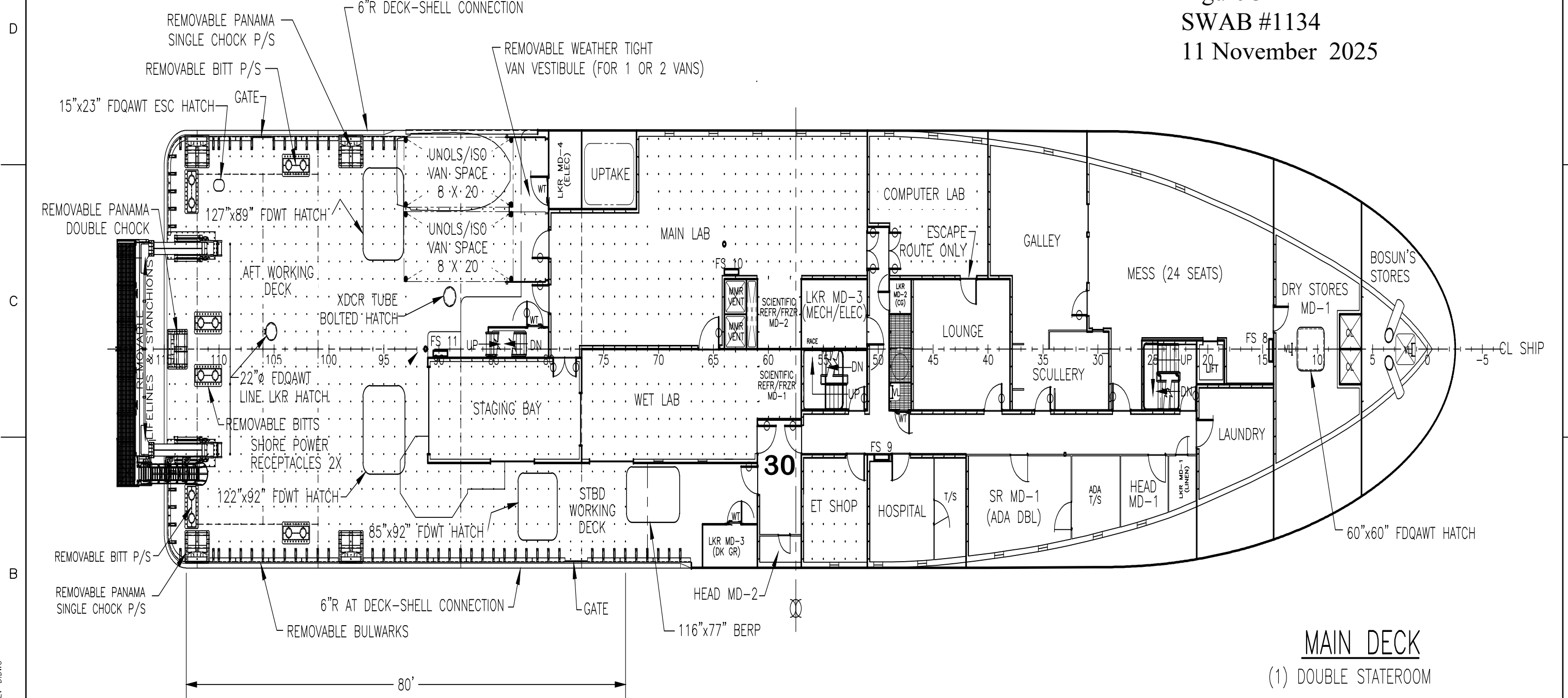
*R/V Sally Ride*  
WET LAB

Figure 2  
SWAB # 1134  
11 November 2025



*R/V Sally Ride*  
MAIN LAB

Figure 3  
SWAB #1134  
11 November 2025



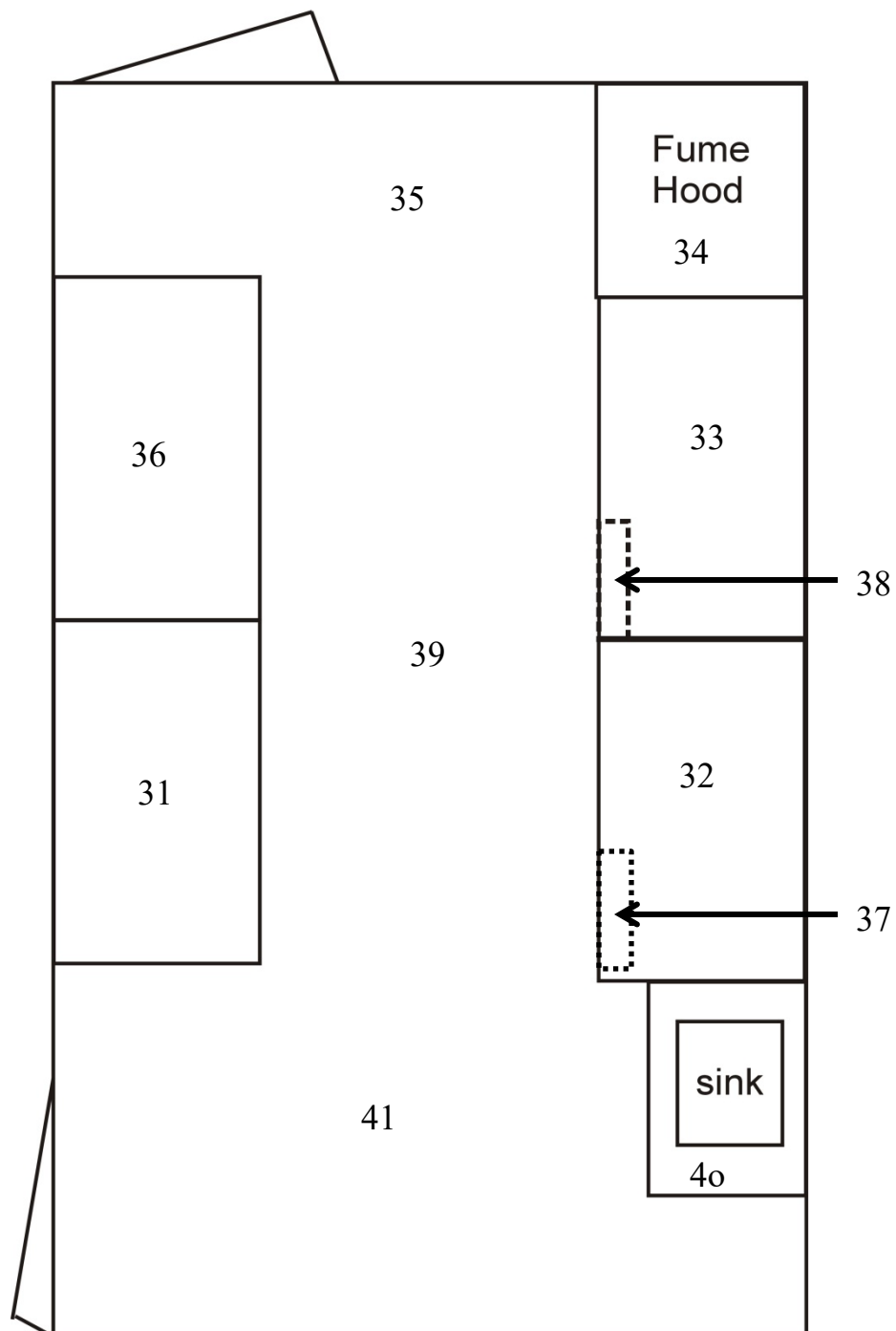
PLOT DATE: Thursday November 14 2013  
PLOT TIME: 11:29:35 am  
PLOT ID: DC  
FILE DIR: C:\Users\DC\APPDATA\LOCAL\TEMP\ACPUBLISH\_5116\  
FILE NAME: DCI\_027-04\_R80101\_REV-D.DWG

HALF SIZE  
PRINT

|                                                 |         |                                                        |               |
|-------------------------------------------------|---------|--------------------------------------------------------|---------------|
| DESIGNER<br>GUIDO PERLA &<br>ASSOCIATES, Inc.   |         | TITLE<br><u>GENERAL ARRANGEMENT</u><br><u>DRAWINGS</u> |               |
| SHIPBUILDER<br>DAKOTA CREEK<br>INDUSTRIES, Inc. |         | DWG No.<br>D 65411-801-01                              | REV.<br>D     |
| NAVSSE DWG No.                                  | 8565942 | SCALE<br>3/32" = 1'-0"                                 | SHEET: 4 OF 7 |

Figure 4  
SWAB #1134  
11 November 2025

UNOLS Rad Van #2408-01



UNOLS Van #2408-05  
(aka GP-2)

Figure 5  
SWAB #1134  
11 November 2025

