UNIVERSITY OF MIAMI
ROSENSTIEL
SCHOOL of MARINE &
ATMOSPHERIC SCIENCE

Tritium Laboratory
4600 Rickenbacker Causeway
Miami, Florida 33149-1031

Ph: 305-421-4100
Fax:305-421-4112
E-mail: Tritium@rsmas.miami.edu

Tritium Laboratory
15 August 2021

SWAB REPORT # 1009

SWAB DATE: 3 August 2021

R/V Sally Ride
Radioisotope Van #2408-01

James Happell Digitally signed by James Happell
Date: 2021.08.16 17:50:26 -04'00'

Dr. James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
Gary Lain

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 # 1009

LOCATION: San Diego, CA
VESSEL: *R/V Sally Ride*

DATE: 3 August 2021
TECHNICIAN: Charlene Grall

Sample #	Sample Identification	^{3}H dpm/m^{2} activity	±	error	^{14}C dpm/m^{2} activity	±	error
1	1st Vial Bkgnd	0	±	0	0	±	0
2	Initial bucket blank C.O. # 1	-17	±	71	11	±	37
	Wet Lab (Figure 1)						
3	Sink area	2	±	5	40	±	35
4	Inside fume hood	-15	±	22	28	±	35
5	Starboard bench	-66	±	45	31	±	39
6	Wooden benchtop forward of starboard benchtop	-15	±	157	41	±	36
7	Benchtop aft of sink	-28	±	33	28	±	36
8	Deck inside aft entrance	17	±	31	19	±	32
9	Deck inside port entrance	11	±	22	28	±	34
10	Deck in front of Science Freezer	-19	±	37	11	±	37
11	Benchtop opposite of port entrance	-13	±	31	-1	±	18
11a	Starboard benchtop forward of aft entrance	-8	±	126	23	±	35
	Main Lab (Figure 2)						
12	Starboard sink are	62	±	42	27	±	31
13	Inside starboard fume hood	-18	±	54	24	±	36
14	Inside port fume hood	-19	±	67	29	±	36
15	Deck in front of port fume hood	-6	±	22	2	±	40
16	Deck in front of starboard fume hood	4	±	12	28	±	34
17	Aft section of port benchtop	-36	±	65	34	±	37
18	Forward section of port benchtop	-33	±	35	38	±	37
19	Aft section of center benchtop	-33	±	32	34	±	37
20	Forward section of center benchtop	-55	±	41	12	±	44
21	Deck in front of Science Freezer	15	±	29	19	±	33
22	Deck inside forward entrance to lab	0	±	2	20	±	34
23	Benchtop across from starboard fume hood	-23	±	12	33	±	36
24	Deck at aft entrance between starboard benches	3	±	8	35	±	34
25	Benchtop opposite of starboard aft entrance	16	±	20	51	±	35

Sample #	Sample Identification	^{3}H dpm/m^{2} activity		error	^{14}C dpm/m^{2} activity		error
	Main Deck (Figure 3)						
26	Deck in front of lockers in Mud Room	-20	±	19	34	±	36
27	Starboard working deck outside door to Wet Lab	-2	±	10	29	±	35
28	Deck between Main Lab and Computer Lab	-8	±	39	40	±	35
29	Deck where CTD rosette was located	-51	±	47	44	±	38
30	Forward deck of Staging Bay outside aft entrance	73	±	42	17	±	27
31	Deck below entrance to Radioisotope Van	-32	±	78	47	±	36
	Radioisotope Van 2408_1 "R3" (Figure 4)						
32	Sink area	2	±	6	33	±	34
33	Benchtop adjacent to sink	-6	±	58	24	±	35
34	Benchtop adjacent to fume hood	-4	±	8	70	±	36
35	Inside fume hood	-29	±	98	84	±	38
36	Deck in front of fume hood	78	±	46	54	±	33
37	Benchtop adjacent to LSC	-1	±	2	75	±	36
38	Benchtop opposite of sink	-20	±	67	70	±	37
39	Inside refrigerator	337	±	33	1464*	±	72
40	Inside freezer	4	±	12	31	±	34
41	Desk between sink and refrigerator	19	±	19	71	±	36
42	Deck inside single door entrance	58	±	38	47	±	33
43	Final bucket sample	19	±	28	30	±	33

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. All areas tested on the ship and were free from any isotope contamination that requires cleaning. Minor ^{14}C contamination was seen in the refrigerator in the van. No action is needed..

Figure 1
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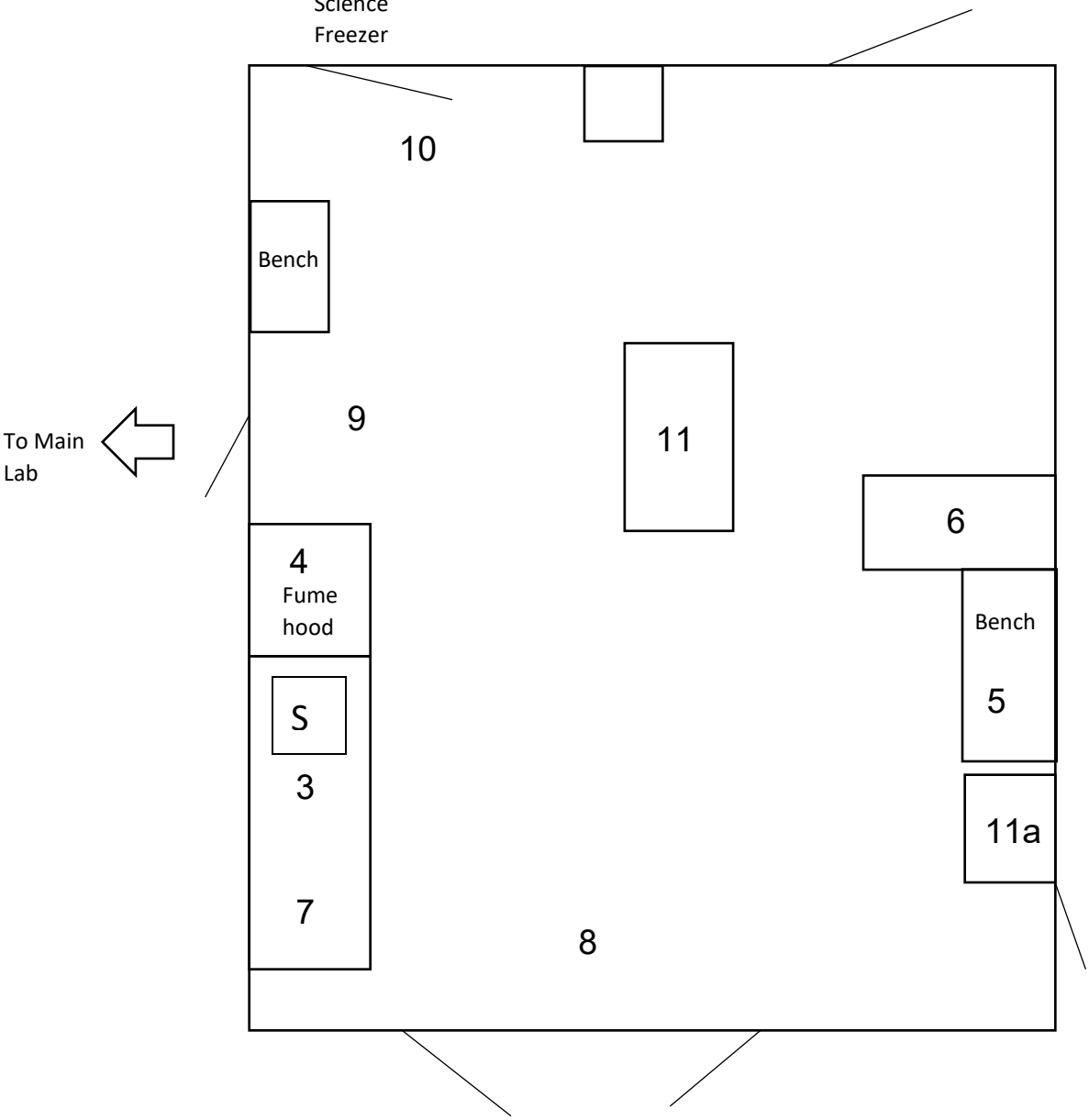
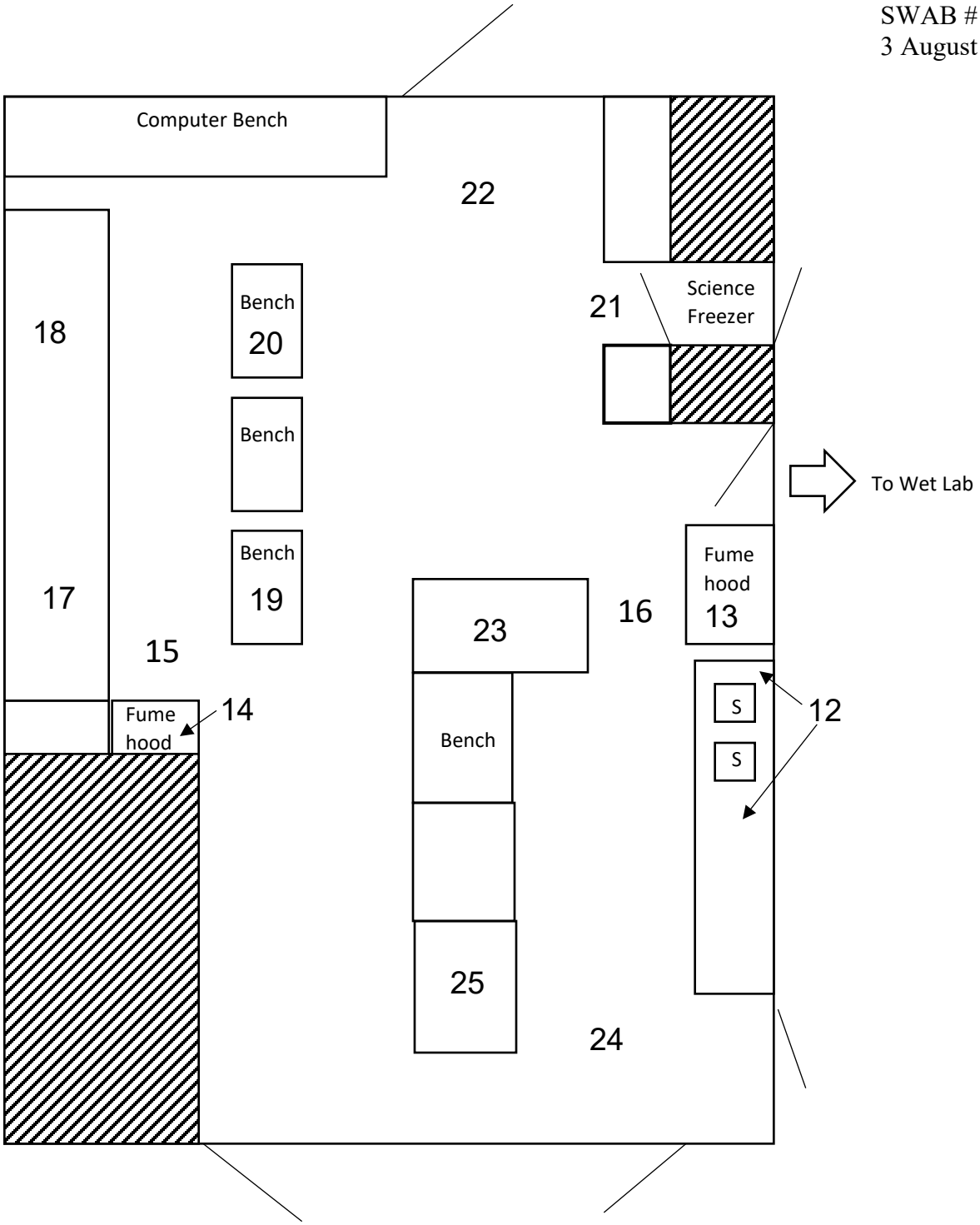
3 August 2021



R/V Sally Ride

WET LAB

Figure 2
SWAB # 1009
3 August 2021



R/V Sally Ride

MAIN LAB

Figure 3
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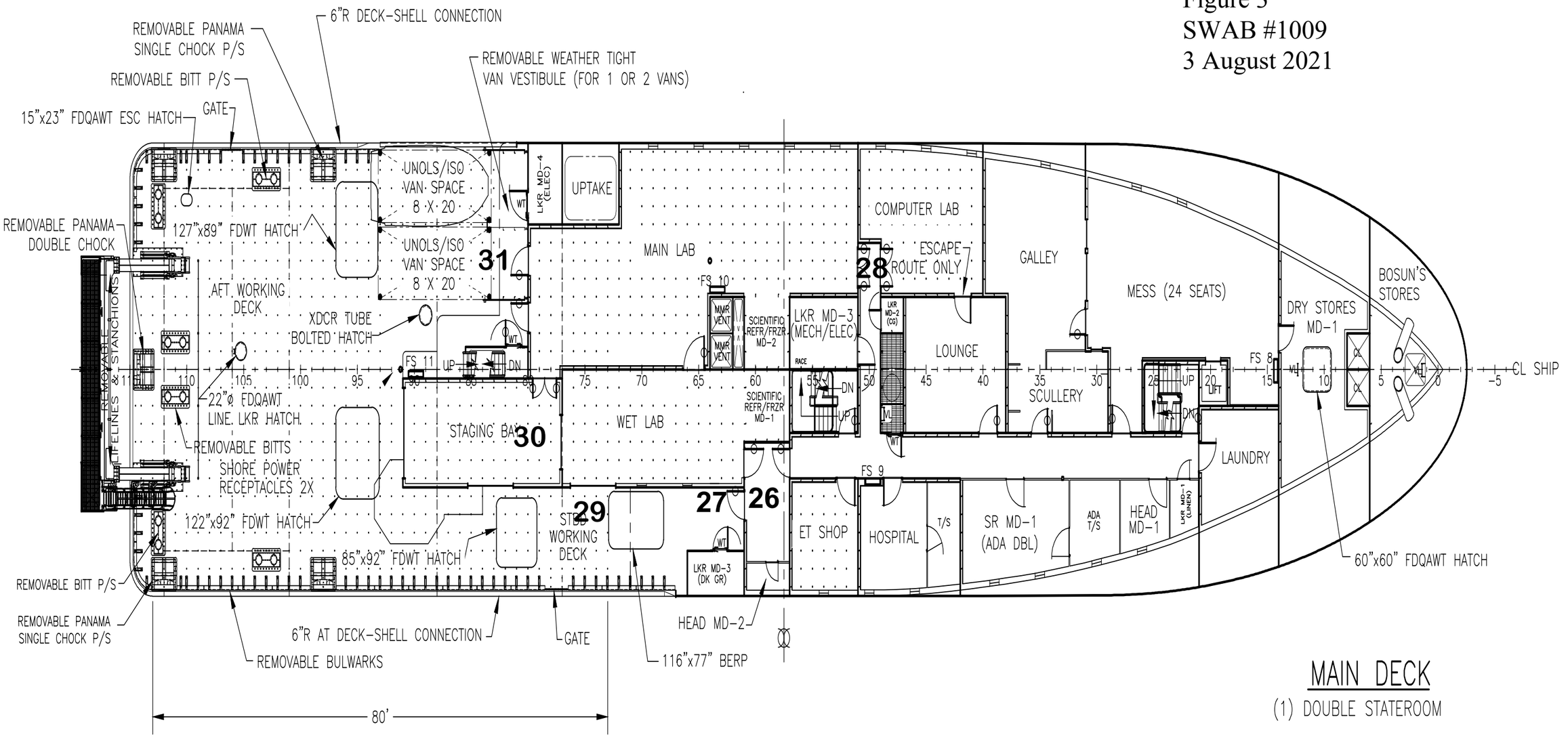

MAIN DECK

(1) DOUBLE STATEROOM

PLOT DATE: Thursday November 14 2013
PLOT TIME: 11:29:35 am
PLOT DIR: DC
FILE DIR: 65311_C:\USERS\DC\APPDATA\LOCAL\TEMP\ACPUBLISH_5116\
FILE NAME: DCI 027-04 R6010 REV-D.DWG

HALF SIZE PRINT	DESIGNER: GUIDO PERLA & ASSOCIATES, Inc.	TITLE: GENERAL ARRANGEMENT DRAWINGS	
	SHIPBUILDER: DAKOTA CREEK INDUSTRIES, Inc.	D DWG No. 65411-801-01	REV. D
	NAVSEA DWG No. 8565942	SCALE 3/32" = 1'-0"	SHEET: 4 OF 7

Figure 4
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2 August 2021

Polar Programs Rad Van 2408-01 (aka R-3)