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Tritium Laboratory
26 October 2016

SWAB REPORT # 831

SWAB DATE: 11 October 2016

R/V Sally Ride
Baseline Survey

James Happell

Digitally signed by James Happell
DN: cn=James Happell, o=Univ. of Miami, ou=RSMAS, email=jhappell@miami.edu, c=US
Date: 2016.10.26 08:45:39 -04'00'

Dr. James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
Gary Lain
Dave Wolgast

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 # 831

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

DATE: 11 October 2016
TECHNICIAN: Charlene Grall

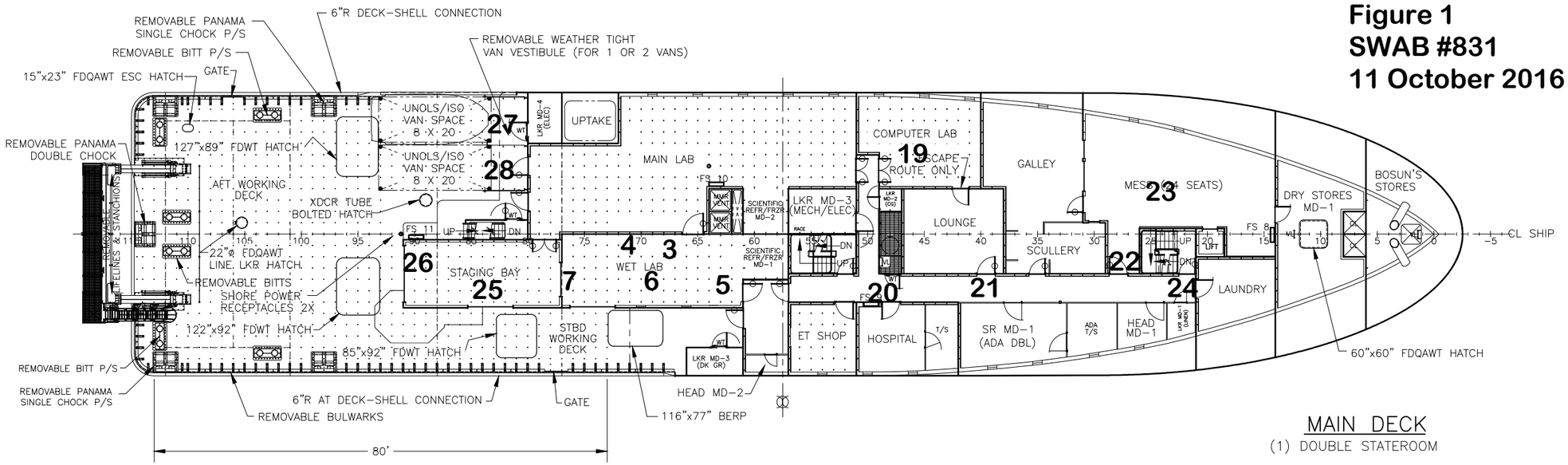
Sample #	Sample Identification	^{3}H dpm/m^{2} activity		error	^{14}C dpm/m^{2} activity		error
1	1st Vial Bkgnd	0	±	0	0	±	0
2	Initial bucket blank	-19	±	49	10	±	40
	Wet Lab (Figure 1)						
3	Inside fume hood	-12	±	32	-13	±	32
4	Stainless steel sink area	5	±	40	1	±	29
5	Deck inside forward entrance	23	±	41	6	±	29
6	Deck in front of sink area	34	±	48	-1	±	115
7	Deck in front of aftdouble door entrance	-6	±	68	21	±	37
	Main Lab (Figure 2)						
8	Deck inside starboard entrance	-2	±	38	8	±	36
9	Inside starboard fume hood	11	±	29	14	±	35
10	Inside port fume hood	-1	±	2	21	±	36
11	Starboard sink area	31	±	49	-3	±	63
12	Deck in front of starboard entrance to Staging Bay	21	±	46	0	±	0
13	Deck in front of aft entrance	4	±	39	1	±	31
14	Deck between port fume hood and benchtop	-9	±	25	10	±	38
15	Port benchtop aft section	2	±	21	-14	±	35
16	Port benchtop forward section	4	±	36	2	±	32
17	Deck between port and movable benchtop	-3	±	25	6	±	37
18	Deck between computer table and forward entrance	5	±	20	14	±	35
	Miscellaneous Areas Main Deck (Figure 1)						
19	Deck inside Computer Lab	4	±	32	3	±	33
20	Passage between aft stair to 01 Deck and ET shop	-7	±	50	9	±	37
21	Passage in front of Lounge	0	±	1	-3	±	35
22	Deck inside entrance to Mess	10	±	22	24	±	36
23	Deck of Mess in front of drink machine	30	±	46	5	±	26
24	Passage between Laundry & foreward stairs to 01	1	±	12	3	±	35

Sample #	Sample Identification	^{3}H dpm/m^{2} activity		error	^{14}C dpm/m^{2} activity		error
	Aft Deck (Figure 1)						
25	Staging Bay deck inside starboard entrance	-13	±	34	26	±	38
26	Staging Bay deck inside aft entrance	20	±	22	48	±	37
27	Aft deck where Lab Van door opened	8	±	28	13	±	37
28	Aft deck where Rad Van door opened	4	±	12	26	±	36
29	Deck of entrance to Science Stores	13	±	53	-4	±	39
	Focsle Deck (Figure 3)						
30	Deck between foreward stair & exit to foredeck	2	±	10	17	±	36
31	Deck outside passage foreward of Haz Mat Locker	-4	±	27	24	±	37
	01 Deck (Figure 3)						
32	Deck just foreward of winches in passage	0	±	0	34	±	37
33	Deck of Library/Conference Room	-14	±	37	13	±	38
34	Foredeck on port side	-86	±	135	37	±	44
35	Deck at base of stair on foredeck	4	±	12	-9	±	46
	Pilot Deck (Figure 4)						
36	Deck aft of Bridge where gym equipment sits	-24	±	53	18	±	39
37	Deck inside Pilot House at top of stairs	16	±	49	-3	±	26
38	Deck of aft chart room	11	±	121	-16	±	82
	02 Deck (Figure 4)						
39	Deck at top of stair to 01 deck	-6	±	17	-6	±	29
40	Final bucket sample	-13	±	34	6	±	41
	CALCOFI Rad Van (Figure 5)						
41	Initial bucket sample (CO#2)	33	±	60	-17	±	42
42	Inside refrigerator	9	±	38	4	±	32
43	Sink area	-10	±	239	25	±	37
44	Benchtop adjacent to sink area	24	±	27	41	±	36
45	Benchtop across from sink	23	±	40	7	±	31
46	Benchtop adjacent to refrigerator	-44	±	69	4	±	101
47	Deck in center of van	16	±	54	-4	±	23
48	Final bucket sample	34	±	57	-15	±	37

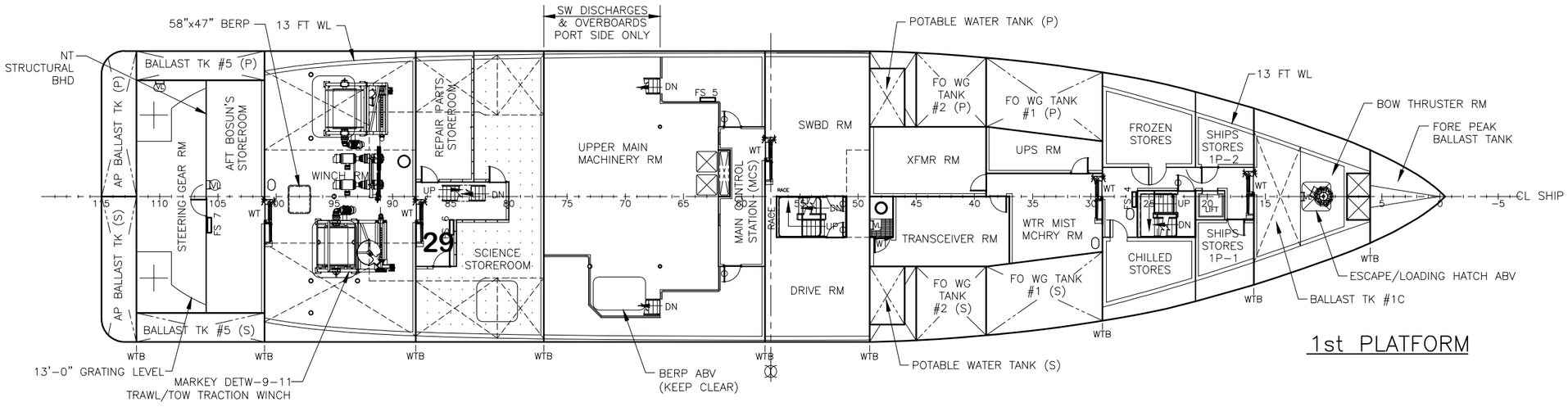
Comments

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 were free from any isotope contamination that requires cleaning. This was the initial baseline survey of the Sally Ride.

Figure 1
SWAB #831
11 October 2016



MAIN DECK
(1) DOUBLE STATEROOM



1st PLATFORM

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PLOT TIME: 12:29:35 am
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FILE NAME: DCI 027-04 R80101 REV-D.DWG

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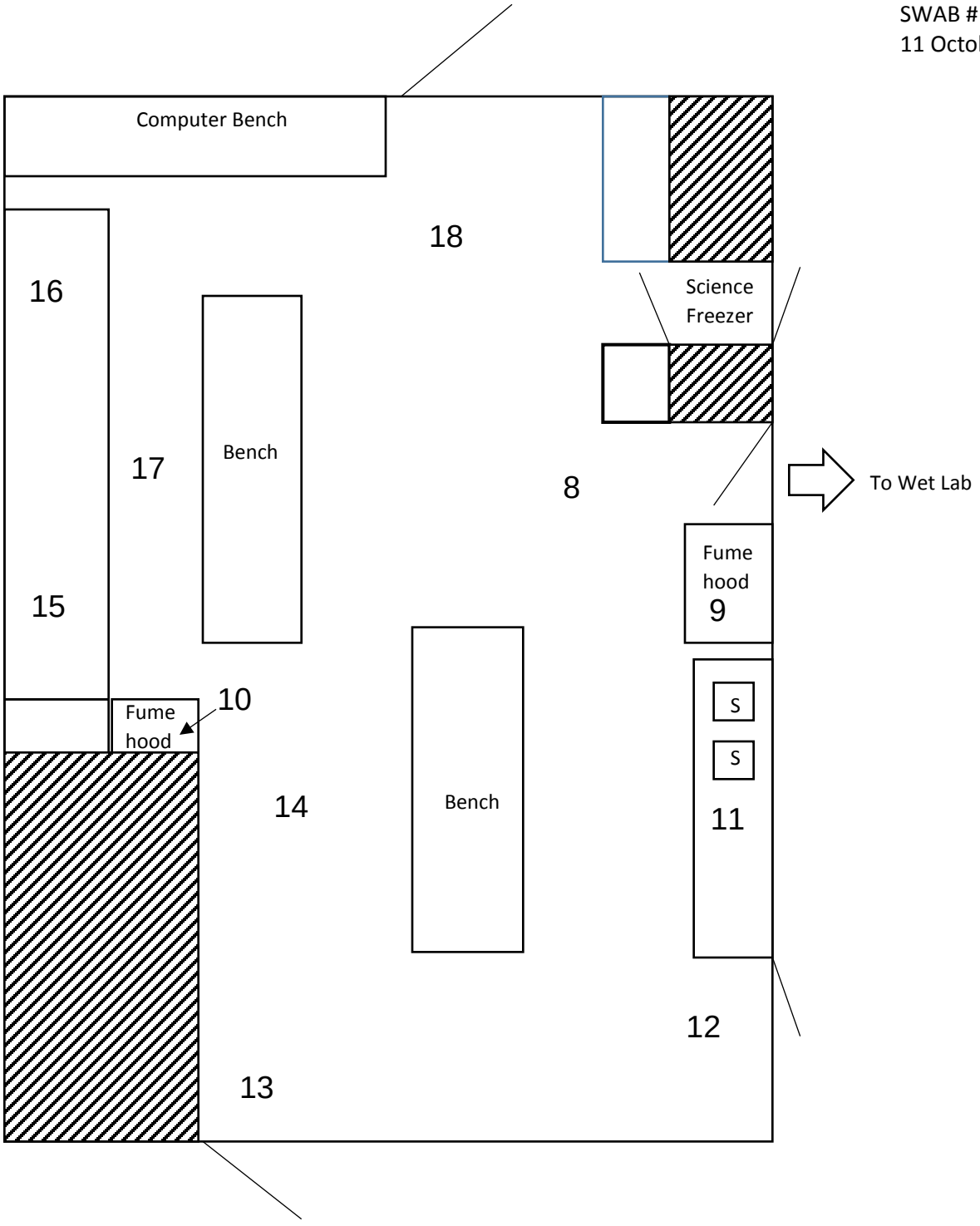
SHIPBUILDER: DAKOTA CREEK INDUSTRIES, Inc.	D	DWG No. 65411-801-01	REV. D
NAVSEA DWG No. 8565942	SCALE 3/32" = 1'-0"	SHEET: 4 OF 7	

Figure 2
SWAB # 831
11 October 2016



R/V Sally Ride

MAIN LAB

Figure 3
SWAB #831
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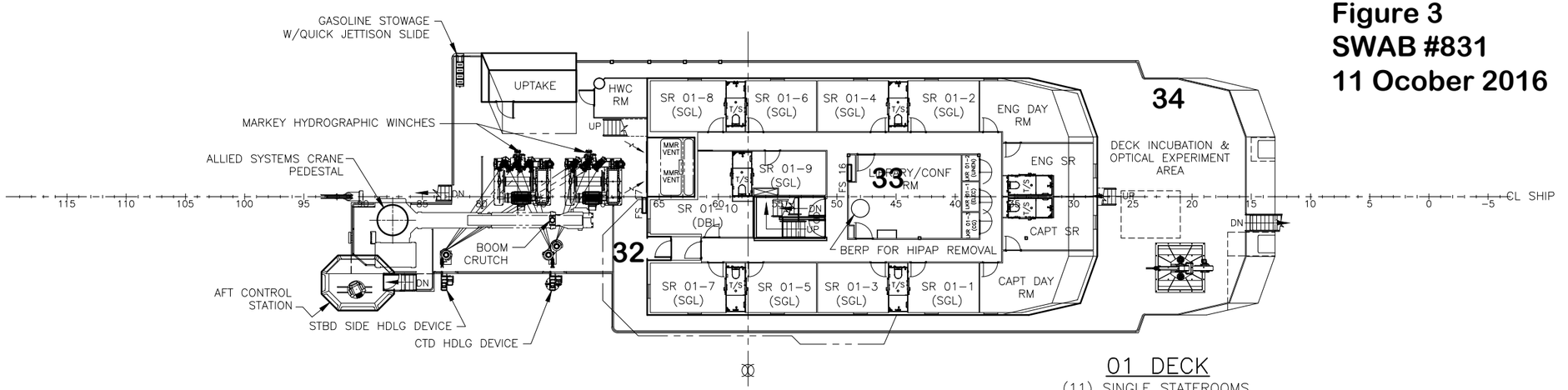
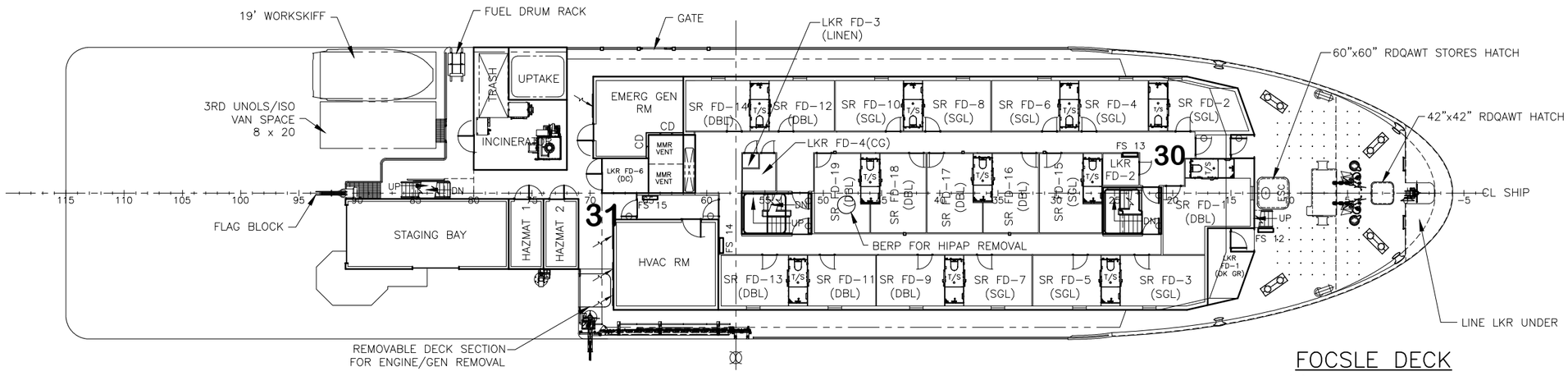


01 DECK

(11) SINGLE STATEROOMS
(1) DOUBLE STATEROOM



FOCSLE DECK

(9) SINGLE STATEROOMS
(10) DOUBLE STATEROOMS

HALF SIZE PRINT

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NAVSEA DWG No.	8565942
TITLE	GENERAL ARRANGEMENT DRAWINGS
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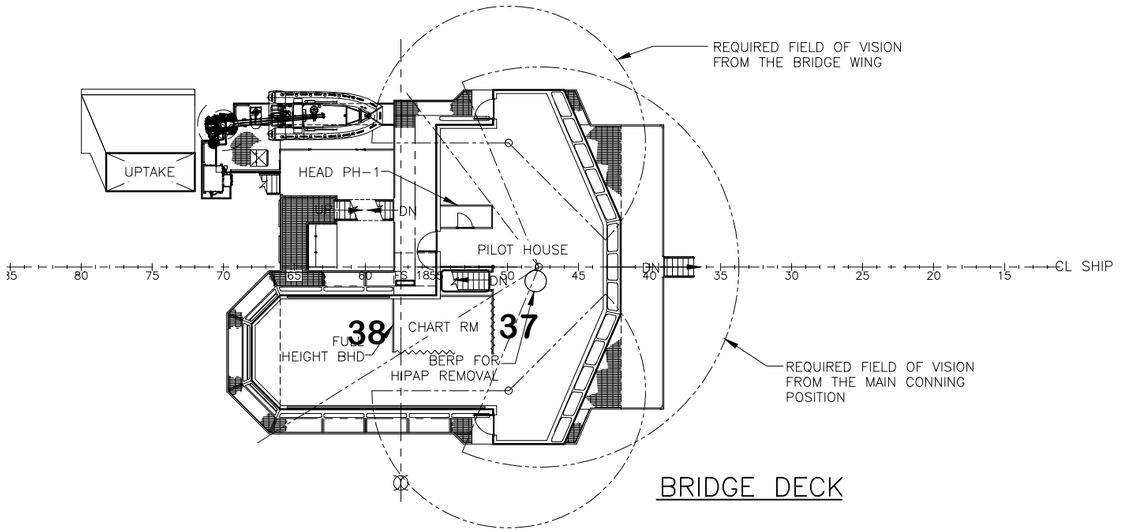
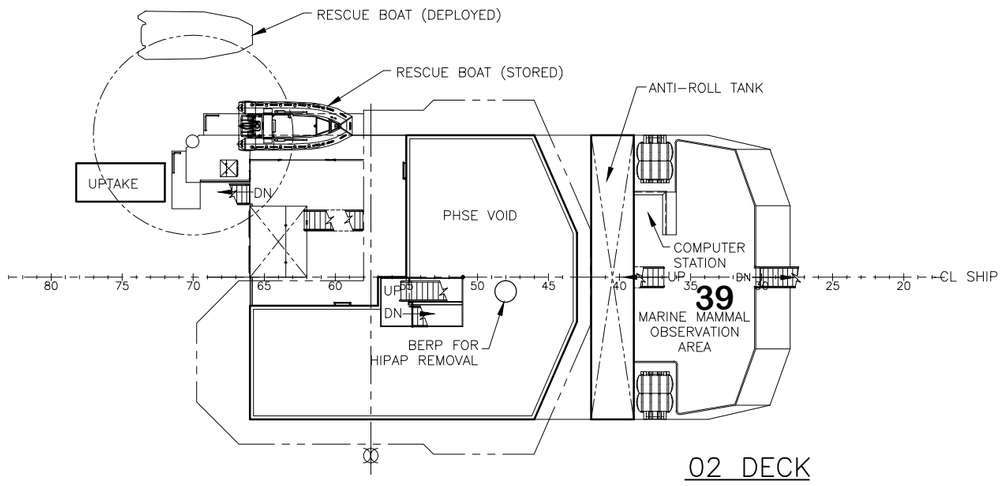
REV.	D
SCALE	3/32" = 1'-0"
SHEET:	5 OF 7

Figure 4
SWAB #831
11 October 2016



BRIDGE DECK



02 DECK

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HALF SIZE PRINT

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NAVSEA DWG No.	8565942
TITLE	GENERAL ARRANGEMENT DRAWINGS
DWG No.	D 65411-801-01 REV. D
SCALE	3/32" = 1' - 0"
SHEET:	6 OF 7

Figure 5
SWAB # 831
11 October 2016

CalCOFI Van