

STABILITY TEST DATA

SEACOR POWER

Gross tons _____

Description of Vessel

166.5 x 103 x 13 Ft Steel Liftboat

Type _____

Builder Semco, LLC

Hull No. 1009

DATE BUILT 2002

Hull _____

Machinery _____

Classed By

ABS

Inspected

☒

Safety Certificate

☐

Load Line

☒

Route:

Ocean ☐

Coastwise

☒

Great Lakes

☐

Bays

☐

Rivers ☐

Specify route, if limited _____

Owner Seacor Offshore Liftboats, LLC

Owner's address _____

Vessel inclined at Semco, LLC - South Yard

Date 29 June 2012

Time

0700-1000

Test requested by

ABS

Plans furnished by

Semco

Offsets measured by

Semco

Curves of form computed by

Semco

Test conducted by

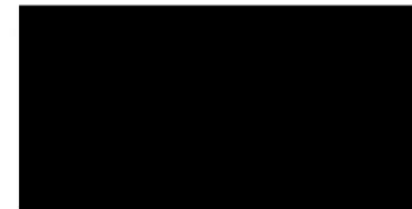
C. Pierce - Semco

Stability calculations made by

Semco

Duplicate vessels

None



STABILITY TEST

SEACOR POWER

PRINCIPAL DIMENSIONS

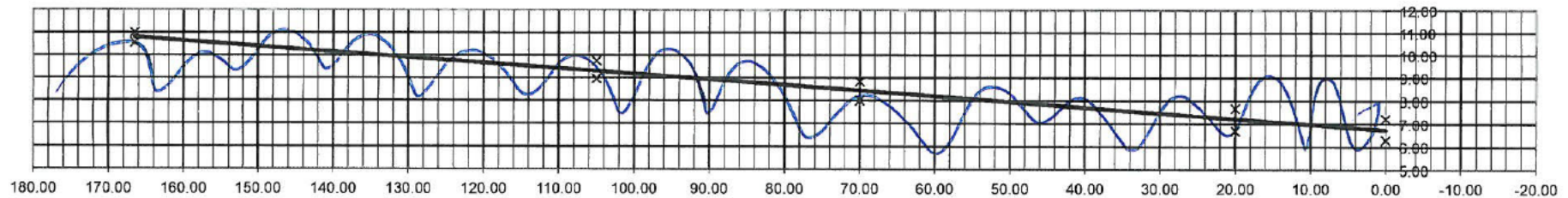
Length over all			166	feet	6.00	inches (166.50 feet).	(50.75 meters)
Length between perpendiculars which are at the extremities of			166	feet	6.00	inches (166.50 feet).	(50.75 meters)
Length between draft marks	condition			feet		inches (0.00 feet).	(0.00 meters)
Breadth, extreme, at	feet	inches above base	103	feet	0.00	inches (103.00 feet).	(31.39 meters)
Breadth, molded, amidships at	feet	inches above base	103	feet	0.00	inches (103.00 feet).	(31.39 meters)
Breadth at load water line			103	feet	0.00	inches (103.00 feet).	(31.39 meters)
Depth amidships, from		to	13	feet	0.00	inches (13.00 feet).	(3.96 meters)
Apparent full-load mean draft for stability	molded base		9	feet	9.00	inches (9.75 feet).	(2.97 meters)
	bottom of keel		9	feet	9	inches (9.75 feet).	(2.97 meters)
Displacement, sea water, long tons (2,240 lb.), at above full-load draft				tons.			(tonnes)
Freeboard amidships at above full-load draft (DWL)				feet		inches (0.00 feet).	(0.00 meters)
Freeboard at low point of sheer (feet aft of amidships)				feet		inches (0.00 feet).	(0.00 meters)
Location of ports, in hull, which may affect stability		NA					

GENERAL INFORMATION

Names and duties of official observers	
Designers represented by	
Builders represented by	
Owners represented by	
Weather, tide, and mooring conditions	vessel in slip @ Semco, LLC South yard. Winds light and variable 0-5 mph 5-10 mph NNW
Condition of ship as to completeness and as to water in machinery, and bilges	Vessel Complete, machinery wet, bilges dry

SEACOR POWER

SHIP AT TIME OF STABILITY TEST-CONDITION 0



(Except where accuracy of draft marks have been verified by U.S.C.G., freeboards must be furnished)

draft when inclined (check)		Forward	_____ feet _____ inches	Mean of forward and after drafts	_____ 8.76 feet
☐ (from draft marks)		Aft	_____ feet _____ inches	Hog (-) or sag (+)	_____ 0.000 feet sag
☒ (from freeboards)		Amidships (must be recorded)	_____ feet _____ inches	Trim forward(+), aft(-)	_____ -4.06 feet by stern
		Port	_____ feet _____ inches	Longitudinal center of flotation aft of FP	_____ feet aft
		Starboard	_____ feet _____ inches	Molded } draft at center of flotation	_____ 0.00 feet
Distance between "curves of form" perpendiculars			_____ feet	Molded } draft at L.C.F. corrected for hog or sag	_____ feet
Bottom of keel below base line			_____ inches	Total displacement at above draft FW, SW,	_____ tons
Molded }				Specific gravity of water	_____ equals #DIV/0! cubic feet/ton
drafts corrected to "curves of form" perpendiculars for use in calculations		Forward	_____ 6.73 feet	Total displacement corrected for density	_____ tons.
		Aft	_____ 10.79 feet		
		Mean	_____ 8.76 feet		

STABILITY TEST

SEACOR POWER

Location		Freeboard Readings (f)				Deck Thickness (t)			Vessel Depth (molded) (D)				Bulwark Height (b)			
		feet	inches	eighths	f	inches	eighths	t	feet	inches	eighths	D	feet	inches	eighths	b
1)	Frame: _____ ft. aft of FP: 0.00	Port 7 Strbrd. 6	9 10	2.0 1.5	7.771 6.849	0 0	2.5 2.5	0.026 0.026	13 13	0 0	0.0 0.0	13.000 13.000	1 1	0 0	2.0 6.0	1.021 1.063
2)	Frame: _____ ft. aft of FP: 20.00	Port 7 Strbrd. 6	3 4	7.0 2.0	7.328 6.354	0 0	2.5 2.5	0.026 0.026	13 13	0 0	0.0 0.0	13.000 13.000	0 1	11 0	6.5 0.0	0.984 1.000
3)	Frame: _____ ft. aft of FP: 80.00	Port 5 Strbrd. 4	4 6	0.0 0.0	5.333 4.500	0 0	2.5 2.5	0.026 0.026	13 13	0 0	0.0 0.0	13.000 13.000	0 0	3 3	6.0 6.0	0.313 0.313
4)	Frame: _____ ft. aft of FP: 105.00	Port 4 Strbrd. 3	5 7	0.0 4.0	4.417 3.625	0 0	2.5 2.5	0.026 0.026	13 13	0 0	0.0 0.0	13.000 13.000	0 0	3 4	6.0 6.0	0.333 0.344
5)	Frame: _____ ft. aft of FP: 166.50	Port 2 Strbrd. 2	10 5	4.0 2.0	2.875 2.438	0 0	2.5 2.5	0.026 0.026	13 13	0 0	0.0 0.0	13.000 13.000	0 0	4 4	6.0 7.0	0.396 0.406
6)	Frame: _____ ft. aft of FP: 0.00	Port _____ Strbrd. _____	_____	_____	0.000 0.000	_____	_____	0.000 0.000	0 0	0 0	0.0 0.0	0.000 0.000	_____	_____	_____	0.000 0.000

Drafts		calculated		difference (meas'd & linear)		calculated (2nd order)		difference (meas'd & 2nd)	
1)	Frame: 0 ft. aft of FP: 0.00	Port 6.28 Strbrd. 7.24	Mean: 6.73 6.758	Mean: 6.73 6.732	-0.456 0.508	Mean: 6.72 6.72	Mean: 6.72 6.72	-0.449 0.515	Mean: 0.03 0.03
2)	Frame: 0 ft. aft of FP: 20.00	Port 6.69 Strbrd. 7.67	Mean: 7.22 7.180	Mean: 7.22 7.220	-0.532 0.452	Mean: 7.22 7.22	Mean: 7.22 7.22	-0.532 0.453	Mean: -0.04 -0.04
3)	Frame: 0 ft. aft of FP: 70.00	Port 8.01 Strbrd. 8.84	Mean: 8.44 8.422	Mean: 8.44 8.439	-0.434 0.400	Mean: 8.45 8.45	Mean: 8.45 8.45	-0.442 0.392	Mean: -0.03 -0.03
4)	Frame: 0 ft. aft of FP: 105.00	Port 8.94 Strbrd. 9.74	Mean: 9.29 9.344	Mean: 9.29 9.292	-0.349 0.453	Mean: 9.30 9.30	Mean: 9.30 9.30	-0.357 0.445	Mean: 0.04 0.04
5)	Frame: 0 ft. aft of FP: 166.50	Port 10.55 Strbrd. 10.99	Mean: 10.79 10.771	Mean: 10.79 10.792	-0.245 0.203	Mean: 10.78 10.78	Mean: 10.78 10.78	-0.237 0.211	Mean: -0.01 -0.01
6)	Frame: 0 ft. aft of FP: 0.00	Port 0.00 Strbrd. 0.00	Mean: 0.000 0.000	Mean: 6.73 6.732	-6.732 -6.732	Mean: 6.72 6.72	Mean: 6.72 6.72	-6.725 -6.725	Mean: -6.72 -6.72

DATA ANALYSIS

LINEAR REGRESSION

$$y(x) = mx + b$$

m = 0.0244	Draft @ FP = 6.732
b = 6.7320	Draft @ MP = 8.762
σ = 0.3974	Draft @ AP = 10.792
r = 0.9617	

2ND ORDER POLYNOMIAL

$$y(x) = a + bx + cx^2$$

a = 6.72479	Draft @ FP = 6.725
b = 0.02477	Draft @ MP = 8.770
c = 0.00000	Draft @ AP = 10.783
σ = 0.18033	

STABILITY TEST

SEACOR POWER

LIST OF ITEMS TO DEDUCT

ITEM	DESCRIPTION	QTY	WEIGHT EACH (lbs)	WEIGHT TOTAL (ST)	V.C.G. ABL ft	VERTICAL MOMENT (ft.-tons)	L.C.G. ft AFT of FP	LONG'L MOMENT (ft.-tons)	T.C.G. ft OFF of CL	TRANS MOMENT (ft.-tons)
1	Timber Mats	1	30000.00	15.00	13.50	202.50	18'-0"	0.00	0	0.00
2	Transporter	1	130000.00	65.00		0.00	18'-0"	0.00	0	0.00
3	Test Weight	1	270000.00	135.00		0.00	18'-0"	0.00	0	0.00
4	AIR COMPRESSOR	1	20000.00	10.00		0.00		0.00		0.00
5	Potable Water Port	1		0.00		0.00		0.00		0.00
6	Sounding FULL			0.00		0.00		0.00		0.00
7	Potable Water Stbd	1		0.00		0.00		0.00		0.00
8	Sounding FULL			0.00		0.00		0.00		0.00
9	Fuel Storage Port	1		0.00		0.00		0.00		0.00
10	Sounding EMPTY			0.00		0.00		0.00		0.00
11	Fuel Storage Stbd	1		0.00		0.00		0.00		0.00
12	Sounding EMPTY			0.00		0.00		0.00		0.00
13	Fuel Day Port	1		0.00		0.00		0.00		0.00
14	Sounding 18"			0.00		0.00		0.00		0.00
15	Fuel Day Stbd	1		0.00		0.00		0.00		0.00
16	Sounding 18"			0.00		0.00		0.00		0.00
17	Hydraulic Oil Tank	1		0.00		0.00		0.00		0.00
18	Sounding 13 1/2"			0.00		0.00		0.00		0.00
19				0.00		0.00		0.00	0.00	0.00
20	Personnel 18	12	200.00	1.20		0.00		0.00	0.00	0.00
21	Personal Effects	800	250.00	1.25		0.00		0.00	0.00	0.00
22				0.00		0.00		0.00		0.00
23				0.00		0.00		0.00		0.00
24				0.00		0.00		0.00		0.00
25				0.00		0.00		0.00		0.00
	TOTAL			217.45	0.93	202.50	0.00	0.00	0.00	0.00

- MATS 16 PCS. @ 4' x 24'-0" @ 5990# EA = 95,840#
 6 PCS. @ 5' x 20'-0" @ 6240# EA = 37,440#
 2 PCS. @ 4' x 20'-0" @ 4990# EA = 9,980#

- TEST WEIGHTS - 1 @ 189,900#
 1 @ 34,500#
 1 @ 35,540#

+ TRANSPORTER @ 130,000#

STABILITY TEST

SEACOR POWER

SHIP AT TIME OF STABILITY TEST - CONDITION 0															
Pendulums			No.	WEIGHT		DISTANCE FROM INITIAL POSITION		MOMENT	TOTAL INCLINING MOMENT		PENDULUM DEFLECTIONS			TANGENT	
No.	Location	Length to Batten		No.	Tons	PORT Feet	STAR - BOARD Feet		PORT Ft-tons	STAR - BOARD Ft-tons	No.	PORT Inches	STAR - BOARD Inches	PORT	STAR - BOARD
1st		36'-4 1/2"	Shift 1	194.97	9.75'		0.00	0.00	0.00	1st	3 13/16"		0.00000	0.00000	
							0.00			2d	3 3/4"		0.00000	0.00000	
							0.00			3d	3 1/16"		0.00000	0.00000	
2nd		35'-9 1/2"	Shift 2		19.75'		0.00	0.00	0.00	1st	7 7/8"		0.00000	0.00000	
							0.00			2d	7 7/8"		0.00000	0.00000	
							0.00			3d	7 1/16"		0.00000	0.00000	
3rd		34'-10 1/4"	Shift 3		26'-7 1/2"		0.00	0.00	0.00	1st	10 7/8"		0.00000	0.00000	
							0.00			2d	10 9/16"		0.00000	0.00000	
							0.00			3d	10 1/4"		0.00000	0.00000	
INCLINING WEIGHTS LOCATION: <u>TRANSPORTER W/ CONCRETE BLOCKS.</u> DESCRIPTION:			Shift 4			21'-5"	0.00	0.00	0.00	1st		8 1/4"	0.00000	0.00000	
							0.00			2d		8 1/8"	0.00000	0.00000	
							0.00			3d		8"	0.00000	0.00000	
			Shift 5			11'-3 1/2"	0.00	0.00	0.00	1st		5 7/8"	0.00000	0.00000	
							0.00			2d		5 13/16"	0.00000	0.00000	
							0.00			3d		5 3/8"	0.00000	0.00000	
Plot Statistics m = slope = $1/\Delta(N\Sigma xy - \Sigma x\Sigma y) =$ #DIV/0! b = $1/\Delta(\Sigma x^2\Sigma y - \Sigma x\Sigma xy) =$ #DIV/0! $\Delta = N\Sigma x^2 - (\Sigma x)^2 =$ 0.00 N = 21 $\sigma = (1/(N-2)(y-b-mx)^2)^{0.5} =$ #DIV/0! r = $(N\Sigma xy - \Sigma x\Sigma y) / [(N\Sigma x^2 - (\Sigma x)^2)^{0.5}(N\Sigma y^2 - (\Sigma y)^2)^{0.5}] =$ #DIV/0!			Shift 6		8'-7"	0.00	0.00	0.00	1st		3 5/16"	0.00000	0.00000		
						0.00			2d		3 1/4"	0.00000	0.00000		
						0.00			3d		3 1/8"	0.00000	0.00000		
			Shift 7				0.00	0.00	0.00	1st			0.00000	0.00000	
							0.00			2d			0.00000	0.00000	
							0.00			3d			0.00000	0.00000	
			Shift 8				0.00	0.00	0.00	1st			0.00000	0.00000	
							0.00			2d			0.00000	0.00000	
							0.00			3d			0.00000	0.00000	

DATE _____ OF _____
PAGE _____ BY _____

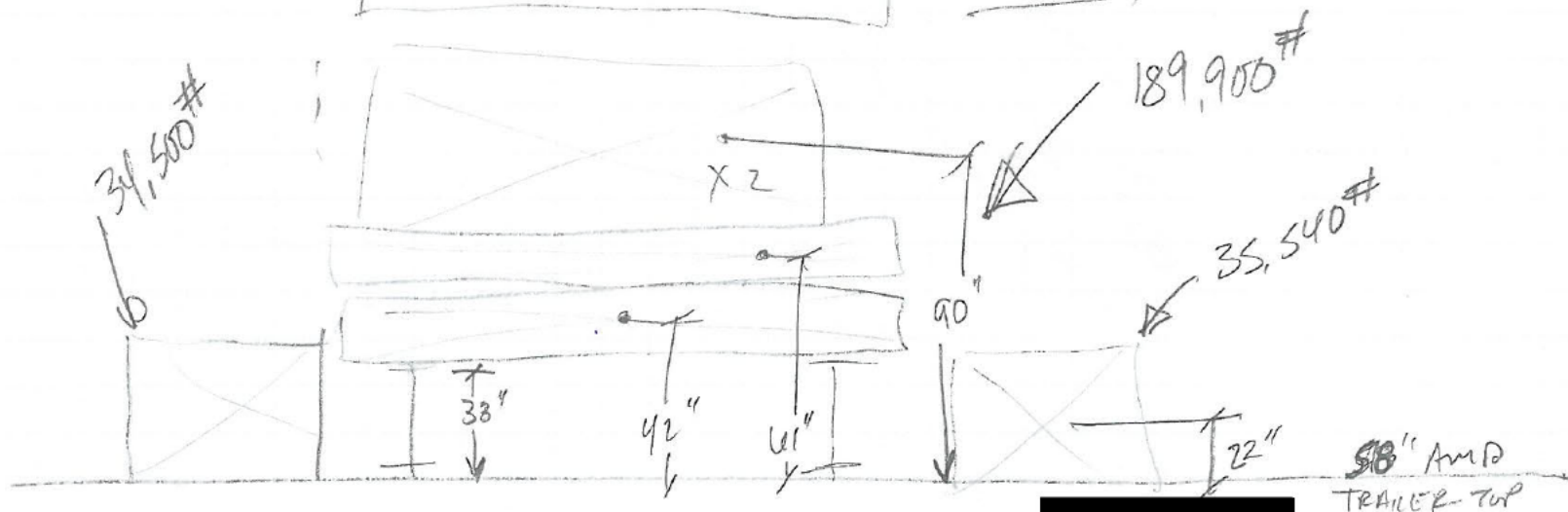
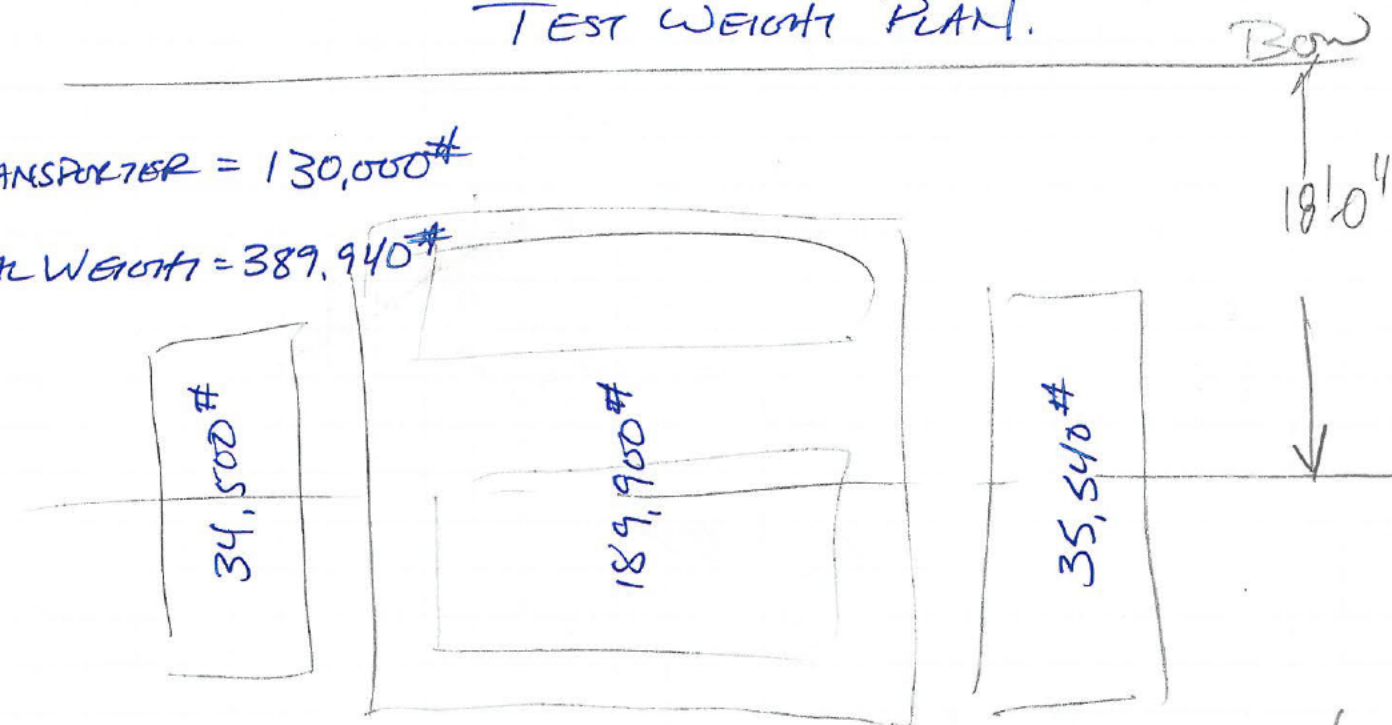
JOB _____
SUBJECT _____

SEVICO

TEST WEIGHT PLAN.

TRANSPORTER = 130,000#

TOTAL WEIGHT = 389,940#



TEST WEIGHT ELEVATION.

SEVICO

JOB _____
SUBJECT _____

DATE _____
PAGE _____ OF _____
BY _____

TANKS

Forepeak Void. - Dry

TANK A - Dry -

B - Dry -

C - Dry -

D - Dry -

E + Dry -

F - Dry

G - Dry

H - Dry

I - Dry

J - Dry

K - Dry

L - Dry

M - Dry

N - Dry

O - Dry

P - Dry

Q - Dry

R - Dry

S - Dry

T - Dry

U - Dry

V - Dry

W - Dry

X - Dry

Y - Dry

Z - Dry

Weight Movements

- 1-9'-9" P
- 2-19'-9" P
- 3-26'-7 1/2" P
- 4-21'-5" S
- 5-14'-3 3/4" S
- (28'-7")

Consumables

LUBE = 94 1/2" ABL (38" on 1100)

ROTABLE H₂O Port - Full
Starb - Full

HRD OIL = 131" ABL

FUEL DAY = 18" ABL P/S

FUEL STARBOARD - Dry

Freeboards

Starb

Port

48 1/2 48 3/8 ①

47 5/8 47 7/8 ②

39 1/4 39 3/8 ③

39 3/4 39 5/8 ④

43 1/4 43 1/2 ⑤

Post-Test
Pre-Test

TOP OF TRANSDUCER

58" AND

48 1/4 48
PRE-TEST
POST-TEST

