



OPN: 2309440 / JMC
Task: 557191

24 February 2010

Hockema & Whalen Associates, Inc.
5450 Leary Avenue NW #252
Seattle, WA 98107
Attention: Mr. John Myers

SUBJECT: "CORDOVA PROVIDER" ABSID 8127054
Tacoma Boat Building Co. Hull 425
218.5' x 60.0' x 12.0'
Oil Spill Response Vessel / Deck Cargo Barge (U.S. ON 639268)
Stability Review on behalf of the U.S.C.G. – NVIC 3-97

Dear: Mr. Myers,

We have your letter of 15 February 2010 and emails of 19 and 23 February 2010 submitting the following documents:

- 1) Doc No. 0645-100-21, "Deadweight Survey Data", Rev. A
- 2) Doc No. 0645-100-20, "Intact Stability – Service as Deck Cargo Barge", Rev. -
- 3) Doc No. 0645-100-19, "Intact Stability – Service as OSRV", Rev. A
- 4) Doc No. 0645-100-23, "Cargo Tank Sounding Tables, Rev. -

for our stability review of the subject vessel in association with a molded draft to the summer load line of 9'-3-15/16" (9'-4-7/16" extreme), corresponding to a 1966 Type "B-25% Reduced" vessel freeboard (for unmanned operation), of 2'-8-1/2", pursuant to Regulation 10 of the International Convention on Load Lines, 1966. This review was performed due to modification to the bow of the vessel, the addition of a transformer house and reinforcement structure added to the A-frame foundation.

1. Lightship Characteristics

Having completed our review of the deadweight survey, submittal item 1, performed on the subject vessel on 11 February 2010 at AML Docks in Seattle, Washington, we have found the following lightship characteristics acceptable:

| | | |
|---------|---------|---|
| Weight: | 1130.35 | Long Tons |
| VCG: | 9.89 | Feet Above Baseline |
| LCG: | 0.23 | Feet Aft of Frame 14 (or 97.73 Feet Aft of Headlog) |

Note: There is no permanent ballast onboard this vessel.

Submittal item 1 is stamped "Approved".

AMERICAS DIVISION

ABS PLAZA, 16855 NORTHCHASE DRIVE, HOUSTON, TX 77060 USA

TEL: 1-281-877-6000

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EMAIL: ABS-amer@eagle.org

WEBSITE: www.eagle.org

2. Intact Stability

Having completed our review of the intact stability calculations included in submittal item 2 and 3, we wish to advise that provided the subject vessel is loaded in accordance with the attached stability letter, the vessel will satisfy the requirements of the following regulations:

- a) 46 CFR 170.170 - Weather Criterion
- b) 46 CFR 174.015 - Intact Stability

3. Damage Stability

Having completed our review of the damage stability calculations included in submittal item 3, we wish to advise that as a tank vessel of not more than 492 feet, the subject vessel has been found capable of sustaining side or bottom damage anywhere between main transverse watertight bulkheads (one compartment damage) and complying with the damage stability criteria of 46 CFR 172.065. Our review was based on the following:

- a. The extent of assumed damage, in accordance with 46 CFR 172.065(e), is as follows:

| | <u>Longitudinal</u> | <u>Transverse</u> | <u>Vertical</u> |
|------------------|---------------------|-------------------|-----------------|
| Side Damage | 17.47' | 12.00 | No Limit |
| Bottom Damage | | | |
| Fwd 0.3L from FP | 17.47' | 16.41 | 4.00 |
| Aft 0.3L from FP | 16.41' | 16.41 | 4.00 |

- b. For the purposes of damage stability, the watertight integrity of certain compartments shall be maintained at all times. A list of these compartments are as follows:

| <u>Compartment</u> | <u>Fr.</u> | | <u>Fr.</u> |
|--------------------------------|------------|----|------------|
| Fwd Voids, P/S & center | 23 | to | 29 |
| Wing Voids, No. 1, P/S | 18 | to | 23 |
| Cargo Tanks No. 1, P/S | 18 | to | 23 |
| Double Bottom Tanks No. 1, P/S | 18 | to | 23 |
| Wing Voids No. 2, P/S | 13 | to | 18 |
| Cargo Tanks No. 2, P/S | 13 | to | 18 |
| Double Bottom Tanks No. 2, P/S | 13 | to | 18 |
| Wing Voids No. 3, P/S | 8 | to | 13 |
| Cargo Tanks No. 3, P/S | 8 | to | 13 |
| Double Bottom Tanks No. 3, P/S | 8 | to | 13 |
| Wing Voids, No. 4, P/S | 3 | to | 8 |
| Cargo Tanks No. 4, P/S | 3 | to | 8 |
| Double Bottom Tanks No. 4, P/S | 3 | to | 8 |
| Aft Rake Voids, P/S | 0 | to | 3 |

- c. All penetrations for pipes, cables, ventilations ducts or trunks, shafting, etc. through the above-mentioned bulkheads shall be maintained watertight. Doors or openings are not permitted unless authorized in writing by the certifying authority.
- d. All air pipes on the main deck are to be fitted with automatic means of closure.

We have reviewed the Tank Sounding Tables, submittal item 4, and found it to include the recommended information given in U.S. Coast Guard Navigation and Inspection Circular (NVIC) 8-84. We have not independently verified these calculations. As with all design calculations, accuracy is the submitter's responsibility.

Submittal items 2 thru 4 are stamped "Examined".

Enclosed is the stability letter for the subject vessel, issued by ABS Americas in accordance with USCG NVIC 3-97. It is the owner's responsibility to ensure that a copy of this letter is maintained in a suitable location with the Load Line certificate on board the barge at all times.

The following comment will be placed on the face of the Load Line certificate:

"This certificate is valid only so long as the operating restrictions in the vessel's stability letter, issued by ABS Americas and dated 24 February 2010, are observed. The certificate is valid for unmanned operation only."

The above submittals will be returned to you electronically, appropriately stamped to indicate our review. One copy of the submittals will be forwarded to the U.S. Coast Guard upon their request. We have retained a copy for our record and file.

As instructed, an invoice covering the technical service fee for our review will be sent to the owners, Bering Marine Corporation, under separate cover.

Should you have any questions or we can be of any further assistance, please feel free to contact the project engineer, Jenine Careen at (281) 877-6454. Please refer to ABS Task No. 557191 when responding to this correspondence.

Very truly yours,



Mahmood Billah
Sr. Managing Principal Engineer
Stability & Load Line Group, SED
ABS Americas

cc: USCG notification



STABILITY LETTER

24 February 2010

Master, CORDOVA PROVIDER, O.N. 639268
Tacoma Boat Building Co. Hull 425
218.5' x 60.0' x 12.0'
Combination Oil Spill Response Vessel [D] and Deck Cargo Barge [I]

You are responsible for maintaining this vessel in a satisfactory stability condition at all times and for following the instructions and precautions below.

A stability test witnessed by ABS Americas on behalf of the U.S. Coast Guard was conducted on the CORDOVA PROVIDER at Seattle, Washington on 11 February 2010. On the basis of that test, stability calculations have been performed. Results indicate that the stability of the CORDOVA PROVIDER, as presently outfitted and equipped, is satisfactory for operation on Exposed Waters, provided that the following restrictions are observed.

OPERATING RESTRICTIONS

1. ROUTE: Operation on Exposed Waters is permitted.
2. FREEBOARD AND DRAFT: A freeboard of at least 2 feet 8-9/16 inches (for unmanned operation), measured from the main deck amidships must be maintained. This corresponds to a molded draft of 9 feet 3-15/16 inches (9 feet 4-7/16 inches, extreme) measured at that location. Trim should be minimized, and shall not exceed 4.5 feet by the bow and 4.5 feet by the stern.
3. WEIGHT CHANGES: This stability letter has been issued based upon the following light ship parameters:

| | | |
|---------|---------|---|
| Weight: | 1130.35 | Long Tons |
| VCG: | 9.89 | Feet Above Baseline |
| LCG: | 0.23 | Feet Aft of Frame 14 (or 97.73 Feet Aft of Headlog) |

Any alteration resulting in a change in these parameters will invalidate this stability letter. No fixed ballast or other such weights may be added, removed, altered, and or relocated without the authorization and supervision of the cognizant OCMI. The barge is not fitted with permanent ballast.

4. HULL OPENINGS: Any openings that could allow water to enter into the hull or deckhouse shall be kept closed when rough weather or sea conditions exist or are anticipated.
5. WATERTIGHT BULKHEADS: No watertight bulkheads shall be removed, or altered without the authorization and supervision of the cognizant OCMI.
6. BILGES: The vessel's bilges and voids shall be kept pumped to minimum content at all times consistent with pollution prevention requirements.

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7. LIST: You should make every effort to determine the cause of any list of the vessel before taking corrective action.

8a. TANK LOADING (WHILE OPERATING AS AN OIL SPILL RESPONSE VESSEL):

Liquid cargo may be carried in the cargo tanks. All other tanks shall be kept empty. Any number of cargo tanks may be slack at any one time. Any cross connections between port and starboard tank pairs shall be kept closed at all times when underway. The specific gravity of liquid cargo shall not exceed 1.025.

The loading sequence of the cargo tanks shall be as follows:

- 1st Fill Tanks No. 3 P/S
- 2nd Fill Tanks No. 2 P/S
- 3rd Fill Tanks No. 4 P/S to 50%
- 4th Fill Tanks No. 1 P/S to maximum of 50%
- 5th Fill Tanks No. 4 P/S until desired freeboard is achieved

8b. TANK LOADING (WHILE OPERATING AS A DECK CARGO BARGE):

Water ballast may be carried in the forward and aft rake tanks, filled and emptied through the manhole openings, to maintain trim limit. All other tanks shall be kept empty.

9a. DECK CARGO / EQUIPMENT (WHILE OPERATING AS AN OIL SPILL RESPONSE VESSEL):

A maximum of 150 short tons of deck equipment, including a maximum of 9 short tons of generator fuel may be carried. The maximum vertical center of gravity of the deck equipment shall not exceed 10 feet above the vessel's concrete wear deck. The maximum height of the deck equipment shall not exceed 25 feet above the vessel's concrete deck. Deck equipment must be positively secured against shifting before leaving protected waters.

The longitudinal center of gravity of the deck equipment is not to be further forward than Frame 24 (25 feet aft of headlog) and no more further aft than Frame 1 (195 feet aft of headlog). To maintain the vessel's trim limit, place the longitudinal center of gravity of the deck equipment at an appropriate location between frame 1 and frame 24.

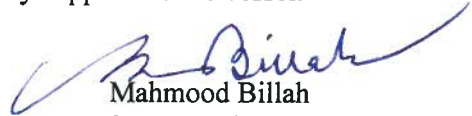
The fork lift, if carried, is to be included in the deck equipment weight. The environmental response vans need not be included in the deck equipment weight.

9b. DECK CARGO / EQUIPMENT (WHILE OPERATING AS A DECK CARGO BARGE):

The carriage of deck cargo shall be in accordance with the attached cargo loading diagrams, bearing the ABS Americas approval stamp dated 24 February 2010. Deck cargo may be positively secured against shifting.

CORDOVA PROVIDER
O.N. 639268
Tacoma Boat Building Hull 425
24 February 2010

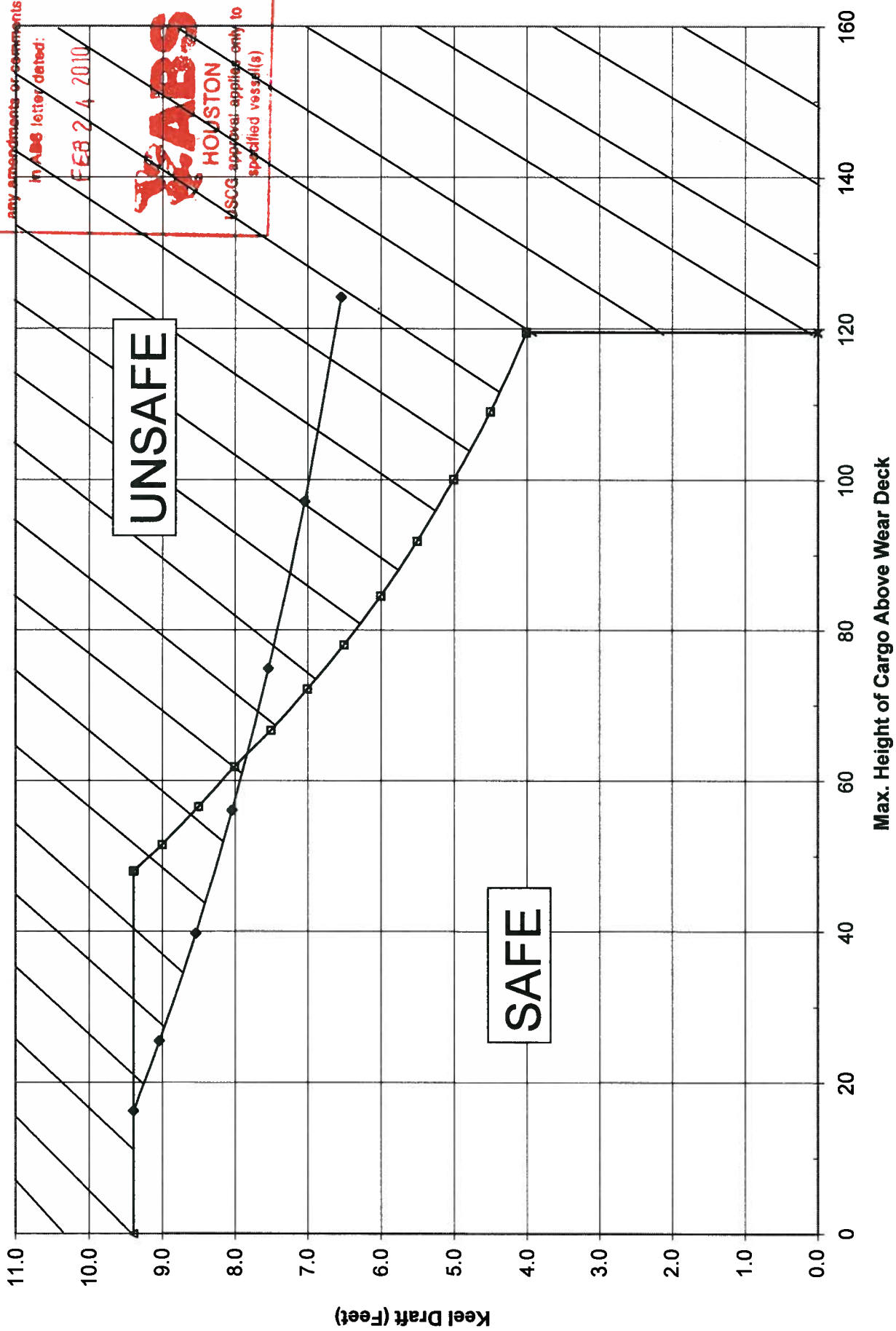
This stability letter, along with the Load Line certificate, shall be maintained in a suitable protected location on board the barge. It supersedes and stability information previously supplied to the vessel.



Mahmood Billah
Sr. Managing Principal Engineer
Stability & Load Line Group, SED
ABS Americas

- Attachments:
- a) Maximum Deck Cargo Height vs. Draft Diagram, bearing the ABS Americas approval stamp dated 24 February 2010.
 - b) Maximum Deck Cargo VCG vs. Draft Diagram, bearing the ABS Americas approval stamp dated 24 February 2010.

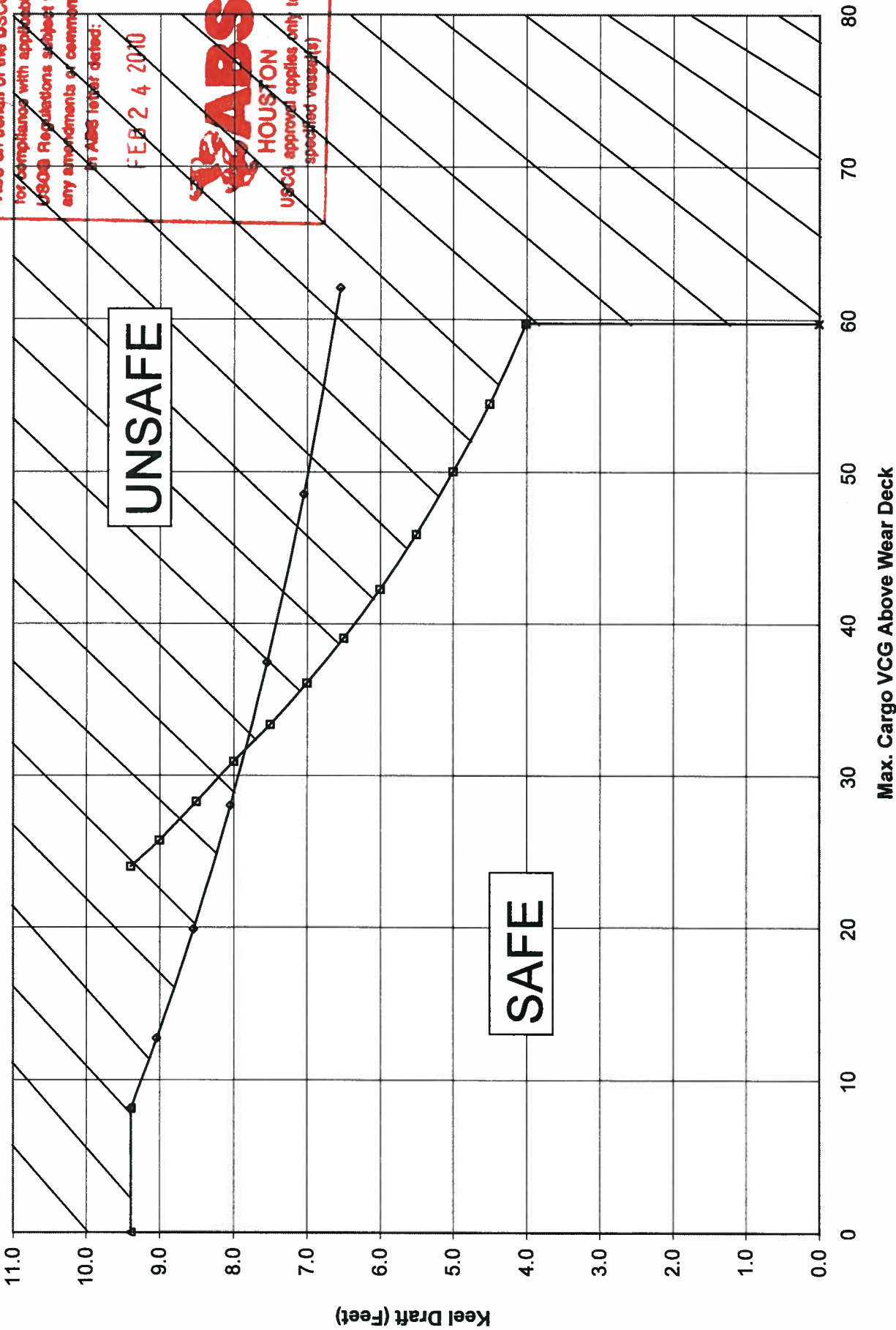
Barge "CORDOVA PROVIDER"
FIGURE 1



APPROVED by
 ABS on behalf of the USCG
 for compliance with applicable
 USCG Regulations subject to
 any amendments or comments
 in ABS letter dated:
FEB 24 2010
ABS
HOUSTON
 USCG approval applies only to
 specified vessel(s)

—■— Windheel Criteria —▲— Max. Draft —◆— LS Draft —◆— Dynstab

Barge "CORDOVA PROVIDER"
FIGURE 2



—◆— Dynamic Stability Criteria —■— Windheel Criteria —▲— Max. Draft —×— LS Draft