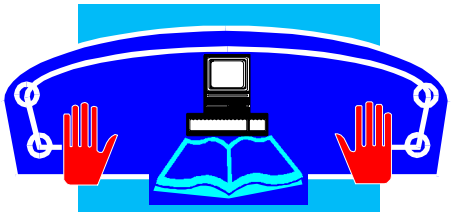
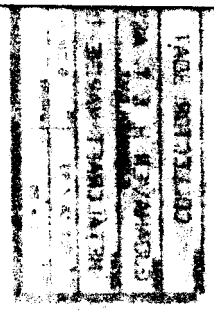


Arctic Vessel Development Keewatin Arctic Char Collector Vessel
Type of Study: Transportation
Author: Canada-fisheries & Oceans(dfo)
Catalogue Number: 3-7-27

Financial assistance provided by Indian and Inuit Services.

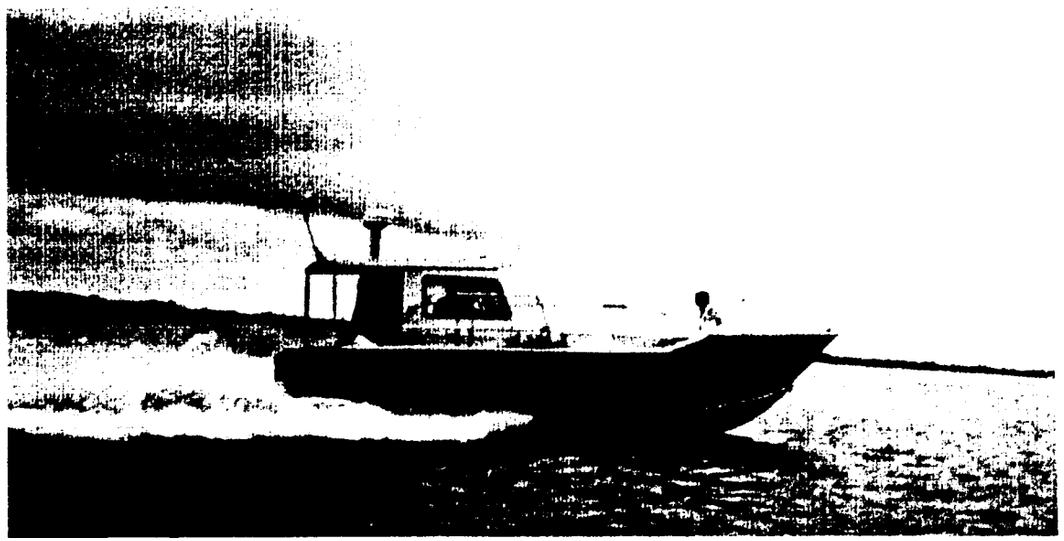
FISHERIES

3 - 7 - 27



ARCTIC VESSEL DEVELOPMENT

Keewatin Arctic Char Collector Vessel



Constructed for **N.W.T.** Development Corp. by
Metalcraft Marine, Kingston, **Ontario**

ARCTIC FISHERIES - VESSEL DESIGN STUDY

In July of 1991, the Federal Department of Fisheries and Oceans undertook a preliminary feasibility study into the development of suitable vessel for use in developmental fisheries in the Arctic. The Naval Architecture Division of the University of British Columbia's Engineering Department were engaged to provide the required technical expertise. The initial findings were reviewed at a fisheries technology transfer workshop, co-sponsored by DFO and the Government of the Northwest Territories in October of **1991.**

In the fall of **1991,** Copro Limited was engaged by the Northwest Territories Development Corporation to develop a business plan for the plant and infrastructure needed to revitalize the Keewatin Arctic Char fishery. That plan recognized the overlapping interests of the two projects. The opportunity for cooperation between the NWT Development Corporation initiatives and the DFO project was identified. In short, collector vessels were required to deliver fish from the harvest camps to the plants in the Keewatin, and the DFO project could be applied to this specific problem, to develop the vessel specifications and building estimates for this particular application.

DFO, through their Fishing Industry Services Branch, were able to work with the NWT Development Corporation to offer expertise to develop the most appropriate and cost effective vessel for this application. They engaged the University of BC Naval Architecture Division to provide the design expertise, and Copro Limited to co-ordinate the project and facilitate the communications between the Development Corp., the Keewatin proponents, and the design team.

The final report, provided the Development Corporation not only with a design, but also the competitive bids of tendering that design to three different yards from across Canada. As a result, the Development Corporation have built a vessel at Metal Craft Marine in Kingston Ontario this year. That vessel is depicted on the cover of this package.

The following drawings reflect the design process, from a generic hull designed by UBC, to the specific arrangement arrived at after consultations in the Keewatin. General arrangements for this vessel as configured for Keewatin, as well as a general arrangement with a forward wheel house, as requested by the HTA of Gjoe Haven NWT are also included.

Design Objectives:

- To develop the design for two suitable and cost effective collector boats for the char fishery in the Keewatin, with input from the community proponents.

- To provide full working drawings, specifications, and builder's tender documents for the construction of the vessels.

-To provide bids from three separate yards for the construction of the vessels for delivery to the Keewatin.

Design Consultation Process:

- Review studies and examples of past collection methods and the vessels used.

- Interviewed those in the region who have been and will be involved in the fishery, to identify their preference in design, and those features of past experiments that have been effective, as well as those that have not.

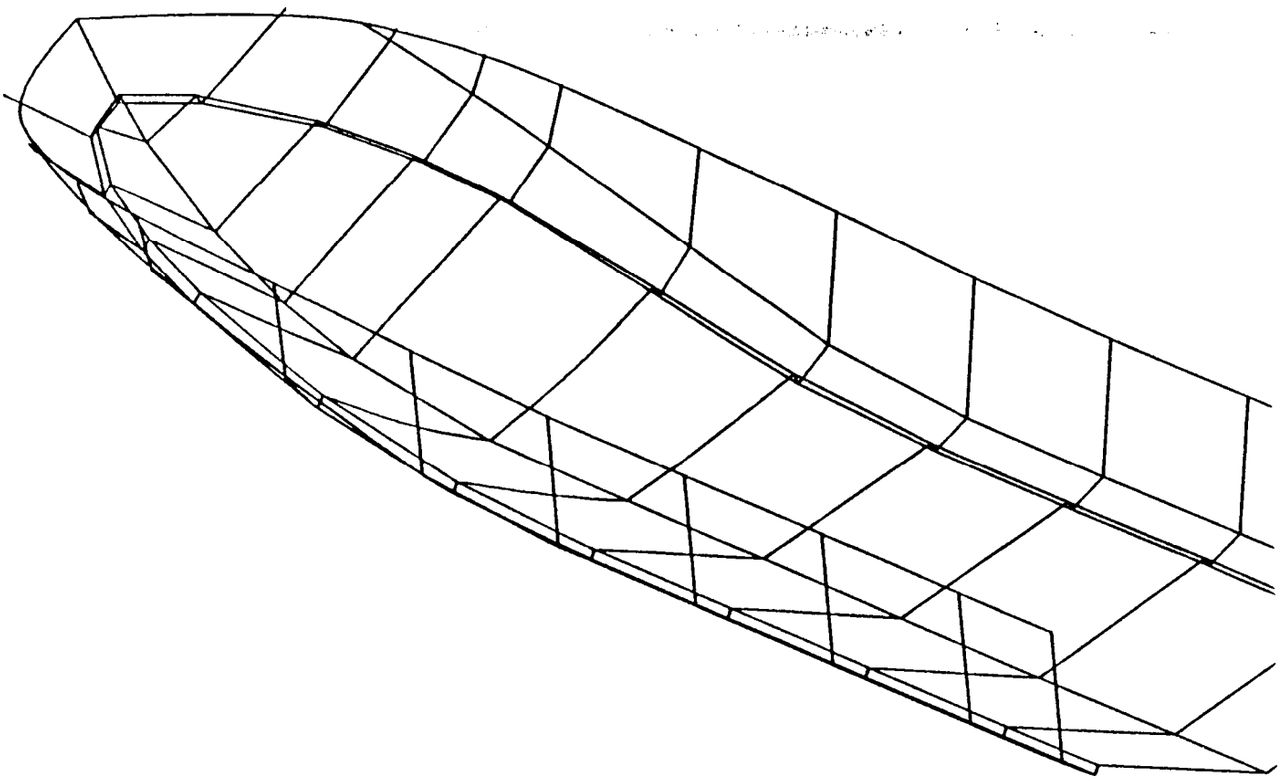
- The Naval Architect and the Co-ordinator met in Keewatin with proponents, for vessel and client needs assessment. This included the charter of one of the collector boats being used in the region for the 1992 season, to participate in collection during normal operations.

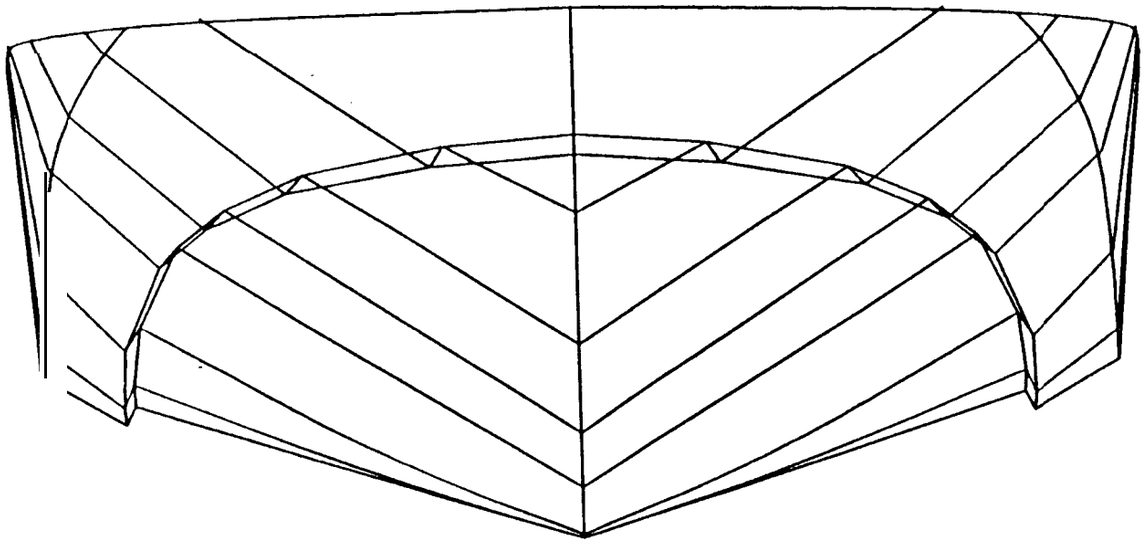
- Developed preliminary designs and specifications with cost estimates. Included will be alternate modifications and cost premiums for additional options.

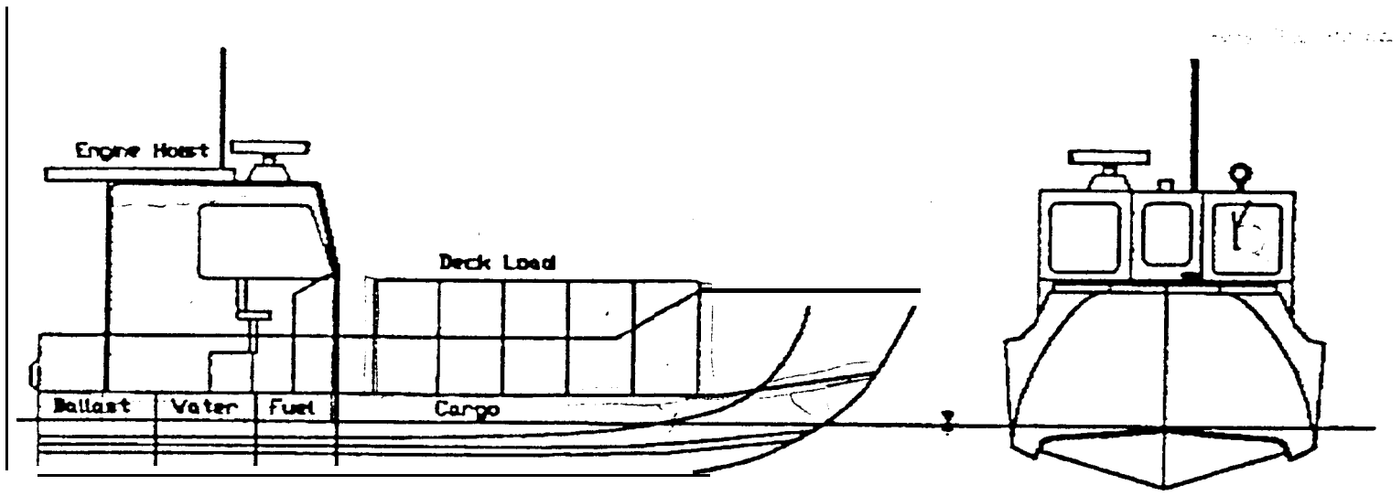
- Presented in Keewatin the of design options, their rational, and sought community advice and input for final design specifications.

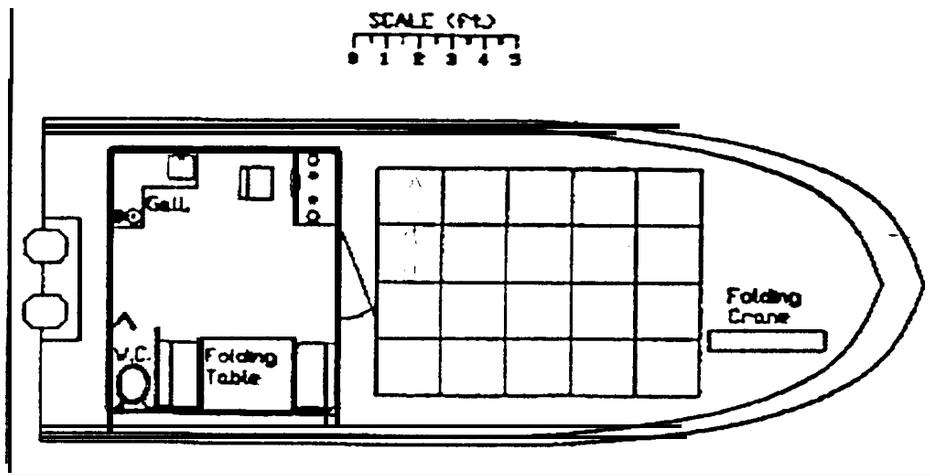
- Finalized design, specifications, and tender documents for final review by regional proponents.

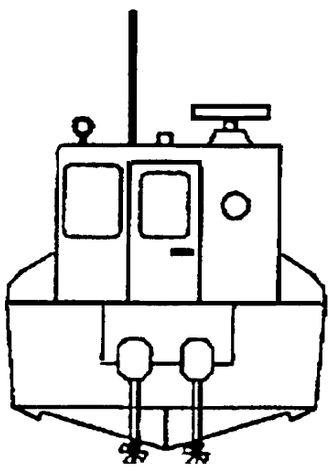
- Tendered for bids from at five yards; three Canadian from BC, Manitoba, and Ontario, and two American yards. The American yards did not return bids. The UBC design was presented as the specification against all yards were to bid, but since the builders were chosen on the basis of their experience in building boats of the size and configuration required, they were asked to include pricing of vessels based on their own standard hull designs.











Specifications

LOA	28'0"
Beam	10'
Draft	2'
Disp.	10,000lbs.
Freebd.	5'8"
Power	180-230hp Outboards
Payload	2 Tonnes
Fuel	200 gal.
Material	Alum.

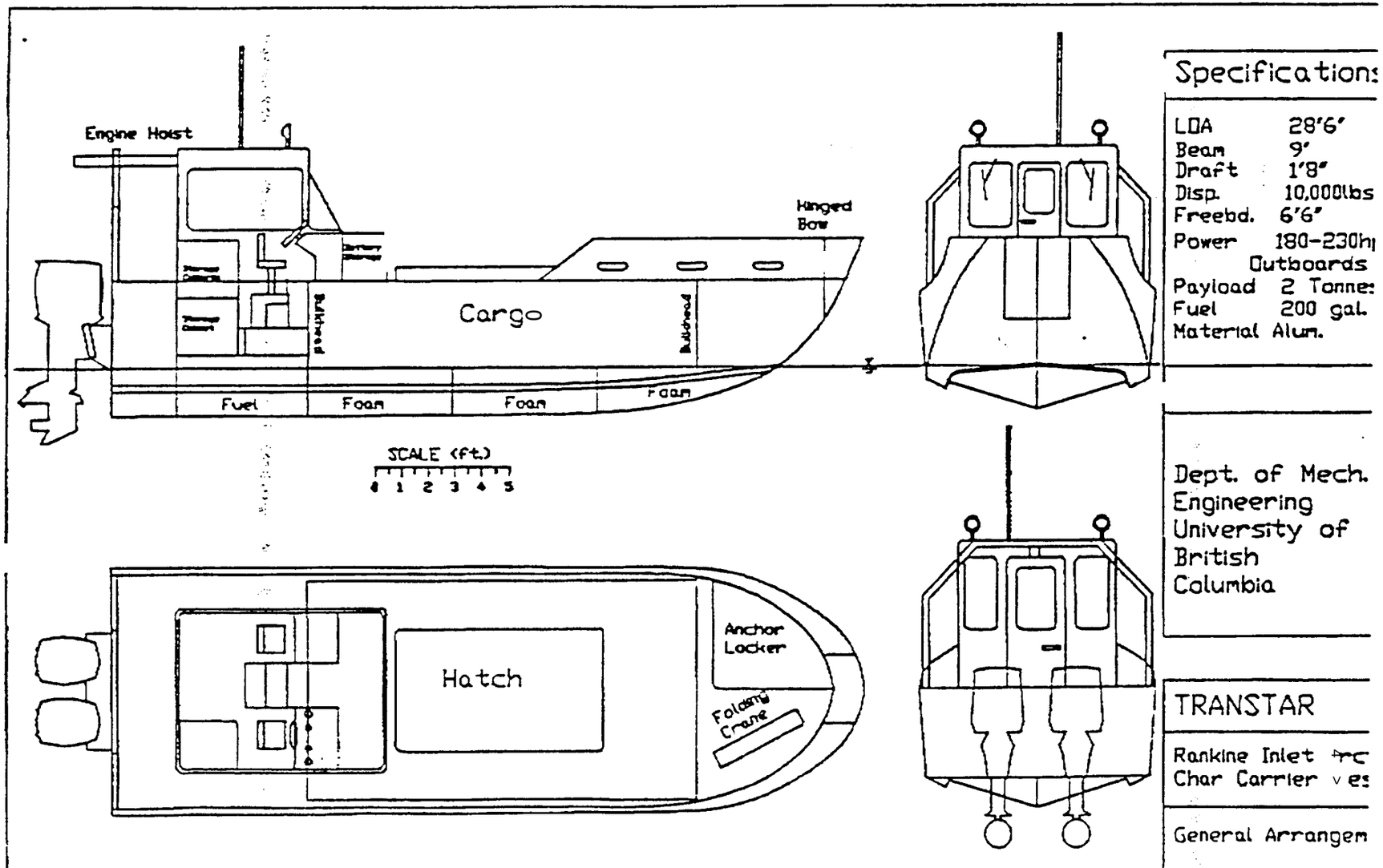
Options

- Hydraulic Crane
- Radar
- Satellite System
- Depth Sounder
- Engine Hoist
- Custom Interior
- Fresh Water System
- Porta Potti
- Propane Stove
- Refrigerator
- Foldable Beds

TRANS AR

Hudson Bay Arctic Char Carrier Vess.

General Arrangent.



Specifications

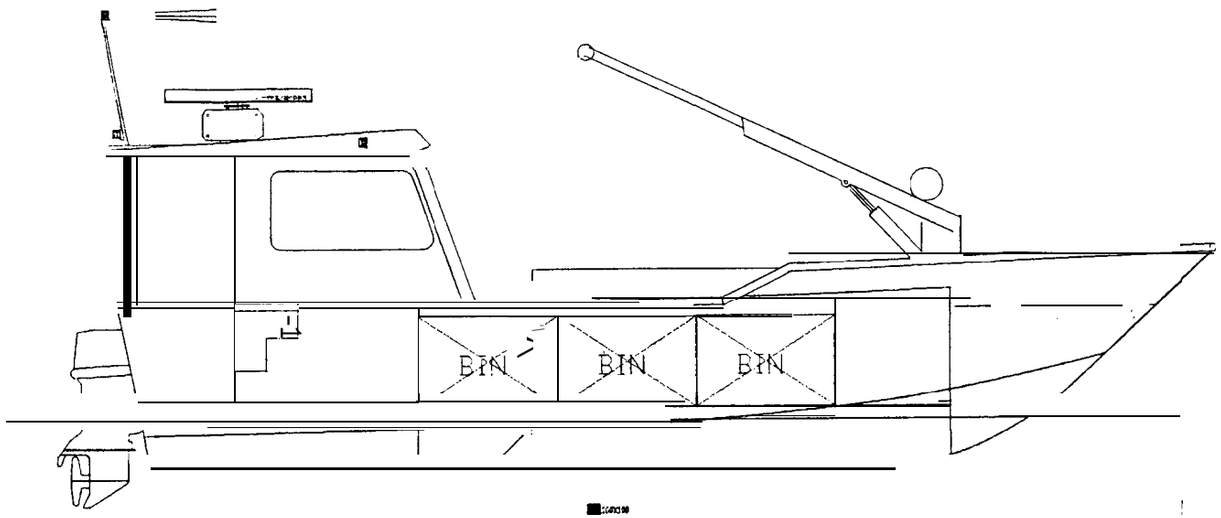
LOA	28'6"
Beam	9'
Draft	1'8"
Disp.	10,000lbs
Freebd.	6'6"
Power	180-230hp Outboards
Payload	2 Tonnes
Fuel	200 gal.
Material	Alum.

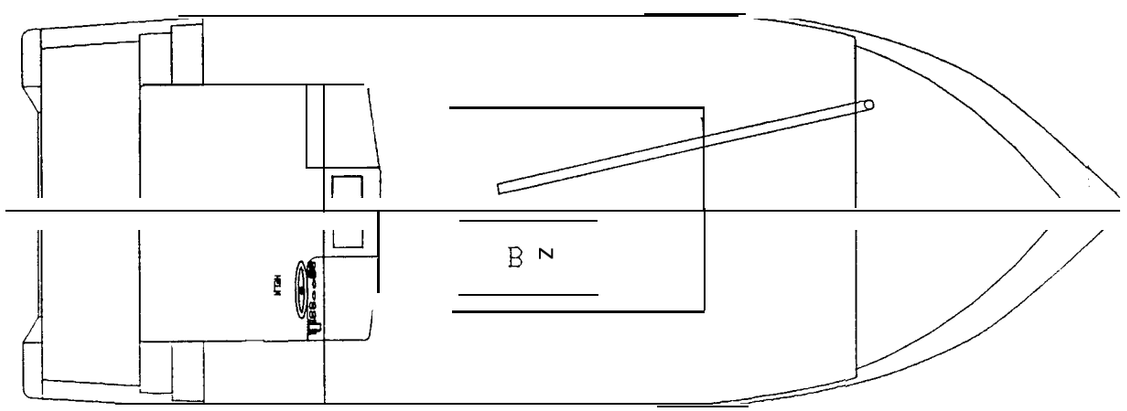
Dept. of Mech. Engineering
University of British Columbia

TRANSTAR

Rankine Inlet ~~arc~~
Char Carrier ves

General Arrangem

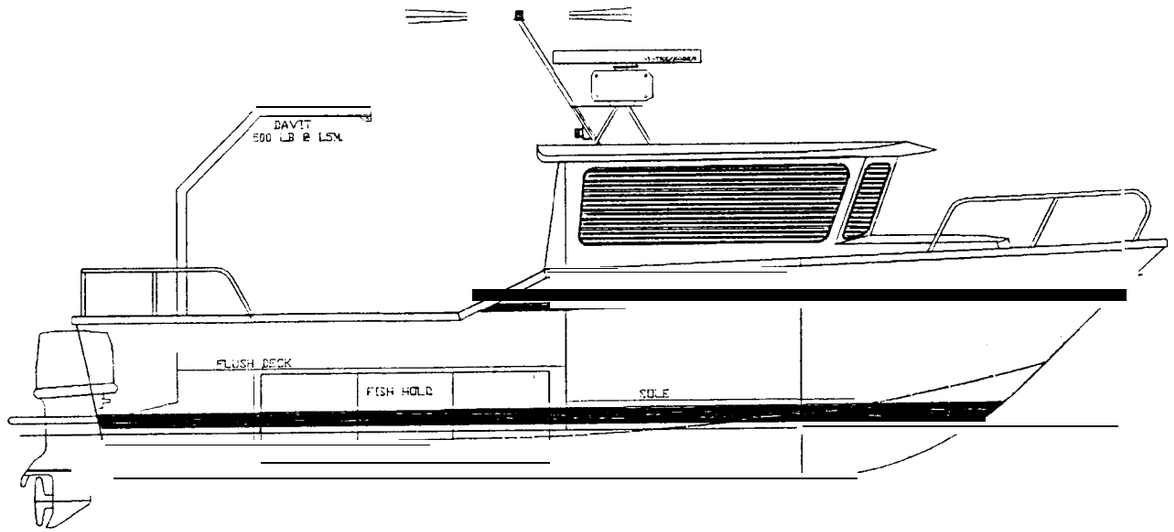




KINGSTON 28

LOA	28'-3" (8.61M.)
BEAM	10'-8" (3.25M.)
DEPTH (of Hull)	17" (.43M.)
DISPLACEMENT	4300 Kg.
CONSTRUCTION	WELDED ALUMINUM
POWER	TWIN MERCURY 150 H.P.
SPEED	40 KNOTS

PROJECT: COLLECTOR BOAT	
OWNER: N.W.T. DEV. CORP. RANKIN INLET, N.W.T.	
BUILDER: METALCRAFT MARINE INC.	
DATE: SEPT. 12/93	NO: 96-GA
SCALE: 1 = 20	APPROVED:



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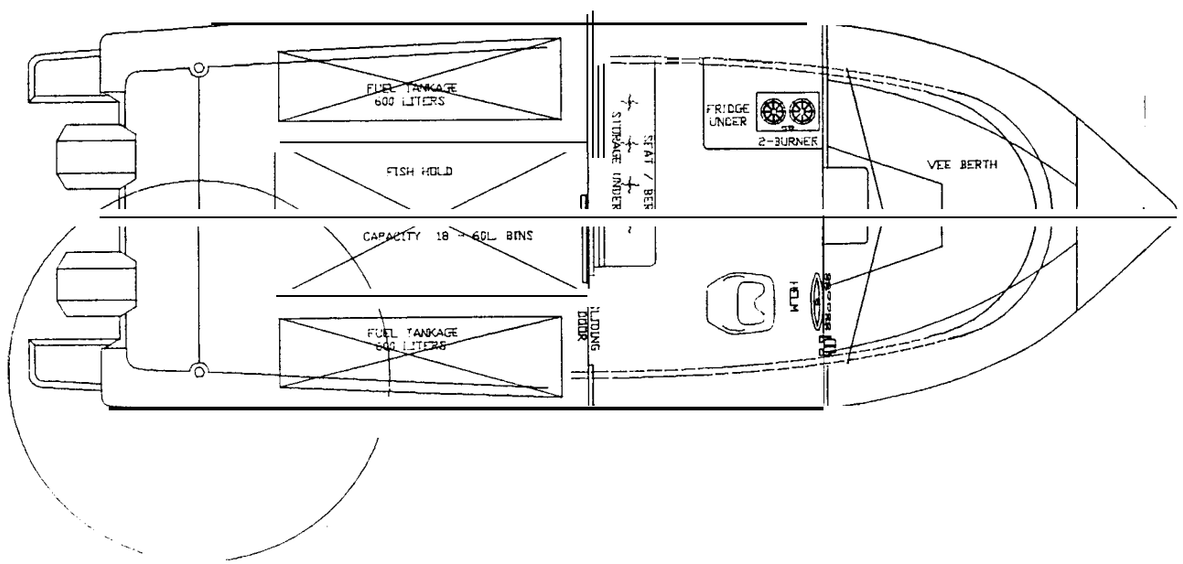

PROJECT	COLLECTOR BOAT
OWNER	GJOAHAVEN H. & T. ASSOC. GJOAHAVEN N.W.T.
BUILDER	METALCRAFT MARINE INC.
DATE OCT. 18 / 93	NO. GJOA-28
SCALE 1 = 20	APPROVED