

MARITIME REPORTER

AND
ENGINEERING NEWS



'Westport'

**Bender Delivers
Cat-Powered Scalloper
To Tradewind Fishing**

(SEE PAGE 8)

JULY 1, 1980

Queen of liners returns to King of drydocks



The beautiful QE2 is 963 ft long, 105 ft wide, and draws 32-1/2 ft of water. The big Bayonne graving dock measures 1,100 x 140 ft, and shows 40 ft of water over the blocks at mean high tide.

BAYONNE, NEW JERSEY—It's deep enough, long enough and wide enough to engage the **QUEEN ELIZABETH 2**, world's largest active passenger liner. It's the former Navy drydock, operated by Bethlehem, located at the Military Ocean Terminal in New York Harbor. Bethlehem leases this drydock and adjacent facilities from the U.S. Government and operates it as an integral part of our repair yard at Hoboken, a few miles north on the Jersey shore.

This visit of the **QE2** was for her annual overhaul —plus extensive boiler and propeller work, and

a wide variety of repairs and modifications throughout the ship. It was the third time in as many years she has come to Bethlehem for servicing. With our expertise in all phases of repair and our demonstrated ability to perform on schedule, we look forward to retaining her favor.

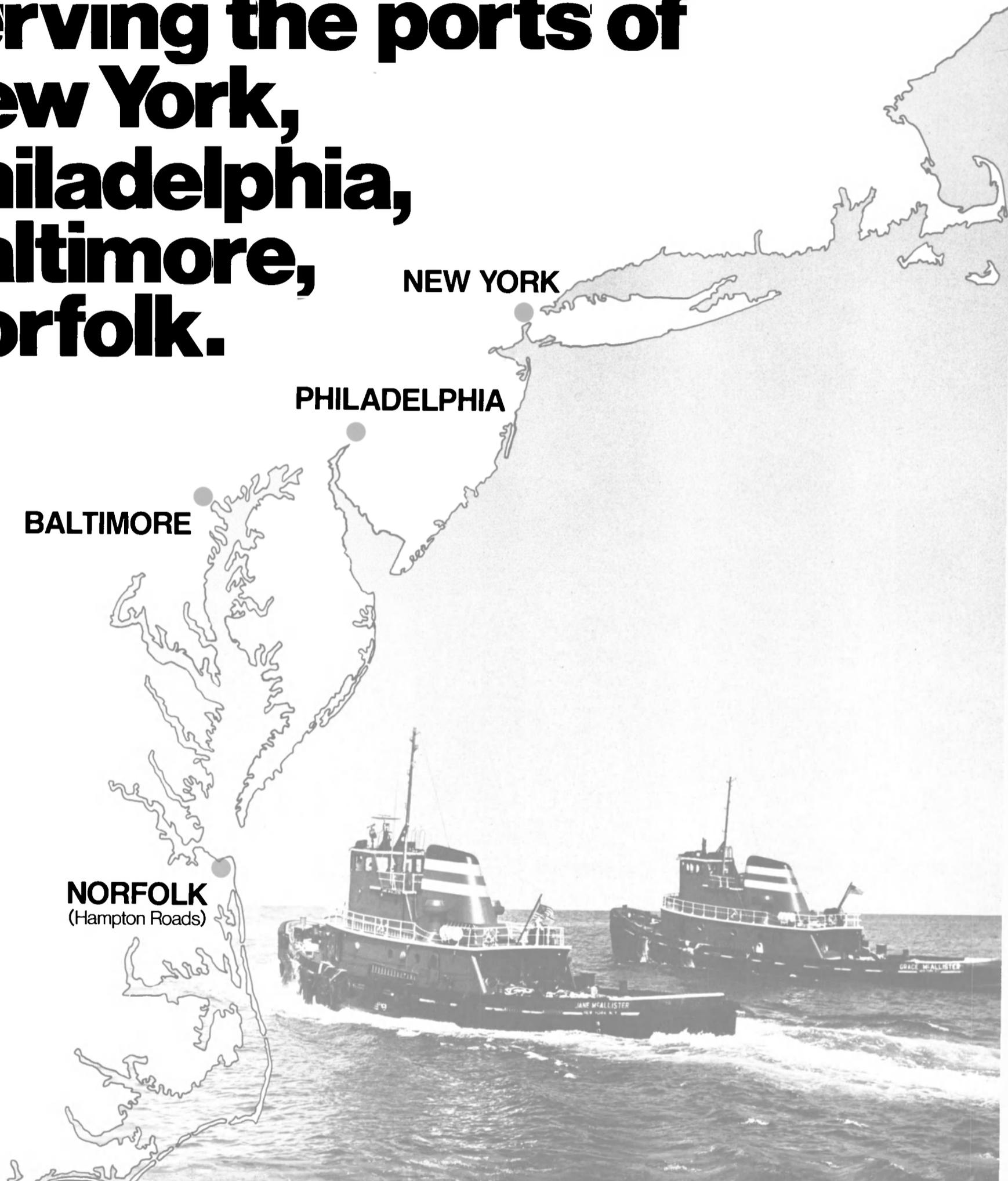
BethShip 
Bethlehem Steel—Shipbuilding

Ship Repair Sales: One State St. Plaza, New York, NY 10004

Cables: BETHSHIP New York • Telex: 222-847 or 421-604 • Phone: (212) 558-9500

Drydocks in Baltimore, New York, Boston, Los Angeles, and San Francisco Harbors, and at Beaumont, Texas.

McAllister... serving the ports of New York, Philadelphia, Baltimore, Norfolk.



McAllister Brothers, Inc. Towing and
transportation. 17 Battery Place.
New York, N. Y. 10004. (212) 269-3200
Baltimore (301) 547-8678 • Norfolk (804) 627-3651
Philadelphia (215) 922-6200 • San Juan (809) 724-2360

McAllister



SEA CUSHION[®] MARINE FENDER ... the inflation fighter.



Sea Cushion foam-filled fenders give you more for your money. More capacity, reliability and peace of mind. In sizes 2' x 3' to 11' x 22' for dock or ship-to-ship applications.



6269 Leesburg Pike
Falls Church, VA 22044 U.S.A.
Telephone: (703) 534-3500
Telex: 899-455



Blocker Asks Title XI For Two Drill Barges To Cost \$23.8 Million Total

Blocker Marine, Ltd. I, a subsidiary of Blocker Drilling & Marine Company, Houston, has applied for a Title XI guarantee to aid in financing the construction of two posted drilling barges.

The proposed builder of the barges, which are to be operated in the inland and offshore waters of Louisiana, is J. Ray McDermott, New Iberia, La. Scheduled delivery dates are February and March 1981.

If approved, the Title XI guarantee would cover \$17 million of the total actual cost of \$23,807,000.

W.G. Ender Named L.A. District Purchasing Agent For Bethlehem Steel

The promotion of William G. Ender Jr. to district purchasing agent of Bethlehem Steel Corporation's Los Angeles district has been announced in Bethlehem, Pa., by Ralph K. Smith, vice president, purchasing.



William G. Ender Jr.

Mr. Ender, who is advancing from assistant district purchasing agent, succeeds John W. Ball, who has retired. The district includes Bethlehem's Los Angeles steel plant and San Pedro, Calif., shipyard.

Mr. Ender joined Bethlehem Steel's purchasing department in Bethlehem as a buyer in 1965. He was promoted to senior buyer and transferred to the New York City general purchasing offices in 1973, to assistant (New York) district purchasing agent in 1974, and to district purchasing agent in 1975. He was transferred to Los Angeles and named assistant district purchasing agent in 1978.



Omnithruster[™] More Than Just A Bow Thruster

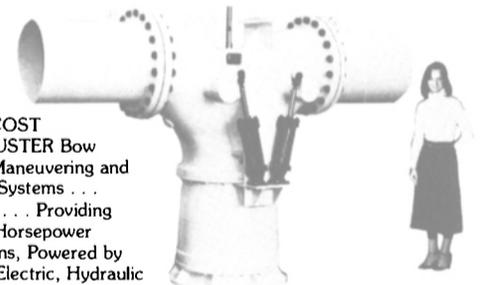
- ◆ Thrusts Underway
- ◆ Thrusts While Pitching
- ◆ No Reversing Impeller to Change Directions
- ◆ Minimum Buoyancy Loss
- ◆ Smaller Hull Penetration
- ◆ Fuel Savings

OMNITHRUSTER DOES IT ALL!

- ◆ Thrusts with nozzles out of water ... in rough seas.
- ◆ No protrusions ... no change in hull shape.
- ◆ Small nozzles reduce drag ... save fuel and passage time.
- ◆ Easily retrofitted.

OMNITHRUSTER Helps Supply Boats Deliver "Come Hell or Rough Water."

- ◆ Keeps working when other boats must lay off and wait.
- ◆ Reduces rig and boat damage.
- ◆ Simplifies maneuvering with inexperienced crew.



LOWEST-COST
OMNITHRUSTER Bow
and Stern Maneuvering and
Positioning Systems ...
PV SERIES ... Providing
50 to 3000 Horsepower
Combinations, Powered by
AC or DC Electric, Hydraulic
or Diesel Drive.

*Covered by U.S. Patents; Foreign Patents Pending.

OMNITHRUSTER INC.
New Address 15418 Cornet Avenue, Dept. 37JO
Santa Fe Springs, California 90670
213/802-1818 Telex 194265 OMNI SFES
Cable Address Omnithrust

MARITIME REPORTER AND ENGINEERING NEWS

(USPS 016-750)

No. 13

Volume 42

107 EAST 31st STREET
NEW YORK, N. Y. 10016
(212) 689-3266

ESTABLISHED 1939

ALL MATERIAL FOR EDITORIAL CONSIDERATION SHOULD BE ADDRESSED TO ROBERT WARE, EDITOR.

Maritime Reporter/Engineering News is published the 1st and 15th of each month by Maritime Activity Reports, Inc. Controlled Circulation postage paid at Waterbury, Connecticut 06701.

Postmaster send notification (Form 3579) regarding undeliverable magazines to Maritime Reporter/Engineering News, 107 East 31st Street, New York, N.Y. 10016.

Member



Business Publications
Audit of Circulation, Inc.

MITSUBISHI DIESELS: HIGHEST PERFORMANCE AND LOWEST FUEL CONSUMPTION EVER.

Compact and efficient, low maintenance needs and economical on fuel. The Mitsubishi diesels are available now all along the Gulf Coast from Oosterhuis Industries.

You can't beat the Mitsubishi diesels. They come in wide horse power ranges and consume less fuel than comparable

engines. They save money in other ways, too, through minimized maintenance and low original capital investment.

And every Mitsubishi diesel is backed by complete service and spare parts available from Oosterhuis dealers from Texas through Florida. You're on the right course with

Mitsubishi diesels.

Ask people who have them, or contact Oosterhuis Industries, Inc., Engineers Road, Belle Chasse, Louisiana 70037.

Mailing Address: P.O. Box 30587, New Orleans, Louisiana 70190.

*Cable: OOSTERHUIS
Telephone: (504) 394-6506*

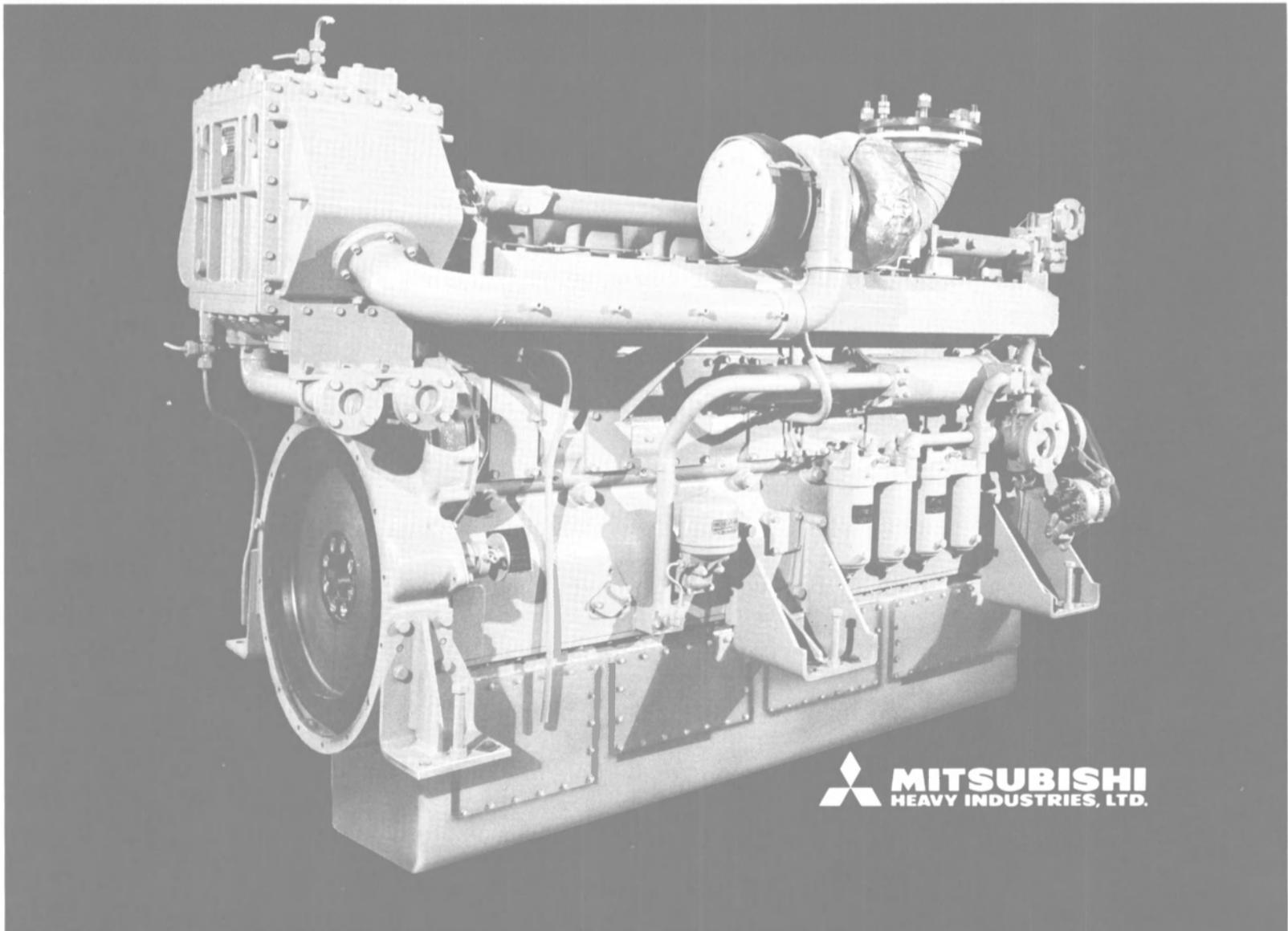
Telex: 0587332

*Houston Office Telephone:
(713) 960-1400*

Oosterhuis Industries, Inc.



Available now from Oosterhuis Industries.



**New Loran C Unit
Introduced By SI-TEX
—Literature Available**

The new SI-TEX/KODEN 757, introduced by SI-TEX, automatically acquires and tracks master transmitting station and all usable secondaries of any Loran C chain. Time Differences (TDs) of any two secondaries can be displayed simultaneously. Operation is completely silent. Four automatic or

manually variable notch filters eliminate interference.

Microprocessor and large-scale integration (LSI) design makes for smaller size and greater reliability. The small size and vertical design of the 5-inch by 7-inch by 10-inch receiver make it ideal for both the center console of the overcrowded wheelhouse of larger boats.

Internal memory circuits feature "store" and "recall" modes.

Position memory stores and recalls eight separate Loran C positions. "Always on" memory retains chain number, secondary stations and all eight memories even after receiver is turned off.

"ComPuNav" steering feature of the 757 computes and guides helmsman along a course to any one of eight preprogrammed waypoints/destinations. It also indicates time and distance to get there. Elapsed time can also be

displayed. Planned options include latitude/longitude readout.

For complete information on the SI-TEX/KODEN Model 757 dual automatic Loran C receiver, write to David Church, SI-TEX, Dept. MR, P.O. Box 6700, Clearwater, Fla. 33518.

**McDermott To Build
Second Offshore Platform
For Union Oil Company**

J. Ray McDermott & Co., Inc. has received a letter of intent from Union Oil Company of California for a turnkey project which will involve the design, fabrication, and installation of a second giant offshore platform in the East Breaks Field in the Gulf of Mexico. When completed in 1982, the combination drilling-production platform will stand 1,020 feet above the Gulf floor in East Breaks Block No. 159.

The platform's 960-foot jacket will contain 21 well slots, and is designed with a special eight-legged configuration. To reduce wave stress, its launch trusses will terminate 215 feet below sea level with only the four external legs extending out of the water to join the deck section.

The launch weight of the jacket, pre-installed conductors, and skirt piles will be approximately 18,000 tons. These and the deck sections will be designed by McDermott Engineering Services Group-New Orleans. They will be fabricated and installed by the McDermott Structural Group, based in Morgan City, La.

Union Oil Company of California is the operator of the East Breaks Field for the partnership composed of Union, Amoco Production Company, and Mobil Oil Company.

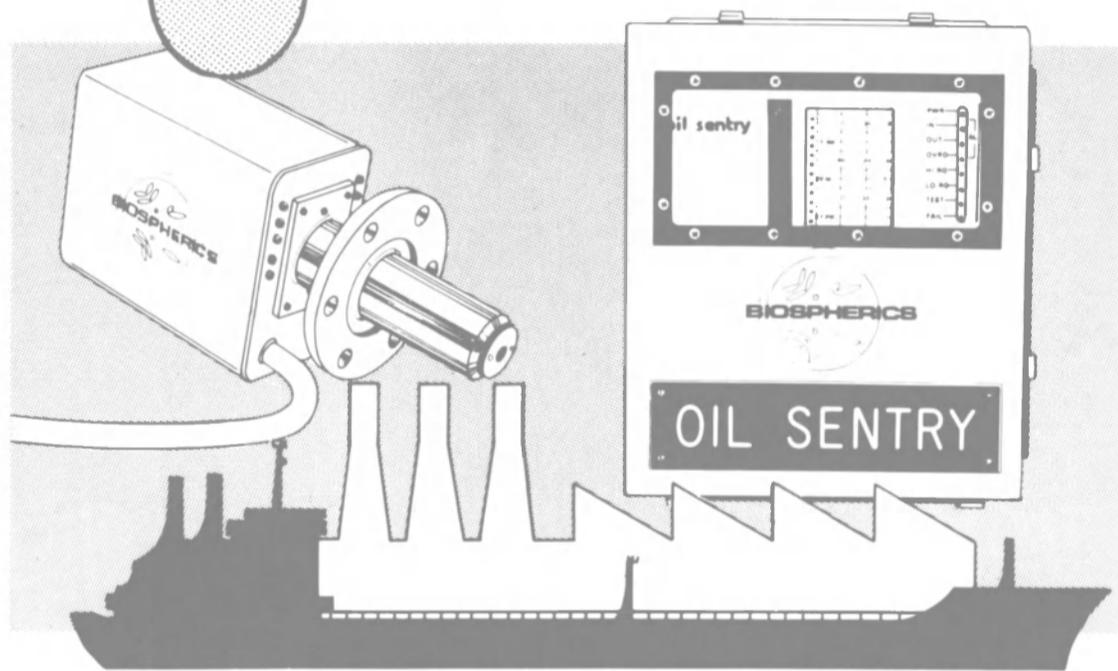
**Stafilopatis Named
President Of Home
Lines Cruises Inc.**

Frangiskos G. Stafilopatis has been named president of Home Lines Cruises Inc. Formerly executive vice president of the line, he succeeds Capt. Mario F. Vespa, who has retired after 34 years with the company.

Mr. Stafilopatis joined Home Lines in 1955 as general manager of the National Hellenic American Line, a Home Lines subsidiary that operated the liner Queen Frederica between Greece, Italy, Canada, and the United States. In 1966, he was transferred to the company's headquarters in Switzerland, where he was special assistant to Nicos Vernicos-Eugenides, shipowner and president of Home Lines Inc.

Mr. Stafilopatis subsequently held executive positions within the company in Italy, West Africa, Argentina, and Greece. He returned to New York in 1977 as executive vice president of Home Lines Cruises.

**oil sentry[®] OIL-IN-WATER
MONITOR**



**The Only Oil-In-Water Monitor
Offering All These Benefits:**

- Compact Size
- On-Line Sampling
- Self-Cleaning



DESIGNED FOR: Bilge Discharges
Process Water Streams
Industrial Effluents
Condensate Return Lines
Separator Effluents



For more information, call or write:

Environmental Instrumentation Division
Biospherics Incorporated
5001 Forbes Boulevard
Lanham, Maryland 20801 USA

(301) 459-8090 TELEX 908 740

**Blair M. Kerr Named
VP For Business
Development At IMODCO**

Blair M. Kerr, long identified in a management capacity with IMODCO, the pioneer offshore marine terminal company, has been named to the newly created position of vice president-business development.

He was managing director-IMODCO Limited, and IMODCO vice president-European Area from July 1972 to September 1979, and since then has been on special assignment.

To be headquartered in Los Angeles, Mr. Kerr will direct a new Business Development Group addressing itself to all offshore and near-shore design, engineering, and construction opportunities.

He joined IMODCO in 1971 as area representative for Southeast Asia, the Southwest Pacific, and Australia, before transferring to London. Earlier, he was employed by Dodwell Australia PTY Limited, initially as a marine engineer and later promoted to general manager.

**Versatile Semi-Trailers
Are Handled By Fork Lifts
—Literature Available**

Lift-Loaders are a unique family of fork-lift truck operated semi-trailers. They are engaged by a fork lift in a matter of seconds and become very maneuverable truck-trailer combinations.

Each Lift-Loader can be used as a conventional trailer or as a self-loading and unloading trailer. The uniqueness of the Lift-Loader is based on its capability to load and unload itself when used in conjunction with simple trestles, stands, loading tables, or other fixtures.

The Lift-Loader series consists of 18 models with load-carrying capacities ranging from 5 to 330 tons. In most circumstances, these trailers can extend the normal load-handling capacity of a standard fork-lift truck by a factor of 10 or more.

Their versatility enables them to be effectively utilized for general and specific purpose handling assignments as well as for transporting any type of load, ranging from palletized goods to complete ship sections.

Originally developed in Sweden during the early 1950s by Linkopings Transportindustri AB of Linkoping, Sweden, these trailers have proven themselves in Europe and have been widely adopted in the shipbuilding, offshore oil, steel stockholding, steel fabrication, and heavy metals industries.

Total Transportation Systems, Inc. has obtained the exclusive

rights to manufacture and market the Lift-Loader series. TTS is a subsidiary of Total Transportation Systems (International) A/S of Norway, a company that has a worldwide reputation in the fields of marine and industrial material-handling technology.

For a free brochure on the Lift-Loader, write to Andrew Yates, Dept. MR, Total Transportation Systems, Inc., P.O. Box 6127, Newport News, Va. 23606.

**Title XI Approved On
Four Tug/Supply Boats
To Cost \$11.3 Million**

The Maritime Administration has approved in principle the application by Gulf Pacific Partnership, Lafayette, La., for a Title XI guarantee to aid in financing the construction of four offshore towing/supply vessels. The vessels are intended to operate under charter, initially in the Gulf of Mexico.

The 180-foot by 40-foot by 14-foot vessels are being constructed by Halter Marine, Inc., New Orleans. Rated at 2,900 bhp, they will be capable of 12 knots.

The estimated actual cost of the vessels for Title XI purposes is \$11,306,992. The Title XI guarantee approved is for up to 87½ percent of the total cost, or \$9,893,000. Deliveries are scheduled between September and December 1980.

the pourable, permanent chocking system

Chockfast®



- 1** used to install more than 8,000 marine main propulsion systems . . . with cumulative in-service hours exceeding 175 million.
- 2** approved for main propulsion machinery by Lloyd's Register of Shipping . . . for operation at temperatures to 80°C (176°F) and by all other classification societies, worldwide.
- 3** assures reliable, permanent alignment for new construction or rechocking . . . without machining foundations, bedplates or chocks.
- 4** eliminates fretting, wearing and loose chocks (common to metal chocking), which can cause misalign -

- ment and broken hold-down bolts . . . leading to severe damage to crankshafts, crankcases and bearings.
- 5** provides a more uniform, precise mounting . . . for superior, permanent retention of critical alignment.
- 6** resists degradation by fuels, lubricants and fire . . . and eliminates corrosion in chock areas.
- 7** installation time for even the largest marine main propulsion diesels is measured in hours . . . not weeks.
- 8** also proven in worldwide service under a complete range of auxiliary machinery.

Clockwise from lower left: (A) 25,000 hp, 12-cylinder B&W marine engine weighing 1400 tons, is typical of engines installed on CHOCKFAST. Typical marine installations include (B) Indiana Harbor, (C) Apache, (D) M V Columbia, (E) M.S. Rodin, (F) G.R. Moir, (G) Golden Med, (H) Concordia, (I) Tor Britannia, (J) Viking Piper, (K) Coopeatun I, (L) Jamie A. Baxter and (M) M.S. Lisita.



PHILADELPHIA RESINS CORPORATION
20 Commerce Drive • Montgomeryville, PA 18936 USA
Telephone (215) 855-8450 • Telex 84-6342
Cable Philres MMLL
CHOCKFAST: the ultimate system for permanent alignment of main propulsion machinery.
Technical service and application supervision available throughout the world from Philadelphia Resins' factory trained, certified representatives.

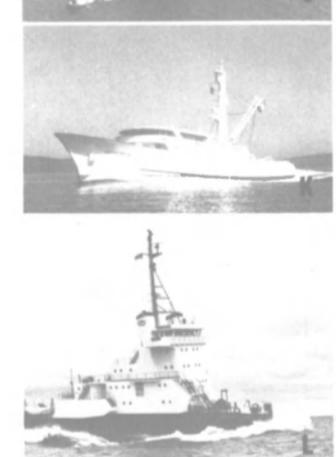
PHILADELPHIA RESINS CORP. 20 Commerce Drive • Montgomeryville, PA 18936 USA

We have an immediate application for CHOCKFAST*
Name of Ship, Barge or Platform _____

New installation Rechocking

Name _____
Title _____
Company, Ship or Yard: _____
City _____ State or Country _____ Zip _____
Telephone No. _____ Ext _____

Our interest is general. Please send New CHOCKFAST* Bulletin 631.
Are you familiar with CHOCKFAST?
 Yes No Some knowledge



ON THE COVER

Bender Delivers Scallop 'Westport' To Tradewind Fishing

Bender Shipbuilding & Repair Company of Mobile, Ala., recently delivered the scalloper Westport to **Soren Henriksen** of Tradewind Fishing Corporation, New Bedford, Mass. She is the first of four identical vessels under construction at the Bender yard. Two will be owned by Tradewind Fishing and two were ordered by **Eddie Carter** of the Donna Lynn Fishing Corporation, also of New Bedford.

This latest series of scallopers embodies many changes and improvements arising from operating experience with the Tradewind, which was delivered to Mr. **Henriksen** two years ago. The Westport has an overall length of 98 feet, beam of 25 feet, and depth of 14 feet.

The new vessel is powered by a Caterpillar model D399 diesel with an output of 1,100 bhp, driving a Columbian Bronze 4-blade,

70-inch by 75-inch, Kort nozzle propeller through a Caterpillar clutch and a Caterpillar model 7261 reduction gear having a ratio of 3.84:1. Service speed is 11.5 knots. Engine controls are Mathers model AD12.

Cutless rubber stern bearings were supplied by Lucian Moffitt; main shaft bearings are Dodge "Sleevoil." The main engine is cooled by Fernstrum keel coolers. Two auxiliary engines are Caterpillar model D3304T.

Deck equipment includes two Hathaway model 12 AITHS hydraulic trawl winches and a 16-inch Hathaway trawl block. Hydraulically positioned gallows are moved outboard into fishing position by hydraulic rams. When in this position, fishing loads are carried by the structure of the vessel.

Central air-conditioning by Therman serves the wheelhouse



Many advanced features are incorporated into the Caterpillar-powered **Westport**, a scallop fishing boat delivered recently by Bender Shipbuilding of Mobile to Tradewind Fishing Corporation of New Bedford, Mass. Vessel will fish on Georges Bank.

and main and lower deck accommodations. The shucking house aft has Carrier air-conditioning and heating. The 15-man inflatable life raft was supplied by Swit-Lick, and the air horn is a Kahlenberg model T1.

Electronic gear, supplied as a package by EPSCO and installed by the R.H. Sassaman Company of Mobile, includes the following:

EPSCO radar model M16, radar model EB Seaveyor, Loran C model Seanav XL (one 32-volt dc and one 115-volt ac), two model 2001 depth recorders, model 901 autopilot with model 505 standard compass; Cobra CB radio with SSB, Northern SSB radio model N550, Yaesu shortwave receiver model FRG-7, and Raytheon Loudhailer.

Oceangoing Tank Barge Built By Zidell For Pacific Northern

Zidell of Portland, Ore., recently delivered the **Rosemarie**, an oceangoing tank barge built in Tacoma, Wash., for Pacific Northern Oil. Her Grade D petroleum capacity of 24,000 barrels makes this 230-foot barge the second largest of its kind in Puget Sound.

The barge was christened at Johnny's Dock in Tacoma by **Mrs. Laura Gosselin**, mother of the late **Rosemarie Politeo**, for whom the vessel is named. **Mrs. Politeo** was the wife of **Stephen Politeo Sr.**, Pacific Northern's vice president-industrial marketing.

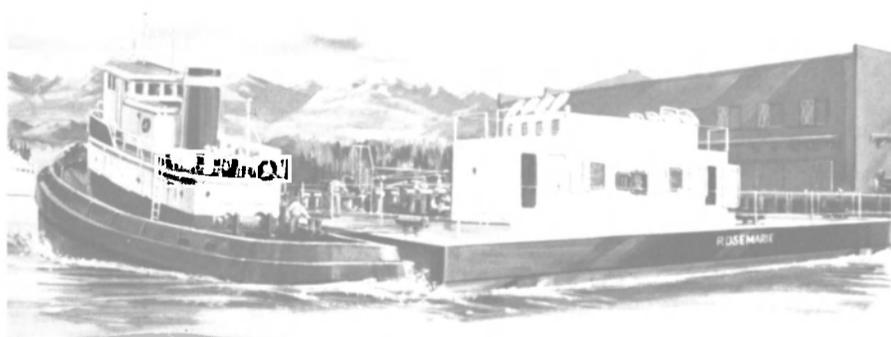
The **Rosemarie** has a completely integrated piping system for suction and discharge, heating coils, and an onboard strainer system. The dual pumping system is capable of pumping fuel from either port or starboard tanks, and filters fuel before and after it leaves the vessel's tanks. Underdeck piping permits the barge to carry deck cargo. She will be used primarily for ship bunkering and fuel transfer in Seattle, Portland, and Alaska. The **Rosemarie** will be operated by Pacific

Northern Marine, a sister company of Pacific Northern Oil.

Also present at the christening ceremonies were **Jack Zidell**, **Tom Sherwood**, and **Wes Banek** from Zidell; corporate officers from Pacific Northern; and Dunlap Towing Company's **Jim Dunlap Sr.**, **Jim Dunlap Jr.**, **Tom Halle**, and **Dick Hallenger**. Dunlap has the towing contract for the **Rosemarie**.

When Pacific Oil was founded in 1973 it did not sell oil to the marine industry, relying heavily

on sales to industrial customers. In 1977, however, the company gambled with the possibility of attracting many ships to bunker in the Northeast rather than in Los Angeles, Japan, or Europe. When the North Slope crude from Alaska began to flow, so did Pacific Northern's growth. Since 1977 the company has grown 780 percent; sales figures for 1980 are expected to be in excess of \$180 million. Pacific Northern currently services more than 50 percent of the ships that bunker in Portland and Seattle.



Artist's conception shows oil barge **Rosemarie** leaving Pier 91 in Seattle. Vessel will be handled by Dunlap Towing of La Conner, Wash., and operate in Seattle, Portland, and Alaska.



Principals at christening of **Rosemarie** included (L to R): **W.E. Fritz Gosselin**, father of the late **Rosemarie Politeo**; **Stephen Politeo Sr.**, vice president-industrial marketing, Pacific Northern Oil; **Laura Gosselin**, vessel's sponsor; and **Dale Trapp**, Pacific Northern Oil vice president.

Built to Serve World Trade



Moran leads the way in New York harbor
with powerful and efficient tugs,
and a century of experience.

Moran Towing & Transportation Co., Inc.

"The Best in the Business"

One World Trade Center • Suite 5335 • New York, New York 10048



Jeffboat Launches The Alco-Powered 'Volunteer State'



Jeffboat, Inc., Jeffersonville, Ind., has launched the 145-foot by 48-foot, twin-screw towboat M/V Volunteer State for service on the Ohio and Mississippi River Systems. Nashville-based H & S Transportation will be operating the vessel. The vessel carries over 100,000 gallons of fuel oil, 3,000 gallons of lube oil, and 10,000 gallons of potable water. Its twin, 16-cylinder Alco engines are coupled with Lufkin reverse reduction gears to turn the 110-inch propellers at 215 rpm. Its layout includes permanent quarters for a crew of 12, a lounge, radio room, galley, and laundry room.



A new type of cutter/dredge developed in Australia and now marketed worldwide by Neumann Equipment Marketing Co. Pty. Ltd. has been hailed by engineers as a breakthrough in its field.

Australian Design Called Breakthrough In Dredges

A new dredge, developed in Australia, has been termed by engineers as a breakthrough in its field. This hydraulic bucket wheel cutter/dredge was produced after two years of testing, proving, and modifying the prototype under actual working conditions, according to the Australian Trade Commission.

Operated by one man, the dredge is said to have production capabilities superior to more expensive equipment. Powered by an underwater hydraulic motor of high horsepower and torque, the bucket wheel is capable of cutting material previously regarded as undredgable by a conventional suction/cutter dredge. The cutter wheel is so designed that once material is cut, it can escape only through the suction pipe and delivery line.

High specific gravity material that escapes and settles on the bottom of a cut when a conventional dredge is used can now be collected, making the mining of marginal deposits a viable operation. High production at greater depths has been achieved through the development of a venturi that assists the flow of pulp to the pump and enables it to handle larger volumes of slurry.

The spud carriageway system allows for a 3-meter (9.75-foot) forward travel of the dredge and is positioned by a hydraulic ram assembly. "Walking" movements of previous systems have been overcome, and the arc overlaps that occur in other dredges have been minimized.

Spuds are lifted by means of hydraulic rams and deposited by a quick-drop system that allows

for free fall of the spud. This achieves maximum penetration. Rams and spuds are pivoted to enable horizontal positioning for transportation.

Water at high pressure is introduced through nozzles into the suction pipe so that the dredge pump is primed, cavitating in the dredge pump is eliminated, and greater lifting power to the suction line is achieved.

Specially designed swing winches are made of high-quality components and feature automatic reel-on and reel-off controls for ease of operation. Winch ropes operate through balanced sheaves positioned at the bottom of the ladder. The dredge is demountable into five separate components which ensure ease of shipping and transport.

Two Caterpillar engines of 300 bhp and 600 bhp (223 kw and

447 kw) are used to power the dredge, as parts for these are available worldwide.

As operators of dredges for more than 20 years, the manufacturer can construct them to suit particular conditions. It will provide technicians to assemble, commission, and train operators to high standards.

The dredge is being marketed worldwide by Neumann Equipment Marketing Company Pty. Ltd. The company has appointed agents in Hong Kong, Dubai, India, and the Philippines, and currently is negotiating agency appointments in other countries.

The company also provides a fee-for-service assay to ascertain the feasibility of a project and an advisory service to ensure that the equipment ordered is suited to the particular operation.

GL/GR Section Of SNAME

Held Spring Meeting In Dearborn

The Spring Meeting of the Great Lakes and Great Rivers Section of The Society of Naval Architects and Marine Engineers was held at the Hyatt Regency Dearborn, Dearborn, Mich. Total attendance of about 100 members and guests enjoyed the usual comradery and business, and the technical session presented an afternoon tour of the Ford Motor assembly line.

During the technical session, two main papers were presented entitled "Current Design and Performance Requirements in Medium Speed Diesels for Marine Service," by Alan Barich, member, Transamerica Delaval Engine and Compressor Division, and

"Coal-Fired Marine Boilers for the 1980's," by Carl Horlitz, member, and Steven Sabo, associate member, both with Combustion Engineering. In place of a third technical paper, per se, six student presentations were made from the Senior Design Project from the University of Michigan, including the following subjects: Straits Train Ferry, Sailing Cruise Ships, Submersible, Sailing Cargo Ships, Tuna Boats, and Offshore Platform.

The fall meeting of the Section has been scheduled for October 9, 1980, in the Kahler Hotel in Hibbing, Minn., where the major feature will be a story and plant tour of the Hibbing Taconite Company.



At Spring Meeting of SNAME Great Lakes and Great Rivers Section were, standing L to R: Thomas Stewart, Section secretary-treasurer; Carl Horlitz, author; Ian Sharp, Section Papers chairman. Seated: Richard D. Jacobs II, Section chairman; and T. Francis Ogilvie, Section Technical & Research Representative and department head, University of Michigan School of Naval Architecture and Marine Engineering.

To meet any shipboard Air conditioning or Refrigeration need...

*Call
these
experts!*

Each of these York Marine Associates offers factory trained marine service experts to give you 24-hour service. Each maintains a full stock of York parts. No matter what your cooling need, York stands ready to serve you anytime, anywhere in the world.

- 1. AA REFRIGERATION**
4721 Broadway, Galveston, TX 77550 (713) 744-0957
- 2. ADRICK COOLING CORP.**
30 B. Remington Blvd.,
Ronkonkoma, NY 11779 (516) 585-4231
Branch: Adrick Marine Corp.
77 River St., Hoboken, NJ 07030 (201) 420-1339
- 3. BAILEY REFRIGERATION CO., INC.**
74 Sullivan St., Brooklyn, NY 11231 (212) 855-3958
Branches: 2323 Randolph Ave.
Avenel, NJ 07001 (201) 382-1225
524 N.E. 190th St.
North Miami, FL 33179 (305) 651-4160
- 4. BAILEY CORPORATION**
632 Alvar St., New Orleans, LA 70117 (504) 943-2461
- 5. GENERAL MARINE REFRIGERATION**
1100 N. Front St., Philadelphia, PA 19123 (215) 922-6293
Branches: Chesapeake Marine Refrigeration Corp.
2626 Cromwell Road, Norfolk, VA 23509 (804) 853-6856
Key Marine Refrigeration, Inc.
1625 Fleet St., Baltimore, MD 21231 (301) 563-2880
- 6. JW MECHANICAL SERVICE CO.**
6540 Federal Blvd., Lemon Grove, CA 92045 (714) 582-6320
- 7. PSER, INC.**
3441 17th Ave., West
Seattle, WA 98119 (206) 283-3200
- 8. QUALITY REFRIGERATION**
533 North Fries Ave., Wilmington, CA 90744 (213) 549-1532
Los Angeles, CA (213) 775-2735
- 9. TOMLINSON REFRIGERATION AND SUPPLY CO.**
324 Broadway, Elizabeth, NJ 07206 (201) 351-1350

The next time you have a need for air conditioning or refrigeration, for a new installation or for maintenance or service, call the experts!

We've got the answers!

York Division of Borg-Warner Corp., P.O. Box 1592, York, PA 17405

YORK **BORG** **WARNER**[®]



\$3.2-Million Expansion Of Facilities Planned By National Supply

National Supply Company, major oilfield equipment manufacturer, has announced a \$3.2-million expansion of wellhead repair, fabrication, and distribution capabilities by its Well Control Systems group. The expansion plans call for establishment of a new wellhead repair center in Kilgore, Texas, and additions to existing

wellhead centers in Aberdeen, Scotland, and Amelia, La.

The Kilgore facility is the first to be established exclusively for repair by Well Control Systems, said National Supply. The facility will perform major wellhead repair in support of the company's 12 regional wellhead service centers in the U.S.

A 6,000-foot addition is being made to the Amelia wellhead center. The addition will house an expanded fabrication/repair de-

partment and enable the center to keep pace with strong wellhead service demand in the area, said the company.

The Aberdeen wellhead center, which specializes in service of advanced subsea wellhead equipment for the North Sea, is being expanded by 7,000 square feet to allow the installation of additional machine tools. The move will allow repair by the facility of all National subsea equipment in use in the area, for shorter

repair times and greater convenience of users, according to the firm.

The Well Control Systems group has factories in Houston, and Londonderry, Northern Ireland.

Promotions Made In J. Ray McDermott's Shipyard Group

Following the recent opening of its new yard in Gulfport, Miss., J. Ray McDermott & Co., Inc.'s Shipyard Group has restructured its organization and made the following promotions.

Francisco San Miguel has been named senior division manager in charge of the Morgan City and Gulfport Shipyard Divisions, and Gary L. Newchurch named manager of the new Gulfport Division. Leonard M. Hunter has been promoted to chief engineer at the Morgan City Division, and Richard A. Adams to chief engineer at the New Iberia Division.

To assist Mr. Newchurch in the management of the Gulfport Division, Dennis P. Garrard has been named senior project engineer; James W. Powell, general superintendent; and Murphy J. Naquin Jr., purchasing agent.

At the Morgan City Division, Frank R. Naquin and Glenn L. Taylor have been promoted to crafts superintendents, with Mr. Taylor reporting to Mr. Naquin. Robert C. Reeves has been named project engineer; Stephen A. Arceneaux, new construction estimator; and Linda W. Londeree, buyer.

ITT Mackay To Market Wager And Conoflow Engine Room Products

Marketing agreements to distribute a line of ship engine room products were announced recently by Alan G. Finkel, vice president for marine operations of ITT Mackay, a unit of International Telephone and Telegraph Corporation.

Through one agreement, ITT Mackay is appointed exclusive U.S. and Puerto Rico agent for marine sales of the combustion optimizers and smoke indicators manufactured by the R.H. Wager Company, Inc. of Chatham, N.J.

In a second agreement, ITT Conoflow-VAF, Dordrecht, the Netherlands, appoints ITT Mackay its exclusive U.S. and Puerto Rico agent for marine sales of the widely used "Viscotherm" fuel viscosity control system and positive displacement flow meters and fuel blenders.

Mr. Finkel said: "ITT Mackay is developing a line of reliable marine engine room products relating to fuel conservation; these new agreements are the first steps in that direction. The product line will be made available in the U.S. through our network of 23 sales and service depots," he concluded.



CAN DO SHIPYARD



Three dry docks to serve you. Modern big-ship yard to back them up. Around the clock service. But, above all, a salty crew of ship doctors ready to tackle any operation be it passing drill platform bound south; repairs to barges loaded with building modules for the North Slope; or working ships and ferries. Challenge us! Let us quote on your job.

LOCKHEED SHIPBUILDING AND CONSTRUCTION COMPANY

2929 16th AVE. S.W., SEATTLE, WASH. 98134
PHONE 206-292-5656 • CABLE LOCKSHIP 78-3

3 floating drydocks to 18,000 tons
Shipways to 100 x 700 feet • Piers to 1,100 feet



OUR MARK OF EXCELLENCE

Only excellence can describe the Waukesha Mark I and Mark II Sterntube Seals. These seals have been put into service around the world on everything from supply boats to super tankers and continually provide trouble-free operation. For the Mark of Excellence in sterntube seals, our Mark I and II, write for Catalogs W-5A and W-21 or call your Waukesha Bearings representative today.

WAUKESHA
BEARINGS CORPORATION
P. O. Box 798 • Waukesha, Wisconsin 53186 • Phone: 414-547-3381

WA-2



Three Rigs To Cost \$90.3 Million Approved By MarAd For Title XI

The Maritime Administration has approved in principle the application by Global Marine Deep-water Drilling, Inc., Los Angeles, for a Title XI guarantee to aid in financing the construction of three jackup drilling rigs.

Global Marine has not yet decided on the final configuration of the three drilling rigs. However, Marathon LeTourneau Company of Houston has been contracted to build the vessels, with deliveries scheduled for May, August, and December 1981.

Global Marine expects the vessels to be employed to explore for offshore hydrocarbon reserves in the Gulf of Mexico. The drilling rigs, depending on their type, will be able to drill to 20,000 feet in waters up to 250 feet deep, or up to 25,000 feet in waters up to 300 feet deep.

The Title XI guarantee will cover \$67,735,000, or 75 percent, of the vessels' total estimated cost of \$90,314,627.

J.J. Iglesias Named Senior VP For Three Coastal Subsidiaries

Jose J. Iglesias, a senior vice president of The Coastal Corporation, Houston, has been elected senior vice president of three Coastal subsidiaries: The Belcher Company of New York, Inc., Belcher New England, Inc., and the Belcher Oil Company of Miami, Fla. Mr. Iglesias is also responsible for the product supply and distribution of Coastal's other marketing subsidiaries.

Coast Guard Rules On Steering Failure Alarms To Be Enforced Soon

New U.S. Coast Guard rules will require most ships — tentatively those over 1,600 gross tons — with power-driven main or auxiliary steering gear to be equipped with advanced steering failure alarm systems.

The new rules, which are expected to be put into force within six to eight months, require the steering failure alarm system to have an audible and visual alarm that provides a signal in the wheelhouse when the actual position of the rudder differs by more than 5 degrees from the rudder position ordered by the helm. The maximum delay permitted under the regulations would be 30 seconds for an ordered change of 70 degrees, or 5 seconds for a change of 1 degree.

For ordered changes between 1 and 70 degrees, the Coast Guard has mandated a formula under which the maximum time delay allowed is computed. For an ordered change of 10 degrees, for example, the maximum delay before the alarm must sound would be 8.26 seconds. The steering fail-

ure alarm system must also be separate from and independent of each steering gear control system, and must have a separate power supply.

"Based on our knowledge of the current steering failure alarm systems now on the market, we believe that the Sperry system is the only one immediately available which will meet all the requirements," said Henry Johnston,

marketing manager for Sperry's Marine Systems Unit. Marine Systems, which developed the steering failure alarm system, is an operating unit of the Sperry Division of Sperry Corporation.

The Sperry steering failure alarm system contains patented circuits which respond almost immediately to a discrepancy between the rudder's actual position and the position ordered. The sys-

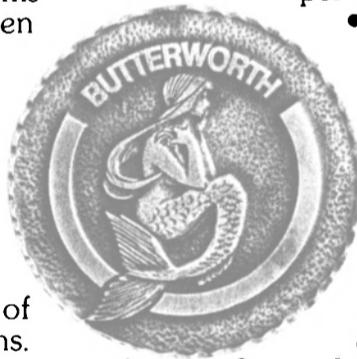
tem uses a simulated rudder angle calculation generated by a micro-processor to determine where the rudder should be during each moment of a turn. When there is a discrepancy of more than 5 degrees, an alarm is sounded immediately. The system can also compensate for worn or loose steering gear which might not respond as smoothly as a tightly adjusted steering system.

With the mad scramble of new companies trying to cash in on IMCO regulations, isn't it good to know that BUTTERWORTH SYSTEMS has been around for 50 years.

Happy Birthday to us.

Since Arthur B. Butterworth got his first patents for tank cleaning machines and became President of Butterworth Systems in 1930, we've been making marine history. Ship owners know they can trust the Butterworth Systems reputation for quality products for a wide variety of marine applications. In fact, the BUTTERWORTH® trademark has become synonymous with outstanding performance, superb reliability and the most modern technology. We've come far in the last fifty years. The Butterworth Systems product line now includes:

- a complete line of IMCO certified tank cleaning machines designed for crude oil or water washing.



- SCAMP® underwater hull cleaning machines which can provide fuel savings of a million dollars or more per vessel.

- Oil/Water Separators designed to meet stringent U.S.

Coast Guard and IMCO A.393(X) requirements.

- The Butterworth Systems MARINE LIQUA-BLASTER®

unit. The latest addition to our family of on-board ship maintenance products. It uses high pressure water jets up to 10,000 psi, to clean ships' external surfaces, condenser tubes, filters, boiler tubes and more.

Many companies have come and gone and some newcomers may be gone tomorrow. But Butterworth Systems looks forward to the next half century of tackling

critical issues like fuel conservation and ocean pollution. Contact Butterworth Systems and see how our fifty years of continuous service to the marine industry can benefit your company.

Butterworth Systems

BUTTERWORTH SYSTEMS INC.

244 Park Avenue, PO Box 352
Florham Park, NJ 07932 USA
(201) 765-1549 Telex: 136434

BUTTERWORTH SYSTEMS (UK) LTD.

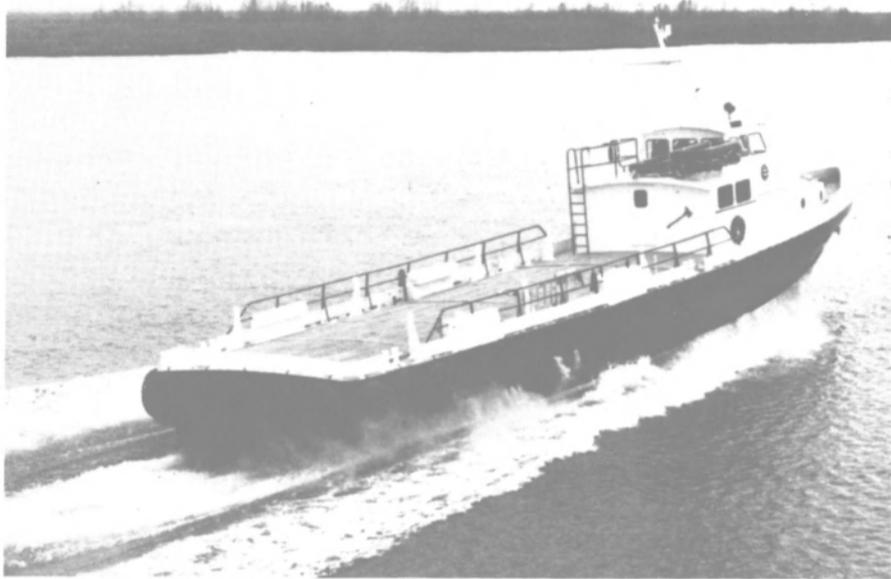
445 Brighton Road
South Croydon, Surrey,
CR2 6EU, England
668-6211 Telex: 946524

PARTEK CORPORATION OF HOUSTON

3721 Lapas Drive
Houston, Texas 77023
(713) 644-3636 Telex: 762199

Affiliates of Exxon Corporation

© Copyright 1980, Butterworth Systems Inc.



Crewboat Hurricane Express was built by Halter's Chalmette, La., division, one of 10 shipyards owned and operated by Halter Marine in the Southeastern United States.

Halter Completes Three-Crewboat Contract With Offshore Express

The 55-foot-long clear deck area and 55-passenger seating capacity are two features of Halter Marine's new hybrid-design 101-foot crewboats recently delivered to Offshore Express, Inc. of Houma, La. The Hurricane Express, Tornado Express, and Cyclone Express made up the three-vessel contract between Halter and the "express fleet."

The new crewboats were designed with a short, low-profile house. The result is less wind resistance for improved slow-speed maneuvering in high winds, and a large cargo deck measuring 55 feet by 17 feet.

Robert Schmidt, general manager of Offshore Express, said the vessels combine the best of a crewboat and a utility boat into one package. "With a 30-ton deck capacity, we can carry gear and supplies normally left to the utility boat and still bring a full crew of up to 55 people out to the rig," he explained.

The Hurricane Express is under charter to Aminoil, USA as a hotshot boat carrying crew and supplies out of Cameron, La. Jack Daly, Aminoil offshore transpor-

tation manager, accepted the new aluminum vessel for charter.

The Hurricane Express attained a time trial speed of more than 28 mph driven by her three GM-12v71TI diesel engines. The triple-screw craft has a 500-mile range with her 2,400-gallon fuel capacity.

The 101-foot crewboat has a 21-foot beam and 10-foot depth; she draws 5½ feet of water. A spacious engine room houses the main diesels as well as two GM3-71 30-kw generators. She has a potable water capacity of 500 gallons.

The Hurricane Express is certified for 150 miles offshore with her Sitex Loran-C Computer Navigator, which enables the vessel's captain to plot the most direct course to the rig. The device is particularly handy during night runs because it eliminates the need to search out landmarks and turn points, saving fuel and time. Motorola VHF and SSB radios and a Sitex 32-mile-range radar are also mounted in the pilot-house. She is equipped with two electrohydraulic steering stations, one facing aft for operating stern-to the rig.

Michael B. Cooney Named VP/Counsel/Secretary At Agri-Trans Corporation

Michael B. Cooney has been named vice president, general counsel, and corporate secretary of Agri-Trans Corporation, according to Richard A. Wilson, president of the company.

Mr. Cooney will report directly to Mr. Wilson, and will be respon-

sible for all corporate legal matters and the corporate secretary functions. Additionally, Richard E. George, manager, corporate insurance, will report to Mr. Cooney in his new position.

Mr. Cooney was formerly assistant general counsel/assistant secretary at Kellwood Company, St. Louis, from 1974 until now. He also practiced law with two different law firms in St. Louis, from 1967 to 1974.

TMT Seeks Title XI On Four Barges To Cost \$21.6 Million

Trailer Marine Transport Corporation, a subsidiary of Crowley Maritime Corporation, San Francisco, has applied for a Title XI guarantee to aid in financing the construction of four deck cargo barges.

The barges measure 400 feet by 99 feet 6 inches by 25 feet,

and are intended for use primarily on the U.S. West Coast and Alaska. Two barges are to be built at Bethlehem Steel Corporation's San Francisco facility, and two will be constructed by FMC Corporation, Portland, Ore. Deliveries are scheduled between January and April 1981.

If approved, Title XI financing would cover \$15,400,000, nearly 75 percent of the actual cost of \$21,642,660.

Fincantieri Group Meets With New York Maritime Leaders

Executives of Italian ship repair yards of the Fincantieri Group met recently with some 100 representatives of the maritime and shipowning community at the Whitehall Club in New York City.

Following a luncheon, Fincantieri president Rocco Basilico and the Italian Ambassador to the United States, Paolo Pansa Cedronio, discussed the capacity and productivity of the Italian shipyards.

Fincantieri is the largest shipbuilding and ship repairing group operating in the Mediterranean. It is one of the seven holding companies of IRI (Istituto per la Ricostruzione Industriale), which is the leading financial and industrial group in Italy and among the first in Europe. Fincantieri controls 11 operating companies comprising the following: Nine shipbuilding yards representing 90 percent of the Italian shipbuilding capacity; 10 repair yards representing 70 percent of all Italian ship repairing capacity; and three mechanical workshops producing diesel and turbine engines, propellers, and auxiliary equipment.

The Fincantieri Group, through an appropriate distribution of its nine newbuilding yards, has set up a system that allows them to

build ships of all types and sizes up to 350,000 dwt. Within the system, each shipyard has its own specialization, which enables Fincantieri to cope not only with any specific request for any kind of construction, but also to rely on the most qualified technicians and workers.

Close cooperation between the shipyards allows the Group to solve commercial or technical problems requiring highly qualified operative and technological assistance. The Group employs about 32,000 people.

The system concept is applied with particular efficiency also to the activity of the 10 repair yards. They form an integrated production unit capable of giving fully qualified assistance at any time. In these yards—enjoying a Central Mediterranean location—shipowners can find the solution to any problem they may have. This has been achieved not only through the specific capabilities of each yard but, above all, through the functional characteristics of the integrated system it is part of.

The Fincantieri ship repairing centers have at their disposal 28 dry docks for ships up to 400,000 dwt, and over 15,000 meters (about 50,000 feet) of completely equipped outfitting quays.



Shown at the Fincantieri Group meeting: (seated) left to right, Rocco Basilico, president and managing director, Fincantieri; Paolo Pansa Cedronio, Italian Ambassador, Washington, D.C.; Domenico Manfredi, president of American West Africa Fleet Company; and H.A. Downing, executive vice president, Marine Transport Lines; (standing): G.M. Oddone, president and managing director, OARN-Shiprepairs; James E. McGuire, senior vice president, Universe Tankships Inc.; Richard Jaeschke, president, U.S. Salvage Association; and George Emmerson, chief surveyor North America, Salvage Association Ltd.

New from Tracor ... Satellite Navigator II

**Meets U.S. Coast Guard regulations for vessels
entering U.S. ports (without Loran-C!)**



Features — All necessary navigation functions . . . latitude and longitude, precise GMT, Set and Drift, Great Circle or Rhumb Line to multiple waypoints, remote displays, Gyro/Log inputs, etc. . . . Large, uncluttered displays . . . Low power consumption on AC or DC mains (only 1.6 amperes at 12 VDC) . . . Internal battery for standby power (minimum 1/2 hour) . . . Optional interface for any Tracor Automatic Omega . . . Low cost

Reliability — Pre-tested, ceramic integrated circuits . . . Minimum 250 hours burn-in on every system . . . Built-in diagnostic and self-test routines . . . Rugged cast aluminum construction . . . Third generation design produced by Tracor

Support — Worldwide dealer sales and service . . . A professional reputation built upon integrity and high quality . . . Tracor, more than 7000 employees worldwide, serving you in various fields of science and technology

Want to know more? Call or write for details.

Tracor Instruments

Tracor, Inc. 6500 Tracor Lane Austin, Texas 78721 Telephone 512:926 2800 TWX 910-874-1372 TELEX 77-6414

**Gotaverken Arendal
Delivers Offshore Rig
To Consafe Offshore**

The SSV Safe Concordia, Gotaverken Arendal newbuilding 911, was delivered recently to Consafe Offshore, Sweden. The offshore rig has been chartered by Phillips Petroleum and will operate at the Ekofisk Field.

This is a large, twin-hulled, column-stabilized unit; it is the second accommodation and multi-service rig built at Gotaverken Arendal for Consafe Offshore. A sister rig, the Treasure Supporter, was delivered in March this year.

The Safe Concordia and Treasure Supporter are the first units in the world fully complying with the latest requirements of

NPD regarding accommodation offshore. Each rig has accommodation for 600 persons in high-standard, two-bed cabins, each including shower and toilet.

Large recreation areas take care of the free time onboard: there are cinema, TV-rooms, library, conference rooms, and gymnasium. In addition to the offshore personnel living onboard, the restaurant has capacity to serve additional people from other platforms.

The cabins are partly built as a permanent deckhouse, partly as modules. The modularized accommodation is adapted for easy removal if a larger deck area should be required for construction or service duties.

Safe Concordia features a fully redundant dynamic positioning system including four 3,000-bhp azimuthing thrusters and two fixed 2,000-hp thrusters. Power is supplied by sev-



Semisubmersible, multi-service offshore rig SVV Safe Concordia was delivered recently by Gotaverken Arendal to Consafe Offshore.

en diesel generators with total output of about 18,000 hp.

These rigs have very much set the standard of offshore accommodation.

Currently under production at the Arendal yard are four jackup drilling rigs, two for Salen Energy, Sweden, and two for Protexa, Mexico. A semisubmersible drilling rig to be operated north of the 62nd parallel is under construction for Wilh. V'ilhelmsen, Norway.



FUEL-SAVING TANKER — The Ionia, a 80,840-dwt tanker built at the Hiroshima Works (Innoshima) of Hitachi Zosen, was delivered recently to Tanker Shipping Enterprises Limited (Liberia). Her Hitachi/B&W main engine is a newly developed long-stroke diesel with a constant-pressure turbocharger designed to permit an approximate 7 percent saving in fuel oil. Maximum continuous output is 15,000 bhp (11,033 kw), which provided a trial speed of 15.56 knots. Built to conform with IMCO's latest international regulations for the prevention of sea pollution, the ABS-classed vessel has segregated ballast tanks, an inert-gas system, and COW (crude oil washing) system. Ionia has a length BP of 233 meters, beam of 42 meters, depth of 19.3 meters, and designed full-load draft of 12.22 meters (764.5 by 137.8 by 63.3 by 40.1 feet).

YOU'RE WAY AHEAD



**When TURECAMO
does the towing**



Around the clock. Turecamo's modern fleet of fast, powerful tugs stand ready to instantly provide you with the very best in towing services. Added to this are the years of invaluable experience docking and undocking ships of all sizes and in every phase of towing operations.

When you want fast, efficient and economical service...Call Turecamo First.

DOCKING • UNDOCKING — harbor, sound, coastwise, canal and lake towing

TURECAMO COASTAL & HARBOR TOWING CORP.

P.O. BOX 201
OYSTER BAY, N.Y. 11771

ONE EDGEWATER STREET
STATEN ISLAND, N.Y. 10305

TEL: (212) 442-7400

MATTON
TRANSPORTATION CO
INC

TURECAMO
TRANSPORTATION CORP

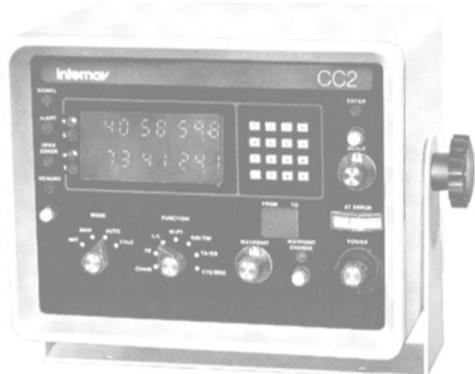
MATTON
SHIPYARD CO. INC

TURECAMO TANKERS
INC



Simrad. A trusted name at sea.

The Navigation Computer that started it all... from Simrad, naturally.



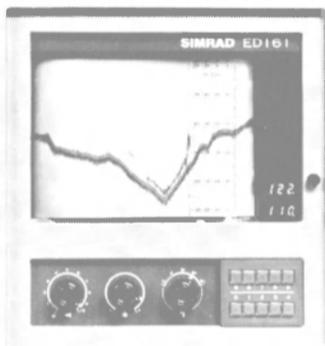
Simrad's CC-2 Navigation Computer gives complete position, steering and piloting information in an easy-to-use system. It is still the only separately packaged Loran C navigation computer, and can accept input data from any Simrad Loran C receiver.

The CC-2 can repeat Loran C time-difference numbers, convert Loran C position to latitude/longitude, and will store up to nine "waypoints" or destinations. It continuously computes distance, time to destination and bearing from your present position to any

of the nine selected destinations or waypoints. It also computes speed over the ground, course made good and off-course "cross track error" for steering adjustments. Lat/Long position is read out to tenths of seconds (ten feet) and off-track deviations can be read out in hundredths of a nautical mile. The computer is so flexible, you can even use it to solve separate time/course/distance problems while it continues to update actual navigation data internally.

New digital recording sounders meet IMCO requirements.

Simrad now offers two economical navigation recording echosounders that meet IMCO recommendations for merchant vessels. In addition to showing a well-defined bottom on recording paper, the systems have independent digital depth indicators and depth alarms. The Simrad ED-161 has four recording ranges from 0-25 to 550 fathoms. The ED-162 has 0-30, 0-75, and 0-150 foot recording ranges for navigating in shallower waters, plus a 0-1500 foot deep range. The optional IR 201 Remote Digital Analog Indicator displays depth in feet, meters and fathoms.

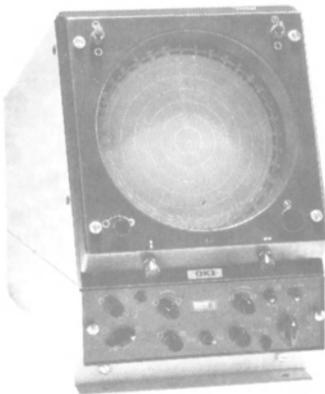


These systems are also designed as replacements for existing older systems. Due to Simrad's special engi-

neering, some vessels can be retrofitted from *inside* the hull without having to dry dock.

Ship's radar from Simrad.

Ten and twenty KW radar models from Simrad are building a reputation for extra fine resolution that you can count on. It is natural to think about long range use, and they do have six ranges from $\frac{1}{4}$ n.m. to 48 n.m., with an additional 30 to 78 n.m. setting on the 20 KW model. However, they really outperform competition at extremely close distances. At the $\frac{1}{4}$ n.m. range, they provide the unusual resolution you need to pick out small boats and channel markers in a dense fog. And that's the most critical test for any radar. Choice of four or six foot antenna. Variable range marker (VRM) with digital readout, and early warning target alarm options are available. For smaller vessels, Simrad's ONX-6



(5KW) with choice of 3 or 4 foot slotted array antenna, and all electronic scope sweep, is recommended.

Loran C means Simrad.

Throughout the world, skippers have learned to trust Simrad's Loran C reliability and accuracy... and to rely on Simrad's sales, installation and service network in more than 450 ports throughout the world.

Our "New Generation" LC-123 now has many more advanced features, including signal integration that sets a new standard in readout accuracy. With its "touch pad" keyboard, our new LC-112 provides high performance at an economical price. Both models have been designed and manufactured to meet or exceed all Minimum Performance Standards (MPS) of the Radio Technical Commission for Marine Services (RTCM), adopted 12/20/77, including Addendum #1 dated 7/19/79, as endorsed by the U.S. Coast Guard for use aboard vessels over 1600 gross tons when calling at ports in the Continental U.S. This is a legal requirement for ship operation in U.S. waters.



Simrad's Loran was recently tested against eleven other receivers by an independent testing laboratory under contract to the Canadian Department of Fisheries and Oceans. Since the LC-112 had not been introduced yet, it couldn't be included in the test. However, in long range tracking tests, three units were judged superior... Simrad's LC-123, Simrad's older LC-204 and another manufacturer's receiver that costs over \$2,000 more than an LC-123. Several competitors complimented Simrad by copying our LC-123, but evidently they still couldn't match Simrad's performance and reliability. Our ten years of experience in developing Loran C technology is important to you. A cheap loran could be costly.

SIMRAD

Simrad Inc., One Labriola Court,
Armonk, NY 10504 (914) 273-9410



GM-powered bulk carrier Burns Harbor is latest addition to Bethlehem Steel's Great Lakes Steamship Division fleet.

Bethlehem Steel's Third 1,000-Footer Bulk Christened At Bay Shipbuilding Yard

The M/V Burns Harbor, Bethlehem Steel's third 1,000-foot-long Great Lakes oreboat, was christened recently in ceremonies at Sturgeon Bay, Wis. Named in honor of America's most modern steelmaking plant, Bethlehem's Burns Harbor, Ind., complex on the southern shore of Lake Michigan, the Burns Harbor is being built at Bay Shipbuilding Corporation, a subsidiary of the Manitowoc Company, Inc. of Sturgeon Bay. The vessel is expected to go into service in July. The boat will transport taconite pellets produced at Bethlehem's plants in Minnesota to its Burns Harbor and Lackawanna, N.Y., steel plants.

At the ceremonies, Mrs. C. Richard Rough, wife of the Burns Harbor plant's general manager, broke the traditional bottle of champagne across the vessel's bow, officially naming the vessel. In brief remarks during the festivities, Mr. Rough noted that construction of the new boat is another indication of Bethlehem's commitment to investing huge amounts of capital to provide the latest in technological advancements in all phases of its operations.

Upon delivery, the Burns Harbor will join the Lewis Wilson Foy (also built by Bay Shipbuilding) and the Stewart J. Cort to make Bethlehem the only company with three 1,000-footers on the Great Lakes. Addition of the third 1,000-footer will give Bethlehem a seven-vessel Great Lakes fleet which, measured in terms of average age and average vessel capacity, is the newest, most efficient fleet on the Lakes. To achieve this distinction, Bethlehem has invested approximately \$125 million in its Great Lakes fleet during the past decade.

Capacity of the new boat is 58,000 gross tons, the same as the Foy and 2,000 tons more than the

Cort. Like Bethlehem's two other 1,000-foot vessels, the Burns Harbor is a self-unloader. Equipped with a 250-foot unloading boom, the new boat is capable of discharging its cargo at the rate of 10,000 gross tons an hour.

The Burns Harbor, 10 stories tall from its engine room floor to

the pilothouse, is powered by four diesel engines driving twin four-blade, 17½-foot-diameter, controllable-pitch propellers. Total engine output is 14,000 bhp. With a displacement weight (total weight of cargo and vessel) of 73,000 gross tons, the boat has a top speed of 16 miles per hour and a draft of 27½ feet. Bow and stern thrusters improve the vessel's maneuverability.

Bethlehem's newest lake boat is equipped with the most modern navigation, steering, and control equipment available, including a computer and an automated hull stress monitoring system. It also has a complete sewage treatment system that removes contaminants biologically and disinfects the effluent. A 30,000-gallon holding tank and transfer system backs up the treatment system.

The boat will have a crew of 30, including 12 officers. Crew quarters are located in the deckhouse at the after end of the vessel. All crew members have a private room with bath, and the entire crew space, including the pilothouse and galley, is air-conditioned.

Master of the Burns Harbor will be Capt. John O. Presley, a 28-year veteran of Bethlehem's Great Lakes Steamship Division. Captain Presley has been a ship's master with Bethlehem since 1973, and most recently was master of the S/S Arthur B. Homer. During his years with Bethlehem, he has served on each vessel in the firm's Great Lakes fleet.

With a 105-foot beam, the Burns Harbor will be locked into the Great Lakes. Like the other 1,000-footers on the Lakes, the new carrier will be able to sail to and from Lake Superior through the Poe Lock at Sault Ste. Marie, Mich., but will be too large to pass through the Welland Canal leading from Lake Erie into the St. Lawrence Seaway.

M/V BURNS HARBOR	
Engines	Electro-Motive Division, GM
Reduction gears	Falk
Propellers, engine controls, thrust-ers	PSI (Propulsion Systems, Inc.)
Steering gear	Sperry Marine
Sewage Treatment System	St. Louis Ship, FAST
Radar	Raytheon
Fathometer	Raytheon
Switchboards	ITI Imperial Corp.
Generators	Ohio Machinery
Unloading equipment	Stephens-Adamson
Motor control equipment	Westinghouse Electric
Ship-to-shore radio	GE
VHF radio	R.L. Drake



Mrs. C. Richard Rough smashes bottle of champagne over the bow of Bethlehem Steel's new 1,000-foot-long ore carrier, officially naming the vessel the M/V Burns Harbor. Mr. Rough (right), general manager of Bethlehem's Burns Harbor, Ind., plant, and Arthur J. Zuehlke (center), president of Bay Shipbuilding Corp., look on during the christening ceremonies.



“Welding is everything. Our tough standards give every barge lasting structural soundness.”

What's the measure of a strong barge? Listen to the people that know a barge is only as strong as it welds. HBC Barge Welder, Bill Pochek:

“Excellent welding is the surest sign of quality and strength in a barge. We continually work for the strongest welds possible in every area of construction.

“All of our welding that requires it is ABS and Coast Guard approved. Every welder, including myself, is certified.

“Many welds need to be continuous, full-penetration. To make certain we get full-penetration and that the welds are sound and solid, every inch is inspected with an Ultrasonic Tester.

“Flat position welding makes one of the strongest welds. So we rotate the

barge sections during construction to permit as much downhand welding as possible.

“We get our fit-ups and welds as tight as possible for strength, 1/8 inch is our ideal. You won't find any gaps filled with welding solder in our barges.

“Our tough welding standards help our barges last through many years of continued service. It's part of our philosophy of giving the customers what they want, in design and quality construction, delivered on-time, at a competitive price.”

Everyone at HBC Barge shares Bill Pochek's commitment to quality. HBC Barge builds barges in any size and configuration you need, for chemicals and other liquids, coal, grain and other commodities.

Go beyond options and get what you want.

For more information on getting your next barge fleet built to your specs, built to deliver years of service, contact:

HBC Barge™

HBC Barge, Inc.

Formerly named Hillman Barge & Construction Company.

Brownsville, Pennsylvania 15417

Phone: (412) 785-6100

Keep the boat working

The MV Dennis Hendrix does — at nearly 98% utilization of her engines at an estimated 80% load factor. Almost 17,000 hours, on MVI *Caprinus*[®] R Oil.

With only 1400 hours on her three 16-645-E5 EMD engines, the Dennis Hendrix was switched over to Shell's MVI *Caprinus*^{*} R Oil. That was in the Summer of 1977. When launched, on July 16, 1977, the boat started working the Lower Mississippi pushing tows of up to 40 barges of 1500 tons each. On August 19, 1979, she was finally ready for her first scheduled overhaul. Total engine hours averaged 17,885. Individual engine hours were; port — 18,124, center — 17,421 and starboard — 18,110. Total *elapsed* time from the date of launch; 18,312 hours. And work on the Lower Mississippi usually means long runs with few interruptions. It was estimated that the load factor was averaging about 80% during these hours. In over two years, the engines averaged only 2.3% downtime.

The Dennis Hendrix was the first American Commercial Barge Line vessel to use *Caprinus* R. So, when the overhaul was scheduled, Shell went along to see the results. As is usual with *Caprinus* R oil, the engines were very clean, with relatively low deposit levels. Wear was low for the time and type of service. Used oil analysis showed that the premium MVI *Caprinus* R Oil had equilibrated at a TBN-E of 3.0, which means corrosion protection was adequate even though the engines were operated in 'no drain' service. Carbon deposits were as expected with an MVI oil, soft and flaky.

All three engines appeared about equal in appearance, and the port engine was selected for

detailed inspection. Top rings all rated 2A, #2 rings rated 2 and 2A and #3 compression rings all rated 1. These values are well within the normal range for engines at overhaul. Liner wear was normal for the hours. All three engines had done their job well. The oil had done its job well. MVI *Caprinus* R oil had helped the Dennis Hendrix stay on the job with minimum downtime and maximum reliability.

MVI oils have been proven in almost half a century of operation in medium-speed diesels. Shell's MVI *Caprinus* R Oil maintains that reputation of MVI oil and uses a modern additive package to meet the latest engine service requirements.

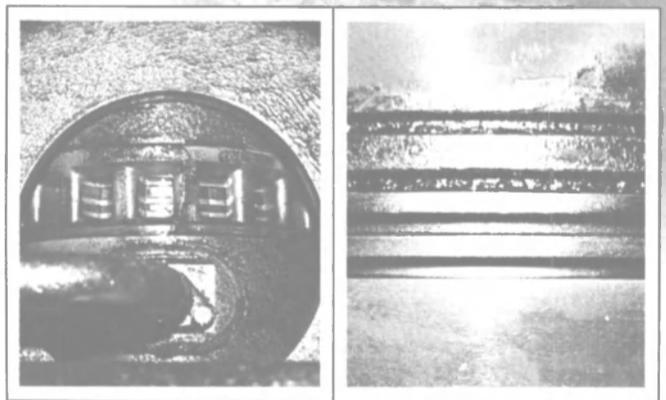
Shell doubling MVI capacity

Since Shell is *doubling* its MVI lube oil capacity, there is no need to switch to HVI oils, as suggested by some MVI-short suppliers. HVI oils form harder, denser carbon deposits that can block port areas and crowd rings in their grooves. With *Caprinus* R Oil, you can usually operate without changing oil in most engine types with good engine protection. A used oil analysis program can be the means to longer life and excellent engine protection with *Caprinus* R Oil.

For more information write Shell Oil Company, Manager, Commercial Communications, One Shell Plaza, Houston, Texas 77002.

Caprinus is a trademark and is used as such in this writing

Come to |  |
Shell for answers



The light carbon deposits in the airbox are typical of a premium MVI oil such as *Caprinus* R. Soft deposits will clean up rapidly, and even after 17,000 hours, are not blocking air flow.

Pistons had no scuffing or scoring. Ring groove fill and ring wear were normal for the time and type of engine service. Rings were free.



Shell Marine Jobbers provide service, facilities and quality Shell products.

ALABAMA

Bayou La Batre
Deep Sea Marine Products
Location: West Bank, 500 Tram Avenue
Phone: (205) 824-4127
Radio: Ch 16, VHF
Mobile
Midstream Fuel Service, Inc.
Location: Mobile River, Mile 1.5
Address: Fairhope 36532
Phone: (205) 433-4972
Radio: Ch 16, VHF

ARKANSAS

Helena
Helena Fuel & Harbor Service, Inc.
Location: Mississippi Service, Inc.
Mississippi River, Mile 661
Riverfront & Bridge Road
Phone: (501) 338-8321
Radio: Ch 16

CALIFORNIA

Oakland
Bay Area Petroleum, Inc.
Location: 421 23rd Ave.
Phone: (415) 534-4517
San Diego
Tuna Clipper Marine
Location: San Diego Harbor
Foot of Crosby Street
Phone: (714) 232-1838
San Pedro
San Pedro Marine, Inc.
Location: Berth 74
Phone: (213) 832-1339

FLORIDA

Jacksonville
See Savannah Oil & Chemical
Savannah, Ga.
Port Everglades
Belcher Oil Company
Location: Port Everglades
2401 Eisenhower Boulevard
Address: Fort Lauderdale
Phone: (305) 525-4261
Tampa
Belcher Oil Company
Location: Tampa Bay
Phone: (813) 247-4572, 247-4573
West Palm Beach
Belcher Oil Company
Location: Port of Palm Beach
1733 Hill Avenue
Phone: (305) 848-1495

GEORGIA

Brunswick
See Savannah Oil & Chemical
Savannah, Ga.
Belcher Oil Company
Location: Savannah River, Mile 17
Pier 50, Georgia Ports Authority
Phone: (912) 964-8821
Savannah
Savannah Oil & Chemical
Location: Savannah River
647 W. River Street
Phone: (912) 234-5402

ILLINOIS

Hartford
Ory Bros. Marine Service of America, Inc.
Location: Upper Mississippi River, Mile 197
Foot of Hawthorne Street
Phone: (618) 254-0626 (Illinois)
(314) 741-2570 (Missouri)
Radio: Ch 16, KLC 791
Wood River
Hartford Fueling Service
Location: Upper Mississippi River, Mile 196
Phone: (618) 254-4333
(314) 741-3667
Radio: Ch 16 VHF KLG 280

KENTUCKY

Louville
Wooten River Service
Location: Ohio River, Mile 603
2927 River Road
Phone: (502) 896-0317
Paducah
Molloy Marine Service, Inc.
Location: Ohio River, Mile 934
100 Husband
Phone: (502) 443-6456
Paducah
Walker Midstream Fuel and Service Co.
Location: Ohio River, Mile 934
532 South Second St.
Phone: (502) 442-2738
Radio: freq. 156

LOUISIANA

Amelia
Berwick Bay Oil Co., Inc.
Location: Bayou Boeuf
Intracoastal Waterway
1/2 mile North 85 mile board
See Berwick listing under Morgan City, La.
Baton Rouge
Capital Marine Supply, Inc.
Location: Lower Mississippi, Mile 230
Foot of North Street
Phone: (504) 343-8379
Radio: Channels 16, 7a, 10, 66a VHF KFT 322.
Baton Rouge
Channel Fueling Service, Inc.
Location: Lower Mississippi, Mile 232
River Road
Phone: (504) 383-4691, 383-4814
Radio: freq. 156.8

Belle Chasse
Plaquemines Oil Sales Corp.
See Plaquemines Oil, Venice, La.
Berwick
Berwick Bay Oil Co., Inc.
Location: Atchafalaya River - 1/4 mile north of Hwy 90 bridge
See Berwick Oil Listing under Morgan City, La.
Cameron
Berwick Bay Oil Co., Inc.
Location: Calcasieu River
See Berwick Bay Oil listing, Morgan City, La.
Cameron
Cameron Marine Service, Inc.
Location: Calcasieu River
Phone: (318) 775-5206
Dulac
Berwick Bay Oil Co., Inc.
Location: Houma Navigation Channel
17 miles South of Houma
See Berwick Bay Oil listing, Morgan City, La.

Gretna
John W. Stone Oil Distributor, Inc.
Location: Lower Mississippi, Mile 96.5
87 First Street, Gretna
Harvey 77059
Phone: (504) 366-3401
Radio: KGW 352
Houma
Houma Oil Company, Inc.
Location: Intracoastal Canal
Phone: (504) 872-0464
Intracoastal City
Berwick Bay Oil Co., Inc.
Location: Vermillion River - 1/4 mile north of Intracoastal Canal Mile 155
See Berwick Bay Oil listing, Morgan City, La.

Lake Charles
Channel Fueling Service, Inc.
See Channel Fueling Service, Sulphur, La.
Morgan City
Berwick Bay Oil Company, Inc.
Location: Young's Road
Phone: (504) 384-1610
Radio: Ch 16 VHF-KXR979
New Orleans
Gulf Outlet Fuel & Marine Supplies, Inc.
Location: Gulf Intracoastal Waterways
Mile 8 East
3400 Jourdan Road
Phone: (504) 241-8680
Radio: KVF 893

Port Allen
Tri-State Marine Service Co.
Location: Lower Mississippi, Mile 227.5
River Road
Phone: (504) 749-3171
Radio: 156.8
Sulphur
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Intersection of Calcasieu River
Phone: (318) 583-7215, 583-7384
Radio: 156.8
Venice
Plaquemines Oil Sales Corp.
Location: Mississippi River
Mile 10.5 at Grand Pass
Louisiana Hwy 23, Venice
Address: Belle Chasse
Phone: (504) 394-5555 (Belle Chasse)
(504) 534-7403 (Venice)
Radio: WYZ 2375

MASSACHUSETTS

Gloucester
Progressive Oil Co., Inc.
Location: Gloucester
Address: 92 Grove St.
Phone: (617) 283-2000
MINNESOTA
Winona
Waterways - Winona, Inc.
Location: Upper Mississippi, Mile 725
376 East 2nd St.
Address: 455 North St.
Fountain City, Wi.
Phone: (608) 687-6931 (Wisconsin)
(507) 452-5252 (Minnesota)
Radio: Ch 16-12

MISSISSIPPI

Bilox
Ship Services Corporation
Location: Gulfport State Port and Biloxi Back Bay, Beacon ;7
Phone: (601) 374-1000
Greenville
Waterways Marine of Greenville, Inc.
Location: Lower Mississippi, Mile 537
Warfield Point Road
Phone: (601) 335-2526
Radio: KWS 617
Pascagoula
Fuel Services, Inc.
Location: Bayou Casotte
Ingalls Avenue
Phone: (601) 762-0636, 762-0640
Radio: Ch 16
Vicksburg
Vicksburg Mid-River Services, Inc.
Location: Lower Mississippi, Mile 437
Foot of Lee Street
Phone: (601) 636-4814, 636-7731
Radio: 156.8

MISSOURI

St. Louis
St. Louis Fuel & Supply Co., Inc.
Location: Upper Mississippi, Mile 179
Address: Foot of Gratiot Street
Phone: (314) 421-3960
Radio: Ch 16, VHR-KDO 722 Fort Guage

NORTH CAROLINA

Elizabethtown
Campbell Oil Company, Inc.
Location: 1010 West Broad Street
Phone: (919) 862-4107

OREGON

all ports
see Lilyblad Petroleum listing under Tacoma, Washington

PENNSYLVANIA

Philadelphia
River Associates, Inc.
Location: Delaware River
Pier 9 North
Phone: (215) 463-8100

SOUTH CAROLINA

Charleston
Charleston Oil Co.
Location: Ashley and Cooper Rivers,
1553 King St. Extension
Phone: (803) 577-5600
Charleston
See Savannah Oil & Chemical,
Savannah, Ga.
Georgetown
See Savannah Oil & Chemical
Savannah, Ga.

Port Royal
See Savannah Oil & Chemical
Savannah, Ga.

TENNESSEE

Memphis
Memphis Boat Refueling Service, Inc.
Location: Lower Mississippi, Mile 735
Foot of Illinois Street
Phone: (901) 775-3131
Radio: Ch 16
Memphis
Waterways Marine of Memphis, Inc.
Location: Lower Mississippi, Mile 736
Foot of Beale Street
Phone: (901) 525-5761
Radio: Ch 16, 156.6

TEXAS

Corpus Christi
Belcher Co. of Texas, Inc.
Address: 504 Navigation
Corpus Christi, Tx. 78403
Phone: (512) 888-6311
Galveston
Grasso Marine Service, Inc.
Location: Galveston Ship Channel
Pelican Island
Phone: (713) 744-2888 (dock)
(713) 763-4343 (office)
Houston
Houston Marine Services, Inc.
Location: Beacon 126
Houston Ship Channel
Phone: Dock (713) 424-4502
Office (713) 455-8819
Radio: Channel 16
Lake Jackson
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Mile 393
1400 Marlin Avenue
Phone: (713) 233-5321, 233-5322
Radio: 156.8
Port Arthur
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Mile 282
5700 Proctor Street
Phone: (713) 962-5557
Radio: 156.8
Rockport
Berwick Bay Oil Co., Inc.
Location: Rockport Navigation Harbor,
Intracoastal Canal, Mile 526
See Berwick Bay Oil Listing, Morgan City, La.

VIRGINIA

Norfolk
Marine Oil Service, Inc.
Location: Elizabeth River
Address: 71 Radar Street
Phone: (804) 622-0934, 622-3109

WASHINGTON

Seattle
Ballard Oil Co.
Location: Lake Washington Ship Canal
Phone: (206) 783-0241
Tacoma
Lilyblad Petroleum, Inc.
Location: Washington and Oregon - all ports
Phone: (206) 572-4402
Radio: KLB radio station
Marysville, Wa.

WASHINGTON

all other ports see Lilyblad Petroleum above.

WEST VIRGINIA

Pt. Pleasant
City Ice & Fuel Co.
Location: Ohio River, Mile 265.3
Address: 224 First Street
Phone: (304) 675-2010

Dragger/Scallop 'Settler' Delivered By Gamage Shipyard



Recent delivery by Edward T. Gamage, Inc. shipyard was the Cat-powered dragger/scallop Settler, designed by Woodin & Marean, Inc. and constructed for Capt. Didrik Didriksen.

The Edward T. Gamage shipyard in East Boothbay, Maine, recently delivered the western-rigged dragger/scallop Settler to Capt. Didrik Didriksen of New Bedford, Mass.

Designed by Woodin & Marean, Inc. of West Boothbay Harbor, Maine, the Settler is the ninth fishing vessel built by the Gamage yard during its first three years of operation. She represents Woodin & Marean's solution to the problems facing fishing vessel designers today—to satisfy the requirements of an experienced skipper/owner while producing a boat having required strength and stability with a minimum of weight.

The vessel's hull, with a refrigerated hold capacity of more than 200,000 pounds of iced fish, is built of 5/16-inch Cor-ten steel, reinforced and strengthened at points subject to local stresses from fishing gear.

The Settler is powered by a Caterpillar D398 diesel driving a 74-inch by 50-inch, four-blade Columbian Bronze propeller at a gear ratio of 4:1. During her delivery trip, on the 130-mile leg from Maine to Cape Cod, she averaged 11 knots.

The vessel has an overall length of 90 feet 8 inches, length at the waterline of 83 feet 4 inches, beam of 23 feet 6 inches, molded draft of 9 feet 1 1/2 inches, and maximum draft of 11 feet 8 1/2 inches.

Three Executive Promotions Announced By Newport News Shipbuilding



William P. Fricks

William H. Smith

Luis R. Lazo

Edward J. Campbell, president and chief executive officer of Newport News Shipbuilding, has announced the promotion of the following three executives, all of whom will report to him. **William P. Fricks**, formerly controller and treasurer, is appointed vice president, finance; **William H. Smith**, formerly corporate director of contracts, is appointed vice president, planning; and **Luis R. Lazo** continues as president of Newport News Offshore Systems (NNOS),

and in addition is appointed president of another subsidiary, Newport News Industrial Corporation (NNI). He replaces **Herbert B. Knight**, who is now on special assignment.

Contracts Administration will now report to **W.R. Phillips Jr.**, whose title is revised to vice president, marketing. Cost Engineering will remain within the finance organization, and will absorb all cost estimating functions now assigned elsewhere.

Shell Oil Company
Manager Commercial Communications
One Shell Plaza
Houston, TX. 77002

- Send me the Shell Shallow Draft Marine Products Guide (SOC: 95-79)
- Send me the Shell Marine Equipment Lubricants chart (SOC: 122-79)
- Send me the Shell Marine Jobber Directory (SOC: 127-79)
- Send me the Caprinus R Technical Bulletin (SOC: 17-77)
- Send me the Caprinus R brochure (SOC: 32-77)

Name _____

Title _____

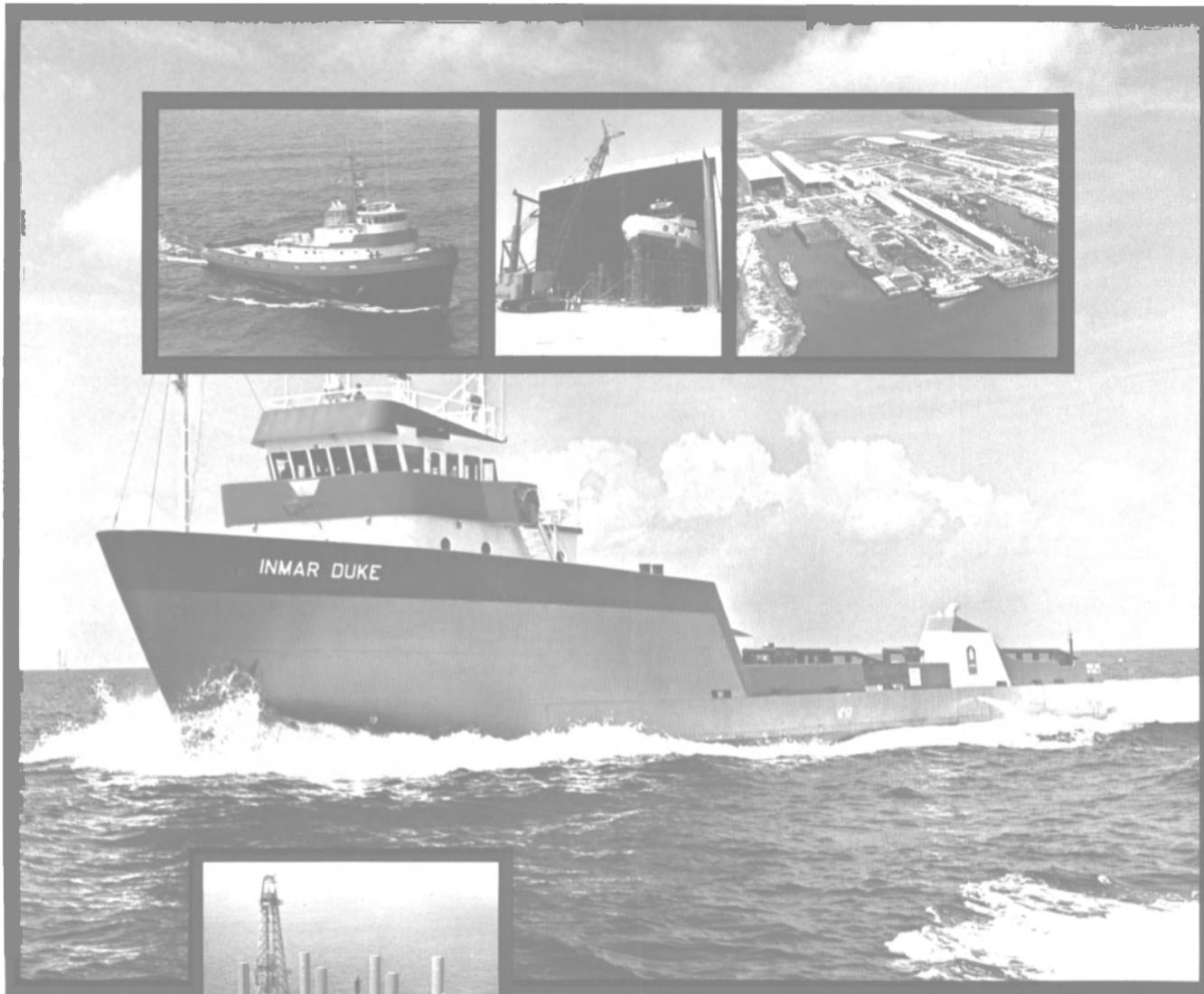
Company/Vessel _____

Address _____

City _____

State _____

Zip _____



LOOK TO THE COMPLETE SHIPYARDS.

McDermott Shipyard Group, of J. Ray McDermott & Co., Inc., offers complete engineering, construction and repair services to the marine and offshore oil and gas industries.

Since the beginning in 1959, McDermott Shipyards have become recognized leaders in the construction of large tugs, jack-up and package rigs, dredges, oceanographic research vessels, fishing vessels and ocean-going work vessels. The Division also constructs work-over and drilling barges, crane boats, work boats and supply vessels.

McDermott Shipyards offer complete drydock and efficient under-roof construction facilities in both Morgan City and New Iberia, Louisiana, with direct access to the Gulf of Mexico and the waters of the world.

For a truly professional solution to your inland and offshore marine needs, look to the full-service shipyards. Look to McDermott.



**McDermott Shipyard
Group**

divisions of

J. Ray McDermott & Co., Inc.

Morgan City, Louisiana, P. O. Box 188, Morgan City 70380 • 504/631-2561 • New Iberia, Louisiana, P. O. Box 128,
New Iberia 70560 • 318/365-8121 • New Orleans, Louisiana, P. O. Box 60035, New Orleans 70160 • 504/587-4411 • USA



Shell Marine Jobbers provide service, facilities and quality Shell products.

ALABAMA

Bayou La Batre
Deep Sea Marine Products
Location: West Bank, 500 Tram Avenue
Phone: (205) 824-4127
Radio: Ch 16, VHF
Mobile
Midstream Fuel Service, Inc.
Location: Mobile River, Mile 1.5
Address: Fairhope 36532
Phone: (205) 433-4972
Radio: Ch 16, VHF

ARKANSAS

Helena
Helena Fuel & Harbor Service, Inc.
Location: Mississippi Service, Inc.
Mississippi River, Mile 661
Riverfront & Bridge Road
Phone: (501) 338-8321
Radio: Ch 16

CALIFORNIA

Oakland
Bay Area Petroleum, Inc.
Location: 421 23rd Ave.
Phone: (415) 534-4517
San Diego
Tuna Clipper Marine
Location: San Diego Harbor
Foot of Crosby Street
Phone: (714) 232-1838
San Pedro
San Pedro Marine, Inc.
Location: Berth 74
Phone: (213) 832-1339

FLORIDA

Jacksonville
See Savannah Oil & Chemical
Savannah, Ga.
Port Everglades
Belcher Oil Company
Location: Port Everglades
2401 Eisenhower Boulevard
Address: Fort Lauderdale
Phone: (305) 525-4261
Tampa
Belcher Oil Company
Location: Tampa Bay
Phone: (813) 247-4572, 247-4573
West Palm Beach
Belcher Oil Company
Location: Port of Palm Beach
1733 Hill Avenue
Phone: (305) 848-1495

GEORGIA

Brunswick
See Savannah Oil & Chemical
Savannah, Ga.
Savannah
Belcher Oil Company
Location: Savannah River, Mile 17
Pier 50, Georgia Ports Authority
Phone: (912) 964-8821
Savannah
Savannah Oil & Chemical
Location: Savannah River
647 W. River Street
Phone: (912) 234-5402

ILLINOIS

Hartford
Ory Bros. Marine Service of
America, Inc.
Location: Upper Mississippi River,
Mile 197
Foot of Hawthorne Street
Phone: (618) 254-0626 (Illinois)
(314) 741-2570 (Missouri)
Radio: Ch 16, KLC 791
Wood River
Hartford Fueling Service
Location: Upper Mississippi River,
Mile 196
Phone: (618) 254-4333
(314) 741-3667
Radio: Ch 16 VHF KLG 280

KENTUCKY

Louisville
Wooten River Service
Location: Ohio River, Mile 603
2927 River Road
Phone: (502) 896-0317
Paducah
Molloy Marine Service, Inc.
Location: Ohio River, Mile 934
100 Husband
Phone: (502) 443-6456
Paducah
Walker Midstream Fuel and
Service Co.
Location: Ohio River, Mile 934
532 South Second St.
Phone: (502) 442-2738
Radio: freq. 156

LOUISIANA

Amelia
Berwick Bay Oil Co., Inc.
Location: Bayou Boeuf
Intracoastal Waterway
1/2 mile North 85 mile board
See Berwick listing under Morgan
City, La.
Baton Rouge
Capital Marine Supply, Inc.
Location: Lower Mississippi, Mile 230
Foot of North Street
Phone: (504) 343-8379
Radio: Channels 16, 7a, 10, 66a VHF
KFT 322.
Baton Rouge
Channel Fueling Service, Inc.
Location: Lower Mississippi, Mile 232
River Road
Phone: (504) 383-4691, 383-4814
Radio: freq. 156.8

Belle Chasse
Plaquemines Oil Sales Corp.
See Plaquemines Oil, Venice, La.
Berwick
Berwick Bay Oil Co., Inc.
Location: Atchafalaya River - 1/4 mile
north of Hwy 90 bridge
See Berwick Oil Listing under
Morgan City, La.

Cameron
Berwick Bay Oil Co., Inc.
Location: Calcasieu River
See Berwick Bay Oil listing,
Morgan City, La.
Cameron
Cameron Marine Service, Inc.
Location: Calcasieu River
Phone: (318) 775-5206
Dulac
Berwick Bay Oil Co., Inc.
Location: Houma Navigation Channel
17 miles South of Houma
See Berwick Bay Oil listing,
Morgan City, La.

Gretna
John W. Stone Oil Distributor, Inc.
Location: Lower Mississippi, Mile 96.5
87 First Street, Gretna
Harvey 77059
Phone: (504) 366-3401
Radio: KGW 352
Houma
Houma Oil Company, Inc.
Location: Intracoastal Canal
Phone: (504) 872-0464
Intracoastal City
Berwick Bay Oil Co., Inc.
Location: Vermillion River - 1/4 mile
north of Intracoastal Canal Mile 155
See Berwick Bay Oil listing,
Morgan City, La.

Lake Charles
Channel Fueling Service, Inc.
See Channel Fueling Service,
Sulphur, La.
Morgan City
Berwick Bay Oil Company, Inc.
Location: Young's Road
Phone: (504) 384-1610
Radio: Ch 16 VHF KXR979
New Orleans
Gulf Outlet Fuel & Marine
Supplies, Inc.
Location: Gulf Intracoastal Waterways
Mile 8 East
3400 Jourdan Road
Phone: (504) 241-8680
Radio: KVF 893

Port Allen
Tri-State Marine Service Co.
Location: Lower Mississippi, Mile
227.5
River Road
Phone: (504) 749-3171
Radio: 156.8
Sulphur
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Intersection of Calcasieu
River
Phone: (318) 583-7215, 583-7384
Radio: 156.8

Venice
Plaquemines Oil Sales Corp.
Location: Mississippi River
Mile 10.5 at Grand Pass
Louisiana Hwy 23, Venice
Address: Belle Chasse
Phone: (504) 394-5555 (Belle
Chasse)
(504) 534-7403 (Venice)
Radio: WYZ 2375

MASSACHUSETTS
Gloucester
Progressive Oil Co., Inc.
Location: Gloucester
Address: 92 Grove St.
Phone: (617) 283-2000

MINNESOTA
Winona
Waterways - Winona, Inc.
Location: Upper Mississippi, Mile 725
376 East 2nd St.
Address: 455 North St.
Fountain City, Wi.
Phone: (608) 687-6931 (Wisconsin)
(507) 452-5252 (Minnesota)
Radio: Ch 16-12

MISSISSIPPI
Blod
Ship Services Corporation
Location: Gulfport State Port and
Biloxi Back Bay, Beacon :7
Phone: (601) 374-1000
Greenville
Waterways Marine of Greenville, Inc.
Location: Lower Mississippi, Mile 537
Warfield Point Road
Phone: (601) 335-2526
Radio: KWS 617

Pascagoula
Fuel Services, Inc.
Location: Bayou Casotte
Ingalls Avenue
Phone: (601) 762-0636, 762-0640
Radio: Ch 16
Vicksburg
Vicksburg Mid-River Services, Inc.
Location: Lower Mississippi, Mile 437
Foot of Lee Street
Phone: (601) 636-4814, 636-7731
Radio: 156.8

MISSOURI

St. Louis
St. Louis Fuel & Supply Co., Inc.
Location: Upper Mississippi, Mile 179
Address: Foot of Gratiot Street
Phone: (314) 421-3960
Radio: Ch 16, VHR-KDO 722 Fort
Guage

NORTH CAROLINA

Elizabethtown
Campbell Oil Company, Inc.
Location: 1010 West Broad Street
Phone: (919) 862-4107

OREGON

all ports
see Lilyblad Petroleum listing under
Tacoma, Washington

PENNSYLVANIA

Philadelphia
River Associates, Inc.
Location: Delaware River
Pier 9 North
Phone: (215) 463-8100

SOUTH CAROLINA

Charleston
Charleston Oil Co.
Location: Ashley and Cooper Rivers,
1553 King St. Extension
Phone: (803) 577-5600
Charleston
See Savannah Oil & Chemical,
Savannah, Ga.

Georgetown
See Savannah Oil & Chemical
Savannah, Ga.

Port Royal
See Savannah Oil & Chemical
Savannah, Ga.

TENNESSEE

Memphis
Memphis Boat Refueling Service, Inc.
Location: Lower Mississippi, Mile 735
Foot of Illinois Street
Phone: (901) 775-3131
Radio: Ch 16

Memphis
Waterways Marine of Memphis, Inc.
Location: Lower Mississippi, Mile 736
Foot of Beale Street
Phone: (901) 525-5761
Radio: Ch 16, 156.6

Texas

Corpus Christi
Belcher Co. of Texas, Inc.
Address: 504 Navigation
Corpus Christi, Tx. 78403
Phone: (512) 888-6311
Galveston
Grasso Marine Service, Inc.
Location: Galveston Ship Channel
Pelican Island
Phone: (713) 744-2888 (dock)
(713) 763-4343 (office)

Houston
Houston Marine Services, Inc.
Location: Beacon 126
Houston Ship Channel
Phone: Dock (713) 424-4502
Office (713) 455-8819
Radio: Channel 16

Lake Jackson
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Mile 393
1400 Marlin Avenue
Phone: (713) 233-5321, 233-5322
Radio: 156.8

Port Arthur
Channel Fueling Service, Inc.
Location: Gulf Intracoastal Waterway
West, Mile 282
5700 Proctor Street
Phone: (713) 962-5557
Radio: 156.8

Rockport
Berwick Bay Oil Co., Inc.
Location: Rockport Navigation Harbor,
Intracoastal Canal, Mile 526
See Berwick Bay Oil Listing, Morgan
City, La.

VIRGINIA

Norfolk
Marine Oil Service, Inc.
Location: Elizabeth River
Address: 71 Radar Street
Phone: (804) 622-0934, 622-3109

WASHINGTON
Seattle
Ballard Oil Co.
Location: Lake Washington Ship
Canal
Phone: (206) 783-0241
Tacoma
Lilyblad Petroleum, Inc.
Location: Washington and Oregon - all
ports
Phone: (206) 572-4402
Radio: KLB radio station
Marysville, Wa.

WASHINGTON
all other ports see Lilyblad Petroleum
above.

WEST VIRGINIA

Pt. Pleasant
City Ice & Fuel Co.
Location: Ohio River, Mile 265.3
Address: 224 First Street
Phone: (304) 675-2010

Dragger/Scallop 'Settler' Delivered By Gamage Shipyard



Recent delivery by Edward T. Gamage, Inc. shipyard was the Cat-powered dragger/scallop Settler, designed by Woodin & Marean, Inc. and constructed for Capt. Didrik Didriksen.

The Edward T. Gamage shipyard in East Boothbay, Maine, recently delivered the western-rigged dragger/scallop Settler to Capt. Didrik Didriksen of New Bedford, Mass.

Designed by Woodin & Marean, Inc. of West Boothbay Harbor, Maine, the Settler is the ninth fishing vessel built by the Gamage yard during its first three years of operation. She represents Woodin & Marean's solution to the problems facing fishing vessel designers today—to satisfy the requirements of an experienced skipper/owner while producing a boat having required strength and stability with a minimum of weight.

The vessel's hull, with a refrigerated hold capacity of more than 200,000 pounds of iced fish, is built of 5/16-inch Cor-ten steel, reinforced and strengthened at points subject to local stresses from fishing gear.

The Settler is powered by a Caterpillar D398 diesel driving a 74-inch by 50-inch, four-blade Columbian Bronze propeller at a gear ratio of 4:1. During her delivery trip, on the 130-mile leg from Maine to Cape Cod, she averaged 11 knots.

The vessel has an overall length of 90 feet 8 inches, length at the waterline of 83 feet 4 inches, beam of 23 feet 6 inches, molded draft of 9 feet 1½ inches, and maximum draft of 11 feet 8½ inches.

The vessel's hull, with a refrigerated hold capacity of more than 200,000 pounds of iced fish, is built of 5/16-inch Cor-ten steel, reinforced and strengthened at points subject to local stresses from fishing gear.

Three Executive Promotions Announced By Newport News Shipbuilding



William P. Fricks

William H. Smith

Luis R. Lazo

Edward J. Campbell, president and chief executive officer of Newport News Shipbuilding, has announced the promotion of the following three executives, all of whom will report to him. **William P. Fricks**, formerly controller and treasurer, is appointed vice president, finance; **William H. Smith**, formerly corporate director of contracts, is appointed vice president, planning; and **Luis R. Lazo** continues as president of Newport News Offshore Systems (NNOS),

and in addition is appointed president of another subsidiary, Newport News Industrial Corporation (NNI). He replaces **Herbert B. Knight**, who is now on special assignment.

Contracts Administration will now report to **W.R. Phillips Jr.**, whose title is revised to vice president, marketing. Cost Engineering will remain within the finance organization, and will absorb all cost estimating functions now assigned elsewhere.

Shell Oil Company
Manager Commercial Communications
One Shell Plaza
Houston, TX. 77002

- Send me the Shell Shallow Draft Marine Products Guide (SOC: 95-79)
- Send me the Shell Marine Equipment Lubricants chart (SOC: 122-79)
- Send me the Shell Marine Jobber Directory (SOC: 127-79)
- Send me the Caprinus R Technical Bulletin (SOC: 17-77)
- Send me the Caprinus R brochure (SOC: 32-77)

Name _____

Title _____

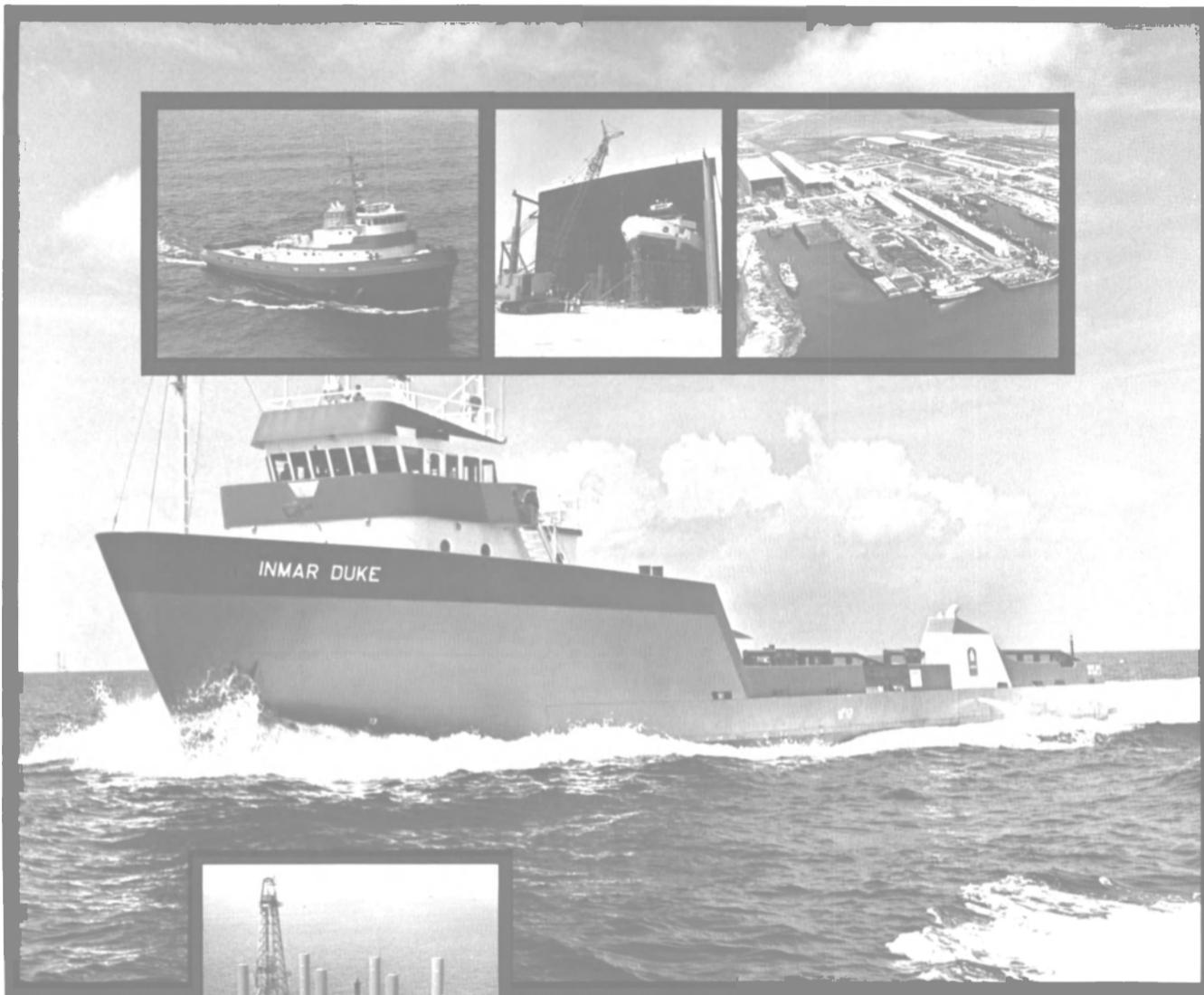
Company/Vessel _____

Address _____

City _____

State _____

Zip _____



**LOOK TO THE
COMPLETE
SHIPYARDS.**

McDermott Shipyard Group, of J. Ray McDermott & Co., Inc., offers complete engineering, construction and repair services to the marine and offshore oil and gas industries.

Since the beginning in 1959, McDermott Shipyards have become recognized leaders in the construction of large tugs, jack-up and package rigs, dredges, oceanographic research vessels, fishing vessels and ocean-going work vessels. The Division also constructs work-over and drilling barges, crane boats, work boats and supply vessels.

McDermott Shipyards offer complete drydock and efficient under-roof construction facilities in both Morgan City and New Iberia, Louisiana, with direct access to the Gulf of Mexico and the waters of the world.

For a truly professional solution to your inland and offshore marine needs, look to the full-service shipyards. Look to McDermott.



**McDermott Shipyard
Group**

divisions of
J. Ray McDermott & Co., Inc.

Morgan City, Louisiana, P. O. Box 188, Morgan City 70380 • 504/631-2561 • New Iberia, Louisiana, P. O. Box 128, New Iberia 70560 • 318/365-8121 • New Orleans, Louisiana, P. O. Box 60035, New Orleans 70160 • 504/587-4411 • USA

Frank McGrath Named Chief Engineer At Peterson Builders



Frank McGrath

Peterson Builders, Inc. recently announced that a number of changes had been made within their Engineering Department. The shifts made included assigning Frank McGrath to the position of chief engineer of the department. He will have direct responsibility for the Hull Department, Mechanical/Piping/Heating/Ventilation and Air Conditioning Department, Electrical/Electronics Department and the Engineering Group. Mr. McGrath's former duties included the responsibility of serving as the Patrol Gunboat Program engineering production manager on the 190-foot Aluminum PGG program with the U.S. Navy.

Additional engineering shifts made at PBI were comprised of promotions within three of the primary engineering subdivisions at the shipbuilding facilities. They included the following promotions to department heads in their respective divisions: Gaylen La-Crosse-Mechanical/Piping/HV-AC; Richard Yedica-Hull/Outfitting; Eugene Hody-Electrical/Electronics. As department heads, these three individuals will be responsible for all design and drafting pertinent to their subdivisions, coordinating the engineering data that flows to and from production areas.

W.M. Mularie Named Research Director For American Hoist



Dr. Wm. M. Mularie

Robert P. Fox, president and chief executive officer of Amhoist (American Hoist & Derrick Company), St. Paul, Minn., announces the creation of a new Corporate Research Department.

Dr. Wm. M. Mularie has joined the new department as director of corporate research. He joined 3M

in 1961 as a physicist in the Electrical Products Laboratory, and returned to the University of Minnesota to complete his doctorate in 1970. After joining the Martin Marietta Laboratories in 1970, Dr. Mularie returned to the Components and Devices Laboratory of the Industrial Electrical Products Division of 3M in 1974, and joined the Central Research Laboratories in September 1978.

Beker Maritime Seeks Title XI On Two Dredges To Cost \$10 Million

Beker Maritime Company, a Bradenton, Fla., subsidiary of Beker Industries Corporation, Greenwich, Conn. 06830, has applied for a Title XI guarantee to aid in financing the construction of two cutterhead pipeline dredges.

The 5,000-bhp vessels are to operate on the inland waters of Florida.

If approved, the Title XI guarantee would cover \$8,750,000, or 87½ percent of the total cost of \$10 million.

Deliveries have been scheduled for January and April 1981; the shipbuilder has not yet been determined.

A 10,000-psi jet of water promises to revolutionize routine on-board maintenance... especially rust and scale removal of surfaces to be painted.

Butterworth Systems now offers a modern alternative to the age-old chipping hammer. It's their MARINE LIQUA-BLASTER®



Diesel powered pump of a MARINE LIQUA-BLASTER onboard a vessel.

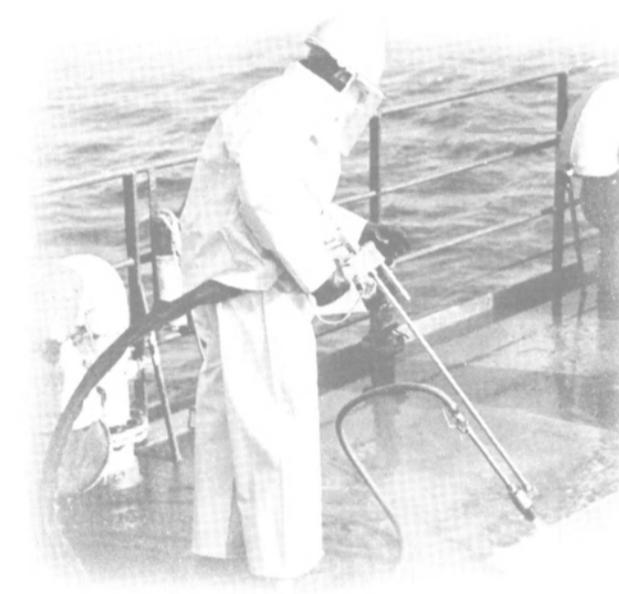
ultra-high pressure water-blasting equipment.

Especially developed for shipboard use at sea, the MARINE LIQUA-BLASTER unit uses a diesel or electric powered pump to generate a 10,000-psi jet of water that is directed by a fail-safe, hand-held gun at the surface being descaled.

"White-metal" cleaning.

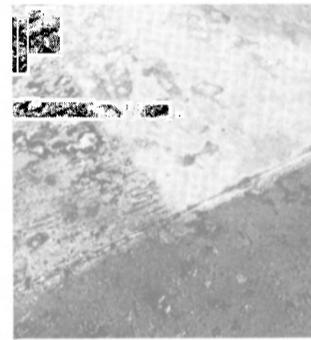
On a badly rusted surface, "water only" blasting removes scale and debris, leaving a surface that is acceptable for standard maintenance painting. If a moderate amount of sand is automatically added to the water jet, a surface can be "white-metal" cleaned more effectively and more efficiently than it would be with dry-sand blasting in a shipyard. With the MARINE LIQUA-BLASTER unit, a rust inhibitor can be added to protect the "white-metal" surface against oxidation before painting.

Introducing the Butterworth Systems MARINE LIQUA-BLASTER® SHIP MAINTENANCE SYSTEM.



poop deck. The job was done as routine maintenance with interruptions for bad weather and all-hands tasks. In a little over two weeks the poop deck was "white-metal" cleaned and freshly painted.

Doing the same job in a shipyard would have cost \$13,750 at \$25 per square meter not including the incremental lay up time to accomplish this task.



Heavily rusted deck (below), after water blasting (left), and "white-metal clean after water-sand blasting (right)."

Get all the facts.

For full details and a copy of an eight-page report, "Shipboard Cleaning and Descaling with Ultra-high Pressure Water Blasting", write or call today.



Butterworth Systems

BUTTERWORTH SYSTEMS INC.
224 Park Avenue, Box 352,
Florham Park, N.J. 07932 USA
Telephone: (201) 765-1549
Telex: 136434

BUTTERWORTH SYSTEMS (UK) LTD.
445 Brighton Rd., So. Croydon,
Surrey CR2 6EU, England
Telephone: 01-668-6211
Telex: 946524

PARTEK CORPORATION OF HOUSTON
3721 Lapas Drive
Houston, Texas 77023 USA
Telephone: (713) 644-3636
Telex: 762199

Better than dry-sand blasting.

Because of the high velocity of the water/sand jet, the sand impacts a rusted surface with a much greater force than with regular dry-sand blasting. The end result is faster cleaning using less sand. Respirators are not required since no dust is generated. Clean-up is also easier.

Other shipboard cleaning.

In addition to descaling rusted surfaces, a MARINE LIQUA-BLASTER unit can be used for a number of

other on-board cleaning jobs. These include cleaning condenser and boiler tubes, oil spray from machinery, galley grease filters, clogged ports, and the like. For these jobs, as well as rusted surfaces, a variety of guns, lances, round and fan jet nozzles are available.

Proven on-board use.

The experience on a 69,742-DWT tanker is typical of other vessels that have used MARINE LIQUA-BLASTER equipment. Here, it was first used to clean a badly rusted 550-square-meter

Towboat 'Elizabeth D' Christened By Dravo

The M/V Elizabeth D., a new 2,000-bhp towboat, was christened recently by Dravo Corporation in Pittsburgh. The new towboat was built by Dravo SteelShip, a Dravo subsidiary located in Pine Bluff, Ark.

Named after Mrs. Elizabeth Dickey, the wife of Robert Dickey

III, Dravo's chairman and president, the new vessel will be operated by the Pittsburgh Region of Dravo's Aggregates Division, a major supplier of construction aggregate in the Pennsylvania, Ohio, and West Virginia area of the Ohio and Monongahela Rivers.

The Elizabeth D. measures 93

feet 9 inches long by 27 feet 2 inches wide and is 32 feet high at its highest point. It is powered by two Caterpillar D-399 diesel engines and has two Caterpillar 3304 85-kw generators.

Extensive monitoring equipment has been included in the pilothouse for all the basic functions in the engine room. The pilothouse also contains stop/start controls for the engine and the deck winches.

The engine room has blanket fire protection, including automatic closing of the doors to the generator room and automatic shut off of the ventilating fans in the event of fire.

The first deck of the Elizabeth D. has two rooms, each accommodating two crew members, the galley and dining area and the engine room. The second deck contains rooms for the captain, pilot, cook, and also one guest room.

Stanley Lysicki, from Crafton, Pa., is the senior captain of the Elizabeth D., with Arch Cowan

of McMurray, Pa., serving as his relief. Calvin Roush, Apollo, Pa., and Jim Hickey, Paducah, Ky., alternate onboard as pilots.

The remainder of the crew consists of a cook and four deckhands.

C.B. Niessner Joins

Farrell Lines As

VP-Information Services

James P. Horn, president of Farrell Lines Incorporated, announces the appointment of Charles B. Niessner as vice president, information services. In his new position, he will have corporate responsibility for all phases of data processing, including operations and systems development, programming, and related manual systems and procedures.

Mr. Niessner was corporate director, management information services with Seatrain Lines Inc. at the time of his appointment, having previously held positions with Bethlehem Steel Corporation, Western Union, and Aries Corporation.



The 2,000-horsepower towboat Elizabeth D was christened recently by Mrs. Elizabeth Dickey, wife of Dravo chairman and president Robert Dickey III, in Pittsburgh by Dravo Corporation. The new towboat was built at Pine Bluff, Ark., by Dravo SteelShip, a subsidiary of Dravo Corporation.

Progress Through Performance . . . That's SKINNER

SKINNER

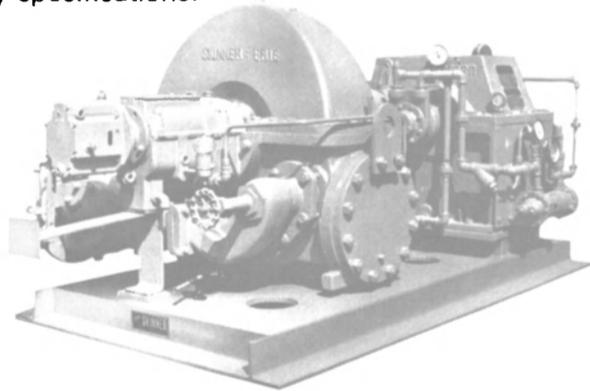
ENERGY EFFICIENT STEAM TURBINES

SKINNER's line of single or multi-stage mechanical drive turbines are engineered for an energy saving and cost conscious world.

Complete units, both horizontal and vertical design, are manufactured to meet API, NEMA and appropriate military specifications.

Horsepowers range to 4500 hp for condensing or non-condensing service with rotation in either direction.

Learn how SKINNER Turbines can provide efficient use of excess steam and improve your energy needs, write or phone today.



AN ENERGY SAVER FROM

POWER DIVISION
SKINNER ENGINE COMPANY

A SUBSIDIARY OF BANNER INDUSTRIES, INC.
P.O. Box 1149, Erie, Pennsylvania 16512
Phone: 814/454-7103 Telex: 91-4481



Harbor and coastwise towing since 1895



1927 - Suderman & Young tug "Propeller", built in 1920, assisting French Line's "S. S. Lafayette" in negotiating Houston Ship Channel on her maiden voyage.

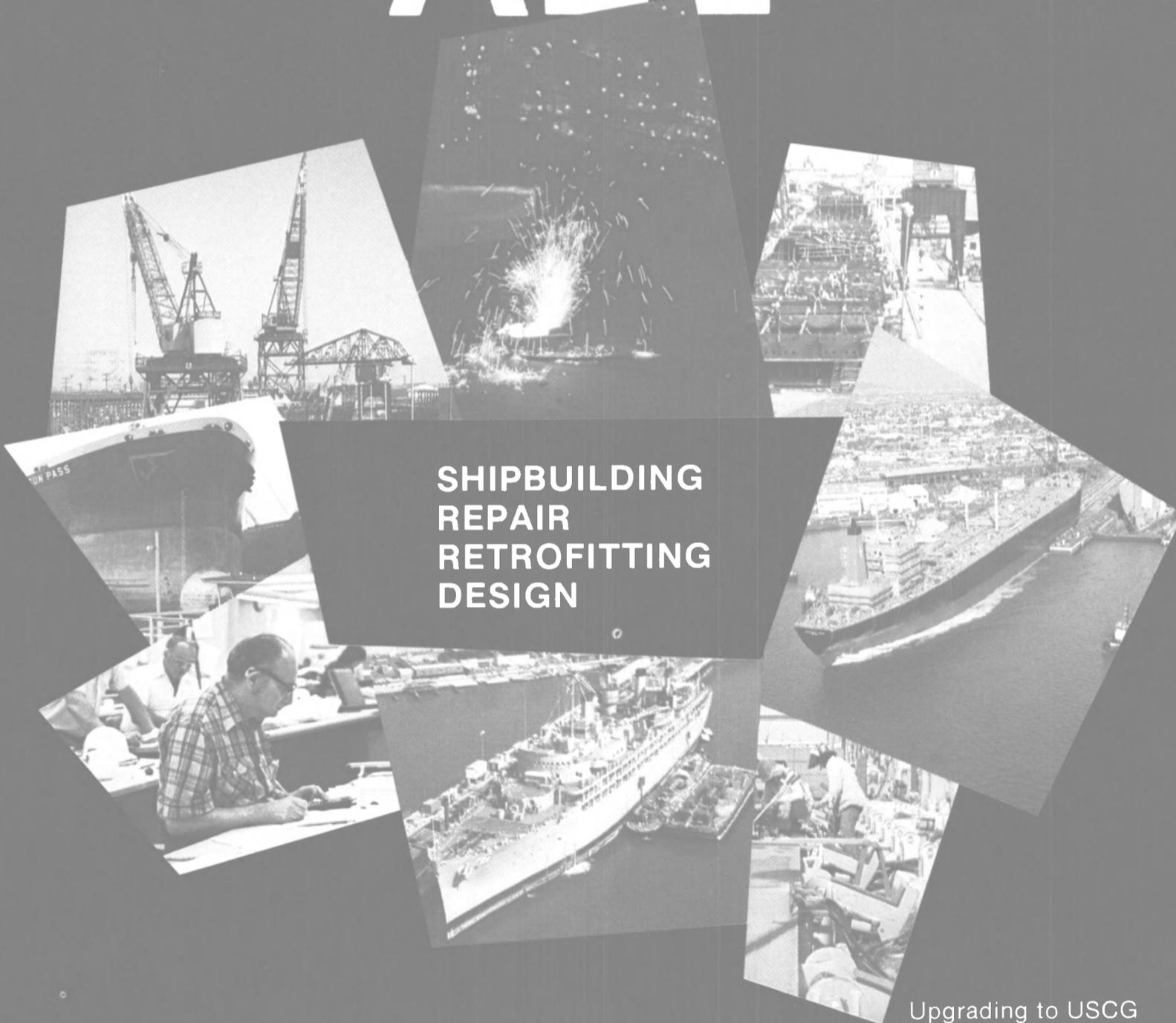
Suderman & Young's modern powerful fleet of tugs continues to assist shipping on the Texas Gulf Coast 24 hours a day.

**SUDERMAN
AND YOUNG**
TOWING CO., INC.

918 World Trade Building, Houston, Texas 77002 713/227-1128

HOUSTON • TEXAS CITY • GALVESTON • FREEPORT • PORT ARANSAS • CORPUS CHRISTI

we have it
ALL



**SHIPBUILDING
REPAIR
RETROFITTING
DESIGN**

Upgrading to USCG
and IMCO Standards

massco

NATIONAL STEEL & SHIPBUILDING CO. PO. Box 80278 28th St. & Harbor Dr. San Diego, CA 92138

Zuccaro Appointed To Marketing Manager At General Electric E&E

The appointment of **Richard J. Zuccaro** as manager, marine service programs and marketing support of General Electric Company's Electrical and Electronics (E&E) Service Department, Installation and Service Engineering Division (I&SE) has been an-

nounced by **P.S. Hasler**, manager, E&E marketing and programs.

Mr. Zuccaro will be responsible for developing the department's marine business program plans, while providing marketing support to other program managers.

He joined General Electric in 1951 as a test engineer in Johnson City, N.Y. After assignments in Bridgeport, Conn., and Schenectady, N.Y., and two years as a 1st lieutenant in the U.S. Army

in Korea, he rejoined the company in 1959 as a field engineer. In 1966, Mr. Zuccaro was appointed sales manager, Northeastern Electrical and Electronic Region. In 1972, he was named manager of I&SE's Electrical and Electronic Sales, and in 1977 was appointed manager, marketing and programs support for the E&E Department in Schenectady, the position he held prior to his new assignment.

\$19.7-Million Overhaul Contract Awarded By Navy To SF Welding

San Francisco Welding and Fabricating, Inc., San Francisco, Calif., has been awarded a \$19,731,233 fixed price contract for modifications and overhaul work on the USNS Kawishiwi, a Navy oiler. The Navy's Military Sealift Command, Pacific, is the contracting activity. (N00033-77-C-0015)

Randy Bates Joins Tracor As Assistant Field Service Manager



Randy Bates

Randy Bates has been appointed assistant field service manager for Tracor Marine Systems, which is a part of the Tracor Instruments Division. He will have service responsibilities for Tracor's marine navigation products, including the Satellite Navigator and the Omega Navigator in the fishing, commercial marine, and pleasure craft markets. He reports directly to **Will Hoover**, field service manager of Tracor Instruments.

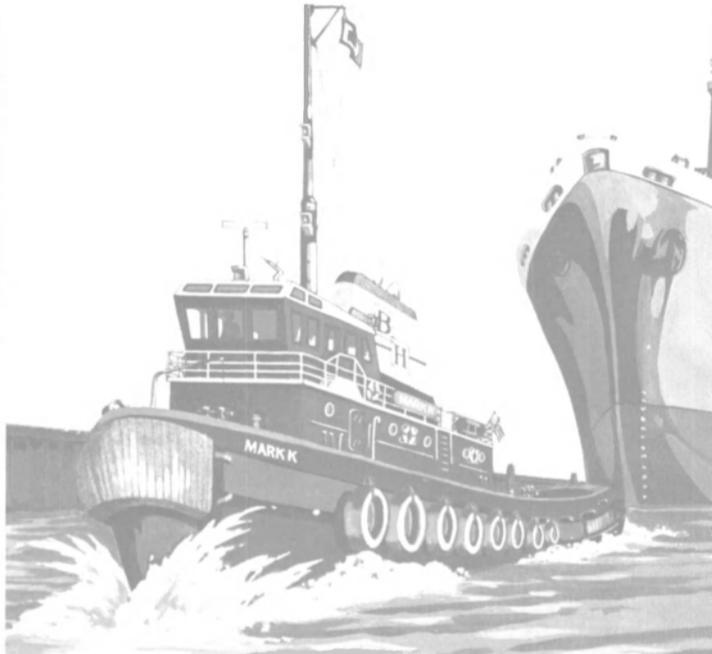
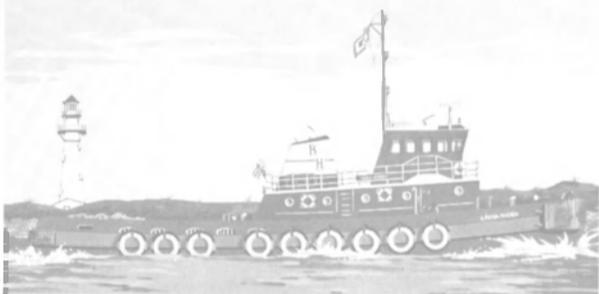
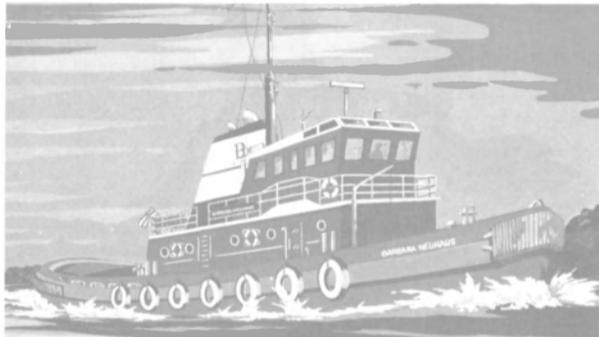
Before joining Tracor Instruments Division, Mr. Bates was a test engineer technician for Tracor's Science and Systems Division. He worked for General Telephone Information Systems before joining Tracor.

New Brochure On Offshore Risks Available From All American Marine Slip

The All American Marine Slip, an underwriting syndicate for offshore energy risks managed by Marine Office of America Corporation, has published a new brochure describing its services to insurance buyers and brokers.

Called "In The Right Place At The Right Time," the brochure describes the emergence of the Slip as a viable alternative market for energy risks since its founding in 1972. These risks include fixed and mobile drilling rigs of all kinds; pipelines and offshore terminals; submarines, deepsea decompression chambers, and underseas mining vessels and equipment. The brochure also describes the coverages written by the Slip and identifies the organization's key management personnel in its New York and Houston offices.

Requests for a free copy should be sent to **Robert Lowery**, Dept. MR, All American Marine Slip, 80 Maiden Lane, New York, N.Y. 10038.



Three new tugs join the Bay-Houston family.

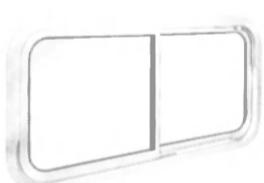
Three new additions to the Bay-Houston fleet will be the Barbara H. Neuhaus, Laura Haden and Mark K. All attest to the dedication of Bay-Houston to provide the best

towing service available on the Gulf Coast.

B **BAY-HOUSTON TOWING CO.**
HARBOR AND COASTWISE TOWING
H Houston • Galveston • Corpus Christi • Freeport • Texas City

Proved Engineering and Dependability

stand behind the world's finest shipboard windows, windshield wipers and doors by...



Sliding Window



Crank-Operated Window



Window Wiper and Fixed Window



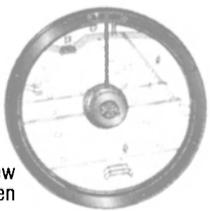
Weathertight Door



Hinged Portlight



De-icing, Heated Window



Clear View Screen

Kearfott products are quality constructed to meet requirements of A.B.S., U.S.C.G. and Navy standards.

Kearfott windows and doors can be manufactured in various sizes, shapes and materials.

Catalog showing complete line of marine products furnished upon request.

Kearfott

a division of The **SINGER** Company

550 S. Fulton Ave., Mount Vernon, N.Y. 10550
Phone 914-664-6033

G.B. "Blue" Hogg Named Sales Manager At Southern Shipbuilding

G.B. "Blue" Hogg has been appointed manager of sales at Southern Shipbuilding Corporation at Slidell, La. He will be responsible to the president for sales management of repairs and new construction in the United States.

Southern Shipbuilding has published a full-color brochure outlining its design and construction in eight repair operations. To obtain a copy, write to "Blue" at Dept. MR, P.O. Box 1089, Slidell, La. 70458.

Two Promotions In Moran's Construction & Repair Department

Francis D. Collins has been named manager, and W. Anthony Watt assistant manager of the Construction and Repair Department of the Moran Towing & Transportation Company, Inc., New York, it was announced by Thomas E. Moran, president.

Mr. Collins, a specialist in marine engineering and marine electrical engineering, succeeds Robert M. Loftus, who is now president of Ocean Salvors Company (OSC).

Following graduation from the Massachusetts Maritime Academy in 1963, Mr. Collins served in a wide variety of merchant and research vessels and tugs. He joined Moran as chief engineer of the Sheila Moran in 1975.

Mr. Watt, former executive of the Florida Towing Company, has assisted in the management of Seaboard Shipping Company, a Moran subsidiary, since 1978.

He has a strong background in harbor towing, sales, brokerage, and contract administration.

Two Executives Promoted At The Offshore Company

George T. Richardson, president and chief operating officer of The Offshore Company, has announced the election of Ronald Warren as treasurer of the company and G. Layne Finlay as assistant treasurer.

Mr. Warren, formerly assistant treasurer, began his career with Offshore in 1975 and will continue to serve as manager of the company's Finance Department. Mr. Finlay joined the company in 1979 as director of taxes, a position which he currently holds.

\$3.4-Million LCAC Design Contract Awarded By Navy To Rohr Marine

Rohr Marine, Inc., a subsidiary of Rohr Industries, Inc., Chula Vista, Calif., has announced receipt of a \$3.4-million U.S. Navy contract for the system design and specification phase of an advanced technology Landing Craft, Air Cushion (LCAC) Program. The contract is expected to take approximately 17 months to com-

plete and will involve more than 70 technical and management personnel.

The LCAC is to be an amphibious craft designed to operate on a cushion of air contained by a flexible skirt. The craft will be capable of traveling at high speeds over both the land and water. This advanced high-speed craft will provide a ship-to-shore, over-the-beach amphibious capability necessary to support the trans-

port of vital equipment required by today's Marine amphibious force operations. The speed, capacity and amphibious capability of this advanced landing craft are expected to provide greater operational flexibility for our forces in meeting today's global responsibilities.

Rohr Marine is one of two contractors selected by the Navy to conduct this phase of the craft development. Upon completion of

the System Design and Specification work, the Navy will select a single prime contractor who may expect to be awarded contracts for the subsequent Subsystem Design and Pilot Production Phase of the Program. Current Navy plans call for a buy of six craft in the pilot production phase prior to full production. The craft is being developed by the Navy's Amphibious Ship Acquisition Project Office.

PROVEN SUCCESS



Mobilzinc[®]

UNI-PAK[™]

The unique inorganic zinc primer

UNI-PAK[™] is the unique single-package inorganic zinc rich coating proven successful in the fight against corrosion in a wide range of marine and industrial applications.

UNI-PAK offers all the benefits of a 2-package material—ready-mixed in a single container—providing 82.5% metallic zinc in the dried film and excellent early water resistance. UNI-PAK inorganic zinc coating results in a smooth cured film, uniform in color and appearance which can be applied with either conventional or airless equipment.

For information about the success of UNI-PAK's performance—or to inquire about Mobil's complete line of high performance coatings—contact your Mobil representative today or write to Mobil Chemical, Maintenance and Marine Coatings Department, P.O. Box 250, Edison, N.J. 08817.

Mobil Chemical Company

MAINTENANCE & MARINE COATINGS DEPARTMENT

Edison, New Jersey
Beaumont, Texas

Kankakee, Illinois
Los Angeles area / Azusa, California

Lanier Named Marine Operations Manager At Martin Logicon Energy

The management of Martin Logicon Energy Company of Pine Bluff and North Little Rock, Ark., has announced the appointment of **Roger L. Lanier** as marine operations manager. He succeeds Capt. **Herman Pardue**, who recently resigned. Mr. Lanier joined the company in January of this year.

Coastal States Trading Appoints Three New Vice Presidents

Three vice presidents have been elected by Coastal States Trading, Inc., a subsidiary of The Coastal Corporation, the Houston-based energy supply company.

Jorge Chamot will serve as vice president responsible for South American crude oil supply and

marketing in the transport and supply division. He joined Coastal in 1977 as manager of South American operations in the crude oil division and was later elected assistant vice president of Coastal States Trading, Inc.

Clyde B. Meltzer has been elected vice president responsible for domestic crude oil supply and marketing. Previously with Shell Oil for nine years, he joined Coastal's loss control division in 1977. Fol-

lowing his transfers to foreign and domestic crude oil trading operations, he was named manager of domestic crude oil trading.

Rick Sell will serve as vice president responsible for foreign crude supply and marketing. He worked for Champlin Petroleum Company and La Gloria Oil and Gas before joining Coastal in 1978.

Perry Nelson Named Executive VP At M. Rosenblatt & Son



Perry W. Nelson

Lester Rosenblatt, president and chairman of the board of M. Rosenblatt & Son, Inc., New York, has announced the promotion of **Perry W. Nelson** to executive vice president. A graduate of the U.S. Naval Academy, Mr. Nelson received his master's degree in naval architecture from the Webb Institute of Naval Architecture, and attended the Advanced Management Program at the Harvard Business School.

Before joining the Rosenblatt firm in 1975, Mr. Nelson spent 30 years in the U.S. Navy. His tours of duty included: five years at sea in destroyers; shipyard waterfront superintendent, project manager for preliminary design of destroyers and hydrofoils; systems analyst, Office of the Secretary of Defense; director of Navy new ship design (NAVSEC); and commanding officer of the David W. Taylor Naval Ship Research and Development Center.

Hudsick Named Economic Services Director At Port Of Portland

Clifford A. Hudsick, Port of Portland manager of planning and research, has been named director of the port's newly created Economic Services Department, executive director **Lloyd Anderson** announced.

In his new position, Mr. Hudsick will oversee the activities of the port's Economic Development, Legal, and Grants Administration divisions. In addition, he will have responsibility for the port's industrial development revenue bonding function.

He has served in his present position since 1978; he joined the port as planning manager in 1974.

MANGONE SHIPBUILDING A LEADER FOR MORE THAN A DECADE



The 185-ft. Tug/Supply *T.R. Naquin* is shown during trial runs.



Recognized as an international leader in building ships for the offshore industry, Mangone Shipbuilding Company continues to stay in the forefront of offshore service vessel design and construction. Custom built to meet the specifications of individual owners as well as all regulatory bodies, every Mangone vessel differs from all others.

For our catalogue on recent vessels built by Mangone, please write or call our Houston office.

ABS CLASSED, ALL OCEANS
NORWEGIAN SEA CONTROL REGULATORY BODY
CERTIFICATED (Norwegian Flag)
or U.S. COAST GUARD
CERTIFICATED (U.S. Flag)



Mangone Shipbuilding Company

819 South 80th St. • P.O. Box 5446 • Houston, Texas 77012 • 713/926-9451

A Stewart & Stevenson
Company



**Lockstad Names
T.D. Lindberg VP-Sales**



Timothy Drew Lindberg

Howard E. Lindberg, president of Lockstad Co. Inc., recently announced the appointment of **Timothy Drew Lindberg** as vice president in charge of sales. **Timothy Lindberg** is a 1980 graduate of the Maine Maritime Academy, and will be manager of sales and engineering for the East Coast of the United States.

Lockstad Co. is a leading supplier of chain pipe covers in the United States, with headquarters at R.D. #2, Burnett Road, Mendham, N.J. 07945.

**New Brochure Available
On General Electric's
Propulsion Gearing**

A new 12-page brochure illustrated in full color and outlining various applications for GE ship propulsion gearing now is available. The various gears include types, MS, DT, MD, MDT, and reversing gearing.

The brochure also outlines the various prime movers and combinations of prime movers that can use the high-performance gearing.

For a copy, write to **Raymond J. Walsh**, Marine Sales Manager, General Electric Company, Dept. MR, 1100 Western Avenue, Lynn, Mass. 01910, and request GEA-10824.

**Marathon Offers Free
32" X 48" Full Color
Wall Poster Of Drill Rig**

In an unusual gesture by a major industrial manufacturer, Marathon LeTourneau Offshore Company of Houston, Texas, commissioned nationally acclaimed artist **David Kimble** to paint an "insider's view" of one of the famed Marathon LeTourneau offshore mobile, self-elevating jackup drilling rigs.

Termed "The Anatomy of a Rig," the painting is a full color "on-site" ocean scene showing the rig with cutaway sections to depict the intricate workings of the complex structure. It was commissioned in order to better reveal the details of an operating offshore jackup drilling rig.

Reproduced in a full-color 32-

inch by 48-inch wall poster, the painting shows a Marathon Class 116-C cantilever mobile self-elevating jackup drilling rig just as it would appear at work drilling in an ocean environment.

This first Marathon LeTourneau-developed rig was equipped with 141 feet of leg, and was capable of drilling in 80 feet of water. In contrast, the Marathon Class 116-C cantilever self-elevat-

ing jackup rig depicted in the poster is equipped with 410 feet of leg, and is capable of drilling in 300 feet of water. It features vastly improved technology.

The poster details various functioning parts of a working jackup drilling rig, not otherwise seen by a viewer. It includes close-ups of the main deck, the elevating unit structure and its complex electric motors and reduction gears, the

spud well, production platform, cantilever function, control centers, crew quarters, and many other diverse functions.

The colorful and unique poster is available at no charge by writing on company or other official letterhead to **Roland B. Gray**, Department MR, Marathon LeTourneau Offshore Company, Post Office Box 61589, Houston, Texas 77208.

**The same age!
So what's the difference?**



Other cargo oil pipe after 6 years' use.



Kubota cargo oil pipe after 6 years' use.

The pipe above obviously needs replacement, soonest possible, while the Kubota cargo oil pipe, shown below it, still has several years of good service life left. When replacing the pipe in your vessels, consider that Kubota's give more than two times longer service than most others. Fifteen years of use without replacement is ample proof of their superiority. Why?

Kubota materials and methods cannot be found anywhere else in the world. The material is KCP-3L, a chrome manganese steel especially developed by this company. It is made by Kubota's exclusive centrifugal casting techniques, widely acknowledged to be of the highest technological level. The highest degree of weldability gives it the greatest facility of use. That is why fully 95% of all Japanese tankers use Kubota cargo oil pipe. And why shipbuilders and repair docks around the world keep it on hand for installation and replacement. Write today for full information on how to raise the efficiency of your tanker operations.



KUBOTA CARGO OIL PIPE



The Basic Necessities Giant

KUBOTA

Osaka Head Office: 22, Funade-cho 2-chome, Naniwa-ku, Osaka, Japan
Cable Address: IRONKUBOTA OSAKA. Telex: 526-7785 KUBOTA J. Phone: Osaka 648-2168
Tokyo Office: 3, Nihonbashi Muromachi 3-chome, Chuo-ku, Tokyo Japan
Cable Address: IRONKUBOTA TOKYO. Telex: 222-6068 KUBOTA J. Phone: Tokyo 279-2111

Overseas Offices:

Kubota, Ltd., New York Office: 50 Rockefeller Plaza, Suite 1214, New York, NY 10020. U.S.A. Phone: 212-246-4871. Telex: 7105816020 KUBOTA NYK. Cable Address: KUBOTA NYK
Kubota America Corporation: 523 West Sixth Street, Suite 1113, Los Angeles, California 90014. U.S.A. Phone: 213-627-6377. Telex: 673238 KUBOTA LSA
Kubota, Ltd., London Office: 11/12 Hanover Street, London W1R 9HF, U.K. Phone: 01-629-6471-4. Telex: 263235 KUBOTA G
Kubota, Ltd., Dusseldorf Office: 4000 Dusseldorf, Georg-Glock-Strasse, 14 Federal Republic of Germany. Phone: 0211-450-907. Telex: 8584498 KBTA D. Cable Address: KBTA-D
Kubota, Ltd., Athens Office: 20, 28th of October Street, Filothei, Athens, Greece. Phone: 6825646. Telex: 214227 EXSE GR. 216343 EXSE GR
Representative of Kubota Ltd. (Jakarta Office): Skyline Building 8F, J.L. M.H. Thamrin No. 9, Indonesia. Phone: 363977. Telex: 73-46630 KUBOTA JK1

\$3.9-Million Contract Awarded To HITCO By Sea Systems Command

HITCO, West Coast firm specializing in advanced material technology, has received a follow-on contract in excess of \$3.9 million from the Naval Sea Systems Command for manufacture of submersible bow section components.

The contract runs through the first half of 1981.

Fabrication of plastic elements for the bow components will be performed at government-owned facilities at Terminal Island, Calif., which are operated by HITCO. Metal portions will be produced at a HITCO manufacturing plant in Gardena, Calif.

Headquartered in Irvine, Calif.,

HITCO has 20 years of experience in development and production of submersible structures for the Navy. It has been a supplier of bow section components for the past 10 years. The latest contract award covers one of three bow designs produced by HITCO.

HITCO is a subsidiary of Armco, leading steelmaker and diversified manufacturer.

Hagglunds/ASEA Gets \$5.5-Million Order From Baker Marine

The Hagglunds Products Division of ASEA Inc. has received an order worth approximately \$5.5 million from Baker Marine Corporation of Ingleside, Texas, to supply low-speed, high-torque hydraulic motors for the elevating systems of offshore jackup drilling rigs.

It is the largest single order in the history of the division and probably the largest single order ever for hydraulic motors. The division is a unit of ASEA Inc., wholly owned U.S. subsidiary of ASEA AB, Swedish-based worldwide manufacturer of electrical and mechanical equipment.

The contract specifies the largest Hagglunds motor, 10 gallons displacement, with a double-acting band brake bracket for delivery during a one-year period. Previously, Baker Marine had purchased about 300 of the large Hagglunds 80-series radial piston motors during the past seven years.

The Hagglunds type 8385 motors are the heart of the Baker Marine elevating system, which has a capacity 2 to 2½ times larger than earlier rack-and-pinion jackup systems.

Ocean Salvors Names Robert M. Loftus As Its New President

Robert M. Loftus has been named president of Ocean Salvors Company, a joint venture of the Moran Towing Corporation of New York, and Crowley Maritime Corporation of San Francisco.



Robert M. Loftus

Mr. Loftus joined Moran Towing & Transportation in 1962 and served in various capacities. He was named a vice president in 1979 and was in charge of the Construction and Repair Department. Following graduation from the State University of New York Maritime College, he served in the United States Navy and merchant marine.

Ocean Salvors is an American salvage firm offering a full range of salvage and environmental services throughout the Western Hemisphere. Principal offices are in New York City, Rahway, N.J., and Miami.

**SHIP REPAIRS · CHILE
ASMAR SHIPYARDS**

**VALPARAISO - TALCAHUANO - PUNTA ARENAS
Dry Docks to 80,000 Dwt**



Fully Integrated Shipyard Facilities - Work Force 4500 Skilled Employees

ASMAR Shipyards

Astilleros y Maestranzas de la Armada
Prat 856, Piso 14 Castilla 150-V Valparaiso, Chile, S.A.
Tel. 59411-57129 Telex 30305



USA Representative

JACKSON MARINE CORPORATION

17 Battery Place New York, New York 10004
Tel. (212) 269-0937

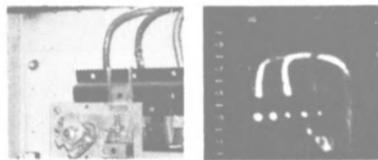
CHECK INTO MARINE INFRARED INSPECTIONS

They Find Trouble Spots Before the Trouble Develops

It's well known: electrical and thermo-mechanical components tend to radiate excessive heat before they actually start to malfunction. In one day, ThermoTest engineers can perform a thermographic infrared survey of your ship from stem to stern, locating symptoms long before they become problems and problems before they turn into crises

You receive: a written report, with thermograms, temperature rises photographs analysis and corrective recommendations. A formal copy goes to your home office

You save: Money, because you can act before you lose any



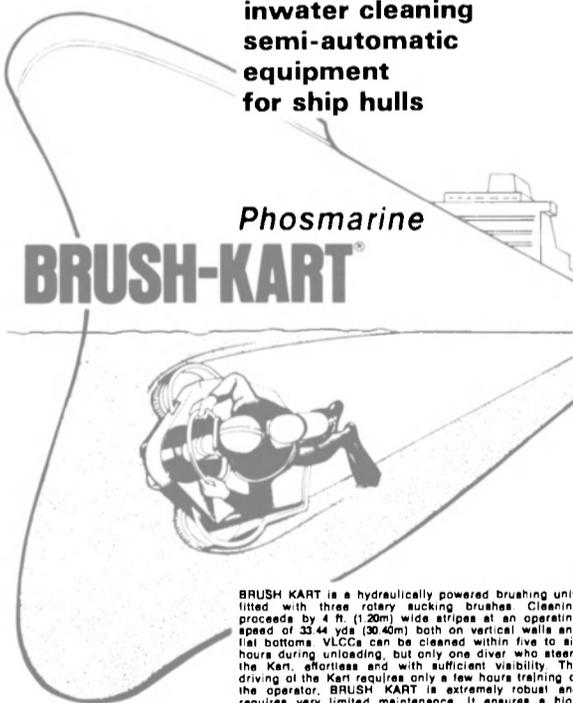
A.L. BURBANK & CO., LTD.

Marine ThermoTest Department
Suite 2811, One World Trade Center
New York, NY 10048 (212) 432-0700
Sole Agents For

Marine ThermoTest™

6 Redington Street Suite 204
Bay Shore, NY 11706 28 Parker Avenue
(516) 665-3345 San Francisco, CA 94118
(415) 387-2964

A new line of inwater cleaning semi-automatic equipment for ship hulls



BRUSH KART is a hydraulically powered brushing unit, fitted with three rotary sucking brushes. Cleaning proceeds by 4 ft. (1.20m) wide stripes at an operating speed of 33.44 yds (30.40m) both on vertical walls and flat bottoms. VLCCs can be cleaned within five to six hours during unloading, but only one diver who steers the Kart, effortless and with sufficient visibility. The driving of the Kart requires only a few hours training of the operator. BRUSH KART is extremely robust and requires very limited maintenance. It ensures a high quality cleaning which spares the protective coatings. BRUSH KART is currently in use with the U.S. Navy and the NATO Navy.

Every 'PHOSMARIN' equipment is manufactured in France only
FRANCE NORWAY GREECE HONG KONG BELGIUM GIBRALTAR
SPAIN ITALY SINGAPORE PHILIPPINES U.S.A. NOVOROSSISK
ODESSA SHARJAH DUBAI JAPAN CHILE CANARY ISLANDS
FOR FURTHER INFORMATION PLEASE APPLY TO:

PHOCEENNE S/MARINE SERVICE - PHOSMARIN EQUIPEMENT
21 BOUL DE PARIS 13002 MARSEILLE (FRANCE) - TELEX 401826 PHOSMAR

The Third International Conference and Exhibition
on the Marine Transportation
Handling and Storage of Bulk Chemicals
Royal Lancaster Hotel
London, October 21-23 1980

MariChem 80

Conference Programme

This programme is subject to amendment

Session 1

LEGISLATION AND REGULATION

1. **A review of the IMCO Standards for Procedures and Arrangements for the discharge of Noxious Liquid Substances.**
N. Hurford, Department of Industry, Warren Spring Laboratory, Stevenage, Herts.
2. **Operators' views on Legislation and Regulation Issues in the Chemical Shipping Industry.**
 - a. C. J. Spruyt, Gotaas-Larsen, London.
 - b. T. G. Berkel, President, Chemical Carriers Association, New York.

NB. Two different papers will be presented under this general heading; definitive paper titles will be given later.

3. **Overflow Control — Proposals for a linked ship-shore system.**
R. C. Gray, British Shipbuilders, Newcastle-upon-Tyne.
4. **Slops and residue disposal — a new approach**
E. A. Stoyke, Dow Chemical GmbH, Stade/Stadersand, Germany.

Session 2

OPERATIONS AND SAFETY

1. **Explosion hazards and relevant safety measures at vapour recovery plants.**
K. Schampel, Physikalisch-Technische Bundesanstalt, Braunschweig.
2. **Safety considerations relevant to shipping terminals for hazardous bulk material.**
D. J. Bryce, Health & Safety Executive, London
3. **Emergency planning in ports**
A. A. Damsteeg, Voorschoten, The Netherlands.
4. **Parcel tanker training for an effective endorsement.**
G. McGuire, Hazardous Cargo Handling Unit, Leith Nautical College.
5. **Advances in special training in Norway for personnel on ships carrying liquid chemicals in bulk.**
Capt. J. E. Johnsen, Ship Research Institute of Norway, Oslo.

6. **Chemical tanker training courses in the Netherlands.**
A. J. Barendregt, Chemical Laboratory "Dr. A. Verwey", Rotterdam.
7. **Risk analysis applied to the transportation of hazardous cargoes: some examples related to public risk.**
T. K. Jenssen, Det norske Veritas, Oslo.
8. **How safe are chemical tankers?**
D. Butcher, N.E. London Polytechnic, London.

Session 3

TANK CONTAINERS IN THE CHEMICAL TRADES

Panel Session

Speakers J. A. Ross, Trafapak Ltd; R. Boneham, Bell Lines Ltd; Dipl. Ing. B. Schulz-Forberg, B. A. M., Berlin; P. T. Mabbit, British Railways Board; Ch. Leclair, Department of Navigation, Paris; M. Querci, Ministry of Transport, Paris; Lt. K. Eldridge, U.S. Coast Guard, Washington, D.C.

Session 4

TECHNICAL DEVELOPMENTS

1. **Tank coatings — a discussion session with contributions from Clouth Gummiwerke, Camrex, Technigaz, etc.**
2. **A cost-benefit analysis for installation of separate deck-mounted cargo tanks on parcel/chemical carriers.**
A. Wiborg, Shipping Consultants A/S, Oslo.
3. **Developments in cargo pumping arrangements.**
M. Mohn Westlake, Frank Mohn UK Ltd., and M. Sigmundstad, Frank Mohn AS, Nesttun, Norway.
4. **Experience with cargo monitoring systems.**
Capt. A. Eian, Autronica A/S, Trondheim, Norway.
5. **New developments in toxic gas detection using a silicon semi-conductor sensor.**
Sema Electronics Ltd.
6. **A survey of some failures typical for tanks and piping systems in austenitic stainless steel. Preventative measures.**
S. Evant & A. Berg, Det norske Veritas, Oslo.
7. **Corrosion resistance of stainless steels to chlorinated hydrocarbons.**
S. Nordin, Nyby Uddeholm AB, Uddeholm.

Conference Registration Form

Fee per delegate £186.50 (including VAT) or equivalent in other currencies. Total fee payable must accompany this form. The Conference fee covers attendance at all sessions, lunch on October 22 and 23, an evening cocktail/buffet party on October 22, a volume of Preprints of Conference Papers and full Conference documentation. The Conference fee does not cover travel, hotel accommodation or other items not listed above.

Return to: MariChem Secretariat, 2 Station Road, Rickmansworth, Herts. WD3 1QP, England.
Tel: Rickmansworth (09237) 76363. Telex: 924312.



MR

— Official Airline
to MariChem 80

Please register the following delegates to the MariChem 80 Conference, London, October 21-23, 1980:-

Name: _____

Position: _____

Name: _____

Position: _____

Company: _____

Address: _____

City: _____ Country: _____ Signed _____

Telephone: _____ Telex: _____ Date: _____

TURBO GENERATOR SETS

G.E. 1500 KW A.C. TURBO GENERATORS

1  1500 KW — 450/3/1200 RPM — 0.8 P.F. — 2450 amps — 525 PSI — 850° TT — 8145 RPM — 11-stage geared 8145/1200 — type FN4 — 3 1/2" steam inlet. Unit will deliver full power at 440 lbs & 760° TT. OAL 16' 3-3/8" — OAW 6'6" — OAH 7'5 1/4" — wt. 36000 lbs. Almost equal to new. Very little use. With ABS or Lloyds.

G.E. 600 KW GEARED TURBO GENERATORS

2  450/3/60/1200 RPM — 961 amps — type ATI — 0.8 PF. TURBINE: FSN-FN-20 6-stage — 525 lbs/825°F — superheat 355°/371°F. GEAR: 10033/1200 — RPM 10033 — total 6390 lbs. steam/hr. steam flow.

G.E. 400 KW TURBO GENERATORS

3  450/3/60/1200 — 0.8 PF — 641 amps. TURBINE: 6-stage — 10059 RPM — 525 lbs/825° TT — type GE 618N. Steam rate 5100 lbs/hr. — OAL 10' 10 1/2" — OAW 4' 10 1/2" — OAH 5' 5 1/4" — wt. 14,855 lbs.

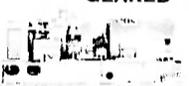
400 KW WESTINGHOUSE TURBO GENERATOR SETS FOR BETH-SPARROWS POINT HULLS 4467 TO 5400; QUINCY HULLS 1600 SERIES

4  400 KW (500 KVA) — 0.8 PF — 1200 RPM — 450/3/60. TURBINE: 585 lbs — 840° TT — 28 1/2" vacuum — 9018 RPM — serial 10A4462-3 & 10A4462-4. GEAR: 9018/1200 RPM. A.C. GENERATOR: 500 KVA — 400 KW — 450 volts — 641 amps — 0.8 PF — 3-phase 60-cycle — 1200 RPM — CR 40° — excitation amps 41 — excitation voltage 120. Instruction book 5442. Switchgear available.

UNUSED WESTINGHOUSE 60 KW 120 VDC M-20-EH

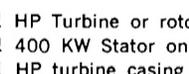
5  120 VDC — 1800 RPM. TURBINE: M-20-EH — 20 lbs dry & saturated — 25" vacuum. 7283 RPM. GEAR: 7283/1800. GENERATOR: 60 KW — 120 VDC — 500 amps — SK — stab. shunt wound.

UNUSED 500 KW DELAVAL-WESTINGHOUSE GEARED TURBO GENERATOR

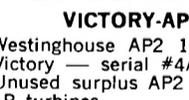
6  GENERATOR: Westinghouse 500 KW — 120/240 volts DC — 2080 amps — 1200 RPM — stab. shunt. TURBINE: DeLaval — 730 HP — 440 PSI working — pressure condensing. Temperature 740° — 9977 RPM. HELICAL GEAR: 9977/1200 RPM. Serial # of turbine 245204 — weight 22,000 lbs.

TURBINES & ROTORS

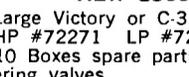
BETH-SPARROWS POINT, QUINCY HULLS

7  1 HP Turbine or rotor — Bethlehem
1 400 KW Stator only — Westinghouse
1 HP turbine casing only — Bethlehem
1 Complete Westinghouse 400 KW turbo generator set
1 Forced draft motor fan
1 Anchor windlass — 2 11/16"
Steering gear motors — 15 HP
Forced draft fan impeller

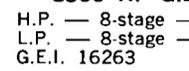
WESTINGHOUSE C-25 CARGO PUMP TURBINE ROTOR

8  VICTORY-AP2 MAIN PROPULSION
Westinghouse AP2 19-stage HP rotor for 6000 HP Victory — serial #4A-2079 — equal to new. Unused surplus AP2 — Victory Ship complete HP & LP turbines
Allis-Chalmers HP & LP
Westinghouse LP AP2 with throttle valve
G.E. HP & LP with throttle valve

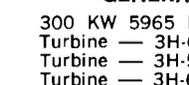
VICTORY-AP3 MAIN PROPULSION NEW 8500 HP G.E. TURBINES

9  Large Victory or C-3
HP #72271 LP #72272
10 Boxes spare parts, tools & fittings. With maneuvering valves.

8500 HP G.E. — C-3 OR VICTORY

10  H.P. — 8-stage — 6159 RPM — serial 62043
L.P. — 8-stage — 3509 RPM — serial 62042
G.E.I. 16263

VICTORY SHIP AUXILIARY TURBO GENERATOR SET ROTORS

11  300 KW 5965 RPM JOSHUA HENDY
Turbine — 3H-69 Gear — 52269
Turbine — 3H-52 Gear — 52252
Turbine — 3H-62 Gear — 52262
ALSO WESTINGHOUSE 2A & 5A SERIES

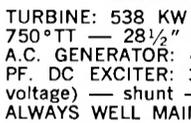
— FOR T-2 VESSELS —

12

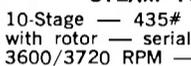


TURBINE: DORV-325M — 525 KW — 5645 RPM — 435 PSIG — 28" exhaust. REDUCTION GEAR: S-162 — form D — 5641/1200. A.C. GENERATOR: 500 KVA — 400 KW — 440/3/60 — 1200 RPM — 0.8 PF. D.C. EXCITATION GENERATORS: 75/55 KW — form AL — 110 volts DC. With new type amplydines.

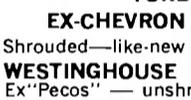
538 KW WESTINGHOUSE T-2 AUXILIARY GENERATOR — COMPLETE

13  TURBINE: 538 KW @ 5010 RPM — 438 PSIG — 750° TT — 28 1/2" vacuum. GEAR: 5010/1200 RPM. A.C. GENERATOR: 400 KW — 450/3/60/1200 — 0.8 PF. DC EXCITER: 32.5 KW — 120 volts (variable voltage) — shunt — 4-pole — DC excitation 5 KW. ALWAYS WELL MAINTAINED BY MAJOR OIL CO.

T-2 UNUSED G.E. MAIN PROPULSION STEAM TURBINE WITH ROTOR

14  10-Stage — 435# — 720° TT — turbine complete with rotor — serial #109166 — 4925/5400 KW — 3600/3720 RPM — 28.5" vacuum.

WESTINGHOUSE MAIN PROPULSION STEAM TURBINE WITH ROTOR

15  EX-CHEVRON VESSEL "MACGAREGILL"
Shrouded — like-new condition. Will sell rotor separately. WESTINGHOUSE MAIN PROPULSION TURBINE Ex "Pecos" — unshrouded — serial 2A-7733-2 type A

UNUSED G.E. MAIN PROPULSION STATOR

16  Type ATB-2 — serial #6978272. 2300/2370 volts — 60/62 cycles — 3-phase — 3600/3720 RPM — armature amps 1237/1315 — 4925/5400 KW — 1.0 PF. Westinghouse stator — from Ex "Pecos"

WESTINGHOUSE 538 KW AUX. GENERATOR EXCITER ARMATURE

17  We have both types:
110 KW — 32 KW — 5.5 KW
110 KW — 28 KW — 5.5 KW

538 KW WESTINGHOUSE AUXILIARY TURBINE ROTORS

WESTINGHOUSE T-2 TANKER MAIN GENERATOR COOLERS & MAIN MOTOR COOLERS

19  Reconditioned — with A.B.S. Units all ready to ship. Also G.E. Main Generator Coolers

G.E. 525 KW AUX. GENERATOR EXCITER ARMATURE

20  75-55 KW

NEW STYLE AMPLIDYNE

21  5LY148A2 — type A.M. — frame 605

AUXILIARY GENERATOR ROTORS

22  G.E. aux. generator rotors — DORV-325M — for 525 KW turbo generator sets

T-2 MAIN CARGO PUMPS

23  Ingersoll-Rand 6GT — 2-stage — bronze — 2000 GPM — 280' head

LATEST DESIGN 5-SPEED FORCED DRAFT FAN MOTORS

24  G.E. Model 5M505FE-1 — frame 5055 — type M — 440/3/60 — serial S.E.6731807. Controller available. (Complete with fan impeller)

T-2 SHIPS SERVICE AIR COMPRESSORS

25  Worthington — 5 1/2 x 3 1/2 x 3 1/2 — VA2 — 20 C.F.M. — 100 lbs. — 5 H.P. Motors — 440/3/60 — 1750 RPM.

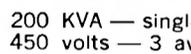
WESTINGHOUSE DRY TYPE T-2 CARGO PUMP TRANSFORMERS

26

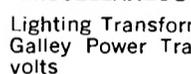


200 KVA — single phase — 60 cycle 2300/450 volts — weight 3720 lbs. each. 4 available.

G.E. PYRONOL OIL COOLED TRANSFORMERS

27  200 KVA — single phase — 60 cycles — 2300/450 volts — 3 available.

MISCELLANEOUS DRY-TYPE TRANSFORMERS

28  Lighting Transformers — 15 KW — 450/120 volts
Galley Power Transformers — 15 KW — 450/220 volts

INGERSOLL-RAND 14,000 GPM MAIN CIRCULATOR

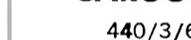
29  14,000 GPM @ 25' head — model 24UCM — bronze — with 125 HP 440/3/60 580 RPM motor. 26" suction — 24" discharge. Can furnish with Westinghouse type CS frame B-876C or GE type KF vertical motors.

PUMPS

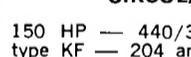
BRONZE T-2 TANKER STRIPPING PUMPS

30  14x14x12 — 700 GPM at 100 lbs. Same pump available in steel for fuel oil transfer, etc.

WESTINGHOUSE 200 H.P. CARGO PUMP MOTORS

31  440/3/60 1750 RPM — 40°

MISSION TANKER T2SEA2 CIRCULATING PUMP MOTOR

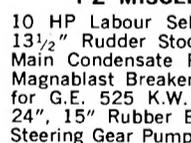
32  150 HP — 440/3/60/590 RPM. Frame 6335 — type KF — 204 amps

T-2 MAIN ROTOR

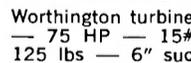
33  LARGE G.E. MAIN PROPULSION SCHENECTADY TURBINE ROTOR

Turbine serial 77418 — reconditioned with certificate. Just out of Beth shop 1970

T-2 MISCELLANEOUS, PUMPS ETC.

34  10 HP Labour Self-Priming Bilge Pumps • Rudder 13 1/2" Rudder Stocks • Main Injection 3-Way Valve Main Condensate Pumps • Fuel Oil Service Pumps Magnablast Breaker • 1 Set New Bull Gear & Pinion for G.E. 525 K.W. Diesel Gen Model S-162 • 32", 24", 15" Rubber Expansion Joints • Mission Tanker Steering Gear Pumps

TURBINE FIRE PUMPS — BRONZE

35  Worthington turbine — 440# — 448° — 3500 RPM — 75 HP — 15# back pressure — 750 GPM @ 125 lbs — 6" suction — 4" discharge.



Marine

NEW BLACKMER FUEL OIL TRANSFER PUMP

36



Rotary — 50 GPM — 50 lbs. — 2" — 5 HP — 440/3/60 — with starter & spares

UNUSED BRONZE FEED-WATER BOOSTER PUMPS

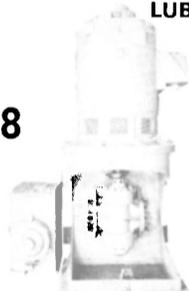
37



220/237 GPM @ 144' head — 2-stage — 1750 RPM with 30 HP 440/3/60 motor control & spares. Built for USN

LUBE OIL SERVICE PUMP

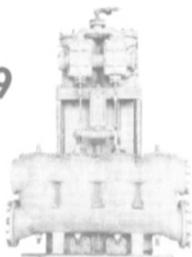
38



Quimby-Rotex — size 6D — 500 GPM @ 70 lbs — 6"x6" flange — 720 RPM. MOTOR: Allis-Chalmers — 40 HP — 230 VDC — type EBV-147S — stab. shunt — 148 amps. Complete with starter and rheostat — designed originally for C-1MAV-1 vessels.

WORTHINGTON 16"x14"x18" VERTICAL DUPLEX STRIPPING PUMP

39



1400 GPM @ 110 PSI; suction lift 11.5 ft. Steam back pressure 15 lbs. Suction 14" — discharge 10" — steam 2 1/2" — exhaust 4". Overall width 6' 8" — overall height 9' 1 1/2" — depth 3' 9 1/2" — approx. wt. 10,000 lbs.

NEW WORTHINGTON VERTICAL SUBMERSIBLE BILGE PUMP

40



For emergency use on passenger ships, etc. PUMP: JAS — 264 GPM — 171' head — two 6" inlets — one 5" outlet. MOTOR: 40 HP — 230 VDC — 149 amps.

MOTOR-DRIVEN GARDNER-DENVER RECIPROCATING BILGE PUMP

41



50 GPM — 150 PSI — Model ALAXE — serial #106335. 3 3/4" bore — 4" stroke — 2 1/2" suction — 2" discharge. 51" long — 21" wide — 21" high — weight 750 lbs. MOTOR: Diehl — 2.5 HP — 440/3/60 — 1750 RPM — 3.53 amps.

GOULD FIRE AND BILGE PUMP

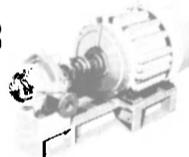
42



Ex-LST — horizontal centrifugal — bronze — 4" suction — 3" discharge — 250 GPM @ 100 PSI — 2200 RPM. MOTOR: 30 HP — 230 VDC with magnetic starter.

AURORA HEAVY DUTY BRONZE FIRE SERVICE PUMP

43



Single stage — 2 1/2" suction — 2" discharge. 3000 RPM — 250 GPM. 100 lb. head. Impeller diameter 9 1/2". MOTOR: Air cooled heavy duty 25 HP Reliance T type ON-2S-2 1/2 230 VDC — 110 amps — stab. shunt.

DIESEL GENERATOR SETS

44

410 KW ENTERPRISE DIESEL GENERATOR SET

Enterprise DSG-6 6-cylinder diesel engine driving Westinghouse generator. 250 volts DC — 1640 amps — 650 RPM — shunt wound.

AUTOMATIC TENSIONING 12X14 STEAM WINCH

45



American Engineering. Drum diameter 24". Will stow 1500 ft of 1 1/2" in 8 layers. Capacity 1st layer: 20,000 lbs/100 FPM — 16,000 lbs/50 FPM. Drum width 2' 6 3/4". Steam inlet 3" — exhaust 4". 8' 4 1/2" wide over cylinders. Base 6' x 6' 3 1/2".

16" BRASS PORTLIGHTS

46



15" and 16" brass portlights. 16" portlights are 3-dog type.

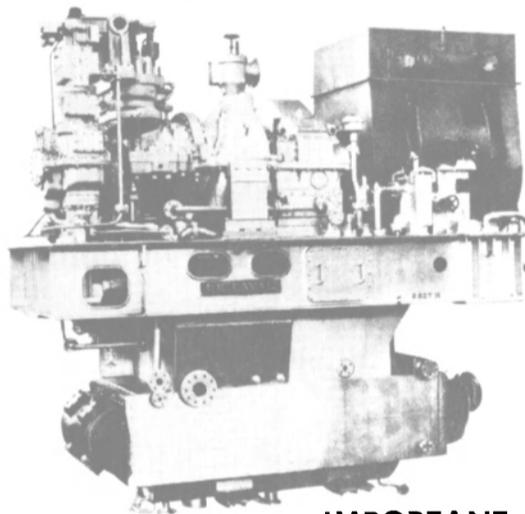
MISCELLANEOUS

47

IF YOU'RE GOING TO JUMBO-IZE YOU CAN ECONOMIZE WITH THESE

ALLIS-CHALMERS — DELAVAL 1000 KW GEARED MARINE TURBO-GENERATORS

If you are contemplating the new construction of TANKERS, ORE CARRIERS, CONTAINER VESSELS, ETC.



YOU CAN SAVE THOUSANDS OF DOLLARS

with these modern, practically new units — built to highest Navy standards. Send for our free descriptive brochure. You'll be glad you did . . . and money ahead!

IMPORTANT INFORMATION

DELAVAL TURBINE: 1442 HP — 10019 RPM — Class GJ-N — 9-stage — 10,000 RPM — 1050 PSI — 950°TT — condensing steam rate 10.30 lbs. Typical serial number 652468. DELAVAL DOUBLE HELICAL GEAR: 10000/1200 RPM — Allis-Chalmers — 1000 KW — 450 volts — 3-phase — 60 cycle — 1200 RPM — 0.8 PF — static excitation — totally enclosed air-to-water cooling — temperature rise: Stator 130°C — Rotor 110°C — class H insulation — typical serial number 160615 — type M.A.K.G. Complete with 525 sq.ft. condenser — 190 lbs/hr air ejector — oil coolers — strainer — piping & valves — generator switchgear — static excitation control — voltage regulator. Total weight of unit 40,300 lbs. OAL 12' 9" — OAW 6'. Turbo-generator height 5' 8" — total height of turbo-generator & condenser 12' 8". UNITS IN EQUAL-TO-NEW CONDITION. Originally designed for DLG Guided Missile Frigate Program. Installed only about 2 years, then removed and carefully re-boxed by U.S.N. at Bath Iron Works 1964-65. Navy installed larger units due to increased load requirements.

PLEASE NOTE!

EFFECTIVE IMMEDIATELY

Our Marine Department and Warehouse is now located at

250 Scott St. at McHenry — Baltimore, Md. 21230

OUR NEW PHONE NO. IS (301) 752-1077

OIL METALS CO.

RE ST. • BALTIMORE, MD. 21202

Warehouse (301) 752-1077

Recent Orders For British Shipbuilders Total \$125 Million

Orders for six ships won by British Shipbuilders make it certain that the company's sales target for the current period will be achieved well ahead of schedule.

The recent orders are worth a total of \$125 million, and include two ships for the People's Republic of China. These are SD 14s, the most successful series-built

merchant vessel in British shipbuilding history.

Ordered by China Merchants Steam Navigation for delivery in the first quarter of next year, 15,000-dwt ships will be built by Austin and Pickersgill at Sunderland in Northeast England. They will be operated by the Canton Branch of the China Ocean Shipping Company.

Two 66,200-dwt Panamax bulk carriers are to be built by Govan Shipbuilders on the River Clyde in Scotland for an unnamed Far

East owner. They will be the largest vessels ever built by the yard, and are scheduled for delivery in January and May 1982.

Austin and Pickersgill will also construct the remaining two vessels—B26—26,000-dwt bulk carriers, also for an undisclosed Far East owner. Delivery is scheduled for February and March 1982.

Two British Shipbuilders subsidiaries — Clark Hawthorn in Northeast England and John G. Kincaid in Scotland — will manufacture the engines for all six ships.

Britain's state shipbuilding concern now needs orders for only three more merchant vessels to meet a sales target of 45 for the period September 1979 to July 1981. As it will now clearly achieve its objective much earlier than expected, the group plans to set a more ambitious target.

The 42 merchant ships ordered from British Shipbuilders since September 1979 are worth about \$787 million, and have a total deadweight of more than a million tons. In the same period, the group has won orders for naval vessels worth \$225 million.

Derek Kimber, chairman and chief executive of Austin and Pickersgill, said the Chinese orders followed four years' endeavor to get to know that country's shipping.

The 118th SD 14 was completed recently for a Panamanian shipping line, and Austin and Pickersgill is currently building vessels of this type for Greek and Panamanian owners. SD 14s have also been built under license in Argentina, Brazil, and Greece.

\$11-Million Contract For IGS Retrofits Signed By Esso Tankers

Esso has decided to install inert-gas systems in a number of its large crude oil carriers. Based on competitive bids from Norwegian shipyards, Esso Tankers Inc. — a subsidiary of Exxon Corporation in New York — has signed a contract for such equipment to be installed aboard crude oil tankers by the Moss Rosenberg Shipyard in Moss, Norway.

The order is for a total of approximately \$11 million (55 million NOK). This amount includes the manufacturing of the equipment as well as supervision of the installation. This comprehensive work will be started this year and is expected to be completed on the 12th ship by July 1983. Together with a previous contract for two inert-gas systems from other Exxon affiliates, total IGS orders from Esso to Moss Rosenberg will be about \$12 million (60 million NOK).

The latest contract also includes a separate deal between Esso and Moss Rosenberg to develop a similar inert-gas system for possible installation aboard clean product tankers owned by the Esso organization.

Negotiations leading to this award were conducted in the United States by Exxon International Company's Tanker Department located in Florham Park, N.J., and Kvaerner-Moss, Inc., New York City.

J.W. Whitehouse Will Oversee All Marine Functions At Belcher



James W. Whitehouse

Responsibility for all marine functions of Belcher Oil Company of Miami, and its subsidiary Belcher Towing Company, has been assigned to vice president James W. Whitehouse, a 30-year veteran of the marine and oil industry.

Belcher, a unit of The Coastal Corporation of Houston, first elected Mr. Whitehouse a vice president in 1979, giving him responsibility for the company's ocean barge fleet. His new assignment is intended to consolidate varied marine interests at Belcher, including both oceangoing and inland tug/barge operations.

NO MATTER WHERE YOU ARE OR WHERE YOUR SHIP IS

You know that satellite communications makes instant ship/shore contact possible. And that it can save you a lot of money on quick diversions, lower message costs, and more.

SATURN CAN DO IT BETTER

- easiest, least expensive system to install.
- simple to operate, no radio officer required.
- 3rd generation microprocessor gives you outstanding audio fidelity.
- handles all modes, without preselection
- the only satcom terminal fully compatible with all present and future earth stations.
- fits right into your radioroom console. No clutter.
- real money-saving leasing arrangement available.
- one of the world's largest service networks, hundreds of convenient locations.



Electro-Nav Start your saving program today. Call Electro-Nav



1201 Corbin St., Elizabeth Marine Terminal, ELIZABETH, N.J. 07201
Tel: (201) 527-0099; Telex 13-9381 NAVELECTR ELBT
750 Kennedy Street, OAKLAND, CA 94606
Tel: (415) 533-1840; Telex: 338509
Bowen Building, 815 - 15th Street NW, WASHINGTON, DC 20005
Tel: (202) 347-8231

Hull Cleaning Systems



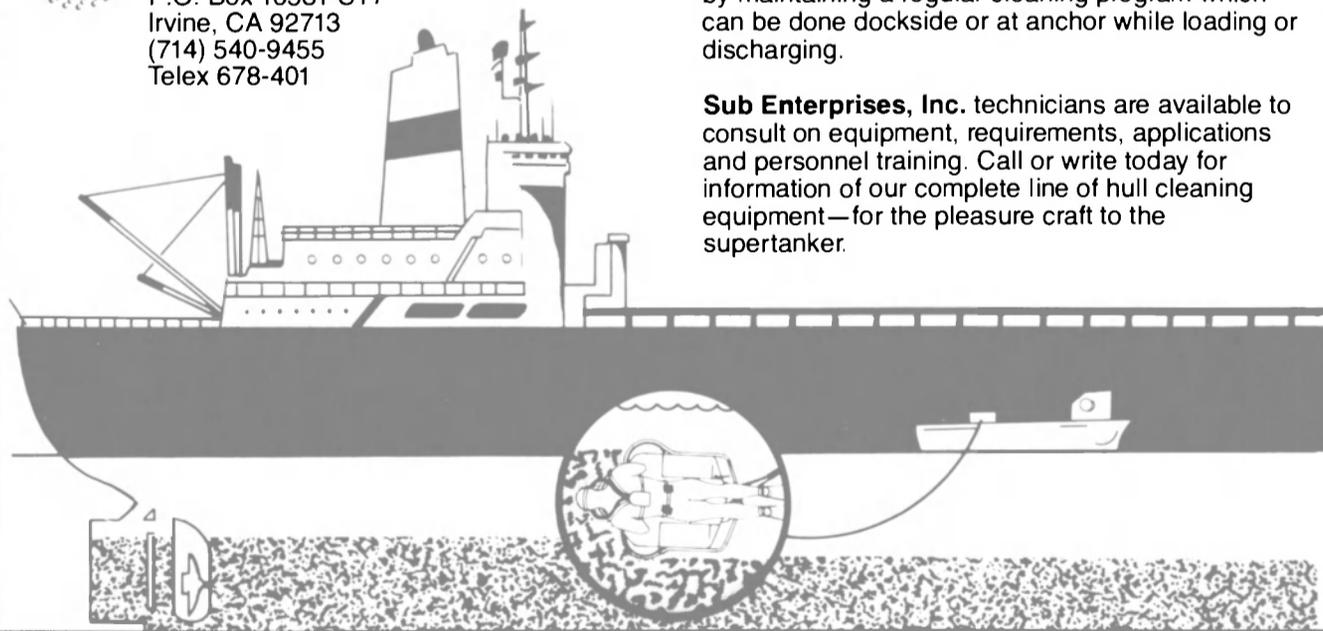
SUB ENTERPRISES, INC.

P.O. Box 16531-ST7
Irvine, CA 92713
(714) 540-9455
Telex 678-401

Brush Sub® Systems are the most modern systems available for under-water hull cleaning, with a capacity to clean up to 5000 square meters per hour. Hydraulically operated and available in three models, the **Brush Sub** is sold on a direct purchase basis with no royalties, fees or franchise costs.

Ship owners can now effectively reduce fuel costs by maintaining a regular cleaning program which can be done dockside or at anchor while loading or discharging.

Sub Enterprises, Inc. technicians are available to consult on equipment, requirements, applications and personnel training. Call or write today for information of our complete line of hull cleaning equipment—for the pleasure craft to the supertanker.



Europe's most modern repair yard nears its completion.

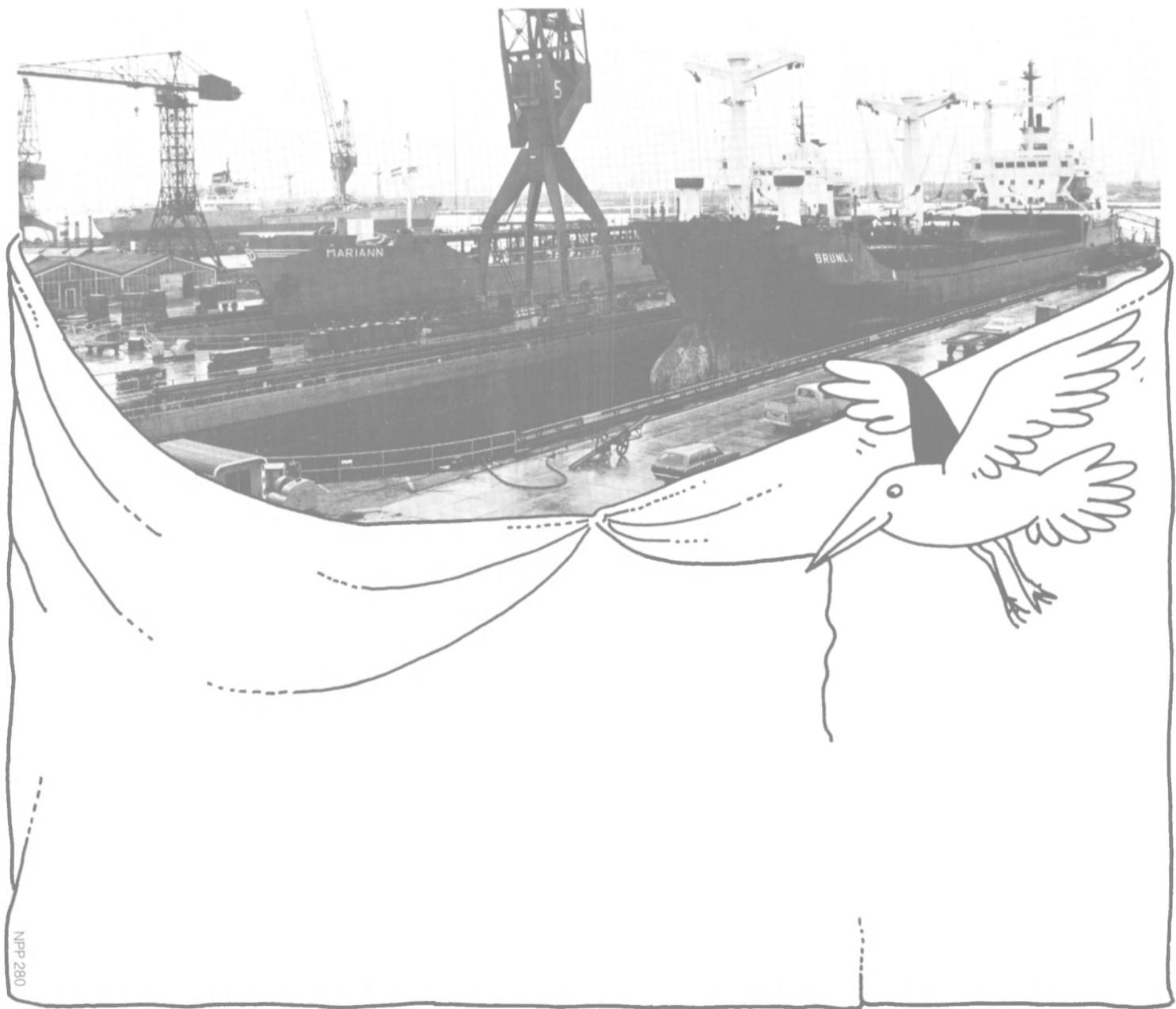
The time has come. The ADM has moved. Our new yard in the Klaprozenweg will be completed in a matter of a few months. With our modernized docks, the new cranes and an integrated transport system we will then have the best-equipped yard in our sector. The more so, as our central workshop comprises an engineering shop, a plate shop and a pipe shop, all of

which meeting the very latest technical requirements. This means faster, more efficient operation, greater productivity and better service. Improvements which represent a considerable saving on repairs. A few things still remain to be done, before this actually comes into effect, but the most important steps have been taken.

We'll keep you posted.



Amsterdam
Drydock Company
Amsterdamse Droogdok
Maatschappij bv
P.O.Box 3006
1003 AA Amsterdam
telephone: 020-213811



Three Promoted At Moorestown Office Of J.J. Henry Company



William J. Smith

Lawrence O. Vitale

Edmund Y. Lo

Anthony C. Brown, senior vice president of J.J. Henry Co., Inc., naval architects and marine engineers, recently announced the following promotions in the J.J. Henry Moorestown, N.J., office.

William J. Smith has been appointed chief of HVAC and Hull Piping Engineering / Design Department, reporting to Robert B. McFadden, chief engineer and director of Mechanical Design Division. Mr. Smith served as design supervisor of the HVAC and Hull Piping Engineering / Design Department from 1966 to the present.

Lawrence O. Vitale has been ap-

pointed design supervisor in the HVAC and Hull Piping Engineering / Design Department, reporting to Mr. Smith. Prior to joining the company in 1968, Mr. Vitale held design/engineering positions at New York Shipbuilding Corporation.

Edmund Y. Lo has been appointed design supervisor in the HVAC and Hull Piping Engineering / Design Department, reporting to Mr. Smith. Mr. Lo joined the company in 1977 as a marine engineer and has accomplished a variety of engineering assignments and responsibilities.

Bell-Textron Awarded \$4.27-Million Navy LCAC Design Contract

Bell Aerospace Textron, Division of Textron Incorporated, New Orleans, La., is being awarded a \$4,272,261 negotiated cost-plus-fixed-fee contract for the Landing Craft Air Cushion (LCAC) system design and specification. Work will be performed in New Orleans, and Panama City, Fla. The Naval Sea Systems Command is the contracting activity. (N00024-80-C-2065)

British Shipbuilders And SSS Corporation Sign License Agreement

British Shipbuilders, London, and the Semi-Submerged Ship Corporation (SSSCO), Solana Beach, Calif., have signed an agreement under which British Shipbuilders will be licensed to market and build high-speed semi-submersible vessels designed by SSSCO. Signatories were Jolyon Slogett, managing director offshore for British Shipbuilders, and Thomas Lang, inventor of the S³ and president of SSSCO.

The twin-hull semisubmersibles are expected to be widely adopted as supply vessels and personnel transports in the offshore oil areas, although the craft will have a wide range of other uses, including as ferries. The S³ motion relative to a platform will be much less than that of a conventionally designed ship.

Two parallel, torpedo-like hulls below the surface are attached to streamlined struts which support an above-water platform, on which various configurations of accommodation and equipment can be installed. In particular, ves-

sels of this type will be extremely stable in rough seas, and able to travel at high speeds, possibly up to 35 or 40 knots. A 200-ton, 25-knot range support ship of similar design, the Kaimalino, has been operated successfully by the U.S. Navy in rough seas off Hawaii since 1975.

Apart from offshore personnel and supply duties, the S³ concept would be suitable for diving support operations, oceanic research, helicopter support, ferry services, fishing, and other uses for which improved seakeeping is important.

The newly signed agreement gives British Shipbuilders exclusive rights throughout Europe and the Mediterranean countries to build and supply ships of this design. British Shipbuilders will also sponsor and assist SSSCO in conducting various studies and design work. SSSCO will provide marketing services in Europe through Manderstam Technical Services of London and Aberdeen. The British Shipbuilders agreement is an expansion of the activities of SSSCO, whose U.S. marketing is handled principally by Stable Ship Development Company of San Diego.

\$4.7-Million Conversion Awarded By Navy To Willamette Yard

Willamette Iron and Steel Company, Portland, Ore., is being awarded a \$4,737,200 contract for drydocking, altering and repairing the IX-507 (Ex Gaffey), which was a troop transport barge and is being converted to a berthing and messing barge. The Supervisor of Shipbuilding, Conversion and Repair, USN, Seattle, Wash., is the contracting activity. (N627-99-70-C-0021)

MarAd Approves Title XI On Jackup-Type Drilling Rig To Cost \$22.2 Million

The Maritime Administration has approved in principle the application of Broughton Offshore Limited II, Houston, for a Title XI guarantee to aid in financing the construction of one jackup drilling rig. The 143-foot-long, cantilever-designed rig will be built by Bethlehem Steel Corporation, Beaumont, Texas. Delivery is expected in February 1981.

Broughton plans to use the vessel's 30,000-foot drilling capacity to perform exploratory, developmental, and production drilling in the Gulf of Mexico.

The Title XI guarantee will cover \$16,650,000, or 75 percent of the \$22,202,270 estimated cost of the vessel.

NCAA Elects New Officers—Jack T. Day Becomes President



Jack T. Day

Jack T. Day was elected the national president of the Naval Civilian Administrators Association at the annual convention, which was held recently in Bremerton, Wash.

Mr. Day is the director of management engineering at the Charleston Naval Shipyard in Charleston, S.C. He has been employed by the Charleston Naval Shipyard since 1956, except for a two-year tour with the U.S. Army Ordnance Corps.

Other officers elected were Henry Romero, vice president, who is the labor and employee relations director at the Naval Air Station, North Island, San Diego; Robert Davison, secretary, who is head of the Surface and Anti-Air Warfare Division of the Combat Systems Office at the Charleston Naval Shipyard; and Fred Hicks, treasurer, who is head of the Budget and Statistics Division of the Comptroller Department at the Charleston Naval Shipyard.

The Naval Civilian Administrators Association is a national organization of senior level managers employed in Navy Civil Service. The total membership is approximately 600, organized into 12 chapters distributed among seven naval shipyards, three aviation activities, the Naval Ship Engineering Center, and one division of the Naval Facilities Engineering Command. Because of

the positions held by the members, they exercise responsibility over many thousands of engineers, scientists, administrators, and other employees in the activities in which they are located. The purpose of the organization is to contribute to the improvement of management of the Department of the Navy.

A.J. Hebert Elected President Of Daptco Marine Corporation



Capt. Albert J. Hebert Jr.

Capt. Albert J. Hebert Jr. has been elected president and chief executive officer of Daptco Marine Corporation, according to James M. George, chairman of the board. Captain Hebert, also a member of the board, has been with Daptco Marine since 1976, and has handled all of the new construction, as well as running the operations.

Daptco Marine operates four 180-foot tug/supply vessels in the Gulf of Mexico, and has enjoyed 100 percent utilization in the past 12 months. The company is now taking bids for four more identical boats for delivery within the next 18 months.

Decca Marine To Market Sailor Radios In U.S.

—Literature Available

ITT Decca Marine, Inc. has been appointed exclusive U.S. sales and service agent for the Sailor radio line manufactured by S.P. Radio A/S of Denmark.

The first of the broad line of Sailor radios to be announced is the VHF radio Type RT144AC. Company officials estimate there are more than 60,000 Sailor VHF units installed on vessels.

Sailor radios have proved especially popular where rugged environmental conditions exist, such as North Sea fishing and workboats and remote outposts where service facilities are primitive or nonexistent. Now with expanded production output, S.P. Radio has teamed up with ITT Decca Marine to launch a major sales program in the USA. The Sailor line will be sold and serviced through the ITT Decca dealer network nationwide.

For more data about Sailor radios, write to Alan D. Thompson, Dept. MR, ITT Decca Marine, Inc., P.O. Box G, Palm Coast, Fla. 32037.

Lanotte Named Manager, Hull Cleaning Systems For Butterworth



Vito X. Lanotte

Vito X. Lanotte has been named manager, hull cleaning systems of Butterworth Systems Inc., the international company that manufactures SCAMP® underwater hull cleaning equipment, and equipment for tank cleaning, oil/water separation and ultra-high pressure for water jetting.

Mr. Lanotte was with the Tanker Department of Exxon International where he has served as a marine designer, project engineer, and most recently, senior personnel administrator. He will be responsible for coordinating the marketing activities of hull-cleaning vessels for 12 SCAMP hull-cleaning operators strategically placed around the world.

Cavis Named Assistant VP-Customer Service For Crowley Division

Alan Cavis has been appointed assistant vice president, customer service for Crowley Maritime Corporation's Caribbean Division, according to a recent announcement by Robert G. Homan, senior vice president and general manager of the division. Mr. Cavis will be responsible for establishing and maintaining policies and procedures to service the needs of customers, carriers, and vendors dealing with the Caribbean Division.

Prior to this appointment, Mr. Cavis had held various positions within Crowley's Caribbean Division, including director of sales, vice president of marketing, and director, national accounts. In his most recent position as director, national accounts, he spearheaded the development of a new marketing program specifically designed to focus corporate attention on these customers.

Electro-Nav Introduces New Watch Receiver —Literature Available

Electro-Nav president Robert E. Negron announced recently the introduction of the company's new EN 2182R Watch Receiver, designed to meet IMCO A.383 requirements for continuous monitoring of the 2182KHz voice distress frequency.

"The IMCO deadline for compliance went into effect in May," said Mr. Negron, "and ours is a quality watch receiver that can do the kind of monitoring required at a reasonable price."

The EN 2182R is designed to meet or exceed all the relevant monitoring requirements of almost every maritime regulatory agency, including CEPT, UK

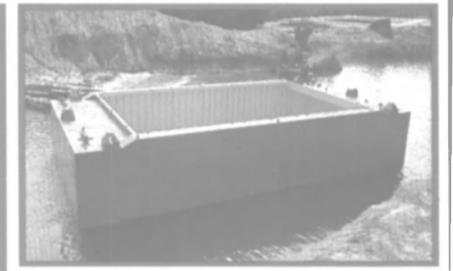
Home Office, Scandinavian P.T.T., and is awaiting final acceptance from the FCC. The unit permits both normal and muted operation for minimum interference with bridge procedures. It comes with a built-in two-tone test generator, and integral loudspeaker, and has provisions for alarm indicator and reset controls and an external speaker. The EN 2182R features

AC/DC power supply, universal mounting, and comes complete with all installation hardware. Optional equipment includes a digital clock which automatically lifts mute during silent periods.

For complete free literature, write to Robert E. Negron, Electro-Nav House, 840 Bond Street, Elizabeth, N.J. 07201. Ask for "Watch."

The marine fabrication capabilities of Equitable.

We build barges for any type of cargo you want to carry on inland rivers or across the ocean. Our capabilities and experience include the building of deck barges, self-unloading barges, covered hopper barges, oil, acid and chemical barges, open barges for raw materials, derrick barges, pipelaying barges and Lash and Seabee barges. Barges of superior design and construction to meet your precise construction and job requirements and your delivery schedules. We also build specialty items including quarters buildings and derricks for offshore use. Let Equitable build whatever you need for your marine operations. We'll build it right and we'll build it on time.



Equitable Shipyards, Inc.
P.O. Box 8001 / 4325 France Road
New Orleans, Louisiana 70182
504/947-0631 — Telex: 058-354

A wholly owned subsidiary of Trinity Industries, Inc.,
Dallas, Texas, a manufacturer of industrial, marine
and structural products.

Equitable Shipyards—Specialists in steel fabrication for the marine industry.

July 1, 1980

New Brochure Describes Caterpillar's Worldwide Service Support System

A new four-color, 24-page brochure is available from Caterpillar describing their worldwide engine parts and service support system.

The brochure is presented geographically and describes engine support available through dealer outlets, parts distribution facili-

ties, emergency parts depots, oil analysis facilities, and training centers for Cat dealers. Caterpillar has more than 1,000 sales, service, and parts facilities in over 150 countries, providing the best product support network in the industry.

Morton Parts Distribution Center, with 2.2 million square feet under roof, is the hub of Caterpillar's parts network. The Mor-

ton, Ill., facility includes 14 separate material-handling systems and over 30,000 different engine replacement parts, and houses the master computer system that controls parts distribution.

For further information, contact your local Caterpillar dealer for a free copy of Form No. LEDQMR9032, or write to Caterpillar Marketing, P.O. Box 3900 (28), Peoria, Ill. 61614.

Metritape Gets Order For Gauging Retrofit Of Seven Niarchos VLCCs

Metritape, Inc. has received an order for the retrofit of seven Niarchos VLCCs with centralized level and temperature gauging featuring the latest in Metritape modular readout and alarming instrumentation.

The order, valued at over \$500,000, includes unique Metritape Level/Temp sensors for a total of 104 cargo and slops tanks. Digital readout of both level and temperature, visual and audible high level alarms, and combination low/open circuit alarm functions are provided for each tank by individual modules.

On deck, analog ullage meters display tank ullage continuously at each tank top location, and an audible horn alerts high and overfill alarm levels.

The seven tankers, totaling over 1½ million dwt, are owned by the Niarchos Group and managed by International Operations S.A., Athens, Greece.

Kiger Named General Manager-West Gulf For Norton, Lilly

Norton, Lilly & Co., Inc. has appointed **Tom C. Kiger Jr.** general manager-West Gulf, according to **C.L. Rankin**, vice president-Gulf Area. Mr. Kiger will be headquartered in the company's Houston office.

Prior to joining Norton, Lilly, he was associated with Barber Steamship Lines, Gulf Division for the past eight years, and prior to that was with Beihl & Company in Houston.

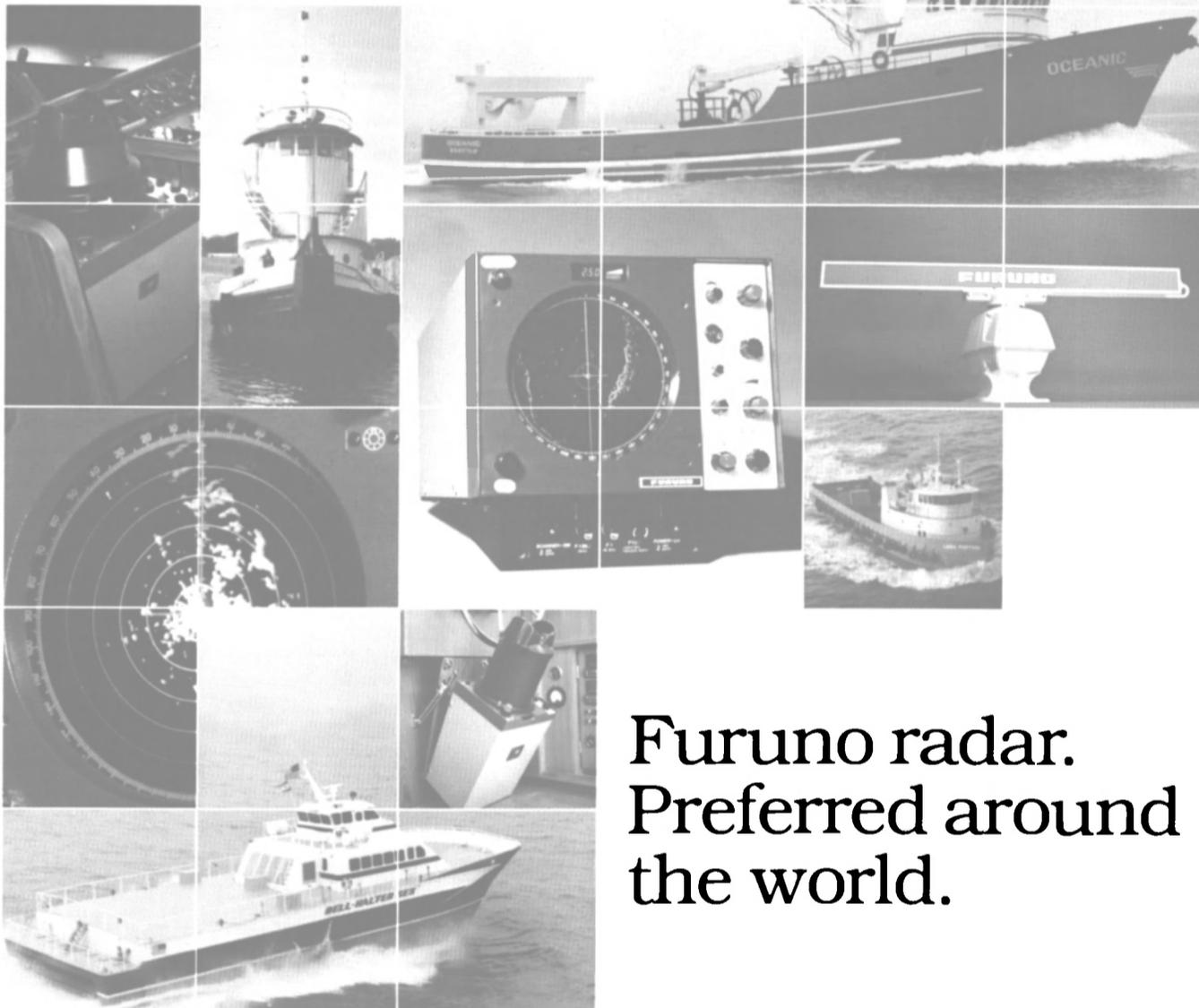
Bane And Ferriner Promoted In ITT Rayonier's T&D Dept.

Two changes in the Transportation and Distribution Department of ITT Rayonier Inc., Stamford, Conn., were announced recently by **Robert E. Heine**, vice president and director, transportation and distribution. **Donald J. Bane** has been promoted to manager, distribution services, and **Gregory R. Ferriner** has been named to succeed him as assistant manager.

Mr. Bane is now responsible for management of international and domestic transportation and establishment of improved transportation systems and cost-effective distribution strategies. Mr. Ferriner is responsible for ocean booking coordination, freight rate quotations, data collection, and liaison with sales and mills.

Both men will also be involved in activities of Sylvan Shipping, the subsidiary of Rayonier that handles forest products cargo and compatible commodities to and from Europe.

RADAR



**Furuno radar.
Preferred around
the world.**

There's no better radar on earth than a Furuno radar at sea. Designed to outperform and outlast other radars, they represent the culmination of more than 30 years experience in providing commercial quality electronics to commercial vessel operators.

For a radar to match whatever performance requirements you have, just visit any of our more than 200 dealer outlets all over North America. Don't just buy a radar. Invest in Furuno.

FURUNO U.S.A., INC.

P.O. Box 2343, 271 Harbor Way, South San Francisco, CA 94080

Tel. 415-873-9393/Telex 331419

Furuno. Choice of the professionals.

**Lanotte Named Manager,
Hull Cleaning Systems
For Butterworth**



Vito X. Lanotte

Vito X. Lanotte has been named manager, hull cleaning systems of Butterworth Systems Inc., the international company that manufactures SCAMP® underwater hull cleaning equipment, and equipment for tank cleaning, oil/water separation and ultra-high pressure for water jetting.

Mr. Lanotte was with the Tanker Department of Exxon International where he has served as a marine designer, project engineer, and most recently, senior personnel administrator. He will be responsible for coordinating the marketing activities of hull-cleaning vessels for 12 SCAMP hull-cleaning operators strategically placed around the world.

**Cavis Named Assistant
VP-Customer Service
For Crowley Division**

Alan Cavis has been appointed assistant vice president, customer service for Crowley Maritime Corporation's Caribbean Division, according to a recent announcement by Robert G. Homan, senior vice president and general manager of the division. Mr. Cavis will be responsible for establishing and maintaining policies and procedures to service the needs of customers, carriers, and vendors dealing with the Caribbean Division.

Prior to this appointment, Mr. Cavis had held various positions within Crowley's Caribbean Division, including director of sales, vice president of marketing, and director, national accounts. In his most recent position as director, national accounts, he spearheaded the development of a new marketing program specifically designed to focus corporate attention on these customers.

**Electro-Nav Introduces
New Watch Receiver
—Literature Available**

Electro-Nav president Robert E. Negron announced recently the introduction of the company's new EN 2182R Watch Receiver, designed to meet IMCO A.383 requirements for continuous monitoring of the 2182KHz voice distress frequency.

"The IMCO deadline for compliance went into effect in May," said Mr. Negron, "and ours is a quality watch receiver that can do the kind of monitoring required at a reasonable price."

The EN 2182R is designed to meet or exceed all the relevant monitoring requirements of almost every maritime regulatory agency, including CEPT, UK

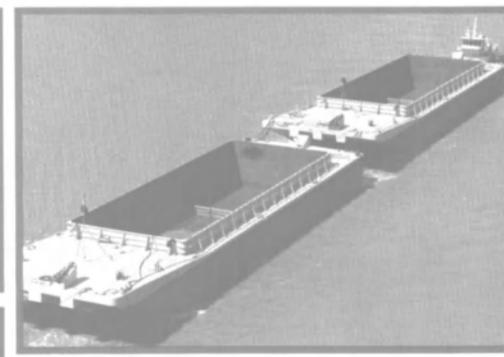
Home Office, Scandinavian P.T.T., and is awaiting final acceptance from the FCC. The unit permits both normal and muted operation for minimum interference with bridge procedures. It comes with a built-in two-tone test generator, and integral loudspeaker, and has provisions for alarm indicator and reset controls and an external speaker. The EN 2182R features

AC/DC power supply, universal mounting, and comes complete with all installation hardware. Optional equipment includes a digital clock which automatically lifts mute during silent periods.

For complete free literature, write to Robert E. Negron, Electro-Nav House, 840 Bond Street, Elizabeth, N.J. 07201. Ask for "Watch."

**The marine
fabrication
capabilities
of Equitable.**

We build barges for any type of cargo you want to carry on inland rivers or across the ocean. Our capabilities and experience include the building of deck barges, self-unloading barges, covered hopper barges, oil, acid and chemical barges, open barges for raw materials, derrick barges, pipelaying barges and Lash and Seabee barges. Barges of superior design and construction to meet your precise construction and job requirements and your delivery schedules. We also build specialty items including quarters buildings and derricks for offshore use. Let Equitable build whatever you need for your marine operations. We'll build it right and we'll build it on time.



Equitable Shipyards, Inc.
P.O. Box 8001 / 4325 France Road
New Orleans, Louisiana 70182
504/947-0631 — Telex: 058-354

A wholly owned subsidiary of Trinity Industries, Inc.,
Dallas, Texas, a manufacturer of industrial, marine
and structural products.

Equitable Shipyards—Specialists in steel fabrication for the marine industry.

New Brochure Describes Caterpillar's Worldwide Service Support System

A new four-color, 24-page brochure is available from Caterpillar describing their worldwide engine parts and service support system.

The brochure is presented geographically and describes engine support available through dealer outlets, parts distribution facili-

ties, emergency parts depots, oil analysis facilities, and training centers for Cat dealers. Caterpillar has more than 1,000 sales, service, and parts facilities in over 150 countries, providing the best product support network in the industry.

Morton Parts Distribution Center, with 2.2 million square feet under roof, is the hub of Caterpillar's parts network. The Mor-

ton, Ill., facility includes 14 separate material-handling systems and over 30,000 different engine replacement parts, and houses the master computer system that controls parts distribution.

For further information, contact your local Caterpillar dealer for a free copy of Form No. LEDQMR9032, or write to Caterpillar Marketing, P.O. Box 3900 (28), Peoria, Ill. 61614.

Metritape Gets Order For Gauging Retrofit Of Seven Niarchos VLCCs

Metritape, Inc. has received an order for the retrofit of seven Niarchos VLCCs with centralized level and temperature gauging featuring the latest in Metritape modular readout and alarming instrumentation.

The order, valued at over \$500,000, includes unique Metritape Level/Temp sensors for a total of 104 cargo and slops tanks. Digital readout of both level and temperature, visual and audible high level alarms, and combination low/open circuit alarm functions are provided for each tank by individual modules.

On deck, analog ullage meters display tank ullage continuously at each tank top location, and an audible horn alerts high and overfill alarm levels.

The seven tankers, totaling over 1½ million dwt, are owned by the Niarchos Group and managed by International Operations S.A., Athens, Greece.

Kiger Named General Manager-West Gulf For Norton, Lilly

Norton, Lilly & Co., Inc. has appointed **Tom C. Kiger Jr.** general manager-West Gulf, according to **C.L. Rankin**, vice president-Gulf Area. Mr. Kiger will be headquartered in the company's Houston office.

Prior to joining Norton, Lilly, he was associated with Barber Steamship Lines, Gulf Division for the past eight years, and prior to that was with Beihl & Company in Houston.

Bane And Ferriner Promoted In ITT Rayonier's T&D Dept.

Two changes in the Transportation and Distribution Department of ITT Rayonier Inc., Stamford, Conn., were announced recently by **Robert E. Heine**, vice president and director, transportation and distribution. **Donald J. Bane** has been promoted to manager, distribution services, and **Gregory R. Ferriner** has been named to succeed him as assistant manager.

Mr. Bane is now responsible for management of international and domestic transportation and establishment of improved transportation systems and cost-effective distribution strategies. Mr. Ferriner is responsible for ocean booking coordination, freight rate quotations, data collection, and liaison with sales and mills.

Both men will also be involved in activities of Sylvan Shipping, the subsidiary of Rayonier that handles forest products cargo and compatible commodities to and from Europe.

RADAR



**Furuno radar.
Preferred around
the world.**

There's no better radar on earth than a Furuno radar at sea. Designed to outperform and outlast other radars, they represent the culmination of more than 30 years experience in providing commercial quality electronics to commercial vessel operators.

For a radar to match whatever performance requirements you have, just visit any of our more than 200 dealer outlets all over North America. Don't just buy a radar, invest in Furuno.



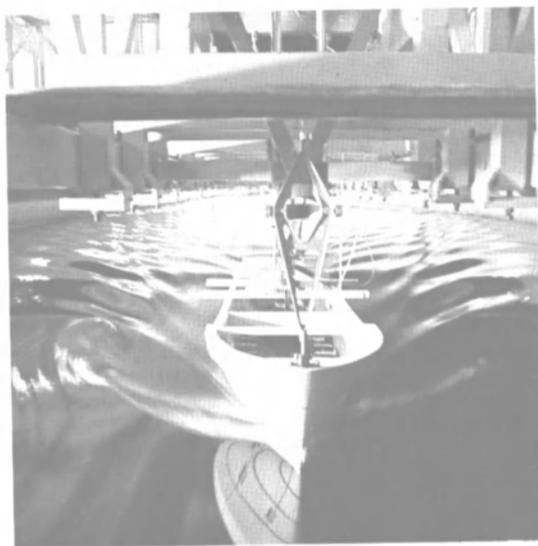
FURUNO U.S.A., INC.

P.O. Box 2343, 271 Harbor Way, South San Francisco, CA 94080

Tel. 415-873-9393/Telex 331419

Furuno. Choice of the professionals.

WE SELL MORE
BECAUSE WE HAVE **MORE**
TO OFFER



CENTROMOR

POLISH SHIPBUILDING INDUSTRY—
—MORE THAN SUCCESS IN WORLD SHIPBUILDING

1700 SHIPS DELIVERED TO OVER 100 SHIPPING COMPANIES
THROUGHOUT THE WORLD

ALL TYPES OF SHIPS. CUSTOM BUILT. HIGHEST WORLD STANDARDS.



Head Office:

Okopowa 7,
80-819 Gdansk, Poland
Phone: 31 22 71
Telex: 0512 376

Offices Abroad:

OSLO
Phone: 41 80 63
Telex: 19979 thomio n

HAMBURG
Phone: 35 20 35
Telex: 211913 polsh d

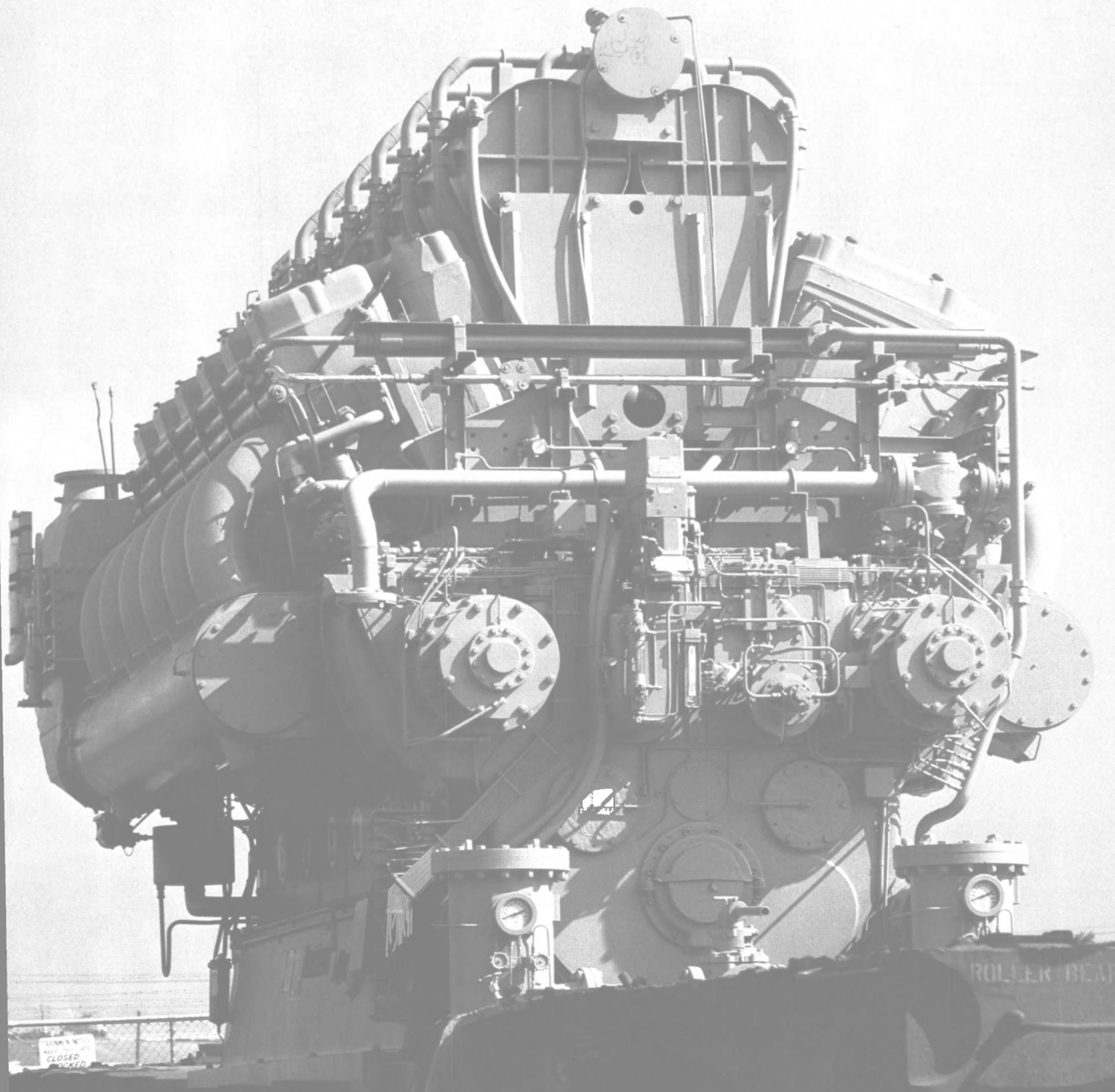
LONDON
Phone: 01 370 6181
Telex: 916074

MOSCOW
Phone: 228 05 95
Telex: mosham su 7361

NEW YORK
Phone: /212/ 938-1900
Telex: wu 128-241

RIO DE JANEIRO
Phone: 221-1627
Telex: 212 3396 julo br

One Proud American



The finest heavy duty, multi-fuel main and auxiliary diesel engines are created right here in America. At our plant in Oakland, California.

We've been trusted engine technologists for decades. And with today's fuel economy trend to diesels, our long experience at sea is paying off for an increasing number of advanced vessels: tug-barges, 1000-foot ore boats, container ships, tankers, workboats, passenger vessels...

These heavy-duty, four-stroke Delavals have the right power (3,000 to 13,500 hp). They also have the compactness, the reliability and the designed-in thermal efficiency to deliver the full economy of heavy fuel operation.

Your investment in American technology and in American field support is secure, because in the world of diesel power, this one is a proven winner.

Transamerica Delaval Inc., Engine and Compressor Division, 500 85th Ave., Oakland, Calif., 94621. Phone (415) 577-7400. Telex (47) 33-5304. Cable Enterfound.

 **Transamerica
Delaval**

**Rigging Barge Completed
By Riverway Shipyard**



Riverway Harbor Service of New Orleans recently took delivery of rigging barge R-1, built by Riverway Shipyard, a sister company in Grafton, Ill.

Riverway Shipyard Company, Grafton, Ill., recently delivered a new rigging barge to its sister company, Riverway Harbor Service, New Orleans. The barge R-1 is 110 feet long, 26 feet wide, and 6¼ feet deep, with a light draft of 1 foot 6 inches. The gross tonnage of this barge is 135.6.

The hull is constructed of ¾-inch steel and has a pre-formed fender running the length of the barge at the gunnel and knuckle. This fender is reinforced with 3-inch I-beam. All four corners are constructed of ¾-inch steel. The hull is divided into six compartments, each with two manholes.

The deck is fitted with eight 48-inch steel cleats, six rigging trees, and a protective coaming. The hull exterior is coated with coal tar epoxy; the interior is painted with primer only. The deck is coated gray with a non-skid surface, and the coaming/trees are painted with vinyl.

**Hoglund And Farrell Are
Promoted At ESAB-HEATH**



Ray Hoglund



John Farrell

ESAB-HEATH, Fort Collins, Colo.-based manufacturer of shape cutting machines, welding equipment, welding robots and other welding products, has announced that **Ray Hoglund** has moved up to the position of assistant general manager. He will be involved in all aspects of company operation, including manufacturing and sales, as well as research and development. Mr. Hoglund has been associated with ESAB-HEATH and the former Heath Engineering Company at their Fort Collins operation for almost 10 years, and has served in such capacities as production manager, sales manager, and most recently as marketing manager.

Replacing Mr. Hoglund as marketing manager, in charge of all sales and distribution for the entire ESAB-HEATH product line, is **John Farrell**, formerly product manager of the company. Mr. Farrell, too, has a long association with oxy-fuel shape cutting, plasma shape cutting, and welding, and has specialized in automated industrial control systems.

**SERVICE AND REPAIR
IS OUR BUSINESS**



**MARINE REPAIR,
MAINTENANCE
AND CONVERSION
SINCE 1908**

**UNION DRY DOCK
& REPAIR COMPANY**

Foot of Pershing Road,
Weehawken, N.J. 07087

(201) 867-0904

**Dravo
SteelShip**

INLAND
and
OFFSHORE

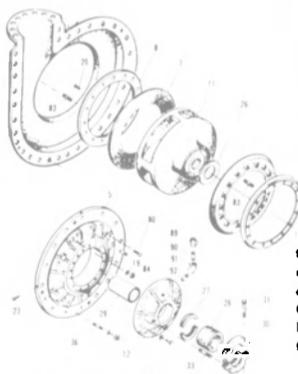


WE BUILD THE BEST STEEL AND ALUMINUM WORK BOATS.

WRITE RT. 4, BOX 76, PINE BLUFF, ARKANSAS 71602; OR TELEPHONE 501-536-0362.

SUBSIDIARY OF DRAVO CORPORATION

**WE PREPARE TECHNICAL MANUALS
FOR GOVERNMENT AND INDUSTRY**



Handbooks
Parts Catalogs
Training Manuals
Provisioning Data

Complete operation, repair and maintenance manuals written, illustrated and printed for all types marine machinery, equipment and electronics. Our years of experience working with leading U.S. manufacturers saves you time and money.

call!
516/826-4618

BENHOF INC.
2468 NORTH JERUSALEM ROAD
N.BELLMORE, NEW YORK 11710

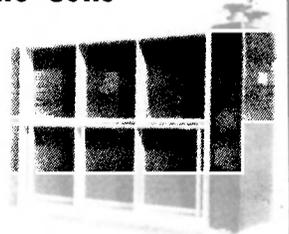
**COLMAC
COIL, INC.**

Phone (509) 684-2597

COLVILLE, WASHINGTON 99114

**For Your Next Navy Standard
& Marine Coils**

**Quality
Products
Listing**



\$95-Million Pipeline Contract Awarded To J. Ray McDermott & Co.

McDermott International, Inc., a subsidiary of J. Ray McDermott & Co., Inc. of New Orleans, has been awarded a \$95-million contract by Petroleo Brasileiro, S.A. (Petrobras) to lay approximately 280 miles of marine pipeline in

the Campos Basin off the coast of southern Brazil.

This pipeline project is part of the initial development of the Garoupa and Enchova Fields, which lie in the Atlantic Ocean about 200 miles northeast of Rio de Janeiro. The pipelines will permit the first movement of oil and gas ashore from the seven planned production platforms in these

fields, where extensive exploration is still under way.

McDermott will lay four transmission lines, each approximately 50 miles in length, from the Brazilian coast south of Campos to the fields, and lay 17 separate pipelines to the producing platforms. One 12-inch and one 22-inch pipeline will be laid to bring the Garoupa Field production

ashore, and one 12-inch and one 24-inch line to bring in the Enchova Field production. In-field pipelines will vary in size from 4 to 16 inches in diameter.

The project, scheduled to be completed by the end of 1982, will use advanced underwater construction and marine pipelaying technology. It will require 38 pipeline connections to platform risers in water depths up to 560 feet.

McDermott is a leading international energy services company. The company and its subsidiaries provide engineering and construction services to the offshore oil and gas industry and manufacture steam generating equipment, tubular products, insulating products, and automated machine tools.

Two Department Managers Appointed At Transoceanic Shipping

Transoceanic Shipping Company, Inc. recently announced new management appointments in its General Accounts and Marine Departments.

Roland J. Ledet, executive vice president of the company, said that **Michael Ganon** has been appointed manager, Marine Department, and **Ms. Sherri Lyle** will be manager of the company's General Accounts Department.

Mr. Ganon, experienced in all aspects of clearances, will be responsible for all marine department activities, including the total range of vessel inbound and outbound clearances and related services, as well as the consolidation of supplies and equipment to offshore drilling structures.

Ms. Lyle has several years' experience in international freight forwarding, documentation, coordination, and consolidation of cargoes and other related services.

Enger And Pintler Promoted At Crowley Environmental Services

Two managerial appointments were recently made in the Seattle office of Crowley Environmental Services Corporation.

Trygve Enger has been appointed assistant marketing manager for CES with corporate-wide responsibilities in marketing research, sales training, and direction of pollution-control training schools. He previously served as assistant manager for CES, Seattle, with responsibility for leading field operations and spill cleanup crews.

Larry Pintler has been named sales manager for CES, Seattle. Mr. Pintler is responsible for sales of CES products and services throughout the Northwestern United States and western Canada, as well as for development of new applications for CES equipment. His prior position was sales engineer for CES in Seattle.



IF NAV-COM ISN'T DOING YOUR ELECTRONIC WORK, YOU MAY NOT BE GETTING WHAT YOU'RE PAYING FOR!

Nav-Com provides sales engineering and service support of electronic communications and navigation equipment for the commercial marine industry.

Our products include HF/SSB, Sitor/Radiotelex systems, Sat/Nav, Marisat Communication Terminals, Loran-C, Omega, radar, VHF radio-telephones, depth finders and related accessories.

We work for the top names in the marine industry on tankers, freighters, tugs, container vessels, offshore oil rigs, etc. We travel wherever our customers need us...worldwide! Our Field Service personnel are professionals—engineering caliber men who are FCC licensed and factory trained—men who enjoy what they do and take pride in their work!

Nav-Com is a factory authorized dealer for the most prominent names in the marine industry—names like CAI, Digital Marine, Furuno, Intech, ITT Decca Marine, Lorain Electronics, Magnavox, Modar, North American Philips Communications, Raytheon, RF Communications, Simrad, Standard, Stephens Engineering, and Texas Instruments.

For your next requirement, let Nav-Com prepare a professional, engineering level systems proposal at no cost or obligation to you.

NAV-COM Inc., 711 Grand Blvd., Deer Park, NY 11729
For more information call
(516) 667-7710 TWX: 510-227-9853



FIRST PRIZE



We win top honors in praise from operators and pilots for the dependable performance and ease of operation of our boats. Towboats, barges and off-shore vessels operating daily in the inland waterways and the Gulf, testify to the skill and craftsmanship of Mississippi Marine.

Our dedication to serve, the expertise of our naval architects and our full-service capability is helping us become one of the most respected firms in our field.

Let us bid on your next blue ribbon winner. We'll build the most boat for your money. Call us.

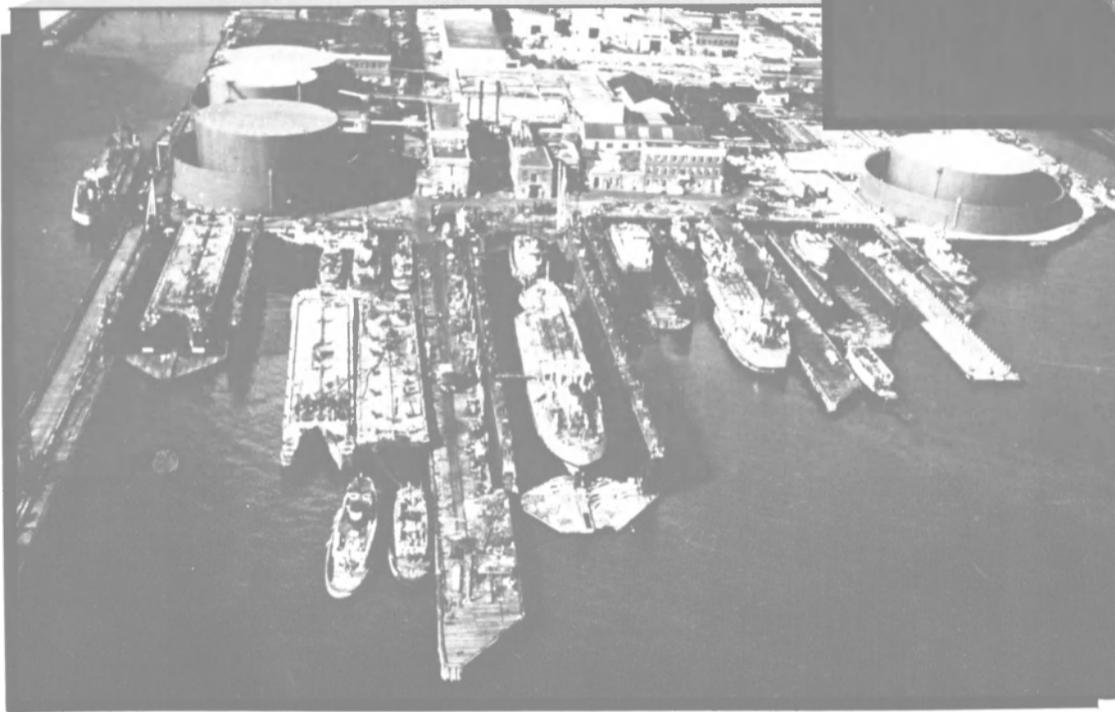


Mississippi Marine

Marine Construction and Repair Specialists

P.O. Box 539/Harbor Front Industrial Park/Greenville, Miss. 38701/Phone (601) 332-5457

TIMES CHANGE...



**Change
with them
...to
BUSHEY**

First and finest in all types of ship repair for over 65 years

- 6 Drydocks...1,200 tons to 7,500 tons
- Diesel engine repair & overhauls
- Steel renewal
- Automation installation & repair
- Piping alterations
- Major hull conversion & repowering
- All types of alteration and electrical work
- Sandblasting and painting
- Complete machine shop — tailshafts made
- Hull repair & survey damages



BUSHEY

DRYDOCKS and SHIPYARDS

A S. BUSHEY & SONS, INC. • 764 Court St. • Brooklyn, N.Y. 11231 • phone 212-237-6950

Hong Kong Tycoons See Buoyant Market For Bulk Carriers

The Hong Kong Trade Development Council reports that two of Hong Kong's biggest shipping tycoons, Sir Y.K. Pao, the head of the World-Wide Shipping Group, and C.H. Tung, the chairman of Orient Overseas Container (Holdings) and son of shipping magnate C.Y. Tung, both see the large

demand for bulk carriers continuing, while demand for container-ships will be affected not only by the excess tonnage but also by the recession in the major countries.

To underscore this conclusion, World-Wide recently signed a letter of intent with the Minister of China's Sixth Ministry of Machine Building and chairman of the China Corporation of Shipbuilding Industry (CCSI) to purchase the following six vessels

to be built by CCSI: two Panamax bulk carriers of about 62,700 dwt each; two geared bulk carriers of about 36,200 dwt each, built with loading and unloading equipment; and two "lakes fitted" geared carriers of about 27,000 dwt each, which will be equipped for operation in big lakes. The cost is estimated at \$100 million and marks the first time a major order has been made for China-built ships from a Hong Kong concern.

Gary E. Koecheler Named Manager Of Pricing For Matson Navigation

Gary E. Koecheler, assistant to Matson Navigation Company's vice president in Washington, D.C., for the past year, has been appointed manager of pricing. He will report to William R. Harmon, vice president, pricing, in San Francisco. Replacing Mr. Koecheler in Washington will be Philip M. Grill, formerly minority staff counsel for the Senate Committee on Commerce, Science and Transportation.

Prior to joining Matson, Mr. Koecheler served 4½ years with the Maryland Port Authority, and before that he was with the Interstate Commerce Commission in Washington.

Before he joined Matson, Mr. Grill spent more than five years with a Senate committee, and before that was legislative assistant to former Maryland Senator J. Glenn Beall Jr.

Jules Mugnier Named Marine Manager For M.P. Industries

The appointment of Jules R. Mugnier Jr. as marine manager for M.P. Industries, Inc., Baltimore, was announced recently by James C. Hamilos, president. Mr. Mugnier has over 12 years' experience in every phase of marine operations, including blasting, coating, interior tank lining as well as sales, production, purchasing, and inspection. Previous work includes extensive subcontracts with Maryland Shipbuilding and Dry Dock, Newport News Shipbuilding and Dry Dock, Sun Shipbuilding and Dry Dock, Alabama Dry Dock, and Savannah Marine.

M.P. Industries offers marine and industrial blasting services to the entire Eastern Seaboard through its Baltimore and Jacksonville locations.

F. Van Deutekom Named Assistant VP At Nedlloyd

Frits van Deutekom has been appointed assistant vice president of Nedlloyd Inc., it was announced by J.J. van Steenberg, president. His specific duties will be to interface with and coordinate the various departments involved in the United States to Middle East Service, reporting to John S. Letotta, vice president.

Mr. van Deutekom, who joined Nedlloyd in the head office in The Hague in 1959, spent 17 years in the Middle East in various capacities, culminating as Nedlloyd representative in Jeddah and project manager for the OGEM Housing Project in Saudi Arabia. The Mr. van Deutekom brings to his new position a vast knowledge of the intricacies of shipping to the Middle East.

"IT MAY BE THE KEY TO SOLVING THE PROBLEM OF ELIMINATING OIL SPILLS IN U.S. WATERS",

concluded the U.S. Environmental Protection Agency in June of 1979, after testing the NMS-2550/4 Oil & Debris Collector with use of the Oil and Hazardous Materials Simulated Environmental Test Tank (OHMSETT), in Leonardo, New Jersey.

The NMS-2550/4 Oil & Debris Collector:

- Removes oil and various petrochemical products from the water's surface, including floating objects in hardly accessible areas, up to 1.8 m long, weighing up to 75 kilos.
- Operates in the port area or within a 10 mile range of the port, in moderate seas—up to a Force 4 wind.
- Is equipped to collect and separate oil and debris in finely broken ice.

Vessel Specifications:	
Length, m	14.85
Beam, m	4.30
Depth, m	2.00
Displacement at 1.6 m draft, tons	74.60
Oil collection rate (with film up to 4 mm thick), tons/hr.	20.00
Debris collection rate, m-/hr.	1.50
Oil tank capacity, m-	19.30
Debris receptacle, m-	3.00
Engine:	
Diesel, Hp	135
R.P.M.	1,900
Propelling gear	Water-Jet

For further information, please contact:
V/O SUDOIMPORT, "Sudotransport" Firm
5 Kalyaevskaya Ul., Moscow 103006, U.S.S.R.
Telephone: 251-60-52; 251-03-85 Telex: 7272; 7587
or
AMTORG TRADING CORP.
750 Third Avenue, New York, NY 10017



MARINE INSURANCE SPECIALISTS



by Whitehall



Over 25 years successfully placing coverage

- Dry Cargo Vessels
- Tankers
- Ocean Cargo
- Tugs/Barge
- Floating Equipment
- Drydocks/Shipyards
- and all types of Marine Special Coverages

- Property/Casualty
- Personal Lines
- Bonds
- Employee Benefits

- Professional Insurance Analysts
- Creativity
- World Markets
- Analysis and risk management on all types of insurance coverages required

Whitehall Brokerage Inc.

Insurance Brokers and Average Adjusters
17 Battery Place, New York, N.Y. 10004 - 212 425-0580
Telex 62204 - Cable Hallbrok, N.Y.

A Division of TER BUSH & POWELL Incorporated

MISENER INDUSTRIES, INC.



New Construction Vessel Repair

- ★ LAUNCHWAYS FOR 100' WIDE UNITS ★
- ★ 500' BERTH FOR 20' DRAFT VESSELS ★
- ★ FOR SALE ★
- 120' to 180' Stock Deck Barges

TELEPHONE:
(813) 837-8522

5353 TYSON AVE.
P.O. BOX 13625
TAMPA, FLA. 33681

TVF PROPELLERS (*)

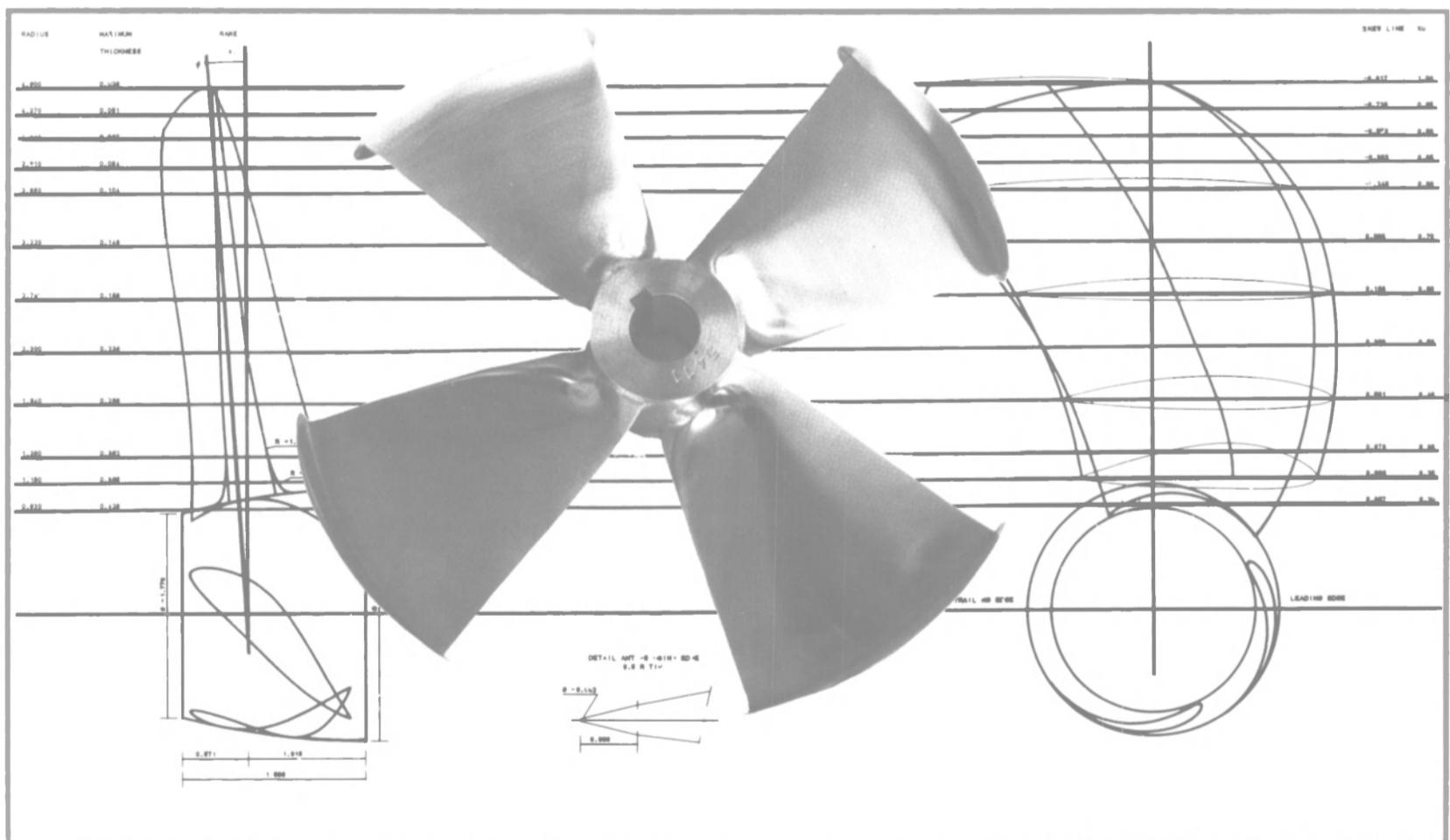
REDUCE FURTHER THE FUEL CONSUMPTION OF SHIPS, BY 12~35%

TVF (Tip Vortex Free) propellers have been developed by ASTILLEROS ESPAÑOLES, S.A. by means of a new lifting line theory and the corresponding computer programs, which have demonstrated to be an excellent tool for the desing of propellers of an extremely high efficiency.

The theoretical findings have already been fully confirmed in the experimental field through ex-

tensive model tests carried out in collaboration with the NEDERLANDS SHIP MODEL BASIN at Wageningen (Holland).

Many ships equipped with this revolutionary propulsion system will soon ride the seas of the planet, and save large amounts of precious energy, that energy which is becoming nowadays so scarce and so expensive...



ASTILLEROS ESPAÑOLES, S.A.

17, Padilla St., Madrid-6 Spain

Telex: 27690 & 27648 ASTIL E
Phone: 34.1.2252100 to 09
Cable: "Astilleros" - Madrid

(*) Patents pending worldwide

A Report On

Diesel Engine Performance With Medium Viscosity Index Lube Oil

By James L. Wilkinson

In the 1930's, the medium-speed diesel engine came into its own as a prime mover in rail, marine, and stationary applications. It was soon realized by engine builders and operators that Medium Viscosity Index (MVI) lube oils had distinct advantages in performance over High Viscosity Index (HVI) oils in these diesel engines.

Historically, the preference for MVI lube oils is based primarily upon experience in 2-stroke, medium-speed diesel engines. This preference has carried over to 4-stroke designs also, although the benefits, while evident, are not as pronounced as in the 2-stroke engines.

The main feature of the MVI lube oil is in the nature of the residual deposits formed in the engine as contrasted with the deposits formed by the HVI lubricants. Additives aside, the difference in the deposit formation by the two types of oil points up the excellent performance of MVI lube oil in service.

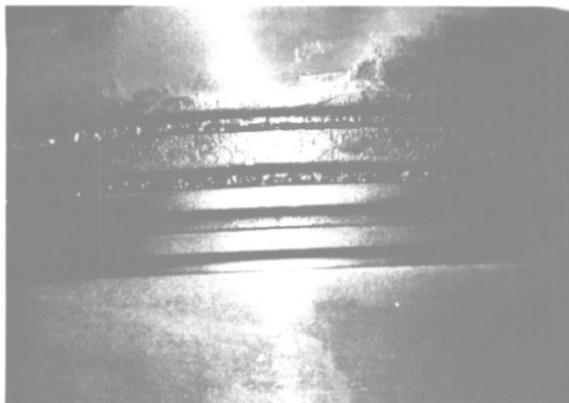
In the infancy of the medium-speed diesel engine, as we now know it, oils were not compounded but were straight blends of refined lubricating oils. Performance of the lubricant was directly related to the base oil. It was soon found that MVI oils formed softer, less dense carbon deposits than HVI oils. The deposits formed by the HVI oils were harder, more adhesive, and tended to build up to high levels in deposit-prone areas. Deposits from the MVI oils, on the other hand, in addition to being softer tended to slough off and not build up beyond a certain low level as a result of normal engine operation.

Even in today's modern oils, the carbon deposits reflect the nature of the base oils, MVI or HVI, regardless of the benefits of additives. Thus the benefits of MVI oil still apply, namely softer carbon deposits and less of them. Additive technology has improved the performance characteristics of both oils about equally, and the performance gap of the 1930's still exists.

The effect of the carbon deposits is most noticeable in scavenging air and exhaust ports in 2-stroke engines and on the top lands and in ring grooves of the pistons in all engines.

In 2-stroke medium-speed diesels, port blocking is an important factor in performance because of its effect on engine power. It is also an economic factor in the downtime and labor expense of port-cleaning operations. Deposits formed by MVI lube oils tend to be crumbly, and in the port area will build up to moderate and usually acceptable levels. However, once they attain these levels they are broken off by the normal aspiration of the engine and do not build up further. In some instances, the use of MVI oils will eliminate the need for any port cleaning between scheduled overhauls.

HVI oils form more adhesive and dense carbon deposits in the port areas. These deposits build steadily, and engine aspiration during operation is usually insufficient to maintain them at a low level. These hard,



After 17,000 hours of operation, ring groove area of piston from Electro-Motive Diesel engine shows deposits that are normal for this engine and type of service.

dense deposits are difficult to remove and can require shutdown for laborious hand scraping.

In one reported instance, Fairbanks Morse Model 38 opposed-piston engines required port cleaning after 1,500 hours operation with HVI oil. Downtime was lengthy and labor costs high. After switching to an MVI oil, the engines, when inspected, had operated in excess of 5,000 hours without port-cleaning. Intake ports were 100 percent open, exhaust ports 90 percent open.

Top land and ring groove deposits are the other most prominent points of carbon deposition. Here also, the softer, less adhesive deposits of the MVI oil are the least troublesome. The deposits are more easily removed by normal engine operation and do not build up to excessive levels on the top lands or in the ring grooves.

The hard and adhesive HVI oil carbon deposits can, and often do, build up to excessive levels. This causes ring "proudness"; in effect, the deposit prevents the ring from



Intake ports in Fairbanks Morse 38D8 1/8 engine are 100 percent open after 5,000 hours of operation on a premium Medium Viscosity Index lubricant.

recessing completely into the groove. And, the ring groove fill reduces ring side clearance, which can affect power output, oil consumption, and hydrocarbon emissions adversely. This can lead to ring sticking and ring breakage. In extreme cases in 2-stroke diesels, it also may cause port scalloping.

Excessive carbon buildup on the top land of the piston caused by HVI lube oil can reduce clearances sufficiently to prevent combustion pressures from pushing rings against the cylinder liner normally for sealing. Again, the result is poor performance — power loss and increased oil consumption. In extreme cases, these land deposits also can cause excessive bore wear or "bore polishing." In this instance, in either 2-stroke or 4-stroke diesels, a power pack replacement can become necessary.

The modern MVI lube oil is a far cry from the simple non-compounded oils of the 1930's. Additive technology has produced long-life oils with dispersant action to keep engines clean by keeping contaminants in suspension

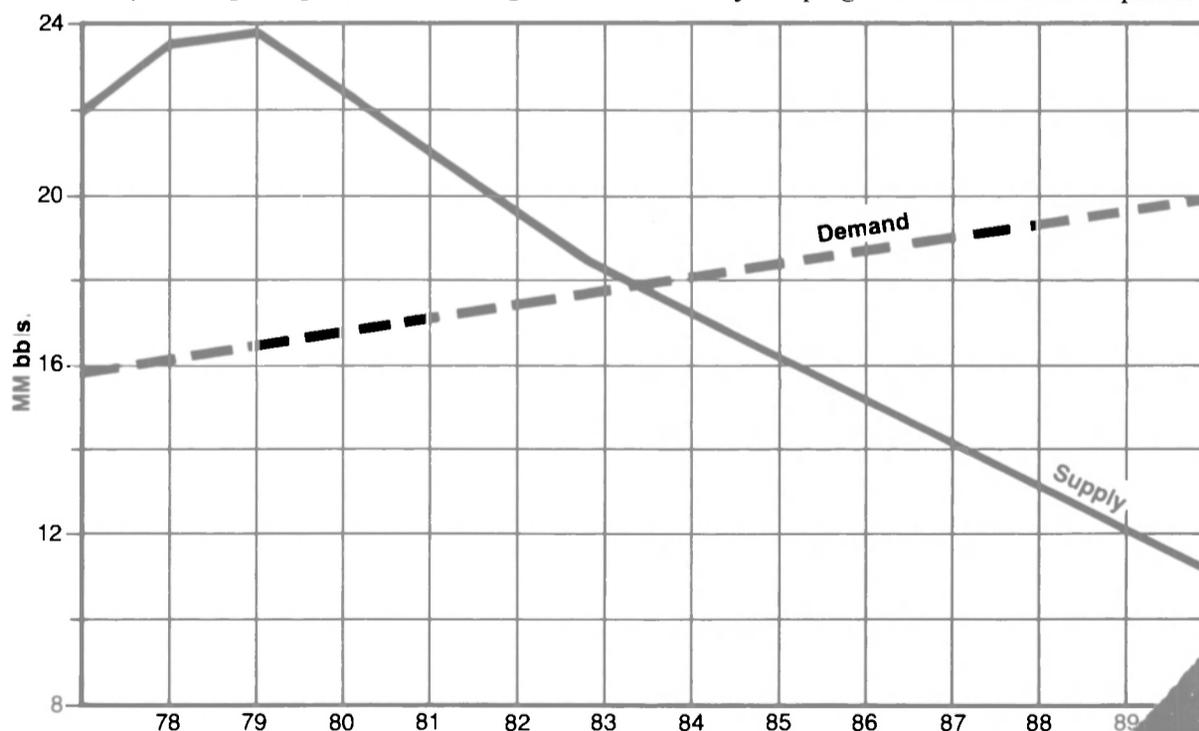


FIGURE 1 — Shell Oil Company's projection for supply and demand, Medium Viscosity Index lubricants.

(ADVERTISEMENT)

in the oil rather than depositing out on engine surfaces. High alkalinity (TBN-E) and excellent alkalinity retention help neutralize corrosive combustion products to reduce corrosive wear. Oxidation inhibitors and corrosion inhibitors protect both oil and engine. Filters last longer.

Today's MVI lube oil provides the same advantages as its predecessor MVI oils in forming carbon deposits that are soft and friable; a benefit of an all-neutral oil. And, because of additives, many MVI oils can be used without change in 2-stroke diesels if their condition is closely monitored by a used-oil analysis program. Changing oil based on analysis will maximize oil life in all engine types.

Projected availability of naphthenic MVI lube stocks is shown in Figure 1, along with projected demand. About 1984/1985, total MVI lube stocks will be unable to fill the demand for conventional MVI oil applications. The switch from MVI to HVI base oils is already in progress. Overall, MVI lube stock availability is expected to decline by about 50 percent by 1990.

Shell Oil Company presently manufactures MVI oil at its Martinez, Calif., refinery. This is the only Shell refinery currently producing MVI lube oils. However, in Texas, Shell has another source of MVI lube crude. To make this crude available as MVI lube oil, Shell is building a new addition to its Deer Park, Texas, plant. This expansion project is scheduled for completion by the end of 1980 and will more than double the company's supply of MVI lube oil. A further expansion of the Deer Park plant is already scheduled for 1984/1985, which will provide an additional 30 percent capacity.

In addition to increased MVI base oil supply, distribution East of the Rockies will be facilitated by the plant expansions.

Shell believes that the majority of engine builders and operators will prefer to operate engines with MVI lube oils for as long as possible. The successful use of these oils in medium-speed diesels is documented by a long history of successful performance. It behooves the operator to conserve present supplies as much as possible to help the future supply position.

With modern high quality MVI lube oils having the capability of extremely long oil life, with good engine protection, the implementation of a used-oil analysis program can be helpful in determining when (or even if ever) oil needs changing. In addition, such an analysis program is a useful maintenance tool when trace metals analysis is included. With such a program, oil is changed only when necessary, if at all. This saves valuable MVI lube crude reserves, and can save money. It also can help detect engine problems and avert untimely breakdowns that can be costly.

With the additional MVI lube supply being placed in the market by Shell Oil Company's expansions, and operator conservation (such as that outlined above), the crossover point on Figure 1, demand exceeding supply, can possibly be extended.



Mr. Wilkinson, staff engineer for Shell Oil Company in Houston, has been associated with the company for 30 years. This report is a condensation of a presentation he made at a recent meeting of inland waterways executives and suppliers at the East Side Industrial Club, Alton, Ill.



BERGERON DELIVERS BAROID BARGE—Bergeron Industries, Inc., recently delivered the barge KPL 1-80 to N.L. Baroid of Houston. The barge is unique in that it was designed specifically to carry dry drilling mud, in bulk, and be self-loading and unloading. The 150-foot by 35-foot by 9-foot barge contains eight 1,500-cubic-foot pneumatic tanks and can carry 750 tons of product at a 7-foot draft. Bergeron Industries has offices at St. Bernard, La., with shipbuilding and repair facilities at Braithwaite, La., on the Mississippi River near New Orleans, and at Port Bienville, Miss.

Satellite Communications Described At ASNE Los Angeles Section



At recent meeting of ASNE Long Beach-Greater Los Angeles Section, speaker Paul Melancon (left) received a "Certificate of Appreciation" from Capt. J.A. Gildea, USN, vice chairman of the Section.

The regular monthly meeting of the Long Beach-Greater Los Angeles Section of the American Society of Naval Engineers was held recently at the Los Alamitos Armed Forces Reserve Center Officer's Club.

In the absence of chairman J.R. Malone, Capt. J.A. Gildea, USN, vice chairman, called the meeting to order with the customary procedure of each individual introducing himself and any guest or visitor he sponsored. Next, he called on Lt. Ken Smith, USN, for a report on his attendance at the ASNE Day functions in Washington, D.C. Lieutenant Smith gave an excellent report on principal aspects of the meeting.

As the next order of business, Captain Gildea called on the program chairman, Carl Erickson, to take over and introduce the evening's speaker and his topic.

The speaker, Paul Melancon, is currently the Fleet Satellite Communications Program Manager for TRW Systems, having been associated with TRW for about 20 years. Prior to his activities in the field of satellite communications, he was the program manager for the Lunar Module Guidance System and thus has had considerable experience in dealing with the problems associated with the functioning of equipment operating in outer space.

Mr. Melancon described the FLTSATCOM program, which was started in 1972. The first vehicle was placed in a circular orbit in 1978, with No. 2 and No. 3 following in 1979. No. 4 will go up in 1980, and No. 5

in 1981. Each will be in a "stationary" position relative to a point on the earth's surface and are, or will be, strategically located to cover all operating areas for the U.S. Fleet from latitude 70 degrees S to 70 degrees N. The vehicle has an unusual geometry being some 43 feet wide with the solar panels deployed, and about 16 feet high from its base to the tip of the antenna. It weighs about 4,100 pounds at launch and around 2,200 pounds in orbit. No one has actually seen the deployed vehicle up close as it is not possible for the structure to sustain the gravitational weight of the deployed components on the earth's surface. However, Mr. Melancon showed slides of an artist's conception of the vehicle as it appears on station.

For fast repair,

fast turnaround

7 YARDS ON 3 U.S. COASTS

Brooklyn
Galveston
New Orleans
Houston
Los Angeles
San Francisco
Seattle

Talk to
TODD

TODD SHIPYARDS CORPORATION
One State Street Plaza
New York, N.Y. 10004
Telephone: (212) 344-6900 Cable "Robin" New York

C. B. DARCY MARINE SALES

REPRESENTING

 Johnson Rubber Co.

Rubber Bearings
Dockfendering
Demountable Bearings

DIESEL SYSTEMS, INC.

Triton Water Systems
Kittel Silencers

WESTERN BRANCH METALS

Armco Stainless Shafting Systems
Machining — Propeller Nuts

FNT INDUSTRIES, INC.

Commercial Fishing Supplies
Netting — Rope — Twine

KAHLENBERG BROS.

Air Horns — S/S Propellers

P. O. Box 33, Glenhead, N. Y. 11545
516-676-3738

PROFESSIONAL

advanced marine enterprises, incorporated

SUITE 500
2341 JEFFERSON DAVIS HWY
ARLINGTON, VA 22202
(703) 979-9200

NAVAL ARCHITECTURE • MARINE & OCEAN ENGINEERING • MANAGEMENT SCIENCES

SAN DIEGO, CALIFORNIA VIRGINIA BEACH, VIRGINIA

agemar

AGENCIA MARITIMA DE REPRESENTACIONES C.A. (Agemar)
(Ship's Agents)

LAKE MARACAIBO TERMINALS

1) Puerto Miranda (Maraven)	6) Bajo Grande (Corpoven)
2) El Tablazo (Corpoven)	7) Gas Plant (Corpoven)
3) La Estacada (Maraven)	8) Punta Palmas (Maraven)
4) Punta Piedras (Maraven)	9) San Lorenzo (Lagoven)
5) Bajo Grande Refinery (Corpoven)	10) La Salina (I.N.P.)
	11) Maracaibo Piers & at anchorage

COASTAL PORTS

11) Punta Cardon (Maraven)	15) El Palito (Corpoven)
12) Amuay Bay (Lagoven)	16) Barburata (Maraven)
13) Puerto Cabella & at Dry Dock (I.N.P. & Dianca)	17) Puerto La Cruz a) Guaraguao (Meneven)
14) CVP Moron Buoy (Corpoven)	b) El Chaura (Corpoven)
	c) Pamatacual (Corpoven)

**24 HOURS SERVICE — NAUTICAL ASSISTANCE
BUNKERING AND FRESH WATER SUPPLIES**

Communications to be addressed to head-office at
Avenida 3E No. 71-51 Edif. "Acuario" (Planta Baja)
Apartado 1465 - Maracaibo - Venezuela

Cables: AGEMAR - MARACAIBO
Telexes: 61274 Agmar-Ve
62337 Agmar-Ve

Phones: 061-916666 061-916997
061-918482 061-918495
V.H.F.: Int. Channels 12, 13, 14, 16.

"STABILOGAUGE"
Predetermines Stability (GM), Mean Draft, Deadweight and Displacement for any distribution of cargo including Free Surface and KG corrections

"LOADOSCOPE"
Automatically calculates and displays the Draft Fore & Aft, Deadweight, Bending Stress and Shear Stress which a ship will have under any longitudinal distribution of load, for any number of preselected stations or readings.

Acts as a Summary Status Board

American Hydromath Company Buckwheat Bridge Road
Germantown, N.Y. 12526 518 537 4420

AMIRIKIAN ENGINEERING CO.
HARBOR AND DRYDOCKING FACILITIES
SPECIAL SHORE AND FLOATING STRUCTURES
CONCEPTS, DESIGN, INVESTIGATIONS

Chevy Chase Center Office Bldg.
Suite 505, 35 Wisconsin Circle
Chevy Chase, Md. 20015 (301) 652-6903

Captain Astad Company, Inc.
Complete Marine Services - Full Broker Service
Owners Representative Service
Purchase & Sale of All Types of Vessels

CAPTAIN A. J. ASTAD P.O. BOX 53434
President NEW ORLEANS, LA 70153
PHONE (504) 529-4171 (24 HRS.)

J. L. BLUDWORTH
MARINE DESIGN & CONSULTANT
TUGS, TOWBOATS, PROPELLERS

8207 GLEN LOCH
HOUSTON, TEXAS 77061 713-644-9798

DEL BREIT INC.
MARINE ENGINEERING CONSULTANT

326 Picayune Place, New Orleans, La. 70130
Suite 201 (504) 523-2801

CCS MARINE ASSOCIATES LTD.
2784 CRESCENTVIEW DRIVE, NORTH VANCOUVER, B.C.
CANADA V7R 2V1

L. COWARD, president

MANAGEMENT CONSULTANT:
SHIPBUILDING SHIPYARD CONSTRUCTION
SHIP REPAIR SHIP OPERATION
PHONES: (604) 988-8290; 980-7654 TELEX: 04-352 747

CDI marine company

MARINE ENGINEERS JACKSONVILLE, FL (904) 724-9700
NAVAL ARCHITECTS PHILADELPHIA, PA (609) 772-0800
NORFOLK, VA (804) 627-4384 BOSTON, MA (617) 878-8340 SAN DIEGO, CA (714) 474-3317 CHARLESTON, SC (803) 554-5580

Surveyors • Engineers • Appraisers
Hull • Cargo-Machinery • Yachts

CAPTAIN TOM SMITH & ASSOCIATES

Classification Approved Ultrasonic Technicians
• Computerized Reports

11320 S.W. 108 Court (305) 238-0202
Miami, Florida 33176 or 238-5300

CADCOM[®]
a division of ManTech International Corp.
COMPUTER-AIDED DESIGN AND CONSTRUCTION
ENGINEERING SERVICES AND SYSTEMS

107 Ridgely Avenue, Annapolis, Maryland 21401
(301) 268-9010 or (Wash.) 261-1070

CHILDS ENGINEERING CORPORATION
Waterfront & Structural
Engineering • Diving Inspection

Box 333/Medfield/MA 02052
(617) 359-8945

MARINE ENGINEERS and SURVEYORS
John P. Colletti & Associates

Cargo Appraisals
Preliminary Plans
New Construction Surveys
Hull and Machinery Surveys
Transportation Consulting
Accredited Crane and Derrick Certification 29CFR Part 1919

P.O. Box 13378 Pittsburgh, PA 15243
Bus 412-561-6000
Res 412-746-1534

COLUMBIA-SENTINEL ENGINEERS WESTERN, INC.
NAVAL ARCHITECTS & MARINE ENGINEERS

• Vessel Design & Operations • Production Consultants

914 Second Ave., Seattle, WA 98104
(206) 623-0384

CRANDALL DRY DOCK ENGINEERS, INC.
Railway and Floating Dry Docks; Waterfront Structures
Consulting • Design • Inspection
Dry Dock Hardware and Equipment

21 Pottery Lane Dedham, Mass. 02026

Crane consultants inc

15301 1st Ave. So. Seattle, Washington 98148
(206) 246-7962 TWX 910-444-2085
Crane, hoist, materials handling specialists.

FRANCIS B. CROCCO, INC.
Marine Consultants, Marine & Cargo Surveyors

"Forty years of Surveying Experience in the Caribbean" Phone: (809) 723-0769
BOX 1411, SAN JUAN, PUERTO RICO 00903
Telex RCA 325 2634 PRCA 385 9005

C. R. CUSHING & CO., INC.
NAVAL ARCHITECTS, MARINE ENGINEERS
& TRANSPORTATION CONSULTANTS
ONE WORLD TRADE CENTER
NEW YORK, N. Y. 10048
TEL: (212) 432-0033 CABLE: CUSHINGCO

DANIEL YACHT & SHIP

Marine Services

- Marine Engineering
- Maintenance Control
- Ship Brokerage
- Consultants
- Owner's Representatives
- Surveying

TELEX: DANIELSHIP FTL 514514 1300 S.E. 17th St.
Fr. Lauderdale: 305-524-4394 Fr. Lauderdale, Florida 33316
Miami: 305-949-8211

NAVAL ARCHITECTS MARINE ENGINEERS
NORMAN N. DeJONG AND ASSOCIATES, INC.

TEL. 904 399-3673 1734 Emerson Street
TWX 810 827-5026 Jacksonville, Fla. 32207

DESIGN ASSOCIATES, INC.
M. KAWASAKI
14360 Chef Mentour Highway
New Orleans, Louisiana 70129

Naval Architects Marine Engineers
Marine Management Transportation Consultants

Phone: (504) 254-2012 TWX 810-951-5317

COMPLETE N/C LOFTING SERVICES

Shell Plate Development Nest Tape Preparation
Lines Fairings
Full Size Templates Part Generation

DESIGNERS AND PLANNERS INC.
Naval Architecture—Marine Engineering—Computer Lofting

2315 Broadway, Galveston, Texas 77553
P.O. Box 1080 (713) 762-1002

DESIGNERS & PLANNERS, INC.
NAVAL ARCHITECTS • MARINE ENGINEERS

ONE STATE STREET PLAZA
NEW YORK, N.Y. 10004
(212) 248-2250

P.O. BOX 1080 2341 JEFF. DAVIS HGWY
GALVESTON, TEX. 77550 ARLINGTON, VA. 22202
(713) 762-1002 (703) 892-5900

PARKER C. EMERSON & ASSOCIATES
• NAVAL ARCHITECTS
• MARINE ENGINEERS
• MARINE SURVEYORS

17935 Cardinal Dr., Lake Oswego, Ore. 97034 (503) 638-7286

Failure Analysis Associates
ENGINEERING AND
METALLURGICAL CONSULTANTS
PALO ALTO LOS ANGELES HOUSTON
(415) 326-6821

CHRISTOPHER J. FOSTER, INC.
WORLD-WIDE EXPERIENCE AS DESIGNERS OF
GRAVING DOCKS • MARINE STRUCTURES
SHIPYARDS • MODERNIZATION • PORT FACILITIES
OFFSHORE TERMINALS • FLOATING DRYDOCKS

MARINE ENGINEERS • NAVAL ARCHITECTS
CONSULTING ENGINEERS

PORT WASHINGTON NEW YORK 11050
(516) 883-2830 TELEX 14-4674 CABLE: "CEFOSTA"

FRIEDE AND GOLDMAN, LTD.
Naval Architects & Marine Engineers

SUITE 1414, 225 BARONNE STREET
NEW ORLEANS, LA. 70112
523-4621

GIBBS & COX INC
NAVAL ARCHITECTS & MARINE ENGINEERS

40 Rector Street • New York, N.Y. 10006
(212) 487-2800

JOHN W. GILBERT ASSOCIATES, INC.

Naval Architects Marine Engin

Brokerage

58 COMMERCIAL WHARF BOSTON, MASS.]
(617) 523-8370

L. R. GLOSTEN & ASSOCIATES, INC.

NAVAL ARCHITECTS • MARINE ENGINEERS
OCEAN ENGINEERS

610 COLMAN BUILDING
811 FIRST AVENUE
SEATTLE, WASHINGTON 98104

PHONE: 206-624-7850
CABLE: GLOSTEN
TELEX: 32-1226

Phillip Gresser Associates Ltd.

NAVAL ARCHITECTS — MARINE ENGINEERS
CONSULTANTS & SURVEYORS

3250 SOUTH OCEAN BLVD.
PALM BEACH FLORIDA 33480 TEL: (305) 586-0813

MORRIS GURALNICK ASSOCIATES, INC.

Naval Architects and Marine Engineers

San Francisco, California

(415) 543-8650



119 E. LITTLE CREEK RD.
NORFOLK, VA.
804-480-1960

HAMPTON ROADS ENGINEERING, INC.

NAVAL ARCHITECTS • MARINE ENGINEERS
CIVIL ENGINEERS

J. J. HENRY CO. INC.

naval architects • marine engineers • marine consultants

New York
Two World Trade Center
Suite 9528
N.Y., N.Y. 10048
(212) 938-2100

Area offices in:

Philadelphia
(609) 234-3880

Washington, D.C.
(703) 920-3435

Boston
(617) 383-9200

Norfolk
(804) 399-4097



HYDRONAUTICS INCORPORATED

INTEGRATED ENGINEERING SERVICES
FOR THE MARINE INDUSTRY

RESEARCH • DEVELOPMENT
DESIGN • TESTING

HYDRONAUTICS SHIP MODEL BASIN

7210 Pindell School Road, Laurel, Maryland 20810 Telephone: (301) 776-7454

Jantzen Engineering Co., Inc.

Consulting Engineers
Ocean Mining and Dredging
(301) 796-8585

6655 Amberton Dr. Baltimore, Md.

JAMES S. KROGEN & CO., INC.

NAVAL ARCHITECTS & MARINE ENGINEERS

Tel. (305) 448-8169

3333 Rice Street, Miami, Fla. 33133



Littleton Research and Engineering Corp.

Consulting and Contract Research in Applied Mechanics
Hull Vibration and Shock
Structural Analysis

Noise Control
Hydrodynamics

95 Russell Street, Littleton, Massachusetts 01460
Telephone 486-3526 area code 617

ALAN C. McCLURE ASSOCIATES, INC.

NAVAL ARCHITECTS • ENGINEERS

2600 South Gessner • Suite 504 • Houston, Texas 77063
(713) 789-1840 • Telex 775027



JOHN J. McMULLEN ASSOCIATES, INC.

NAVAL ARCHITECTS / MARINE ENGINEERS /

TRANSPORTATION CONSULTANTS

ONE WORLD TRADE CENTER
SUITE 3000, NEW YORK, NEW YORK 10048
WASHINGTON DC / HAMPTON VA / OXNARD CA / LONDON / MADRID

MACLEAR & HARRIS, INC.

28 WEST 44 ST.

NEW YORK, N. Y. 10036

212-869-3443

NA & ME FAST BOATS

MARINE CONSULTANTS & DESIGNERS, INC.

Naval Architects Marine Engineers

Telex: 98-5587

Main Off.: 308 Invest. Insur. Bldg. • Cleveland, Ohio 44114
(216) 781-9070

MARINE DESIGN INC.

NAVAL ARCHITECTS & MARINE ENGINEERS

Formerly Tams Inc., Established 1865

401 BROAD HOLLOW ROAD (Rt. 110)

MELVILLE, L.I., NEW YORK 11746

516 293-4336

TUGS, BARGES, WORK BOATS & CONVERSIONS

Marine Technical Associates, Inc.

MARINE ENGINEERS/ELECTRICAL CONSULTANTS
USCG AND IMCO REGULATIONS

Phone (201) 785-0006
TWX 710 988 5738

195 Paterson Avenue
Little Falls, N. J. 07424

RUDOLPH F. MATZER & ASSOCIATES, INC.



NAVAL ARCHITECTS

MARINE ENGINEERS

CONSULTANTS

SURVEYORS

13891 ATLANTIC BOULEVARD

JACKSONVILLE, FLORIDA 32225

(904) 246-6438

TWX 810-828-6094

MECHANICAL RESOURCES, INC.

Industrial/Marine

Refrigeration • Air Conditioning

24 Hour Service • Parts • Surveys

191 Cambridge Ave., Jersey City, N.J. 07307

(201) 652-1723 • (201) 653-0982

GEORGE E. MEESE

NAVAL ARCHITECTS • MARINE ENGINEERS
CONSULTANTS • SURVEYORS

DESIGNS FOR YACHTS AND COMMERCIAL VESSELS
WOOD—ALUMINUM—STEEL—PLASTIC

TELEPHONE 194 ACTION ROAD
COLONIAL 3-4054 ANNAPOLIS, MARYLAND



METRITAPE, INC.

Designer of Marine Level Gauging for:

• CARGO • BALLAST • FUEL OIL • DRAFT • TIDE & WAVE

• Remote Reading • Analog/Digital • Indep. of Sp. Gr.

33 Bradford St., Concord, MA 01742, U.S.A.

Ph: (617) 369-7500 Tlx: 92-3492

NELSON & ASSOCIATES, INC.

MARINE

SURVEYORS

ENGINEERS

CONSULTANTS

APPRAISERS

1405 N.W. 167 St., Miami, Fla. 33169 (305) 625-1043
Telex: 51-5704 Cable: NELSURVEY

NICKUM & SPAULDING ASSOCIATES, INC.

Naval Architects and Marine Engineers

911 Western Avenue, Seattle, Wash. 98104

(206) 382-4444

ROBERT B. NIEDERBERGER, P.E.

Consultant

Metallurgy & Marine Corrosion

507 EVERGREEN ROAD
SEVERNA PARK, MARYLAND 21146

(301) 647-1283
WASH DC: 261-2953

NORGAARD & CLARK

CONSULTING NAVAL ARCHITECTS

SAN FRANCISCO, CALIFORNIA (415) 398-2202

OCEAN-OIL INTERNATIONAL ENGINEERING CORPORATION

3019 Mercedes Blvd., New Orleans, Louisiana 70114, U.S.A.

NAVAL ARCHITECTS • MARINE SURVEYORS

SALVAGE ENGINEERS

Hector V. Pazos, P.E.

504/367-4072



PRC Guralnick

NAVAL ARCHITECTS & MARINE ENGINEERS

5252 Balboa Avenue, San Diego, California 92117

Telephone (714) 292-9102



DRYDOCKS
AND TRANSFER
SYSTEMS

Estimates at no cost or obligation

PEARLSON ENGINEERING CO., INC.

P.O. BOX 8/MIAMI, FLA. 33156/(305) 271-5721

TELEX: 051-9340/CABLE: SYNCROLIFT

S. L. PETCHUL, INC.

Naval Architect

1380 S. W. 57th AVENUE

FORT LAUDERDALE, FLA. 33317 • (305) 583-0962

M. ROSENBLATT & SON, INC.

NAVAL ARCHITECTS AND
MARINE ENGINEERS

New York City
350 Broadway
(212) 431-6900

San Diego
1007 Fifth Avenue
(714) 238-1300

San Francisco
657 Mission Street
(415) 777-0500

Charleston
Heights, S. C.
3370 Rivers Avenue
(803) 744-1686

Arlington, Va.
2341 Jefferson Davis Highway
(703) 892-5680



M. ROSENBLATT & SON, INC.
NAVAL ARCHITECTS AND MARINE ENGINEERS

SCHMAHL and SCHMAHL, INC.

Surveyors-Engineers-Average Adjusters

Germanischer Lloyd (Florida and Bahamas)—Hellenic Register
Japanese Marine Corp., Liberian Bureau of Maritime Affairs—
Bahamas Ministry of Transportation

SCHMAHL BUILDING

1209 S.E. Third Av., Fort Lauderdale, Fl. 33316

(305) 522-0689 - Miami (305) 944-4512

Toll Free FL Line: 800-432-0656 - Telex: 51-4489

TAMPA - MIAMI - JACKSONVILLE - HOUSTON
HAMBURG

Seaworthy Engine Systems, Inc.

MARINE ENGINEERS

MAIN STREET
ESSEX, CONNECTICUT
06426

203/767-0937
TWX 7104580271

GEORGE G. SHARP, INC.

MARINE ENGINEERS
NAVAL ARCHITECTS

SYSTEMS ANALYSTS
MARINE SURVEYORS

100 Church Street
New York, N.Y. 10007
(212) 732-2800

Arlington, Virginia 22202
(703) 892-4000
Virginia Beach, Va. 23462
(804) 499-4125

T. W. SPAETGENS

TORSIONAL VIBRATION SPECIALISTS

156 W. 8TH AVE.

OUR 32ND YEAR
SERVING U.S. CLIENTS

VANCOUVER, CANADA V5Y 1N2
(604) 879-2974 — TELEX 04-55188

R. A. STEARN INC.

NAVAL ARCHITECTS & MARINE ENGINEERS
253 N. 1st Avenue
Sturgeon Bay, WI 54235
Phone (414) 743-8282 TWX 910-270-1375

SEACOR

SYSTEMS ENGINEERING
ASSOCIATES CORPORATION

Naval Architects

Marine Engineering

Systems Analysis

Combat Systems Training

Engineering Department Training

Total Ship Testing

CALL FOR FREE BROCHURE TO ANY OF THE ABOVE OFFICES

CHERRY HILL
NEW JERSEY
(609) 429-7050

ARLINGTON
VIRGINIA
(703) 521-2977

VIRGINIA BEACH
VIRGINIA
(804) 425-3010

CHULA VISTA
CALIFORNIA
(714) 426-9538

DOVER
NEW HAMPSHIRE
(603) 742-8770

RICHARD R. TAUBLER, INC.

NAVAL ARCHITECTS & MARINE ENGINEERS
8 COLUMBIA ST. MILFORD, DEL. 19963
(302) 422-3371



THAMES ENGINEERING CONSULTANTS, INC.

CONSULTANTS TO THE MARINE INDUSTRY

(203) 443-1588

P.O. BOX 589
NEW LONDON, CONN. 06320

Trans-International Marine Services Corp.

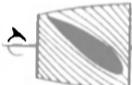


TIMSCO

MAINTENANCE MONITORING SYSTEMS
INVENTORY CONTROL SYSTEMS
622 Azalea Road
Mobile, Alabama 36609 205/438-1534

CORNING TOWNSEND III

Marine Consultants



BARGES • TUGS • TOWBOATS

18 Church St., Georgetown, Ct. 06829
Tel. 203-544-8110

WESLEY D. WHEELER ASSOCIATES, LTD.

INTERNATIONAL MARITIME CONSULTANTS

104 EAST 40 STREET, SUITE 207

NEW YORK, N. Y. 10016

CABLES WESWHEELER

126476 WHEELER NYK

ITT WDWNY 426040

RCA-236922 WDW

212-867-4760

DIPLOMATE IN NAVAL ARCHITECTURE AND MARINE ENGINEERING

THOMAS B. WILSON

NAVAL ARCHITECT & MARINE ENGINEER

920 North Avalon Blvd.
Wilmington, Ca. 90744 213/518-0940



WINK, Incorporated

CONSULTING ENGINEERS

Dock Damage Surveys

And

Design Of Marine Facilities

504/248-7924

8020 Mayo Blvd.
New Orleans, La. 70128

TOTAL EXPLOSIVE ENGINEERING

Professionals who use explosives with the velvet touch anywhere, anytime to separate cement or metals. Buildings, dams, bridges, grain elevators, industrial structures, foundations, and stacks dropped or disintegrated as they stand or directionalized falls. Offshore platforms and well removal, marine consultants, ship salvage or wrecking, diving, mining and trenching.



XPLO CORPORATION, 229 Fifth Street
P.O. Box 492, Gretna, Louisiana
(504) 362-8994 / TWX 810-951-6366.
A Tidewater Company

William Kiely Named President, R.H. Gruy Senior Vice President At SOFEC



William L. Kiely



R.H. Gruy

SOFEC, Inc., Houston, announces the election of **William L. Kiely** as president. Since joining SOFEC when the company began operations in 1973, Mr. Kiely has been involved in operations and sales efforts, and has served as executive vice president since 1975. He has been associated with the offshore construction industry since 1967.

R.H. Gruy has been elected senior vice president of SOFEC. He joined the company in 1973 as a project manager, and was elected vice president in 1974. Mr. Gruy will be responsible for international sales and business development. Prior to 1973, he was previously employed by Shell Oil Company.

SOFEC, Inc., a Houston-based firm, specializes in the design and construction of Single Point Moorings for import and export of liquids and for early production systems.

San Diego Section Of ASNE Discussed Fuel Economy System



Guests and officers at recent San Diego ASNE meeting included (L to R): Rear Adm. **Robert G. Mills**, USN (ret.), vice president engineering and development for Solar Turbines International; Capt. **Henry P. Rumble**, USN (ret.), vice chairman of San Diego Section; **Wayne S. Mattson**, project engineer for Solar, author; Col. **Louis C. Gerken**, USAR, Section chairman; and Comdr. **R.W. Ullman**, Section secretary.

The Destroyer Room of the Commissioned Officers' Mess at the San Diego Naval Station was the site of a recent meeting of the San Diego Section of The American Society of Naval Engineers.

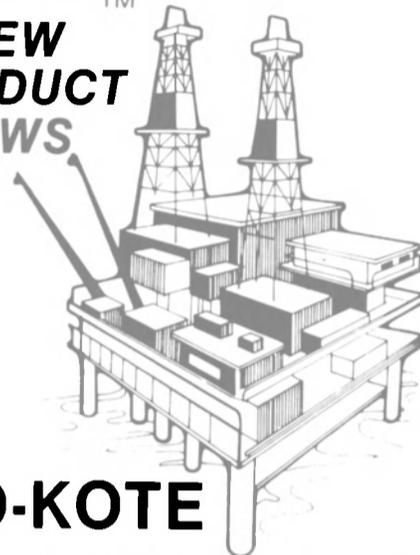
Guest speaker for the evening was **Wayne Mattson**, project engineer for Solar Turbines International. He presented a paper on Rankine Cycle Energy Recovery (RACER) system fuel economy. The paper was well received and raised many interesting questions. Fuel conservation, a particularly important topic today, means considerable savings to military and commercial vessel operators.

At the conclusion of the meeting, Col. **Louis C. Gerken** presented a certificate of appreciation to Mr. **Mattson**.



ESGARD™

NEW
PRODUCT
NEWS



BIO-KOTE

A dramatic environmental breakthrough for the marine industry! A bio-degradable, virtually non-toxic internal rust preventative for marine ballast, void tanks, chain lockers and false bottoms. BIO-KOTE contains absolutely no petroleum oils or solvents, yet gives equivalent or better rust protection than the best petroleum based products at a very competitive price.

OFFICES WORLDWIDE

P. O. Drawer 2698
Lafayette, Louisiana 70502
Telephone: (318) 234-6327
Telex: 586602 Cable: ESGARD
AGENTS WANTED



ALMOST A CENTURY OF SERVICE

• Our piers can accommodate vessels up to 800' long, with a beam of 130' and a 32' draft at low water. A new 8 ton gantry crane travels 300' fore or aft of a vessel.

A foundry and fully equipped shops for machine, pipe, plate, electrical, boiler and carpentry work are maintained to service all ship and barge repairs, on a 'round-the-clock' basis.

U.S.C.G. accepted, certified welders available for pressure and exotic material welding.

PADD is centrally located in the heart of the N.Y.-N.J. port complexes within 3 miles of 9 major oil terminals.

A vast inventory of parts and equipment enables us to complete jobs in less time, thus minimizing extended layovers.

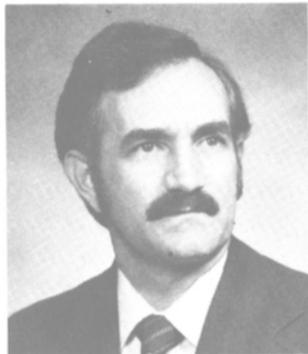
COME
TO
OUR



PERTH AMBOY DRY DOCK CO.

FOOT OF COMMERCE STREET
PERTH AMBOY, N.J. 08862
201/826-5000 • 212/269-6996
Cable: PADRYDOCK

C.E. Carter Joins Horne Brothers As Assistant Manager Of Contracts



Charles E. Carter

Charles E. Carter has joined Horne Brothers, Inc., Newport News, Va., as assistant manager of contracts. He will report directly to Vernon F. Kittrell, contracts manager.

Mr. Carter was employed by Dillingham Ship Repair, Portland, Ore., as manager, contracts and estimating from 1973 until now. From 1959 until 1973, he was employed by Newport News Shipbuilding and Drydock Company as senior hull estimator.

D.R. Stollmeyer Elected President Of American Hawaii Cruises

David R. Stollmeyer has been elected president of American Hawaii Cruises, San Francisco. He joined the company in 1979 as executive vice president, charged with the redecoration of the American-built Independence and returning her to service under the American flag. Rechristened by Mrs. Paul Lyet, wife of the chairman of Sperry Rand Company, the 750-passenger luxury liner Oceanic Independence began year-round seven-day cruises from Honolulu to four other Hawaiian ports of call on June 21.

Mr. Stollmeyer first went to sea aboard icebreakers which served the Arctic Dewline Radar Defense sites. In 1968, he joined March Shipping, Ltd. as assistant to the president, with responsibility for diversifying the company's functions, which encompassed passenger shipping agencies, terminal operations, chartering, security guard services and freight forwarding.

Elected vice president and director of the March Shipping Group, now the largest such consortium in Canada, Mr. Stollmeyer, in 1975, additionally was appointed president of the Bulk Terminal Operating Co. In 1976, he moved to New York to become associated more directly with the operation and marketing of the Group's greatly expanded passenger activities in the U.S.

Mr. Stollmeyer left the March Shipping Group in 1977 to accept the position of North American

vice president of Costa Cruises, directing the marketing of the Costa family's rapidly expanding passenger fleet in the U.S.

This experience brought the offer from American Hawaii Cruises in 1979, an offer he couldn't refuse because of his enthusiasm for recommissioning a great passenger liner and pioneering a new cruise market.

River One Asks Title XI Covering 15 Barges To Cost \$4.2 Million

River One, Inc., St. Louis, has applied for a Title XI guarantee to aid in financing the construction of 15 dry-cargo barges. The covered, hopper rake barges will measure 195 by 35 by 12 feet and

are to operate on the inland waters of the United States. The American Bridge Division of United States Steel is the proposed builder.

If approved, Title XI financing would cover \$3,600,000, nearly 87½ percent of the total cost of \$4,207,500. Deliveries are scheduled between October and December 1980.

MARINE CHECKERS, DRAFTERS and DESIGNERS

AVONDALE SHIPYARDS, one of Americas largest shipbuilders, currently has a production backlog of over \$1,000,000,000.

As a result of this tremendous volume of work, Avondale engineering urgently needs the following permanent personnel for its main yard in New Orleans, La.:

- MARINE PIPING CHECKERS, DRAFTERS & DESIGNERS
- MARINE STRUCTURAL CHECKERS, DRAFTERS & DESIGNERS
- MARINE OUTFITTING CHECKERS, DRAFTERS & DESIGNERS
- MARINE MECHANICAL CHECKERS, DRAFTERS & DESIGNERS

Avondale's Conceptual Design Department Requires:

- ONE PERSON CAPABLE IN MACHINERY ARRANGEMENTS, MARINE SYSTEM DESIGN, PIPING DIAGRAMS, AND PURCHASE SPECIFICATION FORMULATION.

Avondale engineering offers an excellent salary and benefits package, relocation expenses and a work environment designed to bring out the best in each engineering employee.

Forward resume including salary history to:

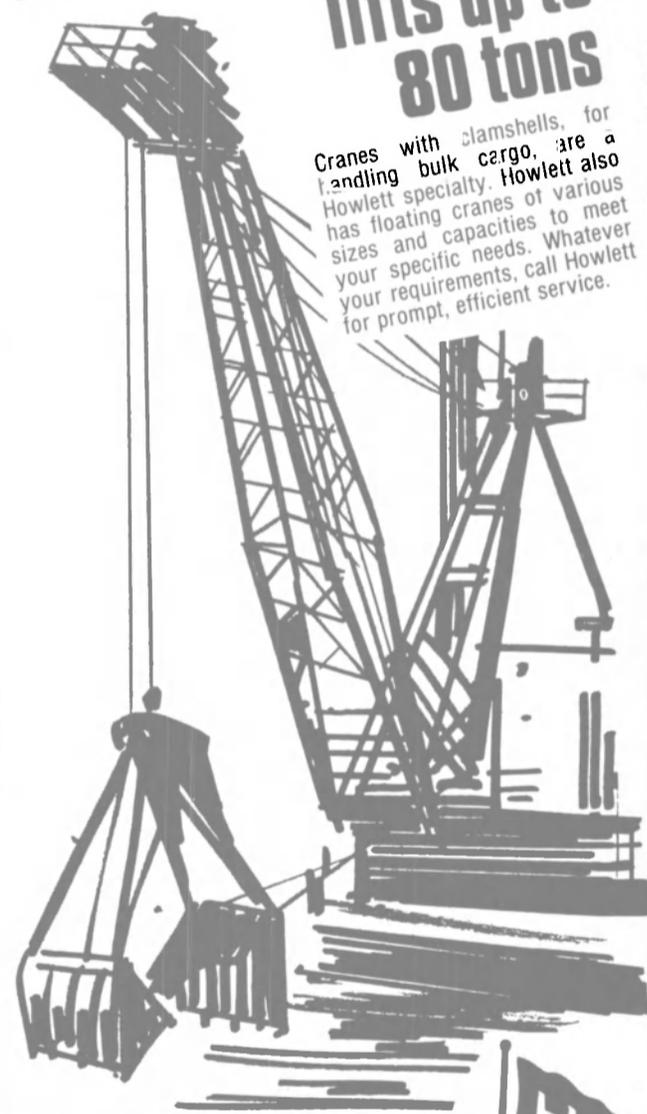


Mr. C. L. Morris
V.P., Engineering Administration
AVONDALE SHIPYARDS, INC.
P.O. Box 50280
New Orleans, La. 70150

An Equal Opportunity Employer M/F

FLOATING CRANES FOR BULK CARGO

lifts up to 80 tons



Cranes with clamshells, for handling bulk cargo, are a Howlett specialty. Howlett also has floating cranes of various sizes and capacities to meet your specific needs. Whatever your requirements, call Howlett for prompt, efficient service.

Over a century of service



M. P. HOWLETT, Inc.

since 1875

410 32nd St., Union City, N.J.
New York—Bowling Green 9-8644
New Jersey—Union 6-1566

Moore Named Executive VP, Hayo VP-Finance At Wisconsin Barge Line

Ronald E. Moore has been promoted to executive vice president of Wisconsin Barge Line, Inc., and Michael T. Hayo, a certified public accountant, has joined the St. Louis-based company as vice president-finance and treasurer.

Joseph W. Rose, board chairman, president, and chief executive officer, said that Mr. Moore's promotion from vice president-marketing and the addition of Mr. Hayo to WBL's management team are part of a realignment of top management resulting from the company's relocation to the St. Louis area. Under the realignment, Mr. Moore and Mr. Hayo report directly to Mr. Rose, a veteran riverman.

Mr. Rose, who left retirement in 1978 to head WBL, was a co-owner of Rose Barge Line. Rose Barge Line, after being sold by the Rose family, was reorganized as Agri-Trans Corporation.

Changes in the realignment include: An-

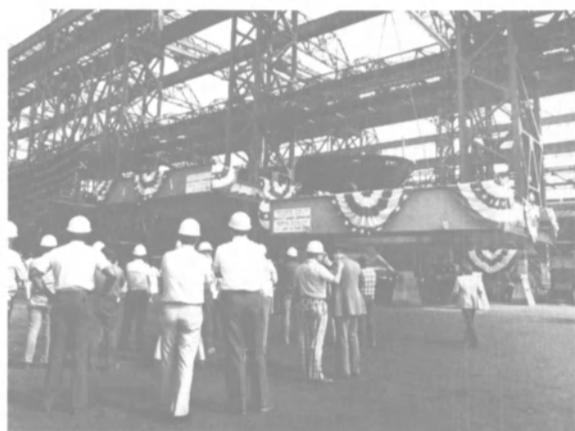


Ronald E. Moore

Michael T. Hayo

thony F. DeJohn, director-operations; Gary L. Reeves, manager-transportation; Bruce A. Mechling, director-engineering; and Hugh L. Hammond, director-Gulf operations, reporting to Mr. Moore, who also assumes responsibility for terminal and fleeting operations in certain river locations.

Reporting to Mr. Hayo are Don E. Fuller, director-administration and personnel, assistant secretary and assistant treasurer; David T. Hawkins, controller; Edward L. Girou, manager-data processing; and Jimmy L. Sutherlen, manager-purchasing, engineering shop.



QUINCY YARD LAYS KEELS — General Dynamics recently celebrated the keel-laying and beginning of construction of two oil barges for Bulkfleet Marine Corporation of Houston. The barges, which are scheduled for delivery late this year, will be used by Bulkfleet for the transportation of refined petroleum products. Participating in the keel-laying ceremony at the Quincy, Mass., shipyard were J. Barry Snyder, president of Bulkfleet Marine; Peer Pedersen, director of Bulkfleet Marine; James N. Brown, manager of chartering for Gulf Oil Co.; and Gerald J. Mount, vice president of Bulkfleet Marine. Each welded their initials on the keel units. The barges will be 503 feet long with a beam of 84 feet and a depth of 42 feet. They have a capacity of 192,000 barrels of petroleum products. Representing General Dynamics at the ceremonies were P. Takis Veliotis, executive vice president-marine; and Joseph H. Lennox, general manager of Quincy shipyard.

Interested in Joining One of the Nation's Leading Shipbuilders?

Tacoma Boatbuilding Company, an established Pacific Northwest Shipbuilder, is expanding its engineering capabilities and seeking persons interested in career positions in the design and manufacture of marine equipment, ship construction and ship repair. If you possess skills in one of the areas listed below then we're interested in you.

- Engineers
- Drafters
- Designers
- Estimators
- Planners
- Test Engineers
- Material Take-Off

We offer excellent opportunities for growth and salaries commensurate with qualifications plus an excellent benefit package.

If you're looking to the future, look to Tacoma Boatbuilding Company!

For further information on career opportunities, fill out this coupon and mail to: **Richard Ervin, Tacoma Boatbuilding Company, Inc., 1840 Marine View Drive, Tacoma, WA 98422, (206) 572-3600.**

Name _____
 Address _____
 City _____ State _____ Zip _____
 Home Phone _____ Business Phone _____
Position Desired _____
Employment History _____
 Present Employer _____
 Dates of Employment _____
 Position Title _____
 Previous Employer _____
 Dates of Employment _____
 Position Title _____

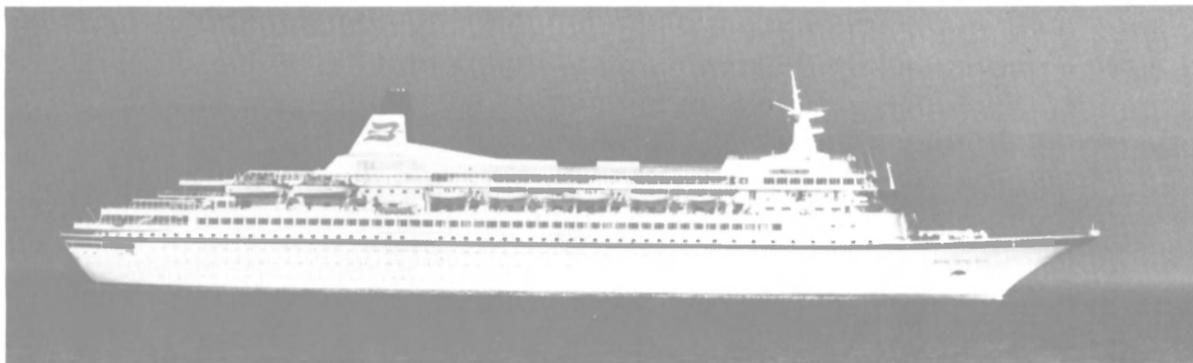
We are an equal opportunity employer.

BilgeMaster Separators Approved By USCG

The United States Coast Guard has recently issued approval numbers for the BilgeMaster® system that controls bilge pollution for vessels operating in United States waters. The USCG approval covers the BilgeMaster I system featuring automatic operation and an optional feature of evaporation of clean water discharge in the diesel engines' exhaust stream. Also covered is the BilgeMaster II system with semiautomatic operation. The 2-gpm, 5-gpm, and 10-gpm sizes of both systems are included in the USCG approvals.

The BilgeMaster system is also certified by many European governments as meeting the standards of the Inter-Governmental Maritime Consultative Organization under IMCO Resolution A.393(X). With the stack evaporation feature, the BilgeMaster I system, without an oil content monitor, meets IMCO standards for "special areas" where zero ppm oil discharge is required. Special areas include the Mediterranean, Baltic, Black and Red Seas. Canada also requires zero ppm oil discharge.

BilgeMaster systems are manufactured by National Marine Service Incorporated, 827 Hanley Industrial Court, St. Louis, Mo. 63144.



"Stretched" version of the Royal Viking Star shown in this artist's rendering depicts a lower, sleeker profile after modification. Addition of a 91-foot midbody will increase length to 674 feet, raise gross tonnage from 22,000 to about 29,000, and increase passenger capacity from 500 to just over 700.

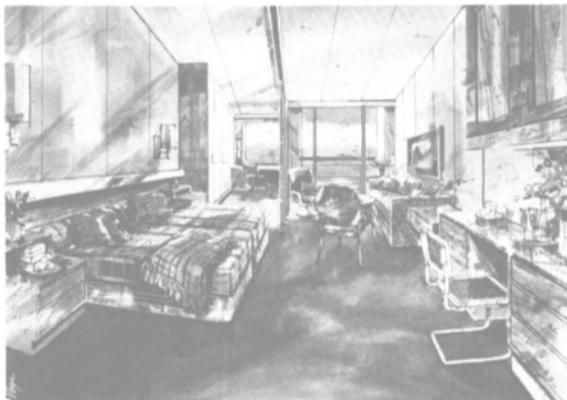
Royal Viking Line To Modify Three Ships— First Will Get \$25-Million Face-Lift At AG "Weser" Yard

Royal Viking Line has announced detailed expansion plans for its three-vessel fleet commencing with the \$25-million extension and refinement of the Royal Viking Star next year at A.G. "Weser" shipyard in Bremerhaven, West Germany.

Present contract terms call for the 22,000-gt vessel to enter drydock at the end of August 1981, where it will undergo modification increasing its size to approximately 29,000 gt and enabling it to accommodate slightly more than 700 passengers (current capacity is 500). Length of the ship will be extended from 583 feet to 674 feet. It will resume service the following December 19 at Fort Lauderdale with a Trans-Canal/Caribbean/Mexico Christmas and New Year cruise.

Royal Viking Line, Inc. president Warren S. Titus stressed that the extension of the vessel will improve the overall quality and will in no way deter from the line's present standard of service.

"We have satisfied ourselves, as the result

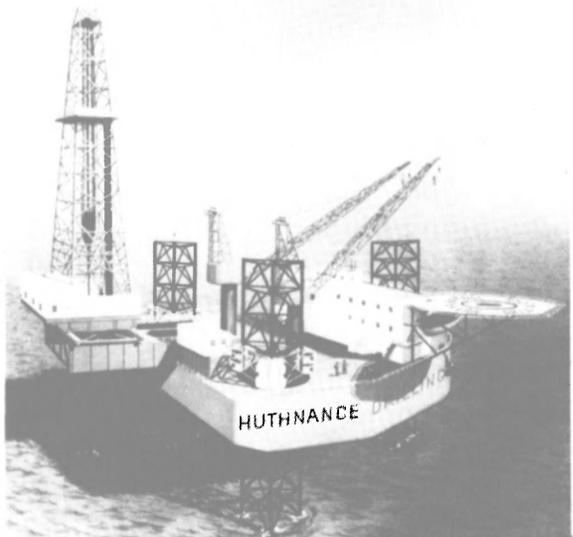


Ten new penthouse suites on Sky Deck of Royal Viking Star will have private verandas with ocean view.

of in-depth study of various modification methods, that we will, in fact, have a better ship. The increased length will appear to lower the profile, making the vessel even more attractive from the exterior, and we will have more flexibility with additional public rooms for entertainment and shipboard activities."

\$18-Million Rig Contract Awarded To Ingalls Yard

Huthnance Drilling Company of Houston has signed a contract with Ingalls Shipbuilding of Pascagoula, Miss., to build a Friede and Goldman design L-780 (Mod 2) jackup drilling rig. The contract is for about \$18 million, exclusive of owner-furnished equip-



Artist's conception of the offshore drilling rig that Ingalls will build for Huthnance Drilling.

ment. The offshore rig, scheduled for delivery in July 1981, is committed and will work in the Gulf of Mexico.

The rig will be capable of drilling to depths of 25,000 feet. The mobile unit will be 180 feet long and 175 feet wide, and will have accommodations for 56 personnel. The rig is designed for stable operation in high seas and a wide variety of soil conditions, ranging from soft soil found near the mouth of the Mississippi River to sandy soils located in current-swept areas, which are conducive to scouring.

Huthnance, with corporate headquarters in Houston and operations office in New Iberia, La., currently owns and operates five drilling rigs in the Gulf of Mexico, and one rig in the North Sea area. With this order, the company has three additional rigs under construction.

Ingalls Shipbuilding, the only North American contractor currently building jackups under Friede-Goldman license, now has four L-780 rigs under construction, as well as two submersible rigs. All six rigs have been signed since February.

Ingalls, a division of Litton Industries, will build the new rigs at its modern, 800-acre facility in Pascagoula, which is also the site for major overhaul and modification of offshore drilling rigs and barges.



ExecuSearch

Professional Recruiters
Specializing in
MARINE • SHIPPING • TRANSPORTATION

We are specialists who know YOUR business

For information contact:
Michael R. Keough
Vice-President
General Manager

Division of Gerri G. Inc.
140 Bay St. / Staten Island NY 10301 • 212-447-5558

CDI MARINE COMPANY

**NAVAL ARCHITECTS
STRESS ANALYSIS
DESIGNERS
STRUCTURAL
PIPING AND HVAC
ELECTRONICS
POWER, LIGHT & IC**

CDI MARINE CO. ONE OF AMERICA'S LARGEST NAVAL ARCHITECT AND MARINE ENGINEERING FIRMS HAS OPENINGS FOR SENIOR MARINE PERSONNEL IN JACKSONVILLE, FLA., PASCAGOULA, MISS., CHARLESTON, S.C., NORFOLK, VA., PHILADELPHIA, PA., GROTON, CONN., BOSTON, MA., AND SAN DIEGO, CAL. SEND RESUME TO: M.U. GONCER, CHIEF NAVAL ARCHITECT

POST OFFICE BOX 40365

JACKSONVILLE, FLORIDA 32211

AND

CALL TOLL FREE

1-800-874-1733

AN EQUAL OPPORTUNITY EMPLOYER M/F
CDI MARINE COMPANY

LICENSED OFFICERS

are sought (deck &/or engine), preferably with tank &/or gas carrier experience to design, develop and operate training programs. Existing courses utilize shiphandling and LNG cargo system simulators. Radar, collision avoidance, and engine room simulators are planned. Full time and seasonal positions available.

Send resume to:

OFFICE OF THE DIRECTOR, MARINESAFETY INTERNATIONAL MARINE AIR TERMINAL, LA-GUARDIA AIRPORT, NEW YORK, NEW YORK 11371, USA

PROJECT MANAGER

For major, established marine and industrial sandblasting and coatings contractor. Applicant must be familiar with all blasting and coatings operations aboard ship as well as land based structures. Will assume responsibility for estimating, work planning, scheduling and direction of personnel and equipment against tight deadlines. Many fringe benefits. Salary commensurate with experience. Send resume in confidence to:

Project Manager
1200 Ponca Street
Baltimore, Maryland 21224



PERSONNEL CONSULTANTS
RECRUITERS OF PROFESSIONAL PERSONNEL FOR INDUSTRY

**EMPLOYMENT SPECIALISTS
IN THE MARINE INDUSTRY**

Job opportunities in marine professions. Naval architects, marine engineers, shore-based marine administration, mechanical, structural, and other disciplines in offshore, marine and shipbuilding industries.

2727 KIRBY, #517 HOUSTON, TEX. 77098
713 / 526-3748

ONTARIO CANADA PORT WELLER DRY DOCKS REQUIRE EXPERIENCED MARINE HULL STEELWORK & OUTFITTING DRAUGHTSPERSONS;

FIRST CONSIDERATION WILL BE GIVEN TO APPLICANTS WHO HAVE COMPLETED A RECOGNIZED APPRENTICESHIP AND HAVE AT LEAST FIVE YEARS MARINE EXPERIENCE AFTER APPRENTICESHIP. MUST BE CAPABLE OF WORKING WITH MINIMUM SUPERVISION FROM CLASSIFICATION RULES AND OWNER'S SPECIFICATIONS.

SALARIES COMMENSURATE WITH TRAINING AND EXPERIENCE. FULL RANGE OF ATTRACTIVE FRINGE BENEFITS. RELOCATION ASSISTANCE PROVIDED.

SEND RESUME CONTAINING COMPLETE INFORMATION ON TRAINING, EXPERIENCE, AGE AND MARITAL STATUS TO PERSONNEL MANAGER, PORT WELLER DRY DOCKS, A DIVISION OF UPPER LAKES SHIPPING LTD., P.O. BOX 3011, ST. CATHARINES, ONTARIO, CANADA, L2R 7C1

INTERVIEWS WITH QUALIFIED APPLICANTS TO BE ARRANGED.

MARINE REPAIR MANAGERS

MacGregor, leader in cargo transfer and access equipment, is seeking management potential candidates to fill openings in rapidly expanding repair organization. Positions available include service engineers, quality assurance inspectors, operations managers and sales managers. Locations on East Coast, Gulf Coast and West Coast. Positions require excellent marine repair background, good knowledge of local area and good people qualities. Salary will be equal to experience; fringe benefits excellent. Send resume with salary history to John H. Slough, General Manager, MacGregor Land & Sea Inc., 135 Dermody St., Cranford, N. J. 07016.

PORT ENGINEER

Port Engineer wanted by major international steamship company headquartered in New York. Requirements: prefer Chief Engineer's license, steam and diesel; previous experience as a Port Engineer a definite plus. Salary commensurate with experience; excellent benefits. Send resume in confidence to:

BOX 701
107 EAST 31 STREET

MARITIME REPORTER/ENGINEERING NEWS
NEW YORK, N.Y. 10016



BIANCO International, Inc.
100 Marxiners Blvd. Suite BB
Mandeville, LA 70448 504/524-8607

Professional
Marine
Recruiting
Service

Career Associates, inc.

Maritime Personnel Consultants

Nationwide professional placement, recruiting & search services. Our computer based data retrieval system assures rapid, effective matching of job requirements and available talent.

ACT NOW!

- ENGINEERING MANAGERS (TANKERS; RO-RO; etc.) to 50K
- OPERATIONS MANAGERS (TANKERS; RO-RO; etc.) to 45K
- PORT CAPTAINS/MARINE SUP'TS (TANKERS; RO-RO; etc.) to 40K
- NAVAL ARCHITECTS/MARINE ENGINEERS to 35K
- DESIGN ENGINEERS (SHIPYARD: ME; EE; etc.) to 35K
- OTHER POSITIONS IN ALL ORGANIZATIONAL FUNCTIONS

Call collect and/or mail job requirements/resumes to:

BOB SLEIERTIN
P.O. BOX 86-A (583 State Road)
No. Dartmouth, Mass. 02747
(617) 997-3311

WANTED: PROJECT ENGINEER

WILL MANAGE AND SUPERVISE MARINE ENGINEERING DEPARTMENT. INDIVIDUAL MUST POSSESS TEN YEARS SEA SERVICE WITH ONE YEAR AS CHIEF ENGINEER IN DIESEL VESSEL. MUST BE A LICENSED SURVEYOR, HAVE TEN YEARS MANAGERIAL EXPERIENCE, EXPERIENCE WITH AMERICAN AND EUROPEAN DIESEL ENGINES, CONTROLLABLE PITCH PROPELLER, AND HYDRAULIC SYSTEMS. MUST BE KNOWLEDGEABLE IN OFFSHORE OIL AND SUPPORT INDUSTRY, A MEMBER OF THE NATIONAL ASSOCIATION OF CORROSION ENGINEERS AND THE SOCIETY OF PETROLEUM ENGINEERS. WILL BE ON TWENTY-FOUR-HOUR CALL WITH EXTENDED INTERNATIONAL TRAVEL. MUST BE ABLE TO INITIATE PROJECTS AND SEE THEM THROUGH FROM INCEPTION TO COMPLETION. SALARY: \$2,800 PER MONTH, MINIMUM FORTY-HOUR WORK WEEK.

PLEASE CONTACT BURT H. KEENAN, OFFSHORE LOGISTICS, INC., 900 EAST UNIVERSITY, LAFAYETTE, LA 70503 (318) 233-1221

AN EQUAL OPPORTUNITY EMPLOYER

Marine

Traffic Analyst

Continued growth of Utah International's ocean shipping subsidiary has created an excellent opportunity for experienced Marine Traffic Analyst.

Will supervise arbitrage analysis, charter party performance, fleet scheduling and contracts of affreightment. Candidates should have maritime academy or related degree and a minimum of 5-8 years' related experience in the bulk shipping industry. Reply in confidence to: W.L. Peterson, 550 California Street, San Francisco, CA 94104. An equal opportunity employer, m/f.

Utah
International

WILSON is STEAMSHIP!

We have served the Shipping Industry exclusively for over 40 years and maintain an active file of people experienced in all of its phases—including Port Engineers, Ship Construction Supervisors, M&R, Sales Engineers (chemicals, coatings, etc.)—to relocate anywhere. Salaries and fees negotiable; inquiries without obligation and in confidence.

WILSON AGENCIES

150 B'way, N.Y.C. 10038 (212) 732-2921
1121 Walker St., Houston 77002 (713) 224-2200



Electrical Engineers

The offshore drilling division of this major natural resources corporation has immediate openings for electrical engineers with at least 2 years experience and working knowledge of offshore drilling rigs.

Applicants for these Houston-based positions should have a working knowledge of industry standards such as IEEE-45, NEC, API, and regulatory agency standards such as USCG and ABS. BSEE required, as well as experience in construction of new drilling rigs.

Zapata offers competitive salaries and excellent employee benefits. For prompt and confidential consideration, forward resume and salary history to: Deborah Hills, Employee Relations Dept., Zapata Corporation, P.O. Box 4240, Houston, Texas 77001.

MARINE

CHECKERS
DESIGNERS
DRAFTSMEN

★
★
★
★
★

STRUCTURAL
PIPING
ELECTRICAL
OUTFITTERS
HVAC

TOP PAY/LONG TERM CONTRACT/EXTENDED
WORK WEEK/PER DIEM/TRAVEL
ALLOWANCE/GULF COAST AREA
SEND RESUME TO

PETROCON, INC.

ENGINEERS & DESIGNERS

Att. B.P. Walker
P.O. Box 3971 Beaumont, Texas 77704
713-842-2417

POSITION WANTED

Aggressive Individual looking for position with established company to head an operations or related department. Experienced in vessel, terminal and intermodal operations for container, RO RO, break bulk + parcel services. 15 years experience in shipping industry at several executive levels and also consulting experience.

Box 703 Maritime Reporter/Engineering News
107 East 31 Street New York, NY 10016

SHIP LAY-UP FACILITIES
TENSAR RIVER DOCK & STORAGE YARD
UP RIVER FROM MOBILE, ALABAMA

FORMERLY U.S. GOVERNMENT RESERVE FLEET
FRESH WATER ANCHORAGE
440 A/C — FIRE PROTECTION — SECURE AREA

16 Ft. Drafts
CALL FOR RATES

205/937-6338 or 205/438-3573

**L-V Marine Consultants Can Find
The Key Personnel You Need!**

Through our coast-to-coast contacts within the marine industry, we will find the specialists you are searching for. We work with senior and middle management, sales, estimators, engineers, dockmasters, planners, ship's superintendents etc.

Our fees are competitive and we are only paid when we are successful. For more information, call Larry Victor at (713) 461-8672.

L-V MARINE CONSULTANTS

12633 MEMORIAL DRIVE, SUITE #40 HOUSTON, TEXAS 77024
(713) 461-8672

DESIGN DRAFTSMAN

Opportunity to grow with a progressive marine products and heavy steel fabrication company located in the beautiful DelMarVa area. Ideal candidate will have several years of experience in a shipyard or heavy steel fabricating shop. Excellent salary and fringe benefits. For confidential consideration, please forward resume and salary history to exclusive search company:

**DAVID-DOUGLAS
MANAGEMENT SERVICES, INC.**
600 EAST JOPPA ROAD
TOWSON, MARYLAND 21204
1-301-821-0977

We send

BEST MARINE SKILLS DIRECT FROM BRITAIN

We have on our files skilled engineers and craftsmen seeing good rewards abroad for permanent positions in the US, as well as short term contracts. We can offer NAVAL ARCHITECTS, MARINE ENGINEERS, SUPERVISORS (mechanical, electrical and repair) and all types of marine personnel, apprenticed and highly skilled PLATERS, BOILER MAKERS, SHIPWRIGHTS, SHIP'S FITTERS, ELECTRICIANS, WELDERS and other trades. Interviews arranged in US or UK. Write your need to:

TRANSCONTINENTAL
18 High Street
Beckenham, Kent, UK
telephone 01 650 2344 telex 888965 LSA LDN

POSITION WANTED

LONG EXPERIENCED MARINE MANAGER AND ENGINEER DESIRES CHALLENGING WORK. EFFECTIVE IN CONSTRUCTION FROM INITIAL SHIPYARD CONTACT TO PURCHASE NEGOTIATIONS INCLUDING CONTRACT AND SPECIFICATION DEVELOPMENT, TO DESIGN DEVELOPMENT, REVIEW AND COMPLETION. INTO CONSTRUCTION SUPERVISION, ALL TESTS AND TRIALS, TO DELIVERY, WITH ALL PROPER REGISTRY DOCUMENTATION. IN OPERATIONS PROVIDE IMPROVED ECONOMY, EFFECTIVENESS AND RELIABILITY WITH REDUCTION OF DOWNTIME. AVAILABLE ON LONG OR SHORT TERM BASIS.

Box 617 Maritime Reporter/Engineering News
107 East 31 Street New York, N.Y. 10016

OCEAN TUG

Built for U.S. Navy 1945
205' x 39' x 19' Draft: 15.5
Diesel Electric Drive
9,000 Mile Range at 12 KNS.
4 Gen. Motors Model 12-278A
Price \$150,000.00 "as is"

THOMAS W. OLSEN & CO.
12955 Biscayne Blvd. N. Miami
305-891-7685 Telex: 519733

FOR SALE

- 1 Towboat, 47' x 18' x 6.2', 1050 HP
- 6 Hopper Barges, 135' x 28' x 10'
- 2 Dock Barges, 85' x 22' x 6'
- 1 Dock Barge Ext., 80' x 22' x 5'
- 1 Barge Winch, 10,000# Hoist
- 2 Dock Winches w/switches & controls

S.M.E., Inc.

P.O. Dr. 1187 — Uniontown, Pa. 15401
Phone 412/438-0536 Telex 866529

**MARINE
RECRUITING DIVISION
Professional Staffing, Inc.**

Professional and Confidential
Recruitment and Placement
of Marine Personnel

Contact
Lenny Morgan, Marine Recruiter
1250 POYDRAS STREET
SUITE 820
NEW ORLEANS, LA 70112
PH. (504) 524-6095

Managers
Naval Architects
Proj. Managers
Engineers
Superintendents
Estimators, Planners
and other
Shore-based
Professionals
in Marine,
Shipbuilding
and Offshore
Industries

TUG CAPTAIN

With extensive experience in harbor and sea island docking required. On hook, winch and alongside twin screw towing experience essential.

Box 702 Maritime Reporter/Engineering News
107 East 31 Street New York, NY 10016

FOR SALE

By

LEVIN METALS CORP.

Two Coast Guard Cutters, "Minnetonka" & "Winona"

Ideal For Conversion To Oceanographic Survey Vessels, Diving and Drilling Platforms.

LOA 254', Beam 43', Draft 17', 2 Boilers, 4000 HP Single Shaft, Turbo Electric. Will Cruise 5,300 Nautical Miles at 18.4 Knots and 13,600 Nautical Miles At 11 Knots. 1,563 Tons Displacement.

Call: **Peter Mitchell, Levin Metals Corp.**
Marine Sales, 1310 Canal Blvd.
P.O. Box 398
Richmond, Calif. (415) - 236-0606



FOR SALE

FERRYBOAT & CHRIS CRAFT BOAT

Sealed bids will be received until July 31, 1980, 2:00 PM EDT, by the Commonwealth of Virginia; Div. of Purchases and Supply; 217 Governor St., Richmond, Va., for the following: FERRYBOAT — NAME: YORK; Engine: Fairbanks Morse Diesel, Double End. Cap.: 20 cars. Wt.: 260 gross or 168 net tons. Length: 106' 5". Beam: 33'. Overall: 44'. Depth: 11' 2". Good condition. Located at Scotland Wharf, Va. See Capt. J.R. Ward, (804) 294-3354. And a CHRIS CRAFT BOAT, 40' SEA SHIP. Wt.: 9 tons. Large open cockpit. Main cabin w/dinette, galley, sleeps 6. Engine: Two 409 Chev. engines F/W cooled mahogany deck. Air conditioned. Located: Va. Institute of Marine Science, Gloucester Point, Va. See Mr. Carter, James or Woody Wilson, (804) 642-2111. For bid forms contact Mr. H.T. Martin, Richmond, Va., (804) 786-3876.

**BARGES FOR LEASE
ON GULF COAST OF FLORIDA**



MISNER BARGE AND BOAT RENTAL, INC.
St. Petersburg Beach, Florida 813-360-7033

FOR SALE

TUGS & BOATS

- 202 — TUG BOAT, Steel Hull 61.8' x 14.7' x 3' Powered by 16V71 Detroit 455 Shaft HP @ 1800 RPM Gear, Twin Disc MG-527 Ratio — 5.17:1
- 203 — TUG BOAT, Steel Hull 38.5' x 10.4' x 7' Powered by 165 HP GM Gray Marine Gear, Twin Disc MG-509 Ratio 3 to 1
- 204 — TUG BOAT, Steel Hull 39.2' x 11' x 2.8' Powered by 165 HP GM Gray Marine Gear, Twin Disc MG-509 Ratio 3 to 1
- 205 — TUG BOAT, Steel Hull 32.2' x 10' x 3.5' Powered by 115 HP GM471 Gear Twin Disc Clutch w/Reverse & Reduction Gear
- 206 — TUG BOAT, Steel Hull 61' x 20 1/2' x 6' Powered by (2) 400 HP GM 12V71 Gear, Twin Disc Mod. 514
- 208 — WORK BOAT, Steel Hull, 35.2' x 13.5' x 4.9' Powered by GM 8 V 61 Gear
- 210 — DREDGE TENDER, Steel Hull 25' x 10' x 3.6' Powered by GM 453 Engine Gear, Twin Disc 2.9 to One Ratio
- 211 — TUG BOAT, Push Type, Steel Hull, Twin Screw, Up & Down Pilot House 52.5' x 20' x 7.1' Powered by (2) 400 HP GM12V71
- 225 — SEA RAY PONTOON BOAT 8' x 20' w/Trailer and Evinrude 30 HP Motor, Carpeted Deck & Canopy Square Hole in Deck for Sounding Purposes

BARGES

- 501 — BARGE, Deck Type Walking Spud 130' x 45' x 10' Used in Heavy Dredging
- 502 — BARGE, Deck Type w/Spuds 160' x 40' x 9' Two 3' x 21" Spuds
- 503 — BARGE, Deck Type w/Spuds 130' x 40' x 8.5' Two 24" Spuds
- 505 — BARGE, Deck Type 140' x 34' x 7.6'
- 507 — BARGE, Deck Type 75' x 23' x 5'
- 516 — BARGE, w/Concrete Deck 140' x 38' x 8' Two 24" Spuds
- 517 — BARGE, Deck Type 290' x 43' x 11.5'
- 518 — BARGE, Deck Type 250' x 34' x 9.5'
- 519 — BARGE, Deck Type 250' x 34' x 9.5'
- 520 — BARGE, Deck Type 250' x 34' x 9.5'
- 522 — BARGE, Deck Type 250' x 34' x 9.5'
- 513 — BARGE, SELF DUMPING SCOW, 4 Compartment 350 CY 96' x 21.8' x 6'
- 560 — BARGE, SELF DUMPING SCOW, 6 Compartment 550 CY 128' x 33' x 10.6'
- 561 — BARGE, SELF DUMPING SCOW, 6 Compartment 550 CY 128' x 33' x 10.6'
- 565 — BARGE, SELF DUMPING SCOW, 6 Compartment 550 CY 128' x 33' x 10.6'
- 526 — BARGE, FUEL, 17,000 Bbl. Capacity 208.6' x 43' x 14.3'

DREDGE

- 102 — ELLICOTT 14" DREDGE, Portable 70' x 25' x 6' w/50' Ladder Powered by 1275 HP CAT 398
- P108 — ELLICOTT SERIES 1000 S/N 32550 Booster Pump Twin 548 GHP GM Gray Marine 12-110-12220 Diesel Engines Falk Six to One Reverse and Gear Reducer



Roger J. Au & Son, Inc.
P. O. Box 1488
Mansfield, Ohio 44901

Contact: Days—Bob Smith or Norman Nestor (419) 529-3213
Evenings—Bob Smith (419) 756-0090
Norman Nestor (216) 839-2688

For Sale: Fishing Boat. 67 feet by 21 feet by 7 feet, equipped for long line and snapper fishing. Twin diesel engines, twin diesel generators. 3,500 gallon fuel capacity, complete electronics. Completely reconditioned in 1979. Will stand rigid inspection. Call AC 904 249 5661 Ask for Vic.

"TOP DOLLARS PAID"

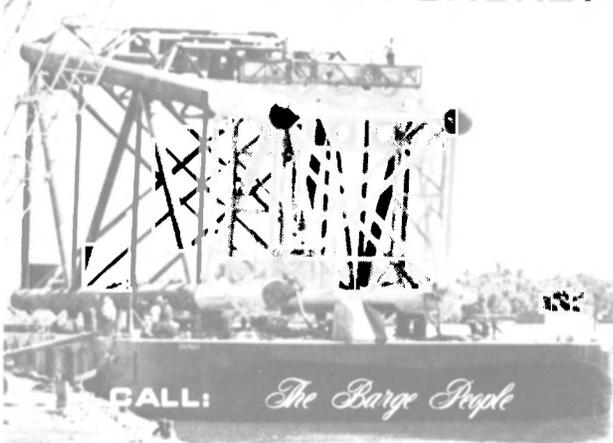
WANTED

All Welding Alloys, Wires and Surplus Rod.

Call: **EAST WEST ALLOYS LTD.**
1090 SOUTH LA BREA AVENUE
LOS ANGELES, CA 90019

(213) 933-5574
PHILA, PA. (215) 649-5805 "JERRY"

TAKIN' IT OFFSHORE?



CALL: *The Barge People*

McDONOUGH MARINE SERVICE

24 HOUR SERVICE

**BARGES FOR RENT
ALL TYPES & SIZES**

NEW ORLEANS 504 949 7586 TELEX 58 4393 P.O. BOX 26206 NEW ORLEANS, LA 70186	HOUSTON 713 452 5887 P.O. BOX 233 CHANNELVIEW, TEX 77530	PARKERSBURG 304 485 4494 TELEX 86 927 P.O. BOX 1825 PARKERSBURG, W. VA 26107
--	--	---

FLOATING DRYDOCK For Sale

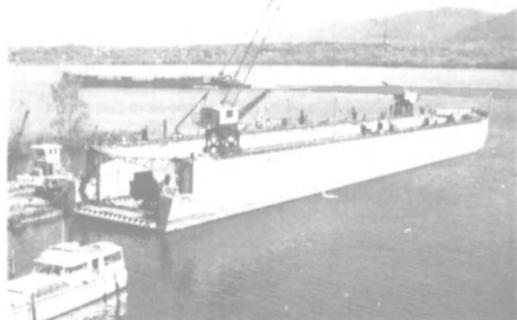
Presently in use Length of basin — 361'
Length overall 400' Gross weight — 2,600 tons
Breadth — 60' Capacity — 2,800 tons
Total depth — 33'
Breadth between wing walls — 42'

Three longitudinal bulkheads. Three transverse bulkheads. Sixteen water tight ballast tanks. Four 24" centrifugal pumps with 50 H.P. vertical shaft motors (20,000 GPM). Thirty electric flood valves. Two manual cross-over valves. Hydraulic stern gate and fly bridges. Manual bilge blocks. 4' keel blocks, full length included. Two 12 ton diesel traveling gantry cranes on tracks on port and starboard weather decks. Dravo built, formerly Navy ARD.

STEEL STYLE SHIPYARD

401 South Water Street
Newburgh, New York 12550 (914) 562-0860

Actual Photograph Price \$450,000.00



FOR SALE

Marine Vessels • Used LCM • Used Vacuum Barge
Call (609) 423-2700 for inspection
PEABODY COASTAL SERVICES
85 Riverview Avenue
Paulsboro, N.J. 08066

NEEDED: MARINE PRODUCTS

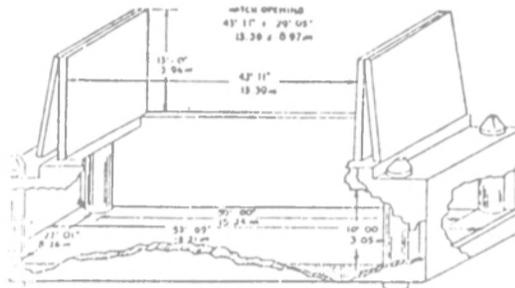
Sales organization in New Orleans needs Marine Lines to sell in Southeast Louisiana. Experienced personnel with excellent contacts looking for companies wishing to expand into this area. Write or call:

Wholesale Marine, Inc.
P.O. Box 8594
Metairie, La. 70011
Tel. 504 888 9487

FOR SALE by

**LEVIN METALS CORPORATION —
RICHMOND, CALIF.**

Former PFEL Lash Lighters, all steel construction, Avon type, 500 S/Ton capacity. Double bottoms, sides, and ends. 61 ft. long, 31 ft. wide, and 14 ft. high. Empty Lighter weighs 91.33 S/Tons. Double accordion doors, hydraulic operated.



Please Call:

Peter Mitchell, Levin Metals Corp.
Marine Equipment Sales
1310 Canal Blvd. — P.O. Box 398
Richmond, Calif. 94807
(415) 236-0606



Powertherm Co. Inc.
75 YEARS TURBINE EXPERIENCE

STEAM TURBINE SPECIALIST

MURRAY WESTINGHOUSE TERRY
ELLIOTT TURBODYNE COPPUS
IN STOCK: 6 — 500 HP WESTINGHOUSE C-225 60 — ELLIOTT TURBINES; 25 THRU 3000 HP
MISCELLANEOUS TERRY, MURRAY & WESTINGHOUSE UNITS

1230 Antoine Dr., P.O. Box 55495, Dept. B
713 682-6777

Houston, Texas 77055
CABLE Powertherm

FLOATING REVOLVING CRANE

35+ Ton American Electric Whirley Crane Mounted on 145' x 50' x 11' Steel Barge. Steel Deck House Electric Capstans, Air Compressor, Welding Machine Lights, Withe Shoreline Power Capability. Recently renovated and may be seen in operation.

Call George Frentz
Industrial Supply Co.
New Orleans, La. 70186
504-944-3371 P.O. Box 26087

MACHINE SHOP FOR SALE

Fully equipped for marine diesel repair Close to Dodge Island, Miami River, and X-ways Send for complete details; Bruce Keretes
Parry Real Estate, 3050 Biscayne Blvd.
Miami, Fla. 33137 (305) 576-5611

Coast Guard & Navy Approved
Marine Valves & Fittings 1/8" to 72"

"When you need it yesterday"

IRON • STEEL • ALUMINUM • BRONZE • STAINLESS • ALLOYS
VALVES



Cross, Angle, Manifold, Cargo, Scupper, Inverted vent, Globe, Angle, Gate, Indicator, Stop, Checks, Check, Cleanouts



"We got it",
"We'll get it", or "We'll make it"

Free Phone: 800-221-9672 In New York State 212-EM 1-2111
Metropolitan Plb. Supply Corp., 5000 2nd St., L.I.C., N.Y. 11101

VARIOUS TECHNICAL SERVICES AVAILABLE TO THE INTERNATIONAL MARINE INDUSTRY

Based upon an extensive background gained through in-depth experience with the structures, cargo systems, diesel and steam propulsion machinery systems, electrical systems, and control systems of a wide variety of vessel types, **INTERNATIONAL MARINE TECHNICAL SERVICES** is making a range of project services available within the general spectrum of activities associated with vessel operation, maintenance, repair, alteration, construction, and planning.

In general terms, these services consist of: on-site supervision of repair, alteration and construction projects; on-site inspection and supervision of the fabrication, alteration, repair/overhaul, and testing of machinery and equipment items, condition and performance evaluations; identification and resolution (trouble-shooting) of in-service problems; evaluation of plans, proposals, and specifications; data acquisition and preparation.

INTERNATIONAL MARINE TECHNICAL SERVICE is a small and extremely flexible organization providing the personalized attention of an experienced engineer to the execution of every project.

Projects have been and can be undertaken anywhere in the world-including at sea with vessels in service.

Detailed information available upon inquiry.

INTERNATIONAL MARINE TECHNICAL SERVICES

2831 Cabrillo Street
San Francisco, California
94121 U.S.A.
Telephone: (415) 387-9871

33 RECTOR ST.
NEW YORK
N.Y. 10006
(212) 269-2515



WORLD
WIDE
DISTRIBUTION

FOR SALE

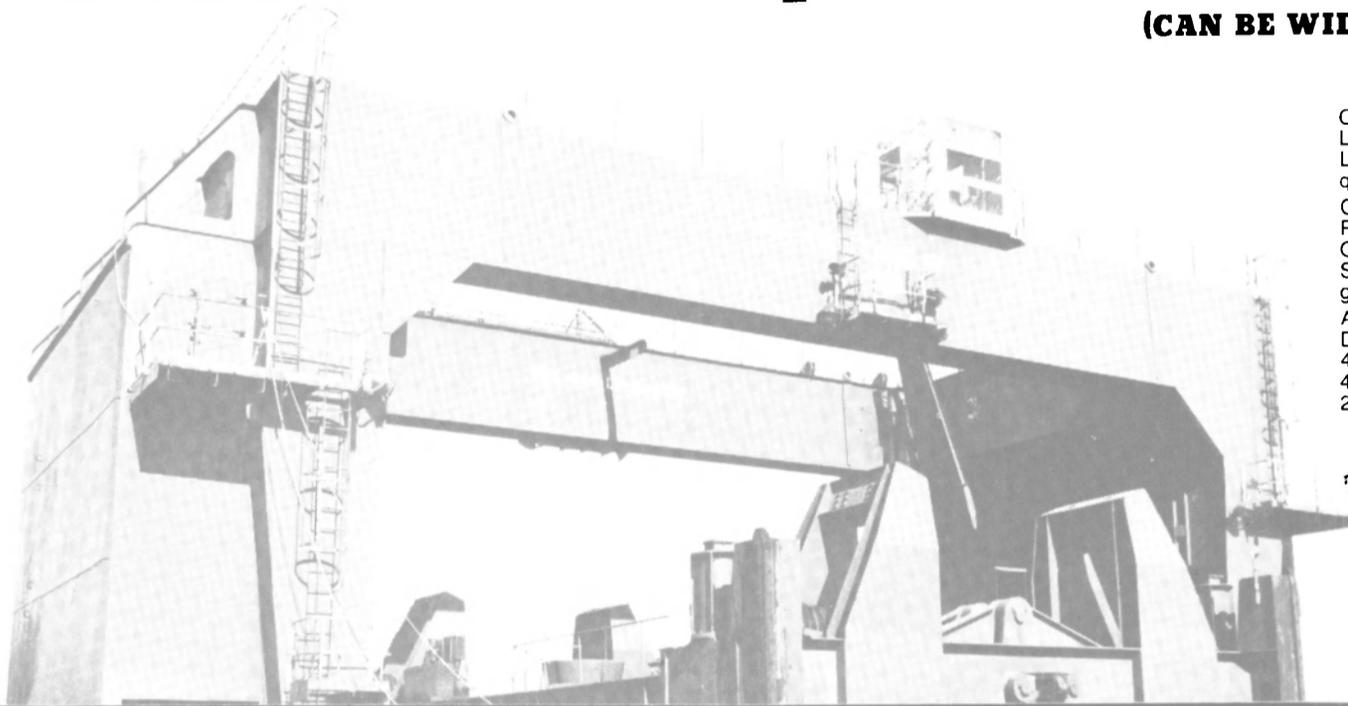
- UNUSED & NEW CONDITION 20 TON ELEC. DRIVEN CLARKE CHAPMAN TOWING WINCH WITH 2 WARPENDS AND WARD LENARD CONTROLS.
- ONE REEL OF 1800' 1 1/2" WIRE ROPE.
- SPRAG GEAR FITTED CAPABLE OF WITHSTANDING STRAINS UP TO THE BREAKING STRAIN OF 1 1/2" DIA. ROPE 1E C66 LONG TONS.
- ELECTRIC MOTOR 30 H.P. AT 440 R.P.M.
- SUPPLY — 230 VOLTS D.C.
- COMPLETE EXTRA PARTS.
- DIMENSIONS:
L = 13'8 1/2" OVERALL
W = 19' OVERALL (to outside of warpend).
H = 6 1/2'
- EST. TODAY'S REPLACEMENT COST OVER \$100,000.
- BARGAINED PRICED AT \$25,000 (U.S.A. FUNDS). F.O.B. VANCOUVER B.C.
- FOR MORE INFORMATION PHONE

604 - 388-7533
604 - 384-3690

For Sale at Zidell

AVAILABLE NOW FOR IMMEDIATE SHIPMENT

Two 500-ton Gantry Cranes 70-foot Track Span (CAN BE WIDENED TO 100 FEET)



Originally Barge Handling. As used on LASH Ships. Manufactured by Alliance. Late Model built to ABS and MARAD requirements.

Good Condition. Immediately Available. Priced at a fraction of New Replacement Cost. Complete with Lifting Beams and Spreader Beams (not shown in photograph)

AC Power Input Through Cable Reel
DC Hoist & Gantry Motors & Controls
4-150 HP-240 Volt DC Hoist Motors
4-150 HP-240 Volt DC Gantry Motors
2-265 KW-500 Volt DC M-G Sets

Units Can Be Modified

Possible other uses:

- 1) Moving heavy equipment
- 2) Dam Sites
- 3) Concrete Prefab plants
- 4) Railroad yards
- 5) Steel plants

Geared Track is also available at extra cost

200 TON/DIESEL ELECTRIC Floating Crane

FOR SALE - RENT - CHARTER

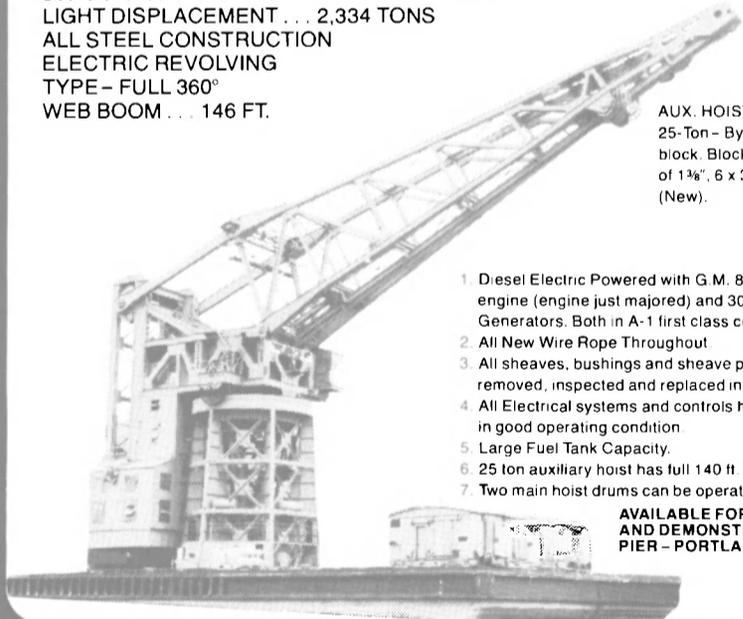
LENGTH OVERALL 140 FT.
BEAM 84 FT.
DRAFT 7 FT.
LIGHT DISPLACEMENT ... 2,334 TONS
ALL STEEL CONSTRUCTION
ELECTRIC REVOLVING
TYPE - FULL 360°
WEB BOOM ... 146 FT.

MAIN HOIST:
200-Ton - By 2 only, 8 part
blocks. Each block carries
2,050 ft. of 1½" 6 x 37 I.P.S.
wire rope (New)

AUX. HOIST
25-Ton - By 1 only 4 part
block. Block carries 1,110 ft
of 1¾" 6 x 37 I.P.S. wire rope
(New).

1. Diesel Electric Powered with G.M. 8-278A diesel engine (engine just majored) and 300 KW, 230 volt Generators. Both in A-1 first class condition
2. All New Wire Rope Throughout
3. All sheaves, bushings and sheave pins have been removed, inspected and replaced in Good Condition
4. All Electrical systems and controls have been placed in good operating condition
5. Large Fuel Tank Capacity.
6. 25 ton auxiliary hoist has full 140 ft. of boom travel
7. Two main hoist drums can be operated independently.

AVAILABLE FOR INSPECTION
AND DEMONSTRATION AT OUR
PIER - PORTLAND, OREGON



FOUR 30-TON Container Cranes 70-foot Track Span

NEW 1970-72

Priced at a fraction of today's new replacement cost. Good Condition. Immediately Available. From LASH Ships. Late Model. Manufactured by PACEO. Suitable for Ship, Barge or Land Use. Manufactured to ABS and MARAD requirements.

AC Power Input with Cable Reel and 350 feet of 500 MCM Cable.

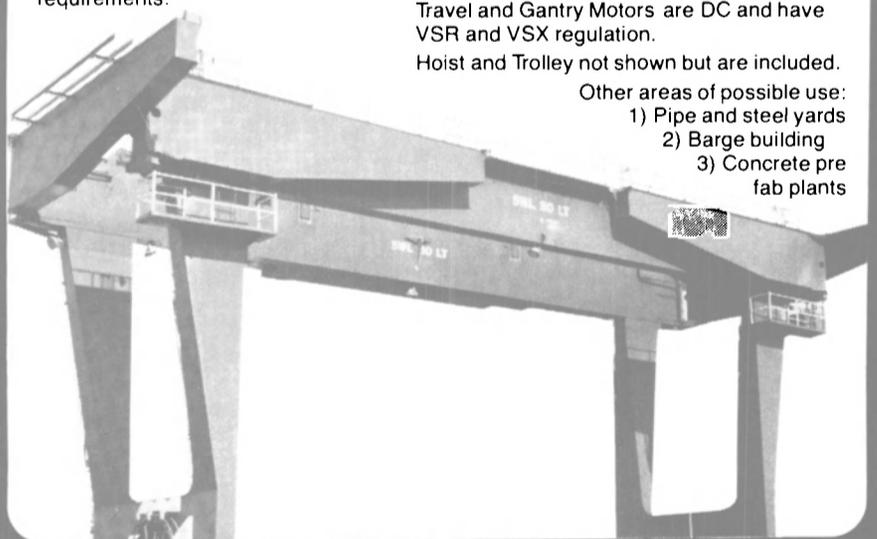
MG set: 250 HP-AC-170 KW 230 DC.

• 200 HP DC Hoist Motor • 100 HP DC Trolley Motor • 2-40 HP DC Gantry Travel Motors • Trolley Travel 275 F.P.M. • Gantry Travel 100 F.P.M. • Hoist Speed: 30 LT @ 85 F.P.M.; 20 LT @ 100 F.P.M.; Empty Spreader 200 F.P.M. • 32'0" Maximum Outstretch • Hoist, Trolley Travel and Gantry Motors are DC and have VSR and VSX regulation.

Hoist and Trolley not shown but are included.

Other areas of possible use:

- 1) Pipe and steel yards
- 2) Barge building
- 3) Concrete pre fab plants



For additional information, brochures or inspection, contact: Hugh Sturdivant, Sales Manager.

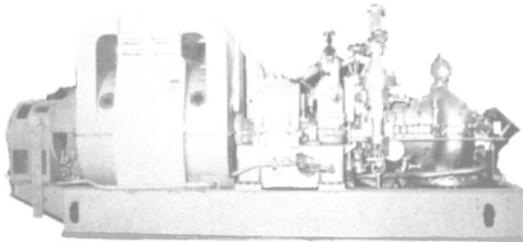
Z
E
ZIDELL

ZIDELL EXPLORATIONS, INC.

3121 S.W. Moody Ave., Portland, Oregon 97201
Phone: (503) 228-8691 • Telex 36-0503 • Cable "Zidell"

FOR SALE by

LEVIN METALS CORPORATION —
RICHMOND, CALIF.



4 Westinghouse, Ship Service, Turbo Generators 1250 KW, 1563 KVA, 2010 Amps, 450 Volts, A.C., 3-Phase, 60 cycles, 1200 RPM.

Turbin Data: 8050 RPM, 525 PSI

These machines are complete and available from stock. Inside storage.

Please Call:

Peter Mitchell, Levin Metals Corp.
Marine Equipment Sales
1310 Canal Blvd. — P.O. Box 398
Richmond, Calif. 94807
(415) 236-0606

SOLD Through your CHANDLER

99.99 + %
pure **ZINC** For
Cathodic
Protection

Meets Military Spec. Mil-A-18001 (ships)

Anodes • Bars • Circles • Rings • Rods IN STOCK

SMITH and McCROCKEN, Inc.

153 Franklin St. Dept. MR Call (212) 925-2170
New York, N.Y. 10013 FOR FAST DELIVERY

Surplus Anchors

Government Surplus Anchors, 3000 # Navy L. W. T. Danforth Type, Priced to Sell

Industrial Supply Co.
P. O. Box 26087 New Orleans, La. 70186
504-944-3371

GRIPPERS

For Jack-Up Barges

Sometimes Known As:
Gripper Bags - Gripper Slugs
or Gripper Tubes

We manufacture rubber inflatable grippers for several construction companies that use Jack-Up Barges. Our customers state that our grippers are superior to those which they had been using. If you are having any problem with quality, price or delivery of your grippers, please write or call direct:

(203) 677-7388.

THE PERMA-TYPE RUBBER
COMPANY / P.O. Box 448
FARMINGTON, CONN. 06032

HYDRAULICS

SERVICE

REPAIR

PARTS

CONSULTING

CUNNINGHAM MARINE
HYDRAULICS CO., INC.

201 Harrison St. • Hoboken, N.J. 07030

Phones: Hoboken (201) 792-0500

Phones: New York (212) 267-0328

TWX 710-730-5224 CMH HBKN



Workboat Windlass & Winch
Model 500-D/3000-M

For Sale by

Coscol Marine Corporation

Single overhung Wildcat and two wireline drums, power by single diesel engine and mounted on a welded steel structure as a unit. Air operated controls. Located in: Corpus Christi, Texas

For complete specifications call:

R. V. Browning 713/877-6238 or, write:

Coscol Marine Corp.
9 Greenway Plaza
Houston, Texas 77046

NOTICE OF PUBLIC AUCTION

MONDAY, JULY 21, 1980 at 10:00 A.M.
PST at Pier F

Todd Pacific Shipyards
Los Angeles Division

710 Front Street, San Pedro, California

SIDE CAST (BOOM) SUCTION DREDGE

SS "SEALANE"

(Ex-PAN GEORGIA) (Ex-GOLD CREEK)

Single screw (Ex T2-SE-A1 Tanker) Machinery aft. LOA 487'0"; LBP 466'6". Molded beam 68'. Molded depth 39'3". Draft 22'6 3/4". Freeboard 16'10". Gr. tons 6663. Net tons 3790. DWT 8502. Displ: 14,280. Solid non-ferrous propeller. Tailshaft liner continuous.

Built Alabama DD & Shipbldg. Co., Mobile, AL. Hull #341 June 1945. Vessel shortened by Todd Shipyards, New York March 1947. (Transverse cuts made 3'0" fwd. of Fr 46 and 3'0" fwd. of Fr 59 — 36'6")

Two (2) Foster Wheeler boilers built Sept. 1941; installed Jan. 1948. Heating surface 17586-525 PSI.

Converted to side cast (boom) type dredge by National Bulk Carriers, Kure Shipyard Division, Japan, June 1956. Orig. turbo-electric main drive equip. removed. Engine room modified to receive Joshua Hendy 2-cyl. steam turbine and dbl. reduction gears built May 1946. SHP 9355 AB Dredge Service May 1960. Vessel in lay-up since approx. 1964.

Replacement D.R. gears installed 1970. HP & LP turbine rotors reconditioned 1970. Vessel removed from class 1978.

The S.S. Sealane is being docked on account of Seaway Carrier Corporation, 784 Nyes Place, Laguna Beach, California 92651 and Sealane Aggregate, Incorporated, Route 1, 394D, Lake Village, Arkansas 71853.

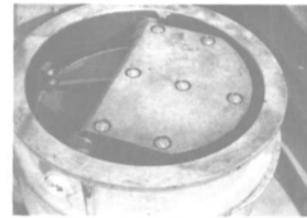
The S.S. Sealane is being sold on an "as is" and "with all faults" basis. The seller makes no warranty as to the merchantability or fitness for any particular purpose of the S.S. Sealane. Twenty-five percent (25%) of the sale price must be paid in cash or certified check at time of sale, the balance to be paid within thirty (30) days of the date of the sale. As a condition to the sale the buyer must agree to remove the S.S. Sealane from Todd premises as soon as commercially practicable and not to exceed thirty (30) days from the date of the sale.

Bid subject to acceptance by Todd Pacific Shipyard Corporation.

Contact F. B. McElhill, Director of Administration, for any further information.

Telephone (213) 832-3361 — TWX 910-345-6788

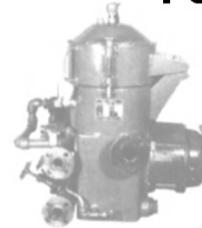
FOR SALE
24" VALVES
SWING CHECK — WAFER TYPE
NEW — UNUSED



150 lb. cast steel, stainless steel trim. ABS & Coast Guard approved. Mfg. in 1975 by U.S. Manufacturer. Substantial savings.

NICOLAI JOFFE CORPORATION
9171 Wilshire Boulevard Beverly Hills, Ca. 90210
(213) 878-0650 Telex 67-4638

RECONDITIONED—GUARANTEED
**DELAVAL
PURIFIERS**



LUBE OR FUEL OIL

225 G.P.H.

55N-13 (Lube Oil)
55N-23 (Fuel Oil)

300 G.P.H.

65N-13 (Lube Oil)
65N-23 (Fuel Oil)

2 HP — 440/3/60/1750 RPM —
Frame 224

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
Marine Warehouse (301) 752-1077

FROM OUR QUICK DELIVERY DEPARTMENT

FOR T-2 TANKERS



- Rotors for G.E. 525KW DORV-325M aux. turbo-gen. sets. Also rotors for Westinghouse 538KW turbo-gen. sets.



- G.E. Main Turbine Rotors — Lynn and Schenectady
- 75/55 KW Excitation Armatures for auxiliary generators



- G.E. Revolving Field — August 1979 Certificate — for immediate delivery
- 1 Main circulating pump — complete — Ingersoll-Rand 24CVM. New certif. 1979 — completely rebuilt.
- Forced Draft Fan Motors — Westinghouse
- Cargo Pumps — 6GTM — 2000 GPM @ 280' head

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
Marine Warehouse (301) 752-1077

STRAINERS • EXPANSION JOINTS • COUPLINGS

MACHINING • WELDING • BRAZING
 FABRICATION • DRILLING
 THREADING • FACING • TAPPING
 GROOVING • CUTTING • BEVELLING

Piping Specialties • Special Valves • Special Fittings
 Plate • Bar • Tubing • Rod
 Iron • Steel • Bronze • Stainless • Aluminum • Monel • Alloys

JOBGING and PRODUCTION WORK

Send us your order and "Watch The Chips Fly"
 "We got it", "We'll get it" or "We'll make it"
 "If you can draw it", "we can make it"
 "We weld everything, but a broken heart"

METROPOLITAN MASTER MACHINISTS
 5000 2nd St., Long Island City, N.Y. 11101

Free Phone: 800-221-9672 In N.Y. State: 212-EM 1-2111

PIPE • VALVES • FITTINGS • FLANGES

**PORTABLE - EMERGENCY
 3" DIESEL GENERAL
 SERVICE AND FIRE PUMP**

**70 GPM @ 105 PSI
 WITH HAND PRIMING**



ENGINE: Mfg. by V.M.—air-cooled model HR192A—13.5 HP—3000 RPM—rope start (crank optional). **PUMP:** Hale—cast iron—3"—N.P.T.—hand priming—weight 410 lbs. Carrier mounted with 2 pneumatic tires for easy handling or 2-man hand carry. Ideal for oil barge, tankers, dockside, etc use.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

**15½" & 16" CLEAN BRASS
 4-DOG MARINE
 PORTLIGHTS**

**15½" CLEAR OPENING
 16" CLEAR OPENING**

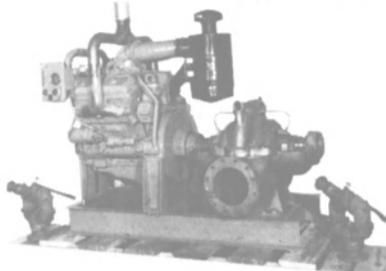


Recently carefully hand removed from ocean vessels. Suitable for re-use on shipyard conversions or for marine ornamental use. Heavy marine standard glass . . . clear or can be furnished frosted for use in special locations.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

DIESEL DRIVEN FIRE PUMP



3510 GPM @ 350' HEAD or 161.7 PSI

Pump: 10" x 8" horiz. split case. Also 2000 GPM @ 110 PSI and 1450 RPM. Unused—all steel—will sell separately. Diesel: GM 6V-71 or 6-71 in-line, radiator or heat exchanger cooled.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

**CROUSE HINDS
 500 WATT
 FLOODLIGHTS**



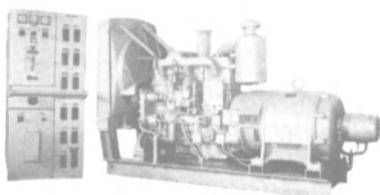
NEW — UNUSED

Heavy duty cast aluminum marine floodlights—500 watts incandescent NEMA 5-beam spread—ADE 14—meets Marine Underwriters Lab Standard 595. Corrosion-resistant—hinged door.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

**CUMMINS 75KW 93.8 KVA
 DIESEL GENERATOR SET**

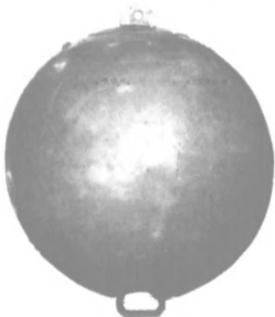


440/3/60 Generator—1200 RPM—driven by 6-cylinder Cummins diesel with electric starting. Free standing switchgear.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

**NEW — UNUSED
 SPHERICAL
 MOORING
 BUOYS**



About 58" diam. With tieplates top & bottom. Est. wt 680 lbs each.

\$349.00
 each F.O.B. BALT.

CYLINDRICAL BUOYS

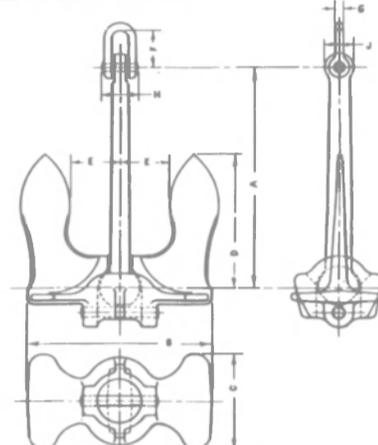
3 Available — 5 ft X 9 ft — with wood bumpers

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

ANCHORS — CHAIN

DETACHABLE LINKS
 PEAR-SHAPED DETACHABLE LINKS



LARGE BALDT-TYPE ANCHORS

16000 LBS/12000 LBS/8000 LBS/3000 LBS

10 EA. 5" x 15" I.D. STEEL RINGS
 3 EA. R.P. ANCHOR SHAX 3 7/8 STK, 3 7/8 PIN

NEW CHAIN

10 X 90 Ft. 3" DILOK CHAIN — ABS
 9 X 90 Ft. 2" DILOK CHAIN — ABS

NEW SWIVELS

3 EA. 2 5/8 — 3" E&E SWIVELS
 13 EA. 3 1/8 DETACHABLE LINKS

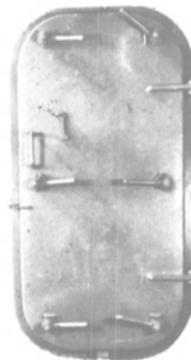
PEARSHAPED DETACHABLE LINKS
 25 EA. #7 — 17 EA. #5

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

**FOR SALE
 NEW WATERTIGHT DOORS**

Steel Dogs



6-Dog right and left hand hinged doors with frames. Constructed of 1/4" steel plate and meet Coast Guard regulations for above deck as well as below deck use. All dogs are bronze bushed.

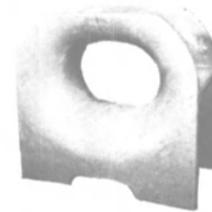
SIZE

26"x48" 26"x66"
 26"x60" 30"x60"

EACH DOOR

IMMEDIATE DELIVERY

**NEW 7" RADIUS
 PANAMA CHOCKS**



(MEET PANAMA REGULATIONS)
 14" X 10" CLEAR OPENING

With extended legs for welding to deck. 14" Wide on base — length 28" — height 27 1/4". IMMEDIATE DELIVERY FROM STOCK.

**NEW UNUSED 12" X 6½" PANAMA CHOCKS
 FOR SMALL VESSELS**



Closed chocks — 12" X 6½" inside opening — 23" overall outside — 8" high — 15" high — 7" radius — weight 110 lbs. IN STOCK.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
 Marine Warehouse (301) 752-1077

BUYERS DIRECTORY

AIR & GAS PURIFICATION

Robbins Aviation, Inc., 3817 Santa Fe Ave., Vernon, CA 90058

AIR CONDITIONING AND REFRIGERATION—REPAIR & INSTALLATION

Adrick Cooling Corp., 30 B. Remington Blvd., Ronkonkoma, N.Y. 11779

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

R.W. Fernstrum & Company, 1716 Eleventh Avenue, Menominee, MI 49858

James D. Nall Co., Inc., 3195 NW 20th Street, Miami, FL 33142

York Division (Borg-Warner Corp.), P.O. Box 1592, York, PA 17405

BEARINGS—Rubber, Metallic, Non-Metallic

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

Lucian Q. Moffitt, Inc., P.O. Box 1415, Akron, Ohio 44309

Morse Chain Company, Div. Borg Warner, So. Aurora St., Ithaca, N.Y. 14850

Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wisc. 53186

BLASTING—Cleaning—Equipment

Butterworth Systems Inc., 224 Park Ave., Florham Park, NJ 07932

GMMC/Porta-Shotblast, 1112 Davidson Road, Nashville, Tenn. 37205

BOILERS—Tube Cleaning

Combustion Engineering, Inc., Windsor, Connecticut 06095

BRAKES

Goodyear Aerospace (Industrial Brakes Division), Box 477, Berea, KY 40403

BROKERS

Capt. Astad Company, Inc., P.O. Box 53434, New Orleans, La. 70153

Crown Assets Disposal Corp., 300 Notre Dame St., Ville St.-Pierre, Quebec, Canada H8R 3Z6

Daniel Yacht & Ship Brokerage Ltd., 1300 S.E. 17th St., Ft. Lauderdale, FL 33316

Hughes Bros., Inc., 17 Battery Pl., New York, N.Y. 10004

Mowbray's Tug and Barge Sales Corp., 21 West St., N.Y., N.Y. 10006

Max Rouse & Sons, Inc., P.O. Box 5250, Beverly Hills, CA 90213

BUNKERING SERVICE

Belcher Company of New York, Inc., 48-02 54th Avenue, Maspeth, NY 11378

Gulf Oil Trading Co., 1290 Ave. of the Americas, N.Y., N.Y. 10019

CARGO TRANSFER & ACCESS EQUIPMENT

MacGregor-Comarain, Inc., 135 Dermody St., Cranford, N.J. 07016

CHOCKING SYSTEMS

Philadelphia Resins Corp., 20 Commerce Drive, Montgomeryville, Pa. 18936

CLOCKS

Wampe Chronometerwerke Germany, Stubbenhulk 25 2000 Hamburg 11, Germany

COILS—Cooling, Heating, Ventilating

Colmac Coil, Inc., Colville, Wash. 99114

CONTAINERS—Cargo Container Handling

Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

CONTROL SYSTEMS—Monitoring

Arnessen Marine Systems, Inc., One Battery Plaza, New York, NY 10004

Henschel Corporation, 14 Cedar St., Amesbury, Mass. 01913

Megasystems, Inc., 5909 West 130th Street, Cleveland, OH 44130

Seatronic Engineering & Mfg. Co., 1230 E. Joppa Rd., Towson, MD 21204

Sperry Marine Systems Div., Charlottesville, Va., 22901, Division of Sperry Rand Corp.

Transamerica Delaval, Inc., Gem Sensors Div., Spring Lane, Farmington, CT 06032

COUPLINGS

Bird-Johnson Co., 110 Norfolk St., Walpole, MA 02081

CRANES—HOISTS—DERRICKS—WHIRLEYS

Clyde Iron, a unit of AMCA International Corp., Suite 102, 2300 West Loop South, Houston, TX 77027

M. P. Howlett, Inc., 410 32nd St., Union City, N.J. 07087

J.D. Neuhaus, Witten-Heven, Hebezeuge, D 5810 Witten Heven, West Germany

Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

DECK COATINGS—Non-skid

Selby, Battersby & Co., 5220 Whiby Ave., Philadelphia, PA 19143

DECK MACHINERY—Cargo Handling Equipment

Appleton Machine Co., Marine Division, 618 S. Oneida St., Appleton, WI 54911

Markey Machinery Co., Inc., 79 S. Horton St., Seattle, Wash. 98134

New England Trawler Equipment Co., 291 Eastern Ave., Chelsea, MA 02150

DIESEL ACCESSORIES

B & W Marine Service, One State Street Plaza, New York, N.Y. 10004

General Thermodynamics Corporation, 210 South Meadow Road, P.O. Box 1105, Plymouth, Massachusetts 02360

Golten Marine Company, Inc., 162 Van Brunt Street, Brooklyn, NY 11231

DOORS—Watertight—Joiner

Walz & Krenzer Inc., 400 Trabold Road, Rochester, N.Y. 14624

DRAFTING EQUIPMENT

AM Bruning, 1834 Walden Office Square, Schaumburg, IL 60196

ELECTRICAL EQUIPMENT

Argo Marine, Div. of Argo Intl., 140 Franklin St., New York, N.Y. 10013

Oceanic Electrical Mfg. Co., Inc., 159 Perry Street, New York, N.Y. 10014

Port Electric Supply, 157 Perry Street, N.Y., N.Y. 10014

Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

EMULSIFICATION SYSTEMS

American United Marine Corp., 575 Madison Ave., New York, NY 10022

EQUIPMENT—Marine

Argo Marine, Div. of Argo Intl., 140 Franklin St., New York, N.Y. 10013

Baldt, Inc., P.O. Box 350, Chester, PA 19016

Comet Marine Supply Corp., 157 Perry St., New York, N.Y. 10014

Kearfoot Marine Products, 550 South Fulton Ave., Mount Vernon, N.Y. 10550

Rockwell International, Power Tool Division, 400 N. Lexington Ave., Pittsburgh, PA 15208

Schnitzer-Levin Marine Co., 445 Littlefield Ave., So. San Francisco, CA 94080

Sudoimport, 5 Kalyaevskaya, Moscow K-6, USSR

Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wisc. 53186

EVAPORATORS

Riley-Beard, Inc., P.O. Box 1115, Shreveport, La. 71130

EXPANDED METALS

Washington Iron Works, 1500 Sixth Avenue South, Seattle, WA 98134

FANS—VENTILATORS—BLOWERS

Hartzell Propeller Fan Company, 901 S. Downing Street, Piqua, OH 45356

Joy Manufacturing Co., 338 So. Broadway, New Philadelphia, Ohio 44663

Zidell Explorations, 3121 S.W. Moody St., Portland, Ore. 97201

FENDERING SYSTEMS—Dock & Vessel

Hughes Bros., Inc., 17 Battery Place, New York, N.Y. 10004

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

Morse Chain Company, Div. Borg Warner, So. Aurora St., Ithaca, N.Y. 14850

Seaward International, Inc., 6269 Leesburg Ave., Falls Church, Va. 22044

FINANCING—Leasing

Continental Illinois National Bank, 231 S. LaSalle, Chicago, IL 60693

General Electric Credit Corp., P.O. Box 8300, Stamford, Conn. 06904

Greyhound Leasing & Financial Co., Greyhound Tower, Phoenix, AZ 85077

Kidder, Peabody & Co., Inc., 10 Hanover Square, New York, N.Y. 10005

Salomon Brothers, One New York Plaza, New York, N.Y. 10004

Warburg Paribas Becker, Inc., 2 First National Plaza, Chicago, Ill. 60670

FITTINGS & HARDWARE

Custom Alloy, 2040 N. Loop W., Houston, TX 77018

Robvon Backing Ring Co., 675 Garden St., Elizabeth, N.J. 07207

FURNITURE

Bailey Joiner Co., Inc., 74 Sullivan Street, Brooklyn, N.Y. 11231

IDT Corp. (Intersystems Design & Technology Corp.), P.O. Box 1590, Summerville, S.C. 29483

GANGWAYS

Rampmaster Inc., 1226 N.W. 23rd Ave., Fort Lauderdale, Fla. 33311

HATCH & DECK COVERS—Chain Pipe

MacGregor-Comarain, Inc., 135 Dermody St., Cranford, N.J. 07016

Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696

Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027

Julius Mock & Sons, Inc., 20 Vesey St., New York, NY 10017

HULL CLEANING

Butterworth Systems Inc., 224 Park Ave., Florham Park, N.J. 07932

Phosmarin Equipment (Phocenne Sous-Marine S.A.), 21 Boulevard de Paris, 13002 Marseille, France

Sub Enterprises, Inc., P.O. Box 16531, Irvine, CA 92713

HYDRAULICS

Voss, Inc., Building J, 7029 Huntley Road, Columbus, Ohio 43229

INERT GAS—Generators—Systems

Camar Corporation, P.O. Box 460, Worcester, MA 01613

Foster Wheeler Boiler Corp., 110 So. Orange Ave., Livingston, N.J. 07039

Fredrikstad mek. Verksted, N. American Agents, American United Marine Corp., 575 Madison Ave., New York, N.Y. 10022

INFORMATION—Marine

Maritime Data Network, 300 Broad Street, Stamford, CT 06901

INSULATION—Cloth, Fiberglass

Bailey Carpenter & Insulation Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

Dupont Company, Nemours Bldg.-RM C31H6, Centre Rd. Bldg., Wilmington, DE 19898

IDT Corp. (Intersystems Design & Technology Corp.), P.O. Box 1590, Summerville, S.C. 29483

INSURANCE

Adams & Porter, 1819 St. James Place, Houston, Texas 77027

Adams & Porter, 5 World Trade Center, Suite 6433, New York, N.Y. 10048

Alexander & Alexander, Inc., 1185 Ave. of the Americas, New York, N.Y. 10036

Midland Insurance Co., 160 Water St., New York, N.Y. 10038

Whitehall Brokerage, Inc., 17 Battery Place, New York, NY 10004

KEEL COOLERS

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

LADDERS

Duo-Safety Ladder Co., 513 West 9th Ave., P.O. Box 497, Oshkosh, Wisc. 54901

LIGHTING EQUIPMENT—Lamps, Fixtures, Searchlights

Oceanic Electrical Mfg. Co., 157 Perry Street, New York, N.Y. 10014

Oreck Corp., 100 Plantation Rd., New Orleans, LA 70123

Perko Inc., P.O. Box 6400D, Miami, Florida 33164

Phoenix Products Company, 4785 North 27th Street, Milwaukee, WI 53209

Port Electric Supply Corp., 157 Perry Street, New York, N.Y. 10014

LNG CONTAINMENT

McDonnell Douglas Astronautics Co., 5301 Bolsa Ave., Huntington Beach, CA 92647

LUMBER

R.N. Templeman, Inc., 3000 Perdido St., New Orleans, LA 70119

MACHINE TOOLS

Climax Manufacturing Company, P.O. Box 230, Newberg, OR 97132

Master Machine Tools, Inc., 1300 East Avenue A, Hutchinson, Kansas 67501

MACHINERY MAINTENANCE, REPAIR, OVERHAUL, AND TESTING

A.L. Burbank & Co., Ltd., Marine Thermostat Dept., One World Trade Center, Suite 2811, New York, NY 10048

General Electric Company—Bldg. 2, Rm 216, Schenectady, N.Y. 12345

Schnitzer-Levin Marine Co., 445 Littlefield Ave., So. San Francisco, CA 94080

MOORING SYSTEMS

Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110

NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS

Advanced Marine Enterprises, Inc., Suite 500, 2341 Jefferson Davis Highway, Arlington, Va. 22202

Agemar, Avenida 3E No. 71-51, Edif. Acuario (Planta Baja) Apartado 1465, Maracaibo, Venezuela

American Standards Testing Bureau, Inc., 40 Water Street, New York, N.Y. 10004

Amirikian Engineering Co., Chevy Chase Center Bldg., Suite 505, 35 Wisconsin Circle, Chevy Chase, Md. 20015

J.L. Bludworth, 8207 Glen Lach, Houston, Texas 77061

Del Breit Inc., 326 Picayune Place (Suite 201), New Orleans, LA 70130

CCS Marine Associates Ltd., 2784 Crescentview Drive, N. Vancouver, B.C. Canada V7R2V1

C.D.I. Marine Co., Regency East, Suite 222, 9951 Atlantic Blvd., Jacksonville, Florida 32211

CTS & Associates, 11320 S.W. 108 Court, Miami, Fla. 33176

CADCOM, 107 Ridgely Ave., Annapolis, MD 21401

Childs Engineering Corp., Box 333, Medfield, Mass. 02052

John P. Colletti & Associates, P.O. Box 13378, Pittsburgh, PA 15243

Columbia-Sentinel Engineers Western, Inc., P.O. Box 21542, Seattle, WA 98111

Crandall Dry Dock Engrs., Inc., 21 Pottery Lane, Dedham, Mass. 02026

Crane Consultants Inc., 15301 1st Ave., So. Seattle, Washington 98148

C.R. Cushing & Co., Inc., One World Trade Center, New York, N.Y. 10048

Norman N. DeJong & Associates, Inc., 1734 Emerson St., Jacksonville, Fla. 32207

Design Associates, Inc., 3308 Tulane Ave., New Orleans, La. 70119

Designers & Planners Inc., One State Street Plaza, New York, N.Y. 10004

Parker C. Emerson & Associates, 17935 Cardinal Drive, Lake Oswego, Oregon 97034

Christopher J. Foster, Inc., 16 Sintsink Drive East, Port Washington, N.Y. 11050

Friede and Goldman, Ltd., 225 Baronne St., New Orleans, La. 70112

Gibbs & Cox, Inc., 40 Rector Street, New York, N.Y. 10006

John W. Gilbert Associates, Inc., 58 Commercial Wharf, Boston, Mass. 02110

L.R. Glasten & Associates, Inc., 610 Colman Bldg., 811 First Ave., Seattle, Wash. 98104

Phillip Gresser Associates, Ltd., 3250 South Ocean Blvd., Palm Beach, FL 33480

Morris Guralnick Associates, Inc., 620 Folsom Street, Suite 300, San Francisco, CA 94107

Hampton Roads Engineering, Inc., 119 E. Little Creek Rd., Norfolk, VA 23505

J.J. Henry Co., Inc., Two World Trade Center—Suite 9528, New York, N.Y. 10048

Hydronautics, Incorporated, 7210 Pindell School Road, Howard County, Laurel, Maryland 20810

Jantzen Engineering Co., 6655-H Amberton Drive, Baltimore, Md. 21227

James S. Kroger & Co., Inc., 3333 Rice St., Miami, Fla. 33133

Littleton Research and Engrg. Corp., 95 Russell St., Littleton, Mass. 01460

Alan C. McClure Associates, Inc., 2600 South Gessner, Houston, TX 77063

John J. McMullen Associates, Inc., 1 World Trade Center, New York, N.Y. 10048

Maclear & Harris, Inc., 28 West 44 Street, New York, N.Y. 10036

Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, Ohio 44114

Marine Design Inc., 401 Broad Hollow Road, Rte. 110, Melville, N.Y. 11746

Marine Technical Associates, Inc., 195 Paterson Avenue, Little Falls, NJ 07424

Maritime Service Company, 1357 Rosecrans St., Suite B, San Diego, CA 92106

Rudolph F. Matzer & Associates, Inc., 13891 Atlantic Blvd., Jacksonville, Fla. 32225

Mechanical Resources Inc., 191 Cambridge Avenue, Jersey City, N.J. 07307

George E. Meese, 194 Acton Rd., Annapolis, Md. 21403

Metritape, Inc., 33 Bradford Street, Concord, MA 01742

Nelson & Associates, Inc., 1405 N.W. 167th Street, Miami, FL 33169

Nickum & Spaulding Associates, Inc., 911 Western Ave., Seattle, WA 98104

Robert B. Niederberger, P.E., 507 Evergreen Road, Severna Park, MD 21146

Norgaard and Clark, 114 Sansome St., San Francisco, CA 94104

Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, La. 70114

PRC Guralnick, 5252 Balboa Ave., San Diego, CA 92117

Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156

S.L. Petchul, Inc., 1380 SW 57th Ave., Fort Lauderdale, Fla. 33317

M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013

and 657 Mission St., San Francisco, Calif.

Sargent & Herkes, Inc., 611 Grover St., New Orleans, La. 70130

Schm

Simrad Inc., 1 Labriola Court, Armonk, N.Y. 10504
SI-TEX, P.O. Box 6700, Clearwater, FL 33518
Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.
Texas Instruments Inc., P.O. Box 226080, M/S 3107, Dallas, TX 75265
Tracor, Inc., Industrial Products Div., 6500 Tracor Lane, Austin, Texas 78721

OILS—Marine—Additives

Ferrous Corporation, P.O. Box 1764, Bellevue, WA 98009
Gulf Oil Company—U.S. (Domestic Oils), 909 Fannin Street, Houston, TX 77001
Gulf Oil Trading Co., 1290 Ave. of Americas, New York, N.Y. 10019
Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002
Mobil Oil Corporation, 150 East 42nd St., New York, N.Y. 10017
Texaco, Inc. (International Marine), 135 East 42nd St., N.Y., N.Y. 10017

OIL/WATER SEPARATORS

Alfa-Laval, Inc., 2115 Lindwood Avenue, Ft. Lee, NJ 07024
Butterworth Systems Inc., 224 Park Ave., Florham Park, N.J. 07932

PAINTS—COATINGS—CORROSION CONTROL

Belzona Molecular Metalife Inc., 224 7th Street, Garden City, NY 11530
"CONSOL" manufactured by Hanline Bros., Inc., 1400 Warner St., Baltimore, MD 21230
Devoe Marine Coatings Co., P.O. Box 7600 Louisville, KY 40207
Eureka Chemical Company, 234 Lawrence Ave., So. San Francisco, CA 94080
International Paint Co., 17 Battery Place North, Suite 1150, New York, N.Y. 10004
Kaiser Aluminum & Chemical Corp., 300 Lakeside Drive (Room 1139KB) Oakland, CA 94643
Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817
The Skybrite Co., 3125 Perkins Ave., Cleveland, OH 44114
Woolsey Marine Industries, Inc., 100 Saw Mill Rd., Danbury, CT 06810

PETROLEUM SUPPLIES

Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002

PIPE—HOSE—Cargo Transfer, Clamps, Couplings

Camlock Flange Sales Corp., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696
Hydro-Craft, Inc., 4223 Edgeland, Royal Oak, Mich. 48073
Kubota, Ltd., 22, Funade-cho 2-chome, Naniwa-Ku, Osaka, Japan
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

PLASTICS—Marine Applications

Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231

PROPULSION EQUIPMENT—Bowthrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines

Alco Power Inc., 100 Orchard St., Auburn, N.Y. 13021
Alsthom-Atlantique, 2 quai de Seine, 93203 Saint-Denis, France
Armo Steel/Advanced Materials Div., 703 Curtis St., Middletown, OH 45043
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150
Bird Johnson Company, 110 Norfolk St., Walpole, Mass. 02081
Burmeister & Wain, One State Street Plaza, New York, N.Y. 10004
Burmeister & Wain Alpha Diesel AS, DK-1400 Copenhagen K, Denmark
Caterpillar Tractor Company, Engine Division, Peoria, IL 61629
Colt Industries' Fairbanks Morse Engine Division, Beloit, Wisc. 53511
Combustion Engineering, Inc., Windsor, Connecticut 06095
Coolidge Propellers, 1601 Fairview Ave. East, Seattle, Wash. 98102
Electro-Motive Division, General Motors Corp., LaGrange, Ill. 60325
Elliott Company, (Div. of Carrier Corp.), Jeanette, PA 15644
General Electric Co., Diesel Power Products, 2901 E. Lake Rd., Erie, PA 16531
MTU of North America, Inc., 10450 Corporate Drive, Sugar Land, TX 77478
Maritime Industries, Ltd., 6307 Laurel St., Burnaby, B.C. Canada V5B 3B3
Michigan Wheel/Gulf Coast, P.O. Box 1528, Pascagoula, MS 39567
Motive Power Corp., P.O. Box 365, Mineola, NY 11501 70124
Omnithruster Inc., 15418 Cornet Ave., Santa Fe Springs, CA 90670
Port Electric Turbine Div., 155-157 Perry St., New York, N.Y. 10014
Propulsion Systems Inc., 21213 76th Ave., So., Kent, WA 98031
Schottel of America, Inc., 8375 N.W. 56 Street, Miami, Fla. 33166
Tacoma Boatbuilding Co./Escher Wyss, 1840 Marine View Dr., Tacoma, WA 98422
Transamerica DeLaval Inc., Engine & Compressor Div., 550 85th Ave., Oakland, CA 94621
Transamerica DeLaval, Inc., Turbine & Compressor Div., P.O. Box 8788, Trenton, N.J. 08650
Voith Schneider of America—U.S. Agent: Eli Sharprut, 347 Evelyn St., Paramis, N.J. 07652

PUMPS—Repairs—Drives

Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030
Transamerica DeLaval, Inc., IMO Pump Div., P.O. Box 321, Trenton, NJ 08602
Warren Pumps, Inc., Bridges Ave., Warren, Mass. 01083

REFRIGERATION—Refrigerant Valves

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231
Port Refrigeration Div., 157 Perry Street, New York, N.Y. 10014

ROPE—Manila—Nylon—Hawsers—Fibers

American Mfg. Co., Inc., Willow Avenue, Honesdale, Pa. 18431
Jackson Rope Co., Reading, Pa. 19603
Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110
Tubbs Cordage Co., Orange, CA 92666

RUDDER ANGLE INDICATORS

Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
Hose McCann Telephone Co., Inc., 524 W. 23rd St., N.Y. 10011
Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.

SANITATION DEVICES—Pollution Control

Argo Marine Pollution Systems Division, 140 Franklin St., New York, N.Y. 10013
Demco, Inc., P.O. Box 94700, Oklahoma City, OK 73109
Envirovac (Division of Dometic Inc.), 1260 Turret Drive, Rockford, IL 61111
Marine Moisture Control Co., Inc., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696
Marland Environmental Systems, Inc., N. Main Street, Walworth, WI 53184
Microphor, Inc., P.O. Box 490, Willis, CA 95490
Red Fox Industries, P.O. Drawer 640, New Iberia, LA 70560
Research Products/Blankenship, 2639 Andjan, Dallas, Texas 75220
St. Louis Ship FAST Sewage Systems, 611 East Marceau St., St. Louis, Mo. 63111
Sigma Treatment Systems, 2 Davis Ave., Frazer, PA 19355

SCAFFOLDING EQUIPMENT—Work Platforms

Patent Scaffolding Co., 2125 Center Ave., Fort Lee, N.J. 07024
Spider Staging Sales Co., P.O. Box 182, Renton, Washington 98055
Trus Joist Corp., P.O. Box 60, Boise, Idaho 83707

SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT

Bird-Johnson Co., 100 Norfolk St., Walpole, MA 02081
Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

SHIPBREAKING—Salvage

American Ship Dismantlers, Inc., Division of Schnitzer Industries, 3300 N.W. Yeon Avenue, Portland, Ore. 97210
The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202
Levin Metals Corporation, 1310 Canal Blvd., Richmond, CA 94807
Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

SHIPBUILDING STEEL

Armo Steel Corp., 703 Curtis St., Middletown, Ohio 45042
Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004

SHIPBUILDING—Repairs, Maintenance, Drydocking

A.D.M. (Amsterdam Drydock Mfg.), Maatschappij bv, P.O. Box 3006, 1003 AA, Amsterdam, Holland
Asmar Shipyards Co., Astilleros y Maestranzas de la Armada, Prat 856, Piso 14, Casilla 150-V, Valparaiso, Chile, S.A.
Astilleros Espanoles S.A., 17 Padilla, P.O. Box 815, Madrid, Spain
Astilleros Unidos de Veracruz, S.A., San Juan de Ulua S/N, Apdo. Postal 647, Veracruz, Ver., Mexico
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150
Bergeron Industries Inc., P.O. Box 38, St. Bernard, La. 70085
Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004
Blohm + Voss AG, D-2000 Hamburg 1, P.O.B. 10 07 20
Blohm + Voss Co., 55 Morris Ave., Springfield, N.J. 07081
Blount Marine Corp., P.O. Box 368, Warren, RI 02885
Boeing Marine Systems, P.O. Box 3707, Mail Stop 14-11, Seattle, WA 98124
Ira S. Bushey & Sons, Inc., 764 Court Street, Brooklyn, N.Y. 11231
Carrington Slipways Pty, Ltd., Old Punt Road, Tomago, N.S.W., Australia 2322
Centromor, One World Trade Center, Suite 3557, New York, N.Y. 10048
China Shipbuilding Corp., c/o Allegro Transportation Supply Co., One Penn Plaza, Room 1606, New York, NY 10001
Coastal Dry Dock & Repair Co., Building 131, Brooklyn Navy Yard, Brooklyn, N.Y. 11205
Conrad Industries, P.O. Box 790, Morgan City, La. 70380
Curacao Drydock Co., Inc., P.O. Box 153, Willemstad, Curacao, Netherlands Antilles
Curacao Drydock, 26 Broadway, Suite 741, New York, N.Y. 10004
Delattre-Levivier, Tour Fiat, Cedex 16, 92084 Paris La Defense, France
Dorbyl Ltd., Military Road, 1 Industrial Sites, West Bank, 5201 East London Republic of South Africa
Dravo Steelship Corp., R.4, Box 167, Pine Bluff, Ark. 71602
Empresa Nacional Bazan, Paseo de la Castellana 65, Madrid 1 Spain
Equitable Shipyards, Inc., P.O. Box 8001, New Orleans, La. 70122
FMC Corp., Marine & Rail Equipment Div., 4700 N.W. Front Ave., Portland, Oregon 97208
Galveston Shipbuilding Co., P.O. Drawer 2660, Galveston, TX 77553
HBC Barge, Inc., Grant Building, Pittsburgh, PA 15219
Halifax Industries, Ltd., P.O. Box 1477, Halifax, Nova Scotia, Canada, B3K 5H7
Halter Marine, Inc., P.O. Box 29266, New Orleans, La. 70189
Havre de Grace, Havre de Grace, Md.
Hitachi Shipbuilding & Engrg. Co., Ltd., 47 Edoberi 1-Chome, Nishi-Ku, Osaka, Japan
Hongkong United Dockyards Ltd., Kowloon Docks, Hong Kong
Hudson Shipyards, Inc., P.O. Box Q, Pascagoula, MS 39567
Ingalls Shipbuilding, P.O. Box 149, Pascagoula, MS 39567
Jackson/New York, 29 45 Richmond Terrace, Staten Island, NY 10303
Jeffboat, Inc., Jeffersonville, Ind. 47130
Keppel Shipyard Ltd., P.O. Box 2169, 325, Telok Blangah Road, Singapore 4
Kockums Shipyard, S-201, 10 Malma 1, Sweden
Lockheed Shipbuilding and Construction Co., 2929 16th Avenue, S.W., Seattle, Wash. 98134
J. Ray McDermott & Company, Inc., 1010 Common Street, New Orleans, LA 70160
MacGregor Land & Sea, Inc., 135 Dermody Street, Cranford, NJ 07016
Mangone Shipbuilding Co., 819 South 80th Street, P.O. Box 5446, Houston, TX 77012
Marathon Manufacturing Company
Marathon LeTourneau Offshore Company, 1700 Marathon Building, 600 Jefferson, Houston, Texas 77002
Marathon LeTourneau Gulf Marine Division, P.O. Box 3189, Brownsville, Texas 78520
Marinette Marine, Ely Street, Marinette, WI 54143
Matton Shipyard Co., Inc., P.O. Box 645, Cohoes, New York 12047
J. Ray McDermott & Co., Inc., P.O. Box 60035, New Orleans, LA 70160
Misener Industries, Inc., 5353 Tyson Avenue, P.O. Box 13625, Tampa, Fla. 33681
Mississippi Marine Towboat Corp., P.O. Box 539, Harbor Front Industrial Park, Greenville, MS 38701
Monark Boat Co., P.O. Box 210, Monticello, Ark. 71655
Nashville Bridge Company, P.O. Box 239, Nashville, TN 37202
National Steel & Shipbuilding Corp., San Diego, Calif. 92112
Newpark Shipbuilding & Repair, P.O. Box 5426, Houston, TX 77012
Newport News Shipbuilding & Dry Dock Co., 4101 Washington Ave., Newport News, Va. 23607
O.A.R.N. (Officine All'estimento-Riprazioni Navi), P.O. Box 1395, Genoa, Italy 16100
Pacoco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501
Pearlson Engineering Co., P.O. Box 8, Kendall Branch, Miami, Fla. 33156
Perth Amboy Dry Dock Co., Perth Amboy, N.J. 08862
Port Allen Marine Service, Inc., P.O. Box 108, Port Allen, LA 70767
Port Houston Marine, Inc., 7220 J.W. Peavy Drive, Houston, TX 77012
Port of Portland, P.O. Box 3529, Portland, OR 97208
S.E.B.N., Societa Estercozio Bacini Napoletani, Via Marinella Varco N.6 (80133) Naples, Italy
St. Louis Shipbuilding—Federal Barge, Inc., 611 East Marceau St. Louis, Mo. 63111

STE Marie Yard & Marine, Inc., 741 East Portage Ave., Sault Ste Marie, MI 49783
Savannah Shipyard Co., P.O. Box 787, Savannah, GA 31402
Sembawang Shipyard Ltd., Sembawang, P.O. Box 3, Singapore 9175

The Service Machine Group, Inc., P.O. Box 2664, Morgan City, LA 70308
Setenave-Estaleiros Navais De Setubal, P.O. Box 135, Setubal, Portugal

Sudoimport, 5 Kalyaevskaya, Moscow K-6, USSR
Swiftships Inc., P.O. Box 1908, Morgan City, LA 70380
Tacoma Boatbuilding Co., Inc., 1840 Marine View Drive, Tacoma, WA 98422

Todd Shipyards Corp., 1 State St. Plaza, New York, N.Y. 10004
Total Transportation Systems Inc., 813 Forest Dr., Newport News, VA 23606

Total Transportation Systems (International) A/S, Bjornegarden, P.O. Box 28, N5201 Oslo, Norway
Tracor Marine, P.O. Box 13107, Port Everglades, Fla. 33316
Tug Barge Systems, Inc., subsidiary of Ingram Corp., 4100 One Shell Square, New Orleans, La. 70139

Union Dry Dock & Repair Co., Foot of Pershing Road, Weehawken, N.J. 07087
Wiley Manufacturing, a unit of AMCA International Corp., P.O. Box 97, Port Deposit, MD 21904
Zigler Shipyards, P.O. Box 2607, Morgan City, La. 70380

SHIP STABILIZERS

Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.

SMOKE INDICATORS

Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928

STUFFING BOXES

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

SURVEYORS AND CONSULTANTS

Francis B. Crocco, Inc., P.O. Box 1411, San Juan, Puerto Rico 00903
Hull & Cargo Surveyors, Inc., 99 John St., New York, NY 10038

TANK CLEANING

Butterworth Systems Inc., 224 Park Ave., P.O. Box 352, Florham Park, N.J. 07932
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030
Salwico, Inc., 77 River St., Hoboken, N.J. 07030

TANK LEVELING INDICATORS

Transamerica DeLaval, Inc., Gem Sensors Div., Spring Lane, Farmington, CT 06032
Vu-Gage System, 150 E. 42nd St. (Room 910), New York, NY 10017
Zesco, Inc., 3131 Brian Park, Suite 1095, Houston, TX 77042

TECHNICAL MANUAL PREPARATION

Benhof, Inc., 2468 N. Jerusalem Road, N. Bellmore, NY 11710

TERMINALS—Oil-Transfer

Delong Corp., 29 Broadway, New York, N.Y. 10006
Transportation Concepts & Techniques Inc., 1020 West Main Street, Charlottesville, VA 22903

TOWING—Barges, Vessel Chartering, Lighterage, Salvage, etc.
Bay-Houston Towing Co., 805 World Trade Bldg., Houston, Texas 77002
Chotin Transportation, Inc., 580 Walnut St., Cincinnati, Ohio 45202
Curtis Bay Towing Co., Mercantile Bldg., Baltimore, Md. 21202
Henry Gillen's Sons Lighterage, 21 West Main St., Oyster Bay, N.Y. 11771
Gulf Fleet Marine Corporation, Canal Place One, Suite 2400, New Orleans, LA 70130
James Hughes, Inc., 17 Battery Pl., New York, N.Y. 10004
McAllister Bros., Inc., 17 Battery Pl., New York, N.Y. 10004
McDonough Marine Service, P.O. Box 26206, New Orleans, La.
Moran Towing & Transportation Co., Inc., One World Trade Center, Suite 5335, New York, N.Y. 10048
Suderman & Young Co., Inc., 918 World Trade Bldg., Houston, Texas 77002
Turecamo Coastal & Harbor Towing Corp., One Edgewater St., Clifton, Staten Island, N.Y. 10305

UNDERWATER SERVICES—Contracting

SeaTec International Ltd., Blackburn Industrial Center, Gloucester, MA 01930

VALVES AND FITTINGS

American United Marine, Corp., 575 Madison Ave., New York, NY 10022
Dover Corporation, Norris Division, P.O. Box 1739, Tulsa, OK 74101
Demco, Inc., P.O. Box 94700, Oklahoma City, Okla. 73109
Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
Marland Environmental Systems Inc., N. Main St., Walworth, WI 53184
Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027
Rockwell International, Flow Control Division, 400 N. Lexington Avenue, Pittsburgh, PA 15208
Stacey Valve Co., 29 Meserole Ave., Brooklyn, N.Y. 11222
Voss, Inc., Building J, 7029 Huntley Road, Columbus, Ohio 43229
Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928
Waukesha Bearings Corp., P.O. Box 798, Waukesha, WI 53186

VIDEO EQUIPMENT

Video Library Systems, 185 Osoer Avenue, Hauppauge, NY 11787

WINCHES AND FAIRLEADERS

Bloom Inc., Highway 20, West Four Miles, Independence, IA 50644
Clyde Iron, a unit of AMCA International Corp., Suite 102, 2300 West Loop South, Houston, TX 77027
Gearmatic Co. Ltd., 7400 132nd Street, Surrey, B.C., Canada
Markey Machinery Co., 79 South Horton St., Seattle, Washington 98134
Smith-Berger Manufacturing Corporation, 3236 16th Avenue S.W., Seattle, WA 98134

WINDOWS

Kearfott Marine Products, A Singer Co., 550 South Fulton Avenue, Mt. Vernon, N.Y. 10550

WIRE AND CABLE

Anixter Bros., Inc., 4711 Golf Road, One Concourse Plaza, Skokie, Illinois 60076
Seacoast Electric Supply Corp., 225 Passaic St., Passaic, NJ 07055
Seacoast Electric Supply Corp., 1505 Olive St., Houston, TX 77007

WIRE ROPE—Slings

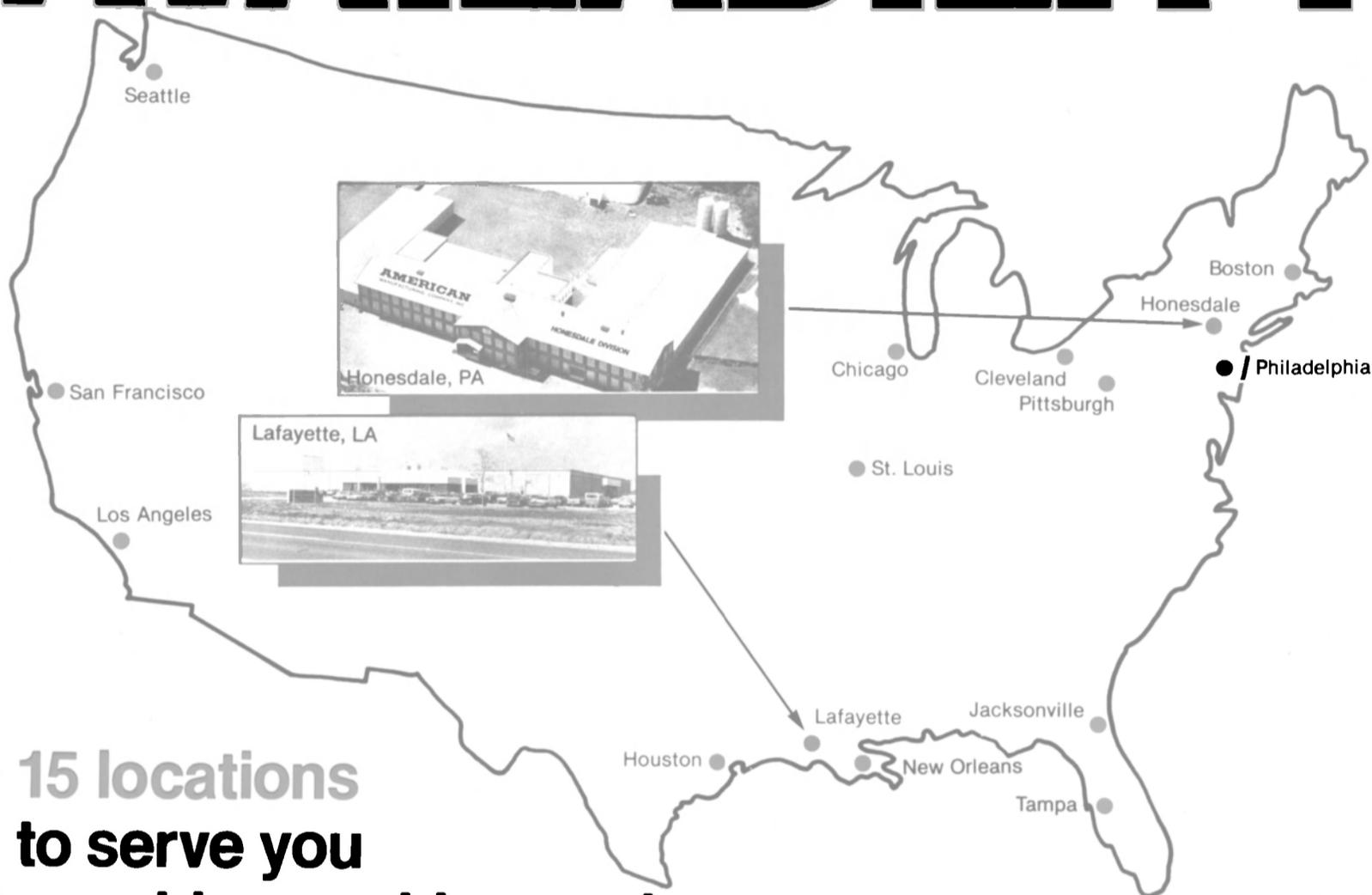
Armo Steel Corp., 703 Curtis St., Middletown, Ohio 45042
Bethlehem Steel Corp., One State Street Plaza, N.Y. 10004

ZINC

Smith & McCorken, 153 Franklin St., New York, N.Y. 10013

This directory section is an editorial feature published in every issue for the convenience of the readers of MARITIME REPORTER/Engineering News. A quick-reference readers' guide, it includes the names and addresses of the world's leading manufacturers and suppliers of all types of marine machinery, equipment, supplies and services. A listing is provided, at no cost for one year in all 24 issues, only to companies with continuing advertising programs in this publication, whether an advertisement appears in every issue or not. Because it is an editorial service, unpaid and not part of the advertisers contract, MR/EN assumes no responsibility for errors.

AMERICAN[®] ROPE AVAILABILITY



**15 locations
to serve you
coast to coast to coast.**

No matter which coast...East, West, Gulf or Great Lakes...you can order American[®] rope in any size, any quantity, any material and get the kind of prompt and efficient service you'd expect from the leader.

SEATTLE: Duane Garrison
5050 First Ave. South, Seattle 98134
206-762-4819

SAN FRANCISCO: George Talbot
5854 Hollis St., Emeryville 94608
415-655-1969

LOS ANGELES: Pete DeWaters
18924 South Laurelpark Rd., Compton 90220
213-635-8354

HOUSTON: Jerry Coburn
2609 Leeland St., Houston 77003
713-229-0594

NEW ORLEANS: Ron Diodene
1523 St. Ferdinand St., New Orleans 70117
504-944-0231

TAMPA: Bob Johnson
6002 N. 51st St., Tampa 33610
813-621-2497

JACKSONVILLE: Bob Johnson
1555 Marshall St., Jacksonville 32206
813-621-2497

PHILADELPHIA: Jack Gilligan
131 Harvard Ave., Collingswood, N.J. 08108
609-854-8044

BOSTON: Phil Rand
139 California St., Newton 02158
617-332-1900

PITTSBURGH: Bill LeMal
234 Foxcroft Rd., Pittsburgh 15220
412-276-6809

CLEVELAND: Dick Schaeffer
1313 Old River Rd., Cleveland 44113
216-781-7213

CHICAGO: Dick Jerusal
510 Country Club Dr., Bensenville 60106
312-595-0870

ST. LOUIS: Ralph Bouren, Otto Stann
or Jim Fagan
1715 S. 11th St., St. Louis 63104
314-231-2550



AMERICAN
MANUFACTURING COMPANY
CORDAGE DIVISION

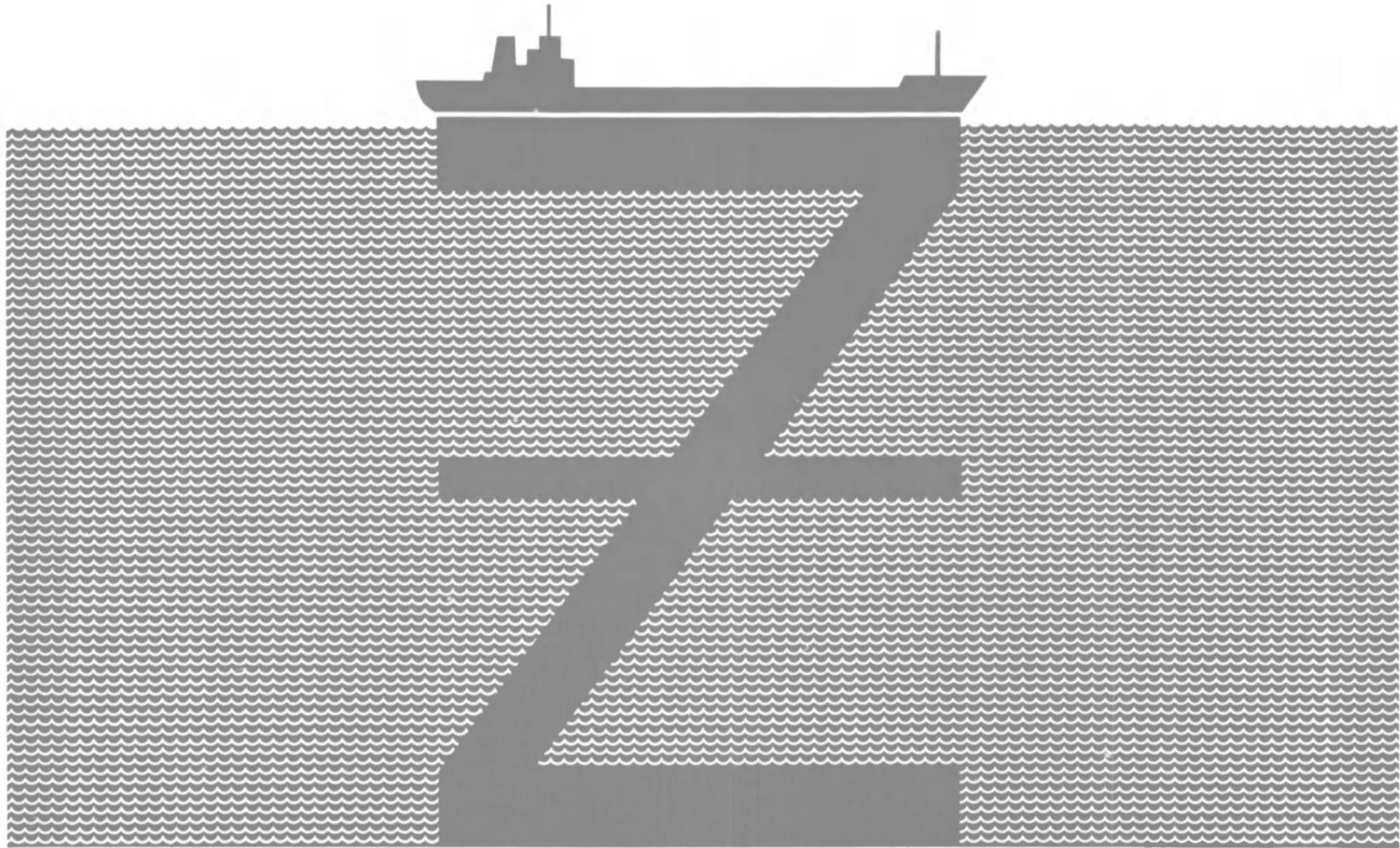
206 Willow Avenue
Honesdale, Pa. 18431
717/253-5860

200 Southpark Road
Lafayette, La. 70117
318/837-9241



ZESCO

**CARGO CONTROL, TANK LEVEL GAGING
INERT GAS SYSTEMS**



RETROFIT MAINTENANCE SUPERVISION

RETROFIT

Many ships must meet requirements for the Port and Tanker Safety Act. Zesco will provide you with a complete inert gas system. Zesco can provide new tank level gaging and control systems, or update existing systems. Zesco does complete retrofitting. Have us survey your systems.

“DO IT WITH”

ZESCO

3131 Briarpark
Suite 1095
Houston, Texas 77042
Phone: 713/978-6120

SUPERVISION

Zesco will assist and supervise the proper installation of any inert gas, cargo control, and tank level gaging systems. This can save your company “big bucks” in later maintenance.

MAINTENANCE

Due to closed loading requirements; inert gas, tank level gaging and cargo control systems must work. Zesco has a professional maintenance staff for your systems.

Sales Representative
Javco Inc.
2500 Tanglewilde
Suite 210
Houston, Texas 77063
Phone: 713/780-4596

Once you round the Kannon-zaki Light, you're not far from Gulf.



You've radioed your position to JGC: due West of the Hamakanaya-ko breakwater light. The Tokyo Wan Traffic Center already has you on their radar.

You reduce speed and enter the Uraga Suido Traffic Route. Soon the Kannon-zaki Light bears to port.

You pass tiny Daisan-kaiho island and swing around Daini-kaiho into the Nakano-Se channel, and you're headed at last for the harbor.

Yokohama. Still another port where you'll find premium Gulf marine lubricants like Gulf Veritas Select.

This is a high alkaline reserve oil used in the crank-cases of medium speed diesel engines burning residual fuels. Gulf Veritas Select is manufactured from the highest quality solvent processed base oils and selected alkaline detergents. It provides the alkalinity necessary to neutralize the acidic products of combustion, along with the detergency needed to maintain

a high degree of cylinder, piston, bearing and crank-case cleanliness.

All of Gulf's marine products give you maximum quality, performance and bottom-line economy. They're available, backed by a complete and comprehensive service capability, at ports of call throughout the world. For specifics, please contact your local Gulf representative.



Gulf Trading and Transportation Company
A Division of Gulf Oil Corporation