TECHNICAL SPECIFICATION
“Kigoriak”
Icebreaker, Anchor Handling Tug Supply, 16 800 BHP, BP 196mt

Class: RMRS
Flag: Russia
Port of Registry: Kholmsk
Call Sign: U E N L
IMO number: 7824261
MMSI number: 273449570
Built: Saint John Shipbuilding and Drydock Co. Ltd. Saint John, N.B.
Year: 1979

Class Notation: KM ★ LL4 Tug (LL4 at 7.9m < d <= 8.35m)

### MEASUREMENTS

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length Overall</td>
<td>90.71 m</td>
</tr>
<tr>
<td>Length BP</td>
<td>78.90 m</td>
</tr>
<tr>
<td>Breadth Moulded</td>
<td>17.00 m</td>
</tr>
<tr>
<td>Depth Moulded</td>
<td>10.01 m</td>
</tr>
<tr>
<td>Draft (Max)</td>
<td>8.535 m</td>
</tr>
<tr>
<td>Freeboard, min</td>
<td>1.475 m</td>
</tr>
<tr>
<td>GRT/NRT</td>
<td>3898/1169</td>
</tr>
<tr>
<td>Deadweight</td>
<td>2066 t</td>
</tr>
<tr>
<td>Lightship</td>
<td>4855 t</td>
</tr>
</tbody>
</table>

### CARGO CAPACITIES

<table>
<thead>
<tr>
<th>Cargo Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deck Cargo</td>
<td>600.0 tn</td>
</tr>
<tr>
<td>Deck Strength</td>
<td>2.5 tn per m2</td>
</tr>
<tr>
<td>Clear Deck Area</td>
<td>450 m2</td>
</tr>
<tr>
<td>Fuel Oil</td>
<td>1194.0 cubm (90 percent)</td>
</tr>
<tr>
<td>Fresh Water</td>
<td>32.0 + 285.0 cubm as cargo</td>
</tr>
<tr>
<td>Ballast / Drill Water</td>
<td>2243.0 cubm</td>
</tr>
<tr>
<td>Brine / Liquid Mud</td>
<td>N/A</td>
</tr>
<tr>
<td>Rig Chain Locker</td>
<td>N/A</td>
</tr>
<tr>
<td>Cement Tank / Barite</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezer/Chiller</td>
<td>N/A</td>
</tr>
<tr>
<td>Foam/Detergent</td>
<td>2 x 12.2 m3</td>
</tr>
<tr>
<td>Oily Bilge Tank</td>
<td>136.9 m3</td>
</tr>
</tbody>
</table>

### PERFORMANCE

<table>
<thead>
<tr>
<th>Performance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Speed</td>
<td>13.5 kts / 43t/day</td>
</tr>
<tr>
<td>Economical Speed</td>
<td>10 kts / 24 t/day</td>
</tr>
<tr>
<td>Port Usage</td>
<td>2 t/day</td>
</tr>
<tr>
<td>Type of Fuel</td>
<td>MGO</td>
</tr>
<tr>
<td>Bollard Pull</td>
<td>196 t</td>
</tr>
</tbody>
</table>

### PROPULSION SYSTEM

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Engine</td>
<td>2 x Sulzer 12V40/48 diesel engines to direct-reduction gear driving LIPS C. P. 16800 hp</td>
</tr>
<tr>
<td>Bow Thruster</td>
<td>2LIPS C. P. propeller CT12 electric driven tunnel type thrusters- one aft. 1180 hp</td>
</tr>
<tr>
<td>Stern Thruster</td>
<td>2LIPS C. P. propeller CT12 electric driven tunnel type thrusters- one aft. 1180 hp</td>
</tr>
<tr>
<td>Steering Gear</td>
<td>Wagner LA 63-35 Electro Hydraulic</td>
</tr>
<tr>
<td>Propulsion Radders</td>
<td>2x50 hp Vickers pumps at 90 ft. per min, 2 hydraulic rams connected to tiller operating a single rudder.</td>
</tr>
</tbody>
</table>

### ACCOMODATION

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabins</td>
<td>26</td>
</tr>
<tr>
<td>Total bunks</td>
<td>34</td>
</tr>
<tr>
<td>Hospital</td>
<td>1 per.</td>
</tr>
</tbody>
</table>

### MISCELLANEOUS

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liferafts</td>
<td>4x20 man liferafts =80 person</td>
</tr>
<tr>
<td>Rescue boat</td>
<td>FRC 1 x Zodiac Ribo 600 with 1x75hp O.B. 6 person</td>
</tr>
<tr>
<td>Oily Water separator</td>
<td>Sandpiper 4cu.m. per hr. air operated</td>
</tr>
<tr>
<td>Crew</td>
<td>18</td>
</tr>
<tr>
<td>Sewage Treatment</td>
<td>Omnipure Model 8M616-141000 Gallon (3785 lit.) holding tank serving 18 system.</td>
</tr>
</tbody>
</table>
DECK EQUIPMENT

Anchor Windlass
- Pacific winch, Staffa Sundstrand

Drum
- 2 end warping drum 18” dia.

Gypsy
- 2 Open Gypses

Warping drum
- N/A

Bow Anchors
- 2 Meon Stockless 2509 kg.

Chains
- Port starboard 20 shackles

Capstan
- Staffa G030 Motors 2-15 ton. Drum 24” dia

Tugger Winch
- 2 Pacific winches Staffa B400-12 ton

Drum Capacity
- 100m of 22mm on each

Deck Crane
- FAVCO SDR-750. Crane hosting capacity:
  - 7.6m radius 15.8 tons
  - 16.0m radius 8 tons

Towing/AH Winch
- Bruselle M48 Fabr #4528
- Towing 1 x 1.82 m x 2.31 m. 0.62 m core

Towing Drum Cap
- 1000m of 70 mm 6 x 37 IWRC
- 900 m of 76 mm 6 x 37 IWRC

AH Drum Cap
- 200 m of 67 mm
- 300 m of 56 mm

Line Pull
- 150 tn

Brake Capacity
- 300 tn

Gypses
- N/A

Warping Drums
- N/A

Stern Roller
- 4.45 m long by 1.83 m dia.
- SWL 300 t.

Shark jaws
- Type H-300-S, SWL -300tn (4.5” chain, 125mm wire)

Tow Pins
- 2 pins type S-200, SWL-200 tn (4.5” chain)

Rope Reel
- 2 Pacific winches, Staffa Sundstrand

Drum Capacity
- 1000m x 70mm on each reel

EXTERNAL

FiFi System
- WEIR duoglie DRC 6/8
- 4 monitors controllable from bridge

Fire Pump
- DRC 6/8 2 x 227 cub/ hrs Centrifugal non self priming.

(water/foam)
- 554 cub/ hrs

(water)
- 554 cub/ hrs

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RADIO & NAVIGATION EQUIPMENT

GMDSS
- For region A4

SSB
- Furuno FS-1562

Inmarsat C
- Galaxi Sentinel Trimble

VHF Radio
- FM-8500 -2pcs

Navtex Receiver
- JRC NCR-430

SART
- TRON SART

EPIRB
- SEP-406, Tron-40S

Portable
- Tron VHF 3pcs

Radar
- 3cm radar FAR-2117 -2pcs

Echo Sounder
- JRC F-3000, SKIPER GDS-101

DGPS
- N/A

GPS
- FURUNO GP-80, GP-32

Gyrocompass
- Tikomek TG-3000, Navigate-X, MK-1

Autopilot
- Sperry Gyro Pilot

Magnetic Compass
- Pilot 729226

Weather Fax
- FAX-207

Speed Log
- N/A

Multi display
- N/A

Wind Indicator
- OMC-139

AIS
- SeaTex Ais 100

DP
- N/A

Joystick
- N/A

Vessel
- N/A

FIRE FIGHTING AND ANTI POLLUTION EQUIPMENT

EXTERNAL

Emergency Fire Pump
- WEIR 3485/401 28cub.b/h

BA Recharging Comp
- Air compressor Bauer JIIIB

Bauer Kompresoren Mariner
- Bauer JIIIB

Fire Detection & Alarm System
- 6 section covered, fire alarm bells 9 pcs, manually operated call point 9 sets

INTERNAL

FIRE FIGHTING AND ANTI POLLUTION EQUIPMENT

Emergency Fire Pump
- WEIR 3485/401 28cub.b/h

BA Recharging Comp
- Air compressor Bauer JIIIB

Bauer Kompresoren Mariner
- Bauer JIIIB

Fire Detection & Alarm System
- 6 section covered, fire alarm bells 9 pcs, manually operated call point 9 sets