

## 70M DP2 ANCHOR HANDLING & TOWING/ OFFSHORE SUPPORT VESSEL



### GENERAL SPECIFICATION

|                                    |                                                                                    |                               |             |                          |                                                          |
|------------------------------------|------------------------------------------------------------------------------------|-------------------------------|-------------|--------------------------|----------------------------------------------------------|
| Port of Registry                   | : Port Kelang                                                                      | <b>ACCOMMODATION</b>          |             | <b>PROPULSION SYSTEM</b> |                                                          |
|                                    |                                                                                    | 1 Man Cabin x 2               | : 2         | Main Engine              | : 2 x 4500 BHP, Diesel engine @                          |
|                                    |                                                                                    | 2 Men Cabin x 4               | : 8         | (Rolls-Royce/Bergen)     | 750 rpm c/w Reduction gearbox                            |
|                                    |                                                                                    | 4 Men Cabin x 7               | : 28        | Propeller                | : 2 x CPP, 3.5 m Dia @ 4-bladed                          |
| Flag                               | : Malaysian                                                                        | <b>Total Persons On Board</b> | : <b>38</b> | Steering Gear            | : 2 x Independent Electro. Hyd. Sys                      |
| Year Delivered                     | : 2007                                                                             | Hospital Room                 | : 2 Bed     | Bow Thruster             | : 1 x 10 Tons, CPP (645 kW E. Motor)                     |
| <b>[ FULLY AIR - CONDITIONED ]</b> |                                                                                    |                               |             |                          |                                                          |
| Builder                            | : Nam Cheong Dockyard Sdn Bhd, Miri, Sarawak                                       | <b>PROPULSION PERFORMANCE</b> |             | Stern Thruster           | : 1 x 10 Tons, CPP (645 kW E. Motor)                     |
| Designer                           | : Wartsila Ship Design (Formerly Conan Wu)                                         |                               |             | Retractable Thruster     | : 1 x 13.5 Tons, FPP (1000 BHP Diesel Engine @ 1800 RPM) |
| Classification                     | : American Bureau Of Shipping                                                      |                               |             |                          |                                                          |
| Notation                           | : ABS + A1 + AMS (E) FFV 1 + DP2 Anchor Handling & Towing/ Offshore Support Vessel |                               |             |                          |                                                          |
|                                    |                                                                                    |                               |             | Maximum Speed            | : 14.5 Knots (approx.) @ 100% MCR                        |
|                                    |                                                                                    |                               |             | Bollard Pull             | : 111 Tons (approx.) @ 100% MCR                          |

|                                                                                                                                                                                                                                                              |                                                                                    |                                   |                                                 |                                                 |                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------|
| <b>PRINCIPAL PARTICULARS</b>                                                                                                                                                                                                                                 |                                                                                    | <b>ANCHOR MOORING SYSTEM</b>      |                                                 | <b>ELECTRIC POWER GENERATION</b>                |                               |
| Length Overall                                                                                                                                                                                                                                               | : 70.20 M                                                                          | Anchor Type                       | : Stockless Bower Anchor                        | Main Generators                                 | : 2 x 400 kW @ 415V/3Ph/50Hz  |
| Breadth Moulded                                                                                                                                                                                                                                              | : 16.00 M                                                                          | Anchor Capacity                   | : 2 x 2280 kg                                   | Emergency Generators                            | : 1 x 88 kW @ 415V/3Ph/50Hz   |
| Depth Moulded                                                                                                                                                                                                                                                | : 6.50 M                                                                           | Anchor Chains                     | : 2 x 15 Shackles L, 42 mm Dia                  | Shaft Alternators                               | : 2 x 1250 kW @ 415V/3Ph/50Hz |
| Summer Draft                                                                                                                                                                                                                                                 | : 5.60 M                                                                           | <b>DECK EQUIPMENT</b>             |                                                 | <b>DYNAMIC POSITIONING SYSTEM</b>               |                               |
| Gross Tonnage                                                                                                                                                                                                                                                | : 2320                                                                             | Anchor Windlass and               | : Electro Hydraulic System, Windlass            | DP-2 System                                     | : 1 set                       |
| Net Tonnage                                                                                                                                                                                                                                                  | : 696                                                                              | Moorings Winch                    | : with 11 Tons Duty Pull @ 12 m/min,            | Maker                                           | : GE Power Conversion         |
| Deadweight (Summer Draft)                                                                                                                                                                                                                                    | : 2415 Tons (approx.)                                                              |                                   | Moorings Drum with 12 Tons pull                 | <b>NAVIGATION &amp; COMMUNICATION EQUIPMENT</b> |                               |
| Free Deck Space                                                                                                                                                                                                                                              | : 585 m <sup>2</sup> (approx.)                                                     |                                   | @ 12 m/min                                      | GPS Navigator                                   | : 2 unit                      |
| Deck Strength                                                                                                                                                                                                                                                | : 5.5 Tons/m <sup>2</sup>                                                          |                                   |                                                 | DGPS                                            | : 2 units                     |
| <b>SAFETY EQUIPMENT</b>                                                                                                                                                                                                                                      |                                                                                    | Anchor Handling and               | : Double drum, Waterfall type                   | Gyro Compass                                    | : 2 units                     |
| Liferafts                                                                                                                                                                                                                                                    | : 6 x 25men                                                                        | Towing Winch                      | : @ electro hydraulic system,                   | Magnetic Compass                                | : 1 unit                      |
| Rescue Boat                                                                                                                                                                                                                                                  | : 1 x 6 men c/w pivoting davit.                                                    |                                   | Drum capacity of 2 x 1500 m x 64 mm             | Radar (ARPA)                                    | : 2 units (2 x X-Band)        |
| Scrambling Net                                                                                                                                                                                                                                               | : 2 set                                                                            |                                   | Dia Wire,                                       | AIS                                             | : 1 unit                      |
| Remarks: Vessel's Life Saving Equipment are in accordance with SOLAS / LSA Code & Flag State requirements.                                                                                                                                                   |                                                                                    |                                   | 400 Tons brake holding and                      | Echo Sounder                                    | : 1 unit                      |
| <b>FIRE FIGHTING &amp; ANTI POLLUTION EQUIPMENT</b>                                                                                                                                                                                                          |                                                                                    |                                   | 250 Tons pull force @ 7.8m/min                  | Speed Log                                       | : 1 unit                      |
| Fifi Classification                                                                                                                                                                                                                                          | : FFV1                                                                             | Storage Drum Capacity             | : 1 x 1800m x 64mm Dia. wire                    | Anemometer                                      | : 2 units                     |
| Fire Pumps Capacity                                                                                                                                                                                                                                          | : 2 x 1650 m <sup>3</sup> /hr @ 14.7 bar                                           | Towing Pin                        | : 2 units for 160 Tons Bollard Pull             | BNWAS                                           | : 1 set                       |
| Fire Monitor Capacity                                                                                                                                                                                                                                        | : 2 x monitor capacity of 1200 m <sup>3</sup> /h water, 300m <sup>3</sup> /hr foam | Karm Fork                         | : 2 units for 300 Tons MBL Wire                 | Auto Pilot                                      | : 1 unit                      |
| Oil Dispersant System                                                                                                                                                                                                                                        | : 2 x 6 m Spray Boom                                                               | Stern Roller                      | : 4 m (L) x 2 m Dia                             | CCTV                                            | : 1 set                       |
| Remarks: 1 x Fixed Fire-Fighting System (CO2) and 1 x Fixed Local Application System (Water Mist) to Machinery Space of Cat A, Fire Detection and Alarm System and Fire Fighting Equipment are in accordance with SOLAS/ FFS Code & Flag State Requirements. |                                                                                    | Tugger Winch                      | : 2 x 10 Tons @ Electro. Hyd. Sys               | Search Light                                    | : 2 units                     |
|                                                                                                                                                                                                                                                              |                                                                                    | Capstan                           | : 2 x 9 Tons @ Electro. Hyd. Sys                | GMDSS Radio A3                                  | : 1 complete set              |
|                                                                                                                                                                                                                                                              |                                                                                    | Deck Crane                        | : 1 x 10 Tons (SWL) @ 12m outreach (fixed boom) | Navtex Receiver                                 | : 1 unit                      |
|                                                                                                                                                                                                                                                              |                                                                                    | Reefer Point                      | : 4 x 16A, 415V/3Ph/50Hz                        | Fleet Broadband                                 | : 1 set                       |
|                                                                                                                                                                                                                                                              |                                                                                    |                                   | 4 x 32A, 230V/1Ph/50Hz                          | VSAT                                            | : 1 set                       |
|                                                                                                                                                                                                                                                              |                                                                                    |                                   |                                                 | Interior Com System                             | : 1 set                       |
|                                                                                                                                                                                                                                                              |                                                                                    |                                   |                                                 | PA System                                       | : 1 set                       |
|                                                                                                                                                                                                                                                              |                                                                                    |                                   |                                                 | Sound Power Phone                               | : 1 set                       |
| <b>DISCHARGE PUMPS CAPACITIES</b>                                                                                                                                                                                                                            |                                                                                    | <b>OTHER EQUIPMENT CAPACITIES</b> |                                                 |                                                 |                               |
| Fuel Oil (Cargo)                                                                                                                                                                                                                                             | : 2 x 150m <sup>3</sup> /hr @ 80m head                                             | Air Compressor for Bulk Sys.      | : 2 x 1188 m <sup>3</sup> /h @ 6bar             |                                                 |                               |
| Drill Water (Cargo)                                                                                                                                                                                                                                          | : 1 x 150m <sup>3</sup> /hr @ 80m head                                             | Air Dryer for Bulk Sys.           | : 2 x 1800 m <sup>3</sup> /h @ 5.6 to 16 bar    |                                                 |                               |
| Brine (Cargo)                                                                                                                                                                                                                                                | : 1 x 100m <sup>3</sup> /hr @ 80m head                                             | Oily Water Separator              | : 1 x 1m <sup>3</sup> /hr                       |                                                 |                               |
| Liquid Mud (Cargo)                                                                                                                                                                                                                                           | : 2 x 100m <sup>3</sup> /hr @ 80m head                                             | Sewage Treatment                  | : 1 unit, suitable for 38 men                   |                                                 |                               |

| Fresh Water/ Drill Water/ Water Ballast Tanks (m3) |            |
|----------------------------------------------------|------------|
| 1 No.1 FW / DW / WB (C)                            | 102.7      |
| 2 No.2 FW / DW / WB (P)                            | 98.9       |
| 3 No.2 FW / DW / WB (S)                            | 98.9       |
| 4 No.2 FW / DW / WB (C)                            | 103.6      |
| 5 No.3 FW / DW / WB (P)                            | 66.8       |
| 6 No.3 FW / DW / WB (S)                            | 66.8       |
| 7 No.4 FW / DW / WB (P)                            | 33.3       |
| 8 No.4 FW / DW / WB (S)                            | 33.3       |
| 9 No.4 FW / DW / WB (C)                            | 21.7       |
| <b>TOTAL:</b>                                      | <b>626</b> |

| Fresh Water Tanks (m3) |            |
|------------------------|------------|
| 1 No.1 FW (P)          | 97.1       |
| 2 No.1 FW (S)          | 97.1       |
| 3 No.2 FW (P)          | 113.9      |
| 4 No.2 FW (S)          | 113.9      |
| <b>TOTAL:</b>          | <b>422</b> |

| Cement Tanks (m3) |              |
|-------------------|--------------|
| 1 Cement Tanks    | 4 x 53.8     |
| <b>TOTAL:</b>     | <b>215.2</b> |

| Mud/ Brine/ Drill Water/ Water Ballast Tanks (m3) |              |
|---------------------------------------------------|--------------|
| 1 No.1 Brine/DW (P)                               | 84           |
| 2 No.1 Brine/DW (S)                               | 84           |
| 3 No.2 Mud/Brine/DW (C)                           | 181.7        |
| 4 No.3 Mud/Brine/DW (C)                           | 142.6        |
| 5 RIG CL/Brine/DW/WB (P)                          | 102.7        |
| 6 RIG CL/Brine/DW/WB (S)                          | 102.7        |
| <b>TOTAL:</b>                                     | <b>697.7</b> |

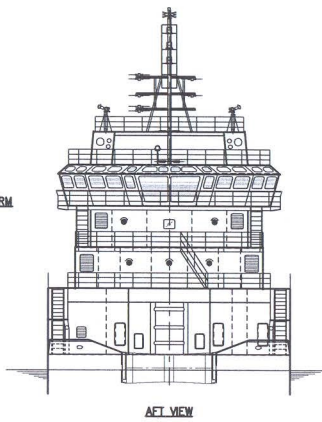
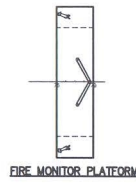
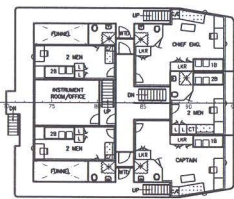
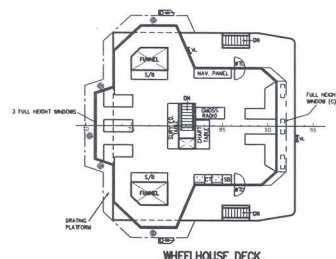
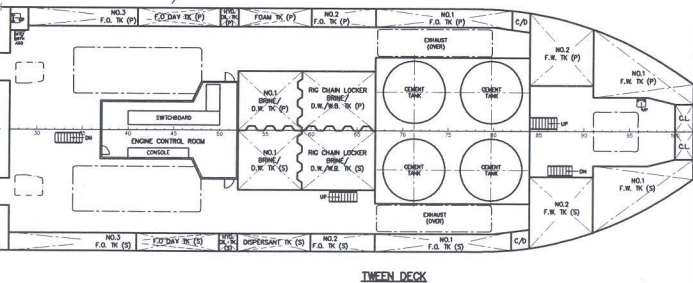
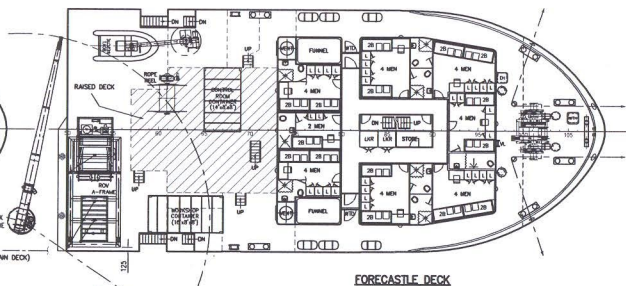
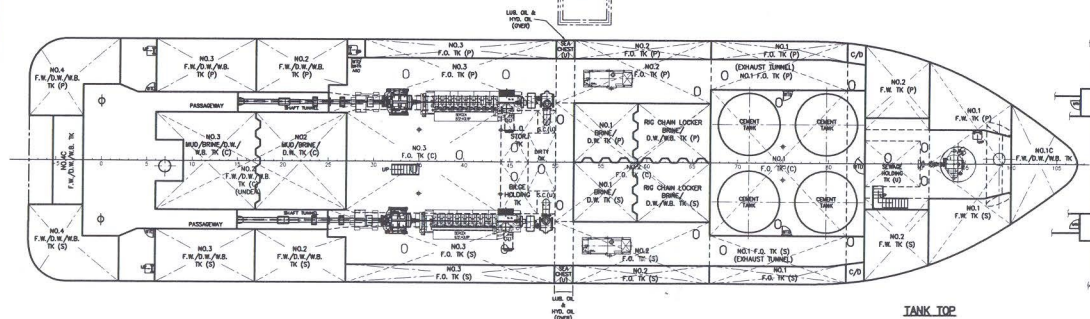
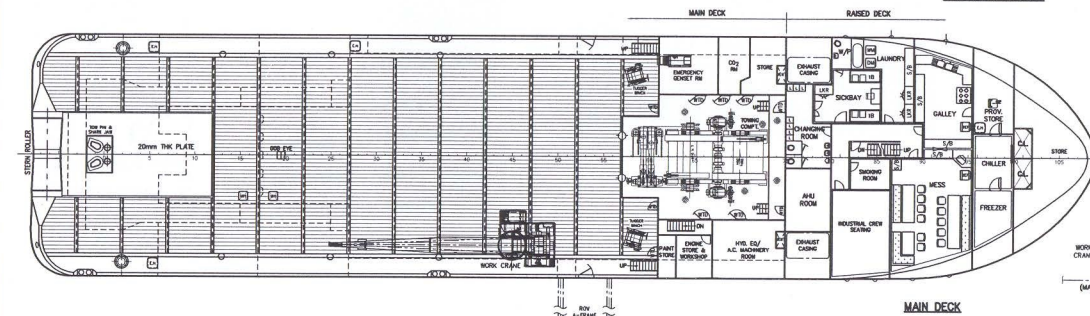
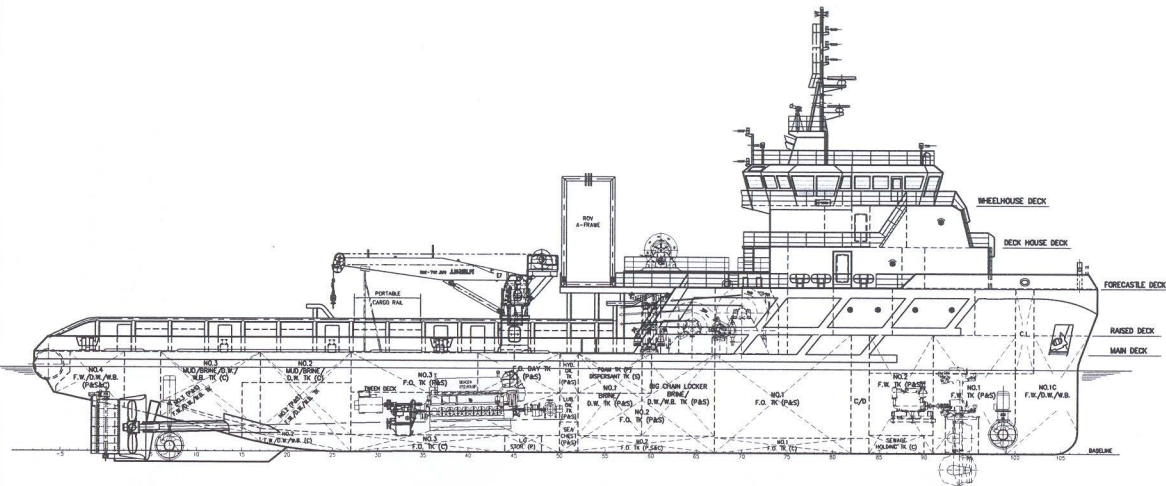
| Fuel Oil Tanks (m3) |              |
|---------------------|--------------|
| 1 No.1 FO (P)       | 86.1         |
| 2 No.1 FO (S)       | 86.1         |
| 3 No.1 FO (C)       | 81.3         |
| 4 No.2 FO (P)       | 89.6         |
| 5 No.2 FO (S)       | 89.6         |
| 6 No.2 FO (C)       | 83           |
| 7 No.3 FO (P)       | 123.7        |
| 8 No.3 FO (S)       | 131.6        |
| 9 No.3 FO (C)       | 70.9         |
| 10 FO DAY (P)       | 16.6         |
| 11 FO DAY (S)       | 16.6         |
| <b>TOTAL:</b>       | <b>875.1</b> |

| Miscellaneous Tanks (m3) |             |
|--------------------------|-------------|
| 1 Lube Oil (P)           | 2.7         |
| 2 Lube Oil (S)           | 2.7         |
| 3 Lube Oil STOR (P)      | 7.4         |
| 4 Hydraulic Oil (P)      | 3.7         |
| 5 Hydraulic Oil (S)      | 3.7         |
| 6 Bilge Holding (S)      | 7.4         |
| 7 Dirty Oil (C)          | 7.8         |
| 8 Sewage Holding@        | 15.9        |
| 9 Foam (P)               | 14.8        |
| 10 Dispersant (S)        | 14.8        |
| <b>TOTAL:</b>            | <b>80.9</b> |

[ ALL INFORMATION ARE BELIEVED TO BE ACCURATE AT THE TIME OF PRINTING ]

THIS TECHNICAL BRIEF SPECIFICATION IS SUBJECTED TO CHANGE WITHOUT NOTICE

UPDATED : 29-Jan-2016



| PRINCIPAL PARTICULARS    |             |
|--------------------------|-------------|
| LENGTH O.A.              | 70.20m      |
| LENGTH B.P.              | 64.10m      |
| BEAM M.L.D.              | 16.00m      |
| DEPTH M.L.D.             | 6.50m       |
| DRAFT DESIGNED/SCANTLING | 5.50m/5.80m |
| COMPLEMENT               | 38 MEN      |

|          |     |                                                          |      |
|----------|-----|----------------------------------------------------------|------|
| 8.03.07  | F   | MODIFIED AS PER OWNER'S COMMENTS                         | LM   |
| 15.01.07 | E   | MODIFIED AS PER OWNER'S COMMENTS                         | LM   |
| 20.11.06 | C   | THE LATEST LINES INCORPORATED INTO O.A. OWNER'S COMMENTS | LMA  |
| 10.11.06 | D   | MODIFIED AS PER OWNER'S COMMENTS                         | 2444 |
| 27.03.06 | C   | MODIFIED AS PER OWNER'S COMMENTS                         | SEE  |
| 27.03.06 | B   | MODIFIED AS PER OWNER'S COMMENTS                         | LMA  |
| 22.02.06 | A   | MODIFIED AS PER OWNER'S COMMENTS                         | LMA  |
| DATE     | REV | MODIFICATION                                             | BY   |

70m A.H./OFFSHORE SUPPORT VESSEL

TITLE: General Arrangement

|         |                              |          |        |
|---------|------------------------------|----------|--------|
| BUILDER | JIAN CHENG DOCKYARD SHI (HD) | YARD NO. | MC 833 |
| CLASS   | ABS                          |          |        |

CONAN WU & ASSOCIATES

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|          |          |          |           |
|----------|----------|----------|-----------|
| DESIGNER | CHEONG   | APPROVED | SCALE     |
| 2004     | 04/04    | 04/04    | 04/04     |
| 04/04/04 | 27/04/07 | 1:150    | C4133/G-1 |

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