**GOLD BRIDGE SHIPPING MANAGEMENT HONGKONG LTD**

**DISCHARGING CARGO OPERATION PLAN (15.5.2016)**

**VESSEL** : MT. INDRADI  
**PORT** : HAIPONG

**VOY. NO:** 34/ 07  
**BERTH** :

**DATE** : 15.05.2016

1. **CARGO INFORMATION** “Refer to attached MSDS”

<table>
<thead>
<tr>
<th>CARGO GRADE</th>
<th>BENZENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOWAGE TANKS</td>
<td>1C,2C,3C,4C,5C,6C,7C,8C</td>
</tr>
</tbody>
</table>
| QUANTITY | **SHIP’S FIG.** 3194.134 MT  
**NOMINATED FIG.** 3194.084 MT |
| LOADING PORT | Saigon, Vietnam |
| DISCHARGING PORT | Haipong, Vietnam |
| S. G. or DENSITY | 0.8635°C |
| HEAT REQUIREMENTS | No (During underway : °C) (Disch. : °C) |
| HEAT LIMITATIONS | No ( °C) (Max. °C/day) |
| N2 REQUIREMENTS | No/yes (no ) % O2 contents |
| POLLUTION CATEGORY | Y |
| IMO TYPE | NO |
| PREWASH REQUIREMENTS | NO |
| VISCOSITY | 0.74cS @ 20°C |
| FLASH POINT | MELTING POINT -11°C Close Cup 5.5°C |
| BOILING POINT | 79.8 – 81.0°C |
| EXTINGUISHING AGENTS | Dry Chemical, CO2, Foam |
(2-2) **TANKWISE QUANTITY TO BE DISCHARGED** (refer to stowage plan)

<table>
<thead>
<tr>
<th>Tank No</th>
<th>1C</th>
<th>2C</th>
<th>3C</th>
<th>4C</th>
<th>4C</th>
<th>5C</th>
<th>6C</th>
<th>7C</th>
<th>8C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity MT</td>
<td>272</td>
<td>290</td>
<td>288</td>
<td>421</td>
<td>420</td>
<td>310</td>
<td>309</td>
<td>440</td>
<td>444</td>
</tr>
<tr>
<td>Quantity M3</td>
<td>313</td>
<td>333</td>
<td>332</td>
<td>484</td>
<td>483</td>
<td>356</td>
<td>357</td>
<td>506</td>
<td>511</td>
</tr>
<tr>
<td>Sounding</td>
<td>5.80</td>
<td>5.69</td>
<td>5.68</td>
<td>5.76</td>
<td>5.76</td>
<td>5.87</td>
<td>5.87</td>
<td>5.85</td>
<td>5.86</td>
</tr>
<tr>
<td>Volume (%)</td>
<td>91</td>
<td>92</td>
<td>92</td>
<td>93</td>
<td>93</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
</tbody>
</table>

| Transfer time expected |  |  |  |  |  |  |  |  |  |

4. **TRANSFER PIPING ARRANGEMENTS (jumping, etc.)**

- **CARGO LINE**: 4” (Common 6”)
- **VAPOR LINE**: NO
- **N2 PURGE LINE**: NO

**REMARKS**:

- Bow to Manifold : 42.85 M
- Aft to Manifold : 39.65 M
- Keel to Manifold : 9.89 M
- Spill tank to Manifold : 8.60 M
- Summer Draft : 5.612 M
- Manifold to Spill tank : 0.21 M
- Upper deck to C. O. P. : 1.788 M
- Keel to L. W. L. : 5.612 M
- Air Draft (Height) : 

5. **WATCH ARRANGEMENTS**

<table>
<thead>
<tr>
<th>TIME FROM ~ TO</th>
<th>LOCATION</th>
<th>RANK AND NAME</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000 ~ 0600</td>
<td>CCR</td>
<td>Bayu Dwi Sasongko (C/O)</td>
<td>Safety Patrol</td>
</tr>
<tr>
<td>1200 ~ 1800</td>
<td>MANIFOLD</td>
<td>Tedy Sapudi (A/B 2) / Juhar (A/B 3)</td>
<td>Control Mooring Line</td>
</tr>
<tr>
<td>0600 ~ 1200</td>
<td>ON DECK</td>
<td>Puguh Bayu H(2/Off) / Sianipar Y(4/Off)</td>
<td></td>
</tr>
<tr>
<td>0000 ~ 0600</td>
<td>CCR</td>
<td>Chief Officer (C/O)</td>
<td>Safety Patrol</td>
</tr>
<tr>
<td>1200 ~ 1800</td>
<td>MANIFOLD</td>
<td>Juhar (A/B 3) / Nur Roso (A/B 1)</td>
<td></td>
</tr>
</tbody>
</table>
6. **BALLAST PLAN - To attach ship’s Ballast Plan**

**PRE-MEETING FOR CARGO OPERATION**

[a)] **KINDS OF CARGO & STOWAGE TANKS**

<table>
<thead>
<tr>
<th>No.</th>
<th>CARGO GRADE</th>
<th>NOMINATED QUANTITY</th>
<th>STOWAGE CARGO TANKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BENZENE</td>
<td>3000 MT</td>
<td>1C, 2C, 3C, 4C, 5C, 6C, 7C, 8C</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[b)] **CARGO S. G. or DENSITY & TEMPERATURE**

<table>
<thead>
<tr>
<th>No.</th>
<th>CARGO GRADE</th>
<th>S. G. or DENSITY</th>
<th>TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BENZENE</td>
<td>0.8497</td>
<td>31.0</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[cc] **FIRST AID MEASURES**

- a) Inhalation Refer to attached MSDS
- b) Eye Contact Refer to attached MSDS
- c) Skin Contact Refer to attached MSDS
- d) Ingestion Refer to attached MSDS

[dd] **FIRE FIGHTING MEASURES**
DISCHARGING CARGO OPERATION PLAN (15.5.2016)

a) Specific hazards  Refer to attached MSDS
b) Extinguishing Media  Refer to attached MSDS
c) Unsuitable extinguishing media  Refer to attached MSDS
d) Other Information  Refer to attached MSDS

[ee] ACCIDENTAL RELEASE MEASURES
a) Personal precautions  Refer to attached MSDS
b) Personal Protection  Refer to attached MSDS
c) Emergency Spill Procedures  Refer to attached MSDS
d) Cleanup methods (small spill)  Refer to attached MSDS
e) Clean up method (large spill)  Refer to attached MSDS

[ff] PRECAUTIONS AGAINST STATIC ELECTRICITY
* Bonding wire must be connect before take ullaging, between UTI & Ship's Metal
* Proper grounding of ship / shore earth cable

[gg] WEATHER / TIDAL INFORMATION
PROCEDURES – DISCHARGING OPERATION

(1) Preparation for discharging
   a) Oil Spill equipment ready for immediate use.
   b) Personal protective equipment with BA sets
   c) 2 Fire hose and 2 Portable extinguisher at manifold
   d) Turret guns ready and aligned to manifold
   e) All cargo / vapor return line valves line up as per Chief officer’s instruction.
   f) Confirmed all valve open and/or close (manifold and pump side)
   g) Ensure all reducers at manifold for loading cargo and vapor return line correctly connected
   h) Ensure all accommodation doors are shut, except STBD(PORT) side entrance door on boat deck
   i) Ensure all deck scuppers on upper deck and all drains of spill container are plugged.
   j) Ship/Shore checklist to be completed and initialled as required.

(2) Tanks sampling / ullaging with cargo surveyor

(3) Ship and Shore safety inspection for the safe cargo operation by terminal

(4) Confirmation of cargo quantity with cargo surveyor

(5) Sampling prior loading at the ship’s manifold

(6) Sample analysis prior to discharge

(7) To commence discharging after successful cargo analysis

(8) Sampling from ship’s manifold, when disch. Commence

(9) To comply with shore instructions wrt pumping rates/pressure etc

(8) During cargo operation
   a) Regular check for cargo or oil leakage from the all cargo/hydraulic lines and gasket.
   b) Regular lookout all around of vessel for oil pollution
   c) Check and confirm pressure gauge fitted on off-shore manifold, in operational condition and being monitored regularly in order to avoid any pressure surge.
   d) Ensure vessel has intact stability at all times.
   e) Ensure Ship/Shore communication opened at all times
   f) To call Chief Officer whenever in doubt.
   g) Strictly comply with discharging sequence (attached)
   h) To compare visual draft with sequence draft – to ensure correct discharging according to plan
i) To comply with ship/shore safety check list and also the recurring items checklist.

(9) Stripping
   a) 1 hr notice to all deck crew before completion of cargo operation
   b) 1 hr / 30 mins / 15 mins to terminal
   c) Reduce discharging rate if necessary
   d) Visual inspection of cargo tanks with surveyor

(10) Final gauging and calculation of cargo quantity
(11) Line blowing with Nitrogen from shore to ship’s tanks
     (To be carefully operated of valve due to ship’s tanks full)
(12) To call Chief Officer whenever in doubt.

SAFETY PRECAUTIONS

(1) Proper grounding of ship/shore earth cable
(2) Mooring lines and accommodation ladder tended regularly
(3) Safety Wires adjusted to correct height at all times
(4) All crew understood Emergency spill procedures
(5) Wilden pump tested and ready for use
(6) Ensure Personal Protective Equipment are used as required

Acknowledged by:

BSN  ABC  2/OFF.
ABA  4/OFF  3/OFF.
ABB  Chief officer
## DISCHARGING AND DEBALLASTING PLAN

**M.T:** INDRADI  
**Voy No.:** 34/07  
**Port:** Haipong, Vietnam  
**Arr Date:** 15.05.16

### Cargo Grade

<table>
<thead>
<tr>
<th>API / Den15°C</th>
<th>VCF</th>
<th>WCF</th>
<th>Load port ship Figs. BBL/MT*</th>
<th>Arrival Temp °F</th>
<th>GOV</th>
<th>Cargo nomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BENZENE</td>
<td>0.8840</td>
<td>0.98516</td>
<td>0.88254</td>
<td>3194.134</td>
<td>28.0</td>
<td>3673.770</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Condition After-Hrs

<table>
<thead>
<tr>
<th>Sequence 1</th>
<th>Sequence 2</th>
<th>Sequence 3</th>
<th>Sequence 4</th>
<th>Sequence 5</th>
<th>Sequence 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ullage</td>
<td>Volume</td>
<td>Ullage</td>
<td>Volume</td>
<td>Ullage</td>
<td>Volume</td>
</tr>
<tr>
<td>COT1C BENZN</td>
<td>313</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>COT2C BENZN</td>
<td>333</td>
<td>333</td>
<td>333</td>
<td>333</td>
<td>333</td>
</tr>
<tr>
<td>COT3C BENZN</td>
<td>332</td>
<td>332</td>
<td>332</td>
<td>332</td>
<td>332</td>
</tr>
<tr>
<td>COT4C BENZN</td>
<td>484</td>
<td>484</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>COT5C BENZN</td>
<td>483</td>
<td>483</td>
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</tr>
<tr>
<td>COT6C BENZN</td>
<td>356</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>COT7C BENZN</td>
<td>357</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>COT8C BENZN</td>
<td>506</td>
<td>506</td>
<td>506</td>
<td>506</td>
<td>506</td>
</tr>
<tr>
<td>COT9C BENZN</td>
<td>511</td>
<td>511</td>
<td>511</td>
<td>511</td>
<td>511</td>
</tr>
</tbody>
</table>

### Total Crg o/b Bb/m3

- 3674
- 2648
- 1681
- 665
- 0

### Cargo Disch Bbl/m3

- 1026
- 967
- 1016
- 665
- 665

### Disch Rate Bbl/m3hr

- 225
- 225
- 225
- 225
- 225

### Lines Used

<table>
<thead>
<tr>
<th>WBT 1P</th>
<th>WBT 1S</th>
<th>WBT 2P</th>
<th>WBT 2S</th>
<th>WBT 3P</th>
<th>WBT 3S</th>
<th>WBT 4P</th>
<th>WBT 4S</th>
<th>WBT 5P</th>
<th>WBT 5S</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Total Ballast o/b m3

- 155
- 433
- 647
- 953
- 1317

### Ballast: gravity/pump*

- Pump
- Pump
- Pump
- Pump

### Amount Bilsted m3

- 278
- 214
- 306
- 364

### Ballast Rate m3 / hr

- 150
- 150
- 150
- 150

### Trim ( Mtr )

- 0.76
- 1.18
- 1.65
- 4.44
- 2.76

### Draft ( Mtr )

<table>
<thead>
<tr>
<th>Ford</th>
<th>Aft</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.26</td>
<td>6.02</td>
</tr>
<tr>
<td>4.49</td>
<td>5.67</td>
</tr>
<tr>
<td>3.66</td>
<td>5.31</td>
</tr>
<tr>
<td>2.02</td>
<td>6.46</td>
</tr>
<tr>
<td>2.26</td>
<td>5.02</td>
</tr>
</tbody>
</table>

### Draft Mean ( Mtr )

- 5.64
- 5.08
- 4.48
- 4.24
- 3.64

### Max %

<table>
<thead>
<tr>
<th>SF</th>
<th>BM</th>
</tr>
</thead>
<tbody>
<tr>
<td>526</td>
<td>16300</td>
</tr>
</tbody>
</table>

### GoM

- 1.22
- 1.31
- 1.43
- 1.72
- 2.33

### IG Pressure mmaq

- N/A

* Delete as appropriate

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**Prepared by C/O:** Name & Signature  
**Approved by Master:**  
**Duty Officers Signature:**
GOLD BRIDGE SHIPPING MANAGEMENT
HONGKONG LTD

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