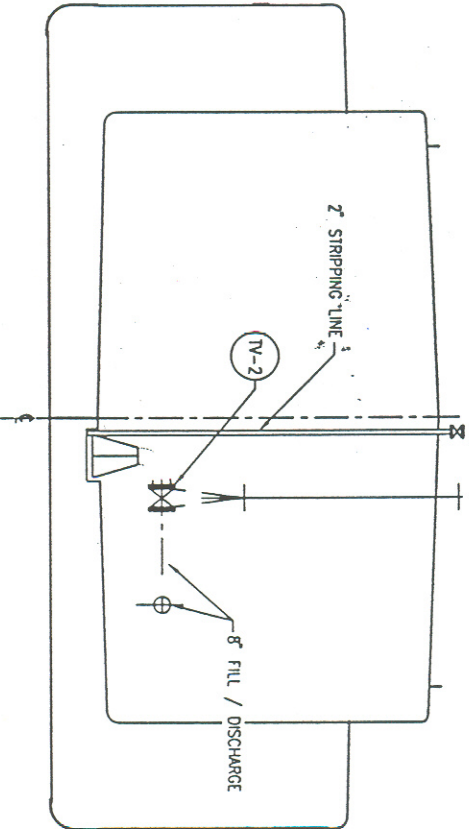


CARGO PIPING



BELOW DECK PIPING

CAPACITIES - SHORT TONS @ VARIOUS DRAUGHTS

| DRAUGHT | TOTAL | TANK-1 | TANK-2 | TANK-3 |
|---------|----------|--------|--------|--------|
| FT. | S.T. | P/S | P/S | P/S |
| 2'-6" | 71.96 | 23.73 | 23.73 | 24.51 |
| 3'-0" | 178.84 | 59.07 | 59.07 | 60.71 |
| 3'-6" | 280.25 | 92.48 | 92.48 | 95.28 |
| 4'-0" | 382.17 | 126.11 | 126.11 | 129.94 |
| 4'-6" | 484.60 | 159.92 | 159.92 | 164.76 |
| 5'-0" | 587.56 | 193.90 | 193.90 | 199.77 |
| 5'-6" | 691.05 | 228.05 | 228.05 | 234.96 |
| 6'-0" | 785.04 | 262.36 | 262.36 | 270.31 |
| 6'-6" | 893.56 | 296.88 | 296.88 | 305.81 |
| 7'-0" | 1,004.61 | 331.57 | 331.57 | 341.57 |
| 7'-6" | 1,109.83 | 366.24 | 366.24 | 377.34 |
| 8'-0" | 1,215.58 | 401.14 | 401.14 | 413.30 |
| 8'-6" | 1,318.80 | 436.19 | 436.19 | 449.41 |
| 9'-0" | 1,428.49 | 471.40 | 471.40 | 485.69 |
| 9'-6" | 1,535.67 | 506.77 | 506.77 | 522.13 |
| 10'-0" | 1,643.31 | 542.29 | 542.29 | 558.72 |
| 10'-6" | 1,751.43 | 577.97 | 577.97 | 595.49 |
| 11'-0" | 1,860.03 | 613.81 | 613.81 | 632.41 |

MAX. CAPACITY - BRG (TOLL)
 1,692.41 3,576.53 3,576.53 3,635.4
 MAX. CAPACITY - OIL FT. (95%)
 57,035.91 1,821.91 1,821.91 1,939.21

SPECIAL FEATURES

- 1) CARGO PUMP: 11" BRONN JACKSON
- 2) PUMP ENGINE: CW 6-71
- 3) TANKS HAVE HEATING COILS
- 4) SEGREGATED CARGO PIPING

VALVE IDENTIFICATION

- TV - TANK VALVES (NUMBERED PER TK)
- DV - DISCHARGE VALVE
- TSBV - TANK SUCTION BLOCK VALVES
- RV - RELIEF VALVE
- LV - LOAD VALVE (1/D PER TANK)
- CSV - CARGO SECREATION VALVE
- PHV - PORT HEADER VALVE
- SHV - STRO HEADER VALVE

OPERATING INSTRUCTIONS

- TO LOAD:
- OPRN: TV-1, TV-2, TV-3
 - OPRN: 1-LV, 2-LV, 3-LV
 - OPRN: SHV OR PHV TO DOCK
 - OPRN: CSV
 - CLOSE: DV
 - CLOSE: TSBV-1, TSBV-2, TSBV-3
- TO DISCHARGE:
- OPRN: TV-1, TV-2, TV-3
 - OPRN: TSBV-1, TSBV-2, TSBV-3
 - OPRN: DV
 - OPRN: SHV OR PHV TO DOCK
 - OPRN: CSV
 - CLOSE: 1-LV, 2-LV, 3-LV

CSB schuller & olsen, inc.
 HOUSTON, TEXAS

FirstWave
 NEWARK SHIPBUILDING

NEWARK SHIPBUILDING COMPANY, INC.
 2007 S. 35th E. 17th S.

BLADE INFO.

HULL NO.:
 NAME: CBC-110
 YEAR BUILT: 1999
 HULL TYPE: DOUBLE BOTTOM
 CARGO GRADE: A & LOWER

HULL NO.: CBC-110
 NAME: PIPING DIAGRAM
 DATE: 2011-05-04