

LAMPIRAN

BERITA ACARA SERAH TERIMA PEKERJAAN SUPERVISI
No.: BAP260524/EMERYN/AB/PV/2024

Customer : PT. MARINA INDAH MARITIM
Nomor Notaak : Q-1911-01/03/2023-R0
Nomor P.D : 017/MIM/EMERYN/0123
Nama Kapal : MT EMERYN

Berita Acara Serah Terima Pekerjaan ini dibuat pada hari Senin, tanggal Dua Puluh Tujuh Mei tahun Dua Ribu Dua Empat (27-05-2024) oleh dua di antara :

1. Name	Dedy Ahsan Darmadi
Jabatan	Team Supervisor/Manager
Alamat	Jalan Pluit Utara Raya 54, Jakarta 14459 - Indonesia
2. Name	Rhifil Rizquloh
Jabatan	Project Engineer
Alamat	SDH-P Pancoran Building, Tower Noble 20th Floor No. 2002 Jl. Lelur MT. Haryono, Km 2-8 Setiab Bumi, Jakarta Selatan, 12010

Melaporkan bahwa:
 Pemohon telah melaksanakan kewajiban PT. NGL di Indonesia sesuai dengan ketentuan yang berlaku.
 Mohon diarahkan tindakan dari PT. ANGGERAH BESTARI INDRAMAYA ke PT. MIRNA INDAH MARITIM
 Atas budi

No.	Jenis Pekerjaan	Quantity	Tanggal Pengerjaan	Remarks
1	Supervisi instalasi BIMS MT Elemen 12	10 Hari	27/05/2024	Tanggal 15 Mei 2024 s.d 15 Mei 2024, Tanggal 20 Mei 2024 s.d 29 Mei 2024

Cerita dan Acara Serah Terima Pekerjaan ini dibuat dengan sebenarnya untuk dapat dipergunakan sebagaimana mestinya.

Ship Manager/ Superintendent
 NI EMERYN
 ARCADIA SHIP
 TENNESSEE
 Daily Report Command
 Ship Manager/ Superintendent

Wahid Hidayat
Project Engineer

Blue Ocean Shield
海盾;
Shipyard:
船厂;
Ship Owner:
船东;
Surveyor:
船检

[Handwritten signature]
LARGED SINAG
MARINA INDON
NAGASA
JAKART
bki
A31 000000

防爆正压柜运行测试

There are two PFK, according to the commissioning instruction do the ventilation and pressure maintaining test. Finally, the EX control system enter into auto-run status.

系统包括两个正压柜,按照正压柜调试步骤,对正压柜进行充气、保压试验,最终使防爆控制系统进入自动运行状态。

No. 序号	Test item 测试项目	Test result 测试结果
1	UV cover PXX UV 反应罐正压测试	Y ☒ 是 N ☐ 否
2	Control system box PXX 系统控制箱正压测试	Y ☒ 是 N ☐ 否

2) PPK alarm test

路標正压恒溫警測試

There are two PXX, execute the relative operation in the commissioning instruction and observe whether the low pressure alarm(the pressure lower than 100Pa). (The definite operation please refer to the PXX commissioning instruction)

系统包括两个正压柜。执行正压柜说明书部分中的相关操作。观察故障正压柜是否出现低压(压力低于 100Pa)。(具体操作参阅正压柜说明书)

No. 序号	Test item 测试项目	Test result 测试结果
1	UV cover PXX UV 反应盖正压罩	YES 是 NO 否
2	Control system box PXX 系统控制箱正压罩	YES 是 NO 否

Lampiran 2: Berita Acara pekerjaan selesai dan witness dengan BKI surveyor

Sumber : Maker BWTS PT. Anugerah Bestari Indotama.

Table 3.2 Performance Parameters of BOS Products

型号: Model	海盾 (BOS) 压载水管理系统 BOS BWMS
处理能力(m³/h): Capacity of treatment (m³/h)	100~3200m³/h
组合方式: Combination modes	过滤+紫外 Filtration + UV
壳体材料: Shell material:	碳钢 Carbon steel
过滤筒壳体: Filter body:	不锈钢 316L SUS 316L
紫外反应器壳体: UV reactor	SUS 316L
壳体表面处理: Shell surface treatment:	
过滤器: Filter:	衬塑, 喷漆 Coated with plastic, paint spraying
预处理介质: Treated medium:	
适用介质: Applicable medium:	海水、淡水、硬淡水 Marine water, freshwater, brackish water
前处理要求: Pre-treatment requirement	≤4mm 拦污网 ≤4mm trash rack
操作条件: Operating conditions:	
最大压降: Maximum pressure drop:	0.05MPa
设计压力: Design pressure:	0.77 MPa
清洗/排污: Cleaning and draining:	
清洗方式: Cleaning method:	全自动自清洗 Automatic self-cleaning
排污方式: Draining method:	直接舷外 Directly discharged overboard
电压: Electricity system:	三相交流 440V/380V/230V Three-phase AC 440V/380V/230V
频率: Frequency:	50-60Hz
故障报警方式: Fault alarm method:	声光报警+连接船舶报警系统 Audible and visual alarm + connecting alarm system of ship
设备使用记录存储方式: Storage method of equipment service records:	USB 存储盘 USB memory disc
存储内容: Stored content:	设备运行记录, 设备故障记录 Equipment operation and fault records

 COSCO SHIPPING SHIP MODIFICATIONS FOR RETROFIT BOS BWMS BWMS RETROFIT-AUTOMATION CONNECTION/INTERFACING	
项目编号/PROJECT NO.: WY1221 船名: SWERTH	
主配电室/MAIN ELECTRICAL ROOM	
配电室需安装或更换的断路器: CIRCUIT BREAKER TO BE INSTALLED OR REPLACED ON SWITCHBOARD	
410V	125A/225(1), 25A/100(1) THE 125A CIRCUIT BREAKER REQUIRES ADDITIONAL PRIORITY TRIPPING
220V	25A/50(1), 15A/30(1)
注: 新增断路器额定短路分断能力不低于该级断路器所需的最小短路分断能力 NOTE: The rated short-circuit breaking capacity of the newly added circuit breaker is not lower than the rated short-circuit breaking capacity of the installed circuit breaker of this class	
泵控制信号/PUMP CONTROL SIGNAL	
NO.1 压载泵 NO.1 WATER BALLAST PUMP	启动, 停止, 故障 START, STOP, WARNING
NO.2 压载泵 NO.2 WATER BALLAST PUMP	启动, 停止, 故障 START, STOP, WARNING
注: 信号类型为无源触点 NOTE: SIGNAL TYPE IS PASSIVE CONTACT	
泵舱门状态信号/PUMP ROOM FAN SIGNAL	
泵舱门运行信号BWM/ADD PUMPING SIGNAL TO BWM 泵舱门故障报警信号BWM/ADD PUMPING WARNING SIGNAL TO BWM	
注: 信号类型为无源触点 NOTE: SIGNAL TYPE IS PASSIVE CONTACT	
原艏侧门位置/SHIP VALVE POSITION	
原艏侧侧门打开并关闭信号BWM/ADD VALVE POSITION SIGNAL TO BWM	
侧门/VALVE IN:	04V, 05V, 07V, 09V, 01V, 03V/手动阀/MANUAL VALVE

Lampiran 3: Data BWTS Retrofit Performa dan spesifikasi

Lampiran 4: Specification BWTS unit manufacture.

Sumber : Project Tim SMI Shipyard

	Certificate No: TAP-0001VF Revision No: 3
TYPE APPROVAL CERTIFICATE	
This is to certify: that the Ballast Water Management System with type designation(s) Blue Cover, Slopco BWMS, model range BCR 150(R) - BCR330(R)(S) issued by COSCO SHIPPING Heavy Industry Technology (Weihai) Co., Ltd. Weihai, Shandong, China is found to comply with IMO Resolution MEPC.80(72) – Code for Approval of Ballast Water Management Systems (BWMS Code) DNV rules for classification – Ship's PL & Ch.7 Part I Ballast water management – BWMS and class programme (UW-GP-03B – Type approval – Ballast water management systems OWF class programme UW-GP-03B – Environmental field specification for electronic, draw-note and programmable microprocessor based systems.	
Application: This IS to certify that the Ballast Water Management System listed above has been examined and tested in accordance with the requirements of the specifications contained in Resolution MEPC.80(72) and DNV Rules related above. This Certificate is valid only for the Ballast Water Management System referred to above. System Design Limitations / Loading Operating Conditions imposed are described in this document. For the compliance with the resolution MEPC.80(72), the Certificate is issued on behalf of the Norwegian Maritime Authority. Products approved by this certificate have accepted for installation on all vessels owned by DNV, unless otherwise indicated by relevant Maritime Authorities.	
Issued at Havik, on 2023-08-16 This Certificate is valid until 2024-07-06. DNV local station: Danish NS & CMC Approval Engineer: Wenjun Wu	
for DNV <i>(signature)</i> Dan Sæviik, Director Director (Local Station, Norway) Dag Sæviik Jensen Head of Station	
The certificate is subject to terms and conditions attached. Any significant change in design or construction may render this certificate invalid. The owner is solely responsible for the type approval certificate and not for its approval of applications submitted. This certificate does not constitute approval of the product covered by the certificate under the terms of the International Convention for the Unification of Certain Principles of Law relating to the Conflicts of Laws applicable in International Trade (UNIDROIT Convention) nor does it constitute approval of the product covered by the certificate under the terms of the UNIDROIT Convention.	
Formversion 1.2 (01)	Revised: 2021-05 www.dnv.com

	Job No: 280 1 00 1880 4 Certificate No: TAF00001UV Revision No: 2		
Type	Description	Drawing no.	Rev.
	001 of 001 of 001 of BLUE OCEAN SHIELD 00100 SHIELD (UMM 63 Annex 1)	00100-010-00	Rev. 00

Treatment Rated Capacity

100 – 3200 m³/h

Product description

Treatment sequence:

- **Ballast water uptake: Filtration & UV treatment**
- **Ballast water uptake: UV disinfection**

After completion of the discharging operation, the system shall be cleaned using the systems Cleaning in Place (CIP) function. Cleaning Liquid (ENVIRONMENTAL 3010).

System design limitations / water quality parameters

Temperature and Salinity

Temperature and salinity of the ballast water are not limiting conditions for the BOD BWMS.

System design limitations / Operational parameters

Handling time

The BWMS has demonstrated performance to the discharge standard in land-based testing with a minimum holding time between intake and discharge of 6 hours in water samples. UV treatment is instant and does not require any long hold time in order to render organisms inactive. Therefore, holding time is not found to be a limiting condition for the ballast water management system.

UV Fraction

The UV Fraction (UVF) is calculated based on irradiated UV intensity. The BWMS has demonstrated performance to the discharge standard when operating with the UVF of at least water not less than 50% during the ballast water uptake.

Treatment Rated Capacity (TRC) of the BWMS

The Treatment Rated Capacities (TRC) of the integrated BLUE OCEAN SHIELD BWMS modules are listed below. The TRC also specifies the major components of the BLUE OCEAN SHIELD BWMS that shall be evaluated for a specific BLUE OCEAN SHIELD BWMS module.

The BWMS has a flow control function according to measured UV fraction (UVF) of feed water with a minimum holding UV fraction to ensure that flow rates are kept within the TRC of a specific module. The BWMS starts flow reduction if UV fraction starts to be triggered and stopped when operating with UVF<50%.

The BOD BWMS supports parallel installation of UV reactors for BOD4000 and BOD3200 module with one compensating tank, designed for parallel installation between them and each UV reactor for flow control valve after each UV reactor.

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PT. SAMUDRA MARINE INDONESIA
SHIP BUILDING - SHIP REPAIRS - SHIP RECYCLING

JOBS COMPLETION REPORT
(LAPORAN HASIL PEKERJAAN)



PROJECT DATA

Project Code	C - 1893
Vessel Name	EMERYN
Type	OIL TANKER
Owner	PT. MARINA INDAH MARITIM
Classification	KOREAN REGISTER OF SHIPPING (KR)
Kind of Survey	DOCKING SURVEY
Dimension	
- Length Over All (LOA)	113,98 Mtr
- Breadth (B)	18,20 Mtr
- Depth (H)	9,75 Mtr
- Draft (T)	- Mtr
Gross Tonnage (GT)	- Ton
Net Tonnage (NT)	- Ton
Dead Weight Ton (DWT)	- Ton
Docking Location	GRAVING DOCK SMI
Vessel Docking	May 4, 2024
Vessel Undocking	May 17, 2024

PT. SAMUDRA MARINE INDONESIA
SHIP BUILDING - SHIP REPAIRS - SHIP RECYCLING

GENERAL DATA OF PROJECT

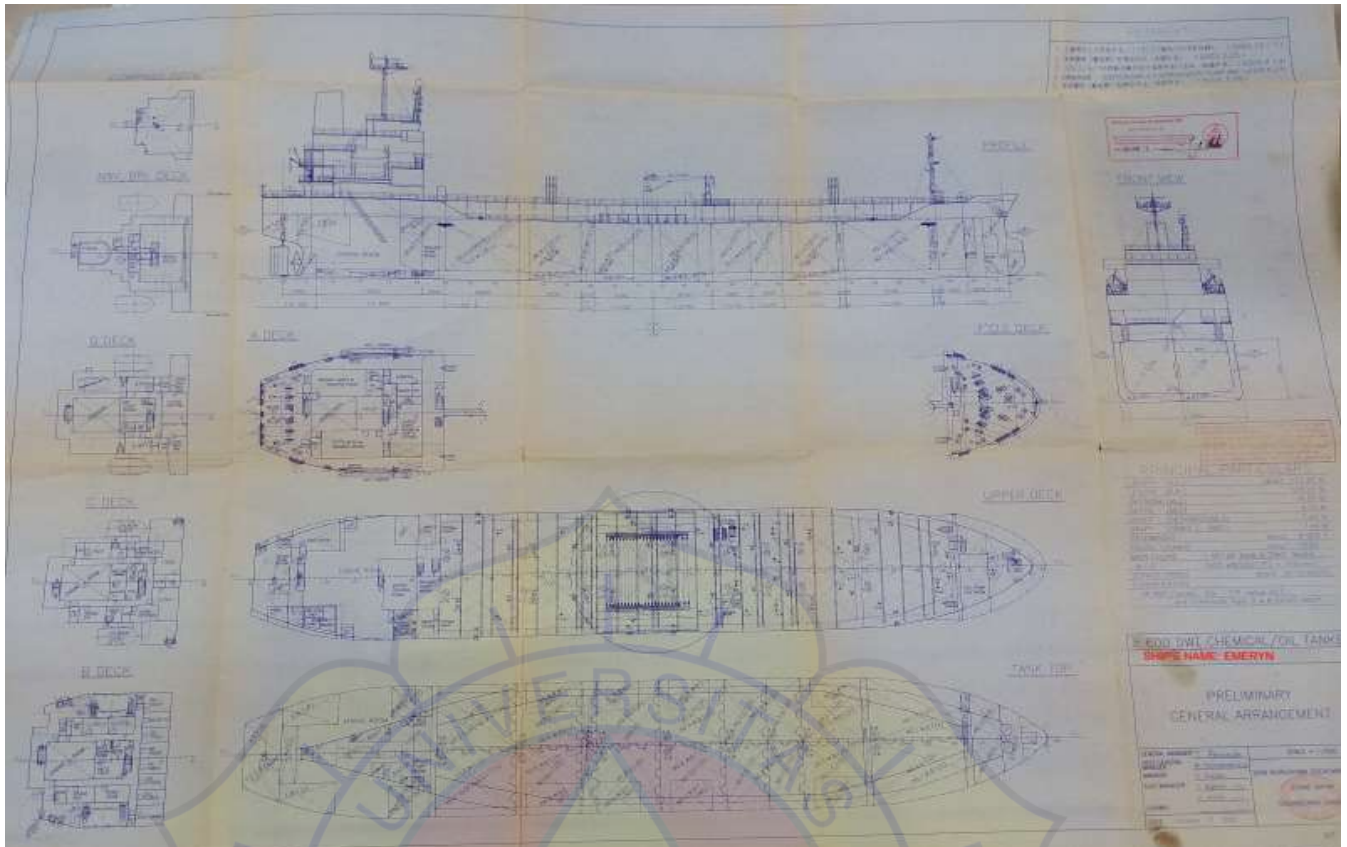
PROJECT CODE	C - 1893
VESSEL NAME	EMERYN
TYPE	OIL TANKER
Ship Dimension	
Length Over All (LOA)	113,98 Mtr
Breadth Moulded (B)	18,20 Mtr
Depth Moulded (H)	9,75 Mtr
Draught Light (T)	- Mtr
Gross Tonnage (GT)	- Ton
Net Tonnage (NT)	- Ton
Dead Weight Ton (DWT)	- Ton
CLASSIFICATION	KOREAN REGISTER OF SHIPPING (KR)
OWNER	PT. MARINA INDAH MARITIM
YARD FOR DOCKING	PT. SAMUDRA MARINE INDONESIA
LOCATION	GRAVING DOCK SMI
ESTIMATE TIME ARRIVAL (ETA)	03 Mei 2024
VESSEL DOCKING	04 Mei 2024
VESSEL UNDOCKING	17 Mei 2024
ESTIMATE TIME DEPARTURE (ETD)	-
GENERAL SCOPE OF WORK	- External Hull Cleaning, Sanding and Priming - Hull Steel work & Hull Outfitting - Piping System - Propulsion System - Machinery & Valve

Lampiran 7: Berita Acara Docking Report dan BWTS Retrofit di kerjakan di dok SMI-Shipyard. Bahwa Pekerjaan Pemasangan Instalasi Unit BWTS telah selesai.

Sumber : Project Tim-Shipyard



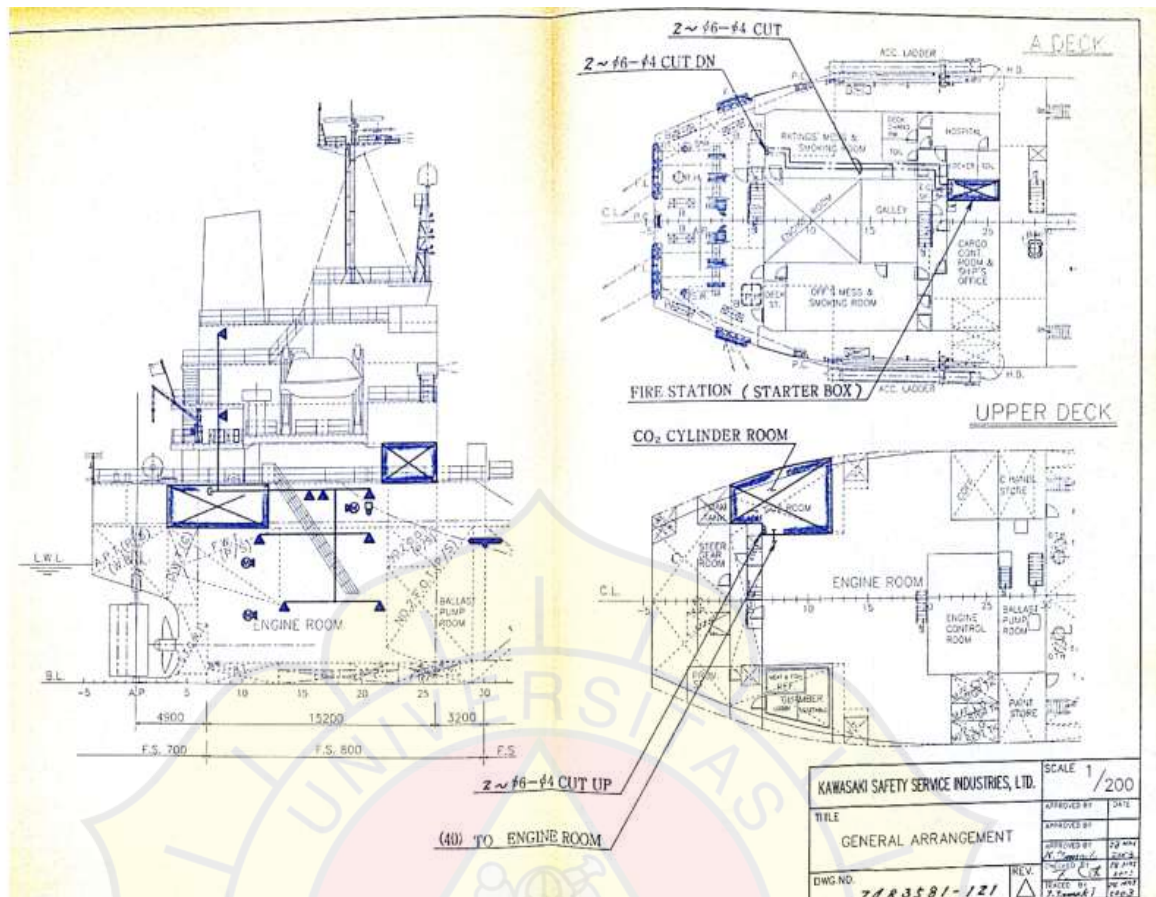
Lampiran 8: MT. Emeryn Docking di Galangan SMI Shipyard



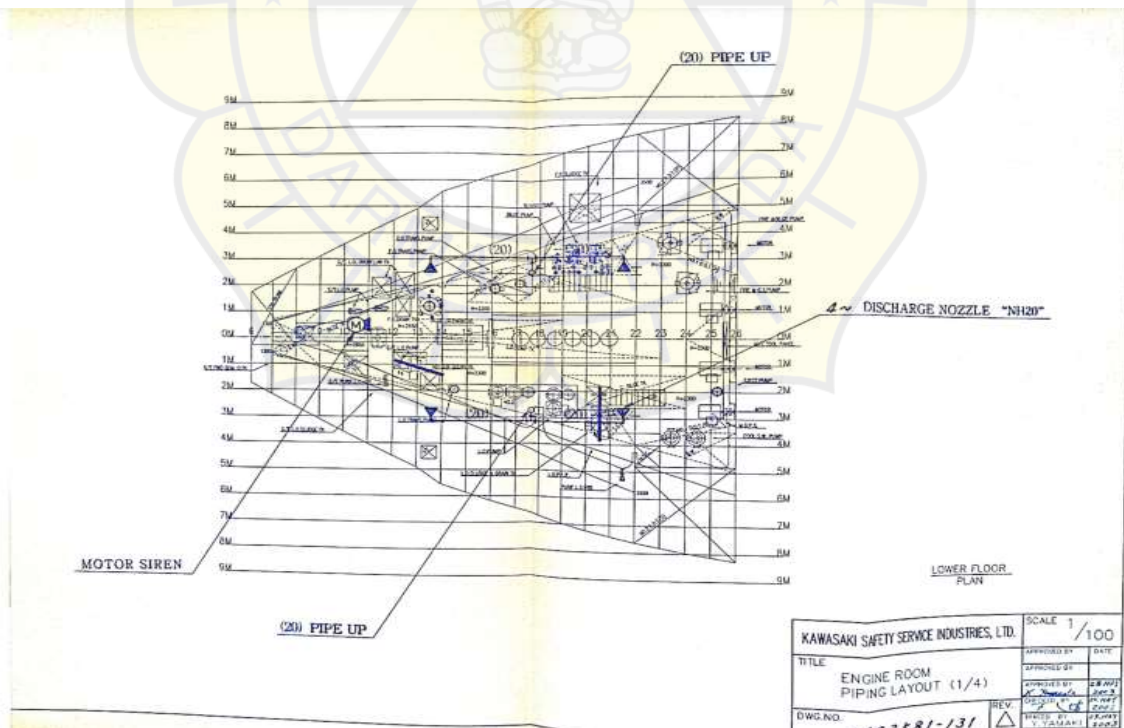
Lampiran 9. Gambar General Arrangemnet (GA) MT. Emeryn



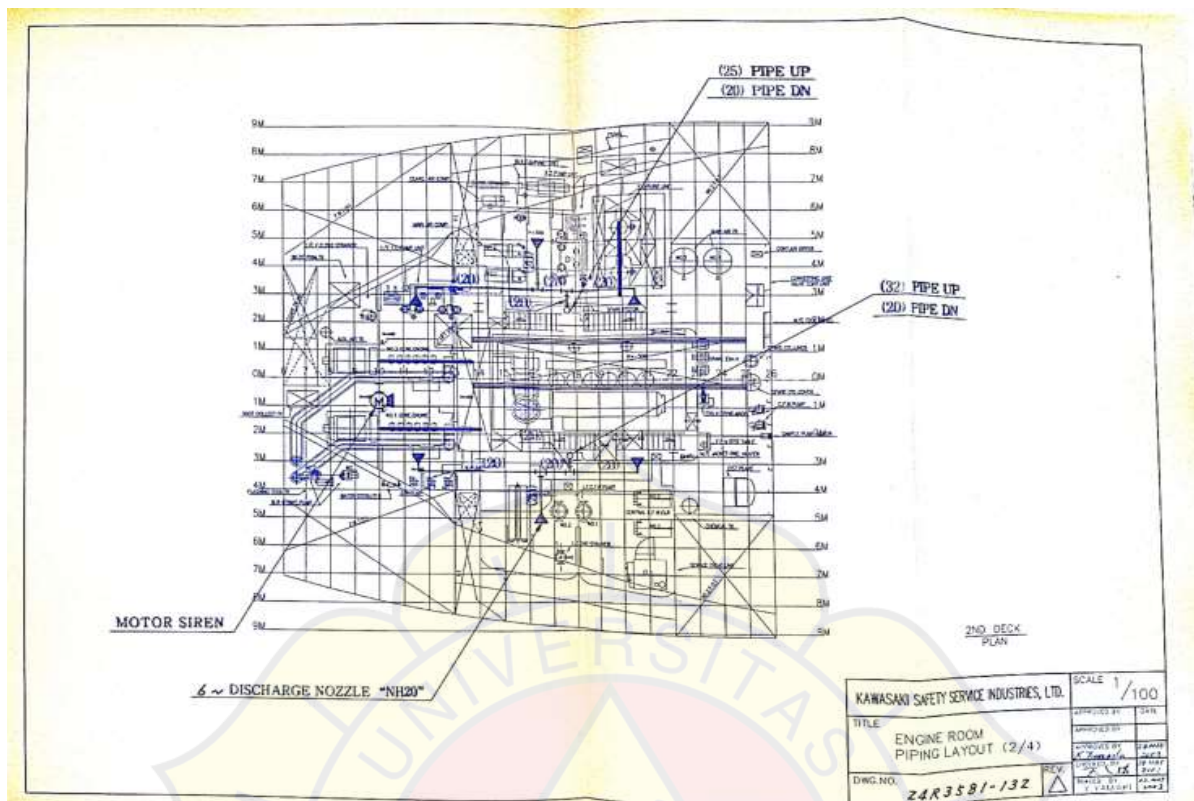
Lampiran 10. Gambar Capacity Plan MT. Emeryn



Lampiran 11. Gambar Lay Out Engine Room MT. Emeryn



Lampiran 12. Gambar Piping Lay Out Engine Room MT. Emeryn



Lampiran 13. Gambar Lay Out Engine Room-2 MT. Emeryn



Lampiran 14. Gambar Lay Out Engine Room-3 MT. Emeryn