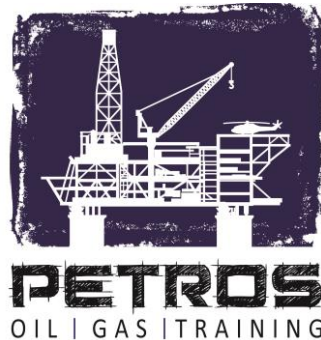


Certificate No : 2023- OFS-067-01-LF
Date : August 16th , 2023



CERTIFICATE OF ACCOMPLISHMENT

This is to certify that

SURYA CHRIST MAKRONI MANALU
ID NUMBER : OFS-LIFT-067-01

has completed our training

**OFFSHORE STRUCTURE DESIGN
LIFTING ANALYSIS**

Held by **PETROS Oil Gas Training** – Jakarta, on August 5th – 7th, 2023
covering the subjects as listed on the back page



Certificate Validation

A handwritten signature in black ink, appearing to read "Heru Prasadja".

Heru Prasadja, ST
Director

OFFSHORE STRUCTURE DESIGN - LIFTING ANALYSIS

SUBJECTS

THEORY

- Design Premises
- Reference Documents
- Method Of Analysis
- Boundary Conditions
- Allowable Stress
- Contingency Factor
- Dynamic Amplification Factor
- Consequence Factor
- Skew Effect
- Rigging Arrangement
- CoG Variation
- Hook Point
- Slings

LOADING

- Load Definition
- CoG Shift Force Calculation

LOADING COMBINATION

- Loading Combination Without Consequence Factor
- Loading Combination For Member Connecting To Padeye
- Loading Combination For Member Not Connecting To Padeye

LIFTING ANALYSIS COMPUTER MODELLING

ANAYSIS RESULT

- Weight Summary
- Centre Of Gravity
- Maximum Sling Load
- API/AISC Member Stress Ratios
- API/AISC Joint Punching Shear Stress Ratios
- API/AISC Joint Minimum Required Strength Ratios
- Joint Deflection

LIFTING ANALYSIS REPORT PREPARATION

FINAL PROJECT : LIFTING ANALYSIS OF 103 TONS DECK PLATFORM