

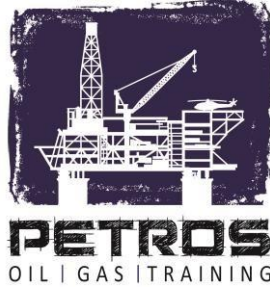


**Kampus
Merdeka**
INDONESIA JAYA

MSIB
magang dan studi independen bersertifikat

Certificate No : 2023-PTR-EFDN-MSIB4-G2-25

Date : June 30th, 2023



CERTIFICATE OF ACCOMPLISHMENT

This certificate granted to

ZAENAL ABIDIN

MSIB ID : 5600900

For successfully completing the training (210 hours)

EQUIPMENT FOUNDATION DESIGN FOR OIL GAS/INDUSTRIAL PLANT

Held by **PETROS Oil Gas Training &
Ministry of Education and Culture Research and Technology of Republic of Indonesia**
at **Kampus Merdeka Studi Independen Bersertifikat** Program

And meet all requirements with score:

83.00

of 100 points



Certificate Validation
Valid Through
30/06/2025

Petros Oil Gas Training
(PT. INDONESIA LEBIH ANDAL PROFESIONAL)

Heru Prasadia, ST
Director

EQUIPMENT FOUNDATION DESIGN FOR OIL GAS/INDUSTRIAL PLANT

SUBJECTS :

FOUNDATION THEORY

- Stability Check
 - Overturning
 - Sliding
 - Upending
 - Soil bearing
- Strength Check
 - One Way Shear
 - Two Way Shear
- Pier Reinforcement Bar
- Slab Reinforcement Bar

EQUIPMENT FOUNDATION COMPUTER MODELLING (AFES) :

- Define Project
- Input Parameter
 - Allowable Stress And Unit Weight Of Material
 - Concrete Cover
 - Safety Factor
 - Soil Bearing Capacity
 - Single Pile Capacity
- Input Node & Dimension
- Input Reinforcement Bar
- Define Loading
 - Dead Load
 - Equipment Load
 - Wind Load
 - Seismic Load
- Define Unfactored Load Combination
- Define Factored Load Combination
- Setting Anchor
- Pile Arrangement

ANALYSIS RESULT

- Foundation & Pile Arrangement Illustration
- Pile Arrangement
- Safety Factor Of Pile
- Check Of Pile Capacity
- Shear Strength Check
- Reinforcement Design

FINAL PROJECT :

- Foundation Design for HP Amonia Scruber 124-D (Vertical Vessel)
- Foundation Design for Production Separator 31-MDB-101 (Horizontal Vessel)
- Foundation Design for Methanol Distillation Column 6160C1