Certificate No : 2022–PTR-EC-PVD-019
Date : June 7th , 2022

PETROS
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CERTIFICATE OF ACCOMPLISHMENT

This is to certify that

NAUFAL MORALIS JAKARIA, S.T

ID NUMBER : PTR-EC-PVD-019

has completed 32 total hours & finished the Final Project of our E-course

PRESSURE VESSEL DESIGN AS PER ASME VIII DIV.1 (MANUAL CALCULATION)

TRAINER :
Tito Febrianto, S.T - Senior Mechanical Static Engineer

Held by **PETROS Oil Gas Training** covering the subjects as listed on the back page

Certificate Validation

Heru Prasadja, ST
Director

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PRESSURE VESSEL DESIGN AS PER ASME VIII DIV.1
(MANUAL CALCULATION)
E-COURSE

Pressure Vessels Introduction
- Definition, Application
- Standard Reference, and tools
- Scope of design
- Outline E-Course

Material Selection and Material Properties Data
- ASME reference
- Required data
- Material Properties and Specification
- Commonly used Material
- Tensile strength and Yield strength
- Allowable stress
- Dimension tolerances

Type of pressure
- Design Pressure
- Static Pressure
- Maximum Allowable Working Pressure (MAWP)
- Maximum Allowable Pressure (MAP)
- Test Pressure
- Others Pressure

Important Assumptions in Designing and Calculation
- Corrosion Allowances
- Joint Efficiency
- Tolerance

Shell Design and Calculation
- References and Equation
- Symbol and Definition
- Minimum Required Data
- Simple Study Case
- Actual Study Case

Head Design Calculation
- References and Equation
- Types of head
- Symbol and Definition
- Study Case

Nozzle Design Calculation
- References and Equation
- Type of nozzles
- Symbol and Definition
- Nozzle for access opening
- Study Case for Access Opening Nozzles
- Nozzle for others
- Study Case for Other Nozzles

Nozzle Reinforcements Design and Calculation
- References and Equation
- Limit of Reinforcement
- Reinforcement Area
- Symbol and Definition
- Simple Study Case
- Actual Study Case

Flanges Design and Selection
- References
- Type of flanges
- Pressure-Temperature Rating
- Study Case Rating Selection
- Study Case Dimension Selection
- Bolt and Nut Selection

Heat Treatment Evaluation
- References and Equation
- Heat Treatment After Forming Evaluation
- Post Weld Heat Treatment Evaluation

Impact Test Evaluation
- References
- Impact Test Requirements
- Material Classification, Governing Thickness, and MDMT Calculation
- MDMT Reduction
- Study Case

Weld Size Evaluation
- Shell and Head
- Nozzle to Shell or Head (without pad)
- Nozzle to Shell or Head (with pad)
- Nozzle to Flanges

MAWP Evaluation and Test Pressure Selection
- Summary MAWP
- Lowest Stress Ratio Calculation
- Test Pressure Selection

Summary Design and Calculation

FINAL PROJECT : COMPLETED