



Bryan Shakira Azhar

Process Engineer I Process Safety Engineer I Field Engineer I Lab. Analyst

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(+62) 821-8314-3501 | Palembang City, South Sumatra

SUMMARY

Highly motivated Chemical Engineering undergraduate specializing in Oil and Gas Processing at Politeknik Energi dan Mineral Akamigas, with a solid foundation in **Process Engineering**, **Process Safety Engineering**, **Industrial Safety Management (ISO 45001 and SMK3)**, **Environmental Management Systems (ISO 14001)**, **Greenhouse Gas (GHG) Quantification and Reporting (ISO 14064)**, and **Environmental Compliance & Permitting**. Throughout my academic journey, I have cultivated my expertise through competitive achievements and research initiatives, earning **10+ awards** at both regional and international levels. In addition, I have successfully led Serving as **Vice President** of the **Society of Petroleum Engineers**, I have strengthened my leadership capabilities and fueled my passion for continuous growth, innovation, and the pursuit of new challenges.

EDUCATION

Politeknik Energi dan Mineral Akamigas

June 2022 - June 2026

Bachelor of Science in Chemical Engineering - Oil and Gas Processing (GPA : 3.46/4.00)

- **Core Competence** : Process Engineer, Process Safety Engineer, Field Engineer, Laboratory Analysis
- **Software Skills** : Microsoft Office 365 (Word, Excel, Powerpoint), Visio, Prodyn, Aspen Hysys, Aloha
- **Soft Skills** : Leadership, Teamwork, Time Management, Critical Thinking, Problem Solving.
- **Scholarship** : Partial Tuition Waiver Scholarship Ministry of Energy and Mineral, 2024

WORK EXPERIENCES

PT. New Priok Container Terminal One NPCT1

June - August 2026

HSSE Department

- **Greenhouse Gas (GHG) Accounting & Reporting (ISO 14064)**: Developed organizational greenhouse gas inventories in accordance with **ISO 14064**, the **GHG Protocol**, and the **IPCC Guidelines** by defining organizational and operational boundaries, identifying and quantifying **Scope 1, Scope 2, and relevant Scope 3 emissions**, collecting and validating activity data, applying appropriate emission factors, performing carbon footprint calculations, and preparing **technical GHG inventory reports**.
- **Assist in Carbon Management**: Managed **greenhouse gas emissions quantification** by collecting and validating activity data, selecting appropriate emission factors based on the **IPCC Guidelines** and **GHG Protocol**, calculating **CO₂, CH₄, and N₂O** emissions, converting results into **CO₂ equivalent (CO₂e)** using applicable **Global Warming Potentials (GWPs)**, analyzing emission sources and intensity, to support carbon management and decarbonization strategies.
- **Dangerous Goods (DG) Management**: Verified dangerous goods documentation and container handling activities in accordance with the **International Maritime Dangerous Goods (IMDG) Code**, ensuring compliance.

PT. PERTAMINA GAS NEGARA

Jan 2026 - March 2026

Operation and Maintenance Department

- **Maintenance & Process Safety**: Supported predictive maintenance activities for rotating and process equipment at the gas compressor station, including inspection of **Gas Turbine Compressors, Gas Scrubbers**, and associated piping systems. Applied **Failure Mode and Effects Analysis (FMEA)** to identify potential failure modes and support preventive maintenance.
- **Operations**: Assisted operations teams in monitoring gas compression processes and pipeline integrity activities, including exposure to **Pipeline Pigging, pipeline reinforcement works**, and **Basic corrosion** monitoring.

PT. Sinar Alam Permai Wilmar Group

HSSE Department (Intern)

July 2025 - December 2025

- **Environmental Management:** Developed practical expertise in **PROPER** compliance and environmental regulatory frameworks by preparing and managing documentation such as **UKL-UPL**, **Rintek**, **Pertek**, and **Andalalin**, while administering the **SIMPEL** digital platform to support integrated environmental reporting and conducting environmental monitoring of **Hazardous waste (LB3)**, **Wastewater**, and **Air Emissions**.
- **Safety System:** Supported the implementation of the **Contractor Safety Management System (CSMS)** by assisting in permit to work, reviewing **Job Safety and Environmental Analysis (JSEA)**, Contributed to **occupational safety** and **SMK3** compliance by supporting **emergency response SOP development**, mapping **first aid kit locations** with **SMK3 assessment** result at **91.3** and participating in internal and external safety audits, including **Process Safety Management (PSM)**, **fire protection system audits**, inspections conducted by the **Ministry of Manpower Indonesia (TPKD & P2LK3)** and **Ministry of Environment and Forestry**.
- **Occupational Health:** Supported workplace health programs through **Health Risk Assessments (HRA)**, including noise exposure monitoring under the **Hearing Conservation Program**, **ergonomic assessments**, the **eyewash safety campaign** and support initiated **Safe welding campaign**.

PT. Pertamina EP Asset IV Cepu

HSSE Department (Intern)

March - April 2023

- Conducted comprehensive compilation and verification of **Process Safety Information (PSI)** encompassing **chemical hazard data**, **material safety data sheets (MSDS/SDS)**, and physical/chemical property specifications in alignment with **OSHA** regulatory requirements.
- Assisted in preparing preliminary risk assessment reports by compiling relevant **PSI** data for use in **Hazard and Operability Study (HAZOP)** and **hazard identification (HAZID)** sessions.
- Participated in technical inspection of the **condensate tank** by measuring **wall thickness**, evaluating coating condition, **checking for corrosion**, and inspecting **weld joints** for **mechanical degradation**

LEADERSHIP ORGANIZATION

Society Of Petroleum Engineers PEM Akamigas

Jan 2024 - July 2025

Staff Of Event Department

- Organized and executed the “**Goes to Village**” program, engaging **50 participants** in community outreach and hands-on learning activities related to petroleum engineering.
- Coordinated logistics, materials, and participant engagement for the “**Training Basic Petroleum**” program, a flagship initiative of the **SPE Java** with total **60 participant**

Vice President

- Led a team of **37 members** across **6 departments**, successfully planning and executing **40 organizational programs** aligned with strategic objectives.
- Implemented **cost saving strategies**, successfully reducing the organizational budget by **15%** without compromising work Program

Research

Laboratory Hilir Migas

July 2024 - Dec 2024

Utility Laboratory Assistant

- Conducted comprehensive water quality analyses, including **pH**, **turbidity**, **demineralized water**, and **other physical, chemical, and microbiological tests**, ensuring compliance with regulatory standards.
- Assisted in **developing standard operating procedures (SOPs)** for water testing, enhancing laboratory efficiency and safety compliance.

Oil and Gas Testing Product Laboratory Assistant

August 2024 - Dec 2024

- Conducted standardized analyses including **distillation**, **viscosity**, **pour point**, **density**, **ASTM color**, and **smoke point** in compliance with laboratory and industry standards.
- Performed sample preparation, **instrument operation**, and precise data recording to ensure reliable test

Research Assistant

July 2023 – Aug 2024

Design, Fabrication, and Optimization of a Pyrolysis Unit for Converting Solid Polymer Waste into Naphtha

- Conducted applied research on **plastic waste** pyrolysis aimed at converting post consumer plastics into **Naphtha range liquid fuel**.
- Performed material and energy balance analysis, achieving a conversion of **2 kg of waste plastic** into **1.4 liters of naphtha**.

Research Assistant

January 2025 – July 2025

Environmentally Friendly Alternative Biodiesel Synthesis with High Performance Using Azolla Plants as Raw Material

- Conducted research on environmentally friendly **biodiesel synthesis** utilizing **Azolla plants** as a renewable raw material.
- Performed **feedstock preparation, processing, and product evaluation** to assess fuel quality and efficiency.

PUBLICATION

Advanced In Social Humanities Research

Identification of Potential Hazards and Operational Problems in Coloumn Combination V-0301 At PT Pertamina's Caustic Treater Unit Using the HAZOP Method

<https://doi.org/10.46799/adv.v2i12.315>

Jurnal Sains dan Teknologi

INTERPRETASI PROCESS SAFETY INFORMATION DI PT X DENGAN MENGACU PADA PROCESS SAFETY MANAGEMENT OSHA 29 CFR 1910.119 (D)

<https://ejournalcibinstitut.com/index.php/kohesi/article/view/4904>

ACHIEVEMENT

- Vyatra Siswa Madya 2024 | Ministry of Energy and Mineral Resources of the Republic of Indonesia
- Vyatra Siswa Utama 2024 | Ministry of Energy and Mineral Resources of the Republic of Indonesia
- Silver Medal World invention Competition and Exhibition 2024 | Mahsa University Malaysia
- Gold Medal National invention Competition and Exhibition 2024 | Indonesian Young Scientist Organization
- 2nd Place Essay Competition Parade Bioers 2024 | Sriwijaya University
- Silver Medal Global Innovation and Entrepreneurship Competition 2024 | Polytechnic Caltex Riau
- Gold Award Word Sustainable Development Goal Challenge | Malaysian Young Scientist Organization
- Silver MVP Capstone Design Oil and gas Refinery Engineering 2025 | Polytechnic energy mineral, Academy Of Oil and gas
- Gold Medal International Science and Invention fair | Diponegoro University
- 2nd Winner of English Speech Competition in 57th Dies Natalis Polytechnic Energy Mineral, Academy of Oil and gas
- Gold Medal World Youth Invention and Innovation award 2024 | Indonesian young Scientist Organization
- 3rd MVP for Research Proposal Presentation Oil and gas Refinery Engineering 2026 | Polytechnic energy mineral, Academy of Oil and gas

CERTIFICATION AND TRAINING

PT Alpha Petroleum Indonesia

Professional Internal Auditor Applying ISO 19011 integrated ISO 45001, ISO 9001, ISO 1400

Pusat Pengembangan Sumber Daya Manusia Minyak dan Gas Bumi

Oil & Gas Occupational Safety and Health (K3 Migas)

IJAZAH

diberikan kepada :

Bryan Shakira Azhar

NIM : 221420023

NIK / No. Paspor : 1671161905050001

Lahir di Palembang, tanggal 19 Mei 2005

telah menyelesaikan segala persyaratan pendidikan Sarjana Terapan dan dinyatakan **LULUS**
pada Program Studi Teknik Pengolahan Minyak dan Gas

pada tanggal 24 Juni 2026

sehingga kepadanya diberikan Ijazah dan gelar :

Sarjana Terapan Teknik (S.Tr.T.)

dengan segala kewenangan serta hak yang berhubungan pada Ijazah yang dimilikinya.

Cepu, 24 Juni 2026



Direktur,

Dr. Endang Indriani, S.Si., M.T.

NIP. 19830614 200604 2 001

Ketua Program Studi
Teknik Pengolahan Minyak dan Gas



Dr. Annasit, S.T., M.T.

NIP. 19810601 200604 1 001

Akreditasi Program Studi
No. : 0431/SK/LAM
Teknik/VST/VIII/2024

PEN AKAMIGAS

No. Ijazah : 355001322022026100037

**SERTIFIKAT KOMPETENSI KERJA
KESELAMATAN DAN KESEHATAN KERJA
(Health & Safety)**

Tingkatan/Level : OPERATOR KESELAMATAN DAN KESEHATAN KERJA/
Health & Safety Operator

No. Sertifikat/Certificate Number : 060013257300083142026

Diberikan Kepada/Presented to : BRYAN SHAKIRA AZHAR

NIK/Identity Number : 1671161905050001

Berlaku/Validity : 01-05-2026 s.d 01-05-2030



No. id: 1300046022026



Kepala PPSDM MIGAS
Director of the PPSDM MIGAS
Selaku Ketua Dewan Pimpinan
LSP "PPSDM MIGAS"
As the Chairman of the Board of
LSP "PPSDM MIGAS"



WASKITUNG GUL NUSANTO



Certificate No. 00020/LOT-01A/7/2026/SBN

ENGLISH PROFICIENCY TEST RESULT

This is to certify that

BRYAN SHAKIRA AZHAR

has successfully completed

LIA Online Test for TOEIC® Prediction (LOT TOEIC® Prediction)

taken on July 9, 2026

Overall LOT TOEIC®
Prediction Score
660

Listening Score : 370

Reading Score : 290


LEMBAGA BAHASA 

Irwanti Nurika Vidayanti, S. Si.

Branch Manager



LIA Online Test Prediction is used as a preparation tool for high-stakes tests.
In association with the report, LEMBAGA BAHASA LIA expects that it is used for informational purposes only.

Valid for 6 months



CERTIFICATE OF COMPLETION

This certificate is proudly presented to:

BRYAN SHAKIRA AZHAR

Has Successfully Completed Training Becoming a Professional Internal Auditor:
Applying ISO 19011 in Conducting Integrated ISO 45001, ISO 9001, and ISO 14001 Audits
in the Oil and Gas Sector.

Delivered by Febrina Yolanda, S.Kel., M.M.

Publish on 28 June 2025.



NURKHOZIN ADHI NUGROHO, S.T., M.T.
CEO ALPHA PETROLEUM INDONESIA

List of Learning Module Training Becoming a Professional Internal Auditor: Applying ISO 19011 in Conducting Integrated ISO 45001, ISO 9001, and ISO 14001 Audits in the Oil and Gas Sector:

- Integrating ISO 19011 with IMS Audits.
- Auditor Competency and Role in an IMS Framework.
- Implemented Risk-Based Thinking in Integrated Audits.
- Effective Reporting and Follow-Up of Audit Results.
- Case Studies and Industry Best Practices.





TRANSKRIP / TRANSCRIPT

Nomor Transkrip / Transcript Number : T.355001322022026100037

A. Data Pribadi / Personal Data

Nama Mahasiswa / Name of Student : Bryan Shakira Azhar
Tempat dan Tanggal Lahir / : Palembang, 19 Mei 2005 /
Place, Date of Birth : Palembang, May 19, 2005

Nomor Induk Mahasiswa / Student ID Number : 221420023
Program Studi / Study Program : Teknik Pengolahan Minyak dan Gas / Oil & Gas Processing Engineering
Program / Program : Sarjana Terapan / Bachelor of Applied Science

B. Prestasi Akademik / Academic Achievement

Kode / Code	Mata Kuliah /Course	SKS / Credit	Nilai / Score	Mutu / Grade
Semester I				
AK1010	Agama dan Etika Religion and Ethics	2	A	8
AK2020	Fisika Dasar Fundamental Physics	3	B	9
AK2040	Matematika Dasar Basic Mathematics	2	B	6
AK4101	Pengantar Industri Migas Introduction to Oil and Gas Industry	3	B	9
TO2030	Kimia Dasar General Chemistry	3	C	6
TO2105	Kimia Organik Organic Chemistry	2	B	6
TO3101	Praktikum Utilitas 1 Utilities Lab 1	1	AB	3,5
TO3103	Utilitas 1 Utilities 1	2	B	6
Semester II				
AK1020	Bahasa Indonesia Indonesian	2	AB	7
TO2102	Kimia Analisa Analytical Chemistry	2	AB	7
TO2114	Praktikum Kimia Analisa Analytical Chemistry Lab	1	AB	3,5
TO3102	Gambar Teknik Engineering Drawing	2	B	6
TO3104	Instrumentasi Kilang Instrumentation of Refinery	2	BC	5
TO3106	Praktik Instrumentasi Kilang Instrumentation of Refinery Lab	1	A	4
TO3108	Proses Pengolahan Migas 1 Oil and Gas Refinery Process 1	2	A	8
TO3110	Proses Pengolahan Petrokimia 1 Petrochemical Refinery Process 1	2	AB	7
TO3112	Produk Migas dan Petrokimia 1 Oil, Gas and Petrochemical Products 1	2	AB	7
TO3114	Praktikum Produk Migas dan Petrokimia 1 Oil, Gas and Petrochemical Products Lab 1	1	AB	3,5
TO3116	Peralatan Proses 1 Process Equipment 1	3	B	9
TO3118	Praktikum Peralatan Proses 1 Process Equipment Lab 1	1	AB	3,5
Semester III				
TO2005	Kimia Fisika Physical Chemistry	1	AB	3,5
TO2006	Praktikum Kimia Fisika Physical Chemistry Lab	1	AB	3,5
TO2007	Praktik Pemrograman Komputer Computer Programming	2	AB	7
TO3013	Evaluasi Peralatan Kilang Refinery Equipment Evaluation	1	AB	3,5
TO3014	Praktik Evaluasi Peralatan Kilang Refinery Equipment Evaluation Practice	2	A	8
TO3015	Produk Migas dan Petrokimia 2 Oil, Gas and Petrochemical Products 2	1	AB	3,5
TO3016	Praktikum Produk Migas dan Petrokimia 2 Oil, Gas and Petrochemical Products Lab 2	1	AB	3,5
TO3017	Keselamatan Kerja Operasi Kilang Refinery Operation Safety	1	B	3
TO3018	Praktik Keselamatan Kerja Operasi Kilang Refinery Operation Safety Practice	1	AB	3,5
TO4004	Matematika Teknik Engineering Mathematics	1	AB	3,5
TO4005	Praktikum Matematika Teknik Engineering Mathematics Lab	1	AB	3,5
TO4006	Neraca Massa dan Energi Mass and Energy Balance	2	B	6
TO4007	Praktik Neraca Massa dan Energi Mass and Energy Balance Practice	1	B	3
TO4008	Mekanika Fluida Fluid Mechanics	1	B	3
TO4009	Praktikum Mekanika Fluida Fluid Mechanics Lab	1	AB	3,5
TO4010	Operasi Perpindahan Panas Heat Transfer Operation	1	AB	3,5
TO4011	Praktikum Operasi Perpindahan Panas Heat Transfer Operation Lab	1	AB	3,5
Semester IV				
TO2008	Statistika Statistics	1	B	3
TO2009	Praktik Statistika Statistics Practice	1	B	3
TO3011	Penyimpanan dan Penanganan Bahan Storage and Handling	1	A	4
TO3012	Praktik Penyimpanan dan Penanganan Bahan Storage and Handling Practice	1	A	4
TO3019	Desain Peralatan Kilang 1 Refinery Equipment Design 1	1	A	4
TO3020	Praktik Desain Peralatan Kilang 1 Refinery Equipment Design 1 Practice	2	AB	7

Kode / Code	Mata Kuliah /Course	SKS / Credit	Nilai / Score	Mutu / Grade
TO3021	Pengolahan Limbah Industri Migas Oil & Gas Wastewater Treatment	1	BC	2,5
TO3022	Praktik Pengolahan Limbah Industri Migas Oil & Gas Wastewater Treatment Practice	1	AB	3,5
TO3023	Kertas Kerja Wajib Work Report	2	A	8
TO4012	Termodinamika Thermodynamics	2	AB	7
TO4013	Praktikum Termodinamika Thermodynamics Lab	1	AB	3,5
TO4014	Kinetika dan Katalis Kinetics and Catalyst	2	BC	5
TO4015	Praktikum Kinetika dan Katalis Kinetics and Catalyst Lab	1	AB	3,5
TO4016	Operasi Perpindahan Massa Mass Transfer Operation	1	AB	3,5
TO4017	Praktikum Operasi Perpindahan Massa Mass Transfer Operation Lab	1	AB	3,5
Semester V				
AK1007	Kesehatan dan Keselamatan Kerja Occupational Health and Safety	1	AB	3,5
AK1008	Praktik Kesehatan dan Keselamatan Kerja Occupational Health and Safety Lab Work	2	AB	7
TO3024	Pengendalian Proses Kilang Refinery Control	2	AB	7
TO3025	Praktikum Pengendalian Proses Kilang Refinery Control Lab	1	AB	3,5
TO3026	Desain Peralatan Kilang 2 Refinery Equipment Design 2	1	A	4
TO3027	Praktik Desain Peralatan Kilang 2 Refinery Equipment Design 2 Practice	2	AB	7
TO3028	Desain Proses Kilang Refinery Process Design	1	A	4
TO3029	Praktik Desain Proses Kilang Refinery Process Design Lab	2	A	8
TO3030	Optimasi Proses Kilang Refinery Optimization	1	A	4
TO3031	Praktik Optimasi Proses Kilang Refinery Optimization Practice	1	A	4
TO3032	Praktikum Komputasi Proses Process Computation Lab	2	A	8
TO4018	Manajemen Pengawasan Supervisory Management	1	A	4
TO4019	Praktik Manajemen Pengawasan Supervisory Management Practice	1	A	4
TO4020	Ekonomi Teknik Engineering Economics	2	AB	7
Semester VI				
AK1005	Bahasa Inggris English	1	AB	3,5
AK1006	Praktik Bahasa Inggris English Practices	1	AB	3,5
TO3033	Dasar-Dasar Perancangan Kilang Refinery Plant Design Basics	1	AB	3,5
TO3034	Praktik Dasar-Dasar Perancangan Kilang Refinery Plant Design Basics Practice	2	AB	7
TO3035	Sintesa dan Rekayasa Produk Migas dan Petrokimia Oil, Gas and Petrochemical Products Synthesis and Engineering	1	AB	3,5
TO3036	Praktik Sintesa dan Rekayasa Produk Migas dan Petrokimia Oil, Gas and Petrochemical Products Synthesis and Engineering Practice	3	AB	10,5
TO3037	Manajemen Keselamatan Proses Kilang Refinery Safety Management	1	AB	3,5
TO3038	Praktik Manajemen Keselamatan Proses Kilang Refinery Safety Management Lab	2	A	8
TO3040	Perancangan Sistem Proses Process System Design	6	AB	21
TO4021	Metodologi Penelitian Terapan Applied Research Method	1	B	3
Semester VII				
AK1011	Praktik Kerja Lapangan Internship	10	A	40
TO3041	Konservasi dan Diversifikasi Energi Energy Conservation and Diversification	2	A	8
TO3042	Pengendalian Emisi Karbon Carbon Emission Control	2	A	8
TO3043	Perencanaan Operasi Kilang Refinery Operation Planning	2	A	8
TO3044	Rekayasa Keselamatan Kerja Kilang Refinery Safety Engineering	2	A	8
TO4022	Manajemen Proyek Project Management	2	A	8
Semester VIII				
AK1002	Pancasila Pancasila	2	A	8
AK1003	Kewarganegaraan Civics	2	A	8
AK1012	Tugas Akhir Final Project	8	BC	20
Jumlah / Total		149		515,5

Judul Tugas Akhir / Final Project Title :

ANALISIS RISIKO LOSS OF CONTAINMENT CPO MENGGUNAKAN METODE FTA DAN ETA PADA BLEACHER TANK DALAM PERSPEKTIF NET ZERO EMISSION 2060
RISK ANALYSIS OF CPO CONTAINMENT LOSS USING THE FTA AND ETA METHODS IN BLEACHER TANKS FROM THE PERSPECTIVE OF NET ZERO EMISSIONS BY 2060

Direktur / Director.

Dr. Erdita Indriani, S.Si., M.T.
NIP. 198306142006042001

Indeks Prestasi Kumulatif / GPA : 3,46

Predikat Kelulusan / Predicate : Sangat Memuaskan / Very Satisfactory

Tanggal Yudisium / Date of Judicium : 24 Juni 2026 / June 24, 2026

Ketua Program Studi / Head of Study Program.

Dr. Annasit, S.T., M.T.
NIP. 198106012006041001