

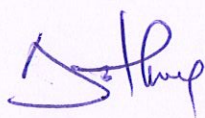
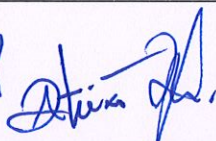
TERMS OF REFERENCE (ToR)
EXPLORATORY DRILLING
TIMOR GAP Pualaca Block (PSC TL-OT-21-17)
Onshore Timor-Leste

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Abbreviations

Acronym	Definition
TGPB	TIMOR GAP Pualaca Block
PSC	Production Sharing Contract/ Kontratu Fahe Produsaun
ANLA	Autoridade Nacional Licenciamento Ambiental
ANP	Autoridade Nacional do Petróleo
APM-TL	Asosiasaun Peskas no Mariña Timor-Lorosa'e
EIA	Environmental Impact Assessment
AIA	Availasaun Impaktu Ambiental
EIS	Environmental Impact Statement
DIA	Deklarasaun Impaktu Ambiental
EMP	Environmental Planning Management
PJA	Planu Jestaun Ambiental
HSE	Health, Safety and Environment
NGO	Non-Government Organization
PC	Public Consultation
PCP	Public Consultation Plan
PNTL	Polícia Nacional de Timor-Leste
TL	Timor-Leste
TOR	Terms of Reference
SEIS	Simplified Environmental Impact Statement
CSOs	Civil Society Organizations
FONGTIL	Fórum ONG Timor-Leste
CVTL	Cruz Vermelha de Timor-Leste
TR	Termu Referensia
IFC	International Finance Corporation
IOGP	International Association of Oil & Gas Producers
EBS	Environmental Baseline Study
GIIP	Good International Industry Practice
EHS	Environmental, Health, and Safety
IUCN	International Union for Conservation of Nature
UNFCCC	United Nations Framework Convention on Climate Change
NCCP	National Climate Change Policy
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
APORTIL	Administração dos Portos de Timor-Leste
DM	Diploma Ministerial
LULC	Land Use and Land Cover
dB(A)	A-weighted decibels (a unit used to measure sound levels relative to human hearing)
ISO	International Organization for Standardization
MSL	Mean Sea Level
LNG	Liquefied Natural Gas
GoTL	Government of Timor-Leste
ESIA	Environmental and Social Impact Assessment
PD	Project Document
IPIECA	Global Oil and Gas Industry Association for Environmental and Social Issues
UNCBD	United Nations Convention on Biological Diversity
DL	Decree Law
m	Meter
km	Kilometer
UNECE	United Nations Economic Commission for Europe

TG	TIMOR GAP
ISBN	International Standard Book Number
QHSE	Quality, Health, Safety, and Environment
PS 1	Performance Standard 1 (typically refers to the IFC's Assessment and Management of Environmental and Social Risks and Impacts).
UNEP	United Nations Environment Programme.
CI	Conservation International (CI) Timor-Leste
UNTL	Universidade Nacional Timor Lorosa'e
UNPAZ	Universidade da Paz
UNDIL	Universidade Dili
UNITAL	Universidade Oriental Timor Lorosa'e
DIT	Dili Institute of Technology
IOB	Institute of Business
HTS	Harmonized Tariff Schedule (used to classify products for international customs).
MS	Management System
DFI	Development Finance Institution
ADB	Asian Development Bank
GHG	Greenhouse Gas
CSR	Corporate Social Responsibility
PPP	Public-Private Partnership
GRI	Global Reporting Initiative

1. EXECUTIVE SUMMARY / REZUMU EZEKUTIVU

English	Tetum
TIMOR GAP Pualaca Block Unipessoal, Lda. (TGPB), a wholly owned subsidiary of TIMOR GAP E.P., is the operator of Production Sharing Contract (PSC) TL-OT-21-17, awarded on 7 December 2021 for petroleum exploration activities within the Pualaca Block in Timor-Leste. The contract area covers approximately 1,575 km² across the municipalities of Manatuto, Manufahi, and Viqueque. Following the acquisition, processing, and interpretation of 277.72 line-km of 2D seismic data during 2025–2026, TGPB identified prospective hydrocarbon targets within the Babulu and Permian intervals and has proposed an exploratory drilling campaign to evaluate their commercial potential. The proposed project consists of drilling three onshore exploratory wells: Daulorok and Pualaca, located in Laclubar Administrative Post, and W1, located in Barique Administrative Post, all within Manatuto Municipality. The drilling program aims to confirm the presence, quantity, and commercial viability of hydrocarbon resources within the Pualaca Block and support the sustainable development of Timor-Leste’s petroleum sector. The Petroleum National Authority (Autoridade Nacional do Petróleo / ANP) has classified the proposed exploratory drilling activity as a Category A Project under Decree-Law No. 39/2022 due to its potential environmental and social impacts. Consequently, an Environmental Impact Assessment (EIA) is required to formulate the Environmental Impact Statement (EIS) and the Environmental	TIMOR GAP Pualaca Block Unipessoal, Lda. (TGPB), hanesan subsidiária husi TIMOR GAP E.P. no sai hanesan operadór ba Kontratu Fahe Produsaun (sigla inglês Production Sharing Contract (PSC) TL-OT-21-17) ne’ebé hetan atribuisaun iha loron 7 Dezembru 2021 atu hala’o atividade explorasaun petróleu. Área kontratu ne’e ho ninia total area 1,575 km² no lokaliza iha munisípiu tolu mak hanesan; Manatuto, Manufahi no Viqueque. Atividades akizisaun, prosesamentu no interpretasaun dados sísmika 2D ho total liña 277.72 km iha tinan 2025–2026 identifika potencialidade prospeitu hidrokarbonetu iha periodu Lower Triassic (Babulu) no Permian. Ho rezultadu estudu refere, ne’e TGPB propoin programa perfurasaun exploratória atu avalia potenciálidade komersiál ba rekursu hirak ne’e. Proposta projeto ida ne’e kompostu husi posu tolu ba exploratória rai maran (onshore), hanesan Daulorok ho Pualaca ne’ebé lokaliza iha Postu Administrativu Laclubar, no W1 ne’ebé lokaliza iha Postu Administrativu Barique, iha Munisípiu Manatuto. Objetivu prinsipál husi programa perfurasaun ne’e atu konfirma prezensa, kuantidade no viabilidade komersiál rekursu hidrokarbonetu sira iha Bloku Pualaca, hodi kontribui ba desenvolvimentu sustentável iha setor petróleu Timor-Leste. Autoridade Nacional Petróleo (ANP) klasifika atividade perfurasaun exploratória ne’e hanesan projetu kategoria A tuir Dekretu-Lei Nú. 39/2022, (amendamentu dahuluk ba Dekretu lei Nú. 05/2011)

Management Plan (EMP) prior to project implementation. This Terms of Reference (TOR) has been prepared to define the scope, methodology, study boundaries, and assessment requirements for the EIA process in accordance with Timor-Leste environmental legislation, ANP guidelines, and international good industry practice.

The TOR establishes a framework for conducting comprehensive environmental and social studies, including environmental baseline surveys, geotechnical and geophysical investigations as required, stakeholder consultations, risk and impact assessments, and the development of mitigation and management measures. The EIA process will evaluate potential impacts on physical, biological, social, cultural, and economic environments during all project phases, including site preparation, road access construction, rig mobilization, drilling operations, well testing, demobilization, and site rehabilitation.

The proposed drilling sites are in different environmental settings. The Daulorok and Pualaca wells are situated in mountainous terrain at elevations between 734 and 1,287 meters above sea level, characterized by forested landscapes, steep slopes, and scattered rural settlements. The W1 well is located on low-lying coastal plains near Natarbora, characterized by grassland, agricultural areas, wetlands, and community infrastructure. Environmental baseline studies will focus on a core study area extending approximately 2 km from each drill site for physical and ecological assessments and 5 km for socioeconomic assessments.

Key environmental and social issues anticipated

ho karakter neébe bele hamosu impaktu ba ambientál no sosial. Ho ida neé, Avaliasaun Impaktu Ambientál (AIA) ba preparasaun Deklarasaun Impaktu Ambientál (DIA) no Planu Jestaun Ambientál (PJA) persiza prepara no submete ba approvasaun antes implementasaun projetu. Termu Referénsia (TR) ida-ne'e prepara ona atu define ninia ámbitu, metodologia, limitasaun no rekizitu avaliasaun sira ba prosesu AIA tuir lejislasaun ambientál Timor-Leste, no ANP nia matadalan inklui pratika internasionál sira.

TR ne'e estabeselese enkuadramentu hodi hala'o estudu komprensivu ba aspetu ambientál no sosial, inklui levantamentu setudo inisial ambientál, investigasaun jeotékника no jeofízika, konsultasaun ho parseiro sira, avaliasaun risku no impaktu sira, no dezvoltamentu jestaun no medida prevensaun sira. Prosesu AIA sei avalia impaktu físiku, biolójiku, sosial, kulturál no ekonómiku durante fase hotu-hotu husi projetu, inklui preparasaun ba fatin projeto, konstrusaun estrada temporaria, mobilizasaun ekipamentu no logistika, atividade perfurasaun, teste posu, demobilizasaun no rehabilitasaun area projetu.

Posu tolu ne'ebé propoin lokaliza iha fatin nebe ho ambiente neebe lahanesan. Posu Daulorok no Pualaca lokaliza iha área foho aas ho altitude entre 734 no 1,287 metru husi tasi leten,. Hadulas ho area florestal, foho-lolon aas no comunidade neé'be hela dook malun. Posu W1 lokaliza iha area rai-tetuk, besik ba tasi ibun, natar, bee-lihun no infraestrutura comunidade nian. Estudu inisial ambientál sei foku iha área aproximadamente 2 km husi kada fatin perfurasaun ba componentes físiku ho ekolójiku, no 5 km ba aspetu sosial no ekonómiku.

during the EIA include land disturbance, vegetation clearing, waste generation, drilling fluids and cuttings management, noise, air emissions, water use, traffic impacts, community health and safety, biodiversity protection, and accidental events such as spills or well-control incidents. The EIA will identify avoidance, mitigation, monitoring, and management measures to ensure that potential impacts are reduced to acceptable levels and managed in accordance with national regulations and international standards.

The project will be developed in compliance with the applicable legal and regulatory framework of Timor-Leste, including environmental licensing requirements, petroleum legislation, biodiversity conservation laws, labor regulations, land access requirements, and public consultation procedures. The EIA will also consider relevant international conventions, IFC Environmental, Health and Safety Guidelines, IOGP guidance, and other recognized industry standards.

Public consultation and stakeholder engagement will form an integral part of the EIA process. TGPB will engage affected communities, government agencies, local authorities, and other interested stakeholders to identify concerns, gather local knowledge, and incorporate stakeholder feedback into project planning and environmental management measures. The outcomes of the EIA will be documented in an Environmental Impact Statement (EIS) and an Environmental Management Plan (EMP) to support informed decision-making by regulatory authorities.

Overall, the TOR provides the framework for a comprehensive assessment of the proposed

Asuntu prinsipal ba ambientál no sosial ne'ebé sei avalia durante AIA inklui estragus ba rai, tési ai-horis, jestaun lixo, *drilling fluids* no *cuttings*, barullu, rai-rahun, emisaun, utilizaun bee, impaktu tráfiku, saúde comunitaria no seguro-segurança, protesun ba biodiversidade, no asidente no akontesemento hanesan mina fakar ka *well-control incidents*. AIA sei identifika medida prevensaun no mitigasaun, monitorizaun no jestaun atu garante katak impaktu sira ne'e bele minimiza toó nivel toleransia no kontrola tuir regulamentu nasional no matadalan internasionál neebe aplikavel.

Projetu ne'e sei desenvolve tuir enkuadramento legal tuir regulatóriu Timor-Leste nian, inklui rekizitu lisensiamentu ambientál, lejislasaun petróleu, lei konservasaun biodiversidade, regulamentu trabalhador, rekizitu asesu ba rai, no prosedimentu ba konsultasaun públiku. AIA mos sei konsidera konvensaun internasionál relevante hanesan *IFC Environmental, Health and Safety Guidelines*, matadalan *IOGP* no padraun indústriá internasionál relevante seluk.

Konsultasaun públiku no envolvimentu parseiro relevante sira sei sai parte importante husi prosesu AIA. TGPB sei hala'o konsultasaun ho comunidade afetada sira, autoridade governamentál sira, lideransa lokal no parceiro interesada sira atu identifika preokupasaun, rekolha informasaun no integra komentáriu sira ne'e ba iha plano projetu no mos iha medida jestaun ambientál. Rezultadu husi AIA sei dokumenta iha Deklarasaun Impaktu Ambientál (DIA) no Planu Jestaun Ambientál (PJA) atu suporta prosesu desizaun husi autoridade reguladora sira.

exploratory drilling project and ensures that environmental, social, health, safety, and economic considerations are appropriately integrated into project planning and execution. The EIA process will support responsible resource development while protecting environmental values, community interests, and the long-term sustainability objectives of Timor-Leste.

En-jeral, TR ida-ne'e fornece enkuadramentu ida ba avaliasaun komprehensivu ba projetu perfurasaun esploratória no garante katak konsiderasaun ba aspetu ambiente, sosial, saúde, seguransa no ekonómiku sira sei integra ho di'ak iha plano projeto nian no nia ezekusauan. Prosesu AIA sei apoia dezvoltamentu rekursu enkuanto proteje valor ambientál, comunidade nia interese no Timor-Leste nia objetivu sustentável ba tempu naruk.

2. INTRODUCTION

TIMOR GAP PUALACA BLOCK (TGPB), a wholly owned subsidiary of TIMOR GAP E.P., was awarded PSC TL-OT-21-17 on 7 December 2021. The contract made under Law No. 13/2005 enables exploration activities to be carried out for the purpose of development and exploitation of petroleum in the contract area. The Pualaca block covers an area of 1,575 km² and is located on the south coast of Timor-Leste. TGPB conducted 2D Kafe Seismic survey, covering 277.72-line km across the Pualaca block. The seismic data acquisition, processing, and interpretation were undertaken in 2025/26. The potential prospects for oil and gas are in Babulu and Permian intervals. TGPB has identified three exploration well locations, which are located within Manatuto Municipality.

TGPB, as the operator of PSC TL-OT-21-17 Pualaca Block, seeks to carry out three exploratory drilling activities. The exploratory Well are Daulorok well is located in Post Administration Laclubar, Suco Orlalan, Aldeia Orlalan. The Pualaca well is located in Post Administration Laclubar, Suco Orlalan, Aldeia Pualaca. The W1 well is located near Natarbora, Post Administration Barique, Suco Uma Boco, Aldeia Fehuc Rin.

In accordance with Article 6.1 of Decree Law No. 39/2022 of 8th June (1st Amendment to Decree-Law No. 5/2011 of 9th February on Environmental Licensing), ANP has classified the proposed onshore exploratory drilling activity in PSC TL-OT-21-17 Pualaca Block as a Category A project vide letter No. ANPM/HSE/S/26/093, dated 4th May 2026. As required by Article 5(4)(g) of Decree Law No. 39/2022, TGPB is preparing these Terms of Reference (TOR) for the Environmental Impact Assessment (EIA) for the proposed onshore exploratory drilling project. The development of the TOR and its structure will align with the format prescribed in Annex III of Ministerial Diploma No. 46/2017 of 2nd August, which outlines the minimum requirements for the TOR applicable to Category A projects and meets the minimum requirements established under the ANP Guideline for the Preparation of Terms of Reference (TOR) for the Environmental Impact Assessment Study for Petroleum Activities, Document ID: ANP/08/02/03, issued on 20 December 2024.

2.1. Objective

The purpose of this Term of Reference (TOR) drilling project is a scoping phase of the EIA process. The ToR include details of all studies to be carried out by TGPB, the Operator, and its environmental consultants during the EIA process. The TOR adequately identify the studies to be undertaken during the EIA process to produce a comprehensive and detailed Environmental Impact Statement (EIS) and Environmental Management Plan (EMP). They further identify the boundaries of an EIA study, the relevant information required, the key issues, and the significant impacts and risks to be considered in the EIA study.

2.2. EIA Process

TGPB will implement a systematic Environmental Impact Assessment (EIA) process to identify, evaluate, and manage the potential environmental and social impacts associated with the Exploratory Drilling Project. The EIA

process is structured in accordance with international best practices and regulatory requirements and comprises the following key stages:

- Activity Definition: Establishing the scope and nature of the proposed project activities.
- Scoping: Identifying issues, potential impacts, study boundaries, and assessment requirements to ensure the EIA focuses on significant concerns.
- Terms of Reference (TOR) Development: Defining the scope, methodologies, and technical requirements that will guide the assessment.
- Baseline Data Collection: Compiling information on existing environmental and social receptors within the study area through environmental baseline surveys, geotechnical and geophysical investigations, and desktop gap analyses.
- Impact Identification: Determining potential direct, indirect, and cumulative impacts across all phases of the project.
- Impact Analysis and Significance Evaluation: Assessing the likelihood and consequence of identified impacts, including structured evaluation through Environmental Identification (ENVID) workshops.
- Mitigation Planning: Developing control measures to avoid, minimize, or manage adverse impacts.
- Environmental Management Planning: Establishing monitoring, reporting, and compliance mechanisms to ensure effective implementation of mitigation measures.
- Stakeholder Consultation: Engaging relevant stakeholders, incorporating feedback, and ensuring transparency throughout the assessment process.
- Reporting and Submission: Documenting the findings in a formal Environmental Impact Statement (EIS) for regulatory review and decision-making.

A comprehensive environmental baseline survey (EBS), geotechnical and geophysical studies (GPGT) as required, and risk assessments will supplement the EIS. These inputs will inform the drilling project activities— including site preparation, rig mobilization, drilling and operations, demobilization, restoration, and support for the preparation of the Environmental Management Plan (EMP), including the Environmental Monitoring Programme. This integrated approach ensures that potential environmental impacts are systematically avoided, mitigated, or offset throughout the project lifecycle.

2.3. Technical Assumption

TGPB is in the process of tendering for an Integrated Project Management consultant, and all technical assumptions, conceptual well design, well planning, fluid and drilling programs referenced in this TOR cannot be presented as finalized aspects of the project. They are all subject to review and adjustment immediately prior / during, the final DWOP (Drill Well on Paper), which will be the critical technical process of the drilling project. The DWOP would require participation, inputs, and feedback from major contractors in the drilling project.

TGPB would subsequently tender for a Drilling Rig Contractor. The drilling rig contractor and other primary third-party services inputs (Drilling & Measurement, mud logging, drilling fluids, cementing, Open Hole Logging, etc.)

with specific equipment and service processes needing to be factored into the final well plans and drilling programs. The selected Integrated Project Management consultant and Rig Contractor will also be a major proponent in preparing the EIA and the EMP.

However, the TOR will be completed with reference to the studies to be carried out by TGPB and its environmental consultant during the EIA process. The TOR shall identify the study to be undertaken during the EIA process to produce a comprehensive and detailed Environmental Impact Statement (EIS) and Environmental Management Plan (EMP). It shall further be able to identify the boundaries of an EIA study, the EBS scope and boundary, and provide relevant information necessary for decision-making, and determine the key issues, significant impacts, and risks to be considered in the EIA study.

3. BACKGROUND INFORMATION

This section briefly describes the project name, size, and location, its importance and need for exploratory drilling, the objectives, and the major components of the drilling project proposal.

3.1. Overview

The titleholder is TIMORGAP PUALACA BLOCK, UNIP. LDA. owning 100% working interest. TGPB is a wholly owned subsidiary of TIMOR GAP E.P., was awarded the PSC TL-OT-21-17 on 7 December 2021. The Pualaca block covers an area of 1,575 km² and is located on the south coast of Timor-Leste. This block comprises three municipalities: Manatuto, Manufahi, and Viqueque. Map 1 provides topographical information of the Pualaca Block. TIMOR GAP Pualaca Block (TGPB) is proposing to drill three exploratory wells to test and discover a commercial volume of oil based on 2D Kafe Seismic survey covering 277.72-line km across the Pualaca block.

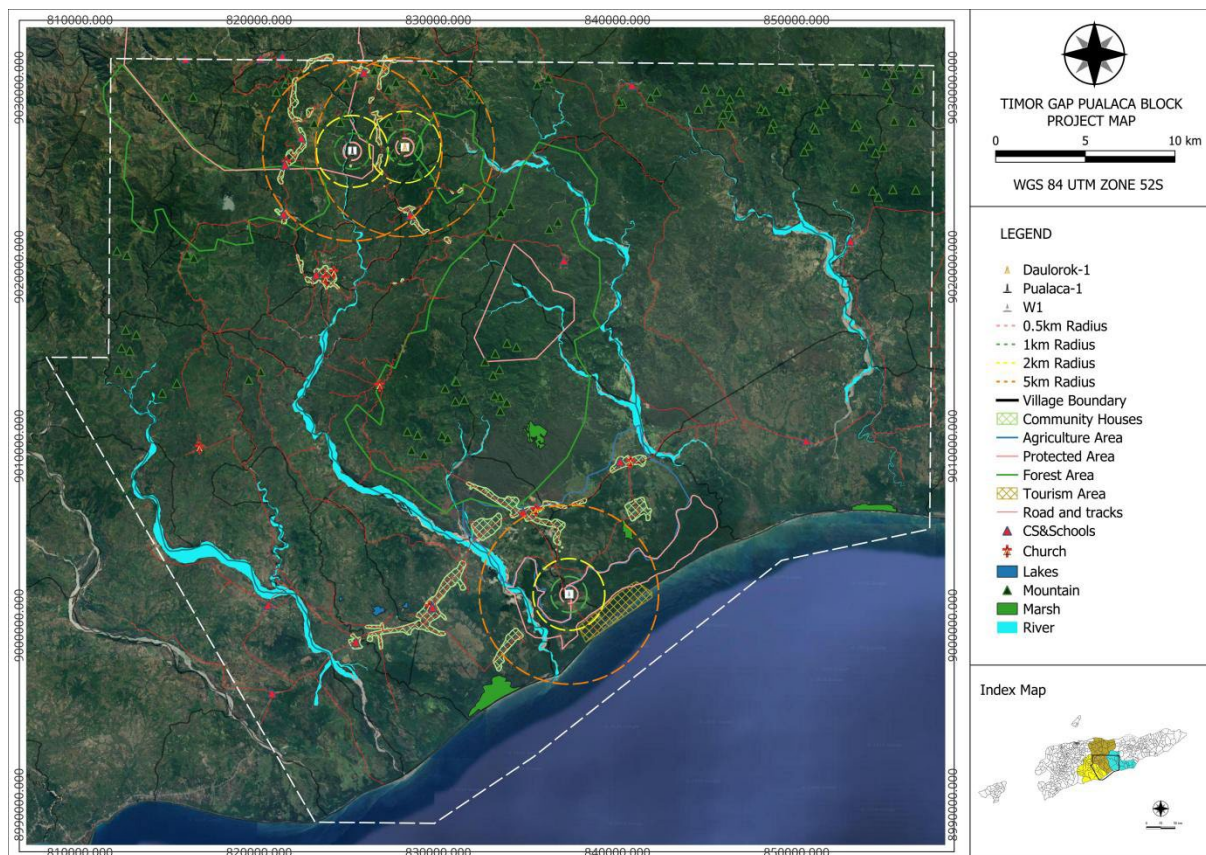
The objective of the exploratory drilling project is to test for hydrocarbons, with the goal of achieving a profitable volume of oil that would enable supplementing the contribution of petroleum resources to the Government of Timor-Leste, which would benefit the people of Timor-Leste.

3.2. Size and Location of Drilling Locations.

TIMOR GAP Pualaca Block (TGPB) has identified three exploratory drilling well locations in Manatuto Municipality. The three drill wells are in Manatuto Municipality. The size of each well is approximately 150 m x 150 m, or 1 to 2 hectares in area. The three wells are the Daulorok well, which is in Post Administration Laclubar, Suco Orlalan, Aldeia Orlalan; the Pualaca well is located in Post Administration Laclubar, Suco Orlalan, Aldeia Pualaca. Both these wells are located at an altitude of 734 to 1287m above MSL in a mountainous, remote region. While W1 well is located in Post Administration Barique, Suco Uma Boco, Aldeia Fehuc Rin in the plains, in scattered grassland nearer the coast.

Maps 1 provides the Daulorok Well, Pualaca Well, and W1 Well locations. The geographical features, topography, protected areas, forest areas, lakes, marshes, rivers, mountains, tourist areas, agricultural areas, man-made

structures, community housing/settlements, roads, churches, tourist areas, lakes, mountains, streams, rivers, marshes, and agriculture area within the TIMOR GAP Pualaca Block project area.



Map 1: Topography of TGPB (sources; open street map and PEDM, 2015) enlarged at Annexure 1.

The lead names and the locations of the three exploratory drilling locations are given in Table 1.

Leads Name	Location			
	Sub-Village	Village	Post-Administrative	Municipality
Daulorok	Orlalan	Orlalan	Laclubar	Manatuto
Pualaca	Pualaca	Orlalan	Laclubar	Manatuto
W1	Fehuc Rin	Uma Boco	Barique	Manatuto

Table 1: Three exploratory drilling Well locations Project Objectives and Justification

The primary objective of the exploratory drilling project is to confirm the hydrocarbon potential reserves of the Pualaca Block. Timor-Leste has recently opened onshore acreage, and the Pualaca Block Onshore exploration drilling plays a pivotal role in the upstream oil and gas sector, serving as the primary means of confirming subsurface hydrocarbon reserves identified through surveys. It is vital for strengthening national energy security

by reducing reliance on imports and ensuring a stable domestic supply. Compared with offshore operations, onshore drilling is more cost-effective, logistically simpler, and faster to implement, making it an attractive option for early-stage exploration. The activity also stimulates economic growth by generating government revenues, creating employment opportunities, and supporting downstream industries such as refining, petrochemicals, and power generation.

The need for onshore exploration is underscored by the rising imports of refined petroleum products into Timor-Leste. Drilling is the only definitive method to verify the presence, quantity, and quality of reserves, thereby guiding investment decisions and resource management. Beyond energy supply, exploration contributes to infrastructure development in remote regions of Timor-Leste and fosters rural and remote socio-economic growth and development in the region.

While the benefits are substantial, onshore exploratory drilling requires careful management of environmental and social impacts. Land use changes, waste disposal, and emissions must be addressed through robust environmental safeguards, while community concerns related to land rights, air pollution, and ecological effects demand proactive engagement. Compliance with regulatory frameworks and adoption of best practices are essential to ensure that exploration delivers maximum benefits with minimal risks.

3.3. Major Components of the Drilling Project.

Brief Description of the Proposed Project

The proposed drilling campaign comprises three exploratory wells: the Daulorok well, the Pualaca well, and the W1 well. Each drilling-well activity is structured into three operational stages—(a) site preparation and rig move, (b) drilling and operational activities, and (c) demobilization and restoration. These stages are embedded within six overarching project phases: (i) road access, (ii) site construction, (iii) mobilization, (iv) rig move, (v) drilling operations, (vi) suspension, and demobilization, decommissioning, and rehabilitation.

3.3.1. Road Access

The first phase involves reconnaissance surveys to identify suitable land on a temporary lease basis. Temporary access tracks or road upgrades are undertaken to ensure the safe transport of heavy equipment and personnel. This includes grading, widening, and stabilizing routes to withstand rig mobilization and supply logistics.

3.3.2. Site Construction

Once road access is secured, site construction begins. Activities include fencing, establishing laydown areas, compacting the well pad, and installing drainage systems. Temporary camps are set up with potable water supply, sanitation, and waste management facilities. This phase ensures that the site is operationally ready and compliant with environmental and safety standards.

3.3.3. Mobilization

Mobilization involves transporting drilling rigs, auxiliary equipment, and supporting services to the site. This includes diesel generator sets, mud logging units, cementing services, directional drilling tools (if required), and well-controlled systems. Mobilization ensures that all technical and logistical resources are in place before drilling commences.

3.3.4. Rig Move

The rig-move phase covers the physical relocation and assembly of the drilling rig at the designated well pad. Rig components are erected, tested, and certified for safety. This stage is critical for operational readiness and involves coordination of heavy-lift equipment, skilled labor, and compliance checks.

3.3.5. Drilling Operation

Drilling operations constitute the core of the project. The well is drilled to the planned depth, with casing and cementing programs implemented to stabilize the borehole. Drilling mud circulation manages downhole pressure and carries cuttings to the surface. Formation evaluation is conducted through wireline logging and/or coring, providing essential data on reservoir characteristics. If hydrocarbons are encountered, optional well testing (DST) may be undertaken, subject to regulatory approval, to assess commercial viability.

3.3.6. Suspension, Demobilization, Decommissioning & Rehabilitation

At the end of drilling, wells are either suspended for appraisal (if justified and approved) or plugged and abandoned if non-commercial. Rig dismantling and removal follow, along with site clean-up. Rehabilitation measures include pad restoration, waste removal, erosion control, and reinstatement of access tracks. This ensures a minimal long-term environmental footprint and compliance with regulatory requirements.

The six phases of an onshore exploratory drilling project—road access, site construction, mobilization, rig move, drilling, and suspension/demobilization—form a structured framework for safe, efficient, and environmentally responsible exploration. Each phase is integral to confirming hydrocarbon potential while ensuring that environmental and social impacts are effectively managed.

3.4. Components and Well Site Facilities

Each exploratory well drill site will require the following facilities:

- Potable office cabins / restrooms (container-type cubicles);
- Drilling rig foundation and cellar;
- Foundation / pits for ancillary equipment;
- Space for drilling rig equipment, working area, and materials laydown area;

- Waste storage pits;
- Cutting disposal (impervious-lined) pits;
- Solar evaporation pits (waste drilling fluid disposal);
- Water storage pit;
- Sewage treatment system (septic tank with soak-away pits);
- Paved and contained chemical storage area;
- Above-ground diesel storage tanks with paved and bunded area;
- Flare pit (well testing);
- Communication / radio room;
- Storm water drainage system;
- Internal roads and fencing;
- Camp area and parking area.

The technical drawing layout of the drill site is given in Annexure 2. It shows the above facilities.

4. DETAILS OF THE AUTHORIZED PERSON

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5. DETAILS OF THE CONSULTANT PREPARING EIA AND COLLECTING THE ENVIRONMENTAL BASELINE DATA.

Awinash Dulip (currently working with the TGPB team)

EHS and ESG Consultant and Adviser—experience in ESG, environmental management, EIA, EMP, and environmental monitoring in the Oil & Gas and mining sectors. Worked with various governments, private companies, organizations, funding institutions, and as a Petroleum Regulator. Advised on Equator Principles (EPFIs) for managing social and environmental risks for project financing and major infrastructure projects funded through PPP, SVP, Development Financial Institutions (DFIs), World Bank/ADB/IBRD/International Development Associations (IDA). Evaluate and monitor projects against IFC Performance Standards, pollution control abatement (PPAH) guidelines, and EHS guidelines for onshore/offshore oil and gas development, ADB environmental safeguards, and the rapid environmental assessment checklist. GHG, GRI for sustainability reporting, and CSR initiatives for social–economic reporting.

TGPB is in the tendering process for hiring experienced local environmental consultants to collect environmental baseline data, conduct studies, and undertake surveys. The procurement process has started and will be completed shortly. The local consultant will have experience in collecting baseline data and will have experience with Category A projects in Timor-Leste, and will be familiar with the environmental standards of ADB and the World Bank/IFC. The draft EIA document will include details of the local consultant.

6. STUDY AREA

TIMOR GAP PUALACA BLOCK (TGPB), - PSC TL-OT-21-17 covers an area of 1,575 km², located on the south coast of Timor-Leste, comprise three municipalities: Manatuto, Manufahi, and Viqueque. TGPB conducted 2D Kafe Seismic survey covering 277.72-line km across the Pualaca block in 2025. Based on seismic interpretation, geological integration, and potential prospects, prospects were identified in three well locations for exploratory

drilling. The three wells are within Manatuto Municipality (Map1). The geographical study boundary area for collecting the Environmental Baseline Study (EBS) / survey is restricted to one municipality. Detailed studies around each well location are envisaged within the scope of the EBS.

6.1. Identifying the Study Boundary of EIA.

TGPB conducted scoping and scouting activities for the proposed three well locations. The locations of all three wells are as follows: the well Daulorok is within Manatuto Municipality, about 32km north of the coastline, in Post Administration Laclubar, Suco Orlalan, Aldeia Orlalan. The Daulorok well is planned to be drilled in Q4 2026 / Q1 2027. It is located high in the mountains, at an altitude of 1287m with some protected forest, forest areas, mountains, valleys, streams, scattered settlements along roads, scattered agricultural areas, roads, a cemetery, and limited man-made infrastructure.

The Pualaca well is within Manatuto Municipality, about 32 km north of the coastline, in Post Administration Laclubar, Suco Orlalan, Aldeia Pualaca, planned to be drilled in Q4 2027 / Q1 2028. It is located nearby Dualorok about 3km NW also high in the mountains, at an altitude of 734m with some protected forest, forest areas, mountains, valleys, streams, scattered settlements along roads, scattered agricultural areas, roads, a cemetery, and limited man-made infrastructure.

The W1 well, also in Manatuto Municipality, about 3km from the coastline, in Post Administration Barique, Suco Uma Boco, Aldeia Fehuc Rin. It is located on the plain grounds, at an altitude of 10m, open flat scattered grassland, protected areas, forest area, marshes, tourist areas, agricultural areas, community housing/settlements, roads, Aubeon chapel and man-made structures.

TGPB has delineated the geographical area of the EIA study and identified the study boundary around each well (Map 2 to 4 illustrates 0.5 m, 1 km, 2 km, 5 km radius around each well site) so that good representative baseline data collection on the relevant physical, ecological, economic, social, cultural, and demographic conditions is studied and surveyed. The study area is the area that can potentially be affected by the proposed drilling project.

TGPB has considered the extent of the impact zone, the affected receptors, and the nature and characteristics of the environment affected by the project. TGPB, in section 8.7 below, has detailed out the potential impacts of the proposed project activity. Based on the potential impacts, the study boundary area for the EIA comprises:

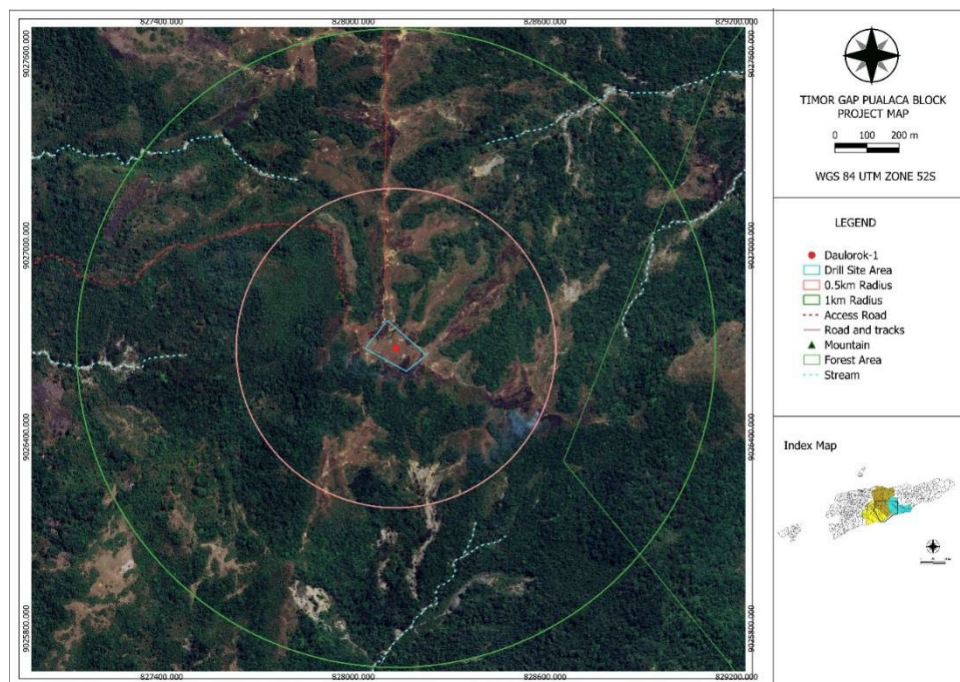
- i. The drill site footprint (drill pad, pits, drainage, access roads, base/supply camps);
- ii. The local area (~2 km radius for water/air/noise/dust/traffic/forest/fauna/protected area/ ecological features); and
- iii. The regional context ~5 km for socioeconomics and demographic factors; broader for climate/forest/protected areas.

6.2. Delineation of the Geographic Area for EIA Study

In continuation with the drill site locations and receptors, information on geographical features, topography, protected forest, forest area, marshes, rivers, mountains, tourist areas, agricultural areas, community housing/settlements, roads, churches, and man-made infrastructure, the area of influence for each well location are as follows:

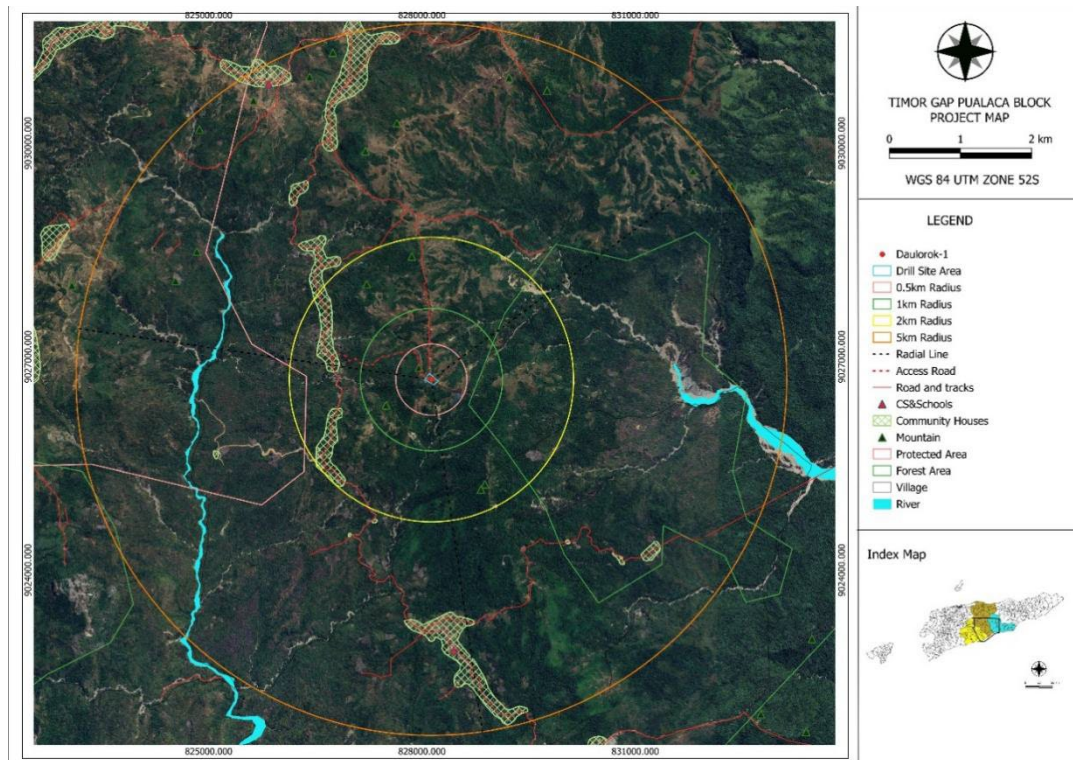
6.2.1. Daulorok Drill Site.

The drill site is located in Aldeia Orlalan, Suco Orlalan. Map 2a (showing geographical features around the Daulorok well, with the indicative drill site and 0.5 km and 1 km radius circles around the well) and 2b (further expanded, show geographical features around Daulorok well with 0.5 km, 1 km, 2 km and 5 km radius circles around the well). It is located between the estimated protected area to NW and the forest area to the SE. Within the 2km radius, there are very few scattered settlements along the road in a mountainous, remote region. There is no sensitive ecosystem at the drilling location, except that it is mountainous, with a barren site on a trail. There are no major environmental receptors other than forest cover and cliffs. There is sufficient flat ground to establish a well site with an area of the order of 150 m x 150 m for the well pad, already barren and has hard substrate. There is mountain ridge, some forest cover within 0.5 km, some seasonal streams beyond 0.5 km. There is an existing road and track as well.



Map 2a: Daulorok drill site with 0.5km and 1km radius around the well.

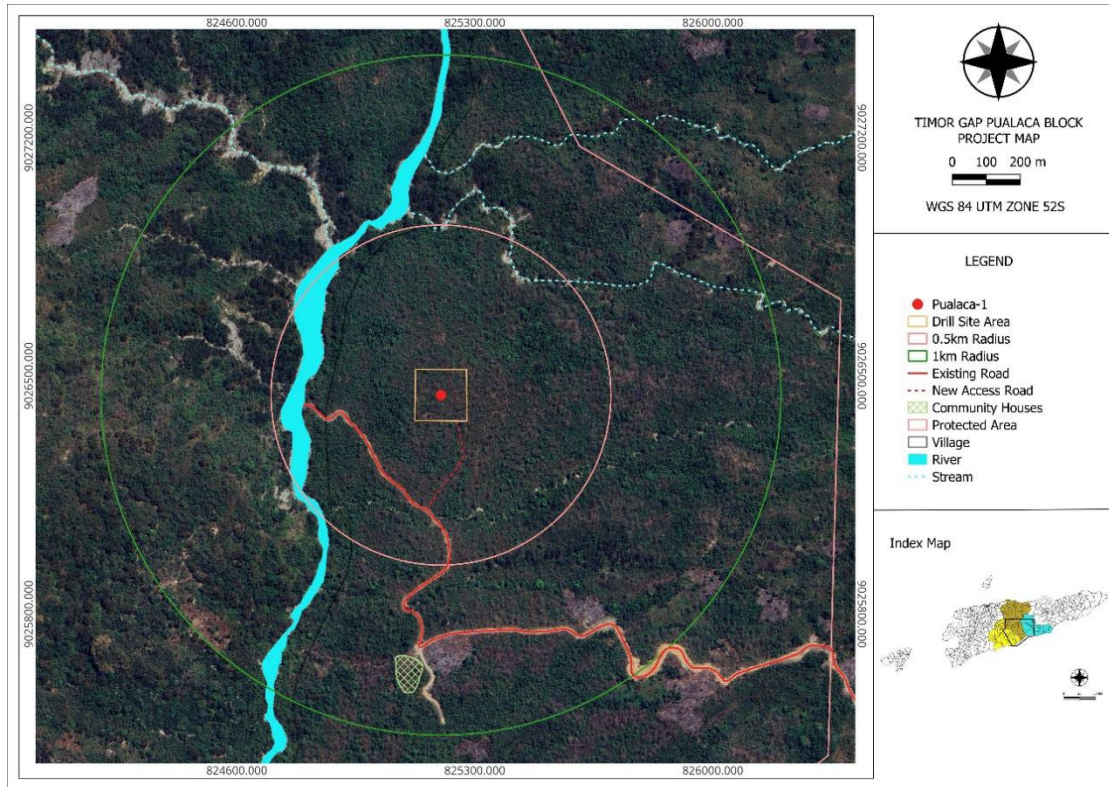
Between 1km and 2km there are some community houses along an existing road. Rivers beyond 2km. There are estimated protected and forest areas within these areas. There are roads and tracks as well.



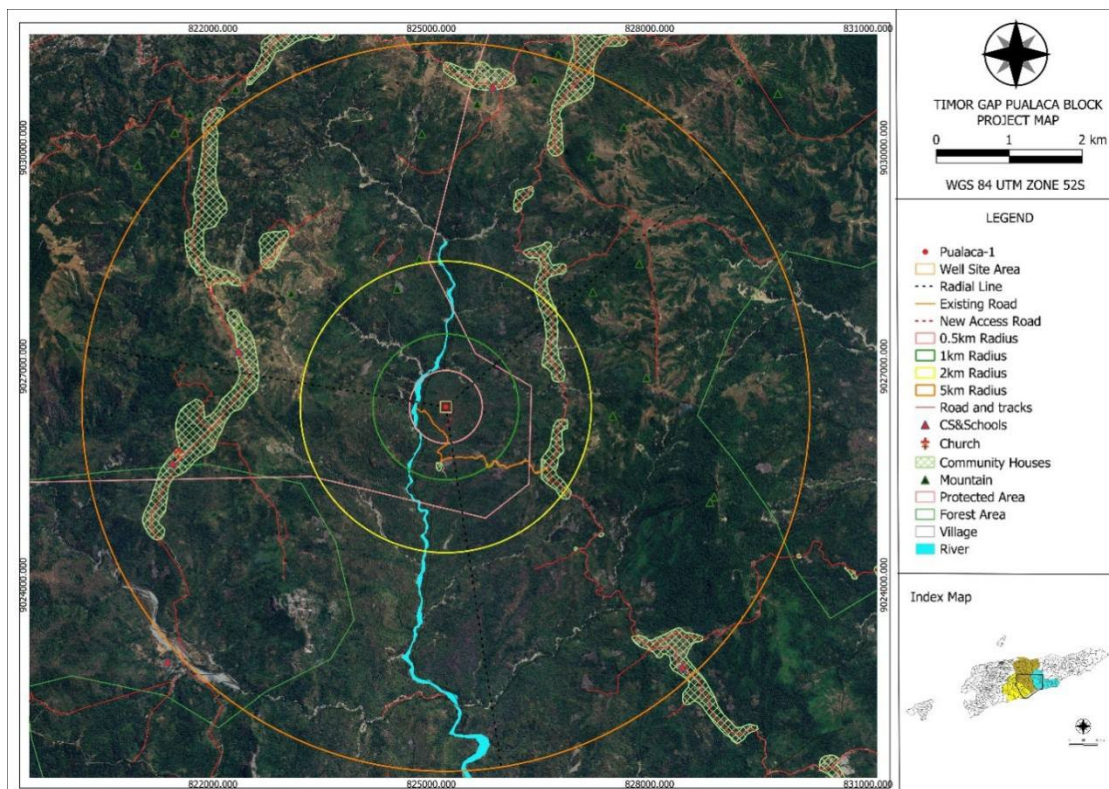
Map 2b: Daulorok drill site with 0.5km, 1km, 2km and 5km radius around the well

6.2.2. Pualaca Drill Site

The exploratory well Pualaca is in Suco Orlalan, Aldeia Pualaca, Post Administration Laclubar, not far from the first exploratory well Daulorok. Map 3a (show the geographical features around the Pualaca well, with the indicative drill site and the 0.5km and 1km radius circles around the well) and Map 3b (further expanded, showing the geographical features around the Pualaca well with 0.5km, 1km, 2km and 5km radius circles around the well). It is in an estimated protected area; however, there is some forest cover, and it is near the existing road, which is the main route for traffic. The vegetation and forest are not dense and are within 260m of the road. It is mountainous, with a river and a stream within 0.5km radius of the proposed well location. The proposed well site Pualaca is on a moderate slope. The surface appears to be largely composed of loose hill-wash material rather than solid geological outcrop, and it is possible to further flatten the topography easily with bulldozers. The land in this area is low-quality scrubland that is not likely to have significant commercial value. There is a moderate slope with sufficient ground to establish a well site with an area on the order of 150m x 150m for well pad, on low-quality scrubland.



Map 3a: Pualaca drill site with 0.5km and 1km radius around the well.

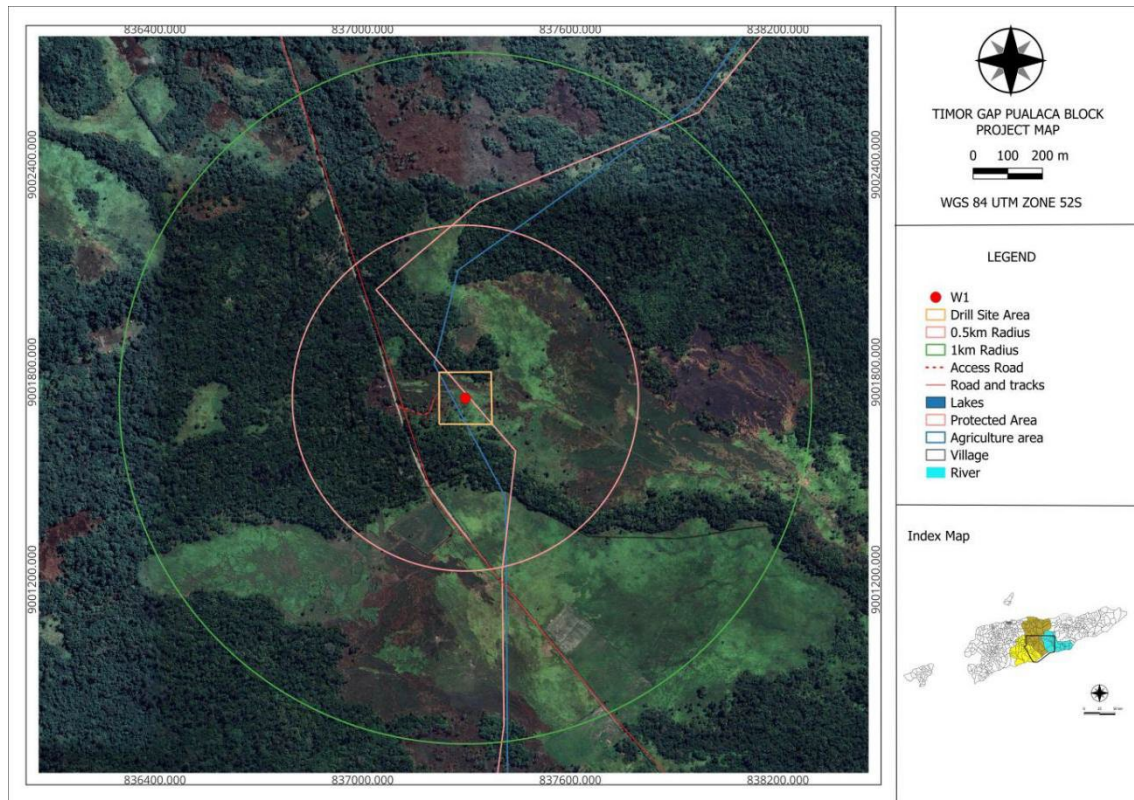


Map 3b: Pualaca drill site with 0.5km, 1km, 2km and 5km radius around the well.

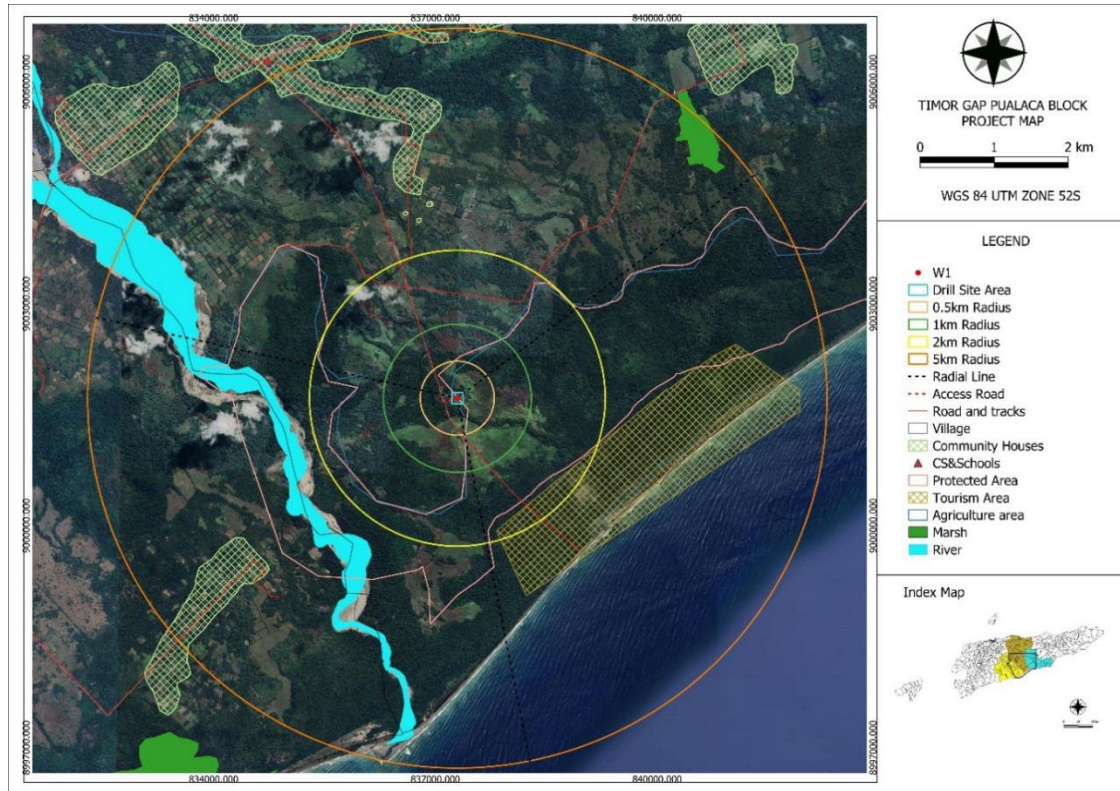
Between 2km and 5km there are community houses along the existing road, river, estimated forest, and protected areas, church, school, mountain, and village. However, within 0.5km there are only scattered forest.

6.2.3. W1 Drill Site

The exploratory well W1, is nearer the coastline at Post Administration Barique, Suco Uma Boco, Aldeia Fehuc Rin. Map 4a (showing the geographical features around the W1 well, with the indicative drill site and the 0.5km and 1km radius circles around the well) and Map 4b (further expanded, showing the geographical features around the W1 well with 0.5km, 1km, 2km and 5km radius circles around the well). The soil appears to be predominantly grey clay and certainly not swampy and is flat land suitable for the drilling site which requires an area of 150m X 150m for the construction of the drill pad. Furthermore, the site is grassland with limited agricultural value within the planned Natarbora LNG plant area. There are generally no major environmental receptors within the 2km radius, even though the proposed drill site falls within protected areas and an agricultural area with scattered open grassland. The site has tourists about 2km from the well site. The marsh is beyond 5km from the well site. There are roads, tracks, settlements, a river, and agricultural areas; it is generally flat, low-level ground, less than 10 metres above MSL, and solid ground.



Map 4a: W1 drill site with 0.5km and 1 km radius around the well.



Map 4b: W1 drill site with 0.5km, 1km, 2km and 5 km radius of the well.

The study area as defined above will be the basis for collecting environmental baseline data and conducting surveys. This information will be used in the description of environment in the EIA report.

6.3. Extend of Impact Zone.

The extent of the impact zone, for preparing the EIA, includes the affected receptors. The nature and characteristics of the environmental receptors that may be affected by the drilling project are described in this section. Further in section 8.7 below, it provides details on the potential impacts of the proposed project activity.

Exploratory drilling has the potential to cause temporary, localized environmental impacts on air quality, noise levels, water resources, land use, biodiversity, and socio-economic conditions. While these impacts are generally reversible and confined in extent, certain activities may present low-probability but potentially high-consequence risks, which must be adequately assessed as part of the Environmental Impact Assessment (EIA) process, in accordance with Good International Industry Practice (GIIP).

The environmental baseline study/ survey/ information will provide a reference point against which the potential environmental and social impacts of the proposed onshore drilling project can be assessed, managed, and monitored during the life cycle of the drilling project.

The detailed physical, chemical, and biological baseline data (air, noise, soil, surface water, and groundwater, land use, and biodiversity) will be collected primarily within a 2 km radius of the drilling site, where potential impacts are most likely to occur. Socioeconomic, cultural, and community infrastructure baseline data will be

collected within a broader 5 km radius around the drilling site locations and nearby settlements. A few reference sampling locations outside the immediate study area will be used to distinguish project-related effects from existing background conditions.

6.4. Cross-border Impact.

All three wells are within Timor-Leste geography and territorial waters. Section 6.2 has described the potential impact zone which is within Timor-Leste.

International experience demonstrates that air and noise quality impacts from exploratory drilling are generally not significant beyond approximately 300 meters from the source, particularly in the absence of continuous flaring or high-capacity combustion systems. The air and noise generated in exploratory drilling operations originate from the drilling rig, diesel engines, mud pumps, material handling activities, and vehicle movements. Noise attenuation occurs rapidly with distance because of geometric spreading and atmospheric absorption, and the sound pressure decreases substantially within the first few hundred meters from the source.

Exploratory drilling activities generate comparatively small volumes of wastewater, primarily associated with drilling fluids, equipment washing, and domestic use. Standard industry practices include the use of lined pits or closed-loop drilling systems, secondary containment for fuels and chemicals, and strict controls to prevent unplanned releases. Under normal operating conditions and in compliance with good industry practice, no routine discharge of surface waters is anticipated. Potential impacts on soil and water resources are therefore limited to the drill site itself, and off-site migration is not expected unless a loss of containment or an accidental spill occurs. Guidance from international industry standards confirms that, where appropriate, containment and management systems are in place, impacts on soil and water quality remain spatially restricted and manageable. However, project impacts are confirmed within 300m radius of each drill site. Therefore, there is no Cross Boundary Impact of the proposed exploratory drilling activity, including marine and coastal areas, neighbouring country that may be affected by this drilling project.

7. TIMELINE

Table 2: Proposed EIA Timeline for PSC TL-OT-21-17

EIS TIMELINE / PROCESS FOR PSC TL- OT-21-17	
Environmental Licensing Documentation for TGPB	
Task	No. Of Days
TOR DEVELOPMENT & PUBLIC NOTICE ON BOARD	
Submission of the TOR	1
Public Notice on Board	14
Review of the TOR	15
Approval of the TOR	5

FIELD SURVEY & PUBLIC ENGAGEMENT TO COLLECT THE DATA FOR THE PREPARATION OF EIS & EMP	
Initial Engagement and Data Collection (Health, Social, Economic, Flora & Fauna and cultural)	20
Sampling Collection (Air, Noise, Water and Soil)	40
Received the Result of Initial Field Survey and Lab Results	20
Preparation of Draft EIS and EMP	60
EIS AND EMP PROCESS	
Statutory Public Consultation on Draft EIS and EMP*	25
TGPB Received Evaluation Committee Comments	1
Resubmission of EIS and EMP after Reformulation	15
TGPB Received Results of Evaluation Committee of Resubmission	10
Final Submission of the EIS and EMP	20
Decision made by the comments of the Committee	15
Approval & Notice	5
Receipt of the Notice (Pay for the Fee)	10

(*) TGPB will follow all requirements as stated in Ministerial Decree 47/207 on Public Consultation procedures and requirements, with particular attention to Articles 10 and 11.

8. SCOPE OF THE WORK TO BE CARRIED OUT DURING THE EIA STUDY

8.1. Description of the Proposed Drilling Project

Covering components and activities of the proposed project throughout the project lifetime. Following this is the identification of resources that will be used and/or affected under each project stage.

8.1.1. Project Overview

The proposed drilling project comprises the planning, site preparation, mobilization, drilling, testing, evaluation, and final completion, suspension, or abandonment of an onshore exploration well. The project is intended to evaluate the presence of hydrocarbons within the nominated onshore petroleum contract area.

The project will be implemented as a temporary exploration drilling campaign. It will include civil preparation of the well pad and access routes, mobilization of drilling equipment and support services, drilling of the well to the planned target depth, geological and formation evaluation, possible drill-stem testing where justified by hydrocarbon indications, and final well close-out in accordance with the approved drilling programme, applicable petroleum regulations, environmental approvals, and good international oilfield practice.

The well is expected to be drilled to a target depth of approximately 2,000 meters, subject to final engineered well design, subsurface conditions, pore pressure/fracture gradient analysis, operational risk assessment, and approval from the relevant authorities. The operation will be designed and executed to ensure the protection of people, the environment, nearby communities, groundwater resources, surface water, and surrounding land uses.

8.1.2. Project Location and Footprint

Each drill site will require a temporary working area of approximately 1 to 2 hectares, including the well pad, rig location, equipment layout, temporary storage areas, lined pits, drainage controls, safety zones, internal access, firefighting arrangements, and operational support areas. The indicative well pad dimension is approximately 150 m × 150 m, to be reduced wherever practicable through compact layout planning and footprint minimization.

The final footprint shall be confirmed through site survey, geotechnical review, environmental and social screening, landowner consultation, and detailed well pad layout design and be reflected in the EIA report. The project shall prioritize the use of existing roads, tracks, and disturbed areas wherever available. Where road widening, upgrading, clearing, or new access is unavoidable, the design shall identify the exact length, width, drainage works, slope protection measures, erosion controls, land-take requirements, affected parties, and reinstatement obligations.

Access roads may require upgrading to accommodate the safe movement of drilling rigs, trailers, casing, fuel, water, cementing units, mud logging units, wireline units, generators, heavy vehicles, and support equipment. Any access road works shall be designed to minimize vegetation clearance, soil erosion, drainage disruption, dust generation, community disturbance, and damage to existing public or private infrastructure.

8.1.3. Project Objectives

The primary objectives of the drilling project are to:

1. Drill the proposed onshore exploration well safely and efficiently to the planned target depth.
2. Acquire geological, petrophysical, pressure, fluid, and formation data required to evaluate hydrocarbon potential.
3. Maintain well integrity throughout drilling, testing, suspension, completion, or abandonment.
4. Prevent uncontrolled release of formation fluids through appropriate well-control equipment, procedures, monitoring, and trained personnel.
5. Manage drilling fluids, cuttings, cement returns, wastewater, fuel, chemicals, emissions, noise, and wastes in accordance with the approved Environmental Impact Statement and Environmental Management Plan.
6. Protect nearby communities, landowners, workers, groundwater, surface water, soil, vegetation, and culturally or socially sensitive receptors.

7. Restore the site after completion of operations unless retention of selected facilities is approved by the relevant authority.

8.1.4. Main Drilling Project Components

The project will include the following major components:

- Well pad and drilling location;
- Access roads and traffic management routes;
- Drilling rig and associated rig equipment;
- Conductor, casing, liner, cementing, wellhead, and blowout prevention systems;
- Mud tanks, pumps, solids-control equipment, drilling-fluid storage, and chemical storage;
- Mud logging, wireline logging, and formation evaluation equipment;
- Cementing unit and cement storage;
- Diesel generators and power distribution;
- Fuel storage with secondary containment;
- Water storage and supply system;
- Lined pits or tanks for drill cuttings, excess cement, drilling fluids, wastewater, and other controlled wastes;
- Flare line and flare pit or flare system, where testing is required;
- Temporary workshop, storage, security, first aid, firefighting, emergency response, and site office facilities;
- Crew accommodation or offsite camp support, where applicable;
- Communication systems and emergency evacuation arrangements.

8.1.5. Project Phases and Activities

8.1.5.1. Planning, Survey, Design and Approval

Before physical work commences, the TGPB along with relevant contractors and consultants, shall complete all necessary surveys, engineering design, risk assessments, approvals, and management plans. This phase shall include:

- Confirmation of well coordinates and surface location;
- Topographic, environmental, social, and land-use screening;
- Land access and landowner consultation;
- Geotechnical assessment of the well pad and access roads;
- Drainage review;
- Identification of nearby houses, roads, ignition sources, surface water, groundwater, agricultural land, sensitive habitats, cultural heritage areas, and community infrastructure;
- Preparation of the detailed drilling programme;
- Preparation of the Environmental Impact Statement and Environmental Management Plan;

- Preparation of the Safety Case/ HSE Plan, Emergency Response Plan, Oil Spill Contingency Plan, Waste Management Plan, Traffic Management Plan, Security Plan, and Rehabilitation Plan;
- Well-designed based on expected lithology, pressure regime, formation fluids, casing design, cementing strategy, and well-control requirements;
- Pre-spud risk assessment or Drill Well on Paper exercise;
- Third-party inspection and verification of the drilling rig, blowout preventer, well-control systems, power systems, safety systems, and critical equipment before the commencement of drilling. The drilling contractor shall be responsible for this activity.

8.1.5.2. Site Preparation and Access Construction

The agreement between the project owner and affected landowners, as well as the local authorities, shall be in place prior to site preparation and access preparation.

Site preparation will begin before rig mobilization. Works shall include vegetation clearance only within the approved boundary, stripping and stockpiling topsoil for rehabilitation, grading, leveling, compaction, drainage construction, and installation of perimeter safety controls. A perimeter drainage ditch, berm, and fence shall be provided around the well pad as required by site conditions. Drainage shall be designed to separate clean storm water from potentially contaminated runoffs. Erosion and sediment controls shall be installed before major earthworks, especially near slopes, drainage lines, streams, agricultural land, and community access routes.

The well pad shall be designed to safely accommodate the drilling rig, mud system, pipe racks, casing, cementing equipment, generators, fuel tanks, workshops, temporary offices, firefighting equipment, emergency access, and vehicle turning areas. Equipment layout shall allow safe movement of personnel and vehicles, safe lifting operations, segregation of hazardous materials, safe escape routes, and emergency response access.

Where flare pits are used, their location shall consider prevailing wind direction, safe separation from the well, drainage, roads, accommodation, vegetation, and nearby receptors. Hazardous zones, ignition controls, earthing, signage, lighting, and restricted access shall be implemented before drilling commences.

8.1.5.3. Mobilization and Rig-Up

The drilling rig, casing, drill pipe, mud materials, cement, chemicals, fuel, generators, service units, logging units, and other equipment will be transported to the site using approved logistics routes. Transport may involve movement from a port, storage yard, supply base, or other project areas to the well site.

Mobilization shall be controlled through a traffic and journey management system covering route surveys, bridge and road capacity, community safety, convoy controls, speed restrictions, driver competency, fatigue management, emergency contacts, vehicle inspection, load restraint, and communication with local authorities and communities.

Following arrival at site, the rig and associated equipment shall be rigged up in accordance with the rig contractor's procedures, the approved drilling programme, manufacturer requirements, and regulatory requirements. Pre-spud checks shall confirm the readiness of the rig, power supply, mud system, well-control equipment, emergency shutdown systems, firefighting systems, communication equipment, first-aid arrangements, and environmental containment systems.

No drilling shall commence until all critical equipment has been inspected, tested, certified where required, and accepted.

8.1.5.4. Drilling Operations

The well will be drilled in sections in accordance with the well-approved design. The indicative drilling sequence includes:

- Rig-up and pre-spud safety checks;
- Setting and cementing of conductor pipe;
- Drilling of the surface hole section;
- Logging and running of surface casing;
- Cementing of surface casing to protect shallow formations and groundwater;
- Pressure testing and verification of casing and cement integrity;
- Drilling of intermediate hole sections;
- Logging, running, and cementing of intermediate casing;
- Drilling of the final hole section to target depth;
- Running liner or production casing as required;
- Formation evaluation, mud logging, wireline logging, pressure testing, coring, or sampling where required;
- Perforation and drill stem testing only where hydrocarbon indications justify testing and regulatory approval has been obtained;
- Suspension, completion, or abandonment depending on the well results.

Throughout drilling, the project shall maintain continuous monitoring of drilling parameters, mud weight, flow returns, pit volumes, gas shows, torque, drag, rate of penetration, formation pressures, losses, kicks, and other indicators relevant to well integrity and well control. The mud system shall be managed to maintain borehole stability, control formation pressure, transport cuttings, cool and lubricate the bit, and reduce environmental risk.

The drilling programme shall include procedures for expected and unexpected hazards, such as lost circulation, stuck pipe, shallow gas, abnormal pressure, borehole instability, well kicks, hydrocarbon influx, H₂S, equipment failure, severe weather, road access disruption, medical emergencies, fire, spills, and incidents.

8.1.5.5. Well Control and Safety

Well control is a critical element of the project. The drilling operation shall use a blowout prevention system and associated choke, kill, control, and monitoring systems suitable for the well design, expected pressures, and regulatory requirements.

The blowout preventer shall not be removed unless the well has been made safe. Secondary control systems and secondary power sources shall be available to activate the blowout prevention equipment if the primary system fails. Function tests, pressure tests, drills, inspections, and maintenance shall be carried out at defined intervals and recorded in the daily drilling report.

The drilling team shall conduct regular emergency drills, including muster, kick response, fire, spill response, medical evacuation, and well-control scenarios. Personnel in critical roles shall be trained, competent, and certified as required. A clear chain of command shall be established for normal operations and emergencies.

8.1.5.6. Water Supply and Use

Water will be required for drilling fluids, cementing, dust suppression, cleaning, domestic use, and emergency firefighting. Potential sources may include nearby surface water, existing water wells, trucked water, seawater where technically suitable, or a dedicated water well only where alternatives are not available and approvals are obtained.

The selected water source shall be assessed for availability, community dependency, seasonal variation, water quality, ecological sensitivity, and regulatory requirements. Water abstraction shall not adversely affect community supply, agriculture, aquatic habitats, or downstream users. Water use shall be monitored and recorded.

8.1.5.7. Chemicals, Fuel and Hazardous Materials

Chemicals used in drilling fluids, cementing, cleaning, maintenance, testing, and other support activities shall be listed in a chemical register. Safety Data Sheets shall be available onsite.

Fuel storage shall be segregated from accommodation and ignition sources, placed within adequate bunding, clearly labeled, and equipped with spill kits and firefighting equipment. Explosives, radioactive sources, and other controlled materials used for perforating or logging shall be transported, stored, handled, and returned in accordance with applicable law, manufacturer instructions, security requirements, and radiation/explosives control procedures.

8.1.5.8. Drilling Waste, Cuttings, Cement and Wastewater

The project will generate drill cuttings, spent drilling fluids, excess cement, wastewater, packaging waste, used oils, filters, oily rags, domestic waste, scrap metal, sewage, and other controlled wastes. Waste shall be managed according to the waste hierarchy: avoid, reduce, reuse, recycle, treat, and dispose.

Drill cuttings and excess cement shall be stored in lined pits, tanks, skips, or other approved containment systems. Where onsite encapsulation is approved, the pit shall be lined, dewatered, sealed, capped, and covered with suitable clean material and topsoil in accordance with the approved Environmental Management Plan. Where onsite encapsulation is not appropriate, alternatives such as treatment, land farming, offsite disposal, solidification, recycling, or approved disposal shall be assessed and implemented.

All waste handling shall include segregation, labeling, tracking, spill prevention, inspection, and documentation. Hazardous waste shall not be mixed with general waste. Waste contractors and disposal facilities shall be approved before use.

8.1.5.9. Well Testing

If hydrocarbon indications are encountered and the results justify further evaluation, a drill stem test or other approved testing programme may be conducted. Testing shall only proceed after regulatory approval, risk assessment, verification of equipment, confirmation of emergency response readiness, and community safety controls.

Well testing shall be designed to obtain the minimum data required to evaluate reservoir productivity, fluid type, pressure, and commercial potential, while minimizing flaring duration, emissions, noise, light, heat radiation, and safety risks. Where flaring is required, it shall be conducted through a safe and efficient flare system, located at an appropriate distance from people, roads, vegetation, drainage, and ignition-sensitive receptors. Flared volumes and test results shall be recorded.

8.1.5.10. Completion, Suspension, or Abandonment

After drilling and evaluation, the well shall be completed, suspended, or abandoned depending on the results.

If the well is a discovery, commercially promising, it may be suspended or completed for future appraisal or production, subject to approval. If the well is not commercially viable, it shall be permanently plugged and abandoned. The abandonment programme shall isolate hydrocarbon zones, pressure zones, and potable water zones to prevent fluid migration between formations or to the surface.

Suspension or abandonment shall include approved cement plugs, pressure testing where required, wellhead security, records of plug depth and quality, surface marker installation where required, and submission of final documentation to the relevant authority. The rig shall not be released until the well has been made safe in accordance with the approved programme and applicable regulatory requirements.

8.1.5.11. Demobilisation and Site Rehabilitation

After completion of drilling, testing, suspension, or abandonment, the rig and temporary equipment shall be demobilized. Remaining materials, waste, chemicals, fuel, scrap, temporary facilities, and contaminated soil shall

be removed, treated, reused, recycled, or disposed of in accordance with the approved Environmental Management Plan.

The site shall be rehabilitated unless otherwise approved. Rehabilitation shall include regrading, drainage reinstatement, replacement of stored topsoil, erosion control, re-vegetation, removal of temporary access controls where no longer required, and monitoring of settlement, erosion, contamination, vegetation recovery, and community safety.

Where access roads or selected facilities are retained for future use, responsibility for maintenance, drainage, safety, and landowner arrangements, and any directive from government shall be clearly documented.

8.1.6. Labour, Local Content and Community Interface

The drilling campaign will require a combination of specialist certified personnel and local support labour. Key technical and supervisory roles may include company representative, drilling engineer, well site geologist, rig superintendent, tool pusher, driller, assistant driller, derrick man, mechanics, electricians, crane operators, mud engineers, mud loggers, cementing personnel, wireline personnel, logistics personnel, HSE personnel, security, catering, drivers, and general labour.

The project shall maximize local employment, procurement, training, and service participation where practicable, without compromising safety, competency, certification, or regulatory requirements. Local workers shall receive induction, task-specific training, PPE, supervision, and safe work instructions.

Community engagement shall be undertaken before and during the project to inform affected people about the project schedule, access restrictions, traffic movements, noise, dust, water use, safety zones, emergency arrangements, grievance process, and rehabilitation commitments.

8.2. Legal Requirements

Legal and Regulatory Basis related to Environment Approvals are guided by:

The ANP decision on the Project Category for the proposed onshore exploratory drilling activity in Pualaca Block, PSC TL-OT-21-17 vide letter no. ANP/HSE/S/26/093 dated 4 May 2026, classifies the proposed onshore exploratory drilling activity as a Category A project. The drilling project of TGPB is classified as a Category A project because it may have significant environmental impacts; as such, it is subject to the preparation of an EIS and an EMP.

As required by Article 5 (4) (g) of Decree-Law No. 39/2022, TGPB is to submit Terms of Reference (TOR) for an Environmental Impact Assessment (EIA) of the proposed onshore exploratory drilling to ANP for review and acceptance prior to TGPB undertaking the EIA study. The development of the TOR shall meet the minimum requirements as established under the ANP Guideline for the Preparation of Terms of Reference (TOR) for Environmental Impact Assessment Study for Petroleum Activities, Document ID: ANP/08/02/03, issued on 20 December 2024. The EIS

required under national law is equivalent to an Environmental and Social Impact Assessment (ESIA) required for IFC Category A projects.

The EIS shall identify and assess the environmental and social risks and impacts of the Drilling project and design and incorporate appropriate impact avoidance and mitigation measures into Project design, construction, and operation. This shall be done in accordance with:

- 1) National legislation and regulations.
- 2) International Standards and Guidelines, & International Conventions and Agreements.

In preparing the TOR, TGPB has identified the following applicable legal framework, as in Table 3 relevant international conventions ratified by Timor-Leste, relevant international guidelines or industry standards, and recommended best practices that are considered important for the EIA study.

Table 3: Applicable Timor Law, Regulations, International Guidelines & Standards.

National Law Regulation / International Regulation	Description	Relevance to the Project
Petroleum Activities Law 13/2005	It authorizes regulations on health and security, environment, leakage cleanup, facilities, and decommissioning.	Regulates HSE
Decree Law No. 6/2003 of the Road Code	Sets the road code and conduct, utilizing signage and road safety equipment, to prevent road accidents while transporting equipment from the port to the project location by road, crew-shift mobilization to project sites.	Movements during project implementation may be less; however, crew mobilization, heavy equipment, and construction material movements during the early stage of site construction will be significant. Enforcing this code and displaying signage is essential to avoid any casualties and to reduce potential risks.
Decree Law No. 26/2012 Basic Environmental Law	The Decree Law identifies the protection of environmental life and wildlife, including the basic principles for the conservation, preservation, and sustainable use of natural resources in order to improve the quality of life of local populations, especially within the framework of environmental principles: prevention, precaution, participation, polluter pays, and integration. Obtaining an environmental license prior to the commencement of any	It is a high-risk project: environmental studies (EMP, EIA) identify associated risks, for example, oil spills, water contamination, noise, waste, and emissions; they identify and provide control measures for the prevention and elimination of potential risks. Communicate with communities by providing information on the basis for environmental protection of the environment and wildlife protection, and the sustainable use of natural resources

	activities and complying with the requirements and regulations defined by law protects air, water, solid waste, noise, etc., under both national principles and international guidelines.	through public consultation.
Degree law No. 18/2020 of 13th May, Onshore Petroleum Operations, Timor-Leste.	Applies to Onshore Petroleum Operations, including transportation, processing, and storage of Crude Oil and Natural Gas with direct impact on any reservoir. In addition, it covers a broader scope of issues related to onshore activities, notably a legal statute that also addresses environmental and technical aspects related to carrying out Onshore Petroleum Operations, such as rights of way through, on, or over the land destined for Petroleum Operations, the installation of pipelines, rules on geological, geophysical, or geochemical surveys, and the environment.	This article established a legal framework for onshore petroleum operations, including but not limited to exploration and production on the shore of Timor-Leste. Preparation of EIS, EMP, and OSCP.
Decree-Law 5/2011, as amended by DL No. 39/2022 - Environmental Licensing	Environmental Impact Assessment: The procedures for environmental assessment of projects in Category A and the Evaluation Committee function. Review of the EIA and the EMP. Article 5.4 (g) of Decree-Law No. 5/2011 – Submission of Term of Reference (TOR). Article 9.1(h) of Decree Law No. 5/2011 – Submission of EIS, including its non-technical summary, and Article 9.1(h) of Decree Law No. 5/2011 – Submission of EMP. Provides the EIA/licensing framework, including Category A/B licensing, public	Provides the Environmental Licensing procedure to regulate actions to encourage and protect nature as an important instrument for the sustainable development of the economy of Timor-Leste. Obtaining environmental license on category A ensures that all associated risks related to project activities, from the commencement until decommissioning, are addressed, and enforcing the regulation to guarantee the sustainability of the project.

	consultation, and license issuance logic.	
Ministerial Diploma No. 44/2017 Regulation on Impact and Benefits Agreement;	Defines the Impacts and Benefits agreed between the proponent and the communities or individuals affected by the Project, included in the EIA and/or EMP. The article specifies the process for the agreement between the project proponent and the local community regarding the advantages and disadvantages of the project.	Served as inter-ministerial coordination to secure the rights of the affected communities and to ensure the minimization of impacts during and after project completion.
Diploma Ministerial (DM) No. 9/2025 for the petroleum sector, which superseded Diploma Ministerial No. 45/2017 – Rules and Procedures of the Evaluation Committee for Project with Category A	The article specifies the importance of establishing rules and procedures for the evaluation committee for the management of the environmental evaluation process for projects in Category A	This regulation applies to managing the environmental assessment process for any proposed Category A project, in accordance with the Environmental Licensing Law. Establishment of a committee to review the project that categorises into Category A.
Ministerial Diploma No. 46/2017 – Detail requirements for Screening, Scoping, Project Document, Term of Reference, EIS, SEIS, and EMP for Environmental Assessment.	This article specifies the necessity of establishing a regulation for projects that may have significant impacts on the environment. Additionally, this article outlines the minimum requirements for documents such as the Project Document, TOR, EIS, SEIS, and EMP for Category A, B, and C projects.	Providing the minimum required content for the EMP and EIA for this Category A project.
Decree-Law No. 78/2023 – Organic Law of MTA, 2026 amended Organic Law of IX Government.	Places environment policy, pollution control, biodiversity functions, and ANLA/AND under MTA. Confirms MTA's current powers over environmental policy, strategic environmental	Defines the powers of different authorities.

	assessment, national EIA coordination, and general environmental licensing; also shows some biodiversity/protected area functions now assigned to agriculture/forestry.	
Decree Law No. 7/2020, 19 February Explosives	Import, Transport, Storage and Use of Explosive Products for Construction, Petroleum and Mineral Activities	Controls the requirements where explosives are imported, transported, and used during well operations.
IFC/WB EHS Guidelines: Environmental, Health and Safety for Onshore Oil and Gas Development (2007).	The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice. The guidelines are industry-specific for onshore oil and gas and are designed to be used together with the General EHS Guidelines document, which provides guidance to users on common EHS issues potentially applicable to all industry sectors.	Provide guidance on the application of good environmental practices.
IOGP Guidelines	IOGP serves industry regulators as a global partner for improving safety, environmental, and social performance, and acts as a uniquely upstream forum in which members identify and share knowledge and good practices to achieve improvements in health, safety, the environment, security, and social responsibility.	Provide guidelines and GIIP.
IPIECA Guideline	IPIECA is the only global association involving both the upstream and downstream oil and gas industry. It is also the industry's principal channel of communication with the United Nations. IPIECA develops, shares, and promotes good practice and knowledge to help the industry improve its	Provides guidelines and GIIP.

	environmental and social performance.	
Public Consultation		
Ministerial Diploma No. 47/2017 – Article 4 Public Consultation.	This Article specifies the procedures and requirement of involvement of the public and community involvement in the different stages of the environmental assessment process through public consultation.	Provides information and communication to communities by providing, information on the basis for environmental protection of the environment and wildlife protection, and the sustainable use of natural resources, through public consultation. Requires publishing a public notice, for the purpose of public consultation on draft ToR, and submitting a copy of the notice to ANP together with the ToR submission.
Biodiversity		
Decree Law No. 5/2016 – National System of Protected Areas (Appendix 1 – List of Timor-Leste Protected Areas)	This Article establishes the legal framework for the creation and management of the national system for protected areas, as well as identifying and classifying the existing protected areas in the national territory. Including for the classification of protected areas and for the applicable management instruments, international best practices in the matter, duly adapted to the national reality, without forgetting the important role of community authorities and existing customs.	Provide the basis for the protection of terrestrial and marine protected areas without setting aside the important role of communities, authorities, and existing customs. Areas around or close to the project perimeter must be handed with environmental care.
Decree Law No. 6/2020 – Legal Regime for the Protection and Conservation of Biodiversity	This article establishes a legal framework for the protection and conservation of biodiversity, completing the provisions of the National System of Protected Areas and the Basic Law for	Provide information and mechanisms in protecting and conserving biodiversity in the project area.

	Environment.	
Forestry, Aquaculture and Fishing Legislation: Law No. 14/2017 – General Regime of Forestry	The DL outlines the basic principles and standards for the management, protection, conservation, and sustainable use of forestry and river basin resources. Moreover, it describes the importance of communities that use the forests for their needs and prosperity, and for promoting sustainable development.	Provide a legal framework for the fundamental norm of environmental protection and preserving the natural resources in the forests for the sustainability of economic development.
United Nations Convention on Biological Diversity (UNCBD).	The Convention on Biological Diversity (CBD) has 3 main objectives: 1. The conservation of biological diversity. 2. The sustainable use of the components of biological diversity; and 3. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.	This project could have impacts on the flora and fauna or risk the loss of biodiversity. It is a fundamental principle for TGPB to prevent or minimize the risk of biodiversity loss during project implementation.
International Union for Conservation of Nature (IUCN)	This international convention focuses on nature conservation and sustainability of natural resources. The IUCN works in the field to promote ecological conservation to ensure the concept. Timor-Leste is a signatory member of IUCN.	Timor-Leste is a signatory member of the IUCN convention, which has responsibility to protect its ecological components to ensure sustainable economic development. Therefore, identification of the species categorized under red list by the IUCN and consideration of the guidelines to protect and minimize disturbances during the project implementation processes.
Climate Change		
National Climate Change Policy (NCCP)	The policy is a framework for addressing the challenges posed by climate change. It outlines strategies, actions, and commitments aimed at mitigating greenhouse gas emissions, adapting to climate impacts, and ensuring sustainable development.	It guides sustainable practices to minimize environmental and climate impacts by reducing flaring activities, fuel consumption, and the use greener technology to improve energy efficiency at the drill site.

United Nation Framework for Climate Change Convention (UNFCCC) and Kyoto Protocols, including Timor-Leste's National Action Plan for Climate Change	Provides a framework for intergovernmental efforts to reduce greenhouse gas emissions and adapt to the expected impacts of climate change. It also provides guidance to member states on developing and implementing national climate change strategies, incorporating both adaptation and mitigation actions. Timor-Leste became a signatory to the UNFCCC in October 2006.	The project activities will release GHG emissions, which would contribute to the country's climate change issues. The GHG emissions will be kept minimal when possible.
Land and Property		
Law No. 13 /2017 – Special Regime for the Definition of Ownership and Immovable Assets	The Law describes the rules on land ownership, the legal clarification of ownership, and the promotion of the distribution and access to, land, as well as community property/land.	Provides information on defining land ownership and community properties. Also, the legal basis for the project proponent to identify, access, and compensate for any land used during the project activities
Law No. 08/2017 – Expropriation for Public Utility	This Law establishes the rules and regulations for expropriation for public use /utility reasons, regarding fair indemnification.	Provides information for shaping socio-economic analysis and mitigation measures.
Labor		
Decree Law No. 04/2012 – Labor Law	This Law describes the duties and obligations of the private employer and employee while performing their functions within the scope of work, or within the bounds of a work contract, to create good working conditions and a fair, safe, and healthy working environment.	Provide basis for the project proponent to set up a working conditions and contracts between the employer and employee.
Cultural and Heritage		
Government Resolution No. 24/2009 – National Policy for Culture	Defines the concept of culture and heritage, including the types of heritage and how they should be identified, classified, communicated to the public, and registered to make it a dynamic	Provides information in identifying cultural and heritage in and/or around the perimeter of the project.

	sector for the development of the identity and citizenship of Timor-Leste.	
Decree Law No. 33/2017 – Legal Framework for Cultural Heritage	Defines the concept of cultural heritage and the measures for its support, protection, preservation, and conservation, and the typology of cultural heritage in Timor-Lest and connects the population to the protection, conservation, and defense of cultural heritage, as well as its fruition.	Provides information for identifying cultural and heritage in and/or around the perimeter of the project.
Cultural Heritage Legislation: Government Resolution No. 25/2011 – Protection of Cultural Heritage (Appendix 4)	This Law was used to protect and preserve Timor-Leste’s cultural heritage until the Cultural Heritage National Law was made available. The resolution defines the types of cultural heritages: archaeological heritage, architectural heritage, ethnographic and traditional heritage, and intangible heritage.	Provides the scope or boundary of the cultural heritage which has to be considered by the project proponent.
UNESCO Convention on Natural and Cultural Heritage	This convention mandates that each signatory member identify, protect, conserve, transmit, and present to future generations the cultural and natural heritage. Timor-Leste is a signatory member of this convention.	This project’s activities will ensure the protection and conservation of any cultural and natural heritage at the project location.
Waste Management		
Decree Law No. 3/2024 – First Alteration of DL No. 33/2008 - Hygiene and Public Order, Supported by DL No. 2/2007 – Urban Residual Waste Management. Decree-Law No. 2/2017 – Solid Waste (municipal), where relevant to domestic and non-	These laws provide a legal framework to manage urban solid waste and to promote hygiene in the workplace.	As the legal basis for the project proponent to manage solid and liquid wastes produced during any project phase. This is to be set as the minimum criteria for TGPB to establish its own waste management system.

hazardous waste generated by site activities and worker camp operations		
Noise		
WHO Guidelines for Community Noise (1999)	Compliance with the standards provided by WHO for acceptable sound pressure levels, relevant to project activities, for the prevention of critical health effects.	Guidelines used as a reference for the baseline evaluation of noise in the EIA.
Air Quality		
WHO Air Quality Guidelines (2005)	Designed to offer guidance on reducing the health impacts of air pollution to protect public health in different contexts and countries where national targets have yet to be determined.	Guidelines used as references for the baseline evaluation of air quality in the EIA.
Water Quality		
WHO Guidelines for Drinking-water Quality (2011)	Compliance with the standards set by WHO for the quality of drinking water, especially groundwater quality.	List of water quality parameters relevant for conducting the baseline evaluation of groundwater water quality.
Decree Law No. 31/2020 on Approving the Quality Control of Water for Human Consumption	This article defines the standards for water quality for human consumption. It aims to protect human health from adverse effects resulting from consuming contaminated water. This standard is applicable to any water source, including public water supply systems, wells, boreholes, and spring water.	Provides guidelines for water quality that can be used as benchmarks for surface and ground water in TGPB project site.

8.3. Description of the Environment

This section covers Physical, Biological, and Socio-Economic, Cultural, Archaeological, and Historical, Etc.

Description of the Environments

It is important to understand the existing environment in the vicinity of the proposed drilling project, comprising the three wells. A structured scope of study for the description of the environment at TGPB for an Onshore Exploratory Drilling Project. This framework is suitable for inclusion in Terms of Reference (TOR) and for proposing an Environmental Baseline Study (EBS).

The objective of this section is to establish a comprehensive baseline of the existing environment in the vicinity of the proposed three exploratory wells, covering physical, biological, socio-economic, cultural, archaeological, and historical components. This baseline will inform the Environmental Impact Assessment (EIA) and guide mitigation and management measures.

The study boundaries are discussed in Section 6 above in the Study Area.

- Primary Zone: 2 km radius around each well site for physical, chemical, and biological parameters.
- Secondary Zone: 5 km radius for socio-economic, cultural, and community infrastructure conditions.
- Reference Locations: Selected sites outside the immediate project area to provide comparative data.

The Components of the Study involve the physical and ecological/biological environments and socio-economic components, as described in detail below.

8.3.1. Physical Environment

- Climate (seasonal changes), temperature, humidity, rainfall, annual and seasonal patterns, winds, prevailing wind direction, speed, seasonal variability, cyclonic weather systems'
- Topography, landforms, slopes, and drainage within the study area.
- Geology and Soil, stratigraphy, lithology, soil types.
- Air and Noise Quality, baseline concentration of particulate matter, NO_x, SO_x, CO, hydrocarbons. ambient noise levels.
- Surface waters
- Ground waters
- Coastal waters
- Soil

8.3.2. Ecological/Biological Environment

- The following information will be covered in the EBS. However, if such features are not nearby, by the same would be reflected. These are components that would be considered in this section:
- Wetlands
- Mangroves
- Corals
- Fisheries
- Protected Areas, Reserves, Conservation Zones, and National Parks Within Study Boundaries.

- Flora and Fauna: Vegetation Type, Endemic and Rare Species; List Rare, Endangered, and Vulnerable Species Based on IUCN, Mammals, Reptiles, Amphibians, and Invertebrates, Avifauna (Birds): Migratory and Resident Species.
- Forests, Sensitive Habitats, Critical Ecosystems, Biodiversity Hotshots.
- Coastal Resources.

8.3.3. Socio-Economic Components

The following information will be covered in the EBS. However, if such features are not nearby, by the same would be reflected. These are components that would be considered in this section.

- Population and Communities
- Population Demographics, governance structure, languages spoken, employment/unemployment, livelihood, and local economy.
- Health Profiles
- Institution, Schools, and health facilities
- Community structures, family structures, health, education, transport, and utilities
- Any common or individual rights to natural resources

8.3.4. Cultural Components

The following information will be covered in the EBS. However, if such features are not nearby, by the same would be reflected. These are components that would be considered in this section.

- Cultural heritage, cultural practices, oral histories
- Archaeological heritage (sites, monuments, festivals)
- Historic sites
- Sacred sites
- Unique landscapes

The Baseline Data Collection Approach;

Primary Data:

- Field surveys (air, water, soil, noise, and biodiversity).
- Household socio-economic surveys and stakeholder consultations.
- Archaeological reconnaissance and cultural mapping.

Secondary Data:

- Meteorological records, climate, rainfall, temperature, census data, published studies.
- Historical archives, published reports, government reports, and prior EIAs.
- Maps and satellite imagery.

The Expected Outcome of This Scope of Study Will Be:

- A detailed environmental baseline report that:
- Characterizes the existing environment across physical, biological, and socio-cultural dimensions.
- Identifies sensitive receptors and potential areas of concern.
- Provides a foundation for impact prediction, mitigation planning, and environmental management.

8.4. Baseline Data Collection

8.4.1. Environmental Baseline Study Scope and Methodology

Baseline data collection - Scope of the environmental baseline study, the approach, methodology, and boundary of the study for the TIMOR GAP Pualaca Block drilling project - PSC TL-OT-21-17 are provided as:

8.4.1.1. Physical Environment

Baseline data will be collected for air quality, noise, surface water, groundwater, and soil to establish pre-project conditions. Sampling will be concentrated within a 2 km radius of the drilling site and focused on sensitive receptors.

8.4.1.2. Air and Noise Quality

Air emissions during exploratory onshore drilling primarily arise from diesel generator (DG) sets, drilling rig engines, and auxiliary equipment. These sources emit conventional combustion pollutants, including nitrogen oxides (NO₂), Sulphur dioxide (SO₂), carbon monoxide (CO), and particulate matter (PM₁₀ and PM_{2.5}). The emission sources are low-level, of limited capacity, and operate for a restricted period.

Air pollutant concentrations decrease rapidly with distance from the source due to atmospheric dispersion and dilution. Under normal operating conditions and with compliant equipment, incremental ground-level concentrations are typically indistinguishable from background levels beyond the immediate vicinity of the drill site. International experience demonstrates that air quality impacts from exploratory drilling are generally not significant beyond approximately 250 meters from the source, particularly in the absence of continuous flaring or high-capacity combustion systems.

Accordingly, the direct air quality impact zone for exploratory onshore drilling is confined to the drill site and its immediate surroundings.

Noise generated during exploratory drilling operations originates from the drilling rig, diesel engines, mud pumps, material handling activities, and vehicle movements. Noise attenuation occurs rapidly with distance because of geometric spreading and atmospheric absorption.

Noise propagation and sound pressure levels decrease substantially within the first few hundred meters from the source. In most cases, daytime and nighttime noise levels are predicted to fall below applicable residential guideline values beyond 300 meters, depending on topography, meteorological conditions, and the presence of

natural or artificial barriers. International standards and guidance, including ISO 9613-2 and World Health Organization (WHO) environmental noise guidance, support this conclusion.

Based on these considerations, the noise impacts associated with exploratory drilling are considered localized and temporary, with the potential impact zone generally limited to within approximately 250- 300 meters of the drill site, subject to site-specific conditions and the presence of sensitive receptors.

Ambient air quality and noise monitoring will be conducted at representative locations, including villages, schools, health facilities, and reference locations. Measurements will be undertaken using calibrated instruments in accordance with recognized standards.

8.4.1.3. Water and Soil Quality

Exploratory drilling activities generate comparatively small volumes of wastewater, primarily associated with drilling fluids, equipment washing, and domestic use. Standard industry practices include the use of lined pits or closed-loop drilling systems, secondary containment for fuels and chemicals, and strict controls to prevent unplanned releases.

Under normal operating conditions and in compliance with good industry practice, no routine discharge of surface waters is anticipated. Potential impacts on soil and water resources are therefore limited to the drill site itself, and off-site migration is not expected unless a loss of containment or an accidental spill occurs. Guidance from international industry standards confirms that, where appropriate, containment and management systems are in place, impacts on soil and water quality remain spatially restricted and manageable.

Surface water and groundwater samples will be collected from streams, wells, and other water sources identified during field surveys. Physical, chemical, and microbiological parameters relevant to onshore drilling activities will be analyzed by recognized national laboratories.

Soil samples will be collected from representative locations surrounding the drill site. Analysis will establish baseline physical and chemical soil characteristics, including nutrients, heavy metals, and hydrocarbons.

8.4.1.4. Biological Environment

Land disturbance associated with exploratory drilling is limited in scale and duration, generally confined to the drilling pad, access tracks, and temporary storage areas. No permanent infrastructure is established, and the site is typically rehabilitated following completion of drilling activities.

Biodiversity impacts are primarily related to short-term habitat disturbance and temporary avoidance by fauna. These impacts are localized, reversible, and mitigable through site selection, timing of activities,

access control, and post-drilling rehabilitation. International experience indicates that direct land-use and biodiversity impacts from exploratory drilling are generally confined within 300 meters of the drill site.

The biological environment baseline will include land use and land cover mapping, flora surveys, fauna surveys, and the identification of sensitive habitats.

Land use and land cover mapping will be undertaken using satellite imagery, drone reconnaissance, and field verification, whichever technique is practical and possible. Flora and fauna surveys will be conducted using transect-based methods within the 2 km assessment area, in particular, and in general, up to 5km radius around the drill site. The study will identify vegetation types, wildlife species, and any protected, endemic, or threatened species. The biological baseline will also include the screening and mapping (using secondary data from the Ministry of Agriculture, Livestock, Fishery and Forest, Govt. of Timor Leste) of any legally protected areas, ecologically sensitive habitats, riverine systems, forest condition, and other biodiversity-sensitive features within the study area and access corridor. The study will identify protected, endemic, migratory, and threatened species using field observations, available secondary sources, and consultation with relevant local authorities and communities where appropriate. Any high-sensitivity or prohibited ecological area identified during the baseline will be clearly recorded for consideration in the subsequent EIA and project planning.

8.4.1.5. Socio-Economic and Cultural Environment

Socio-economic baseline data will be collected within a 5 km radius of each drill site, including the Daulorok well, is located in Aldeia Orlalan; Suco Orlalan; Post Administrative Laclubar, the Pualaca well, is located in Aldeia Pualaca; Suco Orlalan; Post Administration Laclubar. And W1 well, is located in Aldeia Fehuc Rin; Suco Uma Boco; Post Administration Barique.

The study of secondary data will be documented for population characteristics, livelihoods, local economic activities, access to services, community infrastructure, and cultural or heritage features. Consultations with community leaders will be undertaken where appropriate.

8.4.2. Sampling and Survey Design and Strategy

Sampling locations will be selected using a grid, radial, and 120-degree radiating receptor-based approach at distances of approximately 500 m, 1 km, 2 km, and 5km from the drill site. Reference locations outside the immediate area of influence will be included where necessary. The environmental impact areas are within 500m; however, in accordance with international EIA best practice and the precautionary principle, a broader extent of influence has been defined for the purposes of baseline data collection and impact assessment. The adoption of a conservative 2 km study area is consistent with IFC Environmental, Health and Safety (EHS) Guidelines and internationally accepted EIA practice. Further, as internationally accepted practice (IFC, World Bank, UNECE) requires, baseline studies for onshore drilling must follow these principles:

Risk-based and proportionate.

- Sampling intensity reflects the temporary and localized nature of exploratory drilling.
- Greater detail within the Potential Impact Zone and reduced intensity outward (air and noise quality) Area of Influence/Impact.
- Defined to include:
- Direct impact area (typically 300–500 m from the drill site), if environmental receptors are within these zones.
- Indirect and contingency impact area (often extended to 2 km).
- Indirect impact on socioeconomic areas (up to 5km).

The IFC defines the area of impact as the area likely to be affected by direct, indirect, cumulative, and emergency impacts.

A 2-kilometre assessment radius has been adopted to ensure that:

- Sensitive environmental and social receptors are adequately identified,
- Indirect and cumulative impacts are considered,
- Traffic, access, and community interactions are properly assessed, and
- Low-probability, high-consequence events (e.g. emergency scenarios) are appropriately evaluated.

8.4.3. Area of Influence for each proposed well location

Figure 1 illustrates the concept of sampling design, with the drill site at the center, a grid line of a 1km each, radius lines 500m, 1km and 2km, and 120 degree radiating lines across the 2km and may extend to 5km depending on environmental receptors.

The proposed exact sampling/monitoring locations will be provided in the EIS with separate maps showing geographical coordinates, as is practical, for the concerned environmental receptors.

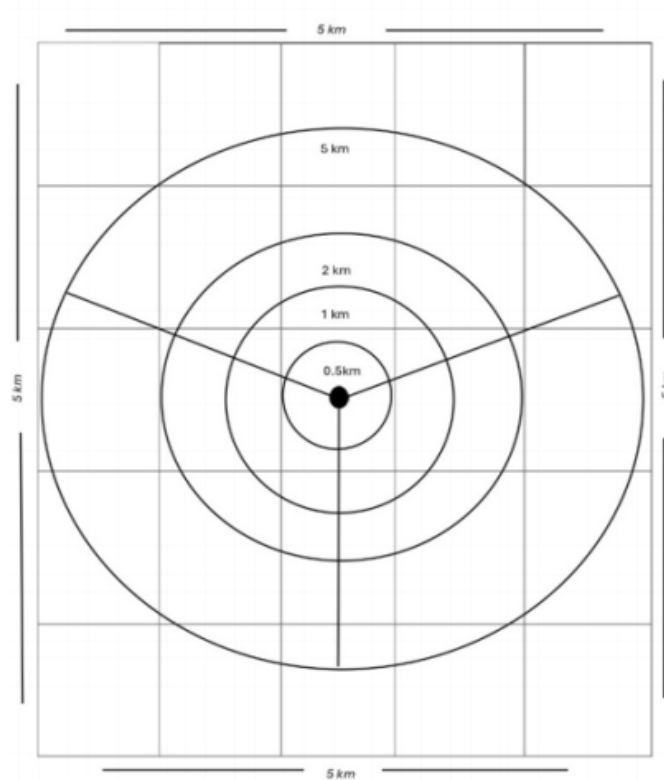


Figure 1: Sampling design and strategy around the drill site.

All sample collection and surveys will be conducted by a qualified, multidisciplinary team, including engagement of a Timorese environmental consultancy.

In Section 6.2 above, Maps 2a and 2b show Daulorok well site and its surrounding area. The Maps 3a and 3b show Pualaca well site and its surrounding area. And Maps 4a and 4b show W1 well site and its surrounding area.

The sampling design is adequate, according to GIIP, for collecting EBS. The season and the study/ survey period during which baseline data are collected will be determined as the rainy season, dry season. Any limitations associated with seasonal conditions, including stream flow, water availability, biodiversity, access, and community land or water use patterns, will be recorded. Where only one seasonal survey is feasible, this limitation will be acknowledged and considered in the interpretation of the baseline and in recommendations for the EIA.

8.4.4. Method of Collecting Samples

To collect environmental samples, TGPB will contact a Timorese environmental consultancy. The sampling design will follow and adopt the grid, radial, and 120-degree approach, depending on topography and relief features. Table 4 provides the environmental samples of the EBS and the distance from the drill site. The study will concentrate within 2km radius of the drill site, as any impact would be within that range. The number of environmental samples will depend on the environmental receptors. The plan is to

conceptually have the intended type of sample and the distance from the drill site suggested in Tble 3. If such environmental receptors are absent and the sample cannot be collected, it would be reported with reasoning in the EIA. The data collected will represent the environmental baseline.

Table 4: Type of samples and distance from the drill site

Environmental Sample / Distance from Drill Site	Water sampling	Soil sampling	Air quality sampling	Noise sampling	Socio-economic sampling	Biological survey	Land Use / Land cover
Well location 500m	yes	yes	yes	yes	yes	Yes	Yes
1000m radius	yes	yes	yes	yes	yes	Yes	Yes
2000m radius	yes	yes	yes	yes	yes	Yes	Yes
5000m radius	No	No	No	No	yes	Yes	No
Reference Station	No	No	Yes	Yes	Yes	No	No

8.4.5. Environmental Components and Parameters in the Baseline Study

The number of samples given below is planned; however, the number of samples per drill site may vary depending on topography, geography, and other factors such as season. The possibility of combining two drill sites, Dualorok and Pualaca wells, which are within 5 km area of influence of each other. The EBS scope discussed in this section is TGPB intention. However, a practical approach to components of environmental parameters may differ based on practicality, availability of environmental samples and the capability of resources in Timor-Leste.

8.4.5.1. Ambient Air Quality

Ambient air quality measurements conducted during environmental baseline studies for onshore drilling will establish the existing (pre-project) atmospheric conditions against which future project-related impacts can be evaluated. This step is essential for Environmental Impact Assessments (EIA) and is consistent with IFC Environmental, Health and Safety (EHS) Guidelines for Onshore Oil & Gas, World Bank EIA practices, and ISO-based environmental management frameworks. The ambient air quality measurements will:

- Establish pre-Project Environmental Conditions and determine the existing concentration of air pollutants before drilling activities begin, during drilling operations, and post-drilling phase.
- Establish reference conditions by assessing the background air quality level.
- Identify existing air emission sources.
- It will enable comparison between baseline and drilling operation levels.
- Demonstrate regulatory compliance.

Parameters may include particulate matter and combustion-related pollutants. The air quality samples will be collected in the same locations as noise, i.e. sensitive receptors. Air quality sampling stations will be taken on

3 diagonal 120-degree lines, up to 2 km, keeping the environmental receptors (schools, village, forest, protected area, health center, school) and a reference station. Table 4, Figures 1 and Maps 2, 3, 4 show the 3 diagonal lines up to 2km from the drill site. The lines will cover environmental receptors and have 3 X 500m, 1000m and 2000m = 9 stations, plus one additional reference station.

8.4.5.2. Noise Quality

Ambient noise measurements during baseline environmental studies for onshore drilling will determine the existing background noise environment prior to drilling project activities. This baseline information allows environmental specialists and regulators to assess how drilling operations may change the acoustic environment and whether mitigation measures are required. The purpose of the measurements will:

- Establish existing background noise levels at environmental receptors such as schools, hospitals, residential areas, wildlife habitats, agricultural land, protected areas, and heritage sites.
- Allow comparison with operational noise.
- Demonstrate environmental conditions before the pre-drilling, drilling, and post-drilling phases, and
- Ensure evidence for regulators.

Without baseline data, it is difficult to determine whether noise complaints are caused by the drilling project or by existing sources. Noise sampling locations would be the same as for air quality.

Noise measurements would be carried out for daytime and nighttime noise levels (dB(A)). The IFC Environmental, Health and Safety (EHS) Guidelines are widely used for large infrastructure or energy projects.

8.4.5.3. Surface and Ground Water Quality

Water quality measurement is undertaken in Environmental Baseline Studies (EBS) for onshore drilling to determine the existing physical, chemical, and biological characteristics of surface water and groundwater before drilling activities commence. Establishing this baseline condition is essential for impact assessment, regulatory compliance, and environmental management in accordance with international frameworks such as the WHO Water Quality Guidelines, the IFC Environmental Health and Safety (EHS) Guidelines, and World Bank environmental assessment practices.

Onshore drilling activities have several potential pathways for water contamination. Baseline water quality data allow for the assessment of potential impacts caused by drilling operations, such as the discharge of drilling mud & drill cuttings. Disposal has the potential to cause cuttings and chemical runoff. The drilling fluid circulation has the potential for chemical contamination. Fuel storage has the potential for hydrocarbon spills. Wastewater discharge has the potential for surface water pollution and other

pollutants. The EBS will measure relevant water quality parameters, including heavy metals, hydrocarbons, and other pollutants related to the discharges.

Baseline data on water quality will establish the following:

- Baseline water quality measurements allow assessment of how these activities could alter water conditions.
- Establish existing background water quality at environmental receptors: rivers, streams, groundwater, wetlands, and irrigation water.
- Allow comparison of water quality.
- Demonstrate environmental conditions before drilling, during drilling, and post-drilling.
- Ensure evidence for the regulator.

The water sampling locations in Table 4, Figure 1 and Maps 2, 3, 4, show that within a grid, one water sample will be taken. The nine water samples will be collected at different locations close to the proposed drilling well sites, depending on the terrain and rivulets, open wells, streams, rivers, ponds, hand pumps, etc.

Water quality samples will be collected using water-sampling equipment, and the samples will be stored in polyethylene bottles, which are then stored in ice boxes. For certain parameters, preservative reagents are added. Shipped to an appropriate recognized laboratory for analysis.

Surface and groundwater quality tests will be performed in situ for physical parameters, and by the National Directorate for Water and Sanitation (DNSAS) in Dili for physical, chemical, and microbiological parameters. DNSAS, as the National Water Testing Laboratory apply its own laboratory procedures, test methods, checklists, and standards throughout. For some parameters like heavy metals the samples will be send to other recognized laboratories for analysis.

The key water quality parameters are E-Coli, total coliform, pH, TSS, TDS, turbidity, DO, temperature, alkalinity, hardness, conductivity, oil & grease, and heavy metals (As, Cd, Pb, Hg, Fe, Mn, Cu, Zn, and Cr).

8.4.5.4. Soil Quality

Soil quality measurement is undertaken in Environmental Baseline Studies (EBS) for onshore drilling to determine the existing physical, chemical, and biological characteristics of soil before drilling activities begin. Establishing baseline soil conditions enables environmental specialists and regulators to assess potential impacts from drilling operations and to distinguish between pre-existing soil conditions and

project-related contamination. The practice aligns with international environmental management frameworks such as the IFC Environmental, Health and Safety (EHS) Guidelines, World Bank Environmental Assessment procedures, and ISO environmental monitoring standards.

The reasons to undertake soil quality measurement in EBS are:

- To establish baseline soil conditions Know reference conditions of soil quality prior to drilling operations.
- The purpose is to provide an environmental reference for existing soil characteristics.
- It allows comparison with soil conditions during and after drilling.

Baseline soil investigations will include soil type and classification, soil texture and structure. Soil samples will be 6 to 8 depending on the receptor, such as farm, vegetation, forest, barren land, grazing, etc., will be as per Table 4, Figure 1 and Maps 2, 3, 4. Soil samples will be collected using a bore drill of 75 mm diameter hand auger. Samples will be collected from topsoil down to the practical refusal depth. To avoid contamination, soil samples will be contained in zip-lock plastic bags and labeled to determine their physical and chemical properties. The physical soil parameters of the soil samples will be tested on site, and for other details, soil chemical properties will be analyzed in a recognized laboratory.

Soil parameters to be measured include soil pH, Potassium (K), Calcium (Ca), Magnesium (Mg), Boron (B), Nitrogen (N), Phosphorus (P), Barium (Ba), Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg), Oil and grease, and Total hydrocarbons. Soil sampling will analyze chemical parameters as per International standard laboratory procedures.

8.4.5.5. Land Use and Land Cover

Land Use and Land Cover (LULC) assessment in Environmental Baseline Studies (EBS) for onshore drilling will identify how land is currently utilized and the physical characteristics of the landscape within the project area of influence. This information helps determine environmental sensitivity, potential impacts from drilling activities, and appropriate mitigation measures. LULC mapping is a standard component of Environmental Impact Assessments (EIA) and aligns with the practices used in IFC Environmental, Health and Safety (EHS) Guidelines, World Bank environmental assessment frameworks, and international land management standards.

The study will identify existing land uses, including agricultural land, forest or vegetation cover, grazing areas, settlements and infrastructure, and protected or restricted land. Satellite imagery, drone images, and field verification will be used to produce land use maps/ images within 2km (Table 4) around the drilling location. An attempt to generate a Land Use and Land Cover (LULC) map using satellite imagery.

8.4.5.6. Biodiversity / Flora / Fauna / Biological Environment

Biodiversity (flora and fauna) assessment in Environmental Baseline Studies (EBS) for onshore drilling will determine the existing ecological conditions and biological resources around the drilling project area before project activities begin and after drilling. Establishing the biological baseline allows environmental specialists to evaluate potential impacts on ecosystems, habitats, and species resulting from drilling operations. These assessments follow internationally recognized frameworks such as IFC

Performance Standard 6 (Biodiversity Conservation), the World Bank Environmental and Social Framework, IUCN conservation guidance, and best industry practices from IOGP.

Role of Biodiversity / Flora / Fauna Assessment in Environmental Baseline Studies will:

- Establish Existing Ecological Conditions and identify species categories such as endangered species, protected species, migratory species, and habitats present before project activities.
- Document natural ecosystem characteristics, including important habitats and ecosystems: forest ecosystems, wetlands, grasslands, and aquatic ecosystems.
- Provide a benchmark for further comparisons.
- Biodiversity assessments help identify species that may require special protection.

The environmental baseline study will use the transect method to identify forest types and species of flora and fauna that could potentially be impacted by the drilling campaign. There will be three transect lines drawn at 120 degrees from the drill site, extending up to 2 or 5 km around the exploratory drilling well location. Transect lines are shown in Figure 1 the vegetation and flora are as described above along 3 transects at 120 degrees from the well location.

Table 4 and Maps 2, 3 and 4 show the surrounding area for the study of vegetation and wildlife.

Vegetation surveys will be conducted to document:

Major vegetation types:

- Plant species composition
- Presence of protected or endangered plant species
- Ecologically sensitive habitats
- Vegetation conditions within the drill pad footprint and surrounding areas will be assessed.

Wildlife:

Fauna surveys will identify wildlife species present within the drilling areas, including:

- Mammals, birds, reptiles, amphibians, and invertebrates were relevant.

The study will identify any protected or threatened species and important habitats.

Sensitive ecosystems:

Special attention will be given to:

- Protected areas
- Forest habitats
- Wetlands
- Riverine ecosystems

- Lagoons
- Parks

Biodiversity hotspots or conservation areas:

These areas will be mapped and evaluated for ecological sensitivity. Fauna surveys will be undertaken for key taxonomic groups, including mammals, birds, reptiles, amphibians, and invertebrates, with a focus on protected, endemic, or migratory species and ecologically sensitive habitats such as caves and distinctive forest areas.

8.4.5.7. Socio-Economic Environment

A Socio-Economic Environment Study in an Environmental Baseline Study (EBS) is conducted to understand the existing social, economic, cultural, and livelihood conditions of communities within the project's area of influence within 5km and in Suco Manlala before project activities begin. Tables 3 and maps 2, 3, and 4 show the area of study. This baseline information allows regulators and project proponents to evaluate how drilling activities may affect local populations, infrastructure, economic activities, and cultural resources. Such studies follow internationally recognized frameworks, including IFC Performance Standards (especially PS1 and PS5), the World Bank Environmental and Social Framework (ESF), and industry practices recommended by IOGP for oil and gas projects.

Purpose of the Socio-Economic Environment Study in the EBS for onshore drilling is to establish baseline community conditions covering existing demographic, livelihood, and social conditions of communities near the drilling location. It would provide a baseline reference for current socio-economic conditions; it would further identify any changes caused by drilling activities and document pre-project community conditions.

Without baseline information, it becomes difficult to determine whether future social or economic changes are related to the drilling project.

Community Profile:

Baseline socio-economic data will be collected from secondary sources primarily and possibly from communities near the drilling location, and will include:

- Population and Demographics
- Livelihood Activities
- Local Economic Activities
- Access to Services, Such as Water, Education, and Health

Community Infrastructure:

Key infrastructure around 5km of the drill site will be identified, including:

- Roads and transportation routes

- Schools
- Health facilities
- Community centers
- Water supply infrastructure
- Cultural and Archaeological Environment:
 - A cultural heritage assessment will be conducted to identify:
 - Archaeological sites
 - Historical or cultural landmarks
 - Sacred sites or culturally significant areas
 - Traditional land use areas
- Consultations with local communities will be conducted where appropriate.

8.5. Alternatives

8.5.1. “No Project”

The proposed exploratory drilling is part of the national energy strategy to assess and develop indigenous hydrocarbon resources. Timor-Leste (or the project country) has limited proven reserves, and exploration is essential to ensure energy security, reduce dependence on imports, and strengthen economic resilience. Without drilling, the country cannot confirm the resource potential, making the “no project” alternative impractical.

The assessment of alternatives demonstrates that ‘No project’ would undermine national energy security or economic development. The alternative locations of the wells cannot be changed to other locations, as the well location is decided based on geology. Typically, the need is to locate a well above or near the target hydrocarbon reservoir. Therefore, the options for the well site are constrained and cannot be considered.

8.5.2. Project Location

Geological Constraints as Exploration targets are defined by geophysical and geotechnical surveys. The three proposed well sites are located based on subsurface structures, stratigraphy, and hydrocarbon prospects. Relocating wells outside these identified prospects would render exploration ineffective, as drilling must occur where geological evidence indicates potential reserves. Thus, alternative locations are not viable.

8.5.3. Project Sizes or Design

Environmental and mitigation considerations. Although exploratory drilling has inherent impacts, these are temporary, localized, and manageable through mitigation measures. Industry best practices—such as closed-loop mud systems, spill prevention, and biodiversity safeguards—will be adopted. Given the scale and nature of the drilling project, the impacts can be effectively minimized without requiring alternative methods or locations.

8.5.4. Technologies/Methods

Technical and Operational Requirements and Equipment. Exploratory drilling requires specific rig types, equipment, and methods suited to the terrain and geology. While industry's best practices will be applied to minimize impacts, the fundamental drilling method cannot be substituted by other technologies (e.g., renewable energy development) because the objective is resource confirmation. Alternative equipment options have been reviewed, and the selected rig represents the most feasible and efficient choice for the site conditions.

Alternative methods/equipment are based on industry standards and best practices. Therefore, no viable alternative exists to the proposed exploratory drilling program. The selected approach is the only option that meets geological, technical, socio-economic, and strategic objectives while ensuring environmental safeguards.

8.6. Determining the Impact Assessment Methodology.

This section includes impact assessment methodology, the Impact Assessment Criteria and standards to be applied for the assessment

8.6.1. Environmental Impacts Assessment Methodology

The identification and evaluation of potential environmental and social impacts associated with the proposed project will be undertaken in full compliance with Timor-Leste's legislative framework, specifically the requirements of Decree-Law No. 5/2011 on Environmental Licensing and Ministerial Diploma No. 46/2017, with particular reference to Annex IV – EIA Template.

The assessment will be guided by internationally recognized standards and best practices, including:

- International Finance Corporation (IFC) Environmental, Health and Safety (EHS) General Guidelines (2007).
- IFC EHS Guidelines for Onshore Oil and Gas Development (2007).
- IFC Performance Standard 1 (2012): Assessment and Management of Environmental and Social Risks.

In addition, the process will incorporate oil and gas industry best-practice references, notably:

- Environmental Management in Oil and Gas Exploration and Production (UNEP Technical Report No. 37, 1997, ISBN 92-807-1639-5)
- International Association of Oil & Gas Producers (IOGP) Report No. 254
- Ministerial Diploma No. 46/2017 Annex IV further prescribes the structured approach required of proponents to identify and assess project impacts across all phases—construction, operation, and decommissioning.

In accordance with these requirements, the assessment will address direct and indirect impacts, cumulative impacts, short-, medium-, and long-term impacts, temporary and permanent impacts, and positive and negative impacts.

This comprehensive methodology ensures that the assessment is robust, transparent, and consistent with both national legislation and international best practice, thereby providing a sound basis for impact prediction, mitigation planning, and regulatory decision-making.

An environmental impact is any change to a resource or receptor brought about by the presence of the drilling project component or by the execution of a drilling project related activity. Predicting impacts is normally a subjective value judgment exercise based on a qualitative or semi-quantitative approach to determine what is likely to happen to the environment because of the drilling project.

The likelihood of occurrence of an impact is classified as rare (1), unlikely (2), possible (3), likely (4), and almost certain (5). The likelihood score is provided in Table 5.

Table 5: Likelihood Scoring (Sources TG-QHSE)

Rare/Remote (1)		Unlikely (2)		Possible (3)		Likely (4)		Almost Certain (5)	
Actual Frequency	Probability	Actual Frequency	Probability	Actual Frequency	Probability	Actual Frequency	Probability	Actual Frequency	Probability
Occurs every 5 years or more	1%	Occurs every 2-5 years	10%	Occurs every 1-2 years	50%	bimonthly	75%	At least monthly	99%

The consequence of an occurrence of an impact is given in Table 6 (Sources TG-QHSE) where in the impact is grouped as Negligible (1), Minor (2), Moderate (3), Major (4), Extreme (5).

Table 6: Consequence of Occurrence of the Impacts

Impact Area	1 – Negligible	2 – Minor	3 – Moderate	4 – Major	5 – Extreme
Safety	No injury or first aid only	Minor injury, first aid required, no lost time	Medical treatment, temporary work restriction	Serious injury, hospitalization, lost time	Fatality or permanent disability
Health	Exposure within normal limits, no health effect	Short-terms discomfort, within limits	Exposure above limits,	Long-term or repeated exposure,	Severe or irreversible health impact

			reversible health effect	chronic health effect	
Environment (Air, Water, Soil, Biodiversity)	Minor emissions/no spills, contained on site	Small spill or emissions, fully contained	Off-site impact limited & reversible	Significant off-site pollution, external response needed	Widespread or long-term environmental damage
Land Use & Biodiversity	Temporary disturbance within drill pad	Small vegetation disturbance, recoverable	Noticeable habitat disturbance but reversible	Significant habitat loss or species impact	Irreversible habitat loss or protected species impact
Community / Socio-Economic	No community concern	Minor nuisance (noise, dust complaints)	Repeated complaints, short-term disruption	Significant community impact or protest	Long-term social impact or conflict
Legal & Compliance	Fully compliant	Minor non-compliance, easily corrected	Regulatory notice or warning	Major non-compliance, fines or permit breach	Legal action, permit suspension
Asset / Property	No damage	Minor damage, no repair required	Repairable equipment damage	Major asset damage, operational shutdown	Total loss of asset or facility
Reputation	No public attention	Local concern, no media	Local adverse media coverage	National media attention	International media, loss of public trust

Risk assessment methodology and rating approach is assessed using a simple qualitative matrix based on:

- Likelihood (L): Rare (1) to Almost Certain (5)
- Consequence (C): Negligible (1) to Extreme (5)

$$\text{Risk Rating} = L \times C$$

8.6.2. Risk Classification and Impact Assessment Criteria.

Once the likelihood and impact scores are assigned, they are plotted on the Risk Matrix to determine the overall risk rating, expressed as both a color and a numerical value (for example, an impact score of 3 combined with a likelihood score of 3 results in a yellow risk rating of 9).

- High risk: Scores between 15–25 (Red)
- Medium risk: Scores between 6–12 (Yellow)
- Low risk: Scores between 1–5 (Green)

Significant rating matrix:

Table 7: Rating Matrix

		CONSEQUENCES				
RISK MATRIX		Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Extreme (5)
LIKELIHOOD	Certain (5)	5	10	15	20	25
	Likely (4)	4	8	12	16	20
	Possible (3)	3	6	9	12	15
	Unlikely (2)	2	4	6	8	10
	Rare/Remote (1)	1	2	3	4	5

8.7. Determining the potential impacts of the proposed drilling projects.

This section describes determining the potential impact of the proposed drilling project, includes, beneficial, adverse, direct, indirect, cumulative, time scale of the impacts, etc.

8.7.1. Impact and Risk Register

In an onshore drilling risk or impact assessment, the characteristics of an impact are features that describe how the impact occurs, how serious it may be, how long it may last, and whether it can be reversed. These characteristics assist in distinguishing a minor, short-lived disturbance from a major, long-term environmental or social effect.

TGPB has tabulated (Table 8) the nature of potential environmental impacts associated with the proposed drilling project, classifying impacts by impact pathway - direct, indirect, secondary, or cumulative; by duration - are short, medium, or long-term; by whether the impact is reversible- permanent or temporary; and by polarity, if the impact is positive or negative.

These characteristics are then combined to determine the significance of the impacts. For example, noise from drilling operations is generally direct, a negative impact of short-term duration, usually temporary and reversible, with significance depending on the proximity of sensitive receptors such as nearby settlements or wildlife habitat. By contrast, contamination of soil or groundwater from a major spill may be a direct negative impact with medium to long-term duration, potentially permanent or difficult to reverse, and therefore of much higher significance. The Table 8 below shows an environmental impact risk assessment for the proposed drilling project

8.7.2. Environmental Impact Risk Assessment – Onshore Oil & Gas Exploration Drilling

Table 8: Environmental Impact Risk Assessment – Onshore Oil & Gas Exploration Drilling

Physical Environment										
Activity / Aspect	Potential Impact	Main Receptors	Impact Type	Duration	Permanent / Temporary	Positive / Negative	Likelihood (L)	Consequence (C)	Rating	Significance
Site preparation	Soil erosion and sediment runoff	Soil, surface water	Direct, cumulative	Short–medium term	Temporary	Negative	4	4	16	High
Drilling operations	Surface water contamination (fuel/chemicals)	Surface water, downstream users	Direct, indirect	Short–medium term	Temporary	Negative	4	5	20	High
Drilling operations	Groundwater contamination (well integrity failure)	Aquifers, water users	Direct, secondary	Long term	Potentially permanent	Negative	2	4	8	Medium
Drilling operations	Air emissions from diesel engines	Ambient air quality, workers	Direct, cumulative	Short term	Temporary	Negative	4	2	8	Medium
Site preparation & traffic	Dust generation	Air quality, nearby receptors	Direct	Short term	Temporary	Negative	4	2	8	Medium

24-hr drilling	Noise nuisance	Local communities, fauna	Direct, cumulative	Short term	Temporary	Negative	4	3	12	Medium
Waste & Hazardous Materials										
Activity / Aspect	Potential Impact	Main Receptors	Impact Type	Duration	Permanent / Temporary	Positive / Negative	Likelihood (L)	Consequence (C)	Rating	Significance
Drilling	Drill cuttings contamination	Soil, surface water	Direct	Medium term	Temporary	Negative	3	3	9	Medium
All phases	Waste oil leakage	Soil, groundwater	Direct	Short term	Temporary	Negative	3	3	9	Medium
Well testing	Produced fluid spill	Soil, surface and groundwater	Direct, secondary	Short–medium term	Temporary	Negative	4	4	16	High
Camp operations	Sewage mismanagement	Soil, surface water, health	Direct, indirect	Short term	Temporary	Negative	3	2	6	Medium
Major Accident Hazards										
Activity / Aspect	Potential Impact	Main Receptors	Impact Type	Duration	Permanent / Temporary	Positive / Negative	Likelihood (L)	Consequence (C)	Rating	Significance
Drilling operations	Loss of well control (blowout)	Workers, nearby communities, air quality, soil, water resources	Direct; secondary; cumulative (if uncontrolled)	Short to long term	Potentially permanent	Negative	2	5	10	Medium

			release continues)							
Drilling operations	Uncontrolled release of hydrocarbons to atmosphere	Air quality, workers, communities	Direct	Short term	Temporary	Negative	2	5	10	Medium
Drilling operations	H ₂ S release (unexpected sour zones)	Workers, nearby communities	Direct; secondary (health effects)	Short term	Temporary	Negative	1	5	5	Low
Drilling rig operations	Fire or explosion at rig site	Workers, equipment, air quality, surrounding land	Direct; secondary; cumulative	Short term	Temporary (damage may be permanent)	Negative	3	4	12	Medium
Heavy vehicle movement	Serious traffic accident involving hazardous materials	Local communities, road users, environment	Direct; indirect	Short to medium term	Temporary	Negative	4	4	16	High
Biodiversity										
Activity / Aspect	Potential Impact	Main Receptors	Impact Type	Duration	Permanent / Temporary	Positive / Negative	Likelihood (L)	Consequence (C)	Rating	Significance

Site clearing	Vegetation loss	Flora, habitats	Direct, cumulative	Long term	Partly permanent	Negative	4	3	12	Medium
Drilling & noise	Wildlife disturbance	Fauna	Direct	Short term	Temporary	Negative	3	2	6	Medium
Vehicle movement	Invasive species introduction	Local ecosystems	Indirect, cumulative	Long term	Potentially permanent	Negative	3	2	6	Medium
Social & Community										
Activity / Aspect	Potential Impact	Main Receptors	Impact Type	Duration	Permanent / Temporary	Positive / Negative	Likelihood (L)	Consequence (C)	Rating	Significance
Land acquisition	Land access conflict	Farmers, land users	Direct	Medium term	Temporary	Negative	3	4	12	Medium
Mobilization & traffic	Community traffic risk	Communities, road users	Direct, cumulative	Short term	Temporary	Negative	4	4	16	High
Drilling	Noise and dust complaints	Nearby residents	Direct	Short term	Temporary	Negative	3	3	9	Medium
Site preparation	Cultural heritage disturbance	Cultural assets	Direct	Long term	Permanent	Negative	2	4	8	Medium
Local employment	Employment generation	Local communities	Direct, induced	Short–medium term	Temporary	Positive	3	4	12	Medium

8.8. Identifying the Requirements for Control Measures and Mitigation Measures.

8.8.1. Requirements for Control and Mitigation Measures

The assessment of measured impacts and their significance will determine the need for mitigation to address adverse effects. Mitigation measures will be designed in accordance with Ministerial Diploma No. 46/2017 which provides Minimum Requirement content for EMP and EIA for this Category A Project, Decree-Law No. 26/2012 Basic Environmental Law for high-risk projects. Environmental studies (EMP, EIA) are essential for identifying associated risks, example oil spills, water contamination, noise, waste, emissions, etc., and for providing control measures for the prevention and elimination of potential risks. Diploma Ministerial (DM) No. 9/2025 for safe operations of the petroleum sector and other national laws. Further, mitigation measures are in line with GIIP and internationally recognized guidelines, including those of the World Health Organization (WHO) and the International Finance Corporation (IFC), and will be informed by insights gained through field investigations and stakeholder engagement.

Mitigation may involve:

- Specification of equipment performance standards to reduce emissions, noise, and vibration.
- Development of policies and procedures for environmental protection and emergency response.
- Adoption of operational practices that minimize environmental footprint.
- Consideration of alternative sites or layouts to avoid sensitive receptors.
- Substitution of chemicals or materials with less hazardous alternatives.
- Implementation of recycling and safe disposal systems.
- Establishment of contingency planning frameworks for spills, accidents, and natural hazards.

The mitigation hierarchy—avoid or prevent, minimize, rehabilitate, and offset—will guide the selection and prioritization of control measures. Residual impacts, after mitigation, will be clearly identified and evaluated to ensure transparency in decision-making. (See examples in Table 9).

8.8.2. Environmental Management Plan (EMP)

An Environmental Management Plan (EMP) will be prepared for the proposed drilling project, comprising three exploratory wells. Each activity is structured into three operational stages—site preparation and rig move, drilling and operational activities, and demobilization and restoration. These stages are embedded within six overarching project phases: road access, site construction, mobilization, rig move, drilling, suspension, and demobilization, decommissioning, and rehabilitation. The EMP will detail the actions required to implement mitigation measures and ensure compliance with regulatory and industry standards.

The EMP will include:

- Comprehensive coverage from site preparation and rig move, through drilling and operational activities, and including demobilization and restoration.
- Existing Environmental Description
- Integration of social, cultural, and economic factors alongside environmental considerations.
- A register of impacts, their significance, and proposed mitigation measures (avoidance, reduction, minimization, or compensation).
- Responsibilities for Mitigation and Monitoring
- Monitoring programme and requirements, including methodology, sampling locations, frequency, and responsibilities.
- Estimated costs associated with mitigation and monitoring measures.
- Reporting requirements, specifying report types, frequency, and responsible personnel.
- Training programs to build local capacity in environmental management and safety.
- Public Consultation and Information Disclosure
- Complaints and Grievances Mechanism

This structure ensures that mitigation and management measures are systematic, enforceable, and aligned with both national legislation and international best practice, while also addressing residual impacts transparently.

Table 9: Project Activity, Environmental Aspect and Mitigation Measures

Project Activity	Environmental Aspect	Potential Impact	Key Mitigation Measures
Site clearance and access road construction	Vegetation removal	Habitat loss and fragmentation	Minimize footprint, selective clearing, restore vegetation
Land grading and earthworks	Soil disturbance	Soil erosion and sedimentation	Sediment control barriers, drainage management
Transport of drilling rig and heavy equipment	Increased traffic	Dust emissions, road accidents	Speed limits, water spraying, traffic management
Installation of drilling rig	Land occupation	Land use change	Temporary site planning, land restoration plan
Drilling operations	Noise generation	Disturbance to communities and wildlife	Acoustic enclosures, restricted operating hours
Drilling operations	Air emissions from diesel engines.	Degraded air quality.	Maintain engines using low-sulfur diesel.
Drilling operations	Drilling fluid use.	Contamination risk from drilling mud.	Closed-loop mud system with proper containment.

Drilling operations	Generation of drill cuttings.	Soil contamination.	Cutting treatment and disposal.
Drilling operations	Use of Chemicals	Chemical Spills	Secondary Containment, Chemical Management
Hydrocarbon shows during drilling	Hydrocarbon Release	Soil contamination.	Blowout Preventers, well control procedures
Well testing	Flaring	Air Pollution and greenhouse gas emissions	Minimize Flaring
Fuel storage	Fuel Leaks	Soil and groundwater contamination	Bunded storage tanks, spill kits
Waste generation	Hazardous waste production	Environmental contamination	Waste segregation and licensed disposal
Wastewater generation	Produced water or drilling wastewater	Water contamination	Treatment and containment systems
Worker camp activities	Domestic waste	Pollution and sanitation issues	Waste management and sewage treatment
Equipment maintenance	Oil and lubricant spills	Soil contamination	Designated maintenance areas
Vehicle movement	Dust generation	Reduced air quality	Road watering
Emergency events	Well blowout	Major environmental disaster	Blowout preventer, emergency response plan
Decommissioning	Site abandonment	Residual Contamination	Site Remediation and Restoration

8.9. Responsibility of the Authorized Personnel in Implementing Environmental Commitments.

Responsibility for implementing environmental commitments will be documented in the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). TGPB ensures that drilling project activities are carried out responsibly and provides environmental guidance so that the exploratory drilling programme is conducted in line with the environmental requirements and minimizes the impact on the environment. It also identifies the roles and responsibilities of personnel and parties involved in the management of environmental aspects related to appraisal drilling activities.

Implementation of Environmental Commitments will be defined as:

Authorized Personnel: The Project Manager and the Environmental/HSE Officer would be accountable for ensuring that all environmental commitments outlined in the Environmental Impact Statement (EIS) and the Environmental Management Plan (EMP) are implemented across all project phases.

Contractors and Subcontractors: Each contractor is responsible for integrating environmental requirements into its operations (e.g., waste management, spill prevention, dust suppression, equipment servicing). Compliance with the EMP must be contractually binding.

Integration into Operations: TGPB, an Integrated Project Management company and drilling contractor, will integrate its environmental commitments into daily operational procedures, with clear performance standards, checklists, and reporting mechanisms.

Stakeholder Engagement: TGPB and its Community Liaison officer will maintain transparent communication with regulators, local communities, and stakeholders, ensuring that grievances are recorded and addressed.

8.10. Monitoring and Audit:

The monitoring and audits are normal functions at TGPB and follow our parent company QHSE MS protocol. Specific to the drilling project and the requirements in the TOR, TGPB ensures that monitoring and auditing responsibilities are defined as:

- HSE Officer: Oversees monitoring programs for air quality, noise, water, soil, biodiversity, and socio-economic indicators. Ensures monitoring protocols align with IFC and WHO guidelines.
- Drilling contractor / drilling supervisor: Conducts inspections and ensures that monitoring equipment is properly installed, calibrated, and operated.
- Frequency and Coverage: Monitoring will be conducted at agreed intervals (daily, weekly, seasonal). and at designated sensitive receptor locations.

The Audit Responsibilities involve auditing/ inspecting environmental commitments in EIS and EMP and TGPB will ensure that:

- Internal Audits: Conducted by the Environmental Officer and the project management team to verify compliance with EMP requirements and identify areas for improvement.
- External Audits: Independent audits may be commissioned to demonstrate compliance with national legislation, IFC Performance Standards, and industry best practice.

The audit phases are in line with the drilling project activities:

- Pre-Drilling Audit: Verify planning, approvals, and readiness of environmental controls.

- Drilling Audit: Assess compliance during operations, review mitigation effectiveness, and recommend improvements.
- Demobilization Audit: Verify waste disposal, site restoration, and rehabilitation measures.
- Corrective Actions: Non-conformances identified during audits must be investigated, root causes analysed, and corrective actions implemented promptly.
- Reporting and Record-Keeping
- Environmental Monitoring Reports: Submitted to regulators (e.g., ANP) at agreed intervals.
- Audit Reports: Pre-mobilization, drilling, and demobilization audit reports must be prepared and shared with the authorities.
- Incident Reports: Oil spills, environmental incidents, or community grievances must be documented and reported within the specified timelines.
- Retention: All records must be maintained for a minimum of five years, in line with Decree Law No. 32/2016.

The above 8.8. 8.9 and 8.10 sections deliberate on GIIP and are following decree law no. 39/2022 with amendments to the decree law no.5/2011 on environmental licensing, and ministerial diploma no.46/2017 on the legal process for EIA and mandatory project monitoring. International practice emphasizes that authorized personnel/ TGPB will ensure that environmental commitments are fully integrated into project operations, supported by robust monitoring and transparent audit processes. Responsibilities are shared across project management, contractors, and community liaison staff, with clear accountability for compliance, reporting, and continuous improvement. This approach ensures that onshore drilling projects are conducted responsibly, minimizing environmental and social impacts while meeting regulatory and industry standards. Responsibility and accountability are provided in Table 10

Table 10: Responsibility and accountability for each activity in the project phases

Project Phase	Activity	Responsible (R)	Accountable (A)	Consulted (C)
Planning / pre-drilling	Ensure compliance with EIS/EMP commitments	Environmental Officer	Project Manager	Regulators (ANP), Community Affairs Officer
	Stakeholder engagement & grievance mechanism	Community Affairs Officer	Project Manager	Local authorities, NGOs
	Pre-drilling audit & readiness checks	HSE Officer	Operations Manager / Drilling Supervisor	Regulators, Environmental consultants

Drilling Operations	Daily environmental monitoring (waste)	HSE Officer, Supervisors	Operations Manager / Drilling Supervisor	Drilling Contractor, Civils Engineer
	Incident reporting & corrective actions	HSE Officer	Project Manager	Contractors, Regulators
	Waste management & spill prevention	Drilling Contractor	Operations Manager	HSE Officer
	Community liaison & local recruitment	Community Affairs Officer	Project Manager	Local leaders
Demobilization / Decommissioning	Waste disposal & site rehabilitation	Civils Engineer, Drilling Contractor	Operations Manager/ project manager	Environmental Officer, Regulators
	Demobilization audit	HSE Officer	Project Manager	Regulators, Environmental consultants
	Final Reporting & Record-Keeping	HSE Officer	Project Manager	Regulators (ANP)

8.11. Public Consultation for EIS s& EMP

Ministerial Diploma No. 47/2017 – specifies the Public Consultation Procedure and the requirement for the involvement of the public and communities at different stages of the environmental assessment process. Public consultation will be implemented as an integral component of the Environmental Impact Assessment (EIA), Environmental Impact Statement (EIS), and Environmental Management Plan (EMP) processes, in accordance with Decree Law No. 5/2011 on Environmental Licensing, which mandates public consultation for projects with potential environmental and social impacts, including petroleum activities regulated by ANP.

TGPB also complies with the IFC Performance Standards (PS1 – Assessment and Management of Environmental and Social Risks) which require stakeholder engagement as an ongoing process throughout the project life cycle. Further, it emphasizes the disclosure of information, consultation in culturally appropriate ways, and the documentation of feedback and mandates for a grievance mechanism accessible to affected communities.

IFC Access to Information Policy ensures that project-related environmental and social information is made publicly available. Requires disclosure of EIA/EMP documents, mitigation measures, and monitoring results in a timely manner.

IFC Good Practice Manual on Public Consultation and Disclosure recommends structured consultation phases:

(I) Dialogue Phase: Initial engagement with stakeholders to identify concerns.

- i. Public Consultation Phase: Formal meetings, notices, and disclosure of project impacts.
- ii. Encourages inclusive participation, especially of vulnerable groups, indigenous peoples, and women.
- iii. Stresses record keeping and transparent reporting of consultation outcomes.

This is in line with decree law no.39/2022 with amendments to decree law no. 5/2011, Article 11 and Ministerial Diploma No. 47/2017 for procedural guidelines for public consultation and ANP guidelines, ANP/08/02/03

World Bank Group EHS Guidelines (General and Sector-Specific) also provide technical references for good international industry practice (GIIP) in consultation and require consultation on health, safety, and environmental risks with affected communities. Further, they stress the importance of continuous communication and monitoring feedback loops.

TGPB has in place a Public Consultation plan for the preparation and development of the EIS and EMP for the TIMOR GAP Pualaca Block drilling project (refer TGPB-HSE-PCP-26-001) and is in line with GIIP, which are:

- o Early Engagement: Begin the consultation during IA and EMP process.
- o Transparency: Share project details, risks, and mitigation measures openly.
- o Inclusivity: Ensure participation of all affected groups, including marginalized communities.
- o Documentation: Maintain records of meetings, feedback, and responses.
- o Continuous Process: Consultation is not a one-off event, but a continuous process throughout construction, operation, demobilization and restoration.
- o Grievance Redress: Establish clear procedures for complaints, with defined responsibilities and response time frames.

The outline of the consultative process and activities that TGPB has identified shows the following in the Public Consultation Plan (TGPB-HSE-PCP-26-001):

8.11.1. Identification of Stakeholders

Stakeholders can be individuals or groups that are affected by, or can be affected by, and have an interest in the TGPB company. Stakeholder identification will consider those potentially affected close to the drilling activity, those with an interest in the activity. The stakeholder is categorised as direct and indirect stakeholders, including government and regulatory bodies; civil society organisations; academic institutions; entrepreneurs and other commercial stakeholders; media; contractors; non-government organisations (NGOs); and affected communities. Stakeholders list is shown in Table 11 below.

Table 11:List of stakeholders with method of consultation

No.	Names of Stakeholder	Level of Influence	Impact	Key Interest	Project Risk	Means of Consultation
1.	Ministry of Petroleum and Mineral Resources	High	Policy direction and approvals	Ensuring compliance with petroleum and natural gas regulations and project alignment with the government policy.	Delays in approvals, regulatory changes, or non-compliance may affect project implementation.	Public consultation and in-person meeting.
2.	Ministry of Interior	High	Regulates hazardous materials	Public safety and national security	Suspension of operations due to permit issues.	Public consultation and in-person meeting
3.	Autoridade Nacional do Petróleo	High	Regulatory oversight	Petroleum regulation and safety	Regulatory restrictions or non-compliance	Public consultation & in-person meeting
4.	Ministry of Tourism and Environment: ○ Direção Nacional do Controlo de Poluição ○ Direção Geral do Ambiente ○ Autoridade Nacional	High	Environmental health oversight	Clean water and sanitation	Environmental health risks	Public consultation & in-person meeting

	Liçenciamento Ambiental (ANLA, I.P) ○ Direção Nacional Biodiversidade ○ Direção Geral da Area Protegida ○ Coordenador Turismo MCAE					
5.	Ministry of Transportation and Telecommunications: ○ Direção Nacional de Transporte Marítima ○ Administração dos Portos de Timor-Leste (APORTIL) ○ Direção Geral Transporte e Telecomunicação ○ Direção Nacional da Meteorologia e Geofísica	High	Controls port and marine access	Safe and efficient port operations	Delays in logistics and cargo handling	Public consultation & in-person meeting
6.	Ministry of Agriculture, Livestock, Fisheries, and Forestry: ○ Direção Nacional da Quarantina e Biosegurança ○ Direção Nacional das Pescas	High	Land-use and environmental impact	Protection of agriculture, livestock, fisheries, and forestry resources	Community concerns over land use	Public consultation & in-person meeting

	Agricultura e Gestão de Recursos Aquáticos ○ Direção Geral das Florestas					
7.	Ministry of Health: ○ Departamento de Vigilância Sanitária e Saúde Ambiental ○ Direção- Geral de Cuidados de Saúde Primários	Medium	Public health management	Health and safety protection	Health-related incidents	Public consultation & in-person meeting
8.	Ministry of Finance: ○ Customs Authority (Autoridade Aduaneira)	High	Controls import/export processes	Compliance with customs regulations	Delays in clearance of equipment and materials	In-person meeting
9.	TIMOR GAP, E.P.	High	Operational and investment influence	Economic benefits and project success	Financial or operational delays.	Public consultation & in-person meeting
10.	Adjacent Onshore Operators: ○ Timor Resources ○ HTS	High	Coordinate offshore activities, drilling operations, marine logistics,	Safe operations, regulatory compliance,	Operational conflicts and communication failures between operators	Public consultation & in-person meeting

11.	Civil Society Organizations – CSOs: ○ NGO Lao Hamutuk ○ NGO Luta Hamutuk ○ Forum Organizaasaun Naun Govermentál Timor-Leste (FONGTIL) ○ Cruz Vermelha de Timor-Leste (CVTL) ○ Asosiasaun Peskas no Mariña Timor Lorosa'e (APM-TL)	Medium	Community engagement support	Social welfare and participation	Community dissatisfaction	Public consultation
12.	Ministry of Social Solidarity and Inclusion	Medium	Social protection and inclusion	Community welfare and inclusion	Social complaints or exclusion issues	Public consultation
13.	Geosciences Institute of Timor-Leste	Medium	Technical and geological support	Accurate geological information	Inaccurate assessments or data gaps	Public consultation
14.	National Program for Village Development	Medium	Community development coordination	Rural development benefits	Weak coordination with local programs	Public consultation

15.	President of the Municipal Authority	High	Local government support	Municipal development and stability	Administrative delays	Public consultation
16.	Administrator of Administrative Post	High	Coordination at local level	Community order and development	Poor local coordination	Public consultation, face-to-face & Telephone
17.	Chief of Villages, Sub-Villages and delegates.	High	Community mobilization	Local welfare and representation	Community resistance	Public consultation, face-to-face & Telephone
18.	Youth representatives	Low	Social participation	Employment and opportunities	Youth dissatisfaction or protests	Public consultation
19.	Community elders from the exploration well sites.	Medium	Influence on traditional decisions	Protection of local customs and harmony	Cultural conflicts	Public consultation & Face-to-face
20.	PNTL Municipal Commander at Manatuto, Viqueque and Manufahi municipality level.	High	Ensures security and traffic control	Public safety and law enforcement	Security incidents or transport restrictions	Public consultation and in person meeting
21.	PNTL Police Station Commander at Administrative Post	Medium	Local security support	Community safety	Local disturbances	Public consultation & Face-to-face
22.	Veterans	High	Shape public opinion, support the project.	participation and community engagement	Poorly engaged	Public consultation and face to face

23.	Municipal Service for Water, Sanitation, and Environment	Medium	Environmental health oversight	Clean water and sanitation	Environmental health risks	Face-to-face and telephone
24.	Education Inspectors	Low	Education al coordinati on	Student welfare and school continuity	Disruption to school activities	Face-to-face & telephone
25.	Schools' Director	Low	School-level impact	Student safety and education	Complaints from schools	face-to-face
26.	Students	Low	Indirect social impact	Safe learning environment	Community dissatisfaction	Public socialization
27.	Religious community	Medium	Social and moral influence	Community harmony and values	Social tension or opposition	Public consultation & face-to-face
28.	Road Construction companies	High	Infrastructure implementation	Contract completion and profit	Construction delays or poor quality	Face-to-face
29.	Affected community	High	Directly affected by project outcomes	Compensation, safety, and livelihoods	Community protests or conflicts	Public consultation & face-to-face.
30.	Local communities	High	Social acceptance of project	Employment, development, and environment	Loss of community support	Public consultation face to face
31.	National and Local Media	Medium	Public communication influence	Transparency and information access	Negative publicity	Public consultation

32.	Timor-Leste Local Supplier ○ Chamber of Commerce and Industry Timor-Leste. ○ Trade Invest Timor-Leste.	Medium	Supply materials, equipment, transport, catering, and other local services required for project implementation.	Business opportunities local economic development.	Delays in delivery, limited technical capacity, poor-quality goods/services.	Public consultation
33.	Higher Academic Institutions ○ UNTL ○ UNDIL ○ UNITAL ○ DIT	High	Provide technical expertise and data analysis support.	Academic collaboration, research opportunities, environmental sustainability, student involvement.	Limited participation, lack of research capacity, delays in technical support	Public consultation and in person meeting
34.	International Agencies in Timor-Leste ○ UNDP Timor-Leste ○ Conservation International (CI) Timor-Leste. ○ Oxfam Timor-Leste ○ World Vision Timor-Leste ○ Laudato Si' Movement Timor-Leste	High	Provide technical assistance and policy guidance and international standards.	Sustainable development, climate resilience, environmental protection.	policy disagreements and non-compliance	Public consultation and in person meeting

35.	Vulnerable communities	Medium	Directly affected by project outcomes and environmental conditions	Improved livelihoods, environmental protection, access to resources, participation in decision-making	Community resistance, lack of participation, social conflict, unequal benefit distribution	Public consultation
36.	Ministry of Defense o The National Maritime Authority	High	Provides maritime regulation, coastal and marine security,	National security, maritime safety, protection of marine resources,	Delays in permits/approvals, security restrictions, limited coordination,	Public consultation and in person meeting
37.	Ministry of Public Works	Medium	Facilitates road construction, water and sanitation	Sustainable infrastructure development	Poor coordination and Failure to meet quality requirements.	Public consultation and in Person meeting

8.11.2. Level of Engagement and Engagement Activities

The level of engagement will be commensurate with the nature, scale, and potential environmental and significance of the proposed exploratory drilling activity and will be designed to ensure that affected and interested stakeholders are provided with adequate opportunity to access information, understand the proposed activity, and participate meaningfully in the consultation process.

The engagement activities will involve processes as follows:

- o One-to-One consultation with relevant government institutions and affected communities.
- o Public notice through ANP, TGPB, and environmental consultant's websites, newspapers and television.

- o Public meeting at or near the proposed project areas.

8.11.3. Public Consultation Notice

TGPB will prepare and issue a Public Consultation Notice as part of the Environmental Impact Assessment (EIA) process, in accordance with applicable ANP requirements and the approved consultation procedures. Subject to ANP review and concurrence, the notice will be disseminated through appropriate public communication channels, which may include the ANP website, the proponent's website, and other relevant media platforms such as newspapers, radio, television, and social media.

The purpose of the Public Consultation Notice will be to inform stakeholders and the wider public of the proposed exploratory drilling activity, the availability of relevant environmental assessment documentation, and the opportunity to participate in the consultation process. The notice will support consultation on the Terms of Reference (TOR) and the submission and public disclosure of the draft EIS and associated draft EMP.

The Public Consultation Notice will specify the arrangements for public access to the relevant documentation and will advise that any interested person may review the disclosed materials and submit written comments within the prescribed consultation period. Comments may be submitted by email or in person at the offices of the Autoridade Nacional do Petróleo (ANP) and TGPB at the addresses and contact details to be specified in the final notice.

TGPB will submit the draft Public Consultation Notice to ANP for review and approval prior to publication. Any associated presentation materials, disclosure materials, or supporting consultation documents intended for public release will likewise be provided to ANP for prior review, as required.

8.11.4. Public Meeting

TGPB will organize and facilitate socialization of affected communities, a formal public meeting as part of the public consultation process for the proposed exploratory drilling activity. The meeting will be structured as a one-day consultation forum agreed with ANP, and will involve the participation of identified stakeholders, including affected communities, local authorities, government representatives, land users, interested parties, and other relevant stakeholders identified through the stakeholder mapping process.

The public meeting will be conducted to present the proposed drilling activity and to disclose key elements of the TOR, draft EIS, and draft EMP, including the potential environmental and social impacts associated with the activity and the proposed mitigation and management measures. The meeting will also provide stakeholders with an opportunity to ask questions, raise concerns, provide comments, and contribute local knowledge relevant to the environmental assessment process.

The purpose of the public meeting is to ensure that stakeholders are adequately informed about the proposed activity and its potential implications prior to the commencement of drilling operations, and that they are provided with a meaningful opportunity to participate in the consultation process.

This approach is intended to promote transparency, accountability, and inclusive stakeholder engagement by providing an open forum through which community perspectives may be heard, issues clarified, and stakeholder inputs considered as part of the broader environmental decision-making process.

To support an orderly and effective consultation process, TGPB will prepare a formal agenda for the public meeting, including presentation sessions, question-and-answer periods, and procedures for recording stakeholder comments and feedback. The meeting will be designed to encourage constructive and interactive discussion between participants and TGPB representatives.

To facilitate informed participation, hard copies of relevant consultation materials will be made available during the public meeting in both English and Tetum. Additional measures to support comprehension may also be implemented where appropriate, including verbal explanations in local language, dialect and the use of non-technical presentation materials.

Table 12: Public consultation and meeting with stakeholders during EIA processes

Location	Remarks
Dili,	One-on-one Consultation for TOR
Manatuto	One-on-one Consultation for TOR
Dili	Public Consultation for draft EIS and EMP
Natarbora	Public Consultation for draft EIS and EMP

8.11.5. Public Consultation Schedule

Proposed date and venue of public consultation meeting will be informed.

Get approval from ANP to be confirmed.

8.11.6. Information Provided to Stakeholders

The information will be prepared, and the following aspects will be addressed:

Information provided to stakeholders will include a description of activities, in non-technical terms, including:

- a) Nature and purpose of activities.
- b) Indicative schedule and duration.
- c) Activity location (with maps).

- d) Key equipment and layout of drill site.
- e) Access and approach to drill site.
- f) Associated environmental and socio-economic impacts and mitigation measures.

8.11.7. Communication Methods

The following communication methods will be used to exchange information during consultation, including written information via post, email, website publication, advertising (via news or TV); verbal communication through telephone calls (either proactive or in response/follow up), targeted meetings, focus group workshops, information sessions, or verbal information at socialization meetings or in person meetings and information sessions including presentations. All communication methods used should minimize and reduce the risk of confusion or misinformation and be meaningful so that constructive feedback throughout the consultation process. All communication methods used during consultation will be delivered in both English and Tetum for clarity and verbal communication during the public meeting will be delivered in Tetum.

8.11.8. Record Keeping

All methods, consultation events, including any follow-up communications will be recorded to indicate key points discussed. All interactions with stakeholders are to be documented.

8.11.9. Opportunity to Receive Feedback

Adequate period will be provided for stakeholders to receive the information, evaluate its content, and enquire to TGPB. For the EIS public notice, a 24-days public comment period is time frame allocated so that maximum participation and inputs are received.

8.11.10. Stakeholder Responses, Assessment and Close-Out

The purpose of stakeholder consultation is to obtain relevant information from stakeholders to verify, refine, and, where necessary, challenge the assumptions adopted in the assessment of the potential environmental, social, health, safety, cultural, economic impacts and risks associated with the proposed drilling activity. The assessment and close-out of consultation responses is therefore an integral part of the public consultation during the TOR/EIS/EMP process and is required to demonstrate that stakeholder views have been identified, considered, and appropriately addressed.

TGPB will review and assess all stakeholder responses received during the consultation process having regard to the nature of the response, the issues raised, and the relevance of those issues to the proposed activity. The

outcome of this review will be documented in the Stakeholder Consultation Register, including the response category, action taken, and close-out status.

8.11.11. Grievance Management

Raising Concerns

Concerns or complaints may be submitted via email, phone call and messages, or written correspondence to TGPB office.

TIMOR GAP Pualaca Block Unip, Lda.

Timor Plaza, CBD 2, Level 2, Unit 205

Av. Presidente Nicolau Lobato

Comoro, Dom Aleixo, Dili, Timor-Leste

8.11.12. Responsibility for Complaints and Response Time frame

Responsibility for Complaints

TGPB Managing Director, Project Manager, designated HSE focal point and Local Content officer or Community Liaison officer will receive and manage complaints.

Table 13:List of TGPB focal point

Contact person	Position	Phone number	Email address	Office address
Eduardo Goncalves	Managing Director	7605 0555	eduardo.goncalves@timorgap.com	2 nd Floor, Unit #215, CBD 2 Building, Timor Plaza.
Henrique Pereira	Project Manager	7844 2050	henrique.pereira@timorgap.com	2 nd Floor, Unit #215, CBD 2 Building, Timor Plaza.
Lilia da Silva	HSE Officer	7862 6050	lilia.dasilva@pualaca.timorgap.com	2 nd Floor, Unit #215, CBD 2 Building, Timor Plaza.
Venancio de Jesus	Community Liaison & Local Content Officer	7559 3543	venancio.dejesus@pualaca.timorgap.com	Uma Boco, Barique, Manatuto.

Response Timeframe

Acknowledgement within 5 working days.

Investigation and response to be provided within 10–15 working days, depending on complexity.

8.11.13. Ongoing Consultation

Consultation with identified stakeholders will persist throughout the entirety of the drilling operations, pre-drilling phase, drilling & operation phase, demobilization and abandonment phase and the cessation of the activity.

Ongoing consultation serves several purposes:

- a) Provides updates on activity progress to concerned stakeholders.
- b) Meets earlier communication commitments.
- c) In case of any significant changes notify stakeholders of change.
- d) Facilitates prompt communication with stakeholders during an emergency.
- e) Maximizes opportunity for establishment of open communication channels with stakeholders.
- f) Maximizes opportunity for building trust and goodwill.

8.12. The Structure of EIS Report.

8.12.1. Structure of the EIS

The EIS is prepared in accordance with the template provided in Annex 4 of Diploma Ministerial No.46/2017.

Therefore, the contents of the EIS will be structured as follows:

1. Executive Summary
2. Details of the Project Proponent
3. Details of the Consultant for preparing the EIA
4. Project Description
5. Policy, Legal and Institution Framework
6. Description of the Environment Climate Change
7. Alternatives
8. Impact Assessment and Mitigation Measures
9. Social Impacts Assessment
10. Economics Assessment
11. Summary of Environmental Management Plan
12. Public Consultation and Disclosures
13. Challenges Encountered

14. Conclusion and Recommendations

15. Non-Technical Summary

9. Public Consultation During Preparation of the Terms of Reference (ToR)

9.1. Overview

Public consultation will be undertaken during the preparation and finalization of the Terms of Reference (ToR) for the Environmental Impact Assessment (EIA) of the TIMOR GAP Pualaca Block Exploratory Drilling Project. The purpose of the consultation is to inform stakeholders of the proposed project and the proposed scope of studies to be undertaken during the EIA process, and to obtain comments, concerns, recommendations, and local knowledge relevant to the development of the ToR. The consultation process will be conducted in accordance with Ministerial Diploma No. 47/2017, Decree Law No. 39/2022, and ANP Guideline ANP/08/02/03.

The process will include publishing the draft TOR on the website, in newspapers, and TV for 14 days to receive comments and suggestions. After receiving these comments and suggestions, the draft TOR would be modified to prepare the final TOR for approval by ANP.

9.2. Public Notice and Disclosure of the ToR

Once the draft ToR has been prepared, a Public Notice will be issued to inform stakeholders and the general public that the document is available for review and comment. The Public Notice will be published through appropriate communication channels, including:

- National and local newspapers;
- ANP website;
- TIMOR GAP website;
- TV media.

The draft hard copy of ToR will be made available for review at the offices of ANP and TGPB, and through electronic means via websites mentioned in Public Notice (Annexure3). Stakeholders will be invited to submit comments, concerns, recommendations, and relevant information regarding the proposed scope of environmental and social studies to be undertaken during the EIA process. The consultation period of 14 days will be provided as per the requirements established by the ANP Guidelines.

9.3. Key Stakeholders for ToR Consultation

Given that the ToR defines the scope of studies to be undertaken during the EIA, consultation will focus on stakeholders who can provide information relevant to environmental, social, health, safety, cultural, economic, and regulatory aspects of the project. The primary stakeholders include:

Regulatory Authorities

- Autoridade Nacional do Petróleo (ANP);
- Autoridade Nacional de Licenciamento Ambiental (ANLA, I.P.);
- Ministério Coordenador Assunto Económica e Ministério do Turismo e Ambiente: Direção Nacional do Ambiente, Direção Nacional da Biodiversidade, Direção Geral da Área Protegida;
- Ministério da Agricultura, Pecuária, Pesca, e Florestas: Direção-Geral das Florestas
- Ministério das Obras Públicas (MOP): Direção Nacional de Estradas, Pontes e Controlo de Cheias. Direção Nacional de Serviços de Águas e Saneamento.
- Instituto Geociências de Timor-Leste

Other stakeholders will include:

- Presidente da Autoridade Municipal de Manatuto.
- Administrador Posto Administrativo: Laclubar, Barique.
- Polícia Nacional de Timor-Leste, PNTL Manatuto.
- Suco Orlalan, Aldeia Orlalan no Pualaca. Suco Uma Boco, Aldeia Fehuc Rin, Lia-na'in: Suco rua.
- Serviço Municipal Água, Saneamento no Ambiente.
- Civil Society and Community Organizations: Luta Hamutuk no Lao Hamutuk.
- International NGOs: Conservation International, UNDP, OXFAM.
- Universities and research institutions: UNTL, UNDIL.

9.4. Review of Comments and Concerns

All comments, concerns, recommendations, and information received during the public consultation period will be reviewed and assessed by TGPB and its environmental consultants. Particular attention will be given to comments relating to:

- Environmental baseline studies required;
- Social impact assessment requirements;
- Biodiversity and ecological surveys;
- Water resources and water quality assessment;
- Community health and safety considerations;

- Cultural heritage and traditional land-use matters;
- Livelihood and economic impacts;

9.5. Incorporation of Consultation Outcomes into the ToR

Comments received during the public consultation process will be evaluated and, where relevant, incorporated into the final ToR.

A Stakeholder Comment and Response Register will be maintained to document all comments received, the assessment of those comments, and the actions taken. The revised ToR submitted to ANP will reflect relevant stakeholder concerns and demonstrate how stakeholder inputs have been considered in determining the scope of the EIA study.

10. FLEXIBILITY

The EIA study area for all three wells is based on geological and reservoir interpretation. Therefore, there are no project alternatives. In case of additional drilling wells within the study area to appraise hydrocarbons, this TOR for preparing the EIAs is valid within the boundaries of the EIS study, as indicated in this TOR. The boundaries of the EIA study are within 5 km.

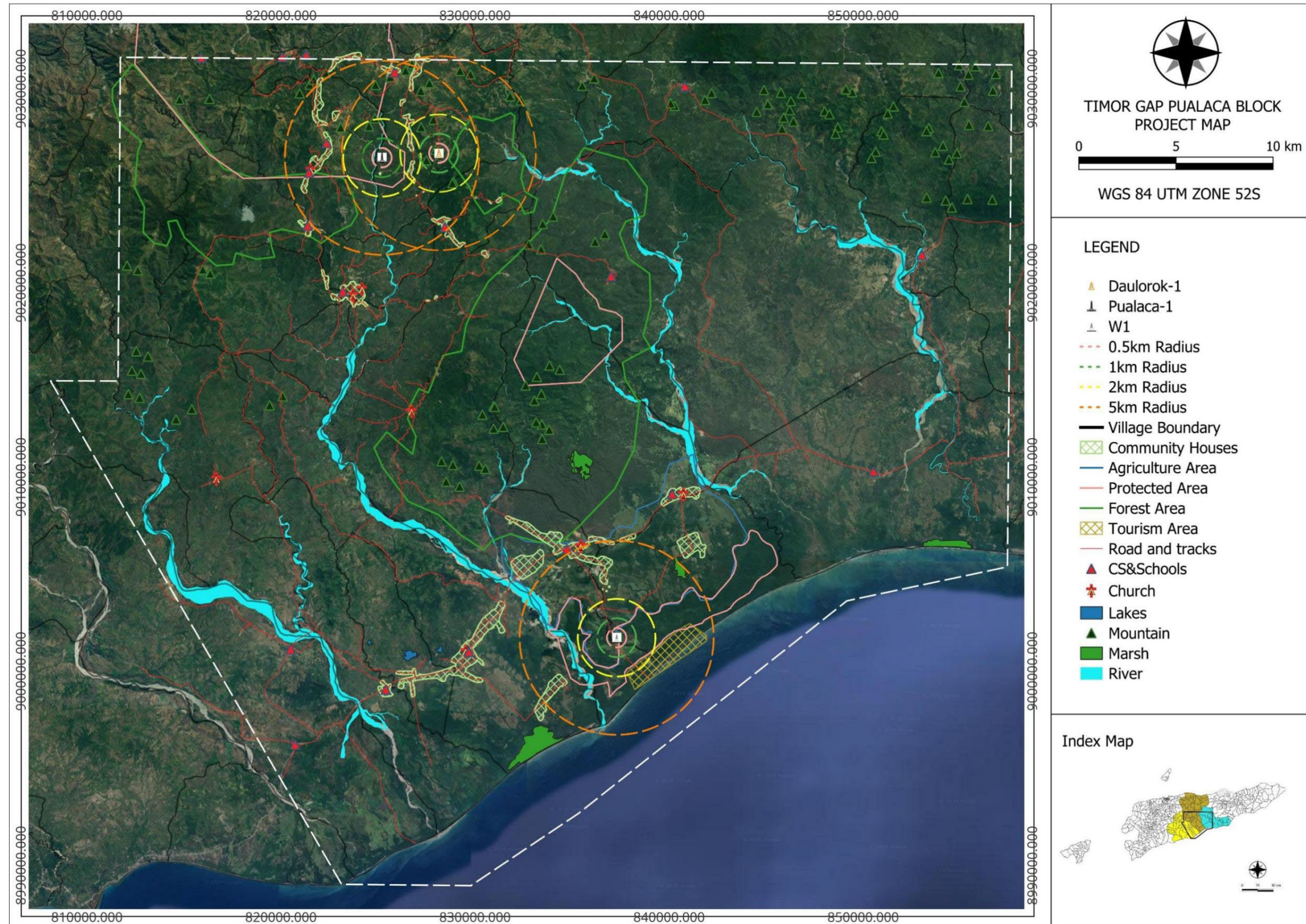
In the event of any changes to the EIA study area, beyond the Drilling Project description in Section 6 above, any assessed impacts will be new information. Whenever there is a change, the TOR for the EIS and the EMP will be expanded to ensure that these new issues are adequately covered.

REFERENCES

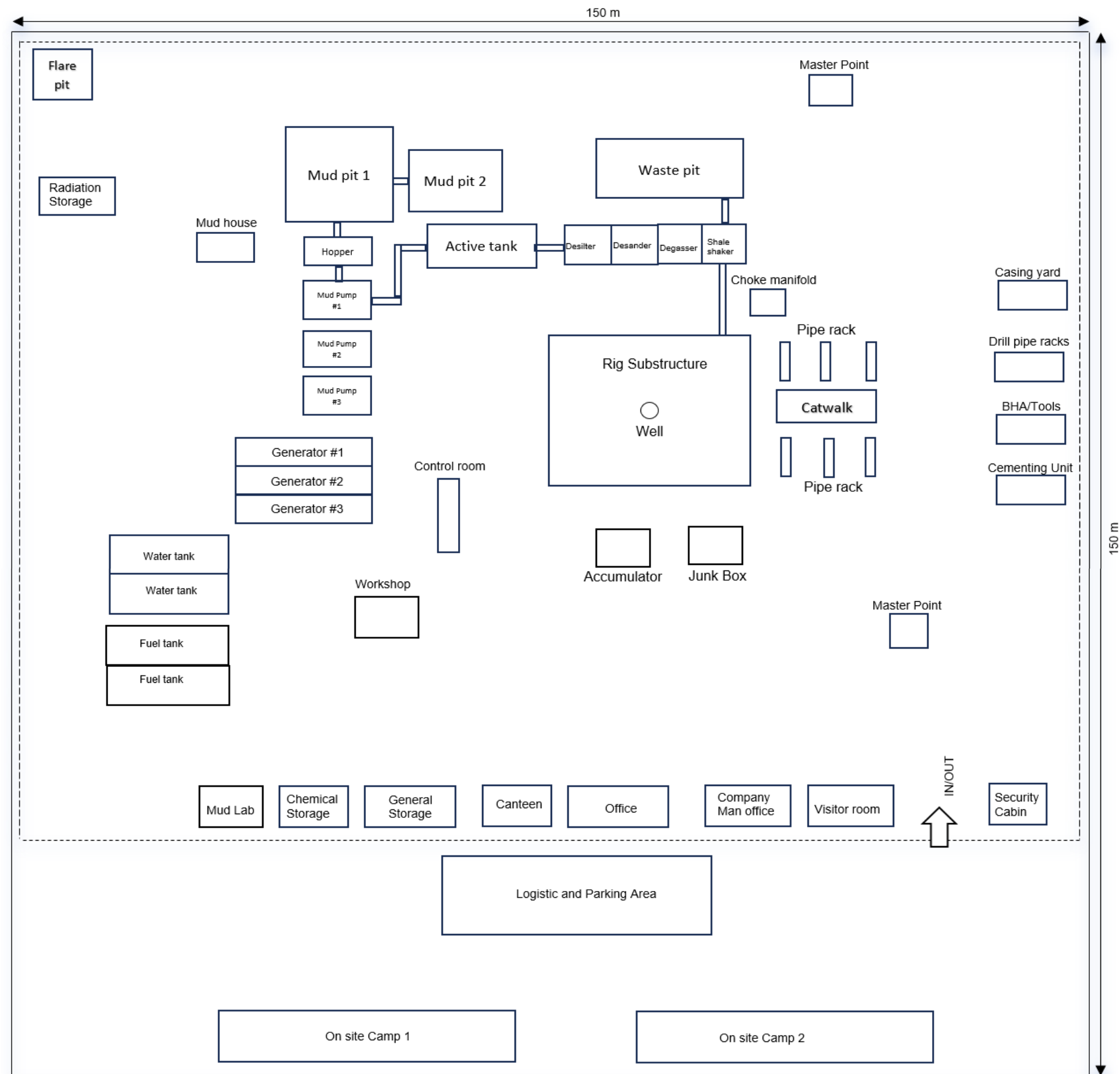
- Democratic Republic of Timor-Leste. (2016). Decree Law No. 32/2016 of 17 August on offshore petroleum operations in Timor-Leste.
- Democratic Republic of Timor-Leste. (2020). Decree Law No. 18/2020 of 13 May on onshore petroleum operations in Timor-Leste.
- Democratic Republic of Timor-Leste. (2022). Decree Law No. 39/2022 of 8 June: First amendment to Decree Law No. 5/2011 on environmental licensing.
- International Finance Corporation (IFC). (2007a). Environmental, health, and safety (EHS) general guidelines. <https://www.ifc.org/content/dam/ifc/doc/2000/2007-general-ehs-guidelines-en.pdf>
- International Finance Corporation (IFC). (2007b). Environmental, health, and safety (EHS) guidelines for onshore oil and gas development. <https://www.ifc.org/content/dam/ifc/doc/2000/2007-onshore-oil-gas-development-ehs-guidelines-en.pdf>
- International Finance Corporation (IFC). (n.d.). Access to information policy. <https://www.ifc.org/en/insights-reports/2012/ifc-access-to-information-policy>
- International Finance Corporation (IFC). (n.d.). Performance Standard 1: Assessment and management of environmental and social risks and impacts. <https://www.ifc.org/en/insights-reports/2012/ifc-performance-standard-1>
- International Association of Oil & Gas Producers (IOGP). (n.d.). Report No. 254: Environmental management in the oil and gas industry. <https://www.ipieca.org/insights/news/ipieca-iogp-launch-updated-report-254>
- Ministerio da Agricultura e Ambiente. (2017a). Ministerial Diploma No. 46/2017 of 2 August on requirements for classification, initial studies, terms of reference, environmental impact statement, and environmental management plan (Annex I).
- Ministerio da Agricultura e Ambiente. (2017b). Ministerial Diploma No. 47/2017 of 2 August on procedures for public consultation during environmental assessment.
- United Nations Environment Programme (UNEP). (1997). Environmental management in oil and gas exploration (Technical Report No. 37). <https://www.laohamutuk.org/OilWeb/RDTLdocs/303Conf/Dunster/Refs/13%20E&P-UNEP%201997.pdf>
- World Bank Group. (n.d.). Consultation principles. <https://thedocs.worldbank.org/en/doc/248301574182372360-0290022019/original/WorldBankconsultationsguidelines.pdf>

APPENDICES

Annexure 1 - Topography map of TGPB



Annexure 2– Drawing Layout



Annexure 3 – Proof of Public Notice

Announcement for Public Consultation

Public Consultation on the Terms of Reference for Environmental Impact Assessment

- a. Name of project proponent: **TIMOR GAP Pualaca Block Unip, Lda (PSC TL-OT-21-17).**
- b. Location of the proposed project: **The proposed project consists of drilling three onshore exploratory wells within Manatuto Municipality. The drilling wells are Daulorok well, Pualaca well, are located in suco Orlalan, aldeia Orlalan and Pualaca, Administrative Post of Laclubar and W1 well, which is located in suco Uma-Boco, aldeia Fehuc Rin, Administrative Post of Barique.**
- c. Exploratory Drilling type and size: **The drill site area of each well is approximately 10,000m² to 20,000 m². The estimated total well depth is 2,000m–3,000m, and the expected drilling duration is 30 to 60 days.**
- d. The purpose of the drilling project is **to confirm the presence, of hydrocarbon resources that has been identify through integrated subsurface study. In addition, with acquired more geological information for the future reference for other surrounding potential prospects or leads or blocks.**
- e. As per applicable Laws in Timor-Leste and the decision category assigned by the ANP, the proposed project is classified as Category “A”, vide. letter number ANP/HSE/S/26/093 dated 4th May 2026. And shall undertake an **environmental assessment (EIA).**
- f. The Terms of Reference for this study must be accepted by the ANP prior to the preparation, development and submission of the Environmental Impact Statement and Environmental Management Plan of the proposed project. **Draft TOR is prepared as per ANP Guideline for the preparation of TOR for Environmental Impact Assessment for Petroleum Activities dated 20th December 2024. The TOR has the scope of work that is to be carried out during the EIA process. The TOR describes the proposed drilling project, legal requirement, description of the environment covering physical biological and socio economic, baseline data collection for existing environmental quality, socio economic survey, project location, impact assessment, risk classification, potential impact, and outline of public consultation and EIS structure.**
- g. The Terms of Reference have been submitted to the ANP and are now available for public viewing and comment. **Any feedback and comments received during this process will be taken into consideration, where appropriate, and will be incorporated into EIS and EMP report.**
- h. The hard copy of the Terms of Reference are available for viewing during normal working hours at the following addresses:
 - **Autoridade Nacional do Petróleo Office**
City 8 Compound, Rua Has-Laran, Aldeia Fomento II,
Suco Comoro, Dom Aleixo - Dili, Timor-Leste; and
 - **TIMOR GAP Pualaca Block Unip, Lda. office**
Timor Plaza, CBD 2, Level 2, Unit 205
Av. Presidente Nicolau Lobato
Comoro, Dom Aleixo, Dili, Timor-Leste

- i. The Terms of Reference are also available for viewing outside the normal working hours at:
ANP website
<https://www.anp.tl/terms-of-reference-tor-for-the-exploratory-drilling-in-the-pualaca-block-area/>
TIMOR GAP website
<https://www.timorgap.com/exploratory-drilling-timor-gap-pualaca-block-psc-tl-ot-21-17/>
- j. The term of reference is now available for viewing on the above two websites. Any member of the public can comment on the Terms of Reference, via emails provided below.
- k. Any comments on the Terms of Reference must be submitted in writing to **Autoridade Nacional do Petróleo, City 8 Compound, Rua Has Laran, Aldeia Fomento II, Suco Manleuana, Dom Aleixo, Dili, Timor-Leste, P.O. Box 113.** And it can also be sent to **Mrs. Isaura Gomes** or **Mr. Jose Sarmento** at the Autoridade Nacional do Petróleo in writing or by email to isaura.gomes@anp.tl or jose.sarmiento@anp.tl or hse.staff@anp.tl. Comments can also be submitted to the project proponent by email to **Mrs. Lilia da Silva** at lilia.dasilva@pualaca.timorgap.com or **Mr. Venancio de Jesus** at venancio.dejesus@pualaca.timorgap.com.
- l. All comments shall be submitted to ANP and/or project proponent **by 5 August 2026.**



TIMOR GAP Pualaca Block, Unip. Lda.

Date, 14 July 2026

**Anúnsiu ba Konsultasaun Públiku
Konsultasaun Públiku kona-bá Termu Referénsia ba Availiasaun Impaktu Ambientál**

- a. Na'in ba Projeitu ka Proponente: **TIMOR GAP Pualaca Block Unip, Lda (PSC TL-OT-21-17)**
- b. Fatin ne'ebé propoin ba Projeitu: **Proposta projeitu ida-ne'e kompostu husi perfurasaun esploratoriu ba posu tolu iha rai maran (onshore) ne'ebé lokaliza iha Munisípiu Manatuto, Posu esplorasaun sira mak hanesan, posu Daulorok no posu Pualaca ne'ebé lokaliza iha Suco Orlalan, Aldeia Orlalan no Aldeia Pualaca, Postu Administrativu Laclubar, no posu W1 ne'ebé lokaliza iha Suco Uma Boco, Aldeia Fehuc Rin, Postu Administrativu Barique.**
- c. Tipu no tamañu fatin perfurasaun posu exploratoriu: **total área ba utilizaun atividade perfurasaun posu exploratoriu ba kada posu ho medida 10,000m² to'o 20,000m² no total estimasaun kle'an ba perfurasaun husi 2,000m-3,000m de profundidade. Espetasaun tempu ba perfurasaun kada posu ho durasasun loron 30 to'o loron 60 nia laran.**
- d. Objetivu hosi projeitu perfurasaun ida-ne'e maka atu konfirma prejensa hidrokarbonetu ne'ebé identifikadu ona husi estudu ingradu interpretaun dados iha rai okos. Alende ida-ne'e, liu husi atividade explorasaun ida-ne'e mós bele hetan informasaun geologia ne'ebé sei sai referénsia ba área potensial sira iha bloku sira ne'ebé besik iha área refere.
- e. Tuir lei sira ne'ebé aplika iha Timor-Leste no mós aprovasaun husi ANP, projeitu ida-ne'e klasifikadu nu'udar kategoria "A", refere ba karta husi ANP ho número karta ANP/HSE/S/26/093 dia 4 Maio 2026. Ho obrigasaun tenke konklui Estudu Impaktu Ambientál tuir lei hakerek..
- f. Termu Referénsia ba estudu ida-ne'e tenki hetan aseitasaun hosi Autoridade Nacional do Petroleu molok faze preparasaun, desenvolvimentu to'o submisaun dokumentu Deklarasaun Impaktu Ambientál no Planu Jestaun Ambientál ba proposta projeitu ida-ne'e. Ezbosu TdR ida ne'e preparadu bazeia ba ANP nia diretiva, nu'udar mensiona iha lei ba atividade petrolífera datadu 20 Dezembru 2024 kona-bá preparasaun ba estudu impaktu Ambiental. Implemetasaun husi prosesu estudu Impaktu Ambientál ida-ne'e sei bazeia de'it ba padraun sira ne'ebé hakerek iha Termu ba Referénsia ida-ne'e. Termu ba Referénsia ida-ne'e sei deskreve proposta ba projeitu perfurasaun ne'e rasik, enkuadramentu legál sira, deskrisaun ba komponente Ambientál inklui sósiu ekonómiku no aspetu biolójiku, halibur baze-de-dados kualidade Ambientál, ezeminaun sósiu ekonómiku, lokalizasaun área projeitu ni'an, estudu ba impaktu sira, klasifikasaun ba risku, lala'ok ba konsultasaun pública no estrutura ba deklarasaun Impaktu Ambientál nian.
- g. Termu Referénsia ba estudu impaktu Ambientál nian submete ona ba ANP no agora dadaun disponivel ba públiku atu asesu no fó komentáriu. Wainhira iha komentáriu no sujestaun ruman durante prosessu ida-ne'e TIMOR GAP Pualaca Block (TGPB) sei tau ba kosiderasaun ne'ebé apropriadu no sei inkorpora iha relatóriu kona-bá Deklarasaun Impaktu Ambientál no Planu Jestaun Ambientál nian.

- h. Kopia husi Termu ba Referénsia ne'e disponivel atu asesu durante oras serbisu nian liu husi enderesu sira tuir-mai ne'e:
- **Edifisiu Autoridade Nacional do Petróleo**
City 8 Compound, Rua Has-Laran, Aldeia Fomento II,
Suco Comoro, Dom Aleixo - Dili, Timor-Leste; and
 - **Edifisiu TIMOR GAP Pualaca Block Unip, Lda.**
Timor Plaza, CBD 2, Level 2, Unit 205
Av. Presidente Nicolau Lobato
Comoro, Dom Aleixo, Dili, Timor-Leste
- i. Termu ba Referénsia ida-ne'e mós bele asesu livremente liu husi portal TIMORGAP no ANP nian
- Portal ANP nian**
<https://www.anp.tl/terms-of-reference-for-the-exploratory-drilling-in-the-pualaca-block-area/>
- Portal TIMORGAP nian**
<https://www.timorgap.com/exploratory-drilling-timor-gap-pualaca-block-psc-tl-ot-21-17/>
- j. Termu ba Referénsia ne'e disponivel ona iha portal rua ne'ebe mensiona iha leten. **Públiku bele fó komentáriu ba liu-husi enderesu tuir-mai ne'e.**
- k. Komentáriu sira bele submete ba iha edifisiu **Autoridade Nacional do Petróleo, City 8 Compound, Rua Has Laran, Aldeia Fomento II, Suco Manleuana, Dom Aleixo, Dili, Timor-Leste, P.O. Box 113.** No mós bele manda direita ba **Sra. Isaura Gomes** ka **Sr. Jose Sarmento** iha edifisiu Autoridade Nacional do Petróleo nian no bele liu-hosi email, **isaura.gomes@anp.tl** ou **jose.sarmento@anp.tl** or **hse.staff@anp.tl**. Komentáriu hirak ne'e bele mós manda ba parte proponente liu-hosi email ba **Sra. Lilia da Silva** (**lilia.dasilva@timorgap.pualaca.com**) ka **Sr. Venancio de Jesus** (**venancio.dejesus@pualaca.timorgap.com**).
- l. Komentáriu hotu tenki submete ba ANP ou ba parte proponente to'o loron **5 Agostu 2026**.



TIMOR GAP Pualaca Block, Unip. Lda.

Loron 14 Julu 2026