



**NW PELOPONNESE LEASE AREA
ENVIRONMENTAL REPORT 2021**

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NW PELOPONNESE LEASE AREA – ENVIRONMENTAL REPORT 2021

HSE Policies & System, Environmental Studies and Implementation

1. Introduction

Hellenic Petroleum NW Peloponnisos Exploration & Production of Hydrocarbons Single Member S.A., 100% subsidiary of HELLENIC PETROLEUM EXPLORATION AND PRODUCTION OF HYDROCARBONS (UPSTREAM) S.A, owns all the rights to explore and produce hydrocarbons deriving from the Lease Agreement with the Greek State in the onshore area of NW Peloponnese region. HELPE NW Peloponnese officially signed the Lease Agreement with the Greek State on March 16th 2018. HELPE NW Peloponnisos, acting as Operator, is fulfilling its commitments and has planned the exploration work program by implementing the most up-to-date, safe and environmentally friendly technological methods and practices with the outmost respect to local societies and socioeconomic activities.

According to the Lease Agreement and the Provisions of Article 12 for «Environmental Protection», the Lessee (Hellenic Petroleum) «shall not be liable for any environmental condition or damage existing in the Contract Area prior to the commencement of the Lessee’s operation therein. For this purpose, the Lessee shall prepare a baseline report, to detail the condition of the environmental parameters and resources at the time prior to operation commencement. The baseline report will be submitted for review to the Lessor (Hellenic Hydrocarbons Resources Management – HHRM). If no objections will rise by the latter within twenty (20) Business Days of its submission, the report is deemed accepted».

Furthermore, and according to the Provisions of Article 12 for «Environmental Protection», in case of activities for which an Environmental Impact Assessment (EIA) is not mandatory, but it is reasonably expected that any minor environmental impacts might occur, as in particular for the case of geophysical surveys, the Lessee shall prepare an Environmental Action Plan (EAP). The EAP aims to determine, assess and mitigate these impacts, focusing on prevention and minimization thereof in accordance with Good Oilfield Practices.

Within Year 2021, an amended Environmental Baseline Report (EBR) was prepared and submitted to Competent Authorities (HHRM, Mining Inspectorate Body) for informative purposes and their review.

Finally, during 3Q21, the on-shore exploration concession of "NW Peloponnese" was officially returned to the Greek State.

2. Amended Environmental Baseline Report (EBR)

Environmental Baseline Report as described in article 12, §14 of L. 4527/2018, were prepared in separate stage reports (EBR Stage I & II) for the lease area of NW Peloponnese.

The aim of the Environmental Baseline Environmental Report (EBR) should be to record and evaluate the current state of the natural, social and economic environment in the lease area in order to:

- Survey the condition of the environment within the exploration area before starting any exploration activity, to ensure non-liability of the contractor for any environmental damage that may occur either/or that have already occurred in the lease area due to other activities.
- Be part of an integrated system for monitoring the condition of the physical and anthropogenic environment in the lease area, in aim to prevent, detect and mitigate any impact during the individual stages of the exploration program.

The recording of the current state of the Environment within the Lease Area should be based on the requirements of JMD 10776/ 02.03.2017 (*“Approval of Strategic Environmental Assessment (SEA) for hydrocarbon exploration and exploitation in the area of NW Peloponnese”*), according to which environmental indicators, shall be used as fundamentals of monitoring and they shall represent in a comprehensive way, important aspects of developments in the environment. The EBR is referred to topics regarding the existing physical, biological, socioeconomic environment and sensitivities of “NW Peloponnese” Lease Agreement Area as well as to provide any updated information or newly published data not covered in the Strategic Environmental Assessment (SEA).

In the context of the EBR study that HELPE NW Peloponnisos has completed, several in situ environmental observations and recording were performed in the field.

The following objectives of EBR were met:

- ✓ Update of baseline conditions and current status of the Environment in prospect area including Natural, Biological and Socioeconomic Environment.
- ✓ Field Survey and ground truthing within a corridor of 750m along the 2D Seismic Lines.
- ✓ Four Seasons Monitoring was implemented.
- ✓ Establishment of Environmental Quality Indicators.

The Environmental Baseline Report (Stage I) initially submitted by HELPE NW Peloponnisos to the Competent Authorities for review and approval on February 20th of 2020 is deemed to be approved since March 19th, 2020.

HELPE NW Peloponnisos, acting as Operator, as part of the planned exploration work program, conducted a surface gas-geochemical survey. The survey was carried out to evaluate the occurrence of natural gas seepage that may reveal subsurface gas reservoirs in a 1300 km² wide onshore region in Peloponnese, defined as “Olympia-Peristeri-Pineios region”. The survey was based on the detection of methane (CH₄) and associated gases (alkanes, carbon dioxide and hydrogen sulphide; and oxygen for data quality-check) in the soil, aquifers, springs

and rivers. The analysis included molecular and isotopic CH₄ composition. Overall, the soil-gas and aquifer gas data have provided a clear picture of the presence of important natural gas seepage in the Olympia-Peristeri-Pineios region. Microbial gas prevails in the region, but a thermogenic component appears in the central-eastern sector (Chelidoni to Panopoulo), probably associated to migration of fluids along deep faults, from deeper petroleum systems. These data can support and drive future geophysical survey for further exploration.

In addition, contactor assigned to conduct the survey, visited the old exploration of Peristeri-1 well, drilled in 1980 and plugged and abandoned. Portable sensors detected a gas leak from the pipe showing concentrations of CH₄ at the leak exceeding 90 vol.%. This gas is compared (see next section) with the one from seeps in adjacent areas. Weak seepage occurs in the soil around the well (ID 51, 4 ppmv).

HELPE NW Peloponnisos assigned the appointed Contractor for the preparation of EBR to incorporate the results of natural gas seepages and deliver an updated version of EBR with the current status of environment and informed on time and respectively Competent Authorities (HHRM, Mining Inspectorate Body). The updated Study includes, indications concerning natural gas leaks (mainly methane) in the wider concession area as well as a preliminary assessment of their contribution to the atmosphere (Atmospheric Dispersion Modeling), which is assessed as negligible and not of the Initial Status Report. It is noted that the aforementioned Study proposes for the next stages of the project the monitoring of the evolution of indicators, such as the concentration of methane in the soil, which cover the issues of environment, health and safety which will be taken into account in the Environmental Action Plan.