



CERTIFICATION OF TECHNICAL VALIDATION AND INDUSTRIAL PERFORMANCE

TO WHOM IT MAY CONCERN:

The Formulation, Interfaces, Rheology, and Processes Laboratory (FIRP) of the Universidad de Los Andes, Mérida, Venezuela, a center of excellence in the research of surfactant systems and applied rheology, certifies the following performance results of the system developed by INTENSA OIL LLC. This company and product are owned by citizens Rafael Leonardo Barroeta Valero, Luis Enrique Barroeta Valero, and Rafael María Barroeta Parra, and is named:

"SYSTEM AND METHOD FOR ISOTHERMAL FLOW FOR THE TRANSPORT OF HEAVY AND EXTRA-HEAVY HYDROCARBONS THROUGH POST-BATTERY MIXING OF A RECIRCULATING BIO-ORGANIC SUSPENSION MATRIX (RBP TECHNOLOGY)".

For the validation of this technology, the FIRP Laboratory executed a rigorous protocol of laboratory assays and tests, which included:

- **Advanced Rheological Characterization:** Determination of viscosity profiles as a function of temperature and shear rate for extra-heavy (8° API) and heavy (15° API) crude oils.
- **Colloidal Stability Analysis:** Evaluation of the stability of the bio-organic matrix and its interaction with the asphaltene and resin fractions of the crude oil.
- **Decantation and Phase Separation Assays:** Kinetic tests to measure the time and recovery efficiency of the facilitating matrix at room temperature.
- **Isothermal Flow Tests:** Simulation of transport conditions in a pilot that simulates a pipeline, to evaluate the reduction of pressure drop and friction.

Following the completion of these assays, this FIRP/ULA Laboratory endorses the following efficiency milestones:

- **Diluent Optimization (1:4 Ratio):** RBP Technology requires merely a 10% dosage, with the potential for reduction to achieve optimal mobility. This contrasts disruptively with conventional diluent methods (such as the use of catalytic naphtha or condensates). These conventional methods range between 30% and 35%, making this new technology a significantly more efficient solution.
- **Passive Separation and 100% Recovery:** The ability to recover the entirety of the facilitating matrix in an estimated time of 12 to 15 minutes through natural decantation was validated. Unlike naphtha, which is a difficult diluent to separate and requires complex



Laboratorio de Formulación, Interfases, Reología y Procesos

<http://www.firp.ula.ve>
Tel: +58 (0)274 240 2954 Fax: 240 2957



thermal processes, the RBP TEC product is eco-friendly, separates without heat input, and is fully recirculating.

- **Profitability per Barrel:** Based on the low usage percentage and the elimination of heating and distillation costs, it is estimated that this technology can represent operational savings of up to 30% per transported barrel.
- **Decarbonization and Well Application:** The viability of the product for direct application in wells is confirmed, improving mobility from the reservoir in a clean manner.

Conclusion:

The results of the tests conducted at FIRP/ULA confirm that Intensa Oil LLC's RBP Technology is a robust engineering solution, economically superior to traditional methods and additives, and aligned with global industrial sustainability standards.

Mérida 03/16/2026.

Prof. Johnny Bullón
Director del Lab FIRP-ULA
Director Lab. FIRP
jbullon@ula.ve
Telf: +58 4168744594