

NEWS RELEASE

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PETROVIETNAM, JVPC and JOGMEC announce success of CO₂-EOR Pilot Test in Rang Dong Oil Field, Block 15-2 Offshore Vietnam

Japan Oil, Gas and Metals National Corporation
JX Nippon Oil & Gas Exploration Corporation

On 29th February, 2012 Vietnam Oil and Gas Group (“PETROVIETNAM”, President and CEO: Do Van Hau), Japan Vietnam Petroleum Co., Ltd. (“JVPC”, President and CEO: Makoto Koseki, a subsidiary of JX Nippon Oil & Gas Exploration Corporation) and Japan Oil, Gas and Metals National Corporation (“JOGMEC”, President: Hirobumi Kawano) have announced the success in the implementation of CO₂-EOR (Enhanced Oil Recovery) pilot test in Rang Dong oil field of Block 15-2, offshore Vietnam. JVPC is, as an operator, producing oil and gas in the Block 15-2 together with its partners (ConocoPhillips (U.K.) Gama Limited and Petrovietnam Exploration Production Corporation).

Since 2007, PETROVIETNAM, JX Nippon Oil & Gas Exploration Corporation (President and CEO: Makoto Koseki) and JOGMEC have conducted a feasibility study for the field application of CO₂-EOR including laboratory experiments, reservoir simulation study and CO₂ supply study. The study result indicated a substantial potential to increase oil production as well as to reduce CO₂ emission. It also showed that the industrial exhaust gases would be a potential supply source of CO₂ for CO₂-EOR, which, if applied on a field level, would lead to an expectation of reduced global CO₂ emission through the underground storage. In order to confirm the field applicability, PETROVIETNAM, JVPC and JOGMEC decided to conduct a small scale CO₂ injection test (Pilot Test) in June, 2011 operated by JVPC with supports by PETROVIETNAM and Block 15-2 partners and funded by JOGMEC.

As a result of an intensive study and an extensive preparation by JOGMEC/JX-NOEX/JVPC, the first offshore CO₂-EOR Huff ‘n’ Puff operation was successfully achieved.

In the Pilot Test, we injected CO₂ into the reservoir and produced the reservoir fluid together with CO₂.

We confirmed the main objective of the CO₂ Huff 'n' Puff pilot test; CO₂ injectivity, increased oil production, oil composition change, oil property change, water cut reduction and better understanding of the reservoir characterization. We also identified several key uncertainties that should be taken into account before the consideration of full field application.

JOGMEC has extensively implemented IOR/EOR studies since the mid 1970's, focusing on CO₂-EOR especially in Abu Dhabi, Kuwait, Mexico, Turkey and Vietnam.

This type of the Pilot Test conducted in offshore is the first application in the world as well as the first case of CO₂-EOR in Vietnam.

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Figure CO₂ injection and flow back operation using the rig and the supply boat.

