CO₂-EOR Joint Study in the Lower Zakum oil field, offshore Abu Dhabi

INPEX CORPORATION (INPEX) and its wholly owned subsidiary Japan Oil Development CO., Ltd. (JODCO) have jointly commenced a CO₂-EOR (Carbon Dioxide - Enhanced Oil Recovery) study together with Japan Oil, Gas and Metals National Corporation (JOGMEC) and the operating company of the Lower Zakum*1 oil field in Abu Dhabi, with the support of Abu Dhabi National Oil Company (ADNOC). The Joint Study will be implemented at the offshore Lower Zakum oil field and the study focuses on increasing the recoverable volume of oil by injecting CO₂ into the oil reservoirs.

Recently CO₂-EOR is studied utilizing CO₂ separated from industrial exhaust gases from power plants, refineries etc. CO₂-EOR is also expected to lock in carbon dioxide as a means of CCS (Carbon Dioxide Capture and Storage).

CO₂-EOR has been conducted at onshore oil fields in North America as commercial projects. As the CO₂-EOR study will examine possibilities of applying it to offshore oil fields, once this study proved commercially viable, it can be recognized as a pioneer in the area of offshore CO₂-EOR. This study is composed of laboratory studies, subsurface reservoir simulations and conceptual design work for CO₂ injection. The successful results of the study should lead to further cooperation in the next pilot project stage and the large-scale CO₂-EOR injection project stage in offshore oil fields in Abu Dhabi.

JOGMEC and JODCO have collaborated in carrying out a CO₂-EOR study in the Upper Zakum*2 oil field offshore Abu Dhabi from 2000 to 2005, and it was confirmed that the recoverable volume of oil should increase by injecting CO₂ into the reservoir. The results of this earlier CO₂-EOR study in the Upper Zakum oil field will render a reference data for the study in the Lower Zakum oil field.

The long continued collaborative relationship between ADNOC, JOGMEC and INPEX/JODCO will be further strengthened through the CO₂-EOR studies in Abu Dhabi.
*1  Lower Zakum Field
The Lower Zakum oil field has been producing crude oil steadily since 1967. J ODCO acquired interest in 1973.
Interest Owned: J ODCO 12%, ADNOC 60%, BP 14.67%, TOTAL 13.33%

*2  Upper Zakum Field
J ODCO acquired the Upper Zakum oil field interest in 1973. The field has been producing crude oil steadily since 1982.
Interest Owned: J ODCO 12%, ADNOC 60%, ExxonMobil 28% (ExxonMobil acquired its interest in 2006 from ADNOC)