



Note: The following press release is an English translation of the Japanese-language original

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The Tight Oil Initiative at the Onnagawa Formation in Akita Prefecture

Japan Petroleum Exploration Co., Ltd. (hereafter, "JAPEX") has, since March last year, been undertaking research and development project, including demonstration experiment, at its oil fields in Akita Prefecture to challenge for the first tight oil (shale oil) development in Japan.

As part of the work, JAPEX carried out acid treatment tests at the Onnagawa tight formation in October last year by utilizing an existing well of Kurosawa AK-1 (hereafter, "AK-1 well") at Ayukawa oil and gas field (Yurihonjo City, Akita Prefecture). Subsequently, two flow tests were carried out to get a more accurate understanding of the capacity of AK-1 well. As a result, a constant amount of tight oil production was confirmed (hereafter, "the Ayukawa demonstration experiment").

The results including production volume on the Ayukawa demonstration experiment have now been compiled and the relevant information is presented below. Based on these results, we would also like to inform you of new plans underway for demonstration experiment at other oil field having the Onnagawa tight formation located in the same prefecture.

These tight oil initiatives were carried out with the support of the Japan Oil, Gas and Metals National Corporation (JOGMEC). Please refer to our press releases dated July 20, October 4, and October 10, 2012, for more information about the Ayukawa demonstration experiment and an outline of the agreement with JOGMEC.

1. The Ayukawa Demonstration experiment

(1) Production volume and other operations

- 1 Acid treatment test and flowback: October 1-8, 2012
 - Injection of acid treatment fluid: 141.6 kl
 - Amount of crude oil production: 31.1 kl (approx. 6 kl per day (estimate))
 - Amount of acid treatment fluid recovered (including formation water): 69.5kl
- 2 First flow test (in addition to well pressure measurements): November 21- December 13, 2012.
 - Amount of crude oil production: 71.2 kl (approx. 6 kl per day)
 - Amount of acid treatment fluid recovered (including formation water): 0.06 kl
- 3 Second flow test (in addition to well pressure measurements): May 13-July 10, 2013
 - Amount of crude oil production: 1,419.0 kl (approx. 40 kl per day)
 - Amount of acid treatment fluid recovered (including formation water): 57.9 kl

(2) Evaluation results for the Ayukawa demonstration experiment

- AK-1 well produced a cumulative total of 1,521.3 kl of crude oil through the acid treatment test and two subsequent flow tests carried out in October last year. In total, 141.6 kl of acid treatment fluid was injected for this acid treatment, and a cumulative total of 127.5 kl was recovered.
- The oil production rate at the end of the second flow test was confirmed at approx. 40 kl per day. As a result of the acid treatment, daily production at AK-1 well increased by at least 20 times compared what it was prior to the acid treatment (approx. 1.5 kl per day), therefore, we conclude that a good outcome was obtained for the Ayukawa demonstration experiment.
- With these results in hand, we will proceed to study commercial production at AK-1 well, including preparations for ground facilities.

2. New Demonstration experiment at Fukumezawa oil field

Based on the evaluation of the Ayukawa demonstration experiment, JAPEX is formulating basic plans for a new demonstration experiment (horizontal well drilling and fracturing) at the Fukumezawa oil field (one of the Sarukawa oil fields in Oga City, Akita Prefecture) where the Onnagawa tight formation is distributed in the same way as at the Ayukawa oil and gas field. At this time, we have decided to start the preparations for implementation of the work.

We are currently studying the details of schedule for implementation and the scope of work involved while seeking cooperation and support from all parties concerned. We are also conducting surveys and studies from a range of perspectives to pay sufficient attention to the environment.

We will continue to appeal for cooperation and support from JOGMEC for these initiatives, including the new demonstration experiment.

Reference photographs



Oil produced in the Ayukawa demonstration experiment



Acid treatment test underway at the Ayukawa oil field (Akita Prefecture)