
What is the current status of Toe-to-Heel Air Injection (THAI) process development 20 years after its patenting, more than 14 years of laboratory investigations and 12 years of field testing? This question can be legitimately asked. This report, by a specialized team, including the inventors of the process, attempts to provide a comprehensive and informed response. Basic information about THAI process can be found at the website: www.insitucombustion.ca

Petrobank Energy and Resources Inc. and Touchstone Exploration Inc. tested the THAI process in a direct line drive configuration (DLD-THAI process) for 5 years in Athabasca oil sands (Whitesands Project) and 9 years in Kerrobert conventional heavy oil field in Saskatchewan, Canada; all-in-all, combined, they produced more than half a million barrels of partially upgraded oil. The report is an in-depth analysis of these two projects. In addition, it gives essential information on two Chinese THAI pilots [(Shuguang (Liaohe) and Fengcheng (Xinjiang Oilfield)] and two THAI pilots carried out in India (in Balol Field and in Lanwa Field). Based on the learnings from Canada and China pilots, the Report establishes what knowledge was acquired and what are the main lessons for a future improved application; it shows what essential amendments, with regard to well configuration, initial communication between wells, ignition and operation practice, should be made.

The THAI process in a staggered line drive (SLD) configuration has not been systematically field tested to-date; however, detailed field simulation studies and some laboratory and field tests have confirmed the superiority of the SLD configuration. The report will help companies by providing several technical solutions for application of SLD-THAI (now called I-THAI) in the field. Also, companies will find this report extremely useful when considering to commit to field testing and development of the I-THAI (improved THAI) process, or in a more general case of drilling in-fill horizontal wells in a former conventional ISC process or considering THAI as a steam-injection follow up process (including as a SAGD follow-up process).

Finally, a special chapter in the report elaborates on the guidelines/intellectual property necessary for the development of new generations of in-situ combustion (ISC) process, not
necessarily applied in a toe-to-heel configuration. A novel ISC process, conducted in a SAGD-type configuration, is also discussed.

The long report has 500 pages with 355 pages of text and 156 pages containing the 13 appendices. We also have a short version of the Report, which contains around 300 pages. Additionally, associated to the Report, there is a special simulation study comparing the performance of DLD-THAI with that of the SLD-THAI (I-THAI); this study will be made available at request, free of charge.

There are 7 main technical presentations (of 40-50 slides, each) associated with the Report, with the aim of making the Report easier digestible. These presentations will be available after the acquisition of the Report by the company or organization. In principle, they will be presented by one of the specialists involved in this project. These presentations are:

1. A general technical presentation; current status of THAI development
2. THAI as the first EOR process producing underground upgraded oil
3. Simulation studies, their merits and limitations
4. A detailed presentation on Athabasca Whitesands THAI Pilot
5. A detailed presentation on Kerrobert Field THAI Project
6. Outside Canada THAI experience
7. A presentation focused on improved THAI processes and guidelines for development of future generations of in-situ combustion processes to be applied stand-alone or follow up to thermal processes, including as follow up to SAGD.

If you feel that you may be interested in acquisition of this Report, but need more information please let us know, and we can send to you immediately an advanced brochure of the THAI process, and the Table of Contents and the Acknowledgements from the Report. Also, afterwards, we can send you an abbreviated marketing presentation or arrange with you for a personal full-length marketing presentation at your place, as per your convenience.

Looking forward to hearing from you.

Alex Turta
Saad Ibrahim
Sales Representative/Marketing Manager: TBA

Until the marketing manager is announced, please use the following contact information:

Email: aturta@shaw.ca
Phone: (403) 208-2778

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