



Painting A Picture: Benchmarking software gives oilsands producers a new tool to assess performance

Exclusive

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The number of thermal oilsands projects in Alberta has grown rapidly over the past decade, and within the industry, the business of comparing projects, wells and reservoirs has grown in importance.

In that respect, producers just got a new tool. While analytical software for oil and gas operations has been on the market for some time, there's little that's specifically geared to gauging the performance of thermal projects, such as SAGD operations.



Blackpearl Resources' Blackrod SAGD pilot project
Photo: Blackpearl Resources

The arrival of TOP Analysis software has changed that picture. Designed by a working reservoir engineer, the software was tailor-made for measuring project performance on thermal oilsands projects using a wide range of accepted industry metrics.

TOP Analysis does not rely on confidential well data. All of the data is public and available from the Alberta Energy Regulator. Those who developed the software for the Canadian thermal oilsands market say what's key to its usefulness is the way the data is manipulated and made available to users.

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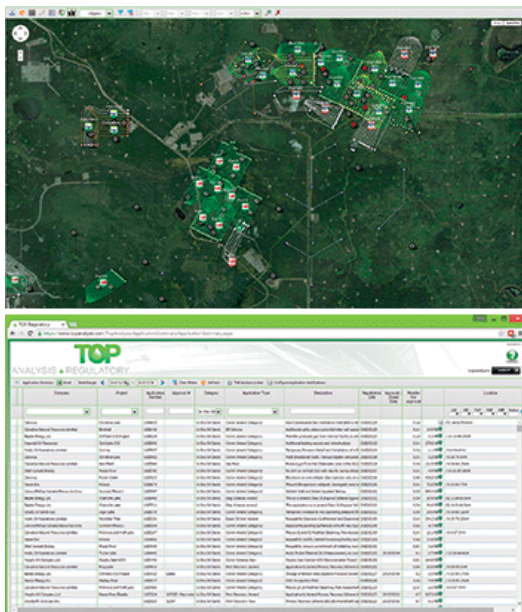
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The software allows users to check out design details on a thermal project and view historical well-performance metrics. They can see how particular wells, projects or pads performed, using the information as they choose. For example, it could be used to assess performance on existing projects or to decide on design parameters for a future project.

Most of the data is volumetric and would include, for example, the amount of steam injected into a particular well or wells on a SAGD project. The data would also include the amount of natural gas, fluid or solvent injected into particular wells. Production data, such as how much oil, water or gas was produced, is also part of the database.

Production and reservoir engineer Trevor Phenix designed TOP Analysis for the oilsands sector. Still working on thermal projects on his own time, he developed the software's interface to meet end-users' needs, while working alongside Tanya Fagnan, the company's head of business development, who, along with Phenix, is co-founder.



Images: Top Analysis

In deciding which features to offer TOP Analysis users, Phenix was guided by his experience as a reservoir engineer. The issue was never the availability of data, but rather delivering it in a form that meets end-users' needs, he says.

"We manipulated the data and built the interface in such a way that it will reduce the time required to track down and use data," he says. "We've taken a large amount of data and put it at users' fingertips in a way that makes sense.

"We've provided the user with a quick and friendly format that, for any given well, allows them to look at how the well was designed. We also provide operational information that allows them to see how well projects have performed."

Other data, such as how wells were drilled, including directional drilling data, is also accessible, as are operating temperatures and pressures on particular wells. Users interested only in wells or projects using solvent injection could search the database by that or other criteria, such as formation or company name.

The software also allows users to filter search results using various criteria, such as formation, well type, and geographical area. Searches can be done quickly, compared to the time it would take to draw the same data from public databases, Phenix says.

TOP Analysis also includes a range of data from Saskatchewan's energy regulator. "We've built [the software] so that we can look at both Saskatchewan and Alberta projects," he adds. "The data is different, but essentially, the end format and functionality are the same for both [provinces]."

Available to the industry for about a year now, the software is still new to most Alberta users. Nonetheless, several oilsands producers are using the product, according to Fagnan, who says the current user list includes junior oilsands player BlackPearl Resources, operator of the Blackrod SAGD pilot in the Athabasca oilsands.

"We use [TOP Analysis] for production analytics and to stay up on what's going on in the thermal project landscape," says engineer Heath Williamson, BlackPearl's asset manager for Blackrod. "That's important for us as a junior. It



provides an opportunity for us to do production analytics quickly and efficiently.”

Williamson described the software as an intuitive tool that can be used to measure the efficiency of thermal oil wells. “You can look at [a project] well by well or...troubleshoot and look at key indicators in a well pair’s performance history. You can come to conclusions about what might have happened over the well pair’s life, looking at why it was successful or why it failed.”

Analytics aside, the software also allows users to connect directly to the regulatory application that was filed in support of a particular project, he says. The user can search thermal projects but also non-thermal and conventional regulatory applications, a feature TOP Analysis says is a significant advantage for users.

“Let’s say the [operator] wants to try a different recovery strategy,” says Phenix. “TOP Analysis will link the well pairs to the project application, so you can [see] what happened with it. You can learn from that and apply it to your own operation.”

Users can break the components of a project down and try to paint a picture, so to speak.

“You’re not going to get all the answers, but you can get yourself off to a pretty good start,” he adds. “You can come up with some creative ways to analyze thermal project performance.”



Photo: Blackpearl Resources

For Phenix, the fact that many oilsands producers are keen to compare their project’s performance with competitors’ is hardly news, and it’s a trend he doesn’t discourage. “Using TOP Analysis, you can take key performance indicators from your own well pad and begin comparing it to competitors’,” he says. “You can quickly see how you stand up in terms of infill well or regular well performance.”

CONTACT FOR MORE INFORMATION

Tanya Fagnan, TOP Analysis

Tel: 403-619-2353

Email: tanya@topanalysis.com

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