

BIRD



WATCHING

and other high-tech ways to manage the challenges of tailings

by Diane L.M. Cook



It's been over a year since it happened, but the painful memory is never far away from the oilsands industry. When 1,606 ducks landed on Syncrude's Aurora settling basin on April 28, 2008, and all but one duck died, the incident made international headlines. Tailings ponds are very large bodies of water that contain toxic waste from the mining process of oilsands. When the ducks landed on the tailings pond, they quickly became soaked in oil and sunk to the bottom.

Already suffering from a bruised public image, the oilsands sector took another hit over this incident. Considered a fluke of nature, over the weekend prior to the incident there was a rapid thaw, which can be typical of Alberta's spring weather. On the following Monday, when Syncrude employees were in the process of deploying propane canons, which make noise to deter birds from landing on their tailings ponds, the ducks made their deadly landing. ▶

Oilsands 101

This two-day course provides a detailed and comprehensive introduction to Canada's unconventional oil industry. The instruction begins with the history of the oilsands, and examines the downstream, midstream, and upstream operations that differentiate oilsands production from conventional methods.

COURSE INCLUDES:

- Introduction to Crude Bitumen
- The Play and the Players
- Exploration and Production
- Upgrading
- Transportation
- Refining
- Mining and In-Situ
- Environment and Sustainability

For more information or to register, visit:

www.oilsands101.com

BROUGHT TO YOU BY:

oilsandsreview

HEAVY OIL & OILSANDS™
GUIDEBOOK & DIRECTORY IV

Oilpatch
.101

junewarren-nickle's
energy group

The incident could be seen to show that more reliable technology needs to be implemented to protect wildlife at remote oilsands sites, and at least one company is working on doing just that. Calgary-based IntelliView Technologies has developed an intelligent surveillance system that combines digital video recording technology with video analytics, automated alarm management, and event notification to detect, evaluate, and alert companies to incidents at their sites.

IntelliView says the system can easily be set up or incorporated into existing monitoring infrastructure. The hardware is comprised of a set of cameras, a digital video recorder (DVR), and the communications links required to connect the system to a company's local area network (LAN), web server, and wide area network (WAN). The goal is to provide the best image quality with the lowest possible communications bandwidth requirements, and lower disk storage required. The intelligent component of the surveillance system is the DVR, where video is stored and analyzed.

"The system is intelligent in that after it has been programmed with rules, such as 'alert when object crosses perimeter,' so as soon as the rule is broken, the DVR will generate an alert and send a notification to a company's key personnel," says David Ruhlen, business development manager for IntelliView Technologies.

The surveillance system is multi-purpose in that it can address a company's operations and its safety and security issues simultaneously—it's about more than ducks landing on tailings. It is designed to alert a company when someone or something enters into a restricted area at a site, when a worker falls, or when the reading on a valve is either too high or too low.

"[Producers are] using high-tech ways to meet and exceed the environmental regulatory requirements including the ERCB's recently released tailings directive."

- Greg Stringham, Vice-President, Oilsands and Markets,
Canadian Association of Petroleum Producers

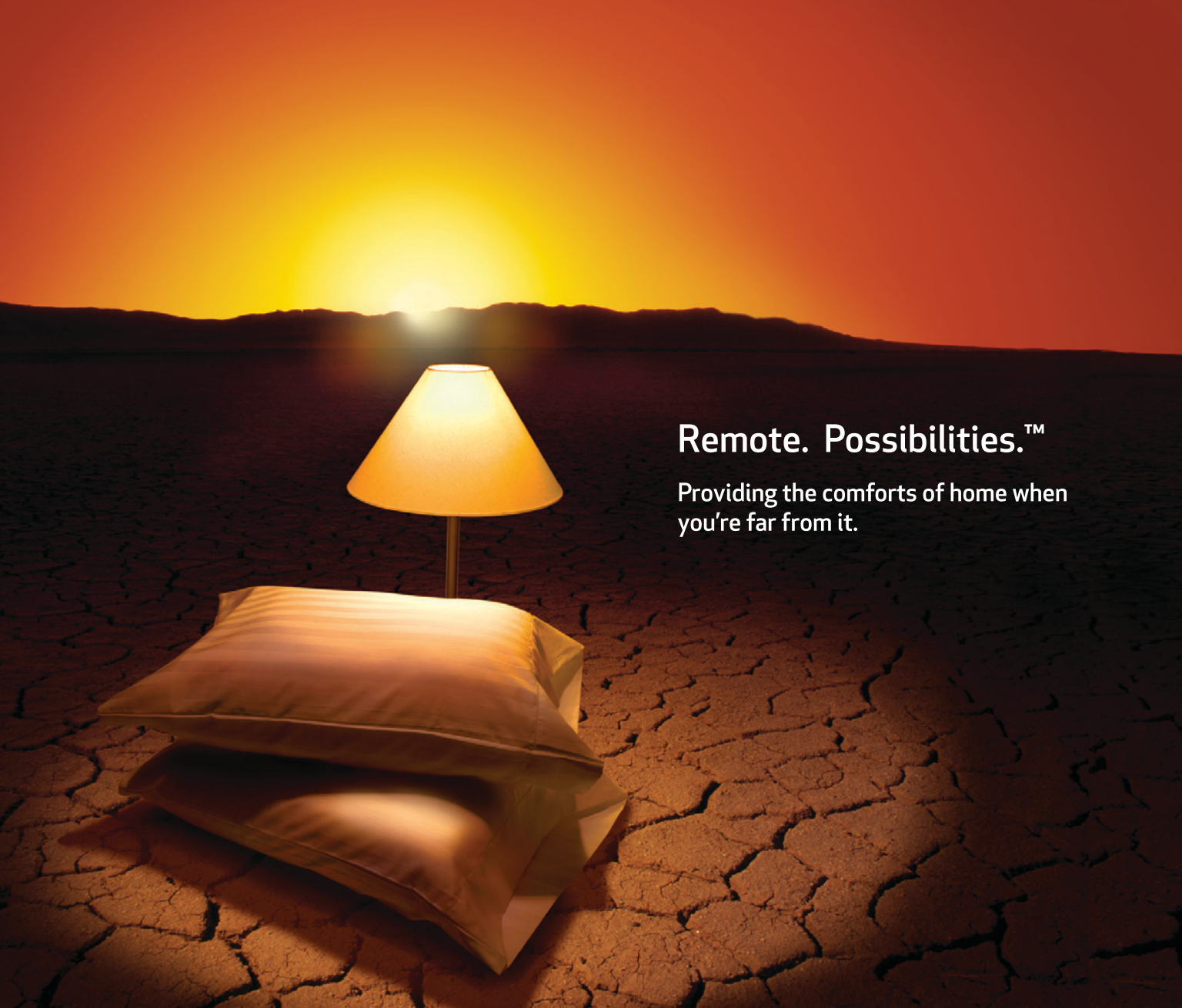
"For remote oilsands sites, in the case of birds landing on tailings ponds, as soon as a bird flies over a tailings pond or lands on it, the DVR will generate an alert and send a notification," says Ruhlen.

Notifications are sent within three seconds.

The technology is an example of how companies can use technology to address their challenges, from wildlife and human safety to operational performance. Monitoring is an important part of successful operations, especially as regulations evolve.

Specific to tailings, earlier this year Alberta's Energy Resources Conservation Board (ERCB) announced a new directive that sets out new requirements for the regulation of tailings operations associated with minable oilsands. It was designed to be "the first component of a larger initiative to regulate tailings management. The directive specifies performance criteria for the reduction of fluid tailings and the formation of trafficable deposits."

Davis Sheremata, a communications advisor with the ERCB, says the new directive has been in the works for the last decade. "The goal of the new regulations is to provide sustainable and effective change to tailings ponds management. Our staff worked on this new directive for a number of years so we would have regulations that were enforceable legally. In the last three to four years, there has been a culture shift within government, industry, and the public toward an



Remote. Possibilities.™

Providing the comforts of home when you're far from it.

Modular Workforce Accommodations & Catering Services

Open Camps | Fleet Rentals | Custom Designed & Engineered Facilities

Attracting workers to remote job sites can be challenging. Money isn't the only draw and quality of life far from home is an important consideration for people working in the field.

At PTI, we provide workforce accommodations with award-winning designs for comfort, fit and finish. Our new generation of facilities provides a full range of recreation and entertainment

amenities for your people to enjoy. They'll also enjoy superb meals prepared fresh daily... another reason why so many workers who have lived in a PTI facility come back for seconds.

Consider the ultimate employee incentive. Call today and ask us how we can turn your remote possibilities, into a reality.



Calgary
Tel: 1.403.234.8983
Toll Free: 1.877.234.8983

Edmonton
Tel: 1.780.463.8872
Toll Free: 1.800.314.2695

Denver
Tel: 1.720.279.6363
Toll Free: 1.888.382.6085

Remote. Possibilities.™ | www.ptigroup.com

A SINGLE VISION OF TRUTH

Singletouch is the leader in One Time Data Entry

Singletouch works on two simple principles. The first is the work flow must be from the "Field In" not the "Accounting Office" out.

The second is that the solution must ensure that we "Enter Data Once" to be completely effective and efficient.

Enter Data Once and Reduce Costs by 73% and Increase Your Bottom Line Profits by 5%

Visit our website today for the full story



OSR 1/6/09

www.singletouch.com

Visit our booth #2104 hall B at the Oil Sands Trade Show September 22-23-09



PHOTO: JOEY PODLUBNY

The ERCB says the duck incident at Syncrude helped to shift thinking to make its new tailings rules a reality.

understanding that responsible tailings ponds management was a necessity, and the Syncrude incident was a part of that. It was this culture shift that enabled us to finally make [the new directive] a reality."

The new directive specifies that oilsands operators must file with the ERCB dates for construction, use, and closure of their fluid tailings ponds by Sept. 30, 2009, and those targets must be met.

"Previously, the ERCB was legally unable to take action against an oilsands operator that did not meet their reclamation targets as set out in their applications. Now, we have regulations with the teeth to enable us to enforce our rules with companies that do not meet their commitments."

If an oilsands operator is not following the new regulations, because the ERCB can't shut in a tailings pond, the regulator will have the power to either shut in an operator's oilsands facility, shut down other projects of the oilsands operations, or refuse to approve other project phases.

Greg Stringham, vice-president of oilsands and markets with the Canadian Association of Petroleum Producers (CAPP), says oilsands mining operators take their environmental responsibilities very seriously.

"Not only are they using high-tech ways to meet and exceed the environmental regulatory requirements including the ERCB's recently released tailings directive which raises the bar, they are putting significant research and development dollars into technology that not only reduces their water needs but also into new technologies to reclaim their sites and tailings ponds more quickly."

Currently, there is a lot of research and testing of new "dry tailings" technologies including a \$100-million pilot facility at the Athabasca Oil Sands Project, and a joint industry and government project with Syncrude, Suncor, and Natural Resources Canada.

Shell is also researching using thickeners in its tailings, which would allow water to be recaptured before the tailings are released into a pond, reducing the size of the pond and the amount of water used in production. At Canadian Natural Resources' Horizon project, the company is capturing CO₂ from the facility and mixing it in with the silts in the tailings. This causes a reaction that allows the silts to settle more quickly, also permanently trapping the CO₂ in the silts. Much of the water can be recycled while it's still hot, so less energy is needed to re-heat it. This process results in reduced greenhouse gas emissions and smaller tailings ponds.

"All of this research and development leads to new technology that continues to reduce water needs, reduce the size of—and eventually eliminate—tailings ponds, and speed up reclamation," says Stringham. "This is a key area of improvement the public expects to see from the oilsands sector as part of its commitment to improve its environmental performance while providing jobs and benefits in this development." OSR