

# The Oil Sands and Beyond

“They say to get these projects done, you have to move mountains,” notes Alexis Klimack, Aecon Mining Regional Manager, Alberta. “Well, we have the people and the equipment to do just that.”

Mountains may be a bit scarce in northern Alberta, but the task of mining its oil sands is no less monumental.





**W**ith 170 billion barrels of reserves in an area that roughly equals the size of the state of Florida, the Alberta oil sands holds the third-largest oil reserves in the world – more than enough to provide Canada with a plentiful and secure supply of energy for the foreseeable future. That said, getting these resources out of the ground and ready for refining is a challenging proposition. Unlike conventional oil reserves, which, once tapped, flow relatively unimpeded, the bitumen in the oil sands is trapped in ore bodies up to 70 metres thick, buried below layers of silt, clay and muskeg.

**WE HAD TO MAKE SURE WE CHOSE THE APPROPRIATE EQUIPMENT FOR THE AREA, PROVIDED GOOD DRAINAGE AND MADE THE PITS ACCESSIBLE.**

— ALEXIS KLIMACK  
REGIONAL MANAGER  
ALBERTA

Currently, about half of the oil produced in northern Alberta is recovered by

surface mining. The overburden, typically up to 30 metres thick, is stripped away and the saturated sand hauled away for processing and upgrading. The overburden is stockpiled and then used to restore the land to its original condition once the area has been mined out.

Extracting the oil from this rugged landscape takes equally rugged equipment that's powerful enough to haul huge payloads of earth, strong enough to break through frozen tundra when temperatures plummet to  $-40^{\circ}\text{C}$  and tough enough to power through the soft, sticky mud of summer. Given that the work can only be economically carried out using the largest surface mining equipment in the world, it's also not an enterprise that comes cheaply. The largest hydraulic shovel can cost more than \$10 million, haul trucks up to \$5 million. Replacement parts are equally expensive, with a single tire for one of these behemoths weighing in at almost four tonnes and costing upwards of \$100,000.

Buying and maintaining this type of advanced earth-moving equipment is so significant and carries such a long lead time that it is virtually impossible to create this sort of business from the ground up, which is why, in 2010, Aecon acquired the assets and contracts



## OPERATIONS FILE

### AECON MINING (WESTERN OPERATIONS)

#### OPERATIONS:

Overburden, reclamation and project support for oil sands development & production, potash mining and other surface mines

**REGIONAL OFFICE:** Fort McMurray, Alberta

#### CLIENTS:

// Syncrude  
// Suncor  
// Shell  
// ConocoPhillips

**FOUNDED:** 2010

#### EQUIPMENT:

Backhoes – 63 (45-tonne to 190-tonne)  
Face shovels – 4 (360-tonne to 550-tonne)  
Articulated trucks – 23 (40-tonne capacity)  
Haul trucks – 35 (90-tonne capacity)  
Haul trucks – 17 (134-tonne capacity)  
Haul trucks – 16 (174-tonne capacity)  
Haul trucks – 27 (227-tonne capacity)  
Bulldozers – 56 (up to D11 size)  
Graders – 8 (up to 24M size)

#### NUMBER OF EMPLOYEES:

Staff: 70  
Trades: 380

#### KEY EMPLOYEES:

Alexis Klimack – Regional Manager, Alberta  
Scott Ryan – Engineering Manager  
Keith McGrath – Director, Business Development  
Clayton Tucker – Regional Manager, Saskatchewan  
Don Dow – Safety Director  
Wally Herritt – General Manager, Maintenance  
Cara Singleton – Chief Estimator, Western Canada  
Patrick Maillet – Senior Estimator  
Arminda Lovell – Controller  
Ashley Aalders – Senior Administrator  
Mohamed Alzabidi – Senior Project Coordinator





BY THE TIME THE PROJECT IS DONE,

# 2 million

CUBIC METRES OF EARTH WILL HAVE BEEN MOVED.

of Cow Harbour Construction, one of the three largest mining companies in Alberta. But while the acquisition gave Aecon a head start, it was hardly clear sailing. Aecon Mining had to modernize the business, upgrade the equipment, introduce new management controls and establish itself in the market – and all of this with just one project contract on the books: reclamation work at two Syncrude sites. An important footnote was the fact that other contractors had previously passed on the contract due to its level of difficulty.

When you're using big, heavy equipment, working in cold temperatures can actually be an advantage, explains Alexis Klimack. "The frozen ground may be difficult to dig, but it provides good support and is more forgiving than the summer mud." Klimack says using the big equipment and keeping costs down called for creativity and strategic decision-

making. "We had to make sure we chose the appropriate equipment for the area, provided good drainage and made the pits accessible. The site can get really crowded, and we didn't want to paint ourselves into a corner."

Fortunately, Klimack adds, the experienced workforce, buoyed by the prospects of a revitalized business, was more than willing to take on the challenge.

The equipment, however, was another matter. Aecon Mining had acquired more than 500 pieces of equipment, from bulldozers and haul trucks to the giant excavators that roam across the oil sands like prehistoric creatures – more than enough to satisfy present-day requirements. But after years of neglect, much of the rolling stock required serious attention. Enter Equipment Manager Paul Alarie, previously with Timmins-based Leo Alarie & Sons, Aecon's Northern Ontario business unit

specializing in mining and heavy construction. Under Alarie's direction, Aecon Mining soon had Wally Herritt, General Manager, Maintenance, working his team of 80 mechanics, welders and servicemen around the clock to bring the equipment back to peak operating condition.

"Only about 30 per cent of the equipment was in good working condition," reports Alarie. "We've since injected about \$90 million into a maintenance program to bring the fleet back up to snuff. With the new preventive maintenance program on schedule, we've just about caught up."

With the help of Celerant, one of the world's leading consultants in performance improvement, Aecon Mining introduced its workers to new management processes last summer in order to better track and control maintenance and operations. They also adopted Aecon Group's health and

safety programs to further solidify their success rates.

To complement the ongoing contract for land reclamation and mining project work at Syncrude oil sands sites, Aecon Mining is now engaged in new projects with Suncor and ConocoPhillips and is currently

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– CLAYTON TUCKER  
REGIONAL MANAGER  
SASKATCHEWAN

building a three-kilometre-long, 40-metre-wide EarthZyme road for Syncrude. EarthZyme is a non-toxic enzyme soil stabilizer that improves the compaction and strength of clay-based roads.

The Aecon business unit has also been awarded its first project outside of Alberta for site works at the massive Jansen Lake potash mine development, 140 kilometres east of Saskatoon, Saskatchewan.

"It's a big job," reports Clayton Tucker, Regional Manager, Saskatchewan, of this project, which got under way in September 2011. "We're doing a lot of the site preparation work, building the access roads and the containment ponds. By the time the project's done, we will have moved about two million cubic metres of earth and brought in an estimated two million tonnes of aggregate." Just like strip mining, Tucker explains, this work is all about

moving huge quantities of material quickly and efficiently. In fact, some 60 pieces of earth-moving equipment are currently at work doing just that.

"We've spent the last couple of years integrating the business into Aecon Group, setting up new systems and establishing ourselves in the market. We've taken on some pretty tough assignments and shown that we can compete with the best. Given the expansion plans on the books, Aecon Mining is certainly in a good position to provide the support these oil sands producers are looking for," concludes Alexis Klimack.