EFFICIENT DUMP DESIGN SAVES AGNICO EAGLE $1.4 MILLION
ORE CONTROL SOFTWARE AND SERVICES IMPROVES ACCURACY AND INCREASES OUTPUT BY 70,000 OUNCES

A view from the primary crusher pad at Agnico Eagle’s Meadowbank gold mine in northern Canada looking at the conveyor system transporting crushed ore to the domed mill stockpile.
COMPANY PROFILE
Located in the Kivalliq region of Nunavut, about 2,600 kilometers northwest of Toronto, the Meadowbank mine is Agnico Eagle’s largest gold producer, with 1.8 million ounces of gold in proven and probable reserves since the open pit began in early 2010.

CENTRALIZED MINE MANAGEMENT
Meadowbank’s technical staff use GEMS as their central geology, survey and engineering mine management software. They also use Whittle for strategic mine planning and pit shell optimization and MineSched for life of mine and medium-term planning. After struggling for over a year with a competitive software solution, Meadowbank switched to GEMS and engaged the Dassault Systèmes’ GEOVIA Services team to help streamline their long-term planning. With a skilled GEMS power user onsite to train their staff, using their data, Meadowbank was pleased when the switch to and implementation of GEMS was completed successfully. Their staff use GEMS SQL for pit design and road design infrastructure, and appreciate that it can handle the large amounts of data contained in their complex operation.

GEMS SQL provides Meadowbank the tools they need for access control and data integrity. “GEMS SQL provided a safe network-based platform with additional security. We can control access to data with read and write permissions, which is a big advantage on the geology side,” says Eric Ramsay, Senior Mine Geologist. Instead of spending time transferring data between platforms, GEMS SQL helps to ensure all users are working with the correct version of the data on the same platform – be it pit shells, pit design, or a block model. “With GEMS, you quickly establish your routine process, which streamlines all of our processes,” says Stéphane Frechette, Engineering Assistant Superintendent.

IMPROVING IN-HOUSE EFFICIENCIES AND KNOWLEDGE
With the help of GEOVIA Services staff, Meadowbank now completes all of their optimization and design work in-house and regularly performs, multi-scenario economic analyses ensuring they achieve the best results, both accurately and efficiently. “Having a dedicated GEOVIA staff member onsite was excellent. He provided technical support which advanced our operations,” says Frechette. “Working together, we surpassed last year’s production targets. We provided a strong mine plan that we’ve been able to also surpass with clear planning for the mine operation.” As a result of GEOVIA training, Meadowbank is now able to perform faster, better optimized adjustments to pit shells and pit designs by their in-house design teams. The staff has gained confidence in their tactical scheduling and planning, and now evaluates various scenarios before defining their long-term plans.

OPTIMIZED PIT DESIGN
Pit design plays an important role in improving Meadowbank’s productivity. In 2013, Meadowbank’s gold production was far higher than expected as a result of creating multiple designs for different scenarios to enhance their operations and productivity. “GEMS SQL is a good tool to do the designs. We’ve been able to optimize our pit designs with the software,” says Frechette.

At the time Meadowbank began using GEMS, they also implemented Whittle to assist with economic optimization of the pit design. “All your designs start in Whittle. You cannot work in the open pit environments without a tool like Whittle – you can’t live without it,” says Frechette.

EFFICIENT DUMP DESIGN SAVES $1.4 MILLION
Meadowbank also enjoyed significant savings by improving the layout and design of their in-pit dumps. When it came time to design the new dumps, they created several scenarios with many
Having a dedicated GEOVIA staff member onsite was excellent. He provided technical support which advanced our operations. Working together, we surpassed last year’s production targets.”

— Stephane Frechette, Engineering Assistant Superintendent
Agnico Eagle is a gold mining company with mining operations in Canada, Mexico and Finland and exploration activities in Canada, Europe, Latin America and the United States. Headquarters: Toronto, Canada
Employees: 5,500
TMX Listing: AEM
NYSE Listing: AEM
For more information
www.agnicoeagle.com

Applications Used: MineSched, GEMS SQL, Whittle

“Since we have started working with MineSched, our team training and mine planning at Meadowbank has improved significantly.”
— Yvon Sylvestre, Senior Vice President, Operations, Canada & Europe

To increase operational efficiencies and reduce costs, Meadowbank modeled their entire material handling plan in a MineSched schedule. They now track how much construction and reclamation material is needed, whether they have enough material available, and when they have the capacity to move it. Thanks to accurate planning and forecasting, Meadowbank eliminated four contractor trucks from their hauling fleet, resulting in significant operational savings. Using MineSched, Meadowbank determined that they could both feed the mill and meet, or even exceed, their production schedule targets without those four trucks.

“With MineSched, we’re much more accurate in our planning and evaluation of truck hours. We’re saving on contractor costs, because this tool helps us to accurately evaluate new projects,” says Ramsay.

Previously, Meadowbank had two low grade stockpiles that occupied key locations around the site. Once the stockpiles were processed, the Engineering team was able to quickly design new waste dumps, which were configured for capacity and operational efficiency. As a result, they now include more short-haul in their waste management plan, which increased mining capacity by focusing on the high grade areas.

Meadowbank has tracked the entire mine closure plan, as well as the life of mine operational plan, in one system. They now have peace of mind that they have the haulage and the mining capacity to maintain the production numbers, while also following through with their mine closure plan.

“MineSched is an amazing tool — if you don’t manage your time and schedule effectively, you won’t be able to meet your mine objectives. Managing all of this in a spreadsheet would be impossible,” says Frechette.

**MAINTENANCE AND SUPPORT**

As a subscriber to GEOVIA’s Maintenance and Support program, Meadowbank’s Geology department regularly takes advantage of the online webinars and support. When needed, it accesses the Support website for any required support, updates, patch files, and occasionally, submits specific product use questions. “We’ll just open a support case with GEOVIA Support personnel, and it has been working pretty well,” says Frechette. “We like the quick response time with all support requests.”

**NEXT STEPS**

Meadowbank plans to continue to work with the GEOVIA Services team to further refine their planning and operational activities.

Focus on Agnico Eagle
Agnico Eagle is a gold mining company with mining operations in Canada, Mexico and Finland and exploration activities in Canada, Europe, Latin America and the United States.

**Headquarters:** Toronto, Canada

**Employees:** 5,500

**TMX Listing:** AEM

**NYSE Listing:** AEM

For more information
www.agnicoeagle.com

**Applications Used:** MineSched, GEMS SQL, Whittle

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com/GEOVIA.

©2014 Dassault Systèmes. All rights reserved. 3DEXPERIENCE®, the compass icon and the 3ds logo, CATIA, SOLIDWORKS, ENOVIA, DELMIA, SIMULIA, GEOVIA, EXALEAD, 3D VIA, 3DSWYM, BIOMIA, NETVIBES are commercial trademarks or registered trademarks of Dassault Systèmes or its subsidiaries in the U.S. and/or other countries. All other trademarks are owned by their respective owners. Use of any Dassault Systèmes or its subsidiaries trademarks is subject to their express written approval.

"Since we have started working with MineSched, our team training and mine planning at Meadowbank has improved significantly."
— Yvon Sylvestre, Senior Vice President, Operations, Canada & Europe