

SPARTANPRO™ OIL SANDS MINING SOLUTIONS

For more than 10 years, Spartan Controls' Process Solutions group has been helping oil sands customers improve their processes through the application of advanced process control (APC). By stabilizing and continuously optimizing the most challenging and complex processes in the industry, APC achieves proven operational benefits that include:

- *Increased Production*
- *Increased Bitumen Recovery*
- *Reduced Product to Tailings*
- *Improved Consistency of Operation*
- *Increased Energy Efficiency*
- *Reduced Cost of Operation*
- *Reduced Risk of Trips & Failures*
- *Reduced Upsets to Downstream Processes*

Over the past five years, Oil Sands producers have been continuously challenged to produce more with less. On top of the purely economic pressures, goals related to emissions and sustainability have added increased scrutiny to an industry already under pressure. From an operations perspective, meeting these shifting targets is not trivial. Feed source compositions vary; solid and slurry streams can be challenging to measure, let alone control; and critical equipment is easily damaged. The lack of insight into the process often leads to over-cautious operation, significant losses in recovery, and an under-use of automation.

*The SpartanPRO™ library of oil sands processing solutions have been developed and tested in these live, harsh environments to effectively automate complex oil sands mining operations and deliver real financial improvements. Customers using our solutions have realized net, measured benefits including **production increases of up to 10%, water and energy use reductions of 8%, and recovery increases of 2%.***

*Our library of solutions is designed to integrate seamlessly with existing operational philosophies, graphics and control strategies using either a fully embedded DeltaV DCS solution using the DeltaV APC suite, or a high-powered AspenTech™ platform for non-DeltaV systems. With **typical payback periods of 1-12 months**, these solutions tackle some of the biggest challenges on site today to bring your operation to the next level.*



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SpartanPRO™ OTSG SpartanPRO™ HRSG SpartanPRO™ Boiler	<i>Improve steam generation efficiency by up to 2.5% and reduce greenhouse gas (GHG) emissions across all unit types. Solution components include fuel train management, feedwater load allocation, drum level control, combustion efficiency control, and steam quality optimization.</i>
SpartanPRO™ Ore Processing	<i>Increase throughput capacity by up to 10% while stabilizing slurry density and reducing hot water consumption (per ton of product) by up to 8%.</i>
SpartanPRO™ Sep Cell	<i>Improve product recovery, reduce tailings contaminants, and stabilize downstream inventory through coordinated separation cell management.</i>
SpartanPRO™ Optical Level for Sep Cell	<i>Gain accurate and reliable measurement of the froth-middlings interface based on live image analysis of the sight glass. This robust level signal can be used for control, even during cell upset conditions.</i>
SpartanPRO™ Flotation	<i>Improve flotation cell recovery by up to 5% by stabilizing froth levels and pull rates based on current production and inlet quality.</i>
SpartanPRO™ Cyclone	<i>Improve cyclone recovery by up to 5% while minimizing issues such as roping and plugging, stabilizing downstream processes.</i>
SpartanPRO™ Thickener	<i>Reduce product to tails, improve water recovery, and increase throughput by optimizing rise rate and underflow density while protecting equipment.</i>
SpartanPRO™ SRU	<i>Improve solvent recovery rate and unit throughput by optimizing the heat and energy balance in the SRU and surrounding equipment.</i>
SpartanPRO™ Pump Box	<i>Improve overall site stability by using available inventory to prevent spills and stabilize downstream units. Underrated impact on overall product recovery, plant stability, and energy consumption.</i>
SpartanPRO™ Blending	<i>Reduce diluent costs and increase pipeline transfer capacity by up to 10% with precise dual-viscosity measurement and control using our industry-customized, fully-equipped blending skid.</i>

For further information, contact your local Spartan office.

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