



Case Study:

Syncrude Oil Sands Operation Acquires MineARC ChemSAFE

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For oil sands operations in Northern Alberta, there is a real risk of employees being trapped by a wildfire. While there is often an adequate warning to safely evacuate personnel, it comes at a high operating cost. For example, the Fort McMurray wildfire of 2016 halted production at Shell Canada's Albian Sands, while Suncor Energy and Syncrude Canada also scaled back operations.

Wildfires force sites to shut down all processing operations, removing thousands of employees from the region. A quarter of Canada's oil production, equal to approximately one million barrels of oil a day, was halted as a result of the fire. The lost output was estimated to have cost the Alberta economy \$70 million per day. For these reasons, operators have looked to MineARC for portable wildfire safe haven technology.



MineARC understands that emergency response requirements differ depending on a site's processing conditions, location of personnel, dangerous goods inventory and a host of other essential factors. By working alongside on-site engineers, MineARC was able to design a custom ChemSAFE Safe Haven, which offers a safe and secure 'go-to' area for multiple personnel in the event of a wildfire.

Through careful analysis of the site's application, MineARC successfully engineered a highly customised safe haven to meet the site's requirements.

As explained by Site Engineer, Andy Soper, "the purpose of the safe haven is to provide a carbon monoxide (CO) free recovery area for staff that are required to remain on site in the event that outdoor CO levels exceed Occupational Exposure Limits (OEL) due to a wildfire. The intent is to keep enough people on site as required to maintain operation of utilities".

The 30 person ChemSAFE's structure also included an optional blast resistant package along with these key features:

- A fully pressurized vestibule to protect against the ingress of smoke and other harmful toxins
- Series IV Scrubbing System with pre-packaged CO₂ chemicals
- Carbon monoxide scrubbing
- iVAN voice prompt system
- Custom internal/external gas monitoring system
- Hyper heat air conditioning and dehumidifying
- Internal lighting / external warning lights and siren
- GuardIAN Refuge Chamber Monitoring
- 24 hour backup power supply (UPS)
- Automated oxygen delivery system
- USB charging outlets for all seats
- Custom Sinclair Radio Antenna
- External Photocell Lighting
- CSA A660-10 Certification of steel building systems



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At a customer's request, the ChemSAFE is capable of including MineARC's latest technology. MineARC has developed a suite of technologically advanced products, collectively known as the Guardian Intelligence. Ensuring peace of mind by identifying faults or issues as they happen via an integrated network of proprietary MineARC technologies, including the Guardian Refuge Chamber Monitoring and Aura-FX Digital Gas Monitoring.

GuardIAN Refuge Chamber Monitoring

MineARC's GuardIAN Refuge Chamber Monitoring (GuardIAN RCM) is an exciting new development in refuge chamber technology. GuardIAN RCM enables real-time monitoring; providing confidence that an operation's fleet of safe havens or refuge chambers is emergency ready at all times. GuardIAN RCM is an on-board system that continuously monitors all vital refuge operating systems. During standby mode the system checks for component faults and monitors safe haven usage or entry to the chamber.

GuardIAN RCM's secure online interface is hosted on an internal server within the safe haven so that no client software installation is required. The responsive webpage is easily accessible from any computer, tablet or smartphone and features a summary of your entire safe haven fleet and overall operational status, with the ability to drill down to a detailed report of each chamber.

Aura-FX Digital Gas Monitoring

MineARC's Aura-FX Digital Gas Monitoring System is a proprietary, fixed gas monitoring unit, designed specifically for use in MineARC shelters.

A vast improvement on current digital gas monitors (DGMs) on the market, Aura-FX provides a refuge-specific solution to gas monitoring. Aura-FX can individually monitor up to 11 gases via a series of user-friendly, digital screens. Audible voice alarms will prompt occupants to replace scrubbing chemicals or adjust oxygen supply levels in the chamber as required.

When utilised as a part of the MineARC Guardian Intelligence network, Aura-FX provides real-time gas monitoring data and analysis via the GuardIAN RCM dashboard.

