



Scope of Work:

- FEED Study
- Value Engineering
- Geotechnical Analysis
- Material-Handling Systems Engineering
- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Procurement & Subcontract Management
- Dome Construction
- Tunnels Construction
- Material-Handling Systems Installation
- Explosion Relief Installation
- Additional Steel & Concrete Construction
- None Some All

The dome was built over a preexisting tunnel and conveyor system saving the customer production time and costs.

Dome Technology designed this structure to surpass all load requirements, including the ability to support the conveyor load plus a snow load of 5.27kN/m² (110 PSF).

Thanks to the quick construction process, the bad weather that accompanies 3,353 meter (11,000 ft) of elevation were able to be avoided.

Overview:

Climax Molybdenum needed ample storage at its Leadville, Colorado, mine, but there were a few challenges: In effort to make this project economically feasible the new structure had to utilize an existing conveyor system and be robust enough to hold the weight of the conveyor, headhouse, and the expected snowfall.

Dome Technology's team built a concrete reinforced dome at the site, and the existing conveyor was reassembled to feed directly into the apex. "Utilizing the existing equipment yielded tremendous savings for the customer," Dome Technology project superintendent Brent Hardy said.

The dome's strength provided another advantage. The weight of the conveyor and accompanying headhouse could easily be supported on the apex of the dome. Additionally, with its location in a snowy climate, the structure was engineered to surpass a snow load of 5.27kN/m² (110 PSF) while supporting the apex mechanical load. A different type of storage facility could not support a similar load on its own.

"It's very difficult to find a storage building that can support the weight of the snow load and the conveyor load at the same time, but our concrete reinforced dome can accomplish that," said Dome Technology Vice President of Operations Dan South.

The project came with other challenges too. At an elevation of 3,353 meters (11,000 feet), weather conditions suitable for building would last just four months in the calendar year; since a dome's rapid construction process is ideal for quick construction, project managers and crews maximized workdays and complete the job within the workable time.

"For nearly four decades we've relied on a collaborative approach with companies—they're in the driver seat, and we help navigate. In every project Dome Technology incorporates innovative technology to maximize storage capacity and system performance with an economical solution," Bradley Bateman, CEO, Dome Technology.



Read more about this project at: link.dometechnology.com/962

Storage & Reclaim:

- 1 Dome: 101m (330ft) Wide x 32m (105ft) Tall
- 130,000 Metric Tons, Molybdenum
- 1 Tunnel, 35% Live Reclaim

