

**PROJECT:**  
Montana Resources  
Copper Mine Sludge  
Processing Tank Liner

**LOCATION:**  
Butte, MT

**OWNER:**  
Montana Resources

**APPLICATOR:**  
Rowell Spray Systems

**SYSTEM:**  
K5<sup>TM</sup> with AE-4  
(adhesion enhancer),  
Polyprime-100,  
Envelo-Pour 8 lb. foam

**TOTAL AREA:**  
12,000 sq. ft.

**COMPLETION DATE:**  
July 2009

**PROBLEM:**

The Montana Resources copper mine sludge-processing tanks were deteriorating and leaking due to severe abrasion and corrosion issues. Sludge (sand & water) is pumped in from the mine into storage tanks. Sand and water are separated with a large spinning mechanical boom that forces the sand through a cork screw drain at the bottom of the tank. The interior bottom-edge of the tank walls were built with a 16" concrete curb and 3' steel plate liner. The concrete curb allowed the mechanical boom wheels to move around the tank edges. This process created significant abrasion and corrosion damage resulting in several leaks around the tank edges. Other expensive epoxy coatings were used in the past, but failed in less than one year. Montana Resources needed a tough and reliable solution in place to keep operations moving at full capacity.

**SOLUTION:**

SPI's K5<sup>TM</sup> polyurea coating was chosen because it has the strongest abrasion

resistance in the protective coating industry. The steel plate and concrete curb surfaces were sand blasted to remove the failed epoxy coating. Polyprime-100 was applied to seal the concrete surface. K5<sup>TM</sup> polyurea with AE-4 (adhesion enhancer) was applied to the concrete and steel surfaces at 130 mils. The AE-4 additive eliminated the need for a primer and allowed for immediate spraying to the steel substrate, saving time and preventing rust from setting in.

**RESULTS:**

Montana Resources drained the tank for inspection after being in service for 90 days. There were no visible signs of any damage. The K5<sup>TM</sup> coating performed so well, Rowell Spray Systems was awarded several more tank projects.

