



## RADIOACTIVE WASTE SITE CLOSURE

As demonstrated in the following representative project descriptions, EMC<sup>2</sup> staff is experienced in preparing and implementing mine and tailings reclamation plans and mill decommissioning plans for Title II UMTRCA sites, as well as for radioactive contaminated sites located throughout the United States. EMC<sup>2</sup>'s staff has the knowledge and in-house capability to offer site investigations, remedial design and construction, waste minimization, pollution prevention engineering and site closure planning. EMC<sup>2</sup> has experience in conducting environmental regulatory audits to assist clients in meeting NRC and State regulations and offer program management for radioactive waste sites.

**Split Rock Uranium Mill Site, Wyoming** – EMC<sup>2</sup> staff has managed the closure of this uranium facility near Jeffrey City, Wyoming in a cost-effective and timely manner. Prepared a mill decommissioning plan which entailed burial of the dismantled mill in the tailings impoundment. Assisted with the development of a tailings reclamation plan involving three tailings impoundments storing 8 million tons of tailings spread over 260 acres. Staff was instrumental in receiving NRC approval of the reclamation plan and successfully implementing the construction over a 5-year (1994 – 1998) period. Long-term tailing stabilization was achieved by regrading and placing a multi-layered cover system including a conventional clay radon barrier layer. The site received NRC acceptance of surface reclamation work in 2001.

**Sherwood Project, Washington** - EMC<sup>2</sup> staff has provided management services for all phases of the regulatory process from developing a tailings impoundment closure plan to license termination for this uranium mine and mill facility, located on the Spokane Tribe of Indians land near Wellpinit, Washington. The site comprised of a mill, a lined tailings impoundment storing 2 million tons of tailings spread over 100 acres and a solution holding pond. Staff was involved in the design of a radiological soils cleanup plan, QA/QC program, internal technical audits and post reclamation performance. The radon barrier cover system was very unique in that a thick, flexible loose sand cover that promoted bio-intrusion was developed and approved by the Washington Department of Health. This is the first unconventional cover of its type to be approved for an UMTRCA Title II site. A major part of this project was on-going interaction with the various stakeholders, including WDOH, BIA, BLM, Spokane Tribe of Indians, USNRC and the USDOE. In March 2001, the site successfully terminated its license with the WDOH and became the first Title II uranium mill tailings site in an Agreement state to be transferred to the DOE for long-term care.

**Amax Research & Development Site, Colorado** - EMC<sup>2</sup> is the Project Manager for this former 23-acre Research and Development facility, located in Golden Colorado. Approximately 30,000 tons of uranium tailings, yttrium and radioactively contaminated soils have been excavated, transported and disposed of in a CDPHE licensed facility. EMC<sup>2</sup> staff is managing all facets of site remediation, including site characterization, final decommissioning plans, field over-sight, cost control, interface with CDPHE, QA/QC program and involvement with neighboring home owners. Final site closure activities including radioactive license termination and CDPHE acceptance of land release for future unrestricted use are underway.

**Newmire Vanadium Mill Site, Colorado** - EMC<sup>2</sup> staff prepared a site characterization plan for this former historic and abandoned 5-acre uranium mill site. The characterization plan will identify areas and estimated concentrations of radioactive contaminants as well as lead, arsenic and vanadium. MARSSIM surveys are planned using the DQO process that will provide a credible basis for proposed actions.

**Ruby Mines, New Mexico** – EMC<sup>2</sup> staff has managed the closure of a number of underground uranium mines located near Thoreau, New Mexico. Staff directed reclamation work and concrete bulkheads to close mine openings, regrading and capping mine waste piles and implementing a SWPPP. EMC<sup>2</sup> staff has the experience to monitor post reclamation performance to ensure the stabilization of subsidence areas. Successfully achieved final site closure and acceptance by State of New Mexico and bond release from the Bureau of Indian Affairs.

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