

# NPL Partial Site Deletion Narrative

## Torch Lake Houghton, Michigan

On October 15, 2013, the EPA deleted Quincy Smelter and Calumet Lake parcels of Operable Unit 3 (OU3) of the Torch Lake Superfund site from the National Priorities List (NPL). The Torch Lake site is located on the Keweenaw Peninsula in Houghton County, Michigan. The Calumet Lake parcel is located in Calumet about five miles northwest of Torch Lake. The Quincy Smelter is located along Portage Canal in Hancock. The Quincy Smelter clean up did not include the historic smelting facility because of historic preservation and community concerns. These properties, covering 600 acres, were considered part of the Torch Lake site because of the surficial materials (stamp sands, tailings, and slag) and their relative locations to the Torch Lake water body.

Torch Lake was the site of copper milling and smelting facilities and operations for over 100 years. The lake was a repository of milling wastes, and served as the waterway for the mining industry. Copper extraction was accomplished by crushing or "stamping" the rock into smaller pieces and driving them through successively smaller meshes. The crushed rock particles, called "tailings" were discarded along with mill processing water, typically by pumping into the lakes. In the early 1900s, advances in technology allowed recovery of copper from tailings previously deposited in Torch Lake. Dredges were used to collect submerged tailings and an ammonia leaching process involving cupric ammonium carbonate was used to recover copper and other metals from conglomerate tailings. During the 1920s, chemical reagents including lime, pyridine oil, coal tar creosote, wood creosote, pine oil and xanthates were used to further increase the efficiency of reclamation. After reclamation activities were complete, chemically treated tailings were returned to the lakes. During the 1930s and 1940s, the Torch Lake mills operated mainly to recover tailings in Torch Lake. Copper milling had ceased by the late 1960s.

Environmental concerns developed in the 1970s because of the century-long deposition of tailings into Torch Lake. High concentrations of copper and other heavy metals in Torch Lake sediments, toxic discharges into the lakes, and fish abnormalities prompted many investigations into impacts attributed to mine waste disposal. In 1983, the International Joint Commission's Water Quality Board designated the Torch Lake basin as a Great Lakes Area of Concern (AOC) and the Michigan Department of Public Health announced an advisory against the consumption of certain fish due to tumors of unknown origin. The site was placed on the NPL in June 1986.

The EPA began investigation activities in 1988 at Torch Lake, which included a ground penetrating radar and a subbottom profile (seismic) survey to locate drums at the bottom of Torch Lake. The Record of Decision (ROD) for OU1 and OU3 was signed on September 30, 1992. The selected remedial action for the OU1 and OU3 tailings areas was a soil and vegetative cover and institutional controls. The cover prevents direct contact exposures and prevents erosion from surface water runoff and wind. The selected remedy for OU3 assumed that the slag pile located in the Quincy Smelter area (approximately 25 acres) will be developed as part of a national park so no action was planned for this area. The second Five-Year-Review (FYR) report from 2008 showed that no national park development had occurred to date and that the stamp sands and slag continued to erode into the Portage Channel. Based on this information, in July 2009, a ROD Amendment was issued to modify the 1992 selected remedy to add a soil and vegetative cover at the Quincy Smelter, consistent with other stamp sand areas in OU3.

Construction activities at Calumet Lake were completed in October 2003. Shoreline protection, including rip-rap rock, was also installed along much of the shoreline where the remedy was implemented. In July 2005, EPA removed asbestos from two buildings at Quincy Smelter as part of a time-critical removal action. In August and September 2005, EPA installed rip-rap along the shoreline and a water diversion system to prevent storm water runoff. In 2006 and 2007, erosion was noticed along the shoreline at Quincy Smelter. In 2008, EPA conducted a removal action at Quincy Smelter to stabilize area conditions.

In 1994, EPA issued an Administrative Order on Consent (AOC) to all affected landowners requiring them to implement appropriate deed restrictions. The institutional controls (ICs) serve to protect the vegetative cover and prevent residual mining contamination from entering surface water by ensuring that no disturbance of vegetative cover occurs. The ICs for the parcels at Quincy Smelter and Calumet Lake are in place and effective. The EPA conducted its most recent FYR of the site in March 2013 and noted that the remedy for OU3 is protective of human health and the environment in the short-term.

The EPA, with concurrence from the State of Michigan, has determined that all appropriate responses under CERCLA have been completed. Therefore, the EPA is deleting the Quincy Smelter and Calumet Lake parcels of OU3 from the NPL. Because hazardous substances will remain at the site above levels that allow for unrestricted use and unlimited exposure, the EPA will conduct periodic reviews at this site.