
Metallica Resources / Minera San Xavier – Cerro San Pedro Project

The Cerro San Pedro Project is an open pit / heap leach gold and silver mining operation that is being developed by Minera San Xavier, S.A. de C.V. (MSX) near the village of Cerro San Pedro in San Luis Potosí, México. The mine will produce more than 61 mt of ore and 74 mt of waste rock over a 10-year life span. Project facilities will include an open pit mine, waste rock dumps, a cyanide heap leach pad, and processing plant. Waste rock will be stored in the Valle del Porvenir and San Nicholas drainages adjacent to the pit. Ore will be hauled by truck to a lined heap leach facility at the former village of La Zapatilla.

A Manifestacion de Impacto Ambiental (MIA) study was prepared for the Project in 1997. Conditional approval for construction was granted in 1999. Project conditions imposed by the Instituto Nacional de Ecologia (INE) included the establishment of monitoring programs for surface water and groundwater and the preparation of geochemical monitoring and mitigation plans for the heap leach facility and waste rock dumps.



Whetstone Associates assisted MSX with the development of a hydrologic characterization study and surface water and groundwater monitoring plans for the Project. As part of the scope of work, Whetstone Associates installed a network of deep monitoring wells for the heap leach and processing areas. The wells provided baseline water level and water quality data for the facilities, and were tested to develop permeability estimates that could be used in contaminant transport calculations. Data from the field investigation were incorporated into the hydrologic characterization study that served as the framework for the surface and groundwater monitoring plans.

Whetstone Associates also prepared an acid rock drainage (ARD) evaluation and mitigation plan for the open pit and waste rock facilities. ARD mitigation strategies included construction of neutralizing basal layers in the waste dumps, random blending of acid generating and non-acid generating material during normal production, and discrete zone mixing of sulfide material during the final years of mining. Mitigation strategies for the open pit included passivation of reactive pit wall surfaces, diversion of surface water runoff, and using temporary storm ponds for dust suppression.