Kidd Copper Tailing Site – Reclamation New Meaning

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Summary
The Kidd Copper site is located directly southwest of Sudbury, and the mine actually sits on a mineral intrusion. The significance of the Kidd Copper mine tailings (slag) site is that three steps of sediment deposits are recorded in its history from 1960~1970.

Introduction
The first step is the initial slag deposits of hot liquid from the slag pots in the 1960’s. During this time a daily accumulation of slag was deposited on the ground surface layer, in the upper and lower zones of transition. The second step is during the early 1970’s, when the retaining dam at the southeast corner breaks, creating an upsurge of deposits water, which overflows the tailings. Sand, liquid water and the mine tailings (slag) mix in random order due to the velocity of the water overflow. The third step is approximately one week after the break in the dam. The water-mixed sediments settled onto the ground surface. The redeposited sediments are the sediments that were observed in situ on the Kidd Copper property and are the focus of this presentation.

Theory and/or Method
“In 1966 Kidd Copper commenced the construction of a 1000 tpd mill and commenced mining and milling in 1967 producing approximately 250,000 tons of ore prior to mining being concluded in 1968” (Article [2], 2008, p. nd.). The Kidd Copper property continued its operation until ~1970’s when the dam broke and the waste site was stopped. “Abandoned mine sites can be extremely dangerous places” (Umpherson, Bennett, & Webb, 1991, p. 34). On August 30, 2004 students from Geo3Fe3 McMaster University’s school of Geography and Geology Field Camp take a photograph while they observe the surface of the Kidd Copper Property. With written permission slips data collected from their Forestry Supplier’s Field Books was given to Loreen (Rudd) Sherman and stored for John Maclachlan to mark. The data assembled included: material, records, sketch maps, statements or log entries that were recorded within each student’s entries. This information was collected blindly and without any prejudice. Loreen picked up the books in the GSB lab at 2:30 pm on Friday, October 15, 2004. Loreen photocopied the entries within sight of Susan Vajoczki (Burke Science Building 313); and Susan photocopied Loreen’s entries so that no tampering with data could be accused. Secondary research was conducted from ~150 sources spanning a six-year period.

Note: The use of personal or brand names in this presentation is for identification purposes only and does not constitute endorsement by the named subjects or McMaster University on the subject matter presented.

Examples
(1) The site is a well-known study area; (2) The site area has remained inactive; (3) The collected data was found in a natural state in a primary depositional structure over 85-90% of the impoundment area of mine tailings.
Conclusions

Spherical grains, water-laid strata and turbulent flows discussed in this presentation capture new ideas to the meaning of 'reclamation'. Within a historically recorded sequence distinct depositional phases in a short period enlighten geologists with new ways to correlate rock stratigraphy and classify alternate banding.

Acknowledgements

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References
