

Austrian Development Agency – Project Contract no. 8002-01 / 2003

**Stabilization and Safekeeping of the Tailing Pond Novat at
Baia Borsa, Maramures, Romania**

ANNEX to

FINAL REPORT

by the Project Supervision and Monitoring Team

Photographic Documentation of Finalized Works



View from the exfiltration pond upstream to the rehabilitated (more gentle) slope of the tailings dam. Below the pipeline the intermediate berm can be seen; at the toe a new drainage system was built in. (photo: Stematiu)

Vienna-Bucharest-Baia Borsa, 30 November 2004

All photos were taken (except where otherwise indicated) during the Final Monitoring Mission (10 November 2004) at rather bad weather **by Dan Stematiu.**



The repaired pumping station for cleaned water (main tailings pond): Mr Mois (REMIN envir. dep., Prof. Lorber/AT and Mr Zinke/AT).



The new pumps at the repaired pumping station of the main tailings pond



REMIN has set up various signs and tables to acknowledge the Austrian support.



View from the banks of the tailings pond at the pumping station towards the crest of the dam (with the beach in front).



View to the main tailings pond (with the raised crest for increased freeboard at left and the expanded beach at right)

The improved shape of the main dam and the improved catchment of seepage and natural springs water by a new drainage system is shown on page 1.



Detail from the toe of the main dam: As a result of the new drainage system, pipes collect seepage and spring water in a controlled way and discharge it downstream to the exfiltration pond.



Upstream view from the exfiltration pond: The tailings deposited here after the accident in March 2000 were moved out (upstream) in order to increase the pond's capacity for collecting seepage water of the tailings pond.



Exfiltration pond: The embankment was re-shaped and made water-tight with a geo-membrane (photo on top). A new emergency spillway was built on the central section of the dam (photo below).





Penstock at the lowest point of the exfiltration pond (photo on top): From here seepage water is designed to go through the pipe via the exfiltration pond pumping station back up to the main pond (closed circuit).



The pumping station of the exfiltration pond was mostly destroyed by the March 2000 accident and only re-built in 2004. At the left bottom (see both the photo on top from July 2004 (by Zinke) and the photo below from early November 2004), the outlet of the pond (penstock) still discharges contaminated seepage water around the house into Novat creek.





Since mid November 2004, the exfiltration pond outlet is re-connected to the pumps of the pond station: All seepage water is pumped back up to the main tailings pond. The contamination of the Vaser creek valley is stopped.



Inside view of the pumping station (exfiltration pond): 3 new pumps were installed and restitute since mid November 2004 the long-years needed pipeline link between the exfiltration pond and the main pond.



For securing independent and emergency power supply, a new generator from Atlas Copco was purchased and placed next to the service building of the Baia Borsa mine (near the upper end of the main pond).



The mountain road from Baia Borsa to the Novat valley is in a very bad state (photo by Zinke on top from July 2004) and could be partly repaired during the project (especially in the lower section near the tailings pond: photo: Horvath).





Two new access roads were built during the rehabilitation project to more easily reach the main units of the tailings pond, here the access from the top to the bottom (toe) of the main dam (photo: Horvath).



Only a few days after the completion of the Austrian support project, snowfall in the mountains around Baia Borsa made access to the Novat tailings pond again pretty difficult (photo: Timis/EM Borsa).