

Program	PN - SECTORIAL 1836
Project title (ENG):	Possibilities for diminishing of pollution environmental impact (soil, water) generated by mine water/waste with heavy metal content
Project title (RO):	Posibilitati de reducere a impactului de poluare al factorilor de mediu (sol, apa) generat de apele de mina/deseuri cu continut de metale grele
Duration	2005 - 2006
Team Leader	Margareta NICOLAU/Cristiana COSMA
Summary (short description) ENG	<p>The research activities of the project were focused on identification of possible solutions for optimization of mine wastewater treatment plant, developing of new capacities of treatment/ conditioning - stabilization of chemical sludge and to establish optimal solutions for the treatment of mine water/wastewater taking into account specific pollution matrix and stabilization/conditioning applied in case studies.</p> <p>Environmental main present problems were identified in case of investigated locations and it were elaborated feasible technical solutions for removal of majority amount of heavy metal content (11 case studies) based on: neutralization/precipitation with lime in a single step - settling, neutralization/precipitation with lime, calcium aluminate (sulfates removal) and CO₂ (recorrection of pH), passive treatment in two steps (anaerobic wet zone - bed for manganese removal). Possibilities of chemical sludge treatment were considered.</p>
Summary (short description) RO	<p>Activitatile de cercetare din cadrul proiectului au avut in vedere identificarea solutiilor posibile pentru optimizarea statiilor de epurare ape de mina, dezvoltarea de capacitati noi de epurare/ conditionare-stabilizare namoluri chimice precum si stabilirea variantelor optime de epurare ape de mina/ape uzate in corelare cu matricea specifica de impurificare, stabilizare/conditionare namoluri pe studii de caz.</p> <p>Au fost identificate principalele probleme de mediu existente la ora actuala in locatiile investigate si s-au elaborat solutii tehnice, fezabile pentru indepartarea majoritara a metalelor grele din apele de mina (11 studii de caz) prin: neutralizare/precipitare intr-o singura treapta cu lapte de var-decantare, neutralizare/precipitare cu lapte de var, aluminat de calciu (indepartare sulfati) si CO₂ (recorectie pH), epurare pasiva in doua trepte (zona umeda anaeroba-pat de indepartare mangan). Au fost evaluate posibilitatile de prelucrare namoluri chimice.</p>
Dissemination of results	
Conferences (platform, poster, abstract / full-paper)	Cosma C. , Nicolau M., Stefanescu M., Popa L., Vraciu S., The Quality of Acide Water Discharged from Mining Sector, A 3-a „Conferinta Anuala pentru Mediu in Domeniul Minier si al Apei”, 2006, Mamaia, Romania
	Cosma C. , Nicolau M., Patroescu V., Popa L., Denuț I., Considérations sur la qualité des eaux usées évacuées par le périmètres minière actives et fermés, 4 ^{ème} Colloque Franco-Roumain de Chimie Appliqué (CoFrRoCA), 2006, Clermont Ferrand, Franta
	Cosma C. , Nicolau M., Patroescu V., Popa L., Denuț I., Jelea M., Teodorescu R., Analiza critica a statiilor de epurare a apelor acide de mina. Performante si limite, Seminar international "Tehnologii de inchidere si ecologizare a iazurilor miniere si pentru epurarea apelor acide (din mine, halde si iazuri) cu continut de metale grele, 2006, Deva