

ENVIRONMENTAL EFFECTS FROM WEATHERING OF BLACK SHALES

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The black shales are efficient metal traps due to their geochemical properties. The weathering of black shales may affect the environment by releasing chemical components, and these rocks can be efficient metal sources during weathering even if metal concentrations are uneconomic. Some chemical components such as Pb,As,Se,Cd, Hg,Ni,U,and Mn released to the environment are hazardous. For example, some endemic diseases existed in western Hunan province, China, may be caused by Cd and U pollution which is closely related to the black-shale weathering in the area, because the Cd and U are highly concentrated in black shales and weathering of the rocks are commonly taken place in the region. Environment protection should benefit from the study of this aspect. While, some chemical components released to the soil and water system can be used for plant growth, and by this way, some metal elements such as Zn,Se,and Mo released from black-shale weathering can be used as cancer resistors. Therefore, the study of geochemistry of black-shale weathering is closely related to agrogeology and medicine.