

## ADSORPTION OF LEAD AND CADMIUM IONS ON CALCITE IN SEAWATER IN THE PRESENCE OF NONIONIC AND CATIONIC TENZIDES

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Immobilisation of dissolved trace metals by natural particulate matter and sediments in aqueous environment, together with possible remobilization influenced by different factors are determining the quality of an aquifer.

This work is a continuation of our adsorption studies on trace metal ions on calcite and bentonite (BILINSKI *et al.*, 1991; KOZAR *et al.*, 1992). In the present work the adsorption of lead and cadmium ions were studied on calcite added to seawater in the presence of model surface active substances (SAS), such as dodecyl pyridinium chloride (DPCI) and triton X-100 used respectively as positively and zero charged surfactants. Critical micellar concentrations (cmc) were determined in seawater medium from surface tension measurements.

Adsorption isotherms of the two tenzides were determined on calcite in seawater medium and in 0.55 mol NaCl l<sup>-1</sup> to get the surface coverage values. Adsorption of lead and cadmium ions was studied on coverage calcite surfaces.

Total concentrations of lead and cadmium ions were 2x10<sup>-7</sup> mol l<sup>-1</sup>. After adsorption solid phase was removed by filtration and lead and cadmium concentrations were measured by differential pulse anodic stripping voltammetry (DPASV).

The effects of the mentioned tenzides on immobilization or remobilization of cadmium and lead from calcite particles into water phase, are discussed.

### REFERENCES

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