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Organized by M. STREEL, Palaeontology, University of Liège and M.J.M. BLESS, Natuurhistorisch Museum Maastricht
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LITHOCHEMICAL INVESTIGATIONS IN THE
OMOLON REGION (NE-USSR)
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A detailed sedimentological research of the Upper Fennigian and Touraisian carbonate deposits of the Omolon region (NE-USSR) enabled us to refine the palinspastic evolution model as proposed by Simakov et al., 1983. Concomitant with this research a lithochemical study was carried out involving over 180 representative samples. The following elements were analyzed: Mg, Sr, Na, Zn, Pb, Fe, Mn, K and IR (insoluble residu). Different types of anomalies were found:

a) anomalies with a local character. These anomalies, which occur in the Perenvalley (Oder and Nizhmesla section) seem to be linked to faults. They are characterized only by anomalous Pb-concentrations; the other variables display normal values.

b) anomalies which are related to hypersaline facies intervals. The host strata mainly consist of algal micrites and zebra-limestones. Furthermore semi-continuous layers of silicified anhydrite nodules occur. These anomalies are characterized by very high Sr concentrations. Furthermore high Zn, Na and Pb values occur.

c) an important strata-bound anomaly is present near the Fennigian-Tournaisian boundary. It was recognized in three sub-regions namely in Elzeghlym-, Perenvaly- and Pushok area. In these sub-regions shallow marine carbonates are the host rocks. In the deep marine Uljogan strata this anomaly was not recognized. The anomaly is characterized by high to very high Zn and Mn values. Locally also high Pb concentrations occur. In detail however minor lithochemical discrepancies are present.

The recognition of such lithochemical anomalies is important. The first anomalies may indicate the neighbourhood of fault-related Pb mineralizations. The second anomalies may be a helpful tool in the characterization of hypersaline sequences. Furthermore, base metal anomalies within such sequences could give rise to proto-ore type deposits. The third anomaly may indicate the presence of a strata-bound Pb-Zn mineralization in the Omolon area. Concerning this anomaly the question still remains if this strata-bound type of anomaly may indicate a kind of event, since similar lithochemical features were found elsewhere at the same stratigraphical position.