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**ANATOMY OF HYDROCARBON-BEARING ZONES, HYDROCARBON
PROVENANCE AND THEIR CONTRIBUTION TO BRITTLE FRACTURING OF
ROCK SALT IN THE KŁODAWA SALT STRUCTURE (CENTRAL POLAND)**

Stanislaw Burliga and Franciszek Czechowski

University of Wroclaw, Institute of Geological Sciences, Wroclaw, Poland

Abstract

Hydrocarbon origin and their migration in rock salt is not well recognized. This paper presents the results of studies carried out in the Kłodawa Salt Structure (central Poland) on internal structure of rock salt enriched in hydrocarbons, the origin of hydrocarbons and their contribution to brittle fracturing of salt. Analysis of rock salt petrography in hydrocarbon bearing zones revealed that they may consist both of recrystallized and epigenetic halite and that these zones are highly porous. The overpressure built up during salt flow due to presence of liquid and gas phases lead to formation of shear fractures that remained unsealed over long periods of time. Geochemical investigations on hydrocarbons evidenced that they are characterized dominantly by mono- or bimodal distribution of n-alkanes and alkylcycloheksanes. Overall 3D picture of hydrocarbons composition in salt mine shows variations between the sites and that there were at least two sources of hydrocarbons.

Key words: Domal Salt, Geology, Rock Salt and Potash Mining, Safety, Poland

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