

Special Issue

Element Enrichment and Gas Accumulation in Black Rock Series

Message from the Guest Editors

The enrichment of elements in black shale and the accumulation of natural gas exhibit a complex relationship, encompassing various fields such as geology, geochemistry, and organic geoscience. This enrichment is manifested during the organic matter preservation stage of sedimentation, the diagenetic evolution stage of shale reservoirs, and the stages involving organic matter pyrolysis and natural gas generation. However, this intricate process is influenced by multiple factors. The development of high-spatial- and -mass-resolution microprobes (e.g., LA-ICP-MS, SHRIMP, SIMS) allows in situ measurements of major and trace elements in microdomains smaller than 30–50 microns. We can explore and characterize this complex system change process in more detail. We seek original research that explores element enrichment and gas accumulation in black rock series, including the relationship between element enrichment and organic carbon burial in sedimentary environments, the response characteristics of element enrichment during reservoir pore evolution, and the response characteristics of element enrichment during the production stage of organic gas pyrolysis.

Guest Editors

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Deadline for manuscript submissions

closed (28 February 2026)



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About the Journal

Message from the Editor-in-Chief

Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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