# Article information:

Minerals | Free Full-Text | Sulfate Sources Required for Thermochemical Sulfate Reduction in Dolostone Reservoirs in the Upper Permian Changxing Formation, Yuanba Gas Field, Sichuan Basin, China: Insights from the Origin of Celestite  
<https://www.mdpi.com/2075-163X/12/5/605>

# Article summary:

1. Thermochemical sulfate reduction (TSR) commonly occurs in the dolostone reservoirs of the Upper Permian Changxing Formation (P3c) in the Yuanba (YB) gas field, Sichuan Basin.

2. To trace the source of sulfate required for TSR, sulfur and strontium isotopic compositions were measured for three diagenetic celestite samples found in the P3c dolostone reservoirs.

3. The results suggest that 34S-rich celestites were likely formed due to bacterial sulfate reduction during the end-Permian regression, providing a new explanation for the source of sulfate required for late TSR.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article provides an interesting insight into thermochemical sulfate reduction (TSR) occurring in dolostone reservoirs of the Upper Permian Changxing Formation (P3c) in the Yuanba (YB) gas field, Sichuan Basin. The authors have used sulfur and strontium isotopic compositions to trace the source of sulfates required for TSR, and their results suggest that 34S-rich celestites were likely formed due to bacterial sulfate reduction during the end-Permian regression, providing a new explanation for this process.

The article is generally well written and provides a comprehensive overview of its topic. It is based on scientific evidence and presents both sides of any argument fairly and objectively. The authors have provided sufficient evidence to support their claims and have explored potential counterarguments where appropriate. There are no promotional elements or partiality present in this article, nor does it appear to be one-sided or missing points of consideration or evidence for its claims made. Furthermore, possible risks associated with TSR are noted throughout the article, making it clear that further research is needed before any definitive conclusions can be drawn about this process.

# Topics for further research:

* Thermochemical sulfate reduction process
* Dolostone reservoir geochemistry
* Sulfur and strontium isotopic compositions
* Bacterial sulfate reduction
* End-Permian regression
* Environmental impacts of TSR

# Report location:

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