

Review Form 1.7

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_95694
Title of the Manuscript:	Evaluation of the behavior of the sealing grout of the mining holes and verification of the conformity of mixing water and Izegouandane and Tarat aquifers: Case of the Mining Company of AKOUTA (COMINAK): Geotechnical and Environmental Approach
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalijecc.com/index.php/IJECC/editorial-policy>)

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<ol style="list-style-type: none"> 1. The objective of the paper was to identify the behaviour of the grout sealing in the Izegouandane and Tarât aquifers, which are the main sources of water supply in the northern region of Niger, in order to prevent contamination and reduce the impact of uranium mining activities on the groundwater. 2. In the content of this article, the study is focused especially on the quality of the mixing water and on the analysis of the underground water, and the complete evaluation of the behaviour of the sealing grout in the mining holes has been omitted. So that the structure of the article remains the same, I recommend the title: "<i>Verification of the conformity of mixing water and Izegouandane and Tarat aquifers: Case of the Mining Company of AKOUTA (COMINAK): Geotechnical and Environmental Approach</i>" 3. Yes 4. Yes 5. Yes 6. It is suggested for example: Jinfeng Ju, xu Jialin, Jing Yang, Experimental Study on the Flow Behavior of Grout Used in Horizontal Directional Drilling Borehole Grouting to Seal Mining-Induced Overburden Fractures. Geofluids, Volume 2021, Article ID 8823902, 12 pages, https://doi.org/10.1155/2021/8823902 Liu, Z.; Dong, S.; Wang, H.; Shang, H. Mechanism and Control of Grout Propagation in Horizontal Holes in Fractured Rock. Water 2022, 14, 4062. https://doi.org/10.3390/w14244062 	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>The paper must be written carefully!</p>	
<p>Optional/General comments</p>	<p>There are several points to be improved. In the summary of the article and in the introduction, it is specified that: „<i>The aims of this study is to identify the behaviour of the sealing grout in the Izegouandane and Tarât aquifers, which are the main water supply sources in the northern region of Niger, in order to prevent contamination and reduce the impact of uranium mining activities on the groundwater. This study also made it possible to evaluate the conformity of the mixing water as well as the bearing capacity of the grout in the aquifers crossed in order to verify its conformity.</i>” What can be said about concrete corrosion? Were the types of corrosion that can occur in the boreholes and the mechanisms underlying them analysed? What about grout propagation pattern and distribution of grout propagation pressure field? How does the temperature influence the quality of the concrete used for the purpose proposed in this paper? The increase in the temperature gradient leads to an intensification of the diffusion phenomena, which results in an intensification of the corrosive process. Also, from the category of physical factors that lead to concrete corrosion, the phenomena of contraction, circulation of air vapours in aggressive environments, temperature variation in aggressive environments, and solubilisation of cement hydration products can be included.</p>	

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PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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