

### Review Form 3

Journal Name:	<a href="#">Asian Journal of Geological Research</a>
Manuscript Number:	Ms_AJGER_128153
Title of the Manuscript:	SEDIMENTOLOGICAL CHARACTERISTICS AND DEPOSITIONAL ENVIRONMENT OF ILARO FORMATION, EXPOSED AROUND AJEGUNLE, DAHOMEY BASIN, SOUTHWESTERN NIGERIA
Type of the Article	

#### **PART 1: Comments**

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.		
Is the title of the article suitable? (If not please suggest an alternative title)		
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.		
Is the manuscript scientifically, correct? Please write here.		
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.		

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>		
<p><u>Optional/General</u> comments</p>	<p>Based on this, I would like to comment on the following aspects:</p> <p>1. <u>Methodology</u></p> <p>Greater detail of the procedures used:</p> <p>Although the article describes the techniques used, it could include more detailed information on sample processing, selection of specific sites, and how sample representativeness was ensured.</p> <p>I suggest including more data on the standards followed, especially for petrographic and granulometric analyses.</p> <ol style="list-style-type: none"><li>1. What evidence supports the interpretation of a fluvial depositional environment for the Ajegunle Sandstone sediments?</li><li>2. How do granulometric results, such as grain size and classification, influence the interpretation of the depositional environment?, and What implications do the kurtosis and skewness results have on sediment transport dynamics?</li><li>3. Regarding the heavy minerals found in the Ajegunle Sandstone, what do they suggest about the provenance of the sediments?</li><li>4. How do petrographic observations of quartz grains relate to the origin and transport of sediments?, and What does the presence of polymodal fractures in the quartz grains identified in the samples mean?</li></ol> <p><u>Methodological limitations:</u></p> <p>It would be useful to mention the limitations of the methods used, such as biases in the separation of heavy minerals or limitations in the resolution of petrographic analysis.</p> <p>2. <u>Results</u></p> <p>Greater integration between results:</p> <p>Data from granulometry, petrography and heavy mineral analysis could be better integrated to strengthen interpretations. For example: relate how the granulometric characteristics (sorting, skewness) affect the mineral composition.</p> <p>Explain how petrographic findings influence conclusions about the depositional environment.</p> <p>3. <u>Regional context:</u></p> <p>Compare the results with previous studies in the Dahomey Basin or other similar basins to strengthen interpretations.</p> <p>Regarding the tectonic and geological framework, it would be convenient to add:</p> <ol style="list-style-type: none"><li>1. What is the importance of the Dahomey Basin as a geological framework for interpreting the formation of the Ajegunle Sandstone?</li><li>2. What role do tectonic features, such as the Okitipupa Ridge, play in the</li></ol>	

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	<p style="text-align: center;">sedimentation of the study area?</p> <p><b>4. <u>Interpretation</u></b></p> <p>Enrich the discussion on the depositional environment:</p> <p>Although it is concluded that the sediments were deposited in a fluvial environment, complementary data could be included, such as paleoclimatic conditions, tidal influence or high energy episodes.</p> <p>Further explore how sedimentological features and heavy minerals support this interpretation.</p> <p>Tectonic provenance:</p> <p>Expand discussion on the relationship between identified igneous and metamorphic sources and regional tectonic context, such as the role of the Okitipupa Ridge in sediment supply.</p>	
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**PART 2:**

	<u>Reviewer's comment</u>	<u>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)</u>
<u>Are there ethical issues in this manuscript?</u>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

<b>Name:</b>	Maria Jesus Puy Y Alquiza
<b>Department, University &amp; Country</b>	Universidad de Guanajuato, Mexico