ReviewForm3

JournalName:	**AsianJournalofGeologicalResearch**
ManuscriptNumber:	**Ms_AJOGER_121744**
TitleoftheManuscript:	**PETROGRAPHYANDHEAVYMINERALSTUDIESOFTHEEOCENESEDIMENTSINAWKAANDENVIRONS,SOUTHEASTERNNIGERIA:IMPLICATIONFOR PROVENANCE**
TypeoftheArticle	ResearchDataArticle

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PART1:ReviewComments

CompulsoryREVISIONcomments	**Reviewer'scomment**	**Author's Feedback** *(Please correct the manuscript and highlight that part inthemanuscript.Itismandatorythatauthorsshouldwritehis/herfeedback here)*
Please write a few sentencesregarding the importance of this manuscript for the scientific community. Why doyoulike(ordislike)thismanuscript?Aminimumo f 3-4 sentences may be required for this part.	Strength: The manuscriptcharacterized in detail the petrography (Texture and Mineralogy by using thin section samples) of sandstone samplefromNankaFormationandthedistributionandtextureofheavymineralinsandstone(Zircon,Rutile,To urmaline)of Nanka Formation. Weakness: Result- Discussionsectionneedfurtherimprovement,theauthorshoulddiscussbycomparingwiththepreviousstudyon petrography, provenance and paleo climate interpretation (see comments on attachment or text). Suggestion: TheisotopestudiesofZircontodeterminetheageandforprovenancestudyiscrucial,theagesedimentisimportan tandactas control to determine the provenance of the sediment.	
Isthetitleofthearticlesuitable? (Ifnotpleasesuggestanalternativetitle)	Suggestion: PETROGRAPHYANDHEAVYMINERALANALYSISOFTHENANKAFORMATION,SOUTHEASTERNNIG ERIA: IMPLICATION FOR PROVENANCE AND PALEOCLIMATE	
Is the abstract of the article comprehensive? Do you suggesttheaddition(ordeletion)ofsomepointsinthis section? Please write your suggestions here.	Theauthorsshouldstatethemethodofstudiesapplyonthismanuscript,objectiveoftheresearch,andthe important contribution of findings of this research	
Aresubsectionsandstructureofthemanuscript appropriate?	Overallstructureisokbutneed someimprovement(Seecommenton manuscript)	
Please write a few sentences regarding the scientific correctnessofthismanuscript.Whydoyouthinktha t thismanuscriptisscientificallyrobustandtechnical ly sound?Aminimumof3-4sentencesmayberequired for this part.	Strength: The manuscriptcharacterized in detail the petrography (Texture and Mineralogy by using thin section samples) of sandstone samplefromNankaFormationandthedistributionandtextureofheavymineralinsandstone(Zircon,Rutile,To urmaline)of Nanka Formation. Weakness: Result- Discussionsectionneedfurtherimprovement,theauthorshoulddiscussbycomparingwiththepreviousstudyon petrography, provenance and paleo climate interpretation (see comments on attachment or text). Qualityof Data: Overalldatawasoriginalbut Somementionintextneedssomeevidencefromthephotoofthinsectionandtableare required, such as, 1. statetheplotofsampling locationon map, show 2. labelonthephotomicrographtheangularshapedominantorpercentageandthepoorsortingofsandst onebelowthmicroscope, 3. dataforthepercentageofclay contentsofeach sandstone, shows thetableor graph 4. data/tableofdegreeofsortingofeachsample 5. grainroundnessdataanalysisofeach sample?howmanygrainsofmineralshavebeen identifiedormeasured 6. Thin section photo show the precipitation of authegenic quartz overgrowth, framework that lack silica or calcite cement except the precipitation of minor iron oxide cement in some of the samples and hematite coatings on some quartzgrains,Quartzgraincontacts,whichvariesfromfloatinggrainstopointandlong,Suturedcontact s,growthof quartz overgrowths,	

	7. Data/tableofzircon,tourmaline,rutileprecentangeandroundnessineachsampleofSD2,SD3,SE1,SE2,SR1,SW1, SL1, SL2, ST1 in table. 8. showthedistribution/percentageofmicrolineandoligoclaseforeachsamples(SD2,SD3,SE1,SE2,SR1,SW1,SL1, SL2,ST1), Shows alsothethinsectionphotoof microclineand oligoclase, how many oligoclasehavebeen identified or observed for this research, how you determine the type of plagioklas? degree of extinction?	
Arethereferencessufficientandrecent?Ifyouhave suggestionsofadditionalreferences,pleasementiontem in the review form. **-**	Referencearelisted andupdate,butneedsomereferencethatshouldbelistedanddiscussinthismanuscript 1. HenryMadukwe.2019.Paleoweathering,paleoenvironmentandpaleoclimateoftheNankasandstone,Anambra basin, Nigeria. December 2019. Bulletin of the Geological Society of Malaysia 68:25-36. DOI: 10.7186/bgsm68201902 2. O.Etimita,F. T.Beka.2020. HeavymineralanalysisofEocenesandsandsandstonesofNankaFormation,Cenozoic	

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MinorREVISIONcomments **Isthelanguage/Englishqualityofthearticlesuitable for scholarly communications?**	NigerDeltapetroleum.October2020.Geology,EcologyandLandscape. https://doi.org/10.1080/24749508.2019.1633218 3. Ocheli Azuka, Aigbadon Godwin Okumagbe, Ocheli Paul Chukwujindu. 2017. Provenance, Diagenesis AndPaleogeographyofTheLateCretaceousSediments,BeninFlank(WesternAnambraBasin)Nigeria.International Journal of Advanced Research and Publications. Volume 1 Issue 4, Oct 2017. Overallmanuscriptwritteninstandardscientificenglish	
Optional/Generalcomments		

PART 2:

	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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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