



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2015_BJAST_16279
Title of the Manuscript:	Hydrogeology and Water Quality Assessment of the Middle Aquiferous Horizon of Onitsha in Anambra Basin, Eastern Nigeria.
Type of the Article	Original Research Article

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
There is no revision that has been done on the article. Just to further highlight shortcomings of the article. When groundwater is pumped from an aquifer, the rate at which water flows in from the surrounding rock to replace that which is extracted is generally slower than the rate at which water is taken out [23]. - Is this an established fact or it only refers to the site in question? I doubt if this can be a general concept because it will depend on the abstraction rate and the potential yield of the aquifer. Another consequence of lowering the water table is that the surrounding rocks can no longer hold water due to compaction by the weight of the overlying rocks; this decrease their porosity, permanently reducing their water holding capacity and may also decrease their permeability. - Have you established this from the current study or other researchers have? Please put the references if other researchers have done it already. If it is from your study, please show the data. The values for the static water level and hydraulic head in metres with their coordinate in the area of study are shown in (Table 3). - Static water levels data cannot support your conclusion that over abstraction have created a cone of depression. Only time series/dynamic water levels can prove that. At the same time you claim in your abstraction that the massive extraction of groundwater from the aquifer; this is as result of the population density of the study area with several functional boreholes tapping its water from the middle aquifer on an hourly basis. this is as result of the population density – population density can be low or high	(1) It is a general concept and the same apply to the study area, see reference [23]. In addition, the study area is tickly populated with each house having its functional borehole. (2) See [23] (3) It not the static water level that we rely on rather the information that was obtained from the geologic fence diagram and groundwater flow map that was generated from boreholes investigated. (4) Population affects demand; the higher the population, the higher the demand consequently affects groundwater extraction. It is important for the reviewer to understand that one event leads to the other, the argument is coherent, hard hitting and convincing enough. However, if the reviewer is suggesting further studies on the area, this is highly noted!



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- with several functional boreholes tapping its water from the middle aquifer on an hourly basis – provide support this statement. It is easy to say this, but scientifically it is not enough without credible data to substantiate it. You would probably need a water balance for that aquifer systems that shows both recharge, abstraction and changes in storage.
- on an hourly rate ... what is hourly rate Pumping rate can also be per second or per minute?

In you conclusion, you claim that the aquifer is prolific and flows in a multidirectional local network occasion by the depression which occurs as a result of massive extraction of groundwater from the closely sunk boreholes in the middle aquifer couple with the ever increasing population of the inhabitants in the study area [21, 22 & 23].

- the aquifer is prolific– how does an aquifer become prolific? According oxforddictionaries at <http://www.oxforddictionaries.com/definition/english/prolific>, prolific means producing plentiful.
- aquifer is prolific and flows in a multidirectional - It is the groundwater that flows in the aquifer and not the aquifer
- which occurs as a result of massive extraction of groundwater from the closely sunk boreholes in the middle aquifer – A hydro census in the study area could have assisted in identifying groundwater users and also their abstractions rates. It is scientifically not acceptable to conclude about the availability of “closely sunk boreholes in the middle aquifer” when there is not even data to show the boreholes themselves, abstractions rates, changes in groundwater levels over time.