



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_14541
Title of the Manuscript:	Estimating Geohydraulic Parameters With Geoelectric Soundings: Case Study From Orerokpe, Western Niger Delta, Nigeria

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
General Comments This new version of the paper “Estimating Geohydraulic Parameters With Geoelectric Soundings: Case Study From Orerokpe, Western Niger Delta, Nigeria” (MN: 2014_BJAST_14541) is much improved compared to the original. Remain still two points, which I discussed in my previous comments, requiring small amendments. The first point concerns a clarification about the use of the Darcy formula and it is easily solved following the suggestions given below. The second point concerns the determination of the radius of influence for the pumping tests which reference is made in the paper. In this regard, I give below some suggestions and references that allow to find simple relationships for calculating of the radius of influence. Although the calculation of the radius of influence is not strictly necessary, because its value might be supposed actually low, his determination will no doubt highlights the argument made by the authors. For this reason I believe that the paper will be greatly improved making a comparison between the values of the portions of the aquifer involved in the measurement by the two methods considered. Following the suggestions listed below. Specific Comments 1) Line 26: It is probably more correct the term “hydrogeologic” and not “geohydraulic”. So, please, change also in the text. 2) Line 27: Please, correct the word “cconductivity”. 3) Lines 32-34: These claims are not supported by evidence, nor by references. Please, insert some reference. 4) Line 59: Please, correct the word “...tranmissivity...”. 5) Lines 98-108: I suggest to estimate in this section the radius of influence of the pumping test here considered. To this purpose different empirical and semi-empirical formulas can be used, for example that of Bear (Bear J., 1979. “<i>Hydraulics of Groundwater</i>”, McGraw-Hill, New York), or that of Weber (Weber, H., 1928. <i>Die Reichweite von Grundwasserabseukungen mittels Rohrbrunnen</i>. Springer-Verlag, Berlin, Germany), or Kusakin (Bear J., 1979. “<i>Hydraulics of Groundwater</i>”, McGraw-Hill, New York), or Jacob (Jacob, C. E. 1950. <i>Flow of GroundWater in Engineering Hydraulics</i>.Wiley& Sons, New York), which allow to determine the radius of influence depending from parameters known or easily measurable. The value of the radius of influence obtained by these formulas is certainly smaller than the average size investigated by the geoelectric method. This comparison can be taken as a verification of suitability in the use of the geoelectric method. I think it would be appropriate to include this comparison in the discussion. 6) Line 100: “...from five to five days”. Please, clarify; maybe there is a mistake. 7) Line 143:	The term “hydraulic” has been used (line 26). The correct word is “conductivity (line 27). References [1] and [2] have been included (lines 32 and 34). The word has been corrected as “Transmissivity” (line 59). Equation 2 (line 111) can be used to estimate the radius of influence once storativity has been determined but the value will be very small. In lines 252 – 255 and 261 – 262, it is mentioned that aquifer hydraulic parameters estimated from pumping tests only are of limited regional utility.



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Please, replace "... in porous medium ..." with "... in an undisturbed saturated aquifer...". This makes clear that there are steady state conditions, which justify the flow description by the Darcy's law. 8) Lines 166-167: Please, put a comma before and after the sentence "including those places where no K values are available". 9) Line 212: Please, change “Where” with “where”.	The correct word is “from five hours to five days” but has been removed. This has been done (line 147). This has been done (lines 170 1nd 171). This part has be modified using Table 1 (lines 208 – 210)
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