



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	American Chemical Science Journal
Manuscript Number:	2013 ACSj 4299
Title of the Manuscript:	Equilibria and kinetic studies on the adsorption of Cadmium onto Cameroonian wetland clays

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
The manuscript looks better after revision but it still needs improvement. There are comments and questions which are left unaddressed. The comments and questions are inserted in the word document (2 Revised Paper_2013_ACSj_4299-Reviewer comments.docx). The manuscript is publishable only after addressing these comments and questions. How was porosity measured? Where is the data? Why was activated carbon added? Rewrite this sentence: Shows that the d spacing of clay, which could be attributed to the activated clay. Quartz (reflection at 4.226 Å, 2θ =21.061°, 2.336 Å, 2θ =38.523°, 1.822 Å, 2θ = 50.339°, 1.673 Å, 2θ =55.118° and 1.377 Å, 2θ =68.314 °). Does any of the groups (OH-Al, Si-O, Si-O-Al) play any important role in cadmium adsorption? If yes, explain it in section 3.1.2. and cite references to support the data. What is the significance of doing FTIR analysis.	The was not porosity measured It is clay In this study the X-ray diffraction patterns of the clay samples were studied. The main aim of XRD study is to observe the influence of Quartz, Kaolinite and Boehmite on the surface of clay. As shown in From (Fig. 1), there are five significant peaks observed at 2θ values (reflection at 4.226 Å, 2θ =21.061°, 2.336 Å, 2θ =38.523°, 1.822 Å, 2θ = 50.339°, 1.673 Å, 2θ =55.118° and 1.377 Å, 2θ =68.314 °) which could be attributed to the presencc of Quartz. The peaks (reflection at 3.558 Å, 2θ =24.973°, 3.424 Å, 2θ =26.775°, 3.24 Å, 2θ =27.676°, and 2.56 1 Å, 2θ =35.021°) are assigned to Kaolinite and the peaks (reflection at d= 1.971Å, 2θ = 45.835° and d=1.474 Å, 2θ =62.589°) are assigned to Boehmite the groups (OH-Al, Si-O, Si-O-Al) play any important role in cadmium adsorption. This implies that Cd(OH)₂ species may be retained in the micropores of carbon particles by chemi-sorption involving surface complexes (Namasivayam, Periasamy., 1993). The functional groups such as (OH-Al, Si-O, Si-O-Al), are assumed to be present on the surface of the clay. When Cd²⁺ is present in the solution the following surface complexes may be formed • Réaction de formation de complexe de surface: $AlO^{-} + M^{n+} \leftrightarrow AlOM^{(n-1)+}$$SiO^{-} + M^{n+} \leftrightarrow SiOM^{(n-1)+}$Avec $M^{n+} = (Cd^{2+}, Cd(OH)^{+})$ The pH for this experiement is not found Done

Comment [xxx1]: Rewrite this sentence.

Comment [xxx2]: These two sentences are not connected and can confuse the readers.



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	Q (mg/g) values are so high in Fig. 6 as compared to Fig.5and Fig. 11 because the conditions of experiment are not the same (0.2g/25 mL.)	
Include the pH for this experiment.	Done	
Based on the solubility product of metal hydroxides (Covarrubias, C., R et al., 2005)	Done	Comment [xxx3]: What does the authors want to say here?
Why the Q (mg/g) values are so high in Fig. 6 as compared to Fig.5and Fig. 11? Review the data again.	Done	
It is well known that the Langmuir model is usually used with an ideal assumption of a monolayer adsorption surface (Langmuir, 1918).	Done	Comment [xxx4]: It should be moved to the Langmuir section.
This is the repetition from previous paragraph and can be deleted		
Therefore, the pseudo-second-order model could be used for the prediction of the kinetics of adsorption of Cd ²⁺ on clay.	delete	Comment [xxx5]: This is the repetition from previous paragraph and can be deleted.
There is no info about the surface area and porosity in Materials & Methods and Results & Discussion sections.	Done	
. The surface area of the clay was relatively low with large pore volume and was found to be microporous.	delete	Comment [xxx6]: There is no info about the surface area and porosity in Materials & Methods and Results & Discussion sections.
The references must be formatted according to the journal guidelines. Some references are missing. In the text, citations should be indicated by the reference number in brackets, for e.g. [3]. How was porosity measured? Where is the data		