



SDI Review Form 1.6

PART 1:

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	2013_BJAST_5052
Title of the Manuscript:	Levels of Heavy Metals in and Around Scrap Car Dumpsite at Uwelu, Nigeria
Type of the Article	Research paper

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	Reviewer's comment	Author's comment <i>(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)</i>
<u>Compulsory</u> REVISION comments	Although the authors showed the impact of a scrap car dumpsite on heavy metal concentration in soil. Many issues arise from the review of the paper: 1. No quality data on laboratory analysis was given in the paper (recoveries, standard deviation), without these data the results and their discussions could be not valid. 2. Characterization of soil properties (e.g. % organic matter, % of clay or silt) is important in this type of studies to discuss the results, not only pH. The research had not characterized these soil properties 3. To discuss about vertical mobilization of heavy metals other physical characteristics are important such permeability and % organic matter and not only the adsorption to soil. These characteristics can be fully discussed if the soil samples were characterized.	1. Thank you for this point. More information has been provided on the laboratory analysis in the revised paper 2. The soil used in this study was not characterized since we were not interested in the treatment of the soil. We were only interested in determining the amount of heavy metals in the soil 3. As has been mentioned in (2) above, the soil used for this study was not characterized. The inferences and conclusions made regarding the vertical mobilization of heavy metals and other physical characteristics as presented in this paper were obtained from the results obtained in the course of this work and subsequent discussion of



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	4. Soil pH depends of organic matter content, mineral present in soil and other. To state that pH is due to the decreasing of heavy metal concentration could not be reliable. 5. The methodology is confusing. The authors did not mention the number of samples taken in the study. From the paper, I did not know if the graphs are the average of the concentrations of the samples taken in the different horizontal and vertical distance or single values. If these graphs are the average concentrations, variability bars will be useful to check the difference in the graphs of pH and metal concentrations. Especially in those which concentration in a certain depths are very similar (Fe, Zn, Cu).	these results. 4. Following from (3) above, the inferences made regarding the pH profile of the soil analysed was arrived at after careful analysis and discussion of the results obtained in the course of the experiments carried out. If the reviewer feels that the statement indicating that the “decreasing pH is due to decreasing metals concentration” is not reliable, then we are removing that statement from the text. 5. Three samples were taken for analysis and the results presented in the graphs are the average of the results obtained from analysis. The suggested variability bars have been included in the figures that have been plotted again.
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	6. The authors mentioned a maximum distance of 15 m but in other paragraphs mentioned 16, 18 m. Which are the maximum distances? 7. The author mentioned that Cr concentrations are not as high than the other metals analyzed because Cr is hardly corroded. However, it can be also a reason that Cr is less used in car metallic parts. Moreover, Fe and Zinc are relatively abundant in soil. 8. The authors do not carried out an experiment to have a conclusion that heavy metals concentration on soil depends on its corroding tendency. Therefore it can not be a conclusion of this study.	6. The maximum horizontal distance was 18m while that for the vertical distance was 1.6m. Due to the discovery of the conflicting values (15, 16 and 18m) by the reviewers, we have gone back to look at our results and discovered some inconsistencies with the graphs that were initially plotted. In order to correct these errors in plotting, we have completely plotted all the graphs again. 7. This point is true as it also stands to reason that most manufacturers of cars these days do not use Cr for the metallic parts of the cars they manufacture. 8. Since no experiments on corrosion were carried out, we have removed this conclusion from the work
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	9. The references used by the authors are old. The most recent references are thesis (2003) and the newest paper is from 1999.	9. New references have been added to the work
<u>Minor</u> REVISION comments	- Define acronyms used in the abstract - Eliminate the word etc in page 1 line27 - Used living beings instead of living things. Line 37 - Line 53 add "in soil" after heavy metals - Define acronyms in the methodology sections - Separate the abbreviation of meter (m) from the numbers. - Line 131 humic instead of humid - It will be useful to write the value of the maximum acceptable limit of FEPA of the heavy metals after it is mentioned. - Avoid to use words "quite good" "quite high" linea 164. Linea 168 what is low for the Cu mobility. - In the conclusion section, the first two lines (208 and 209) are confusing.	All the points indicated here have been taken care of in the revised manuscript
<u>Optional/General</u> comments		