



SDI Review Form 1.6

PART 1:

Journal Name:	<u>British Journal of Applied Science & Technology</u>
Manuscript Number:	MS: 2013_BJAST_3041
Title of the Manuscript:	Improvement of the Properties of Black Cotton Soils Using “Ionic Soil Stabilizer 2500.

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 9 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 (REVIEWER 3)	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	1. Correct the spelling of montmorillonite in line 13 (line 4). 2. Line 71 – Terminology “loose” cannot be use for black cotton soil. It shall be soft, medium, stiff or hard. 3. Line 72, High permeability???? 4. Fig. 8 is compaction test in progress, while photograph is of CBR test in progress 5. Fig 12, shall be before Fig 13.	1 Spelling of “monthmorillonite” corrected to “montmorillonite” 2. “Loose” changed to “Soft”. 3. Corrected to “High impermeability” 4. Text corrected to “CBR Test in Progress” 5. Figure 12 placed appropriately.
<u>Minor</u> REVISION comments	Align line 154, 155 and 156. Line - 272, chemical were shall be chemical were Reference of Fig 8 is missing in the text Fig 8.0 shall be written as Fig 8.	Line 154 to 156 expunged according to comments of REVIEWER 2 Word “chemical were” separated to “chemical were”. Fig 8 is referenced in the text. Fig 8.0 corrected to Fig 8.
<u>Optional/General</u> comments	The paper is on improvement of Black cotton soil by ionic soil stabilizer. However, it is observed that the soil taken for study may be of non expansive in nature, The properties of soil without adding additives is also good enough for engineering construction (MDD 1.79 Mg/m³, and CBR = 37.47%) Such soil hardly needs any improvement. In general, black cotton soil (expansive soil) having very low CBR (in the range of 2 to 4%). The	The samples are clearly black cotton soils. The apparent high values of the zero content stabilizer only supports the commonly held view that stiff clay has high strength properties. Its major setback is when it comes in contact with water. Table 1 shows the properties of the in situ material. Unfortunately there was consistent trend in the MDD and CBR values for all the trial



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	result in Table 1 shows very high CBR even without additives. Specific gravity value needs revision (Table 1). Also, linear shrinkage decreases with addition of additives. Under the circumstances, it seems some modification in title may required. The selected soil is non expansive in nature against as mentioned in title.	pits tested returning average value stated in Table 1. The constant failure of the road in view of the high values of the CBR prompted the need to stabilise the material for possible improvement. Since the stabilizer expels the pore water making it less saturated the CBR could be improved as observed. The material is certainly black cotton soil. The free swell potential of the material has been reported elsewhere (Alhassan and Sulaiman, 2013). Moreover (Alhassan and Chukwuma, 2013) have reported effects of Ionic Soil Stabiliser 2500 on marginal lateritic soils with no substantial benefits in their use. The conclusions of that study was that ISS 2500 could be a better stabiliser for cohesive soils which motivated this study.
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The title seems misleading as soil used for experiments seems non expansive in nature with good CBR value.

The interaction of Ionic Soil stabilizer 2500, with other expansive soil shall be experimented in more detail.

The soil used for experimental work is non to marginal swelling in nature. Free swell value was not reported. The strength properties of the soil under study are good and may not require any such improvement. Also, the effect of ISS 2500 is minor. More detail study on higher concentration of montmorillonite mineral soil with high free swell value, low shrinkage (less than 10%), and low soaked CBR value (less than 4%) shall be carried out. The results of experiments misguide the efficiency of ISS2500 additives for expansive soil.