















## 5. CONCLUSION

The geotechnical properties of the earth sample taken from Itu has been investigated. Based on our experimental results, it is observed that clay sample from Ntak Inyang, Itu along Calabar Itu highway possesses small particle sizes, dry density range of  $1580 \text{ kgm}^{-3}$  -  $1650 \text{ kgm}^{-3}$ , optimum moisture content of 13.53%, plastic limit of 22%, liquid limit of 45% and plasticity index of 23%. Its C.B.R increases with decrease in moisture content and vice versa. The sample according to the result as analyzed using California bearing machine, sieve and Atterberg limit machines leads to the classification of the sample under sub-grade and unsuitable for road construction. This is so because it swells when water penetrates, thus would not have the ability to carry load. However, this can be a potential raw material for ceramic wares and tiles. These results qualify the sample as sub-grade and a poor material for road construction due to the swelling nature of the sample upon moisture intake.

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