ASSESSMENT OF MOULDING SAND PROPERTIES OF YELWA AND WURO-PATUJI SAND DEPOSITS FOR CASTING PURPOSES IN MUBI, ADAMAWA STATE, NIGERIA.

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ABSTRACT
The study investigated foundry properties of Yelwa and Wuro-patuji wards sand samples in Mubi, Adamawa State, Nigeria for their possible uses in sand casting operations. From the visual inspection carried out on the sand samples, it was discovered that Yelwa sand is dark brown and Wuro-patuji light brown in colour. From the experimental findings, their physio-chemical properties showed aluminium silicate type because of their high value of aluminium oxide (13.70% and 12.30%) and silica (75.50% and 77.70%) for Yelwa and Wuro-patuji respectively, with refactoriness values of about 1450°C. The grain fineness number (GFN) were 34.29 and 46.09 for Yelwa and Wuro-patuji, moisture content of 0.1 for both samples, clay content was found to be 37.6% and 46.6%, mouldability was 99.07% and 98.8%, permeability was 180mmH2O and 140mmH2O for Yelwa and Wuro-patuji sand samples respectively. The green compression strength for both sand samples was 82.7kN/m². The results indicates that the two sand samples studied exhibit appropriate casting properties for non-ferrous metal in accordance with established values by other authors.