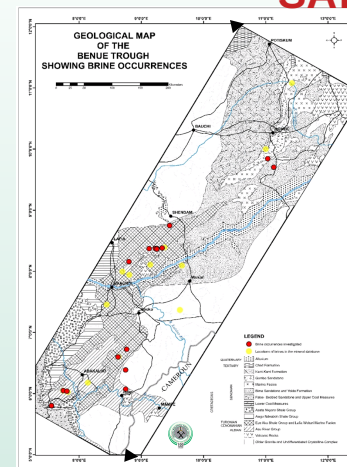
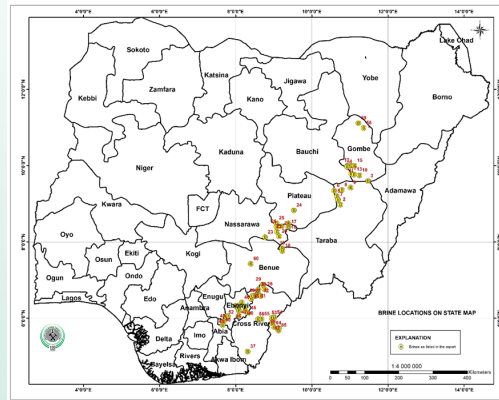


GEOLOGY AND FIELD ACTIVITIES

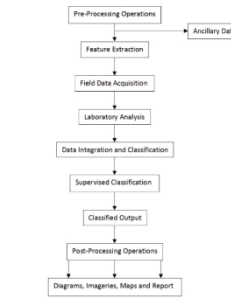


Geological Map



Field activities at Shagu, Gombe State

Project Work Flow Chart



The Twenty-one (21) brine samples were subjected to physico-chemical, mineralogical and evaporation tests, While permeability test was conducted on the soil samples.



Akiri warm spring Nasarawa State

Key outcome from project

- An increase in recovery from lower to Upper Benue (Uburu in (LBT), Keana in (MBT) and Shagu in (UBT) gave 181g, 135g and 81g of salts per litre of extract respectively.
- Purer salts in Middle and Upper Benue
- The Lower and the Middle Benue dominated by halite while the Upper Benue dominated by Trona and sylvite
- Heavy metal concentration increases from Upper Benue to Lower Benue



Finished Akparabong salt



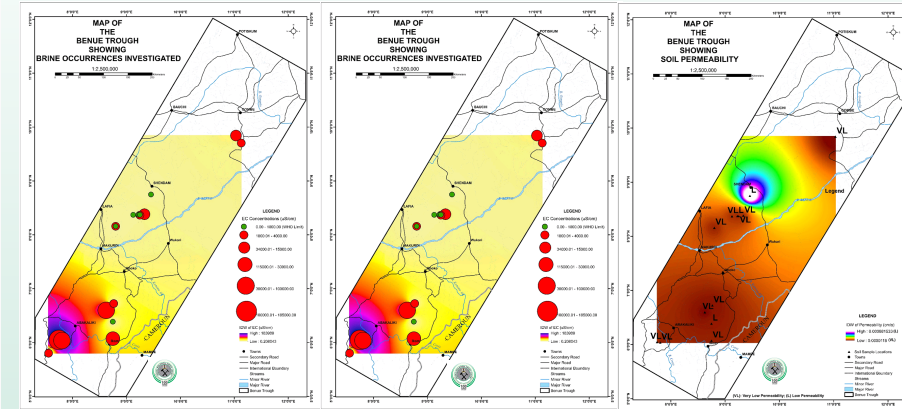
Finished salt Akiri



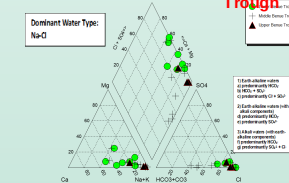
Trona from Shagu Brine

SALT BRINE

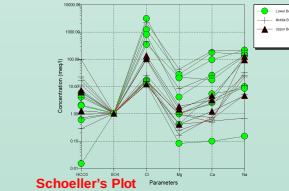
INTERPRETATION OF PHYSICO-CHEMICAL ANALYSIS RESULTS



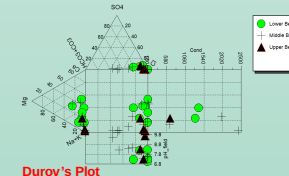
Maps of TDS, EC, and Soil Permeability distribution in Benue Trough.



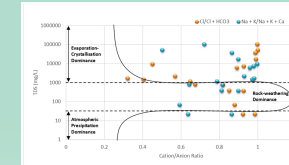
Piper's Trilinear Plot



Schoeller's Plot

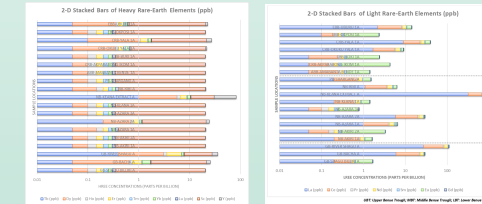


Durov's Plot

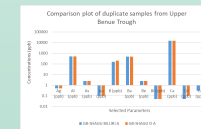


Gibbs's Plot

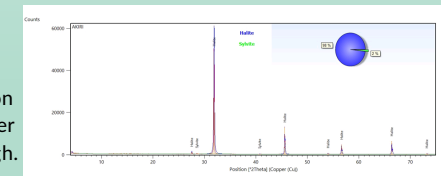
for the variation in the hydro-geochemistry of the brines. Gibb's plot identified evaporation-crystallization and rock weathering as mainly responsible for the hydro-geochemistry of the brines.



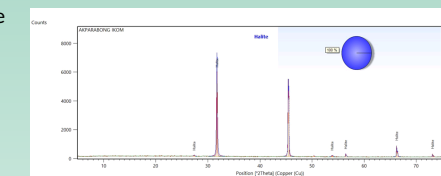
Stacked Bars of Rare-Earth Elements (ppb)



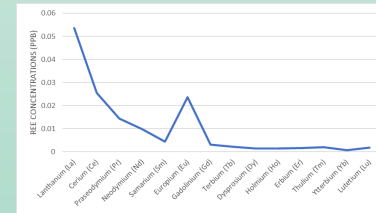
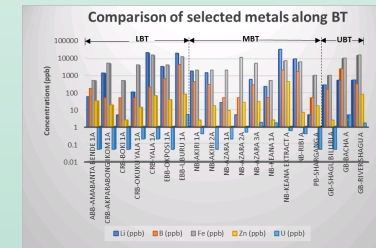
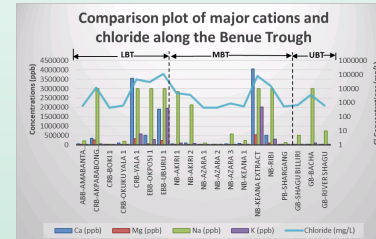
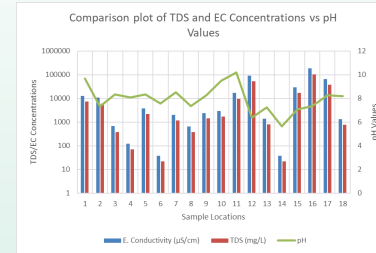
Duplicate samples Upper Benue Trough



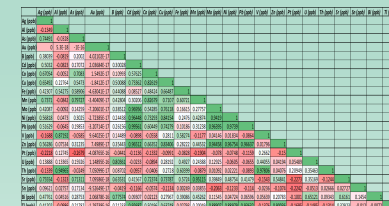
XRD of Akiri Salts



XRD of Akparabong salts



Chondrite normalized average for REEs (Nakamura 1974)



Correlation matrix for metals in Brines of Benue Trough