

# NATIONAL INTEGRATED MINERAL EXPLORATION PROJECT (NIMEP)



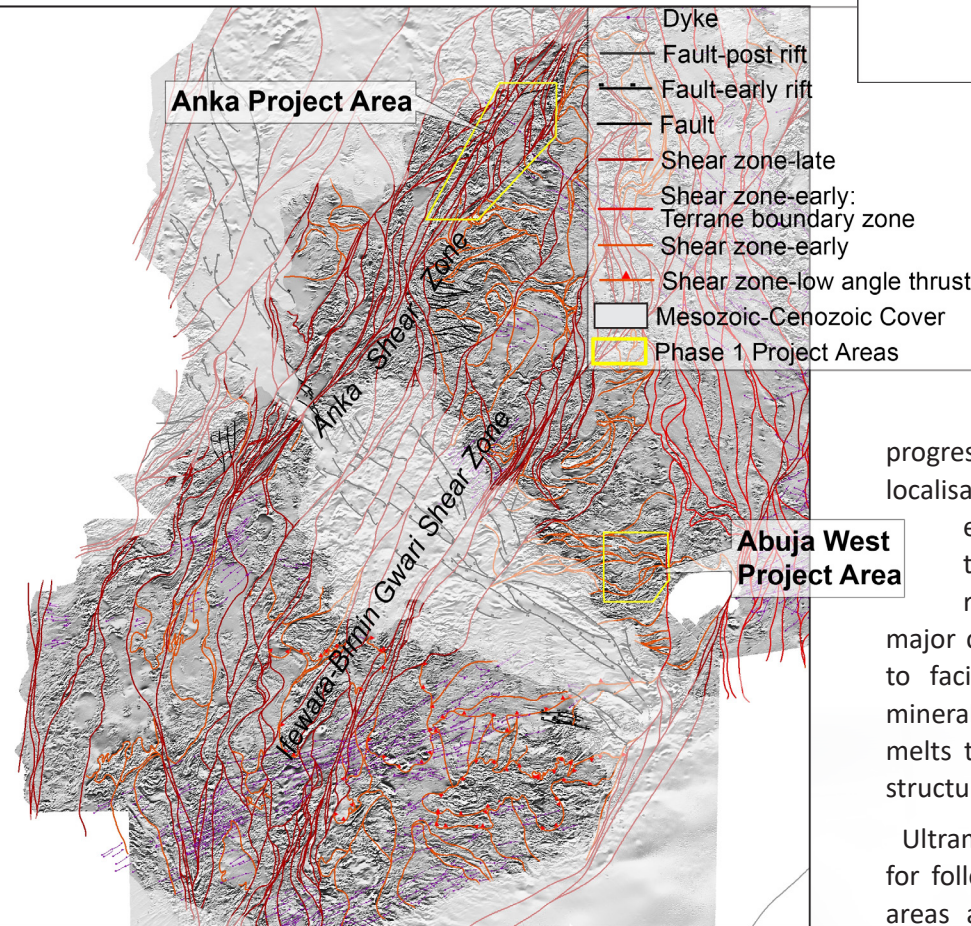
## Ni-Cr-Co-PGE Projects

**FEDERAL REPUBLIC OF NIGERIA**  
MINISTRY OF MINES AND STEEL DEVELOPMENT  
and the  
NIGERIAN GEOLOGICAL SURVEY AGENCY



The National Integrated Mineral Exploration Project' (NIMEP) is a Ministry of Mines and Steel Development program for the development and promotion of the Nigerian mineral industry. The NIMEP objectives were to delineate to "international standards" a series of prospective targets supported with detailed reporting of the methodology and results encompassing definition of the nature and style of economic deposits.

The Ni-Cr-Co-PGE programs within the NIMEP Project are part of the Lot 1A area which covers approximately 300,500km<sup>2</sup> of the Western Nigerian Shield.



The Ni-Cr-Co-PGE mineralisation systems through the Western Nigerian Shield are associated with a series of mafic to ultramafic intrusive complexes emplaced along the regional, late tectonic, NNE-SSW trending shear zones which transect Nigeria. These late Neoproterozoic structures represent zones of progressive, dextral transpressional strain localisation along domains of crustal weakness established on a series of inverted early to mid-Neoproterozoic rift basins. These regional shear zone systems represent major crustal scale structures which in addition to facilitating pathways for subsequent gold mineralisation, provided the conduits for mantle melts to be emplaced into the crust at higher structural levels.

Ultramafic intrusive complexes were identified for follow up programs in two regional project areas associated with the main late tectonic

shear zone systems. Extensive ground magnetic surveys were used to map the extents of these complexes with ground EM employed to develop a three-dimensional understanding of the geometry of select projects. Targeted soil sampling programs were undertaken over these complexes with two projects tested with follow up drilling programs.

# The Anka Project Area

The Sado project is a layered ultramafic complex covering an area of 2.5km x 2km. Whole rock geochemistry data indicate significant crustal contamination has affected the complex associated with emplacement assimilation and high temperature crustal fluid ingress along pervasive vein networks.

The soil sampling program delineated a broad zoned anomalous metal distribution with elevated Ni-Cr-Co defining a central zone with elevated Cu-Pt-Pd characterising an outer zonation. This zonation defined by the metal distribution is also reflective of the zoned geological character of the complex.

Drilling results show the mineralisation to have a PGE-Cr association. The strongest mineralisation is related with primary igneous layering and specifically associated with a conductive pyroxenite suite. Secondary mobilisation of mineralisation is associated with the overprinting veining and alteration that is pervasively developed through the central part of the complex.

Low-level Co is prevalent throughout the drilling area of the Sado complex increasing in grade at the surface suggesting it has been enriched through supergene processes.

