Summary of Paper No. 6

* Title in English: Diit uaternary Stream Sediments Southern oast of the ed Sea Egypt: Potential Source of Ilmenite agnetite ircon and ther Economic Hea y inerals.

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English Summary

The uaternary stream sediments of the Diit area southern ed Sea coast Egypt were mineralogically studied for their content of economic hea y minerals. The study area co ered appro imately 45 m^2 and included three main parts: Wadi and Delta Diit as well as Diit lens. The mineralogical in estigation re ealed that these sediments contain considerable amounts of placer ilmenite magnetite ircon sphene apatite garnet and rutile. Also present in minor or trace amounts are uranothorite mona ite enotime fergusonite hatyr ite and gold. The magnetic fractionation tests supplemented with the D and SE mineral analyses indicated the presence of Fe-o ide minerals as wuestite hematite and maghemite accompanied with magnetite as products for hand magnet separation. Ilmenite separation was carried out using a high intensity magnetic separator at a current of 1 A while the paramagnetic minerals (e.g. garnet pyro ene amphibole epidote mona ite enotime and fergusonite) were separated as magnetic fraction at a current of 3 A. The non-magnetic minerals (e.g. ircon apatite and rutile uranophane uranothorite gold and hatyr ite) were obtained at 3 A current. n a mineralogical and geochemical basis the present wor suggests that Diit stream sediments should be considered as a potential source for Ti Fe r n and u after the physical upgrading processes for concentrating the minerals carrying the aforementioned economic elements.

Keywords: Diit area Southern coast of the ed Sea Egypt Stream sediments Economic hea y minerals.