Eastern Desert Granites
Intermediate differentiated granite
High differentiated granite
Less differentiated granite
Considerable expected U-favorability
According to their accessory mineral paragenesis in addition to the other favourability criteria, they classified into:
High U-favourable granites e.g. El Missikate and Um Ara
Intermediate U-favourable granites e.g. El Sela

ii. Reserves of uranium in the Egyptian phosphate ores:

In Egypt: the assured phosphate reserves are estimated at about 100 Mt while the geological reserves are calculated as about 2000 Mt. the average assay of uranium in the Egyptian phosphates ore is about 60 ppm, consequently the phosphate assured reserves are estimated to contain about 6000 t uranium at least

Reserves of uranium in the Egyptian phosphate ores:

iii. In Egypt: uranium recovery from phosphoric acid is an important process for two essential reasons;

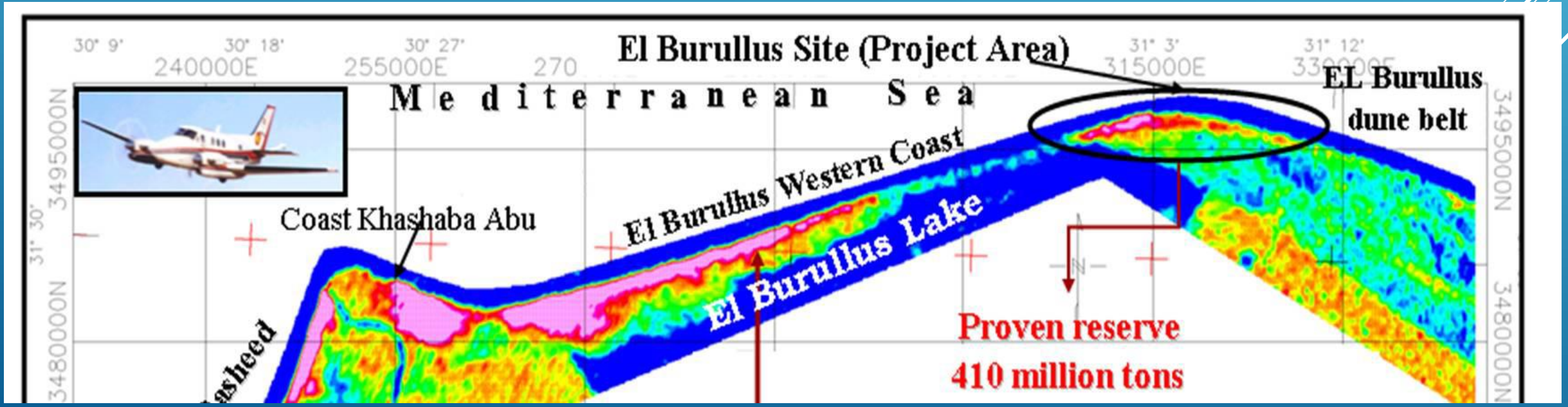
1) Environmental reason: where recovery process prevents uranium accumulation in soil which is harmful for plants, human, and animals.

2) Economic reason: where recovery process produces uranium required for the Egyptian peaceful nuclear project.

iv. In 1996, **Nuclear Materials Authority** has established a semi-pilot plant for experimental uranium extraction from dihydrate phosphoric acid using D2EHPA & TOPO system. This unit is using for training a technical staff work on the operation, analysis, and management this kind of factories

- Exploration of Black Sand Deposits

Black sand deposits in El-Burullus lake north coast
Image for economic minerals concentrations in Baltim coast underground



Egypt is preparing to announce an international tender about the exploitation Black sand occur in El Burulus site on the coast of the Mediterranean sea. The black sand distributed along the coast of the Delta and the coast of Sinai peninsula in where Black Sand exists in 11 regions between Rashid and Rafah. This area is characterized by the presence of belt of sand dunes, its height reaches to 30 meters contains the highest average of ore minerals than any other site over the Sea Coast. This reserve is enough to supply a huge industry for the separation and concentration of the economic minerals persist over a nearly 20 years (average up to 15 million tons/year) and the extracted minerals provide a base to establish several huge industries using these minerals. This matter make the Ministry of Electricity and Energy utilize this wealth economically.

According to the study which has been made, the mining reserves have been estimated (indicated) about 330 million tons containing an average 3.29% of heavy minerals in the western sector which is located east of Burullus until the bank of Gharbya with a length of about 22 km, the mining reserve has been estimated in the Eastern sector of about 48 million tons found that it contains about 2.1% of heavy minerals.

A set design for the floating plant has been studies and found that the most appropriate energy 2500 ton/hour of the dry solid metals. This rate is enough to make the operation energy about 15 million tons yearly. This figure is used as a basefor the design of the feasibility study and this amount sufficient to operate the project at least 17 years in the western sector to ensure the marketing the products to cover the global shortage of the supply in the market.

- The study concluded that the capital cost of the project is about 125 million $ the studies and researches the financial analysis result that the project has economic which attracts the investments where the utility on the dollar about 22% while the added value (NPV) about 116 million $, the company has taken in mind that the project age is about 17 years only, although there is proven reserves of the project at least 4 years.