Archaeological site of Pharos
Island Of Alexandria, Egypt

Alexander the Great reached the site of the present Alexandria in the year 332BC. The site was occupied by an Egyptian fishing village along the Mediterranean coast known as Raqoda or Rhakotis- just opposite of which lay the small island of Pharos. Alexander ordered his engineers to draw up plans for a city with a great harbor that would include the village and the island within its boundaries. Alexander's engineers linked the island to the main land by a narrow causeway that they named Heptastadion because it was seven stadia long (about 1,300 m).

This causeway divided the coast of Alexandria into two ports, the Eastern Great Harbor and the Western Harbor or Eunostos. (fig.1) The Eastern Harbor was the main port, and the city's palaces, gardens and government buildings were built around it, it handled the more important naval and commercial vessels. These were guided into port by the celebrated Alexandria light House which stood on what is now the site of Quit Bey Fort.  

The lighthouse of Alexandria was One of the Seven Wonders of the Ancient World; the Lighthouse of Alexandria was so famous that its name; Pharos, became the generic word for lighthouse in Latin\textsuperscript{2}. It was not the only, or even the first, structure of its kind; but it was colossal, towering probably some 120m above the sea (fig.2).

**Underwater archaeological Investigations of the ancient Pharos**

Since 1994 A Franco -Egyptian team conducted a salvage inspection of the submerged ruins of the famous ancient lighthouse of Alexandria - the Pharos. The need to protect from the northerly storms the fortress(fig.3) constructed at the end of the 15th century AD by the Mameluke Sultan Qait Bey on the Anfouchy peninsula at the eastern tip of the ancient island of Pharos on the ruins of ancient lighthouse, led to the construction of a submerged concrete wall at a distance of several dozen metres in the sea. It was quickly realized that this wall would cover an ancient archaeological site at a depth of 6-8 m. In the autumn of 1994, the Egyptian Antiquities Service asked the Centre d'Etudes Alexandrines (CEAlex) to undertake an urgent underwater investigation. The objective of the salvage operation was to delimit the archaeological zone and to determine its nature.

The mission therefore plotted a topographic map and developed graphical andphotographical documentation for each element\textsuperscript{3}. There was some


idea of the site, thanks to the pioneer work of Gaston Jondet, the chief
Engineer of the Department of ports and light houses from 1911 to
1915, Kamel Abul-Saadat in 1961 the Egyptian pioneer in Alexandria
underwater archaeology and a UNESCO mission in 1968, following
which Honor Frost published a preliminary report with some drawings
which revealed the importance of the site.

The centre Etudes Alexandrines (CEAlex) in co-operation with the
Department of underwater archaeology / Supreme Council of Antiquities
(DUA/SCA) rediscovered the submerged site to the east of Qaitbay fort.
At depth from 6 to 8 meters, in an area of 2.25 hectares more than 5000
pieces were located including statues, sphinxes and columns of different
shapes, capitals and bases of columns (fig.4) and parts of obelisks.

These blocks are of different size and weights (some of them weighting
75 tons)(fig.5) the artifacts are cut in several kinds of stones such as:
granite, calcite, quartzite, lime stone, sand stone and greywacke.

The site is dated to Greco-roman period but it includes artifacts from the
pharaonic period, which the rulers of Alexandria always brought from
other sites of Egypt to decorate their capital some of these artifacts are the
remains of the lighthouse itself and the rest were brought from the
serapium temple and thrown at the entrance of the harbor to prevent the
entry of the enemy fleets in the twelfth century A.D.

A selected collection of these pieces were raised in 1995 and 1996,
conserved and exhibited in the roman theatre of Alexandria such as:

1- A granite capital of column of composite – Alexandria style.(fig.6)
2- A part of granite obelisk consecrated by Sethi 1st.(fig.7)
3- Bust of statue for a woman from red granite. (fig.8)

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5- Halim, H.: "Kamel Abul-saadat: A pioneer in Alexandria underwater Archaeology", in underwater
7-  Empereur, J.Y. : "Underwater archaeological investigations of the ancient pharos", in underwater
4- A colossal statue of one of the Ptolemies represented as a pharaoh from red granite (fig.9).
5- The aforementioned statue during the transportation to the conservation lab (fig.10).
6- A colossal head for the ex-mentioned statue during its existence underwater. (fig.11)
7- One of the discovered sphinxes during the lifting process (fig.12).
8- An inscribed granite block during lifting process (fig.13).
9- A crown of a Hathor goddess from red granite (fig.14).
10 One of the discovered sphinxes underwater (fig. 15).

**Guidelines dealing with the Protection, The research and the evaluation of Underwater Archeological site of pharos**

This paper will present some ideas that have been discussed in the international workshop for studying the establishment of an underwater museum in Alexandria, Egypt, which was jointly convened by UNESCO and the ministry of culture of Egypt and held at the Alexandria Artistic creative center form 3 to 6 July 2006:

1. **ARCHAEOLOGICAL MANAGEMENT**

The cultural heritage faced lot of risk due to the development of coastal areas and there is need to respond appropriately to the possible negative impact on underwater cultural heritage, unanimously acknowledging the need to present it and interpret for the education and the enjoyment of the public at large, taking into consideration that many monumental artifacts have been displaced, acknowledging the fact that thanks to Egyptian and foreign underwater excavations the ruins of light-house of Alexandria have been brought to the attention of the international public,
• Designate the site of pharos as a cultural heritage park while developing a management plan taking into account the various present functions;
• Refrain from all development activities in the site of pharos until a master plan for the future has been developed;
• Refrain from removal of large archaeological artifacts from the area in order to avoid loss of authenticity and integrity of the site;
• Further develop the idea of the creation of an archaeological underwater museum at site of pharos as a first stage;
• Develop a plan for the conservation and in situ management of the site;
• Examine the possibility for inscription of the site of pharos on the World Heritage List.

2. **CONSERVATION AND PROTECTION OF ARCHAEOLOGICAL ARTEFACTS**

• Prepare a comprehensive conservation plan, including preventive conservation and monitoring mechanisms, for the treatment of the objects, whether in situ or in a museum environment, in preparation of their exhibition;
• Enforce in situ preventive conservation process of artifacts where needed;
• Develop a long-term training program for capacity-building in the conservation of underwater materials

3. **WATER CLARITY AND PURITY**
• Continue the improvement of water quality by wastewater sanitation and other means and solve the issue of the clarity and purity of water for the presentation of underwater cultural heritage for the time being, by having the underwater part of the museum isolated from the open sea and continuously treated in a closed system so that quality and transparency of water can be controlled;
• Continue measuring relevant parameters in joint efforts between relevant institutions and integrating data collected in previous studies;
• Investigate in the comprehensive feasibility study the possibility and desirability of removing the organic sediments by mechanical means such as vacuum extraction;
• To explore possibilities for potentially buffer or minimize wave action in the site of Pharos.

Director of under-water Archaeology Department

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Bibliography and References


A summary of the site of pharos of Alexandria

The centre d'Etudes Alexandrines (CEA) in co-operation with the DUA/SCA rediscovered the submerged site to the east of Qaitbay fort. At depth from 6 to 8 meters, in an area of 2.25 hectares more than 5000 pieces were located including statues, sphinxes and columns of different shapes, capitals and bases of columns and parts of obelisks. These blocks are of different size and weights (some of them weighting 75 tons) the artifacts are cut in several kinds of stones such as: granite, calcite, quartzite, lime stone, sand stone and greywacke. The site is dated to Greco-roman period but it includes artifacts from the Pharaonic period, which the rulers of Alexandria always brought from other sites of Egypt to decorate their capital some of these artifacts are the remains of the lighthouse itself and the rest were brought from the Serapium and thrown at the entrance of the harbor to prevent the entry of the enemy fleets in the twelfth century. A selected collection of these pieces were raised, conserved and exhibited in the roman theatre of Alexandria.

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