

HEIGHT OF KHUFU FUNERARY BOAT PIT ABOVE WATER TABLE

Mark Lehner, May 20, 1983

Level above Mean Sea Level

- Rock floor near SE corner of Great Pyramid 59.8305 <sup>1</sup>
- Depth of boat pit from brim to bottom: 5.35 ms. <sup>2</sup> Bottom of pit, approx.: 54.4805
- Water table under Sphinx (and approximate 400 m. radius) 15.37 - 15.38 <sup>3</sup>
- Height of bottom of boat pit above water table: 39.1055 ms. <sup>4</sup>

1. J.H. Cole, "Determination of the Exact Size and Orientation of the Great Pyramid of Giza," Survey of Egypt Paper No. 39, p. 4.

2. Abdel Moneim Abubakr and Ahmed Youssef Moustafa, "The Funerary Boat of Khufu," Beiträge zur ägyptischen Bauforschung und Altertumskunde 12 (1971), p. 2.

3. Measurements of the water table were taken from 6 points east, west, and south of the Sphinx by the ARCE Sphinx Project from October through March 1981-82 for the Egyptian Antiquities Organization Sphinx Restoration Committee on Factors of Deterioration under the chairmanship of Dr. Saleh Ahmed Saleh, Faculty of Restoration, Cairo University. The value given here has been averaged from these measures. The greatest variation at any of the points during the 6 month period was about 5 cms.; "The ARCE Sphinx and Isis Temple Project, Report to the Egyptian Antiquities Organization: August 1982," by James Allen and Mark Lehner (Unpublished). At various times during the 1982-83 season, it looked like the water level in one of the points had dropped considerably from the previous season, although no measurements were taken on a weekly basis. Two measures showed an average drop of about 15 cms. from the water level of the previous season.

4. Assuming that the water level under the boat pit is about the same as that in the Sphinx area and 200 ms. to the west, the farthest point for measuring the water table in the ARCE survey (a tomb shaft cut through the Khafre causeway). This point is 316 ms. south (slightly SW) of the SE corner of the Great Pyramid.

NOTE: I do not have an elevation for the top of the Hetepheres shaft, which is 27.42 ms. deep. But if we assume a rough elevation of about 60 ms. for the brim of the shaft (about the height of the Great Pyramid base), it puts the bottom of the shaft 17.205 ms. above the water table as measured around the Sphinx. The nearest elevation (spot height) I have is 56 ms. NW of the Hetepheres shaft, and this is 46.715 M.S.L. If this is taken as the height of the brim of the shaft (although it is probably too low), the bottom of the shaft (and burial chamber) is only about 3.92 ms. above the water table as measured at the Sphinx. The actual figure is probably somewhere between these two values.