

## **Glazed steatite in Ancient Egypt**

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### **Abstract:**

The aim of the study is to identify the steatite stone. It is known as “Al-Talq”. It was one of the stones -existed in ancient Egypt-, which is related to geology, as one of ancient Egypt’s sciences. Although in ancient times it was more closely related to mining, and it is known that ancient Egypt was the base of science, including mining and stone. Ancient Egypt was well known as the base of the sciences like Mining and Stones.

The ancient Egyptians have used this stone since the pre-dynastic period. While the Glazing is associated with glass and glassmaking, they applied Glazing on the Steatite. So, the glazed steatite became the oldest and first glazed stone used in ancient Egyptian civilization, since Elbadary civilization.

It was used in the manufacture of glazed beads, amulets, belts, bracelets, and pins, and was also extensively used in the manufacture of glazed scarabs, as well as different types of seals. It was associated with the kingship in ancient Egypt through the royal statues made from this stone, as well as royal seals, scarabs, and pins, and was also associated with ancient Egypt’s religious beliefs.

It was similar to the grain stone and schist stone, and was known as the soapstone because of its smooth texture, and was used in the manufacture of utensils, especially the kn jar that was associated to this stone in which oils, fats, and perfumes were placed. It was found in Egypt in several areas of the Eastern Desert, as well as southeast of Aswan, and it remained in use until the end of ancient Egyptian civilization.

**Keywords:** Steatite-Beads- Amulets- Seals -Scarabs

## **Introduction:**

The study examines one of the oldest stones that was widely used in ancient Egyptian civilization, the Steatite stone, which is known as Al-Talq, in order to recognize the characteristics of this stone. It was in this spirit that I was motivated to choose to study this topic, Where the ancient Egyptians have been using this stone since before the families since the Badari civilization, It has been used throughout the ancient Egyptian civilization, especially in the industry of scarabs and small artworks, It also caught my attention that most of these artworks were glazed, This is also another reference to one of the industries that the ancient Egyptian has come up with since these ancient times, namely his knowledge of glazing, glass and its components.

From this point of view, I was called hard to know what and what characteristics this stone originated in ancient Egypt, which was associated with mining and ornamental industry in ancient Egypt, and this was one of the difficulties of studying alongside trying to figure out how this stone relates to religious and royal beliefs in ancient Egypt. The study relied on the analytical descriptive curriculum of works of art, especially the property made of this stone. Until we figure out how to choose the old Egyptian for this stone, so the ancient Egyptian is thought to be familiar with the characteristics and features of this stone as well as its disadvantages. Moreover, this was a motivation for me to associate this stone with geology, and its old-fashioned mining. To be one of the sciences reached by the ancient Egyptian, to add note to the list of sciences that benefited all civilizations and humanity thereafter.

### **What it is:**

It is worth mentioning that the Egyptian desert was the preferred place for the settlement of the ancient Egyptian man due to the rainfall above it, and it was full of humans and animals<sup>1</sup>.

Since man was too weak to get the food in his abstract hands, the search for a hunting instrument was necessary for life. The choice of this instrument was of such gravity that the weak weapon made the hunter good<sup>2</sup>. Here, the ancient Egyptian began to distinguish between the stones he found, and this is how the first geologist in history was born<sup>3</sup>. We do not mean geology as a current science, which is the science of the stratigraphy of the Earth and includes the study of how the Earth originated, its history, and the mineral resources it contains<sup>4</sup>. As a sign of the extent of reflection and observation of the ancient Egyptian, he used two words for precious and semi-precious stones. These stones<sup>5</sup> came from mines in the eastern desert, as well as from Nubia and some

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<sup>1</sup> Nashed, Mukhtar Rasmy, (1973), the virtue of the Egyptian civilization on sciences (In Arabic), the Egyptian General Book Authority, Cairo, p. 42.

<sup>2</sup> Kayser, H., (1968) Ägyptish Kunstthän werk, Kassel, p.15; Möller, G., Metal Kunst der alten Ägyptish, Berlin (1924), p.25.

<sup>3</sup> Nashed, Mukhtar Rasmy, (1973), p. 71.

<sup>4</sup> Janik, I., the Archaeology of seeing: Science and interpretation, the past and cotemporary Visual art, London and New York (2020), p.98.

<sup>5</sup> It is clear that the stone is not identical with sand or clay, because the stones symbolize its eternity and the eternity of life, so it is noted that the ancient Egyptians built most of their temples and their holy buildings of the stone, and

from Asia, while the stones were available in ancient Egypt and various arts and artworks were made from them<sup>6</sup>.

### **The characteristics of the Steatite stone: -**

It consists of wet magnesium silicates<sup>7</sup>  $Mg_3 Si_4 O_{10} (OH)_2$ <sup>8</sup>, which is formed by the transformation of the rock dolomite and the alteration of the living stone (crocodile stone or rollercoaster)<sup>9</sup>. This is in its binary crystallization, which is also associated with the schest stone<sup>10</sup>, the degree of stiffness of the statite stone according to the mousse scale is one<sup>11</sup>, which is very soft so it is called soap stone soap stone<sup>12</sup> (Figure 1).

It is called so because of the ease of forming and its soapy texture that is easy to refine<sup>13</sup>, so that this stone can be scratched by the fingernail<sup>14</sup>, and the Steatite stone contains a glass face, which covers the crystal and this glass part keeps the crystal at a high temperature<sup>15</sup>, and by heat the metal of steatite and the metal of clbenoastate<sup>16</sup>.

Its colors are white, grey, green, blue, yellow and transparent<sup>17</sup>, and the deposits of the outdoor stone are divided into four types:

Steatite Mass-Release Trimolini-Talq Laminate-Ores Outdoor Mixture. One characteristic of this stone is that it is non-fusion, making it glazable, heating it removes water and gains it hardness, and it is not affected by acids so it is difficult to fuse<sup>18</sup>.

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that the stone statues represent the deities on the ground, and replace the physical bodies of the dead that may be destroyed or Conflict with embalming. See:

Klem, R., steinbruch, in LÄ.V, cols, 1276-1283. Wiesbaden (1984);

Robert Jacques Tipo (2004) Encyclopedia of Pharaonic myths and symbols (In Arabic) translation: Fatima Abdullah Mahmoud Review: Mahmoud Maher Taha, Supreme Council for Culture, First Edition, Cairo.

<sup>6</sup> George Bornner and others (2001), Dictionary of ancient Egyptian Civilization (In Arabic), translated by Amin Salama, review of Sayed Tawfiq, the Egyptian General Book Authority, Cairo.

<sup>7</sup> Price, M., Decorative Stone: The complete Source Book, London (2007), p.273.

<sup>8</sup> Deer, W., A., Howie, R., Zussman, J., Rock -Forming Minerals. V. 3. (1963), (sixth edition), p. 678-680.

<sup>9</sup> Serpentine stone is a non -crypt Magnesium, and the manifestations of a living stone like a livestock and are in the eastern east on a large scale. He used the living stone since prehistoric times, in the manufacture of various artisan and artistic works, See:

Fuchs ,R., Serpentine ,in :LÄV (1984), cols.880-882; Golden, W., Perceptions of the serpent in the Ancient Near East: its Bronze Age Role in apotropaic Magic, Healing and protection, University of south Africa (2013), p.1-308;

Al -Farid Lucas (1991) materials and industries among the ancient Egyptians (In Arabic), translation: Zaki Iskandar, Mohamed Ghoneim, Madbouly Library, Cairo, p. 674

<sup>10</sup> It is one of the sedimentary rocks and it is one of the types of Quantize rocks of granules and has been used since the pre -ages in making utensils and bracelets, coffins, and paintings, and it is also associated with all the stone and the steatite. See:

Ruch, R., Schist, in LÄV (1984), col 638; kirsch, H., Technische Mineralogie, würzburg (1965), p. 123;

<sup>11</sup> Deer, W. A., & Howie-R.A. & Zussman , J., op.cit., p.680; Price, M., op. cit., p.273.

<sup>12</sup> Gary, M., & Macafee, R.,& Wolf, c., Glossary of Geology, American Geology institute, washington. (1972); lüshen, H., Die namen der stein, forming minerals III, London(1979), p. 126-129.; Goltz, N.,(1972) studien zur Geschichte der mineral namen sudhoffs Archive, 14, wiebaden, s., p. 279.

<sup>13</sup> Fuchs, R., Op. cit., in: LÄ V, col. 1271; Nashed, op. cit., p. 60.

It was known in the Persian in the name "Talq" and in Latin "Talcum"

<sup>14</sup> Fuchs, R., op. cit., col. 1271.

<sup>15</sup> Forbes, R. J.; (1957). Studies in Ancient technology, Vol. 5, Leiden (1955), pp. 68- 174.

<sup>16</sup> Harris J. R., Lexicographical in Ancient Egyptian Minerals, Vio54, Berlin (1961), p. 176; Hall, W. (1992), an introduction to the Rock-forming minerals, second edition; Kirsch, H., op. cit., p. 123.

<sup>17</sup> Fuchs, R., op. cit., col.1271-1272.

<sup>18</sup> Duda, R., Rejl, I., Minerals of the world Arch cape press, New York (1990), p.22; Al -Farid Lucas, (1991) op. cit., p. 260.

### **-Where to spread it:**

It is worth mentioning that this stone can be found in the eastern desert, southeast of Aswan<sup>19</sup> in these places: Wadi Attallah<sup>20</sup>, Wadi Hammamah<sup>21</sup>, Wadi Al-Alaqui<sup>22</sup>, wadi Halfa<sup>23</sup>, Wadi Qatara, Jabal Qatara (near Badari)<sup>24</sup>, Wadi Kahlan (South Aswan at Well Amr, in Mount Param)<sup>25</sup>, Jabal Al-Jarf, Jabal Zairah (South west of Marsa Alam)<sup>26</sup>.

### **-Its origin:**

In fact, the glazed Steatite Stone is one of the oldest products used by Ancient Egyptians, since pre-family ages, especially as it appeared most visibly in the Badari civilization<sup>27</sup>.

It is likely that this stone can be easily cut and it is curvable and formable, besides the Badari near which Jebel Qatira is located, one of the places where this stone is located. This explains the abundance of beads and bracelets, amulets, seals, and the rest of the small arts, which are made of this stone and are one of the most beautiful pieces of art that dates back to that time.

According to Lux's classification of glass coatings, the glazed steatite stone was ranked first<sup>28</sup>, so it is the first and oldest of glazed faience<sup>29</sup> that appeared only at the beginning of the dynasties<sup>30</sup>.

### **The genesis of glazing:**

Ancient Egyptians are the first to make glazed ceramic pieces, where they used sodium chloride salt, they were mixing salts with mud before forming and drying them, these salts moving in the water that comes out to the surface of the

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<sup>19</sup> Hume, F., w., *Geology of Egypt*, 1, kairo (1931), p. 123; Ball, J., *Geography and Geology o Southeastern Egypt*, Kairo (1912), p.32; Fuchs,R ., op. cit., col.1271; Hume, F., op.cit., p.896.

<sup>20</sup> Fuchs, R., op. cit., col.1271.

<sup>21</sup> It is the road from Qeft- Qusier where many quarries and gold exist. See:

Gundlach,R., *Wadi Hamammate*, in: LÄV (1986), cols,1099-1113; Id.,(1984).*Qosseir*,in : LÄV, cols.49-50.

<sup>22</sup> It is located to the southeast of Aswan. This is one of the most important places for gold in the south east of the Eastern desert. Companies came to this place since the reign of Pepi I from the 6<sup>th</sup> Dynasty, 18<sup>th</sup> and 19<sup>th</sup> Dynasties, and the reign of Amenhotep III and Ramses II. See:

Gundlach ,R., "Wadi Allaqi" , in : LÄ V (1986), cols.1095-1096.

<sup>23</sup> It is located about 240 km south of Aswan. review:

Gundlach ,R., "Wadi Halfa" , in : LÄV (1986),col.1099.

<sup>24</sup> Kaiser,W., "ElBadari" in LÄ (1975), col.599 600.

<sup>25</sup> Fuchs, R., op. cit., col. 1271.

<sup>26</sup> Fuchs, R.,(1984) *steatite*, col. 1271.

<sup>27</sup> Brunton,G., & Caton-Tomson, G., " The Badaian and Civilization predynastic remains" in :BSAE,46, London (1928).

<sup>28</sup> Al -Farid Lucas, op. cit., p. 259.

<sup>29</sup> Faience: It is an artifact whose inner core consists of quartz powder, and it may be covered with a glazed layer. These two layers were varied, with a layer in the middle. The faience is considered one of the distinctive symbols of ancient Egyptian civilization, and the Egyptian manufacturer excelled in achieving clear superiority through his manufacturing since the beginning of historical times, due to his love for the color blue, which is represented by the faience. See:

Alder, c., (1971) *Jewels of The Pharaohs*, London .p.35; Nolte, B., "Fayence" in :LÄ (1977),col.138-142; Friedmon, F. D., *Gifts of The Nile .Ancient Egyptian Faience* ,London (1998); Tite, M., *Frestone .i.c.,Bimson ,M., (1983).Egyptian Faience: An Investigation of the methods of production in: Archaeometry 25* ;Nicholson,p.t.,(1993) *Egyptian faience and Glass*, Shire Egyptology 18,London.p.246. ;Nicholson ,p.t, Show,i.,(2000) *Egyptian Faience, Ancient Egyptian Materials and Technology*, Cambridge; Ashour, Rabab, (2012), Al -Qashani (The Egyptian faience) in ancient Egypt and its royal uses in the New kindom (In Arabic), the manuscript of unpublished Master thesis, Faculty of Antiquities, Cairo University, p. 30.

<sup>30</sup> Marry, M., A., *Ancient Egypt and the east part II*, London (1934), p. 70

piece and when burned, it becomes a shiny layer on the surface, so this layer can be colored by any colored material, the process of applying glaze coating later evolved, as it was coated on the surface rather than mixed<sup>31</sup>.

The ancient Egyptian introduced new types of glaze<sup>32</sup> coating containing lead compounds, and the lead is taken from lead sulfide, crushed and used with other glazing materials, so his dish is given a glaze characterized by smoothness and serenity<sup>33</sup>.

### **Materials in the glaze layer installation:**

1- Silica: It is worth noting that the source of silica is sand and powdered quartz<sup>34</sup>, and results in cristobalite & tridymite which are formed when quartz heating and when heating results in the glass phase, which is known as glass silica.

- The silka ratio in the glazing ingredients, controls the melting grade and reduces liquidity, increases its glaze resistance to water and chemicals, increases hardness and strength, as well as expands the thermal range, depending on the quantity used on the type of smelting auxiliary.
- Smelting aids: the substances that result from their addition are low temperature, at which the technical pieces are matured and their components fused<sup>35</sup>.

2- Smelting aids:

These are materials whose addition results in a low temperature, at which the artistic pieces mature and their components melt. The smelting aids are:

**First:** Bullet smelting aids: the lead is mainly used because it combines easily with other smelting aids, lowers the smelting temperature, and also gives the glaze coating a large glitter and glitter<sup>36</sup>.

**Second:** Alkaline smelting aids: These are used as smelting aids in glazing mixtures such as:

### **Sodium compounds**

They are found in local sediments in the Natrun Valley<sup>37</sup>, whether crystallized or amorphous, and act as a powerful smelting assistant in glazing mixtures. Sodium oxide is one of the most common smelting aids, because it is considered the most low-temperature alkali, lowers tension force and gains elastic silica<sup>38</sup>.

### **Potassium compounds**

Potassium oxide is a low factor to the degree of melting, increasing its rigidity

<sup>31</sup> Red, J.(1984). Introduction to the principles of ceramic processing, John Wiley and Sons, New York, p. 42; Al-Farid Lucas, op. cit., p. 262-265.

<sup>32</sup> Thomas, G., pottery, the Hamlyn published LTD, England (1982), p. 5.

<sup>33</sup> Nolte, B.,(1977). "Glas", in LÄII, cols. 613-617; Nolte, B.,(1977). "Glaser", in: LÄ II, cols. 617-618.

<sup>34</sup> Nolte, B.,(1977). "Fayence". In: LÄ II, cols, 138-142., Id.,(1977) "frite" in LÄ II, cols. 332-333; Martin, K., "Sand" in: LÄ V, (1984), cols. 378-379; Drenkhahn, R., "Quartz" in: LÄ V, cols. 50-51.

<sup>35</sup> Rado, P., An introduction to the Technology of the pottery, the Wercaste Royal Porcelain company LTD, Oxford (1988), p. 22-26.

<sup>36</sup> Nelson, G. C., Ceramic; a potter's Hand book, CBC College published in New Jersey USA (1984), p. 240-243

<sup>37</sup> Helck, W., Wadi-Natrun, in LÄ VI (1986), cols. 1114-1116; Blackman, A. M., Some notes on the ancient Egyptian practice of washing the dead, in: JEA 10, London (1918), p. 118-119.

<sup>38</sup> Nolte, B., glasegefäße im Alten Ägypten, MÄS 14 (1968).

and glitter glaze, as well as lowering its liquidity temperature<sup>39</sup>.

### **Feldspar smelting aids:**

It is worth mentioning that all feldspar metals act as smelting aids, they are glass if heated to a high temperature, they lower the temperature and they have no specific melting degree, but when exposed to heat they gradually decompose until they turn into glassy glass blocks, and when cooled they freeze and the glass coloring occurs<sup>40</sup>.

So glazing symbolizes a glass layer that covers the body to be covered, as it closes the pores of the body's surface, increases its smoothness and glitter and makes it easy to clean<sup>41</sup>.

### **Steatite Stone's Association with Glaze:**

Through what has been said about the steps and methods of various glazing industry, the materials in his industry, The researcher considers that the ancient Egyptian has well understood the features and characteristics of the stones found in his environment, especially the stone of Steatite, and that he knew how to deal with them, if he excelled and excelled in their optimal use, thereby establishing the principles of geology and mining, which greatly benefited him in the highness of his civilization and benefited human civilizations at that time<sup>42</sup>.

This is confirmed by the fact that Egypt's Steatite stone models do not exist in any of its neighboring Mediterranean States<sup>43</sup>.

Therefore, the researcher is likely that the ancient Egyptian has outgrown the glaze of the Steatite stone, colored it in different colors<sup>44</sup>, and that he has begun to extract this stone from his various places of existence. Moreover, he produced many wonderful artworks, carving the Steatite stone and covering it with a glass cover. As a very difficult project, to come up with different ways to glaze it<sup>45</sup>, which he used extensively in works of art and small sculptures, this sculpture is one of the most important and ancient features of ancient Egyptian art<sup>46</sup>, where its various and precise works have emerged since the civilization of El-Badari in the pre-dynastic era<sup>47</sup>.

His name: Steatite Stone is not known in ancient Egyptian writing yet<sup>48</sup>.

### **Usage:**

Steatite Stone was used in the manufacture of many thin small arts, such as beads, belts, amulets, amulets, pots, seals, ornamental pins statues of kings and

<sup>39</sup> Dayton, J. E, Minerals, Metals, Glazing and man, London (1978), p. 211-213.

<sup>40</sup> Giralt, G. M., Colour and Technology in the historic decorated glaze and glasses, vol. I, University de Catalunya (2014); Al -Farid Lucas, op. cit., p. 297.

<sup>41</sup> Britt, J., The complete guide to high-fire Glazes, Sterling published Company, London (2007); Fawzi Abdel Aziz Al-Qabsi. (2003). Ceramic and Glass Techniques (In Arabic), Dar Al-Shorouk, Jordan.

<sup>42</sup> Aldred, C., (1990) The Jewels of the Pharaohs, Translated into arabic by: Mukhtar Al-Suwaifi, Reviewed by: Ahmed Qadri, First Edition, Dar Al-Sharqiya, Cairo, pp. 189-190

<sup>43</sup> Murray, M. A., (1934), Op. Cit., p. 7; Hall, H. R., The Relations of Aegean with Egyptian art; in: JEA1 (1914), no. 3, p. 197-206.

<sup>44</sup> Giralt, M., (2014). Op. Cit., p. 95.

<sup>45</sup> Feucht, E., " Goldsch miedearbeiten; in: LÄ II (1977), cols. 751-754; Wilkinson, A., Ancient Egyptian Jewellery, London (1971); Tite, M., Bimson, M., Glazed Steatite An investigation into the methods of glazing used in Ancient Egypt, World archaeology 21 (1989), p. 87-100.

<sup>46</sup> Aldred, C., "Bildhauer und Bildhauerei", in: LÄ I (1975), cols. 800-805; Rosenthal, R., Jewelry in Ancient times, London (1973).

<sup>47</sup> Burnton, G., Caton-Thomson, G., The Badarian Civilization (1928), p. 199-205.

<sup>48</sup> Fuchs, R., (1984). Steatite, col. 1271.

gods. Most of these works were associated with property in ancient Egypt and religious beliefs, from the ages before the families until the end of ancient Egyptian civilization<sup>49</sup>. Most of which were besides their use of decoration, or for the life were also used as amulets<sup>50</sup>.

### **Beads, Belts<sup>51</sup>, Necklaces<sup>52</sup>:**

It is worth mentioning that the use of beads in ancient Egypt dates back to about 12 thousand years BC. They were initially made of bones, gravel, seeds, shells, teeth, and were punctured. They were worn around the neck, arm, waist, hand, they are used for decoration<sup>53</sup>.

The ancient Egyptian used the stone of steatite in the manufacture of beads and also glazed those beads, which he colored blue and green, and was one of the old Egyptian's favorite colors. The first symbolized zeal water and the Nile River, while the second symbolized fertility, regeneration and green crops<sup>54</sup>. Beads have been used as a waist belt since prehistoric times.

The earliest found beads made of glazed Steatite stone, date back to the Badari civilization<sup>55</sup>, where the ancient Egyptian began the first glazing of Steatite beads, where he had access to the work of his paste of quartz powder and sand and glaze<sup>56</sup> (Figure 2).

This beaded belt was located around the waist of the deceased at Cemetery No. 5735 in Badari in a pit, the deceased is on the squatting body, and this belt is located at the Petri Museum in London and bears the number "Uc.9250"<sup>57</sup>.

So the researcher is likely that these belts made of blue-colored beads from the colored Steatite stone of the Badari civilization were used as a tool for decoration placed around the waist, and also as a mascot for protection, which confirms the existence of the belt around the waist of the deceased in his Badari cemetery, as a mascot in the other world to protect the deceased. One of the most beautiful pieces of the Badari period is its expression of small beads glazed from Steatite stone (Figure 3), which is located in the British Museum under

<sup>49</sup> Alderd, C., *Bildhauer und Bildhauerei*, (1975), p. 800-805.

<sup>50</sup> Amulets, which we have as "Hijab", protect their owner from any harm. This is the idea that the ancient Egyptian believed in, and it was what motivated him to make many amulets for the dead and the living alike. See: Klasen, A., "Amulet", in: *LÄ I* (1975), cols. 232-236; Andrews, C., "Amulets" in: *Oxf. Enc. I, AUC, Cairo* (2001), p. 75-82; Hussein, Elham (1992). *Ancient Egyptian amulets in the New Kingdom (In Arabic)*, unpublished master's thesis manuscript, Faculty of Archeology - Cairo University; Samir Fahim Hammad. (2007) *Amulets in ancient Egypt from the pre-dynastic period until the end of the Old Kingdom (In Arabic)*. A comparative study of amulets in Contemporary Egypt, unpublished master's thesis, Faculty of Arts, Tanta University.

<sup>51</sup> Belts or aprons, which are cloth belts from which hang ribbons that are a series of beads arranged in Threads, worn by naked girls around the waist, and the waist was one of the weak parts of women and men, and it increased its spread in the Middle and New Kingdom. See:

Wilkinson, A., *Ancient Egyptian Jewellery* (1971), p. 91.;Krah, K., *Perle*, in: *LÄ IV* (1982)., cols. 939-941.

<sup>52</sup> Necklace: It is one of the jewelry and adornment tools in ancient Egypt. In the beginning, it was no more than beads arranged on simple strings, and it included some amulets, some necklaces, and pendants bearing religious symbols such as the Ankh, the Waj, and the Djed. See:

Cyril Aldred (1990), cit., p. 191; Rosenthal, R., (1973) op. Cit., p. 67.

<sup>53</sup> Al-Farid Lucas, op, cit., p. 75

<sup>54</sup> Nolte, B., "Fritte", in: *LÄII*, cols. 332-333.

<sup>55</sup> Brunton, G., Caton-Thomson, G., op. cit., p. 27.

<sup>56</sup> Drenkhahn, R.,(1984). Op. Cit., col. 50;Martin, K.,(1984). Op. Cit., col. 379.

<sup>57</sup> Brunton, G., Caton-Thomson, G., op. cit., p. 27, pl. VIII.

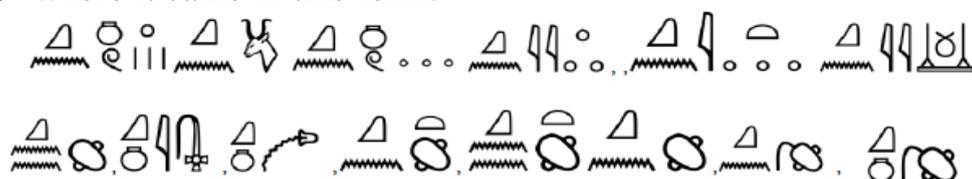
number B.M.62150<sup>58</sup>.

There are also some beads used as mascots (figure 4) and glazed Steatite<sup>59</sup>. There is also a necklace from the 7<sup>th</sup> or 8<sup>th</sup> dynasty found in Mahasna near Abydos, which is made of glazed Steatite stone (Figure 5) and is located in the Ashmolean Museum of Oxford<sup>60</sup> under AN.1896-1908EE 457.

### Pots

It is worth mentioning that the ancient Egyptian produced many shapes for pots made of various stones. These pots were multifaceted and different for various uses. They were represented in bodies such as grand dishes, pitchers, cups, oil saucepans, eyeliners, and paints, fat pots for beauty, evaporators and ritual tools<sup>61</sup>.

The researcher found that the Steatite stone was associated with some pots in ancient Egypt, and that the most famous of these pots made of this stone is the pot “*Kn*” where it came in this form:



Its variations were stated as *Kn*, *Knw*, *Kn̄t*, *Kn̄nt*, *Kn̄it*<sup>62</sup>

Moreover, in Coptic mentioned as: KNNE, KENlss<sup>63</sup>

It was used for medical purposes, where fat used to treat eye disease was applied<sup>64</sup>. Since the modern era of the 20<sup>th</sup> dynasty<sup>65</sup>, the colors of these pots have been yellow, where these stone pots<sup>66</sup> also included medical paints and oils<sup>67</sup>.

<sup>58</sup> Murray, M. A.,(1934)Ancient Egypt And The East, p. 69.

<sup>59</sup> Murray, M. A.,(1934)Ancient Egypt And The East, p. 70.

<sup>60</sup> Ashomolean Museum (2021). Ancient Egypt and Nubia.

<http://www.Ashomolean.org/transforming/Egypt/>

<http://www.Ashomolean.or/departments/antiquities/about/AEgypt/>

<sup>61</sup> Maspero, G.,(1914) Manual of Egyptian archaeology and Guide to the study of Antiquities in Egypt, Coynell University, New York, 299-300;Petrie, W.F.,(1921)"Corpus of prehistoric pottery and palettes "in: BSAE, 32,66-70.; Murray, M. A.,(1911)." Figure -Vases in Egypt ", in Hs-2, p. 44.

<sup>62</sup> Wb. V, 40,10.-12,41,1-4;52,10-13.

<sup>63</sup> Wb. V, 40, 10.

<sup>64</sup> Eye treatment: The ancient Egyptian excelled in treating eye diseases, and this was due to heat, dust, and insects. The Ebers Papyrus contains a description of more than 60 cases of eye diseases and their treatment, see:

Ebbell, B.(1937)The Papyrus Ebers, Copenhagen, p. 60-65; Köbler, U.,(1982)" Papyrus Ebers", in: LÄ IV, col. 704;westendorf, W.,(1980). "Krankheit", in: LÄ III, col. 758., Westendorf, W.,(1999). Handbuch der Altägyptischen Medizen, 2 Vols. Brill, 92;Nunn, J.,(1997). Ancient Egyptian Medicine, London. 38-39; Paul Ghalionji (1998), Medical Civilization in Ancient Egypt, Translated into Arabic by: Maher Juwejati, Reviewed by: Mahmoud Maher Taha, Cairo; Julius Geyer (1998). Medicine and mummification during the era of the Pharaohs, translated into Arabic by Antoine Zekry, Cairo; Wafaa Ahmed Al-Sayed Badar. (1994) Medicine and Physicians in Ancient Egypt (In Arabic), Bustan Al-Ma'rifa, Alexandria; Hassan Kamal (1994) Encyclopedia of Ancient Egyptian Medicine (In Arabic), Second Edition.

<sup>65</sup> Wb. V, 40,10-12; 41,1-4.

<sup>66</sup> For more information about the stone vessels see:  
Arnold, D., (1977). Gefäße, in: LÄ II, cols. 483-501.

<sup>67</sup> 67 For more information about the vessels of oils that were used in Egypt for medicinal and therapeutic purposes See:

Bouriau, J. D., (1984). Salb gefäße, in: LÄ V, cols. 262-366; Müller, C., (1984). Schminkegefäße, in: LÄ V, cols. 667-668; Feucht, E., (1984). Schmuck, in: LÄ V, cols. 668-670; Germry, R., (1982). Öle, in: LÄ IV, cols. 552-555 Fletchler, J., (1998) oils and perfumes of Ancient Egypt, London; Germer, R., (1982) myrhe, in LÄ IV, cols. 275-

The fat of the slaughtered fat was also placed as a sacrifice, where it was burning this fat, resulting in the smell of the rising smell of the sky since the age of the 19<sup>th</sup> and 20<sup>th</sup> dynasty<sup>68</sup>.

The study found that there was a pot on its hedgehog<sup>69</sup>, from glazed Steatite Stone, back to its second critical period, about 6 cm. It is currently located in the National Museum of Copenhagen (Figure 6). This pot is characterized by its opening from the highest breadth. The pumpkin is represented by its eyes and ears as well as its distinctive spines, which cover its body<sup>70</sup>.

There is also a pot of green glazed Steatite stone and it has been broken with inscriptions of King Thutmose I and it is located in the British Museum<sup>71</sup> (Figure 7) under the number B.M.4762.

During the 18<sup>th</sup> dynasty, the reign of King Amenhotep I, at the Metropolitan Museum in New York, there is a broken pot of glazed Steatite stone<sup>72</sup> (Figure8).

There is also a pot in the eyeliner tractor of King Thutmose I, from the glazed Steatite Stone, with inscriptions of King Thutmose I. This is characterized by having a large neck, which is now present at the Metropolitan Museum in New York<sup>73</sup> (Figure 9). At the MMA.26.164.

From the reign of King Thutmose III there is a pot of a fish shape, made of blue-glazed Steatite stone, which is believed to have been originally manufactured from the reign of the Hyksos and taken by King Thutmose III, and is found in the Metropolitan Museum in New York<sup>74</sup> (Figure 10).

### **Royal and gods' statues:**

The ancient Egyptian used colored glazed steatite stone in making statues of kings as well as for gods. There is a statue of King Amenhotep III made of blue glazed steatite stone. The statue was broken. Its head is located in the Egyptian Museum under the number SR4/11526, JE38596 the rest of the statue is located in the university museum in England. The head is about 16 cm high and found in the Karnak Cachite<sup>75</sup> (figure 11).

There are also pieces of rare blue-glazed steatite stone, represents the

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276.

<sup>68</sup> Wb. V, 52, 10-13.

<sup>69</sup> It is a small mammal that is active in the summer and hibernates in the winter. It feeds on insects, locusts, snakes, and birds. It tolerates a large amount of poison, as it is distinguished by its resistance to snake venom. It is also distinguished by its thorns that cover its body. See:

Hulshoff, D., (1980) *Der Igel im alten Ägypten*, Hildesheim; Osborn, J., Osbrnova, J., (1998). *The Mammals of Ancient Egypt*, Vol. 4, Warminster; Szpakowska, K., (2014) *the significance of Hedgehogs in Ancient Egypt*, Swansea; Al-Shatla, Ibrahim Youssef, (2008) *A biological interpretation of some creatures in drawings and wall inscriptions in Pharaonic Egypt (In Arabic)*, Cairo National Library and Archives, Al-Dahshan, Ayman Hassan, (2010) *The Hedgehog in Ancient Egypt (In Arabic)*, Book of the Thirteenth Conference of the General Union of Arab Archaeologists, Libya; Thabet, Samah Muhammad, (2020) *The Hedgehog in Ancient Egypt (In Arabic)*, unpublished master's manuscript thesis, Faculty of Archeology, South Valley University, Qena.

<sup>70</sup> Buhl, M.,(1974). *A hundred masterpieces from the Ancient Near East*, Copenhagen, nr. 36. Buhl, M.,(1974). *A hundred masterpieces from the Ancient Near East*, Copenhagen, nr. 36.

<sup>71</sup> Murray, M. A.,(1934). *Ancient Egypt and the East* 11,1,p. 72.

<sup>72</sup> Lilyquist,C.,(1995). *Egyptian Stone Vessels Khain through Tuthmosis IV.*, Metropolitan Museum Art, Newyork. P. 112.

<sup>73</sup> Lilyquis,. C., (1995) Op. Cit. P113.

<sup>74</sup> Lilyquis,. C., (1995)op. Cit. P. 114.

<sup>75</sup> Ashour, R., (2012), op. cit., p. 30, Figure 3.

goddess Ta-wert, from the 12<sup>th</sup> dynasty and located at the British Museum<sup>76</sup> under 11862 (figure 12).

### **A Decorative pin:**

There is an ornamental pin of King Thutmose III of the 18<sup>th</sup> dynasty, currently located in the Turin Museum made of glazed steatite stone, Inlaid with gold frame with the king's name on it<sup>77</sup> (Figure 13). Moreover, most likely it was used as a royal seal besides his role as an adornment tool.

### **Circular disk:**

It is worth mentioning that there is a circular disk with the name of the Montuemhat, Mayor of Thebes, of 25<sup>th</sup> dynasty, and that this circular disc is 7 X7 cm, made of blue glazed steatite stone. it is located at the Museum of Ashmolean in Oxford<sup>78</sup> (Figure 14) under the number AN 1879.349.

The researcher believes that this circular disk is closely related to the solar worship, it symbolizes the solar disk in the concept of circle "Shin", which symbolizes immortality<sup>79</sup>, and the blue color that represents fertility and development, which symbolizes the god "Kheperi"<sup>80</sup>, the first body of the sun, refers to the birth and resurrection associated with sunrise, and hopes that the deceased will shine as the sun "reborn" confirms that this rare piece was one of the individuals and is specific to the deceased.

### **Seals<sup>81</sup>:**

The ancient Egyptian used glazed steatite stone in making many seals since the beginning of the dynasties and throughout the ancient Egyptian civilization and used several forms of seals, including:

#### **A. Cylindrical seals<sup>82</sup>**

This type of seals appeared from the prehistoric period and lasted until the end of the Old kingdom. The ancient Egyptian used the glazed Steatite stone to make this kind of seals.

There has been an amulet of a cylindrical seal from the beginning of the dynasties. It was made from a glazed steatite stone, possibly worn in this early period of the dynasties. This reflects and clarifies the administrative level, as it was found in an individual's burial, believed to be part of the funeral amulets, with unknown hieroglyphs and inscriptions. This amulet is located at the

<sup>76</sup> Murray, M. A., (1934). *Ancient Egypt and the East*, 11, 1, p. 71, Fig. 8A.

<sup>77</sup> Sparavino, A.C., (2009). *Ancient Egyptian Seals and Scarabs*, Torino, P. 24.

<sup>78</sup> Ashmolean Museum, (2021). *Ancient Egypt and Nubia*.

<http://www.Ashmolean.org/departments/Antiquities/about/AEgypt/9/9/2021>

<sup>79</sup> For more information about eternity. See:

Waziri, Ayman Abdel Fattah, (2009). *The concept and manifestations of immortality in ancient Egypt until the end of the New Kingdom* (In Arabic): a cultural linguistic study, unpublished doctoral dissertation manuscript, Cairo.

<sup>80</sup> Assmann, J., (1975) "cheper" in: *LÄ I*, cols,934-940; Hansen, N.B., (2000) "insects" in: *Oxf. ENC. II*, P. 161-163.

<sup>81</sup> The word seal is the same as the ancient Egyptian word *xm*, which means a conclusion or the end of something, and it is one of the practical means that he used in commercial and economic affairs and for several purposes. See: Kaplony, P., (1984). "Siegelung" in: *LÄ V*, cols,933-937; Kaplony, P., (1984). *Rollsiegel*, in *LÄ V*, cols.294-300.

<sup>82</sup> It is believed that the first appearance of these seals dates back to the Naqada II era. See:

Wegner, J., (2021) Chapter thirteen. *The evolution of Ancient Egyptian Seals and systems*, P. 229.

<https://doi.org/10.1017/9781108160186.017>

Frankfort, H., (1955) *Cylindrical seals*, London, P. 292.

University of Pennsylvania Museum<sup>83</sup> (Figure 15).

There is also a cylindrical seal of King Pepi I of the Sixth Dynasty from the glazed Steatite Stone 53 mm × 53 mm high, located at the Metropolitan Museum in New York, with the King's serkh and hieroglyph text<sup>84</sup> (Figure 16).

There is also a cylindrical seal of the glazed steatite of Queen Sobek Neferu of the 12th dynasty, located in the British Museum, inscribed with the Royal cartouche and a text written below the serkh<sup>85</sup>. (Figure 17).

There is also a cylindrical seal of a glazed steatite, for King Senwesert I and it is inscribed vertically with the king's cartouche and a text of hieroglyph<sup>86</sup>, (Figure 18). It is located at the Petri Museum in London.

### **B. Seals on button shape:**

This kind of seals appeared at the end of the old kingdom, and these were seals with a funeral amulets, as they were found in the tombs of women and children side by side with the tombs of men and found over the body, around the neck, as a necklace, around the wrist of the hand, a ring in the hand, or inside the decorative boxes<sup>87</sup>.

Many of these seals were made of glazed steatite stone, and the type was then replaced by seals on the scarab's shape<sup>88</sup>.

### **C. Seals in the form of scarab:**

This type appeared in the late of the first intermediate period and the beginning of the Middle kingdom. It was widespread throughout ancient Egyptian civilization. It replaced the seals on the button shape<sup>89</sup>.

The ancient Egyptian used the colored glazed steatite stone to make this type of seal and produced thousands of it.

Since the Middle kingdom, it has been about 1.7 centimeters long, and it represents a bunk sitting on its oval base that has represented the decoy's thorns on its squares (Figure 19). It is located in the Egyptian Museum<sup>90</sup> under the number JE.84320.

### **Scarabs<sup>91</sup>:**

The ancient Egyptian used the colored glazed steatite stone to make thousands of scarabs throughout ancient Egyptian history. There are many scarabs made of glazed steatite in blue and green found in four digs of Queen Hatshepsut's<sup>92</sup> Temple of Deir El-Bahari, They are located in the Metropolitan

<sup>83</sup> Wegner, J.,(2020)op. Cit., P. 234, Fig. 13.1

<sup>84</sup> Hassan, G. A.,(2018) "Mechanical Engineering in Ancient Egypt, part72 :seals inscription ", in international Journal Of emerging engineering research and technology, Vol. 6,9.P. 17

<sup>85</sup> Hassan, G. A., (2018). Op. Cit. P. 18, fig. 16.

<sup>86</sup> Hassan, G. A., (2018)op. Cit., P. 18, Fig. 17.

<sup>87</sup> Graef, E., (1984), "Ringe", in: LÄ V, cols. 263-265; Aldred, C., (1990), op. cit., p. 190; Samir Fahim Hammad (2007), op. cit..

<sup>88</sup> Ward, J., (1902). The scared beetle: a popular treatise on Egyptian Scarabs in and history, London.

<sup>89</sup> Newberry, E., (1907). Scarab Shaped seals [CG 36001-37521], London; Hornung, E., (1976). Skarabäen und Andere, Siegel amulette aus Basler Sammlung, Mainz.

<sup>90</sup> Geoffrey, M., (1971). Egyptian administrative and private name Seals, Oxford. Tf. 34, nr. 510.

<sup>91</sup> Giveon, R., (1984). Skarabaus, in: LÄ V, cols 968-981; Matouk, F., (1971, ١٩٧٦) Corpus du Scarabée Égyptien, 2 vols, Beirut; Newberry, P. E.,(1908). Scarabs. London.

<sup>92</sup> Allen, J. P.,(2005). The Role of Amun inc Roehrig (ed) Hatshrpust, Newyork; Allen, J. P., (2005) Djeser-Djeseru:

Museum, and the royal names and titles have been inscribed on the bases of most of these scarabs. Some of them bear the name of King Tuthmosis III, and some of her daughter Princess Nafrure. Some of these scarabs were represented as amulets and seals<sup>93</sup>. (Figure 20).

There is also a scarab of King Tuthmosis III made of glazed Steatite stone, and inlaid in gold at the Turin Museum, Italy<sup>94</sup>. (Figure 21).

There are also many scarabs for both Tuthmosis III and Amenhotep III, made also from glazed steatite stone, with royal cartouches and inscriptions. They are located in the Egyptian Museum<sup>95</sup>. (Figure 22).

### **Conclusion and results**

The study dealt with glazed steatite stone in ancient Egypt, in terms of its anomaly, characteristics, spread places, upbringing, and glazing genesis, which included materials in the installation of its glaze dish, such as silica and smelting aids: Lead smelting aids, alkaline smelting aids, which include sodium compounds and potassium compounds, and finally Filpari smelting aids. The study also examined the association of steatite stone with glaze, and its multiple uses in sculpting exquisite artworks such as beads, belts, contracts, pots, ornamental pins, seals that included: On the cylindrical seals, seals on the button body, seals on the jars body, and finally carving the swaggers.

### **Among the study's most important findings are:**

- The study notes that the ancient Egyptian has well understood the features and characteristics of the stones found in ancient Egypt. This is in addition to the science base of ancient Egypt, which we can call the science of the principles of geology and mining.
- The study shows that the Steatite stone was transparent, with several colors, but the most important of which is blue, is the grainy color of the ancient Egyptian, which is associated with fertility, resurrection and leaflets.
- It is clear from the study that this stone is not fusible, and this makes it glazable, and when heated it removes water from it and gains its durability, as it is not affected by acids. It's hard to fuse.
- The study shows that there are many places where this stone has spread in Egypt, and it has been concentrated in the Eastern Sahara and Southeast Aswan.
- The study shows that steatite Stone is the most important, first and oldest stone that the ancient Egyptian has glazed, and that the oldest artworks found are due to the Badari civilization, many of which have beads, contracts, belts, and likely. The reason, behind this, is the proximity of Badari to Mount Qatar, which is one of the places where this stone spreads.
- The study shows the extent of his ancient Egyptian knowledge of glazing, and

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the temple of Hatshepsut at Deir el-Bahari, Newyork; Ben-Tor, D.,(2015) Scarabs from Hatshepsut foundation at Deir el-Bahari, Newyork

<sup>93</sup> Boostra, s., (2020) finding scarab amulet work shop's in Egypt and Beyond oxford., P. 69-71

<sup>94</sup> Sparavigna, A.C.,(2009).op.cit,p.24-a

<sup>95</sup> Newberry, P.E., (1907) Scarab Shaped Seals, London, pl.II,IV.

the materials involved in its industry; So the researcher suggests that the old Egyptian is the first mining and geological man because he glazed small beads and pierced them to make belts And decades ago, from prehistoric times since the civilization of Badari, this shows how superior the ancient Egyptian knew about the steps of glazing. Glass or its components, whether glass or quartz.

- The researcher is likely that the belts made of glazed steatite, which were found from one of Badari's tombs, were intended for religious funeral masculinities, along with a color of ornamental colors.
- The study found that the glazed steatite stone was associated with pots in ancient Egypt, particularly *Kn*, which was used for medical and therapeutic purposes, where it was placed, fat, oils that treated eye diseases, or placed on the body, and that these pots were colored yellow, and were included in the list of pots associated with paints, oils and beauty.
- The study found that the pots made from the glazed steatite of the 18 kings of the family, all of which were royal pots inscribed with the surname and the names of the kings. Some of them were kohl pots, all of which were colored in blue.
- The researcher believes that the pots that appeared on the hedgehog body may be related to the solar doctrine, but those that appeared on its thickness may be related to the Osirian doctrine.
- It is clear from the study that the statues of idols and kings made of glazed steatite have been colored blue or, green and is the grainy color of the ancient Egyptian.
- The study found that statues of kings and idols carved from glazed steatite are very little or small in size compared to small artworks such as beads, swaggers, and amulets, so the researcher is likely to be the reason for this is his ancient Egyptian knowledge of the features of this stone, and his fear that the statues will be broken.
- Note from the study that some gold-encrusted royal ornamental pins have been carved from glazed steatite stone.
- The researcher believes that most of the artworks sculpted from this glazed stone, which was specific to kings except for a few, were for princes such as a circular disc of the products of the good mayor of the family 25, and a decade of glazed beads for one of the members of the seventh or eighth family of the philanthropist, located in the Museum of the Ashmolean.
- The researcher believes that most of the exact artworks carved were used in daily and practical life along with their religious and funeral purposes, as mascots where they were found in cemeteries, and were placed around the different body parts of the deceased.
- The study found that the glazed Steatite stone made cylindrical seals from pre-family times until the end of the old State.
- It is clear from the study that the seals in the form of a button made of glazed steatite from the end of the old state and the beginning of the age of first

transition to the middle state.

- The study showed that seals in the form of jars were made of glazed steatite, replacing seals in the form of buttons from the era of the centrist state until the end of ancient Egyptian civilization.
- According to the researcher, the seals made of glazed steatite were all royal seals, except for only one cylindrical seal found in an individual cemetery since the age of the families, which is located at the University of Pennsylvania Museum with unidentified inscriptions and symbols and is of religious and symbolic nutrition.
- The researcher believes that the seals on his body are jars that were carved out of glazed steatite, the vast majority of them colored blue and they were porous and religious meaningful besides their daily and practical use.
- The study found that thousands of brothels made from glazed steatite were closely related to solar worship, through the representation of the News and Blue Authority, which symbolizes rebirth again. (Baath and Leaflet) The majority of these brothels are inscribed with the names and surnames of many monarchs, especially the modern state: such as Hatshepsut, Thutmus III, as well as Princess Nafrabsut, his son Hatshepsut.
- The study shows that there is a circular disk of baptist baptist family 25, which is closely related to solar worship, through its incarnation of the sun disk symbolizing its label "Shin",
- As well as blue on this circular disk, which symbolizes news and sunrise again (send and post).
- Finally, the glazed Steatite stone associated with its glazing industry, in ancient Egypt, has been known since prehistoric times since the Badari civilization and lasted until the end of ancient Egyptian civilization.



Figure 1: Steatite stone<sup>96</sup>



Figure 2: A belt of glazed steatite beads<sup>97</sup>

<sup>96</sup> <https://ar.wikipedia.org/w/index.php?title=^&oldid=52553795>; 11/9/2021

Deer, w., Howie, R. A., Zussman, (1963) Rock-forming minerals, Vol. 3 (6 Edition), 678.

<sup>97</sup> Found around the waist of the deceased in Tomb No. 5735 Al-Badari, Petrie Museum, London. No.--Uc.9250. according to:

Brunton, G., Catton-Thomson-G. (1928) The Badari civilization and predynastic, ps AsAE 64, p.27, pl. VII

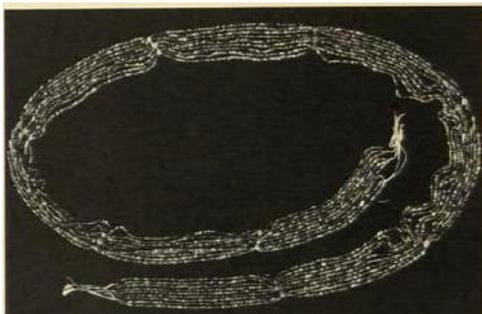


Figure 3: A necklace made of glazed steatite beads –ElBadari- British museum- no. 62150 <sup>98</sup>



Figure 4: Some beads of glazed steatite used as amulets- ElBadari- British museum. <sup>99</sup>



Figure 5: A necklace of steatite <sup>100</sup>



Figure 6: A vessel of glazed steatite <sup>101</sup>



Figure 7: A broken green glazed steatite vessel <sup>102</sup>

<sup>98</sup> Murray, M. A.,(1934). Ancient Egypt and the East, 11, 1, p. 71. Some glazed steatite beads as amulets from the British Badari Museum, See:

Murray, M. A., (1934)Ancient Egypt and the East, p. 71

<sup>99</sup> Murray, M. A.,(1934), p. 71

<sup>100</sup> A Necklace from the Mahasna- steatite, Seventh or Eighth Dynasty, Ashmolean Museum, Oxford. Under number: AN.1896-1908EE457. according to:

<sup>101</sup> Naqada II glazed steatite vase - 1.6 cm high, National Museum in Copenhagen, No. 7802. Quoted from Buhl, M., (1974). A hundered masterpieces from the Ancient near East, Copenhagen, nr. 36.

<sup>102</sup> A broken green glazed steatite vessel belonging to King Thutmose I, Dynasty 18, British Museum - B.m,4762 Quoted from: Murray, M. A., (1934). Ancient Egypt and the East 11,1,p. 72. Ashmolean Museum, (2021). Ancient Egypt and Nubia.

<http://www.Ashomolean.org/transforming/Egypt/>



Figure 8: Broken steatite glazed vessel<sup>103</sup>



Figure 9: A vase of glazed steatite kohl jars<sup>104</sup>

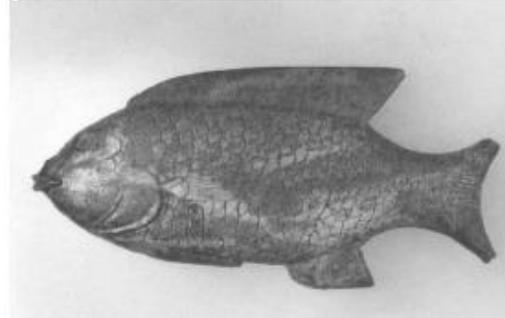


Figure 10: A blue glazed steatite fish<sup>105</sup>

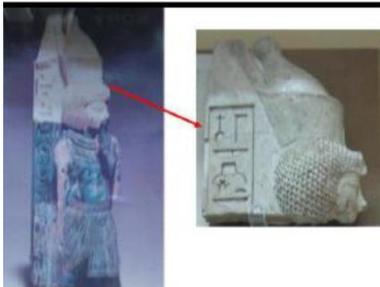


Figure 11: Head of a statue of King Amenhotep III<sup>106</sup>



Figure 12: A statue of Taweret<sup>107</sup>

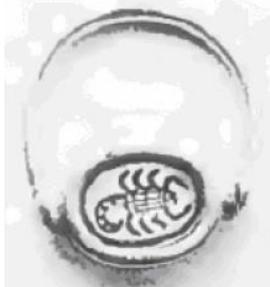


Figure 13: ornamental brooch<sup>108</sup>



Figure 14: A circular disc of blue-glazed steatite<sup>109</sup>

<sup>103</sup> Broken steatite glazed vessel, Amenhotep I, 18th Dynasty, Metropolitan Museum, quoted from: Lilyquist, C., (1995) .op. cit., p.112.

<sup>104</sup> A vase of glazed steatite kohl jars, Tuthmosis I, 18th Dynasty, Metropolitan Museum. according to: - Lilyquist, C., (1995), op. cit, p.113.

<sup>105</sup> A vase in the form of a blue glazed steatite fish, Tuthmosis III, 18th Dynasty, Metropolitan Museum, quoted from: Lilyquist,C.,(1995).op.cit.p.114

<sup>106</sup> Head of a statue of King Amenhotep III, steatite glazed in blue - 16 cm, height of the Karnak Cache, Egyptian Museum. according to: Ashour, R., (2012), P. 2.

<sup>107</sup> A statue of the goddess Taweret, glazed in blue, 12th Dynasty, British Museum, quoted from: - Murray, M. A., (1934). Ancient Egypt and the East, 11, 1, p. 71, Fig. 8A.

<sup>108</sup> Thutmose III ornamental brooch, gold-glazed steatite, Turin Museum, quoted from: Sparaving, A.C., (2009). Op. cit P. 24, fig.b.

<sup>109</sup> A circular disc of blue-glazed steatite from the reign of Montuemhat – 25 dynasty- Ashmolean Museum, quoted from: - Ashmolean Museum,(2021). Ancient Egypt and Nubia.

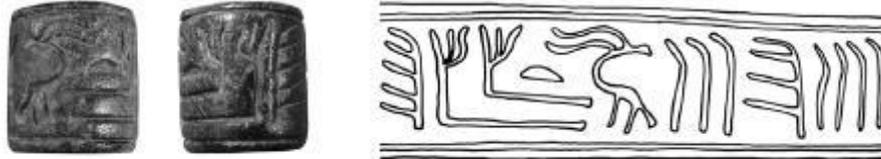


Figure 15: A cylinder seal - the tomb of one of the individuals- <sup>110</sup>



Figure 16: A cylindrical seal <sup>111</sup>



Figure 17: Sobekneferu seal <sup>112</sup>



Figure 18: Senuwsert I seal <sup>113</sup>



Figure 19: A scarab seal <sup>114</sup>

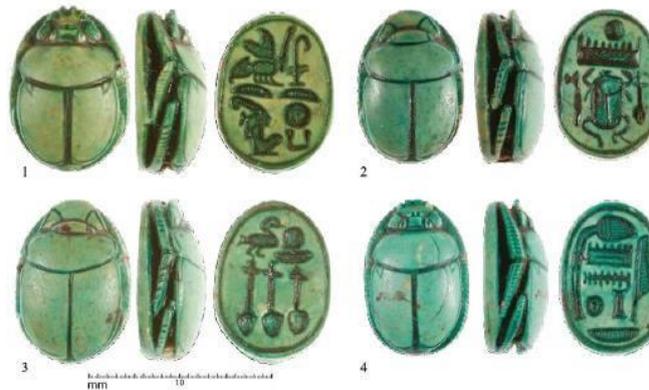


Figure 20 :Scarabs of Hatshepsut and her daughter Neferure <sup>115</sup>

<sup>110</sup> A cylinder seal - the tomb of one of the individuals- the beginning of the dynasties, the Museum of the University of Pennsylvania, quoting: -

Wegner, J., Op.cit.p.234, Fig.13.1

<sup>111</sup> A cylindrical seal of King Pepi I, 15 dynasty, Glazed steatite, Metropolitan Museum:- Hassan, G. A., (2018) "Op.cit.p.17.fig.11.

<sup>112</sup> A cylinder seal of Queen Sobekneferu Dynasty - 12 glazed steatite stones, British Museum. Quoted from: Hassan, G. A., (2018) " op.cit. p.18.fig.16

<sup>113</sup> Sealing Cylindrical Senwsert I, The Grand Great Petrie Museum in London, quoting: - Hassan, G. A., (2018) "Op.cit. P.18.fig.1

<sup>114</sup> A scarab seal in the form of a hedgehog, Middle kingdom, glazed steatite, Egyptian Museum. Quoted from:- Geoffrey, M., (1971). op.cit. p.tf.34, nr.510..

<sup>115</sup> Scarabs of Hatshepsut and her daughter Neferure, and King Tuthmosis III, colored glazed steatite excavations at Deir el-Bahri, Metropolitan Museum. according to:



Figure 21: A glazed steatite scarab <sup>116</sup>



Figure 22: Inscribed scarabs for Thutmose III and Amenhotep III <sup>117</sup>

**References:**

- Al -Farid Lucas (1991) materials and industries among the ancient Egyptians (In Arabic), translation: Zaki Iskandar, Mohamed Ghoneim, Madbouly Library, Cairo,
- Alderd, C.,(1975). Bildhauer und Bildhauerei, in:LÄI 800-805
- Alderd,c.,(1971) Jewels of The Phraaons,london
- Allen, J. P., (2005). The Role of Amun inc Roehrig (ed) Hatshrpust,Newyork.
- Allen, J. P., (2005).Djeser-Djeseru: the temple of Hatshepsut at Deir el- Bahari, Newyork.
- Andrews,C.,(2001)" Amulets" in:Oxf.Enc.I,Auc, Cairo,75-82.
- Arnold, D., (1977). Gefäbe, in:LÄll, cols. 483-501.
- Ashmolean Museum,(2021). Ancient Egypt and Nubia.
- Ashour, Rabab, (2012), Al -Qashani (The Egyptian faience) in ancient Egypt and its royal uses in the New kindom (In Arabic), the manuscript of unpublished Master thesis, Faculty of Antiquities, Cairo University
- Assmann,J.,(1975)"chepre "in:LÄI,cols,934-940.
- Ball,J.,(1912)Geography and Geology o Southeastern Egypt ,Kairo.
- Ben-Tor, D.,(2015) Scarabs from Hatshepsut foundation at Deir el- Bahari, Newyork.
- Blackman, A. M.,(1918). "some the Dead", in: JEA 10,London, 118-119.
- Boostra, s.,(2020) findind scarab amulet work shop's in Egypt and Beyondoxford.
- Bouriauu, J. D.,(1984). Salb gefäBe, in: IÄV, cols. 262-366.
- Britt, J.,(2007). The complete guide to high-fire Glazes, Sterling published Company, London.
- Brunton, G., Caton-Thomson, G., The Badarian civilization and predynastic Remains" ,in:BSAE 46,London.
- Buhl, M.,(1974). Ahundered masterpieces from the Ancient Near East, Kopenhagen.

---

Boostra, s., (2020)op.cit.p.71,fig.5.

<sup>116</sup> A glazed steatite scarab inlaid with gold belonging , King Tuthmosis III, Dynasty 18, Turin Museum, quoted from: -

Sparaving, A.C.,(2009).op.cit.p.24-a.

<sup>117</sup> Inscribed scarabs for Thutmose III and Amenhotep III, glazed steatite dynasty - - 18 Egyptian Museum, quoted from -

Newberry, P. E.,(1908).op.cit., Scarab shaped seals,London.pl II,.IV., glazed steatite dynasty- 18 Egyptian Museum, quoted from -

Newberry, P. E.,(1908).op.cit.,cgc,Scaab shaped seals,London.pl II,.IV.

- 
- Dayton, J. E.(1978) Minerals, Metals, Glazing and man, London
  - Deer, W., A., Howie, R., Zussman , J.,(1963). Rock -Forming Minerals. V.3.(6 edition).
  - Drenkhahn, R., "Quartz" in: LÄV, cols. 50-51.
  - Duda,R., Rejl,l.,(1990).Minerals of the world Arch cafe press, Newyork.
  - Ebbell, B.(1937)The Papyrus Ebers, Copehagen,
  - Fawzi Abdel Aziz Al-Qabsi. (2003). Ceramic and Glass Techniques (In Arabic), Dar Al-Shorouk, Jordan.
  - Feucht, E.,(1977)" Goldsch miedearbeiten; in: LÄII, cols. 751-754.
  - Feucht, E.,(1984). Schmuck, in: LÄV, cols. 668-670.
  - Flethcher, J.,(1998) oils and perfumes of Ancient Egypt, London.
  - Forbs,R.J.,(1955).Studies in Ancient Tecnology,Vol.3, Leiden.
  - Forbs,R.J.,(1955).Studies in Ancient Tecnology,Vol.5, Leiden, P174.
  - Frankfort, H.,(1955)cylinders seals, London.
  - Friedmon , F.D.,(1998).Gifts of The Nile .Ancient Egyptian Faience, London.
  - Fuchs ,R.,(1984) Serpentine ,in :LÄV,cols.880-882
  - Fuchs, R.,(1984) steatite, in: LÄV, col1271-1277.
  - Gary, M., & Macafee, R.,& Wolf, c.,(1972) Glossary of Geology, American Geology institute, Washington.
  - Geoffrey, M., (1971). Egyptian administrative and private name Seals, Oxford.
  - George Bornner and others (2001), Dictionary of ancient Egyptian Civilization (In Arabic), translated by Amin Salama, review of Sayed Tawfiq, the Egyptian General Book Authority, Cairo.
  - Germer, R.,(1982)myrhe, in LÄIV, cols. 275-276.
  - Germry, R.,(1982). Öle, in: LÄIV, cols. 552-555.
  - Giralt, G. M. (2014) Colour and Technology in the historic decorated glaze and glasses, vol. I, University de Catalunya.
  - Golden,W., (2013) Perceptions of the serpent in the Ancient Near East: its Bronze Age Role in apotropaic Magic ,Healing and protection, University of south Africa,1-308.
  - Goltz, n, (1972) studien zur Geschichteder mineral namensudhoffs Archive, 14,wiebaden.
  - Graef., E.,(1984), " Ringe ", in: LÄV, cols. 263-265.
  - Gundlach ,R., (1986). "Wadi Allaqi" , in : LÄVI,cols.1095-1096.
  - Gundlach ,R., (1986). "Wadi Halfa" , in : LÄVI,col.1099.
  - Gundlach,R., (1986), Qosseir,in : LÄV,cols.49-50
  - Gundlach,R., (1986),Wadi Hamammate, in: LÄV I,cols,1099-1113
  - Hall, H. R., (1914). The Relations of Aegean with Egyptian art; in: JEA1, no. 3, 197-206.
  - Hall, w. (1992), an introduction to the Rock-forming minerals, second edition.
  - Hansen, N.B., (2000) "insects" in:Oxf.ENC.II,P. 161-163.
  - Harris j. R., (1961). Lexicographical in Ancient Egyptian Minerals, Vio54, Berlin.
  - Hassan Kamal (1994) Encyclopedia of Ancient Egyptian Medicine (In Arabic), Second Edition.
  - Hassan, G. A., (2018) "Mechanical Engineering in Ancient Egypt, part72: seals inscription", in international Journal Of emerging engineering research and technology,

Vol. 6,9.

- Helck, W., (1986) Wadi-Natrun, in LÄVI, cols., 1114-1116
- Hornung, E., (1976). Skarabäen und Andere, Siegel amulette aus Basler Sammlung, Mainz.
- Hulshoff, D., (1980) Der Igel im alten Ägypten, Hildesheim.
- Hume , F.w (1901) Notes sur la Géologie du desert oriental de l'Égypte, Paris.
- Hume,F.w (1931),Geology of Egypt II,1,Kairo.
- Janik,I.,(2020) the Archaeology of seeing :Science and interpretation ,the past and cotemporary Visual art, London and Newyork
- Julius Geyer (1998). Medicine and mummification during the era of the Pharaohs, translated into Arabic by Antoine Zekry, Cairo.
- Kaiser,W.,(1975) ."ElBadari" in LÄI,col.599-600.
- Kaplony P.,(1984)."Siegelung" in:LÄV,cols,933-937
- Kaplony P.,(1984).Rollsiegel,in LÄV,cols.294-300.
- Kayser,H.,(1968) Ägyptish Kunstthan werk,Kassel.
- Kirsch, H.,(1965) Technische Mineralogie, würzburg.
- Klasen,A.,(1975)" Amulet", in:LÄI,cols.332-331.
- Klem, R.,(1984)                      steinbruch ,in: LÄ.V, cols-1276-1283 Wiesbaden
- Köbler, U.,(1982)" Papyrus Ebers", in: LÄIV, col. 704.
- Krah, K.,(1982). Perle, in: LÄ IV,cols.939-941.
- Lilyquist,C.,(1995).Egyptian Stone Vassels Khain Through Tuhmosis IV, Metropolitan Museum Art,Newyork.
- Lüshen, H.,(1979) Die namen der stein, ,thun..
- Martin, K.,(1984). "Sand" in: LÄV, cols. 378-379.
- Maspero, G.,(1914)Manual                      of Egyptian archaeology and Guide to the study of Antiquies in Egypt, Coynell University, New york,
- Möller,G.,(1924).Metal Kunst der alten Ägyptish,Berlin.
- Müller, C.,(1984). SchminkegefäB, in: LÄV, cols. 667-668.
- Murray, M. A.,(1911)." Figure -Vases in Egypt ", in Hs-2,p. 44.
- Murray, M. A.,(1934)Ancient Egypt And The East, Part II, London.
- Nashed, Mukhtar Rasmy, (1973), the virtue of the Egyptian civilization on sciences (In Arabic), the Egyptian General Book Authority, Cairo
- Nelson, G. C.(1984). Ceramic; apotter's Hand book, CBC College published in USA, New Jersey.
- Newberry, P. E.,(1908). Scarabs. London.
- Nicholson                      ,p.t, Show,i.,(2000)                      Egyptian                      Faience,                      Ancient                      Egyptian Materials and Technology, Cambridge
- Nicholson,p.t.,(1993)                      Egyptian                      faience                      and                      Glass,Shire                      Egyptology 18,London.
- Nolte ,B.(1977)"Fayence" in :LÄ II,col.138-142.
- Nolte, B.,(1968). glasegefäBe im Alten Ägypten, MÄS 14
- Nolte, B.,(1977)" frite" in LÄ II, cols. 332-333.
- Nolte,.B. ,(1977)." Glasur", in: LÄII, cols. 617-618.
- Nolte,.B.,(1977). "Glas", in LÄII, cols. 613-617
- Osbrnova, J.,(1998). The Mammals of Ancient Egypt, Vol. 4,Warminster.
- Paul Ghalionji (1998), Medical Civilization in Ancient Egypt, Translated into Arabic by: Maher Juwejati, Reviewed by: Mahmoud Maher Taha, Cairo.

- Petrie, W.F., (1921), "Corpus of prehistoric pottery and palettes "in: BSAE 32.
- Price, M.,(2007) Decorative Stone :The complete Source Book,London.
- Rado, p.(1988). An introduction to the Technology of the pottery, the Wercaste Royal Porcelain company LTD, Oxford.
- Red,J.,(1984) introduction to the principles of ceramic processing,JohanWiley And sons,Newyork.
- Robert Jacques Tipo (2004) Encyclopedia of Pharaonic myths and symbols (In Arabic) translation: Fatima Abdullah Mahmoud Review: Mahmoud Maher Taha, Supreme Council for Culture, First Edition, Cairo.
- Rosenthal, R.,(1973) Jewelry in Ancient times, London.
- Sparavinga, A.C.,(2009). Ancient Egyptian Seals and Scarabs, Torino.
- Szpakowska, K.,(2014) the significance of Hedgehogs in Ancient Egypt,Swansea.
- Thomas, G.,(1982)pottery, the Hamlyn published LTD, England.
- Tite, M., Bimson, M.,(1989) Glazed Steatite An investigation into the methods of glazing used in Ancient Egypt, World archaeology 21,87- 100.
- Tite, m., Frestone .i.c.,Bimson ,M.,(1983).Egyptian Faience: An Investigation of the Methods of production "in :Archaeometry,25.
- Wafaa Ahmed Al-Sayed Badar. (1994) Medicine and Physicians in Ancient Egypt (In Arabic), Bustan Al-Ma'rifa, Alexandria.
- Ward, J.,(1902). The scared beetle: a popular treatise on Egyptian Scarabs in and history, London.
- Wegner, J., (2021) Chapter thirteen. The evolution of Ancient Egyptian Seals and systems.
- westendorf, W.,(1980). "Krankheit", in: LÄIII, col. 758.,
- Westendorf, W.,(1999). Handbuch der Altägyptischen Medizin, 2 Vols.Brill, 92€Nunn, J.,(1997). Ancient Egyptian Medicine.
- Wilkinson, A.,(1971). Ancient Egyptian Jewellery, London.
- William,A.,&Deer.w.A., (1971),Rock -forming mineralsIII, London.

**Websites:**

<http://www.Ashomolean.org/transforming/Egypt/9/9/2021.>

<http://www.Ashomolean.or/departments/antiquities/about/AEgypt/9/9/2021.>

<Http://www.Ashmolean.org/departments/Antiquies/about/AEgypt9/9/2021.>

<https://doi.or/10.1017/9781108160186.017/9/9/2021.>