

Dawn of Oil production in Modern Egypt (1869-1948)

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Abstract

In the second half of the 19th C, the real inception of the oil business started in Egypt by foreign hands and developed to be managed by Egyptians after long decades. This epoch before Egyptianizing the oil sector will be the topic of this paper. Based on the Investigative and historical methodology, this paper aims to investigate the history of oil in Egypt. It also highlights the development & procedures of producing the oil in Egypt. The Governmental oil regulations and its consequences under the investigated period which extended from 1860s to 1940s will be tackled with an insight view on cities that were established mainly as result of discovering oil in lieu. However, this paper is an attempt to discover who controlled the oil production in Egypt and settled the disputes in the oil field which mainly was inhabited by foreign investors who were employed namely by the Egyptian Government.

Keywords: Oil, petroleum, Red Sea, Gebel Zeit, Jamsah, Hurghada, oil concessions.

Introduction

In ancient Egypt, Petroleum was known material, as there are paintings on the temples' walls clarifying that the Pharaohs used crude oil as a fuel to light the oil lamp. Niches where lamps were placed, together with the surfaces of the surrounding rocks were blackened with smoke, showed the use made by the ancients of petroleum in lighting up their mines.¹ Petroleum products were also used in ancient Egypt as a liniment and in curative preparations for eye infections, while bitumen was used in mummification.² The origin of the black colour of mummies has always

¹) Stewart C. E. (1888) Report on the petroleum districts situated on the Red Sea coast, Wizārat al-Ashghāl al-'Umūmīyah. Egypt, p13

²)P. Macini and E. Mesini History of petroleum and petroleum engineering, Department of chemical, petroleum, Mining and Environmental Engineering, University of Bologna, Italy, Encyclopedia of Life Support.

been a subject of debate,³ it was either bitumen or pitch or both⁴ that were extensively employed by the ancient Egyptians in the preservation of the Dead.

Bitumen which was commonly used in Egypt thought to come from the Dead Sea area in Palestine. Diodorus,⁵ visited Egypt in the first century BC and described the bitumen collection by Egypt's inhabitants to be used in mummification from the Dead Sea area to be known as bitumen of Judea.⁶ Bitumen of Gebel Zeit was the first evidence for the use of an indigenous source of bitumen in ancient Egypt. The Libyan "Pasehor" from about 900 BC, had bitumen from Gebel Zeit.⁷

Oil was distilled by Persian chemist al-Razi in the ninth century, producing chemicals such as kerosene.⁸ Al-Qalqashandi⁹ reported that petroleum was abundant in Egypt on the coast of the Red Sea, percolated over the mountain to be gathered in a special vase and stored in the Sultan

³*) Lucas (1914) and Hammond (1959) studied the writings of the Egyptian, Arab, Greek and Latin authors who studied mummies and mummification. (Maksouda)

⁴ *) Bitumen that was used in mummification may be either (a) a mixture of hydrocarbons originating in petroleum found naturally impregnating certain porous rocks, generally limestone, in various parts of the world.(b) a similar material mixed with varying, proportions of mineral matter found in the form of deposits, as in the well-known "pitch". Pitch may be either natural or artificial. Natural pitch is simply bitumen, which has become solid by exposure, and is found in the neighbourhood of the Dead Sea.(G Abdel-Maksouda - 2011)

⁵ *) Diodorus of Sicily was a Greek historian. He is known for writing the monumental universal history *Bibliotheca historica*, between 60 and 30 BC, much of which survives. It is arranged in three parts. The first covers mythic history up to the destruction of Troy, arranged geographically, describing regions around the world from Egypt, India and Arabia to Greece and Europe. The second covers the Trojan War to the death of Alexander the Great. The third covers the period to about 60BC. The title *Bibliotheca*, meaning 'library', acknowledges that he was drawing on the work of many other authors.

⁶)Middle East and Asia Reservoir Review: Desert, Delta and Gulf
Vol. No. 1, 2000,p23-27

⁷) G. Abdel-Maksouda, Abdel-Rahman El-Amin(2011)A Review on the Materials used during the mummification process in Ancient Egypt, Mediterranean Archaeology and Archaeometry, Vol. 11,No 2,p 129-150

⁸) Bilkadi, Zayn, (1995)The Oil Weapons, Saudi Aramco World ,Vol.46,No 1,January/February 1995, p20-27 .

⁹ *) Shihab al-Din abu 'l-Abbas Ahmad ben Ali ben Ahmad Abd Allah al-Qalqashandi (1355 or 1356 –1418/821 Higri) was a medieval Egyptian writer and mathematician.

magazines. Ibn Taghribirdi*¹⁰ ascertained too the abundance of petroleum in Egypt.¹¹ They utilized it in arming their military campaign and in celebrations and processions to make fireworks.¹²

Chinese preceded Japanese in drilling for oil, by using bits attached to bamboo poles, then oil was burned to evaporate brine to produce salt.¹³ The Japanese identified oil as the “*burning water*” in the seventh century,¹⁴ but the Chinese oil wells reached to 2,000 feet deep in the fifteenth century.¹⁵

The oil extraction & collection techniques were the important addition of the nineteenth century. Earlier techniques were practiced but were not efficient enough. Oil sands were mined from 1745 in the Alsace region of France by special appointment of Louis XV. In the early 1800’s, merchants built dams that allowed oil to float to the water’s surface*¹⁶ in “Oil Greek” of Western Pennsylvania. Baku,*¹⁷ was the world’s largest oil productive region in the mid of nineteenth century, it had an earlier background that dates back to the mid thirteenth century, when the natives used to collect oil from oil seeps in the surface as described by medieval Arabic travelers and historians.¹⁸

¹⁰ *) Jamal al-Din Yusuf bin al-Amir Sayf al-Din Taghribirdi (جمال الدين يوسف بن) (الأمير سيف الدين الأتابكي تغري بردي or Ibn Taghribirdi (1410-1470 AD/813-874 Hijri) was an Egyptian historian born into the Turkish Mamluk elite of Cairo in the 15th century. He studied under al-Ayni and al-Maqrizi, two of the leading Cairene historians and scholars of the day. His most famous work is a multi-volume chronicle of Egypt and the Mamluk sultanate called *Nujum al-zahira fi muluk Misr wa'l-Qahira*. His style is annalistic and gives precise dates for most events; this format makes it clear that Ibn Taghribirdi had privileged access to the sultans and their records.

¹¹ طارق منصور، محاسن الوقاد، النفط: استخدامه و تطوره عند المسلمين (64-684/923-1517م)، دار عين للدراسات و البحوث الإنسانية والاجتماعية، ط1، القاهرة، 2006، ص 28.
¹² نفسه، ص 52

¹³) Dutch Holland, Phd & Jim Crompton, Ms, The future belongs to the digital engineer, Xlibris Corporation, 2013, p49

¹⁴) Heshelov, Kathy Investing in Oil and Gas- the ABC's of Dpps (Direct Participation Program): The State of Oil & Gas, and Why You Need to Learn About This Now, iUniverse, 2010, p52

¹⁵) Ibid

¹⁶ *) This technique depends on placing blankets in the water, letting them soak with oil, and the oil was then retrieved by wringing out the blankets.

¹⁷*) Capital city of Azerbaijan

¹⁸)Heshelov, Kathy Op.cit,p52

Russians built the first modern commercial oil-distilling factory in Balakhani and nine years later they sank the world's first exploratory oil well in Bibi-Heybat which is considered the world's first giant oilfield.¹⁹

There was no practical way to extract oil until the late 1850's,²⁰ a decade later, the former railway conductor E. Drake drilled the first oil well for petroleum extraction. This was the first oil well in the world that used mechanical drilling.^{*21} It was so simple, effective and cheap way for extracting oil that it was employed by many companies.²²

With the turn of the nineteenth century, the world concluded that the heating power of petroleum equal that produced from double of amount of coal. Comparing transport expenses of coal with that of oil was for the sake of oil which coast less apart from the stokers' wages.²³

Egypt then was still far from oil industry, mainly because the most of the Egyptians depend on agriculture not industry so the knowledge and experience in the field of oil industry were nil and the main players of oil's game in Egypt were foreign investors not the Egyptians.²⁴

The history of oil industry in the world was tackled by many valuable studies, but for Egypt, it is a subject of rare resources, except for the official reports that were prepared by British & French advisors who were employed by the Egyptian Government, to decide the continuity of drilling in certain area or not, that of E.M. Dowson (1920) was very valuable for this study, Shell Co. in 1913 reported to decide the shape of contract between the company and the Egyptian government, such report was important in declaring the shape of oil concessions. Reports of Petroleum companies in general continued to be valuable source and economic Reports of "*L'Egypte Contemporaine*" were fundamental

¹⁹) Smil, Vaclay Energy Transition: History, Requirements, Prospects, ABC-CLIO,2010, p33

²⁰) Dutch Holland, Phd & Jim Crompton, Ms, Op.cit. p49

^{21*}) A museum was established in 1934 to feature the oil well drilled by "Colonel" Edwin Drake and working oil field equipment. The State of Pennsylvania has spent US\$8 million for the museum renovation.

²²) Simanzhenkov, Vasily Idem, Raphael, Crude Oil Chemistry, CRC Press,2003, p165

²³) Ardagh, Colonel The Red Sea Petroleum Deposits, Proceedings of the Royal Geographical Society and Monthly Record of Geography, New Monthly Series, Vol. 8, No. 8 (Aug. 1886) p502-507

²⁴) Ministry of Finance Egypt, Mines & Quarries Department (1922), Report on the mineral industry, Government Press,1922,Cairo.

resources in declaring the international interest in controlling the oil production sector in Egypt.

Development of Oil Production in Modern Egypt

Egypt was the first country in the Middle East and North Africa to be systemically explored for oil although it did not become a major oil producer by the Middle Eastern standards.²⁵

The earliest discoveries were around the Gulf of Suez under the reign of Khedive Ismail (1863-1879), who embarked on a program of modernizing Egypt that included mineral exploration.

In 1869, the first French Company Société Soufrière des Mines de Gensah et de Ranga discovered oil seeps at Ghubbat al Jamasah (Gensah), along the coast of the Gulf of Suez, while exploring for sulphur. The company asked permission to explore specifically for petroleum, but the government refused, wishing to preserve the prerogative for itself. The company sued but lost.²⁶

The 1880s was more alive in Egypt with examination efforts which were carried out by competent foreign geologists.²⁷ The Government encouraged private enterprise in the new oil-field, and obtained proposals for extending the borings, erecting refineries, tanks and other accessories related to this new industry in Egypt. Offers were mainly by foreigners who realized the value of this kind of investments earlier than the Egyptians.

Between 1883 and 1888, the government employed foreign experts in oil works, Nubar²⁸ Pasha employed the Belgian M. De Bay and the American Herbert Tweddle, to explore in the Gensah area. De Bay visited the various localities in which the presence of oil was observed. Depending on his report, it was decided to import suitable machinery from Belgium and began borings²⁹ in lieu where oil expected to be. On the 28th of

²⁵) Vassiliou, M. S. (2009) Historical Dictionary of the Petroleum Industry, Scarecrow Press, p176

²⁶) Ibid, p177

²⁷) Ardagh, Colonel(1886) Op.cit.p504

²⁸ *) Nūbār Pasha (1825-1899), statesman of Armenian descent who was instrumental in the negotiation of important treaties with the European powers and in the division of authority between Egyptian and British administrators. He had main role in settling the financial crisis of Egypt and the debtors at the end of Ismail's reign.

(Encyclopaedia

Britannica

,<http://www.britannica.com/EBchecked/topic/421481/Nubar-Pasha>)

²⁹) Ardagh, Colonel Op.cit.p503.

February 1886 and at a depth of 32 meters, an oil spring was reached to produce a very small quantity of petroleum. A second boring, about 60 m far from the first one was so productive that workmen had to close the pipe until suitable tanks were saved.³⁰ The produced quantity was not accurately evaluated, it was estimated with 500 cubic meters of liquid were delivered in twenty four hours, two-thirds of the product was water and one third was petroleum.³¹

Early in 1886, the Government employed Mr. L. H. Mitchell in reconnaissance works to petroleum districts which were classified by Mitchell to islands (such as Gafatin, Jubal and Shedwan) that should be out of research because they had oil at too great depth. Mitchell's report recommended Gebel Zeit and Abu Shaar, Wadi Deeb as promising areas for boring works.³²

American, Russian and Romanian borers were imported and the work ran fast on the Red Sea Coast. The Americans drilled more five wells at Gemsah where two of them were so productive.³³ Despite success in finding oil, particularly in Tweddle's case, the government deemed further exploration and development too expensive and terminated these efforts in 1888.

The Egyptian Geological Survey efforts returned on the eighth of March 1896 to make mineral exploration and evaluation, geophysical exploration, laboratory studies and mining projects.

Colonel Stewart was employed to report which spots expected to be oil productive in Egypt, Abu Durba and Qenah were the most distinctive results of this report, Stewart endeavored to ascertain the importance of Qenah on the map of oil production in Egypt, he depended, in reporting, on the Bedouins, mainly of Ababdi tribe, who dwelled these spots but their answer was unsupportive for digging in Qenah.³⁴ The Government authorized Cairo Syndicate, in 1904, to explore oil in Sinai and Qenah.³⁵

³⁰) Stewart, C. E ,Op.cit. p3.

³¹) Colonel Ardagh, Op cit. p504.

³²) E.M. Dowson, (1920) Note on the programme and policy of the Government with regard to the investigation and development of petroleum resources of Egypt, Ministry of Finance, Egypt , C. B. E.,Cairo,p24.

³³) Middle East and Asia Reservoir Review, Op. cit.

³⁴) Stewart, C.E. Op.cit,p23.

³⁵)Konstantinos Oikonomopoulos, Costis Stambolis, Hydrocarbon Exploration and Production in the East Mediterranean and the Adriatic Sea, IENE's International Workshop, Athens April 26-27,2012,Institute of Energy for South East Europe.

In 1905, the Egyptian Petroleum Company, Limited, was formed to acquire license from the Egyptian Government to prospect for petroleum in the neighborhood of Gernah.³⁶

Three years later, in 1907, the Egyptian Oil Trust Ltd was registered by Messrs Light and Fulton in London to acquire oil concessions, explore, develop, drill, refine, store, supply, distribute and deal in petroleum and its products. It had a capital of £ 100,000 in £ 1 shares. Its concessions embraced 100 square miles of territory, immediately west of the Red Sea and included water of Suez Canal. The Trusts' workers began digging on January 1, 1908 and a well was completed in March 1909 at a depth of 1920ft. On this digging's results, the Petroleum Review commented in on April 24, 1909 "*A most important oil strike has recently been made by the Egyptian Oil Trust Ltd, in one of its wells upon the coast of the Red Sea*"³⁷

The Red Sea Oil Fields, Limited was formed in 1910 to take over from the Egyptian Oil Trust, Limited, an area of 50 square miles and continue the drilling operations. The work of the two companies has been attended with continuous success, to dig a number of highly productive wells.³⁸ Shell arrived in Egypt in 1911 to operate two concessions in Gernah and another one near Hurghada. The upstream business was managed by the Anglo Egyptian Oil Company (a joint venture between Shell and British Petroleum, 50% Shell and 50% British Petroleum) was the major oil producer, while Shell Company of Egypt dominated all downstream distribution business in Egypt.

Storage tanks, with an aggregate capacity of about 100,000 tons, were established at Gernah, Hurghada, and Suez where the crude oil is converted into commercial products in a refinery at Suez, with a capacity of 1200 tons a day, it was built in 1912. The refinery was connected with Port Tewfik, two miles distant, by four pipe-lines.³⁹

Egypt has been a commercial oil producer since 1911. The production curve was very irregular as the outcome of new oil fields, and the rather rapid exhaustion of the oil fields in a short period of time. In 1912, the number of wells was approximately twenty three.⁴⁰ After a prolific field had been proved at Hurghada, and as the fuel prices began to rise all over the world, Egyptian Government was criticized internally because the absence of Governmental sector from the field of exploring and

36) Redwood, Boverton Petroleum: Its Production and Use, London, p 50

37) Middle East Review, Op.cit,p23.

38) Redwood, Boverton,(1922) Op.cit ,p 50.

39)Ibid,p51.

40) Konstantinos Oikonomopoulos, Costis Stambolis, Op.cit,p17.

exploiting oil in Egypt, and due to outstanding local need of additional oil supplies, the Egyptian Government undertook a systematic programme of petroleum research to have intensive amount of petroleum production instead of granting concessions and leases to foreign companies. This governmental involvement took place on August 1919, it was indigenous and mostly did not have strong commercial achievements but the decision was of strong independence indications. Especially after the outbreak of 1919 whose main outcome was the attitude of Egyptianizing the administration of Egypt. The first chosen area for making Egyptian borings was Abuu Shaar^{*41} then Abu Durba, neither of them was desired by foreign oil companies. A third area between Suez and Bitter Lakes was reserved for Government future drilling. In 1917-1918, the Egyptian Government began geological research on both sides of the Gulf of Suez. New investors began prospecting works over the Egyptian coastlines and Sinai Peninsula. In 1921 the D'Arcy Explorations, the British Sinai and other companies acquired licenses and began boring works in undrilled territories.⁴²

Until 1921, the production was as follows

Year	New Wells drilled and drilling	Feet drilled	Wells producing	Production in Gernsah	Hurghada	Year	New Wells drilled and drilling	Feet drilled	Wells producing	Production in Gernsah	Hurghada
1908	2	1,415	-	-	-	1915	17	11,319	8	13,144	16,910
1909	6	3,547	-	-	-	1916	11	8,775	12	10,895	46,848
1910	19	18,506	4	2,793	-	1918	12	10,741	19	5,017	276,868
1911	24	16,874	5	2,793	-	1919	14	6,754	21	4,234	227,686
1912	21	9,506	5	27,962		1920	12	12,916	25	2,730	145,220
1913	14	9,059	6	12,786	-	1921	26	22,657	31	4,209	178,284
1914	18	9,271	9	88,491	11,189						

The 1920s was a lean years of oil production in Egypt as a whole, fruitless wells were drilled by many companies (Eastern Petroleum Finance Company, Oilfield of Egypt and Anglo-Persian Oil Company which took license to drill in Sinai) and the solution was in the new technology invented in Europe and firstly exported to Egypt where, in 1923, Anglo-Egyptian Oilfield Ltd introduced the Eotvos torsion balance, consequently more perfect surveys were made for Hurghada and

⁴¹ *) Mainly because of its proximity to Hurghada which began to be petroleum productive area and also because of the surface conditions which carried indications for its being rich in oil.

⁴²) Report on the mineral industry, Op.cit. p11.

Gemshah.⁴³ In 1922, 660 Kms² in Egypt were held under Petroleum prospecting licenses and 14 Kms² were under mining leases.⁴⁴ In 1934, the Egyptian cooperative Petroleum Association Co. was established in Egypt, It had a capital of L.E 932, in 233 shares, (each L.E 4), during one year the company's tanks were established near Alexandria depending on L.E 8000 loan from *Credit Agricole Bank*⁴⁵, the new born native Egyptian company activities included linking cooperatives for the exchange of goods and services and support cooperation in Egypt.⁴⁶ A successful deal with the Romanian *AIBRAHOVA* Co. took place in 1936 for exporting oil products, the capital of the Egyptian Company reached to L.E 250.000 in 1952. Gradual progress enabled the Egyptian company to section of the annual profits for investigation and research works.⁴⁷

The 1938 was progressive era for oil production in Egypt, Ras Gharib was added to be a boost in the oil production, with 1,200 bbl/day and increased to reach its peak of 5.1 million barrels in 1939.⁴⁸ The next table declares the sharp increase in Egypt's oil production due to Ras Gharib additions

Petroleum Production of Egypt(1911-1949) (in metric ton)					
Year	production	year	production	year	production
1922	172874	1938	225736	1944	1352943
1923	153402	1939	666419	1945	1350468
1924	163341	1940	928957	1946	1278653
1925	179651	1941	1220064	1947	1326138
1930	285088	1942	1181810	1948	1900000
1935	182003	1943	1284966	1949	2300000

The Government, provided in 1937-38 that license will be granted for an area, no less than four square kilometers, for one year subject for renewal. Foreign Companies scrambled to make deals of drilling in Egypt, the major of them were Anglo Iranian Oil, Royal Dutch Shell Group (which included Anglo-Egyptian Oilfields) they could exploit 23,000 km² distributed among Suez, Port Said, Alexandria and Sinai. Socony Vacuum

⁴³) Middle East Reservoir Review, Op.cit. p22.

⁴⁴) Report on the mineral industry of Egypt, Opcit. p23.

⁴⁵ راشد البراوى(1953)حرب البترول فى الشرق الأوسط،ط4،مكتبة النهضة المصرية،القاهرة،ص 102.

⁴⁶) Konstantinos Oikonomopoulos, Costis Stambolis, Op.cit.p 18.

⁴⁷ راشد البراوى، مرجع سابق، ص102.

⁴⁸) Konstantinos Oikonomopoulos, Costis Stambolis, Op.cit.p18.

Oil Co. was the American company which exploited 14,500 Km² along the coast of Red Sea besides south and east of Port Said. California Texas Oil Co., (Standard Oil de California) which exploited the area of 16.000 Km² west and south of Alexandria. The Standard Oil of New Jersey concentrated its efforts between Cairo and Port Said, Fayum, Sinai and Suez Gulf. The concession covered 15,800 Km²,⁴⁹ then the main five oil companies^{*50} utilized their subsidiaries to get more licenses in Egypt and the eventual result in 1939 was about twenty three companies were drilling in Egypt. Consequently, spectacular rise in the Egyptian oil production took place in 1939, with a total output of 5,100,000 bbl exceeding the previous year's yield by 207%.⁵¹

Egyptian oil output mostly doubled during the WWII despite major logistical problems. The 1946 exploration of the Anglo-Egyptian Oilfields Ltd in partnership with Socony-Vacuum Oil Co. resulted in Sudr whose production raised the total output for Egypt in 1948 to over thirteen million barrels. Standard Oil Co. was one of the early driller in Sinai. In 1948 the Egyptian government banned the export of crude oil, allowing only refined products to be exported,⁵² to stimulate the national refining and petrochemical sectors,⁵³ but it led to curbing exploration by foreign companies until 1953, when the law was liberalized.⁵⁴

Concessions^{*55}

⁴⁹) L'Egypte, (1950) Institut national de la statistique et des études économiques (France), Presses universitaires de France (Paris)

⁵⁰ *) Anglo -Iranian Oil. Royal, Dutch Shell group (which included Anglo-Egyptian Oilfields), Socony-Vacuum Oil Co. Inc., Standard OIL Co. of California, and Standard OIL Co. of New Jersey.

⁵¹) Middle East Reservoir Review Op.cit.p 23.

⁵²) Vassiliou, M. S. Op.cit.p178.

⁵³) History of Egyptian oil and gas industry

(http://wiki.openoil.net/index.php?title=History_of_Egyptian_oil_and_gas_industry)

⁵⁴) Shwadran, Benjamin (1977) Middle East Oil: Issues and Problems, Transaction Publishers,p 51.

⁵⁵*) It is a negotiated contract between a company and a government that gives the company the right to operate a specific business within the government's jurisdiction, subject to certain conditions .Private company enters into an agreement with the government to have the exclusive right to operate, maintain and carry out investment in a public utility for a given number of years. Governments may use concession agreement to provide services which they cannot or will not provide. Lease is another form of contracts which is closely related but differ from a concession in the rights of the operator and its remuneration. A lease gives a company the right to operate and maintain a

At the turn of nineteenth century, European and American investors invaded the Middle East attempting to obtain oil concessions. The shape of deals between the governments and those investors in the oil field has been controlled by many factors; mainly the political positions, and the authority of the granting government.

Egypt never granted an exclusive concession to any company; and a number of companies always operated in different parts of the country. Legislation was effective factor in limiting and controlling the activities of the oil companies.⁵⁶

In 1863 the Egyptian Government granted Marquise de Bassano a concession for extracting sulphur on the coast of the Red Sea, including Jebel Zeit, Gemsah and the Islands of *Jafatin*.⁵⁷ The term of the concession, originally thirty years was subsequently extended to 1899,^{*58} Marquis de Bassano had so many important concessions on the Red Sea.⁵⁹ For him, the Egyptian deal was unprofitable so the concessionaire abandoned the area in 1869. Marquise de Bassano complained the Egyptian Government for his loss. The suit continued until 1883, when the Mixed Court of Appeals in Alexandria decided for the sake of the Egyptian Government.⁶⁰ The dispute was partially for the shortage of the required labors,^{*61} Nubar led the wave of substituting the *corvee* with

public utility, but investment remains the responsibility of the government. In present Egypt, the right to explore and produce oil and gas is typically awarded to commercial oil companies on the basis of production sharing arrangements (PSAs), which are awarded as concessions. The contractor, usually a foreign or Egyptian private oil company (or companies), is awarded the concession after a successful bidding phase, and thereafter assumes all risks involved in exploring and developing crude oil or natural gas from the concession area in return for cost recovery and a production share if a commercial discovery is made. The Egyptian Government, as concession grantor, retains the right to own and control the country's natural resources.

⁵⁶) Shwadran, Benjamin Op.cit.p51.

⁵⁷) Ardagh, Colonel Op. cit. p 504

⁵⁸*) Every accustomed arrangements were carried out; Shafts and galleries were made, ovens were built and a gauge railway established.(Ardagh,Colonel1886)

⁵⁹) Le Figaro (1854), Paris.

⁶⁰) Jurisprudence des tribunaux de la réforme en Egypte: recueil officiel, Egypt. Cour d'appel mixte, Egypt. Mixed tribunals, Part 1, Volumes 13-14, Mourès, 1888, P 242-243.

⁶¹ *) *Nubar* Pasha managed to abolish *corvee* as a new attitude prevailed Egypt under Ismail.

mechanic power, the act that was not favored by foreigner investors.⁶² The usual term of concessions in Egypt was thirty years,^{*63} at the end of this term it could be extended for more fifteen years; in that case the Government can increase the royalty with a maximum of 10%.

The license was another shape of contracts that used to last shorter time of mostly five years in Egypt and no more than three years to begin borings. Even the number of required derricks to be accomplished was defined in the contracts. However, certain restrictive obligations can be traced in the concessions that signed for using oil fields in Egypt. In Hurghada concession the company had to sell both produced kerosene and liquid fuel (*mazut*) to Egypt at lower prices than the world's. The Egyptian fields' production was not enough and fuel was imported, for the kerosene, an agreement between stakeholders and the Government to include kerosene imported from abroad.⁶⁴ Royalty that was offset against the dead rent was between 5 and 10%, and reached in 1920 to be 12.5% for unproved land, 25% for proved land. The Government could take royalty cash or in kind. In the 1930s concession of Ras Gharib, Egyptian Government could obtain 14% of the total production.⁶⁵ *⁶⁶It was approximately the same value in the United States, and less in each of Galicia, Romania, Trinidad and Burma, but in Persia it was 16% of profits. In Russia, auction system took Russia to higher profits from 25% to 70%, the later Russian royalty might decrease with the augmentation of output.⁶⁷

The average term of concession abroad was longer, reached to seventy years in Persia whose first concession was to D'Arcy Co. In Saudi Arabia, a sixty-year *concession* over Al-Hasa province, a total area of 360,000 square miles – one of the largest *oil concessions* in the world – was granted to an American company.⁶⁸ in Kuwait, it was the

⁶² لطيفة محمد سالم، مذكرات نوبار باشا، ترجمة جارو روبير طبقيان، ط1، دار الشروق، 2009، ص 359.

^{63*}) It was the “old style” or the British Colonial model

⁶⁴) Dowson ,Op.cit.p18.

⁶⁵) L'Egypte,(1950),Op.cit.p87.

^{66*}) The Egyptian share was refined at the Governmental Suez refinery ,whose capacity was no more than 75.000 tons and was developed to cover 260.000 tons which represented nearly the governmental share of Gharib production.(L'Egypte,1950,P87)

⁶⁷) Note on the programme and policy of the Government (1920) Op.cit.p23.

⁶⁸) Kayal (2013) Control of Oil Hardback, Routledge.p75.

participation^{*69} of American oil interests in the exploitation of Kuwait's oil without alienating the goodwill of the British government upon whom Kuwait depended for the security of his sheikhdom against his larger neighbors. The Kuwait concession was to run for seventy-five years.⁷⁰

The articles of concessions will always remain as indicator to the power of the granting country.

The 1913 concession that was held between the Egyptian government and Anglo Egyptian Oil Co. stipulated 5% of the company profits to be for the Egyptian Government, besides 100,000 shares of the third quality, the Egyptian share increased to be 14% of the company profits by 1937. The Egyptian government's share (for Sudr Concession) improved in 1948 to be 15% of the produced oil and the priority for the Egyptian Government in purchasing 20% of the produced oil with 10% discount for the half of the purchased amount. Restrictions continued to increase, for the sake of Egypt, until 1948 when the Egyptian Government prevented the export of crude oil, hopefully this decision would create Egyptian oil industry, it was the epoch of Egypt's independent attitude. Earlier legislation (in 1947) prevented forming of new companies except with 51% Egyptian partnership, this led to Egyptianizing big number of companies in Egypt.⁷¹

However this independence was of very short age. The economic power owned by foreign oil companies obliged Independent Egypt and independent Nasser to reopen the door of exporting crude oil in 1953.^{*72}

Oil Fields Employees & workers

The Egyptian employees and workers in the oil excavation field were labors who were brought from the Nile valley because tribesmen refused to join regular work in the oil fields. They reached 1,480, in comparison to 127 foreigners were employed in petroleum mining in Egypt.⁷³ In Ras

⁶⁹ *) Kuwait Oil Company owned fifty percent and Gulf Oil owned fifty per cent in 1933.

⁷⁰) H. T. Chisholm, Archibald The First Kuwait Oil Concession Agreement: A Record of the Negotiations 1911-1934, *Psychology Press*, 1975, p228.

⁷¹) عبد الرحمن الرفاعي، في أعقاب الثورة المصرية، الجزء الثالث، ط2، دار المعارف، القاهرة، ص284

⁷² *) By the end of 1974, the Egyptian government granted contracts to 24 different foreign companies, the concessionaires were American, German, Brazilian, Japanese and others. The sum of stipulated invested money in exploration & exploitation for eight years was \$531 million. The income of General Petroleum Corporation of signing this deal was about \$66 million.

(Shwadran, Benjamin Middle East Oil, p52)

⁷³) Report on the mineral industry of Egypt, Op.cit. p 11

Gharib, they enjoyed, both Egyptians and foreigners so high standard of life that they increased tremendously in numbers, because of high production of families that worked there. All levels of education were available for everyone. Technical training department was inaugurated to teach the workers and their families manufacture of leather and carpets. Special clubs with swimming pools were established for workers and another one for officials. A technical school was established to graduate and train the required staff for the oil industry. In 1940s wages were as follows⁷⁴

	Single	Married with one or 2 kids	Married with more than 2 kids
worker	L.E 17.5	L.E 18.5	L.E 21
Half technician worker	L.E 18.350	L.E 19.5	L.E 22
Technician worker	L.E 38.8	L.E 39.9	L.E 42.75

The 138 companies law of 1947, stipulated (article 5) 75% of the employees to be Egyptians with their total wages to represent no less than 65% of the paid wages by the company. For the workers, the 138 law stipulated 90% of the workers to be Egyptians with no less than 80% of the paid wages by the company for workers.

Cities established on Egypt's land as result of its oil deposit:

Gemsah

Gemsah was about 300 kms south of Suez city, it was a desert where excavation works were continuous for oil and sulphur so it was dwelled mostly by workers of excavation works.⁽⁷⁵⁾ It was in digging for sulphur by Marquise de Bassano that petroleum was discovered at Gemsah, but its commercial importance had not then been realized, Railway, kilns, plant, houses and everything at Gemsah was deserted until 1884, when Nubar Pasha employed Debay,⁷⁶ The concession of Debay continued to 1886 and was not renewed,^{*77} but replaced by Americans who recommended continuity of prospecting in Gemsah⁷⁸ plus a number of the Red sea islands (Giftun, Shedwan, Jubal and others) at deeper level the later

⁷⁴ راشد البراوى، مرجع سابق، ص 104-105
⁷⁵ محمد رمزى، القاموس الجغرافى للبلاد المصرية، القسم الثانى، الجزء الثالث، الهيئة العامة للكتاب، 1994، ص 272

⁷⁶) Ardagh, Colonel Op.cit.p505

⁷⁷ *) The discovered wells of DeBay were not run off, according to the 1888 report of Colonel Stewart C. G. G, but they needed deeper boring which was not carried out.

⁷⁸) Stewart C. E. Op.cit. p4.

advice cost the Egyptian Government more fruitless £ 100,000, so the Government stopped prospecting in July 1888 after the failure American efforts.⁷⁹The Egyptian Oil Trust Ltd of London reused this area at the beginning of the 20th Century. In the spring of 1912, the first tank steamer left for the Far East with 3000 tons of exported Gemsah oil on board.⁸⁰ The production in this area reached its peak in 1914 with about 102.000 tons of petroleum.⁸¹At the end of 1913, 60,000 feet of boring for oil had been done at Gemsah and elsewhere in Egypt with a resulting production of 43,541 metric tons, and the whole of this production was from Gemsah.⁸²Until the middle of 1914 the whole of the production came from Gemsah, where the average depth of the producing horizon was 1,500 feet. In April 1914, prolific gusher was struck; this came in at the rate of 3,000 tons daily and gave the total of 52,754 tons during the year. The first production was lost, and that of the 11th day was reddish-brown emulsion of oil, as result of salty water which invaded Gemsah wells. Fruitless attempts to exclude this water were done.*⁸³ There were about twenty three productive wells in Gemsah whose product vanished gradually until 1927 these wells were completely fruitless, Gemsah was deserted and had no mention in the national census of 1937.⁸⁴

Gebel Zeit

This place was known to the ancients as producing oil, the seepages at Gebel Zeit, were known and exploited by the Romans, who named the area Mons Petroliferus. The sticky pools of bitumen were used for domestic lighting and heating and in quarrying and digging for gold.⁸⁵

A lamp of pottery was found buried in the ruins of an ancient mining camp, at the dawn of 20th C. in the neighborhood of the goldmines of Hammamat, midway between Qenah on the Nile and Qusseir. Although this lamp had lain buried probably 2,000 years, it contained petroleum

⁷⁹) Middle East and Asia Reservoir Review: Op.cit. p 23.

⁽⁸⁰⁾ محمد رمزی، مرجع سابق، ص 272.

⁸¹) L'Egypte Op. cit. p86.

⁸²) Report on the mineral industry Op.cit.p9.

⁸³*) Gemsah oil was composed of

	%
Light Petroleum spirit	19.54
Heavy Petroleum spirit	7.47
Kerosene	32.43
Residue-fuel oil	39.82

⁽⁸⁴⁾ محمد رمزی، مرجع سابق، ص 272

⁸⁵) Middle East and Asia Reservoir Review, Op.cit.23.

dried down to the consistency of bitumen, which on being lighted, burned readily.⁸⁶

Gebel Zeit converted to a large settlement of many wooden huts that had been put up to accommodate the workmen brought in 1886 to work at Gemsah and Gebel Zeit.⁸⁷ The later was well prepared, by Governmental expenditures, to be run as oil exploration and exploitation spot.⁸⁸ Its oil was dark brown and thick, the valuable components thought to be evaporated and the remaining is this dense residue, so Colonel Ardagh,⁸⁹ in 1886, recommended with stopping prospecting in Gebel Zeit, oil which was abundant,⁹⁰ vanished gradually to be at the end of nineteenth century of small quantities.

Hurghada

Hurghada, where the original name was (Hr- ghada) due to a desert that was known as Deeshet Hurghada,⁹¹ but the locals justify the name with the tree of the Ghrqad which marked the original site of the city. The city is 345 Km south of Suez city, facing, on the Nile, Assyut city. Hurghada was in two parts; the coastal which was known as the harbor and interior part, in the desert, known as the company, it was of many dwellings that were built by the Company for the workers.⁹² The original habitats of this

⁸⁶) Stewart ,Op.cit.p13.

⁸⁷ *) There were two large galvanized iron workshops and store sheds, also a masonry built house, in a part of which, a large ice machine was worked. The workshop was well supplied with tools of every description necessary for the contemplated work. A pier has been built out in the harbor of Gebel Zeit, and a short line of railway laid down, connecting it with the workshop.

⁸⁸*) Although the harbour at Gebel Zeit was small but it was in good condition. A hulk is anchored in the harbour, which was used to house convicts who were employed in making the landing pier, but the convicts have long since been withdrawn.

⁸⁹*) Major-General Sir John Charles Ardagh KCMG KCIE CB (1840 –1907), was an Anglo-Irish officer of the British Army, who served as a military engineer, surveyor, intelligence officer, and colonial administrator. In 1882, he was sent to Egypt, where he was occupied almost continuously for the next four years.

⁹⁰) D'Anville, M. Mémoire sur L'Egypte ancienne et moderne, suivis d'une description du Golfe Arabe et de la mer Rouge, Impr. Royale; Paris ,1766, p228.

⁹¹ *) that was facing the islands of Gftoun.

⁹²) محمد رمزي، مرجع سابق، ص 271.

city were the Bedouins who worked in fishing and collecting pearls.^{93*} The city was administered by a British governor.⁹⁴ An Egyptian inspector was employed to follow up the works of petroleum excavation and special lodges were prepared for the workers who were in two groups the advanced and more professional took better lodges while the ordinary group lived in ambergis.⁹⁵

In 1907, the Cairo Syndicate Co.^{96*} was the initiator of petroleum exploration works in Hurghada ,it Obtained coal and oil prospecting license for *Jifatin, Abu Mingarh, Hurghada, Black Hill* and *Abu Shaar*. Egyptian Oil Trust Co. applied for most of areas held previously by the Cairo Syndicate (1907-1909), but were only granted both of *Jifatin & Abu Mingarh*.⁹⁷ In 1911, Shell sent geologist Max K. Bauermann on short exploratory visit in which he discovered the western oil reserves of Hurghada and recommended drilling there.⁹⁸ In October 1914 , well No.1 came in at 1,670 feet with an estimated initial flush production of 1,500 tons daily . *Genisha* was the oldest productive zone in Hurghada.⁹⁹ Other wells followed in Hurghada by the Anglo- Egyptian Oilfield, Ltd. whose operations and wells were then the only productive ones although the outbreak of the WWI. The number of wells in Hurghada from 1914 to 1920s could be the clearest evidence for the latter fact.¹⁰⁰

Wells	Year	Wells	Year	Wells	year
7	1914	14	1917	11	1920
11	1915	12	1918	8	1921
7	1916	13	1919		

Hurghada crude oil¹⁰¹ had been brownish-black in color and contains 10.57% asphalt and 7.73% paraffin wax, and used to be found at 700 feet,

^{93*}) It was in so small size that it was grind ,mixed with Kohl and used as makeup.

^{94 *}) He used to take rounds in the city by a car fixed on a railway.

⁹⁵) محمد رفيع محمد، موسوعة البحر الأحمر، الأهل والتاريخ، الجزء الأول، ط2، دار الرسالة الذهبية، 2008، ص 17-18.

^{96*}) Eventually, *Cairo Syndicate* was in part absorbed by Anglo- *Egyptian Oilfields* (Engineering and Mining Journal-Volume 110, 1920, p323.)

⁹⁷) Note on the programme and policy of the Government, Op.cit.p25.

⁹⁸) Middle East Reservoir Review, Op.cit.

⁹⁹) Sidky, Abdul Hamid (1931) L'Egypte Economique d'Aujourd'hui, Thèse de doctorat en droit, Université de Poitiers-Faculté de droit, Paris, p22.

¹⁰⁰) Report on the Mineral Industry of Egypt (1922) Op. cit. p10.

¹⁰¹) components of Hurghada crude oil is

where 10,000 tons were extracted.¹⁰² The percentage of water in Hurghada's oil reduces its value because it had to be dehydrated.¹⁰³ The oil production was 200.000 tons in 1932 and declined to 50.143 tons in 1947.¹⁰⁴

Abu Durba

Abu Durba area is 46 km northwest of Tor, South Sinai. According to the 1888 report of Colonel Stewart C. E, Abu Durba was recommended to be promising oil producer district. Stewart advised Nubar Pasha to undertake governmental oil prospecting works because, according to Stewart, actual big amounts of petroleum was to be found there.¹⁰⁵ Governmental Prospecting works were carried out from 1918 to 1923.¹⁰⁶ In 1950 the production was 1000 tons annually with different stakeholders.¹⁰⁷

Ras Gharib

It was another major discovery of AEO, in 1938. The oil production stayed mostly under 5,000 pbd before reaching 13,000 bpd in 1939 and continued to rise during World War II. Its daily production was about 150 tons. The Governmental decision of 1948 with banning the exports of crude oil, decreased exploration works there until the 1953 new law.¹⁰⁸ Ras Gharib produced 530.458 tons in 1939, increased to be 1.263.860 tons in 1947, which mostly covered the local petroleum needs.

Ouadi Sudr

The discovery was in 1948, when Shell and Socony Vacuum Oil Co. partnered this area which achieved high production in proportion to all the

Light Petroleum spirit B.P. below 120° C.	4.85%
Heavy Petroleum spirit B.P. below 120°-150° C.	
Petroleum spirit total B.P. below 150° C.	7.73
Kerosene B.P. below 150°-290° C.	14.24
Residue, B.P. above 290° C.	77.21
Water	trace
Common salt	trace

¹⁰²) Report on the Mineral Industry of Egypt(1922)Op.cit.,p 10.

¹⁰³) L'Egypte, Op.cit.p86.

¹⁰⁴) Ibid

¹⁰⁵) Stewart, C.E(1888) Op.cit.p23.

¹⁰⁶) Sidky, Abdul Hamid, Op.cit.p22.

¹⁰⁷) L'Egypte,Op.cit.,p86.

¹⁰⁸) M. S. Vassiliou, Op.cit.p178.

Egyptian fields, the well's depth was about 900 m.¹⁰⁹ At the close of 1948 *Sudr* was producing 12,758 barrels a day from six wells.¹¹⁰

Conclusion

The history of discovering oil in Egypt clarifies clearly the transition of powers among the world Great powers of the 19th Century and then the new born American power which indulged strongly in the oil works of the Red Sea with the turn of the 19th Century and survived until the present epoch .Britain was the controller power and main player in Egypt who defined and chose who should be on the map of extracting Egypt's oil and who should disappear by legal means to avoid any criticism, but this was not enough for the British people who in 1914, as the Times published, blamed the British Government for not being more existed in the Egyptian oil field.

*"any such oilfields shall be properly developed and worked, and not simply left as "reserves" for the future".*¹¹¹The latter was constant British attitude concerning the Egyptians and their oilfield *"there will necessarily be a transition period before that Egypt could be left to itself."*

As result of being every ministry actually controlled by British counsellor, Egyptian Public money was excluded away from oil exploration works in Egypt. In 1921, Dowson, undersecretary of State for finance, reported concerning the petroleum affairs in Egypt *"Public money should not be risked on enterprises of so uncertain character."* It was opinion of the foreign partner who shared the Egyptians the management of their country under the British Occupation.

Britain, undercover, kept drawing all the lines that Egyptians should follow. However, the French¹¹² was prevented from developing their existence in this field in Egypt. The suit of *De Bassano* which lasted about two decades in the Mixed Court and finally ended with the French loss to ascertain that the British Upper hand exist even in the Mixed Court's decisions.

¹⁰⁹) The Oil and Gas Journal Vol. 52 No. 31, 1953.

¹¹⁰) World Oil(1949)Vol. 129, Gulf Publishing Company,p 424

¹¹¹) Richard W. Cottam (1977)Foreign Policy Motivation: A General Theory and a Case Study, University of Pittsburgh Press,p256

¹¹² *) The French were the earlier, even by accident, discoverer of oil on Egypt's land and of the first detectives of Gebel Zeit's oil in their fabulous product *"Description de L'Egypte"* in which they described the Mountain of oil, as a source of oil, at its foot.

The case of Shell Co. may prove that the oil concessions in Egypt was under the British and not the Egyptian control.¹¹³ Although the Egyptian legislator was freed to issue restrictive regulations that spoiled the profits of foreign companies in Egypt petroleum field, but the foreign Upper hand continued to control the oil field in Egypt.

Governments were personified in oil companies, in the early 1913, the British Government purchased secretly a majority share ownership of Anglo-Persian Oil Co., thus oil moved to be of high strategic interest for Britain.¹¹⁴ ^{*115} It was the WWI when the British navy moved from using coal to oil as a fuel. Most of the oil companies in Egypt, at the first half of twentieth century, were either British or American but the majority was for the British.^{*116} However the British imperial power could not defeat the national patriot growing power that pushed the Egyptian governments especially after 1936 to secure more profits and authorities in the oil concessions for the sake of the Egyptians. Egyptian government, after the WWII, endeavored to secure the extension of Saudi oil pipe line that was suggested by the American company to export the Saudi oil through a Mediterranean Sea port, through Egypt's land and Saba Pasha Habashi (Minister of Commerce) applied memorandum to suggest the passing of this oil pipeline through Egypt but eventually Lebanon won the game and the Saudi oil was decided to be exported through Lebanese

¹¹³ *) In 1913 the British administration in Cairo accused Shell Co. of trying to restrict the development of Egypt's oilfields. Shell aimed, in the British opinion, at establishing "*a virtual monopoly*" and control oil production. (Mitchell, Timothy Carbon Democracy: Political power in the Age of Oil, Verso Books, 2011, p49).

¹¹⁴) Engdahl, William, (1993) A Century of War: Anglo-American Oil Politics and the New World Order, p43.

¹¹⁵*) The British government, through the insistence of Winston Churchill, bought 51% of Anglo-Persian for two million pounds, stipulating that the company must always remain an independent British concern and that every director must be a British subject. (The World Plutocracy, Part I: Oil Rulers) (<http://www.hermes-press.com/oilrulers1.htm>).

¹¹⁶*) In 1920s the main oil concessionaires in Egypt were A.F. Tunstall, D'Arcy Exploration Company, Limited (owned by a millionaire London socialite) Whitehall Petroleum Corporation, Limited (owned mainly by British Sir Weetman Pearson) British Sinai Petroleum Co. Limited-Gemshah Oil Reefs, Limited-Blattner & Co. (American Company) -Anglo-Egyptian Oil Field Limited (a joint-venture between BP and Shell)-Q.S.P Syndicate, Limited-Oilfields of Egypt, Limited-Jubal Syndicate-Suez Oil Co. (1915), Limited and Sir C.J. Cory, Bart (British).

Syda port. 10% of the Lebanese government income in 1950s was result of this pipeline.

Political interests had the biggest consideration in forming oil concessions; During the WWII both of the Rockfeller's companies (the Standard Oil group) and Pittsburgh Mellon family's Gulf Oil, had secured oil concessions in the Middle East. Partly through the clever diplomacy of President Roosevelt, opposite to Britain's Winston Churchill, Saudia Arabia slipped from the British grip during the war, Saudi King Abdul Aziz gained an unprecedented Lend-Lease agreement in 1943 from Roosevelt, a gesture to ensure Saudi good will to American oil interests after the war.¹¹⁷ Egyptianizing the oil industry attitude that was adopted by the governments in Egypt was not required or preferred by the world powers, the latter fact obliged the next Revolutionary power in Egypt of 1952 to relinquish and welcome the foreign control over the oil in Egypt.

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¹¹⁷ *) William Engdahl, Op.cit.p103.

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