Oil has played its part in Middle East life for thousands of years. Ancient civilizations used bitumen in their funerary rites and in boat building. The walls of great cities in the Babylonian empire were held together by bituminous mortar.

The arrival of ‘modern’ oil and gas exploration in the nineteenth and twentieth centuries marked a shift in global trade and was the modernizing force behind the Middle East’s rapid economic development. In the new millennium, the industry is poised for growth and new challenges.

The history related in this chapter underlines the determination and innovation that have marked every part of the oil and gas endeavor, and identifies the pioneering spirit that will overcome future challenges.
O il resources are spread throughout the world, but the major reserves and production are concentrated in a few regions. The most important region for oil production is the Middle East, with the largest producers being concentrated in the northern reaches of the Gulf and the fold belts to the north. Middle East oil and gas has been, and remains, the driving force of the world’s economy. Without this huge natural resource, key industries in many of the world’s nations would grind to a halt. The region’s politics and trading arrangements drive the price of oil and affect every sector of industry.

This introduction presents a brief outline of exploration history in the Middle East and the regions that have been its main competitors. It also examines the changing relationships between oil-producing countries and the international oil companies, and identifies the historical and geographical factors that led to the dramatic price rises of the 1970s and to subsequent oil price variations.

The development of the Middle East’s oil industry is closely linked to social and economic development. This relatively young industry has been a key factor in helping to drive the region to independence and sustained economic development. The Middle East is now one of the wealthiest and most politically vital regions of the world. Events such as the 1973 oil crisis and recent wars in the region have underlined the pivotal role that the Middle East, and its oil, occupies in world affairs.

One of the earliest successes for oil exploration in the Middle East came in 1904 with the drilling of well CS-1 at Chai Sarkh in Iran. In the early years of this century, William Knox D’Arcy, a Briton who had made his fortune in gold mining, had a dream of finding oil riches in Iran. He was particularly intrigued by areas with known oil seeps and promisingly large anticlines. His agent negotiated the first agreement, for the price of £20,000 Muzzafareddin, for the price of £20,000

The strategic importance of oil to the success of the British, French and American democracies shaped the evolution of the oil business - leading from the initial discovery in Iran to the joint venture assessment of Iraq. It appeared that entrepreneurs such as D’Arcy were no longer needed. In future, the large petroleum companies of the west would represent their national interests with the tacit support of their governments.

The discovery of Iranian oil close to the northwestern border of Iraq, and the historical evidence of significant oil seeps along the hills on that border, made Iraq the focus for the next stage in the development of Middle East oil. Iraq, as defined today, was created from three provinces of the Turkish Empire at the end of World War I. The United Kingdom assumed responsibility for political and economic stability in the new country, and hoped that the promise of oil fields around the Iraqi-Iran border could help finance the new government.

The quest for oil reserves and their development would be left to British and French petroleum companies who, as the war victors, were effectively dividing the mineral spoils. However, after the United States of America had threatened a trade war with Europe, its companies were allowed to participate in the assessment and development of oil in Iraq. The Turkish Petroleum Company’s concession granted in 1925 required that 24 drill sites be selected within two years.

A joint expedition was arranged to assess the geological potential of Iraq and to select possible exploration drilling sites. The joint team comprised geologists from the Anglo-Persian Oil Company led by the eminent Austrian geologist Hugo de Borech, a Royal Dutch/Shell group led by Arthur Noble, a French team managed by Pierre Viennet and accompanied by Conrad Schlumberger - before he and his brother started the Schlumberger geophysics and logging companies. The American contingent, with considerable experience, but less official status, was led by Edward Shaw. This extraordinary expedition was described in detail in the Middle East Well Evaluation Review, Issue 5, 1988.

Personal conflicts, different geological experience and perhaps even rival national interests resulted in disagreement about the sites to be drilled. Eventually, however, after several dry holes and wells with noncommercial production, a site in the Baba Gurgur portion of the giant Kirkuk anticline was drilled. Baba Gurgur No 1 came in with a bang in the early hours of the morning of October 14, 1927 (Figure 1.2).

Crossing the border

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Soon after this important discovery on the 70-mile-long anticline, the factions within the Turkish Petroleum Company agreed a final ownership deal: Anglo-Persian Oil Company (23 3/4%); Royal Dutch/Shell (23 3/4%); Compagnie Francaise des Petroles (23 3/4%); and the Near East Development Corporation (a collection of USA petroleum companies: Standard Oil of New Jersey; Standard Oil of New York; Pan American; Gulf Oil; and Atlantic Refining) (23 3/4%). The remaining 5% was held by C.S. Gulbenkian, a promoter par excellence who helped with the initial award of the concession. This cooperative, joint approach to the business became the model and rule for the Middle East and the rest of the world thereafter.

Further discoveries in the fold-belt anticlines of Iran and Iraq revealed oil resources beyond the imagination of the early players and the companies that were created to handle the remaining challenges. Still unrecognized at this time was the vast oil wealth underlying the desert sands of Arabia and the waters of the Gulf. The geology of the Arabian peninsula was, for the most part, hidden under desert sands. This was in stark contrast to Iran and Iraq, where huge anticlines appeared as rolling hills and mountains that seemed to invite speculative drilling operations.

Expropriation staff at the Anglo-Persian Oil Company were convinced that “there was no oil to be found in Arabia”. A leading Swiss geologist of the day declared that drilling operations in Arabia would be a ‘pure gamble’. Once again discovery required an individual willing to ignore the advice of experts.
The ‘Father of Oil’

The individual who chose to ignore the experts was Frank Holmes, a New Zealander who has been referred to as ‘Abu al-Naft’ (Father of Oil) for Arabia. Like D’Arcy, who was singularly responsible for making exploration happen in Iran, Holmes initiated oil exploration in Arabia. Holmes also began his career as an explorer in the gold business and also later shifted his dreams to oil or ‘black gold’. Holmes heard about the oil seeps along the Arabian coast of the Gulf and on the Iran-Iraq border (Figure 1.3) and soon turned his mind to the practicalities of an oil exploration campaign. He chose to set up headquarters in Bahrain where there were well-known oil seeps.

The Sheikh of Bahrain did not want oil, but was very interested in new sources of fresh water. After drilling 16 successful water wells, Holmes was awarded a 100,000-acre oil concession in Bahrain and a promise to negotiate for the remaining area. European exploration experts rejected this opportunity, suggesting that the geology of Bahrain was unlike the familiar fold belts of Iraq and Iran, and explaining that Bahrain was too small a venture to interest them. Oil competition and global politics also discouraged many petroleum companies who considered operations in the region too big a gamble. As a result, Holmes turned his attention elsewhere, obtaining concessions in eastern Saudi Arabia, Kuwait and the Neutral Zone.

Holmes traveled to the USA to find a company that would join his venture. The Gulf Oil Company expressed an interest but, unfortunately, was bound by an agreement to focus on Iraq. However, a loophole was found that allowed them to participate in exploration efforts in Kuwait. For the remaining possible areas they introduced Holmes to Standard of California (SOCAL, now Chevron) whose experts chose to test the possibilities in Bahrain. Ralph Rhodes, an American geologist considered Bahrain “amply worth testing”. The risk paid off. On May 31, 1932 a well at Jebel ad-Dukhan flowed 1400 BOPD from a depth of around 2000 ft. This discovery well was the only foreign well that Standard of California drilled during that depression year.

The success in Bahrain helped to further exploration in Saudi Arabia as King Salud chose Standard of California to try and repeat this success. It also helped to end the decade of negotiations and British obstructions in Kuwait. But in Kuwait, the surface geology was quite challenging as there were no obvious structures to drill. A similar story posed problems in the United Arab Emirates. And, although Frank Holmes had a vision of locating deeper structures, it would require new geophysical tools to find the oil-bearing horizons beneath the desert sands and offshore in the Gulf.

The 1920s and 1930s

Oil from seeps had been used in the Middle East for thousands of years (Figures 1.4 and 1.5). However, the discoveries made at the start of this century triggered a new interest in exploration throughout the Middle East and North Africa in the 1920s and 1930s. Drilling operations conducted during these decades opened up many of the world’s oil-producing areas when countries around the Gulf began to provide significant oil concessions. The economic impact of these concessions was felt long before oil was discovered. An initial lump sum to the country’s ruler was generally followed by small annual payments until oil was found. Though these sums may now seem rather small, they were exceedingly important to the negotiations in Saudi Arabia, they swung the balance of contract discussions in SOCAL’s favor rather than its rival, Iraq Petroleum Company (IPC).

The process of exploration itself had important local consequences, providing employment for local labor, bringing in small numbers of foreign workers and creating new towns, harbors and jetties.
To most European and American writers this period represents a triumph of technology in adverse conditions but the process also disrupted local life. The concession agreements mostly followed the principles established by the IPC and APOC in their concurrent agreements with Iraq and Iran in the early 1930s. These early contracts gave the companies full rights in the regions granted to them for exploration. In practice, this often resulted in company control of the exploration zones exceeding that of the government from which it was leased.

As drilling operations spread, the area of land controlled by the major corporations increased. In the 1930s and 1940s this caused some resentment within the producing countries.

To curb the influence of the major oil companies, several countries began to offer tracts of land to smaller independent companies. For example, Saudi Arabia and Kuwait divided their neutral zone between two American independent companies: Arabian and Getty. This reduced ‘corporate control’ and helped to introduce the profit-sharing concept.

During World War II, the Western allies needed to secure a supply route that would guarantee safe passage of arms to Russia. This resulted in the 1941 occupation of Iran by British military forces and the deportation and replacement of the Shah. The immediate objectives included seizure of the refinery at Abadan and important oil facilities at Naftshah (Figure 1.6). This invasion had no direct impact on the oil industry at the time but it marked a change in the relationship between governments in the Middle East and those in the West.

Shortly after the war, Iranian anger over the invasion led the country’s government to nationalize all of the oil holdings within its territory. The National Iranian Oil Company (NIOC) was the first state oil company to be established in the Middle East. Western governments responded by enforcing a boycott of Iranian oil until, in 1950, the country’s economy collapsed. The economic consequences for Iran discouraged other Middle East governments from nationalizing their oil industries for many years thereafter.

In 1960, the Organization of Petroleum Exporting Companies (OPEC) was established by the world’s five leading oil and gas producers at that time: Saudi Arabia, Iran, Kuwait, Iraq and Venezuela. This organization introduced the first controls of production and prices, eliminated uncertainty in the oil market, and established the OPEC nations as a global economic power. However, this new spirit of international cooperation could not solve every dispute. War was to play a major role in the next chapter of Middle East oil history. Conflicts in 1963 and 1972 caused significant price increases. The higher prices turned out to be a mixed blessing for the OPEC states; while they boosted short-term profits, high prices also made exploration in other world regions a much more attractive prospect. High oil prices in the 1970s led directly to many of the major oil and gas finds in the North Sea, Venezuela, Mexico, and Indonesia — increasing supply and reducing the price of oil.

The 1980s and 1990s offered no respite from armed conflict. In 1980, war broke out between Iran and Iraq. This had a detrimental affect on the stability of oil prices, particularly with the onset of the ‘tanker war’ in 1988. The 1990 invasion of Kuwait led to serious environmental problems caused by massive fires and oil lakes (Figure 1.7) and wrecked the country’s oil and gas infrastructure. Western intervention helped to restore the Kuwaiti government but it has left the country heavily militarized and peppered with land mines and unexploited munitions. This has made oilfield operations in the country hazardous.

Company and country: an evolving relationship

When oil was first discovered in the Middle East, the major oil companies held almost total control of the petroleum resources. The drilling companies owned and operated the wells and held all rights to the drilling and sales of oil extracted from them. All of this business was conducted with zero taxation from the producing country. The countries were given a share of income or a royalty or dividend on company stocks. This was the only income from petroleum that the producing countries received, while the companies who owned all rights to the oil made substantial profits from their monopoly on the product. These arrangements fueled the growing resentment of the oil-producing companies.

As mentioned, producers began to offer drilling rights to smaller companies. Unfortunately for the major oil companies, deals agreed with their smaller counterparts were usually more generous than those that had been struck with the majors. This encouraged producers to negotiate for more than the small concession fees they had received in the past. A wind of change was blowing through the Middle East. The time had come for producers to share the money for the oil. In 1948, events in South America heralded another change in the global oil business. A revolution in Venezuela resulted in a 50% tax rate being levied on all income from oil exported by the Gulf Oil Corporation. Other oil companies, realizing that this tax could be written off as an expense, accepted similar offers of taxation from countries in the Middle East and North Africa. The new agreement raised the concession paid to producing countries from 22 to 80 cents per barrel. This tax was levied on the profits obtained after production costs had been subtracted from the market price of the oil. The change was welcomed in almost every country across the region.

In Iran, however, there was a problem. Approved by its treatment during World War II, Iran refused the 50-50% profits share offer and nationalized all of the oil holdings within its territory, forming the National Iranian Oil Company (NIOC). After the boycott of Iranian oil and the collapse of the country’s economy, the ‘seven sisters’ were given control of 50% of Iranian oil, effectively setting the 50-50% deal in place in a modified form.

In 1957 there was another major change in the interactions between producing countries and companies. NIOC entered an agreement with an Italian conglomerate to search for oil. The terms of the deal were that the Italian company would pay exploration expenses and share the money on any finds with NIOC (a 50-50 deal). In addition, however, the Italian conglomerate would then sell half of their share to NIOC. All oil would, as before, be distributed through the foreign firm’s own appendage companies. This deal was soon mimicked by other companies. As competition ensued for contracts, the oil companies kept less and less oil in their own share until, in 1966, the practice of service contracts became standard. The service contracts were simple: the producers owned the oil, but were obliged to sell it to the exploration company, who then distributed it to the markets through their appendages.
From the early 1970s, production agreements became more popular. Under these arrangements, companies offered higher percentages in the profits of refined oil they purchased from the producers. By 1973, the profit share under these agreements was typically around 12%. Negotiations with the companies finally resulted in the general agreement of 1972, which promised a gradual increase in profit sharing up to 25% by 1981. This is where the deal stands today between producers and the oil companies. The final phase in the evolution of the Middle East oil industry was nationalization. All of the producing states in the region had nationalized their reserves by 1980. With nationalization, the producing countries, which already owned all profits from the wells, now owned the countries, which already owned all nationalization, the producing their reserves by 1980. With states in the region had nationalized nationalization. All of the producing the Middle East oil industry was stands today between producers and gradual increase in profit sharing up to agreement of 1972, which promised a producers. By 1973, the profit share upheaval. A general periods of political abrupt falls in the 1973 rise. Prices eventually stabilized at $18 per barrel after reaching a peak of $21 per barrel. In the short term, deluged with an inflow of oil profits, the OPEC nations prospered. Unfortunately this booming prosperity had a sting in the tail. This increase in the cost of oil led to a boom in the global oil exploration industry. With oil prices high, it became economical to explore for oil again. Large new finds were made in the North Sea, Venezuela, Mexico and Indonesia. This produced a glut of non-OPEC oil. Ultimately, in 1985, this price collapse proved devastating to many oil-producing countries, where a large proportion of their social and economic programs were supported by profits from oil. In Venezuela, for example, unemployment jumped to 20% and many social and welfare programs were shut down, with high oil prices. There was a gradual recovery in oil price from the mid-1980s but the next major event to threaten oil prices was the Iran-Iraq War. During this conflict, both countries exceeded their production quotas to fund their war efforts. However, at the same time, both sides were inflicting severe damage on their opponents' oil and gas infrastructures and reducing each other's ability to export petroleum. Throughout the war Saudi Arabia and Kuwait made up for the lost Iraqi and Iranian production. The price of oil held steady at $34 per barrel as a result. In 1990 Iraq invaded Kuwait. This followed an unsuccessful attempt to have the Iraqi production quota raised to compensate for overproduction in Kuwait during the Iran-Iraq War. Initially, this military action drove oil prices up to highs of $40 per barrel, but increased production from other OPEC members brought the price down to $21 per barrel. Recent years have seen a gradual reduction in political tensions and a greater emphasis on cooperation as trade links are renewed and developed. Price fluctuations at the end of the 1990s, including the most recent fall and recovery, reflect the changing production levels and quotas rather than armed conflict.