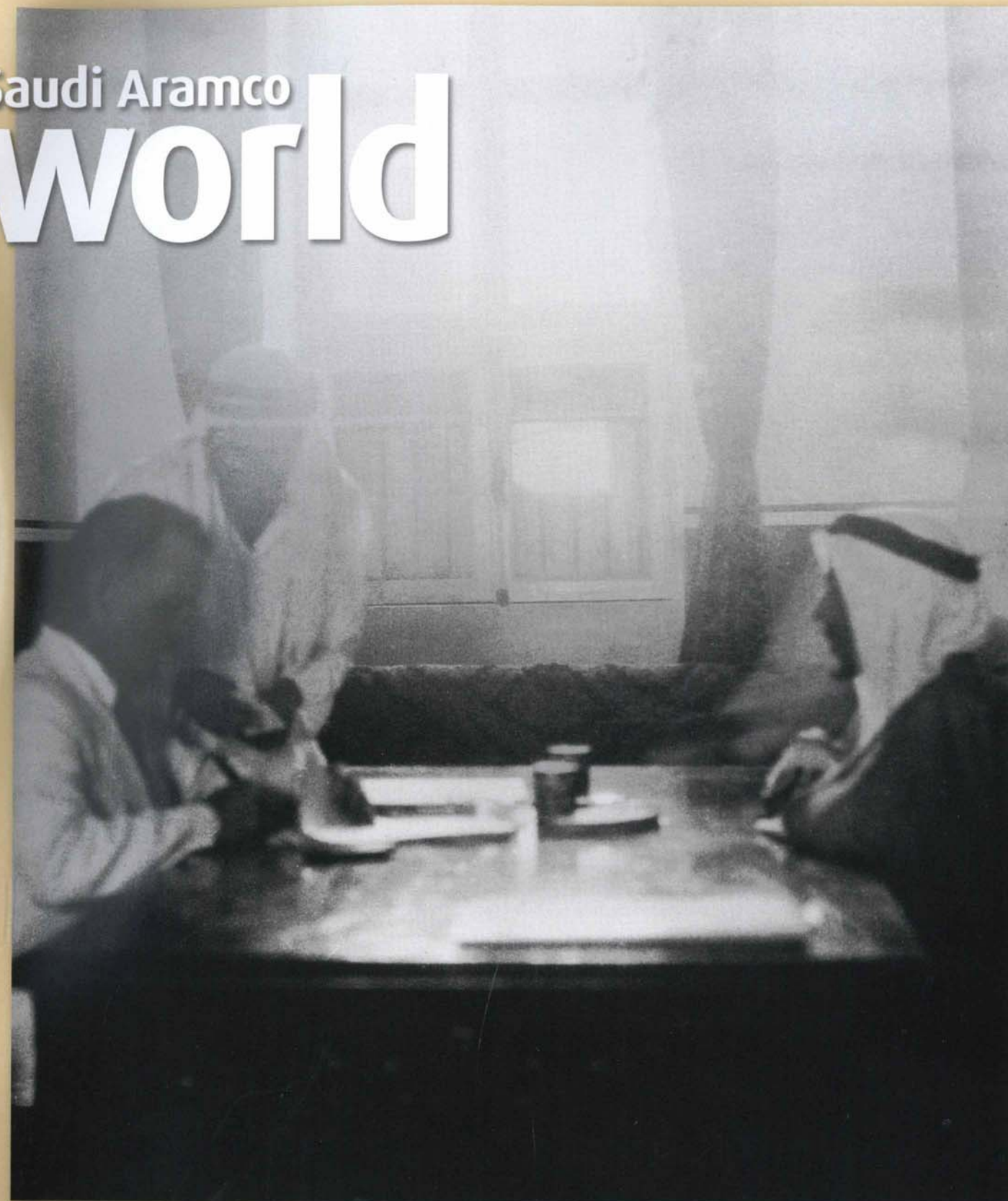




Saudi Aramco **World**



MAY 29, 1933 – MAY 29, 2008



MAY 29, 1933 **75** MAY 29, 2008

2 75 Years: Saudi Aramco by the Numbers

Humans have used petroleum for thousands of years, but it's only within living memory that it has transformed lands, peoples, cultures and economies around the world. No matter where you are, a reliable world oil supply underpins much of your ability to read this page. (It's part of the ink.) These numbers contour Saudi Aramco's historic role on the world economic stage.

6 75 Facts: A Beginner's Guide

What is Saudi Aramco? Who is Saudi Aramco? Where do its oil and gas and other products go? How much oil is there? Who started this? What's the story?

18 75 Sites: Where We Work

Still headquartered in Dhahran, in the Eastern Province of Saudi Arabia, Saudi Aramco today is a global business enterprise, an integrated network of people and some very complex tools. This photo essay offers an eclectic tour of the company's operations, from its desert origins to its bright new global offices, "megaproject" industrial sites and even its work on a new university.

38 "Real Arabia": Youth Digital Media Contest Winners

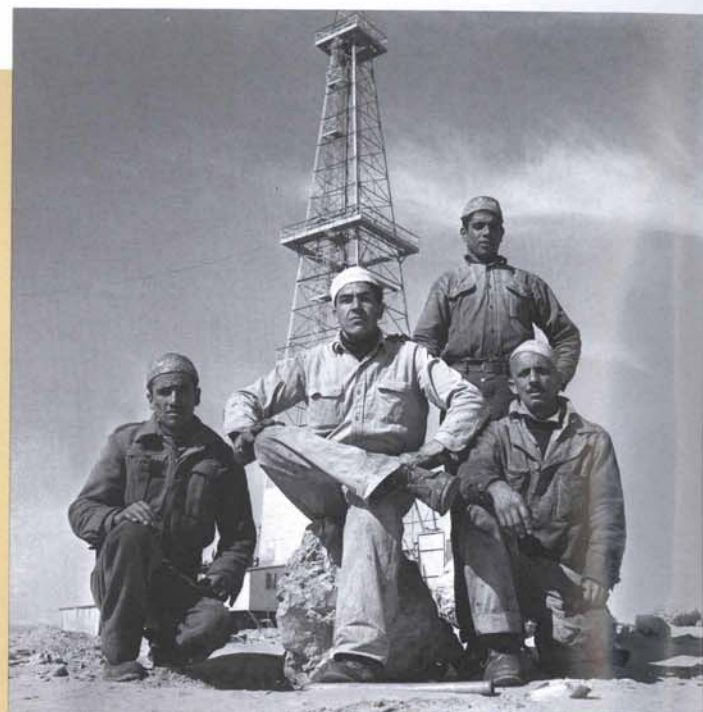
Youth is the real energy of the future. *Saudi Aramco World* asked under-24's in Saudi Arabia and young Saudis living abroad to submit short videos documenting something in their lives. We'd publish the winners, we said, and give the top winners new iPods. Here's a preview of what's showing at www.saudiaramcoworld.com.



Back Cover:



In 1953, Twitchell visited the Khuzam Palace in Jiddah, where 20 years earlier he had been present at the signing of the concession agreement. By then the country's transformation into a modern industrial economy was well under way. Photo by Karl S. Twitchell.

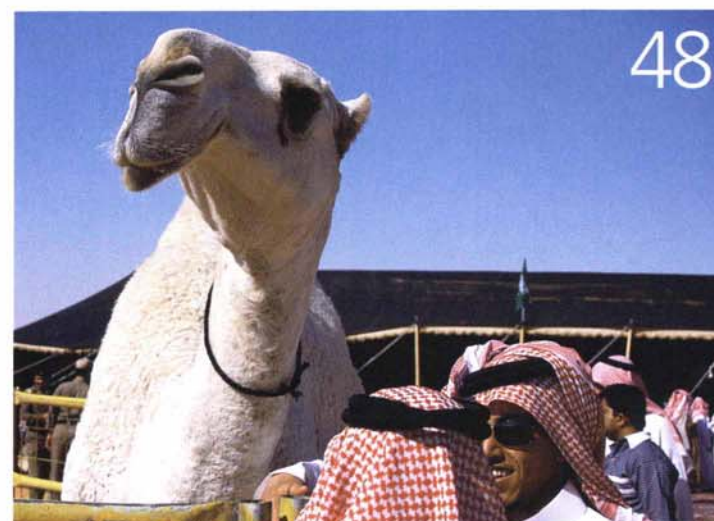


18: KEN CHILDRESS; 40: ILLUSTRATION BASED ON PHOTO COURTESY OF HERB WELLS; 48: PETER HARRIGAN

40 A King and Two Salukis

Written by Jane Waldron Grutz
Illustrated by Norman MacDonald

Esther Bliss Knapp of Ohio and Vera Watkins of Devon were each proud owners of a champion saluki, but neither Abdul Farouk nor Sabbah the Windswift had been bred as a show dog. Both hailed from the deserts of Saudi Arabia, where they were royal hunting hounds for King 'Abd al-'Aziz Al Sa'ud.



48

Heads High

Written by Peter Harrigan
Photographed by Lars Bjurström

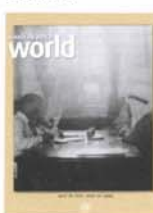
If you think your camel herd is the best from toes to ears and noses to tails, why not see how it lines up—literally—at the Arabian Peninsula's largest competition of classic camel connoisseurship? For centuries, drovers have trekked each fall to gather at Um al-Rughaiba, which today hosts a uniquely Arabian livestock show.

58 Classroom Guide

Written by Julie Weiss

60 Events & Exhibitions

Cover:



On May 29, 1933 Lloyd N. Hamilton, a lawyer representing Standard Oil of California, and Shaykh 'Abd Allah al-Sulayman, finance minister of Saudi Arabia, signed the concession agreement that allowed the American company to begin prospecting for oil in eastern Saudi Arabia. Present at the ceremony was mining engineer Karl S. Twitchell, who made this photo, now in the Saudi Aramco archives.

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Saudi Aramco, the oil company born as an international enterprise seventy-five years ago, distributes *Saudi Aramco World* to increase cross-cultural understanding. The magazine's goal is to broaden knowledge of the cultures, history and geography of the Arab and Muslim worlds and their connections with the West. *Saudi Aramco World* is distributed without charge, upon request, to a limited number of interested readers.

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Saudi Aramco by the Numbers

75
years

1932	'Abd al-'Aziz Al Sa'ud proclaims the Kingdom of Saudi Arabia.
1933	Concession agreement signed between Saudi government and Standard Oil of California (SOCAL). Prospecting begins. SOCAL assigns concession to California Arabian Standard Oil Co. (CASOC).
1935	First test well is drilled.
1936	Texaco buys 50% interest in CASOC's concession.
1938	Dammam Well No. 7 discovers commercial quantities of oil. Barge exports begin to Bahrain.
1939	First tanker-load of oil is exported aboard <i>D. G. Scofield</i> .
1942	World War II puts end to field mapping.
1944	CASOC renamed Arabian American Oil Co. (Aramco).
1945	First unit of Ras Tanura refinery begins production.
1948	Standard Oil of New Jersey and Socony-Vacuum (both now ExxonMobil) buy interest in Aramco; company headquarters moved from San Francisco to New York.
1950	Trans-Arabian Pipeline completed from Eastern Province oil fields to Mediterranean coast.
1951	Safaniya field, world's largest offshore oil field, discovered.
1952	Aramco headquarters moved from New York to Dhahran.
1953	Company begins building government schools.
1957	Several smaller fields found to be part of Ghawar field, which is confirmed as world's largest onshore field.
1959	Two Saudis elected to the board of directors.
1961	Exports of liquefied petroleum gas (LPG) begin.
1964	First company-built school for girls opens.
1966	Sea Island offshore crude-oil loading terminal begins operations.
1973	Saudi government buys 25% participation interest in Aramco.
1974	Saudi government increases its participation interest to 60%.
1975	Master Gas System launched to capture and put to use previously flared gas.
1980	Saudi government acquires 100% participation interest in Aramco.
1981	East-West NGL Pipeline commissioned.
1982	Dammam No. 7 shut in after producing 32 million barrels of crude.
1983	Ali I. Naimi elected first Saudi president.
1984	First four supertankers acquired; Aramco takes over operation of East-West Crude Oil Pipeline.
1988	Saudi Arabian Oil Company (Saudi Aramco) established.
1989	Saudi Aramco and Texaco launch Star Enterprise joint venture in us.
1991	Saudi Aramco buys 35% of SsangYong Oil Refining Co. in Korea.
1994	Company buys 40% interest in refiner Petron Corp. in Philippines.
1995	Last of a fleet of 15 new VLCC tankers placed in service by Vela International Marine, Ltd.
1998	Joint venture with Texaco and Shell establishes Motiva Enterprises in us.
2003	Geophysical data storage reaches 1200 terabytes.
2004	Qatif-Abu Safah Producing Plants inaugurated, processing 800,000 barrels per day of crude oil and 370 million cubic feet of gas.
2005	Joint-venture agreement for in-kingdom refining and petrochemical complex signed with Sumitomo Chemical Co. of Japan.
2006	Company assigned to build King Abdullah University of Science and Technology. Vela now owns 21 VLCC's.
2007	Joint ventures signed with ExxonMobil, Sinopec and government of Fujian Province (China) for refining, petrochemicals production and marketing.

10,000

8000

6000

4000

2000

Average Daily Production

(by years, in 1000's of barrels)

■ Crude Oil ■ Natural Gas Liquids

0

1932

1933

1934

1935

1936

1937

1938

1939

1940

1941

1942

1943

1944

1945

1946

1947

1948

1949

1950

1951

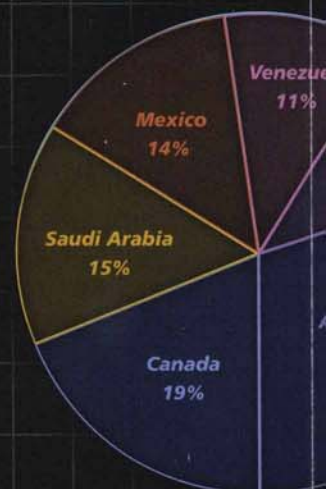
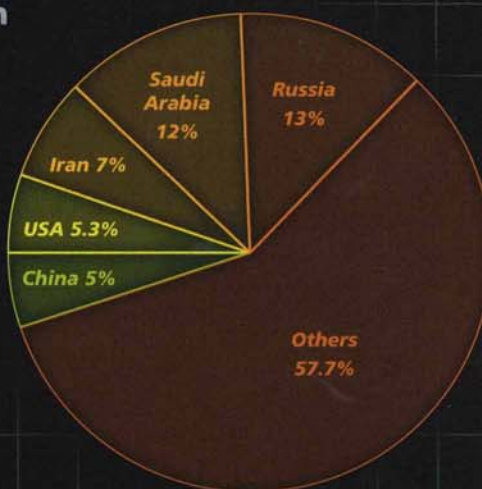
1952

1953

1954

1955

2007 World Crude Oil Production and Largest Producers



Fields Discovered

● Onshore Oil Fields ○ Offshore Oil Fields ● Onshore Gas Fields

80,000

60,000

40,000

Work Force

■ Saudi ■ Expatriate ~ combined

20,000

0

115

26

1,076

62

548

54

2,745

340

3,178

463

2,668

382

1,647

193

1,654

171

2,692

190

7,585

1,475

8,087

3,379

7,297

2,684

12,018

4,879

12,226

7,379

10,026

6,099

10,767

6,734

13,786

8,852

14,819

10,273

14,051

9,393

14,665

8,782

141

1,138

602

3,085

3,641

3,050

1,840

1,825

2,882

9,060

11,466

9,981

16,897

19,605

16,125

17,501

22,638

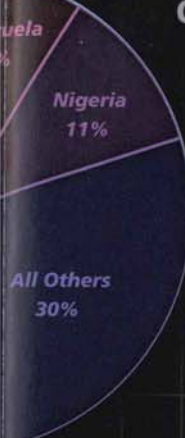
25,092

23,444

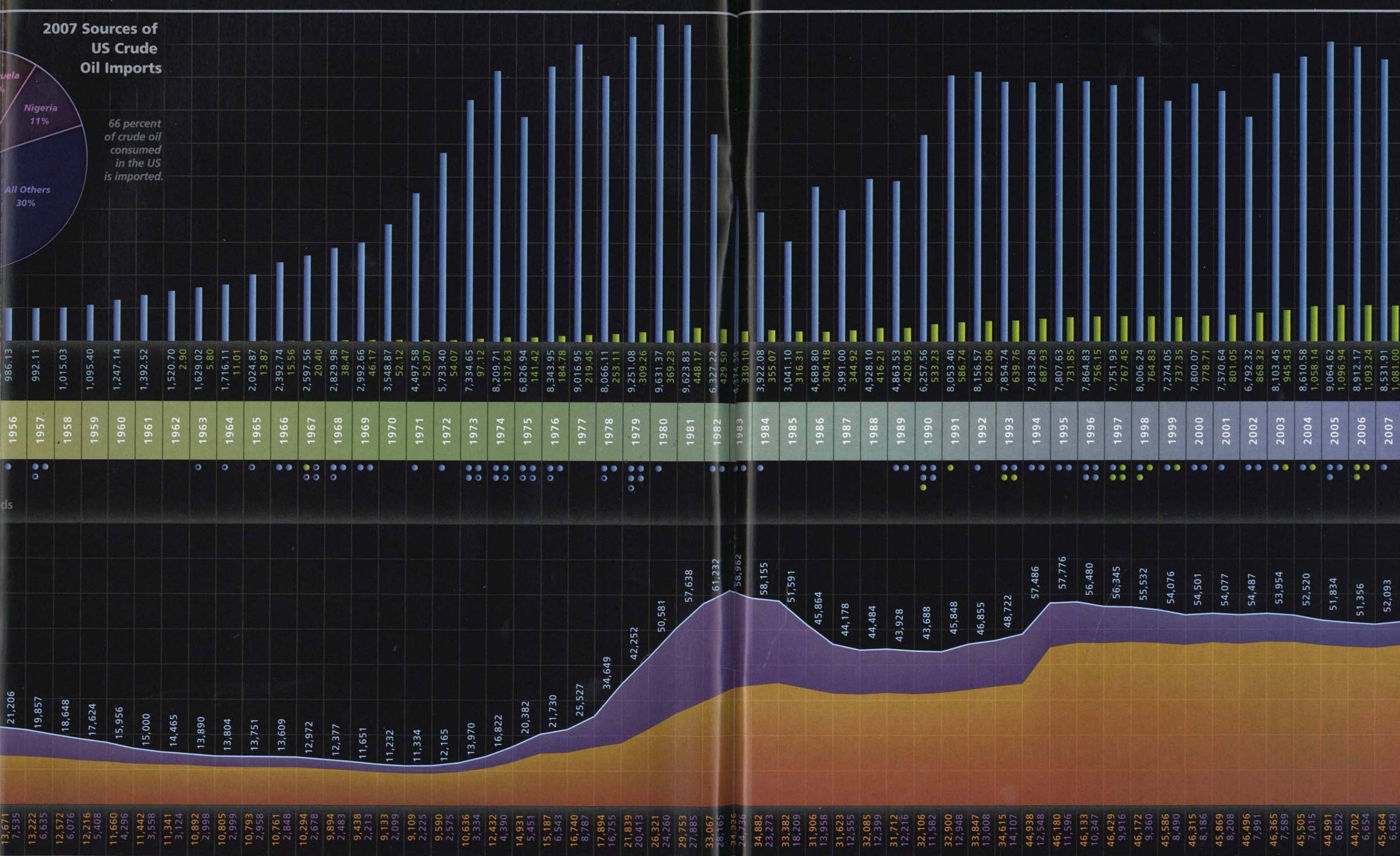
23,447

21,935

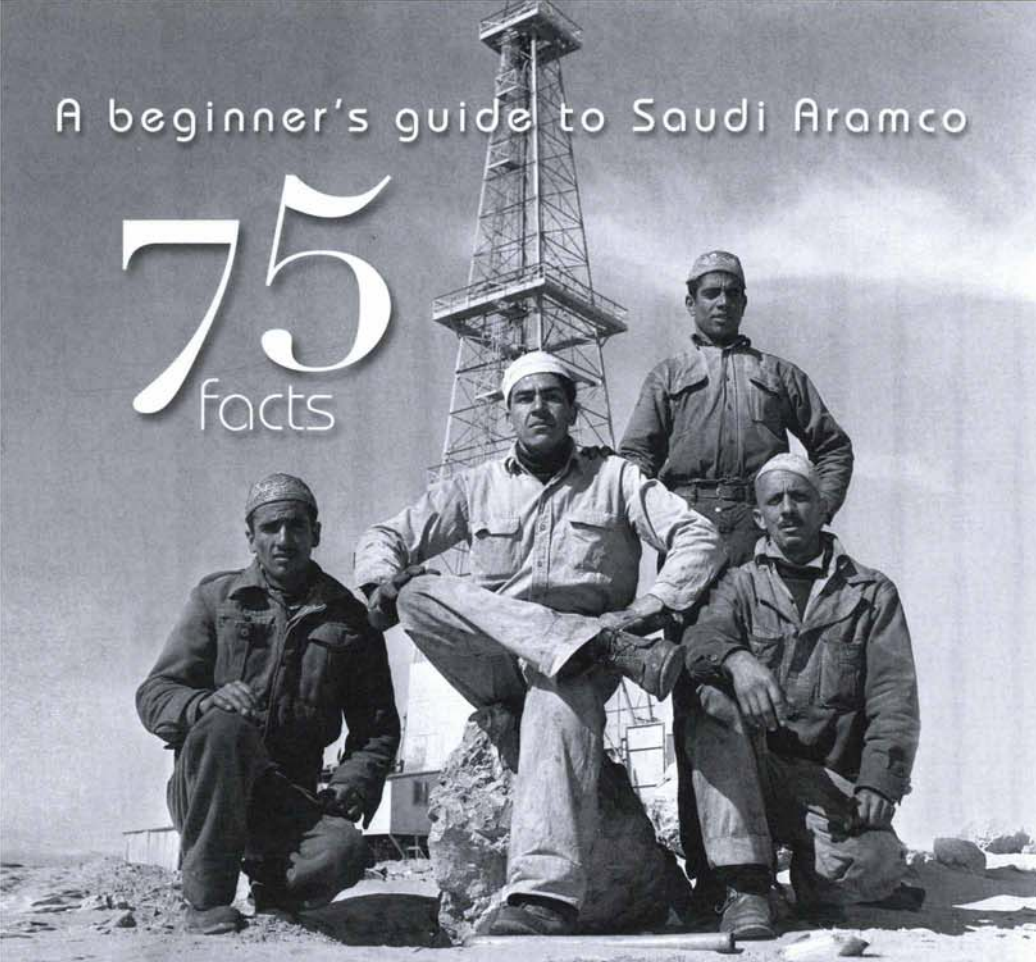
2007 Sources of US Crude Oil Imports



66 percent of crude oil consumed in the US is imported.



75
facts



CRUDE—AND REFINED

Saudi Aramco is the national energy corporation of Saudi Arabia. It produces natural gas liquids (NGL), gas and five grades of crude oil. Its various refineries and gas plants make gasoline, naphtha, ethanol, liquefied petroleum gas and other products. It exports about three-quarters of its crude oil, partly in its own tankers; naturally, it supplies almost all of Saudi Arabia's domestic energy needs as well. Its products are used to make not only gasoline, diesel fuel and heating oil, and cooking gas, but also an enormous range of other things, from fertilizer to bicycle helmets to car parts to the ink on this page. In crude oil, Saudi Aramco is the largest single producer in the world: Roughly one out of every 10 barrels of oil anywhere comes from Saudi Aramco.

THE EXPORTS

Saudi Aramco sends more than half of the crude oil, refined products and NGL that it produces to the Far East. The United States receives about 16 percent of Saudi Arabia's crude oil but less than five percent of its refined products and about three percent of its NGL. **Altogether, Saudi Aramco ships more oil around the world than any other single company or country.** In 2007, it shipped an estimated 1.25 billion barrels to countries in East and Southeast Asia; it shipped approximately 493 billion barrels to the United States—less than what arrived in the US from Canada, and a bit more than came in from each of Mexico, Venezuela and Nigeria.

THE STORY OF "ARAMCO"

In 1933, when Saudi Arabia allowed Standard Oil of California (SOCAL, now Chevron) to come in and explore, SOCAL assigned the job to a subsidiary it established, the California Arabian Standard Oil Company (CASOC). In 1936, the Texas Company (later Texaco) bought half of that subsidiary, and in 1944, the partnership renamed itself "Aramco." In 1948, the predecessor companies of today's ExxonMobil joined the partnership. This four-company consortium made up Aramco until 1980, when the Saudi government completed a gradual buyout of Aramco's assets. In 1988, the successor company was established as the "Saudi Arabian Oil Company (Saudi Aramco)" to recognize both its binational history and its good reputation.

THE MEANING OF "ARAMCO"

"Aramco" was an acronym for "Arabian American Oil Company," a name selected after the earlier "California Arabian Standard Oil Company" was made obsolete by Texaco's participation. No one today remembers why the "O" of "Oil" was skipped, but certainly the three syllables of "Aramco" roll off the tongue more easily—in both English and Arabic—than the four-syllable "Aramoco."



UPSTREAM / DOWNSTREAM / INTEGRATED

These are three insider terms that can help anyone understand how petrochemical companies organize themselves. Think of a hill with an oil well on top of it, a refinery halfway down, and a gas station at the foot of the hill. The oil flows out of the well, down to the refinery and on down to the consumer. The *upstream* part of the business involves exploring for and producing the oil. Refining, transporting and marketing the oil and its products make up the *downstream* part. Historically, most of Aramco's business has been on the upstream side, and that's partly why most of us, who live on the downstream side, have hardly been aware of Aramco: no retail gas stations. These days, as Saudi Aramco expands on the downstream side, it has become an *integrated* company—one that includes both upstream and downstream components—as well as an international one.

THE RESERVES

Despite producing millions of barrels of crude oil *daily* for decades, the amount of oil Saudi Aramco can tap for future production—its reserves—has actually *increased* over time to an estimated 260 billion barrels, the largest in the world. Two things explain this phenomenon: First, the amount of oil it has discovered, in almost every year, has been greater than the amount it produced in that year; second, technological advances in such areas as reservoir characterization and drilling methods make more oil accessible that couldn't be reached before. Oil isn't the only reserve that's important, though: Saudi Aramco also holds the world's fourth-largest reserves of natural gas, and they, too, grow steadily *larger* for the same reasons.

THE SHOCK BUFFER

Since the late 1970's, Saudi Aramco has positioned itself as the only major oil corporation with significant *spare capacity*—the difference between the oil it actually produces and the oil it could produce. This difference, currently more than 2 million barrels a day, can be brought "on stream" (it takes a month or more) to partially cushion severe shocks to the world oil market, such as those caused by the Iranian Revolution in 1979, the Iran-Iraq War of the early 1980's or Iraq's invasion of Kuwait in 1990.

THE PIPELINES

In 1950, Aramco completed the 1212-kilometer (753-mi) Trans-Arabian Pipeline (Tapline), at the time the longest in the world. From then until 1983, Tapline linked eastern Saudi Arabia to the Mediterranean Sea, sharply cutting the time and the cost of Aramco's exports to Europe. The pump stations along Tapline's desert route were linked by new roads, and with water wells and medical care for their staffs, they attracted Bedouins, many of whom settled into what became towns. In 1981, Aramco completed the East-West NGL Pipeline, which ran nearly the same distance from the Eastern Province to the Red Sea, fueling the transformation of Yanbu' from a fishing town to an industrial city that is attracting a new generation of settlers.

TO MARKET, TO MARKET

Crude-oil trading prices were set by a handful of major oil producers until March 30, 1983, when the New York Mercantile Exchange (NYMEX) began trading crude oil on its commodities market. After that, oil prices depended much more on minute-by-minute transactions for both "spot prices"—oil for immediate delivery—and "futures," or oil to be delivered in a month or more. In 1986, Saudi Arabia linked its oil price to the spot market. Today, Saudi oil prices are tied to spot markets in the United States, Dubai and Oman, and to Brent futures in Europe. (The Organization of Petroleum Exporting Countries [OPEC] sets production quotas, not prices.)

MASTER GAS MATTERS

In some underground reservoirs, oil contains natural gas the way a soda contains carbon dioxide (carbonation). Other reservoirs contain natural gas independent of oil. Beginning in the 1970's, Aramco began building Saudi Arabia's Master Gas System that today eliminates the waste of flaring off (burning) once unwanted gas and taps a resource with a current energy equivalent of about **1.3 million barrels** of oil a day. This multi-billion dollar nationwide system supplies all of the kingdom's gas needs and fuels major export industries based largely at Jubail, on the east coast, and Yanbu', on the west coast.



THE CHANGE OF COMMAND

The move from US-owned Aramco to Saudi-owned Saudi Aramco was the largest amicable acquisition of corporate assets in American history, notable both for what did happen and for what didn't happen: no forcible takeover, no expropriation, no diplomatic chaos (or worse). Beginning in 1973, Saudi Arabia negotiated ever-larger interests in the company, and by 1980 the Saudi buyout was complete. Because a stable transition was in the interests of Saudi Arabia, the United States and world markets, the government of Saudi Arabia continued the process—under way since the 1970's—of training and advancing Saudi professional and executive personnel into the company's management.



THE TALE OF TWO FORTS

Masmak: In 1902, 'Abd al-'Aziz Al Sa'ud recaptured the Masmak fort in Riyadh to reclaim the city from which his family had ruled central Arabia for most of the 19th century. It was the first step toward founding the Kingdom of Saudi Arabia three decades later.

Hofuf: In 1913, he captured the fort in Hofuf in the eastern province of al-Hasa from Ottoman Turkish forces. In expelling the Turks from this region, he unknowingly secured the world's largest oil reserves for the future kingdom.

CRANE AND THE KING

Heir to his family's plumbing business, Charles R. Crane was a well-traveled philanthropist with an interest in the development and self-determination of emerging nations; he had lent assistance in Turkey, China and Yemen. He had also watched the successes of King 'Abd al-'Aziz Al Sa'ud. In 1931, the king took up Crane's offer to discuss possible assistance and, as a result, the king and his advisors met Crane in Jiddah. At the king's request, Crane assigned a Vermont-born mining engineer named Karl S. Twitchell, who had been working for Crane in Yemen, to survey Saudi Arabia's natural resources. Although his foremost concern was water, Twitchell also identified formations in the east that he reported might hold oil. In 1933 the SOCAL men regarded Twitchell's reports, and the previous year's discovery of oil in Bahrain, as sufficient to make the concession a risk worth taking.

THE DEAL

The 1933 concession agreement between Saudi Arabia and Standard Oil of California (SOCAL) went like this: SOCAL could search for and produce oil in eastern Saudi Arabia—a region 20 percent larger than the state of Texas—for 60 years; it also received preferential rights to explore elsewhere in the future. The kingdom received an immediate loan of £30,000 in gold and, 18 months later, another loan of £20,000 in gold—an amount equivalent to about \$250,000 today—plus yearly rentals of £5000 and royalties of four shillings in gold—about \$1—per ton of oil produced. (Only later would oil be measured in barrels.)

THE KING'S MOTIVES

Why did King 'Abd al-'Aziz grant the concession to SOCAL, an American company with less regional familiarity than the Iraq Petroleum Company, which had a British, French and Dutch pedigree? The answer is both financial and political: It was 1933, the depth of the worldwide Great Depression, and though the one-year-old kingdom was short of cash, it was also wary of colonialist designs from beyond its borders. SOCAL lawyer Lloyd Hamilton's financial offer topped the one the king had received earlier from the Iraq Petroleum Company. Beyond that, in August 1945 writer Marquis Childs recalled in *Collier's* magazine that the king's representatives had told Hamilton he enjoyed an advantage because "Your country ... had no imperial designs. And besides," they added in the king's own words, "you are so far away."

THE COMPETITION

As political tension mounted in Europe, the discovery of Saudi oil in 1938 set off a rush by future World War II combatants to secure new energy supplies. Britain, Germany, Italy and Japan all angled to explore in Saudi Arabia outside CASOC's concession area. In May 1939, during the ceremonies marking the first tanker shipment of Saudi oil, CASOC representative William J. Lenahan met with the king and key Saudi officials to discuss a supplemental concession agreement. The deal increased CASOC's concession by more than one-third to an area roughly the size of present-day France, Germany and the United Kingdom combined in return for extra payments and the construction of a refinery at Ras Tanura. As *The New York Times* put it in a headline, "California Standard Paying Ibn Saud \$1,500,000 and Royalties—Axis and Rivals Lose."

THE DOOR TO THE FUTURE

Six words in Article 23 of the concession agreement opened the industrial age to Saudis: SOCAL was to employ "Saudi nationals as far as practicable." By the end of 1939, the first full year of commercial production, the payroll showed 3,178 Saudis, 322 Americans and 141 other employees. Today's workforce numbers more than 45,000 Saudis and 6,600 expatriates from some 50 other countries.



THE TANKER

In May 1939, King 'Abd al-'Aziz Al Sa'ud made his first trip to Dhahran, from where he traveled north to Ras Tanura to send the first crude oil into the hold of the *D. G. Scofield*. (The ship, named after a co-founder of SOCAL, held less than 1/20th as much as a modern supertanker.) As Wallace Stegner wrote about the occasion in *Discovery!*, written for the company in 1956, the king "reached out the enormous hand with which he had created and held together his kingdom ... and turned the valve on the line through which the wealth, power and responsibilities of the industrial 20th century would flow into Saudi Arabia."

THE LONG ROADS

In the early days, it took oilmen about a month to travel from North America to Saudi Arabia. Take paleontologist Nestor Sander, who set out in November 1938 from the west coast. First crossing the United States by train, he and his colleagues sailed on a German liner from New York to France. They stopped briefly in Paris, where they boarded the Orient Express for Istanbul. Crossing the Bosphorus by ferry, they caught another train south through Turkey, Syria and Iraq to Basra, where they boarded a steamship to Bahrain. They stayed there a few days and then sailed the last few kilometers to Saudi Arabia on a dhow. Saudis tell stories, too: When Fahmi Basrawi joined Aramco as a teacher in the mid-1940's, he crossed the Arabian Peninsula from Jiddah to Dhahran by riding atop sacks of wheat on a truck for 13½ hot, dusty days.

THE WORKPLACE CULTURE

The American oilmen who were most successful in the kingdom were the ones who quickly established rapport and camaraderie with Saudis. The first geologists grew beards and donned local dress to fit in; they drank tiny cups of cardamom-flavored coffee and quickly learned that shared stories around the campfire bonded guests and hosts. Geologist Tom Barger, who arrived in Dhahran in 1937 and went on to become a president and CEO of Aramco, learned Arabic and soaked up local customs through books and by practice with Bedouin guides. His personal communication skills and friendly relations with Saudi employees helped build a culture of mutual respect and cooperation that remains a guiding ideal for intercultural relations within the company today.

THE CLOTHES

Traditional Saudi men's clothing reflects a confluence of Islamic values—notably the need for modesty in the public sphere—and the desire for comfort in a hot environment, where ventilation and sun protection are equally important. Men traditionally wear the *thawb*, an ankle-length shirt, and a *ghutra*, or head cloth, but in industrial enterprises like Saudi Aramco, western clothing usually prevails. This is often for practical reasons: A flowing *thawb* is more likely to get caught in machinery, and its expanse of white fabric shows dirt far more quickly than western pants and shirts. Today, employees often choose between western and national dress depending on their job.

ARAMCO ARABIC

A special "Aramco dialect" sprang up over the years as English terms used in the workplace were adopted by Saudi employees and became part of the wider community's spoken expression—sometimes losing all connection to their original English meanings. An example is the "Aramco Arabic" word *weyt*, which means "tank." The term was originally given to tank-trucks that transported water to workers in Ras Tanura in the 1960's. The trucks were white; by extension, all tanks came to be called *weyt*. Another example is *wanayt*, the colloquial name for the pickup truck. All Aramco pickups had serial numbers on their doors that started with the numerals 1–8, or "one-eight," and that distinction was Arabicized to *wanayt*, the term that distinguished those vehicles from other types of truck. Arabic grammar was usually preserved in these borrowings, however. The English word "hose" was taken into local Arabic as *hawz* and, naturally, embellished with a properly formed dual and plural: *hawzayn* and *ahwaz*.

ARABIC FOR AMERICANS: GETTING TO KNOW YOU

Arabic proved a valuable culture-bridging tool for Americans working in Saudi Arabia from the earliest days of the oil enterprise. The earliest Arabic "courses" were the everyday exchanges among Americans and Saudis involved in exploration and drilling. In 1945, Aramco produced booklets of work terms in Arabic for its American employees and offered a \$50 bonus to anyone who finished a related course. From 1948 to 1957, the company offered intensive two- to four-week programs for all new American employees, first in Riverhead, New York and then in Sidon, Lebanon, teaching them—depending on their future assignments—at least basic words and phrases and Arab customs before they traveled to Saudi Arabia. The company continued to offer Arabic courses for employees in the kingdom through the 1980's.



THE ROYAL IMPRESSION

In January 1947, King 'Abd al-'Aziz made his second and last visit to Dhahran. The highlight of this visit was a meeting with dozens of expatriate families in front of the tennis courts along the aptly named King's Road. The occasion made lasting impressions on both the Americans and the Saudis who attended—so much so that a reenactment of the famous meeting is planned as part of the company's 75th-anniversary celebrations this year. Carol DuPriest Houg had been living in the camp for less than a year when she was among the Americans who met the king. He was, she said, “so

tall and handsome. When he spoke, it was as if the voice carried across the whole yard, and yet it was soft.... I remember to this day the big wonderful smile and a great feeling of warmth and protection from this man who I had been told was a great warrior. He gave me a string of pearls that day, and I still have them. I can still feel his strength whenever I put them on.”

THE TIRES

When the company contracted geologist and pilot Dick Kerr to map its concession from the air in 1934–1935, Kerr had to think about how he could land and take off in soft sand. He ordered a light airplane and had it fitted with the largest low-pressure tires it could take, which he inflated to a minimal 12 pounds of pressure. Later, when Kerr joined the company, he continued to experiment with low-pressure tires, and today the company routinely uses oversize vehicles to carry materials weighing sometimes hundreds of tons off-road, across the desert, without getting stuck, thanks to low-pressure tires.

THE WAR YEARS, I

After a lone Italian plane dropped a few bombs on Dhahran in October 1940—apparently mistaking it for the British refinery in Bahrain—the company evacuated women and children. By early 1941, more than half the American workers, and nearly half the Saudi workers, were off the payroll. The company pulled exploration teams in from the field and made plans to evacuate employees across the Rub' al-Khali to Aden in Yemen, if necessary. Though the company sealed 10 of its 16 wells atop the Dammam Dome, it continued to ship 12,000 to 15,000 barrels of oil every day to Bahrain by barge to help fuel British ships. In the winter of 1942–1943, spurred by fears that a shortage of airplane fuel could cripple the war effort, President Franklin D. Roosevelt backed US government purchase of a majority stake in CASOC; however, the company persuaded the government it could be a greater asset to the war effort without government control. Roosevelt later allocated scarce steel to enable the company to build a large new refinery in Ras Tanura in order to help fuel US forces in the Pacific theater.

THE SILVER SHIP

In August 1944, a Nazi U-boat torpedoed and sank the *SS John Barry* off southern Oman. Among the lost cargo were 750 wooden boxes containing three million silver Saudi one-riyal coins, minted for the Saudi government in the United States. The coins were destined in part for the pockets of workers building the refinery at Ras Tanura. Paper money was not yet in use in Saudi Arabia then; in those unsettled times, the coins in circulation were more valuable for their silver content than as currency, and both the kingdom and the company were running short. In all, some 49 million riyals were shipped to the kingdom. In 1994, salvors located the wreck and raised more than 1.3 million of the coins.

THE BEEF

As U-boats disrupted shipping during World War II, a Bedouin named Mutlaq (his full name is forgotten) mounted three cattle drives, one each winter from 1942 to 1944, from Yemen, 1600 kilometers (1000 mi) across the Arabian Peninsula, to beef up the menu in Dhahran. This supplemented harvests from a farm started by Dhahran commissary chief Steve Furman. All went to help feed a company workforce that had been reduced to a skeleton crew of around 80 Americans and 1600 Saudis.

THE PICKET LINES

After World War II, as Aramco grew exponentially, the massive influxes of diverse international workers led to periodic tensions over wages, living conditions and other opportunities. In 1945, there were strikes in Ras Tanura and Dhahran by Saudis seeking better wages and living conditions. In 1947, Italian workers, who had been brought in from Eritrea, where they had been interned by the British during World War II, held a brief strike. In 1953, Saudi and Palestinian workers struck for higher pay and better conditions. That October, Saudi workers struck again, and within a few weeks the company had acceded to most of their demands, increasing wages, providing other job enhancements and boosting housing benefits—all of which ultimately helped create the culture of shared prosperity that has marked the company ever since.

50–50 IN 1950

That year Aramco and the Saudi government agreed that, instead of receiving a fixed royalty for every barrel of oil Aramco produced, the kingdom would receive a 50-percent share of the company's net income. After this, the government showed a close interest in oil prices, the cost of the company's operations and its accounting methods. This was the first step toward Saudi ownership of the company.

FIELD OF DREAMS, I

Aramco confirmed the full size of the “field of dreams”—Ghawar, the world's largest known oil field—in southeastern Saudi Arabia in 1957. With the field's reserves put at 80 billion barrels, the US government called Ghawar “the greatest commercial prize in history.” That was six years after the company had discovered the world's largest offshore field, Safaniya, which itself proved to be part of a still larger field, extending into Kuwait, with estimated reserves of 25 billion barrels.

GREENING, I

Lawns weren't on anyone's mind when the camp at Dhahran was built, and grass was still nowhere to be seen in 1947 when it was becoming a family community. That year, when Paula Weathers rejoined her husband with their two small children, she carried from Egypt a coffee can containing two clumps of Bermuda grass. That grass became Dhahran's first lawn, and soon its roots and shoots were transplanted to nearly every home in the camp.

FIELD OF DREAMS, II

The baseball diamond on King's Road in the heart of Dhahran was a fixture in the community from its construction in 1952 until 2007, when it was “retired.” On that field, half a world away from the land that invented baseball, some of the best young players in the game pitched, swung and ran: Dhahran's Arabian American Little League has gone to the Little League World Series 18 times, and in 2007 the team won the regional title for the eighth straight year. Nearly 200 children, expatriates and Saudis alike, continue to play in the company's youth baseball leagues.

THE MAGAZINE, I

As Aramco grew, it wanted its thousands of new employees to feel a connection to the company offices in New York and, more importantly, to learn about the land and culture they lived in. In 1949, it launched a newsletter which—thanks to Anne Trust, a college sophomore—was named *Aramco World*. By the mid-1950's, more than half of *Aramco World*'s articles dealt with the theme that has endured to this day: the history and culture of the Arab and Muslim worlds and their interconnections with cultures of the West. In the early 1960's, the magazine was reoriented to serve an external audience in the US and Europe, and in mid-2000, *Aramco World* became the *Saudi Aramco World* of today.

THE MAGAZINE, II

The company was also interested in cultivating community and cultural education among its Arabic-speaking employees, and as early as 1953 it launched *Al-Qafilah* (*The Caravan*). Now the oldest continuously published cultural magazine in the Arab world, Saudi Aramco's bimonthly is also among the best known. At the time of its founding, Arabic publications were hard to find in the kingdom, and *Al-Qafilah* usually published stories related to Saudi Arabia and the Gulf region. Later, prominent writers began contributing articles, making it the international medium for discussion and inspiration it is today.

THE WAR YEARS, II

The shock of Iraq's invasion of Kuwait in August 1990 led to the evacuation of hundreds of employee dependents in what amounted to a mass charter airlift from eastern Saudi Arabia, particularly to the United States. Iraqi Scud missiles launched toward Dhahran drove those who remained to don gas masks and take shelter, even though most of the missiles were intercepted by coalition defenses. In the end, no missiles damaged either Dhahran or Saudi Aramco oil facilities. Offshore, floating Iraqi mines were an ever-present danger, but most were spotted well before they reached ships or drilling platforms.

THE BUFFER IN ACTION

After Iraq occupied Kuwait in August 1990, world oil prices more than doubled, to above \$40 a barrel. In response, Saudi Aramco ramped up to restore production that it had shut down a few years earlier during the “oil glut.” Within a few months of the Iraqi invasion, the company had raised production 60 percent above its pre-invasion level to 8.5 million barrels a day, making up for about 75 percent of the 4.6 million that the world market had lost. By 1991, prices were back around the \$20 level.

THE SPILL

The largest oil spill in the history of the Gulf hit 700 kilometers (435 mi) of Saudi Arabia's coastline during the 1991 Gulf War. As it drifted south, the oil sank into wet sands and formed layers of tar that poisoned the breeding grounds of fish and crustaceans. Teams from Saudi Aramco worked around the clock to protect vital water-intake channels used for power generation, desalination and injection, and they recovered more than 1.2 million barrels of oil—the largest amount ever collected from a spill—thus sparing hundreds of kilometers of beaches and intertidal areas.

KEEPING OIL IN ITS PLACE

Since 1991, Saudi Aramco has drafted regional and global oil-spill response plans and tested them through regular in-the-field drills. ASC in Houston and AOC in Leiden have done the same. The company has undertaken independent environmental research and also sponsored studies at the Research Institute at King Fahd University of Petroleum and Minerals in Dhahran to assess the impact of hydrocarbons and heavy metals on marine life. Saudi Aramco has built water-treatment plants to remove oily contaminants from discharges into the Arabian Gulf.

THE BOOKS

Aramco got its start in the book business in 1950, when it published five comb-bound booklets entitled *Handbooks for American Employees* to provide newcomers to Saudi Arabia with information about the company and the oil business, as well as the society and culture around them. They were combined into a single hardbound volume in 1952 and updated and redrafted several times over the years. The latest edition, *A Land Transformed: The Arabian Peninsula, Saudi Arabia and Saudi Aramco*, appeared in 2006. Other books published by Saudi Aramco include a volume about marine life entitled *Biomes of the Western Arabian Gulf* (1977), *Saudi Aramco and Its People: A History of Training* (1998) and *The Energy Within: A Photo History of the People of Saudi Aramco* (2006). The company supported the publication of other titles including *Arabian Highlands* (1952) and *Arabian Oil Ventures* (1964) by H. St. John B. Philby, *Birds of the Eastern Province* (1989) and *Natural Remedies of Arabia* (2006). In 1956, Aramco commissioned Wallace Stegner—later to win a Pulitzer Prize—to write a history of the company's early years; this appeared in edited, serialized form in issues of *Aramco World* from 1968 to 1970 and in an unauthorized paperback in Beirut in 1971, and was subsequently published as a hardback book by Selwa Press, with an added introduction and photographs, as *Discovery! The Search for Arabian Oil* (2006).

GREENING, II

For decades, the Dhahran golf course was famous—some would say notorious—as one vast sand trap with oiled-sand “greens.” But thanks to irrigation with some of the community's treated, recycled wastewater, it has for a few years now appeared much more like other courses: The real grass makes for a better, if sometimes less challenging, game.

MAKING LEMONADE

Carbon dioxide (CO₂) is produced by nature and by burning fossil fuels. It is a “greenhouse gas” that traps heat, causing the earth's surface to warm up. CO₂ can also be captured and permanently stored, or “sequestered,” so that it will no longer contribute to warming. Saudi Aramco is working on carbon sequestration both independently and as a partner in major industry initiatives in the United States and Canada. The fact that CO₂ can be sequestered by injecting it beneath oil fields, thus increasing the underground pressure needed to extract oil and turning the gas into a tool to produce oil more efficiently and reliably, is particularly interesting to the energy industry.

GREENING, III

In 2001, Saudi Aramco became the first company in the Middle East to produce and sell only unleaded gasoline. Recently, the company has carried out improvements at refineries and gas plants to reduce sulfur dioxide emissions significantly. The company is also working to make cleaner-burning fuel by removing naturally occurring sulfur from crude oil at the molecular level during refining.

FIELD OF DREAMS, III

Despite prolific oil and gas production over many years, Saudi Aramco has offset output through additional discoveries, more accurate reservoir characterization and improved recovery percentages. The development and application of advanced technology, including massive computing power, underlies this success. In 2006, computing capacity at the company's Exploration and Petroleum Engineering Center (EXPEC) in Dhahran reached 34 teraflops—or 34,000,000,000,000 multiplications per second, roughly the equivalent of the computing power of 3100 high-end PC's. At EXPEC, for example, engineers can manipulate reservoir models and “operate” virtual wells before they are ever drilled. In the nearby Geosteering Center, specialists monitor on their computer screens the progress of a drill bit moving horizontally, directing crews to oil deposits in target zones less than a two meters (6½') wide lying more than 3000 meters (10,000') underground.

PEPSI, PLEASE

Beginning in the 1940's, Aramco provided technical aid and sometimes financial assistance to promising Saudi employees who wanted to start their own companies. It did this because such investment strengthened the local economy, helped launch careers and in some cases relieved the company of tasks that weren't central to its mission. Among the early entrepreneurs were Suliman Olayan and Abdul Aziz al-Gosaibi. Olayan joined Aramco as a stockman in 1937, left a decade later to form his own trucking company, and parlayed his earnings and acumen into what is today a global business empire of some 50 companies. Al-Gosaibi, a member of a prominent local trading family, in 1952 established the kingdom's first Pepsi-Cola bottling plant in al-Khobar, with technical assistance from Aramco. The Al-Gosaibi Group is now one of the kingdom's largest commercial enterprises.

ERADICATING MALARIA

When oil explorers arrived in eastern Saudi Arabia in 1933, malaria was endemic in the region. In the early 1940's, in cooperation with the Saudi government, CASOC mounted an anti-malaria campaign that educated residents about preventing the spread of the mosquito-borne illness. Later in the decade, Aramco introduced larvae-eating minnows into the province's irrigation canals and began using DDT. By the 1950's, the disease had disappeared from the Eastern Province.

A HOUSE OF ONE'S OWN

Saudi Aramco has offered home loans to eligible Saudi employees since 1951, giving them the opportunity to buy or build new houses for their families and strengthening the construction sector of the local economy. Nearly 56,000 homes have been financed through subsidized loans, repaid monthly through payroll deductions. Whole new neighborhoods have grown up on company-developed sites in cities like Dammam and al-Khobar near the company's Dhahran headquarters.

THE TV BROADCASTER

When the company's television station, HZ-22 TV—Channel 3—went on the air in 1957, it was the first Arabic-language channel in Saudi Arabia. Arabic dialogue was dubbed, while English-speakers listened to a radio soundtrack broadcast simultaneously. Along with entertainment programming, the station offered educational programs in math, chemistry and Arabic, and many Saudi women learned to read and write by watching Channel 3. The station went off the air in 1998, after a number of other stations had begun broadcasting.

THE FOUNDATIONS OF SCHOLARSHIP

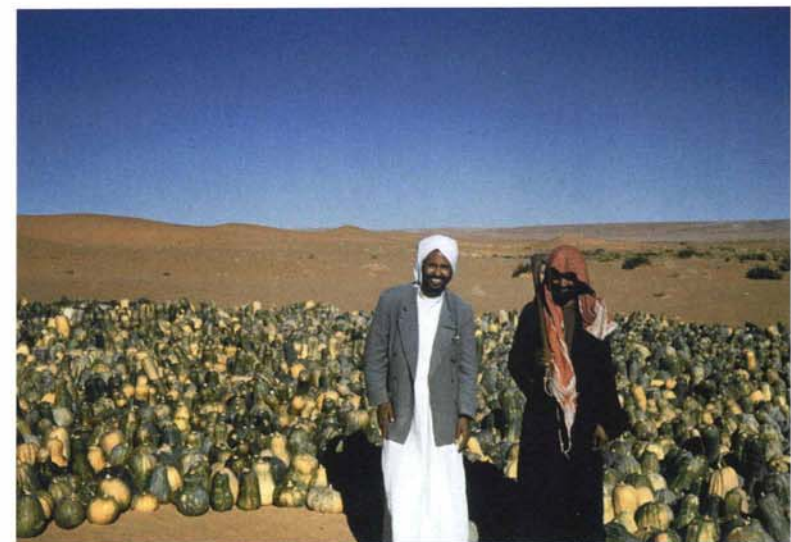
The company began building schools for the children of its Arab and Muslim employees in the Eastern Province in 1953, under an agreement with the government of Saudi Arabia. The agreement called for the company to build and maintain the schools, and pay for their operation; the government provided the curriculum and the teachers. The arrangement lasted for more than 50 years, during which time the company built 139 schools, many of which still operate today.

THE UNIVERSITIES

In 1963, the company helped found the Middle East's first college of petroleum technology, which in 1986 became today's King Fahd University of Petroleum and Minerals. The company released land adjacent to its main camp in Dhahran and contributed \$11.5 million toward the construction of the campus, which opened in 1970. In 2006, the Saudi government tasked Saudi Aramco with establishing the King Abdullah University of Science and Technology (KAUST) on a tract of land north of Jiddah. Scheduled to open in 2009, this research university aims to attract institutional partners and graduate students from around the world to study issues in water, environment, bioscience and nanotechnology.

THE AGGIES

Aramco got involved in large-scale agriculture as early as 1941, when it helped the royal family set up a 2000-hectare (5000-acre) farm south of Riyadh at the oasis of al-Kharj. Guide Khamis ibn Rimthan, geologists Tom Barger and Dick Bramkamp and engineer Les Snyder all surveyed the area and—because they knew about drilling—punched water wells for the farm, which employed between 700 to 900 Saudis. Sam Logan, a graduate of Texas A&M, arrived in 1947 and oversaw grain and vegetable production, poultry raising and the beginnings of what is still one of the major dairy herds in the kingdom. To assist smaller-scale farmers in the Eastern Province, Aramco operated an Agricultural Assistance Department from 1956 to 1993. The company also undertook miscellaneous large assignments, such as the planting of a belt of tamarisk trees to prevent sand dunes from enveloping a village in the al-Hasa Oasis.



THE KING

King 'Abd al-'Aziz Al Sa'ud combined diplomacy and strong leadership to unite disparate tribes, creating, early in the 20th century, the country that bears his family name. He built the new state on the foundations of those established by his forebears in the 18th and 19th centuries. To this heritage, he added a grasp of international affairs, a willingness to try to conciliate his foes before resorting to force and a readiness to use foreign expertise to find and develop the kingdom's resources.

THE MINISTER

An illiterate nine-year-old Bedouin when he walked into Aramco's school for Saudi youngsters working as office boys and telephone operators in the mid-1940's, Ali I. Al-Naimi joined the Exploration Department in 1953. He earned bachelor's and master's degrees in geology at US universities under company sponsorship in the early 1960's. He became the company's first Saudi president in 1984, its CEO in 1988, and in 1995 was named Saudi Arabia's minister of petroleum and mineral resources—the position he holds today.

THE PRESIDENT

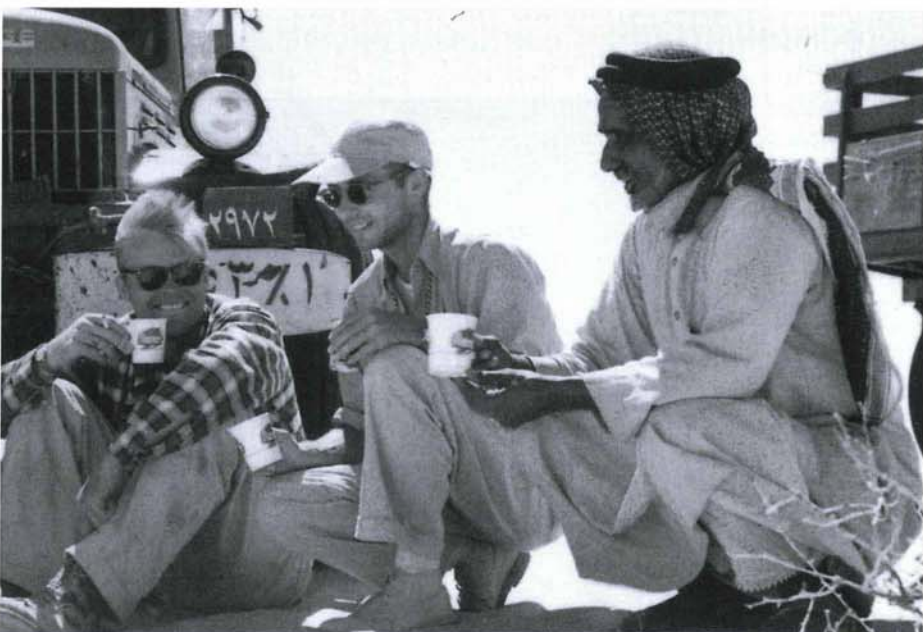
The biography of Saudi Aramco's current president and CEO, Abdallah S. Jum'ah, is similarly dramatic: Born in 1941 as the son of a pearl diver, he earned a degree in political science from the American University of Beirut in 1968 while on a government scholarship, after which he joined Aramco. In 1995, he was named president and CEO. He is the first company leader in this position not trained as a geologist or engineer.

THE GUIDE

Early American oil explorers in Saudi Arabia arrived with few maps, if any, and they relied far more on Bedouins to know where they were and how to get from one place to another. The most famous of the guides was Khamis ibn Rimthan, from the Ujman tribe, who took his first trip with Americans in the winter of 1934. His expertise became indispensable to the company, and

his cross-desert navigational talents left the geologists awestruck.

In later years, the American pioneers reflected fondly on him, describing him as a man of noble character, great natural dignity and a tremendous sense of humor.



THE RELATORS

Rather than send its own Arabists into the field to record names for the first kingdom-wide mapping project in the late 1940's and 1950's, the company instead invited the field to come to Dhahran, in the persons of tribesmen with firsthand knowledge of the territory. These "relators" sat down alongside company experts at tables covered with maps. It was they who named the towns, hills, mountains, dry riverbeds (*wadis*) and other features. Although they could neither read nor write, they were masters of description.

THE INTERPRETER

'Ajab Khan helped American oil explorers and Saudis understand each other in the early days of the oil enterprise. Originally from Peshawar in today's Pakistan, he emigrated to Bahrain as a boy and worked as an interpreter for geologists there before coming over to Dhahran, where he became a Saudi citizen and, later, started a business in nearby al-Kho-bar. The Sons of Ajab Khan Company continues to operate there today.

THE BOARD MEMBER

Son of a camel-owner, Abdullah H. Al-Tariki studied in Kuwait and Cairo and earned a degree in petroleum engineering from the University of Texas in the 1940's. In the early 1950's, he joined the kingdom's Directorate of Oil and Mining Affairs, where he analyzed petroleum statistics from Aramco for the royal family. In 1954, he was named director general of petroleum and mineral affairs. In 1959, Al-Tariki became one of the first two Saudis elected to Aramco's board of directors. The next year, he was appointed the kingdom's oil minister, where he argued forcefully for the renegotiation of national oil agreements. He was instrumental in the formation of the Organization of Petroleum Exporting Countries (OPEC) that same year.



THE ICON

Max Steineke arrived in Saudi Arabia in the fall of 1934, at the start of the second exploration season. But he quickly made up for any lost time, becoming the chief geologist in 1936 and then, in the spring of 1937, crossing the Arabian Peninsula in both directions, surveying the surface geology all the while. The report he wrote became the basis of all future geological profiles of the country, and it helped him argue for completing Dammam No. 7, the first commercially productive well, in 1938. Steineke and his partners also identified surface features that pointed to several other giant oil fields that were discovered later, including Ghawar, Abqaiq and Qatif.

THE FLIERS

Aviation started for Saudi Aramco 74 years ago, in 1934, when a Fairchild 71 that was specially modified for long-distance flying and aerial photography arrived in Jubail. The plane chopped months off the time it took to map a concession as big as the states of Texas and Louisiana combined. Dick Kerr, the plane's pilot, was a geologist himself. He and three other contractors worked with company geologists to map the bulk of the concession in 1934 and 1935. Kerr returned to Saudi Arabia as an employee in 1937 and advised the US Army on desert warfare during World War II. He rejoined the company after the war, working in the producing and transportation fields.

THE SHOWMAN

Abdul Aziz Shalfan joined the California Arabian Standard Oil Company (CASOC) in 1934 at age 12, trading a job in the *suq* in Manama, Bahrain, for one helping geologists explore the eastern part of his homeland. "We didn't know what to make of these foreigners or how they would treat us," Shalfan said. "But we found these men to be excellent. All of them spoke some Arabic and tried to learn more. In the evenings we would sit together over coffee and speak. We developed a genuine respect." Shalfan worked for the company for nearly 49 years, until his death in 1983. He made a name for himself at the company's Oil Exhibit, where he developed a reputation for his warm and engaging treatment of visitors.

THE VISIONARY

Engineer Frank Jungers joined Aramco in 1947 and quickly built a reputation for his good relations with Saudi employees. He was a natural problem solver, and the company tapped him to manage big jobs in Ras Tanura and Dhahran. He became president of Aramco in 1971 and CEO in 1973, overseeing the creation of the Master Gas System and the Saudi Consolidated Electric Company and opening new education and career opportunities for Saudi men and women, paving the way for a new generation of company leaders. Jungers led Aramco through its most politically difficult period, the 1973 OPEC oil embargo, and he helped steer negotiations that resulted in the Saudi government's smooth acquisition of majority ownership of the company in the 1970's.

THE EXPLORER

Fred Davies, a geologist from South Dakota, led SOCAL exploration in Bahrain, east of the Arabian mainland, beginning in 1930. When SOCAL's subsidiary struck oil there in 1932, it was he who recommended that SOCAL pursue a concession in eastern Saudi Arabia, just 32 kilometers (20 mi) across a ribbon of the Gulf. He later headed Aramco's exploration and production operations, and rose to serve as president and CEO.

THE GEOLOGISTS

Geologists Robert "Bert" Miller and Schuyler B. "Krug" Henry landed at Jubail on September 23, 1933. Within a week, they were exploring the rugged hills marking what became known as the Dammam Dome—where CASOC would discover oil after five years of prospecting. As their work widened and appeared promising, J. W. "Soak" Hoover, Thomas Koch, Art Brown and Hugh Burchfield joined them. They had been there about a year when Max Steineke came on board, and it was he who urged that deep well Dammam No. 7 not be abandoned too soon: "Dig a little deeper," he recommended. Well No. 7 hit "the discovery zone" at 1440 meters (4727').

THE LEGACY

Nassir Al-Ajmi, of Bedouin birth, joined Aramco in the 1950's as a teenage auto-mechanic trainee. He rose through the ranks and, as executive vice president and a member of the board of directors, became a key leader in the company's transition to state ownership. With a high-school diploma earned in Lebanon and a company-sponsored US university degree, he personified the transition of Saudi Arabia itself from the pre-industrial to the industrial era. He wrote it down in his 1995 autobiography, *Legacy of a Lifetime*.

THE ATHLETE

In 1950, after two years of training in the tepid Gulf waters off Ras Tanura, Florence Chadwick, an Aramco secretary, successfully braved the English Channel from France north to Dover. The next year she did it again, this time from England to France, making her the first woman to swim the Channel in both directions. Back home, New York honored her with a ticker-tape parade, President Dwight D. Eisenhower invited her to a visit in the White House and Hollywood gave her a movie contract. Later, Chadwick swam the Bosphorus, the Dardanelles and the Strait of Gibraltar.

THE DIPLOMATS

The first two diplomats to represent the United States in Saudi Arabia moved into Dhahran, Aramco's main community, in August 1944—two years before the first US ambassador to the kingdom arrived in Jiddah on the west coast—living and working in a house lent by the company. M. R. Rutherford, US consul in Dhahran from 1949 to 1952, said Aramco had already established strong relationships with Saudis and they “were probably more important than those of our ‘official family.’” In 1952, the new (and current) consulate building was completed nearby. Bringing the story full circle, former Saudi Aramco employee Joe Kenny will become consul general in Dhahran this September.

THE WOMEN

In 1964, the company hired a health educator for families in the Eastern Province, Najat Husseini (at right): She was the company's first university-educated Saudi female employee. Today, Saudi Aramco employs some 560 Saudi women with university degrees. They work in positions from petroleum engineers to nurses, part of a total female workforce of about 1000. The company established the Special Clerical Training Center for Saudi women in Dhahran in 1976. In the mid-1980's, Naela Mousli became the company's first female petroleum engineer and first female department manager. Other pioneers include Thuraya Al-Arrayed, the first Saudi woman Ph.D. to live and work in the Eastern Province, and Huda Al-Ghosen, who in 2007 became a director of the company's shipping subsidiary, Vela International Marine, Ltd.



THE PARTNERS

In 2008, the extent of Saudi Aramco's international business partnerships—joint ventures, consortia, part ownerships and other arrangements—go beyond easy summary. In Saudi Arabia, two of the company's seven refining operations involve international partnerships: Shell, in Jubail on the Gulf, and ExxonMobil, in Yanbu' on the Red Sea. Also on the Red Sea, Japan's Sumitomo Chemical Co. has joined in a new refining and petrochemical project at Rabigh. In the Empty Quarter, four gas-exploration programs are under way with European, Russian and Chinese companies. Abroad, there are refining and marketing partnerships with Shell in the US (Motiva Enterprises LLC), S-Oil in Korea, Petron in the Philippines and Showa Shell Sekiyu KK in Japan. The company is joining with ExxonMobil, Sinopec Corp. and the provincial government of Fujian, China, to expand refining and petrochemical complexes in Fujian, where Sinopec SenMei, which will market the products, is using the Saudi Aramco logo on service stations—the first such use outside the kingdom. Saudi Aramco has also signed memoranda of understanding with Total of France and ConocoPhillips to build two new 400,000-barrel-per-day export refineries, one on each coast of the kingdom.



THE STAR TEACHER

Fahmi Basrawi could read and write Arabic when he signed up to work in the mid-1940's, but he had never studied English—the subject he was hired to teach—so he taught himself the language by memorizing words from a textbook. Basrawi flourished in the company's Jabal School, where Saudis aged eight to 18 studied English, basic arithmetic and Arabic, and he excelled at organizing youth sports and field trips. He later attended college in Lebanon under company sponsorship, and he became a well-known personality on Aramco television, where he hosted educational programs for 17 years.

THE MODEST PIONEER

Officially CASOC's assistant resident manager in Dhahran, Floyd Ohliger was the man in charge when five years of exploration paid off with oil in commercial quantities from Well No. 7 in 1938. He had been there since 1934, the year after the first prospectors landed. He became a personal friend of King 'Abd al-'Aziz Al Sa'ud, served as the company's liaison with the government, served on the board of directors and retired in 1957. Always modest about his contributions to the success of the enterprise, he invariably called the early geologists the company's true heroes.

SAUDIZATION

The term “Saudization” entered Aramco's vernacular in the years after World War II, when the company launched programs to train Saudi employees as skilled workers and, through company-sponsored university educations, to enable them to assume professional positions. Today, 87 percent of the workforce is Saudi, as are nine out of the company's 12 board members and all but one of its top executives.

GETTING THE MOST OUT OF WHAT YOU HAVE

Drilling an oil well is not like sticking a straw into an underground tank. It's a lot more complicated, and good “oil-field management” means maximizing the amount of oil extracted over the entire life of the field. The oil lies in porous underground rock formations like water in a sponge. When you drill into that formation, two things make the oil flow up the well to the surface: the pressure of gas dissolved in the oil, like carbonation in a bottle of soda, and the pressure of water that lies beneath the oil in the rock. If you allow the well to flow too fast, the oil can't move through the rock toward the well bore fast enough to keep the flow going, and the well runs dry—though the rock still contains oil. Even in a well-run field, both these types of natural underground pressure decrease over time. One way to keep the oil flowing is by injecting water—lots of it—around the edges of the reservoir, under the oil, to push the remaining oil up toward the wells. Aramco began injecting nonpotable groundwater into reservoirs in the 1950's, but in a land where any kind of water is scarce, the company had to look to the sea. In the late 1970's, the company built at Qurayyah the world's largest seawater treatment plant. Today, the plant takes biological matter and impurities out of some nine million barrels of seawater daily and pumps it to the oil fields, and by the end of this year the plant's capacity will be nearly 13 million barrels. Another way to get the most out of oil fields is to drill into previously inaccessible folds and pockets of oil-bearing rock, or into formations too shallow to be worth going after with

conventional, straight-down drilling. Today, oil wells increasingly resemble root systems, curving off the vertical to move at angles, even horizontally, and branching up to four or five times—

a number that researchers at Saudi Aramco are hoping soon to triple. They expect such “extreme reservoir contact” wells to boost recovery rates by tenfold or more.



THE BRATS ARE ALL RIGHT

In the late 1940's and 1950's, many American employees who came to Dhahran were veterans of World War II, and when their families began arriving, they followed a tradition of the US armed services and referred (affectionately) to all employee children as “brats.” After all, it was just a short jump from “Army brat” or “Navy brat” to “Aramco brat,” and camp life did, in some ways, resemble life on an overseas military base. Brats they are to this day—proudly and still affectionately. AramcoBrats Inc., based in the US, boasts about 5000 members in more than 50 countries, and it holds biennial reunions. In 2007, three Brats produced a feature-length film, *Home: The Aramco Brats Story*, about expatriate children growing up in company communities.

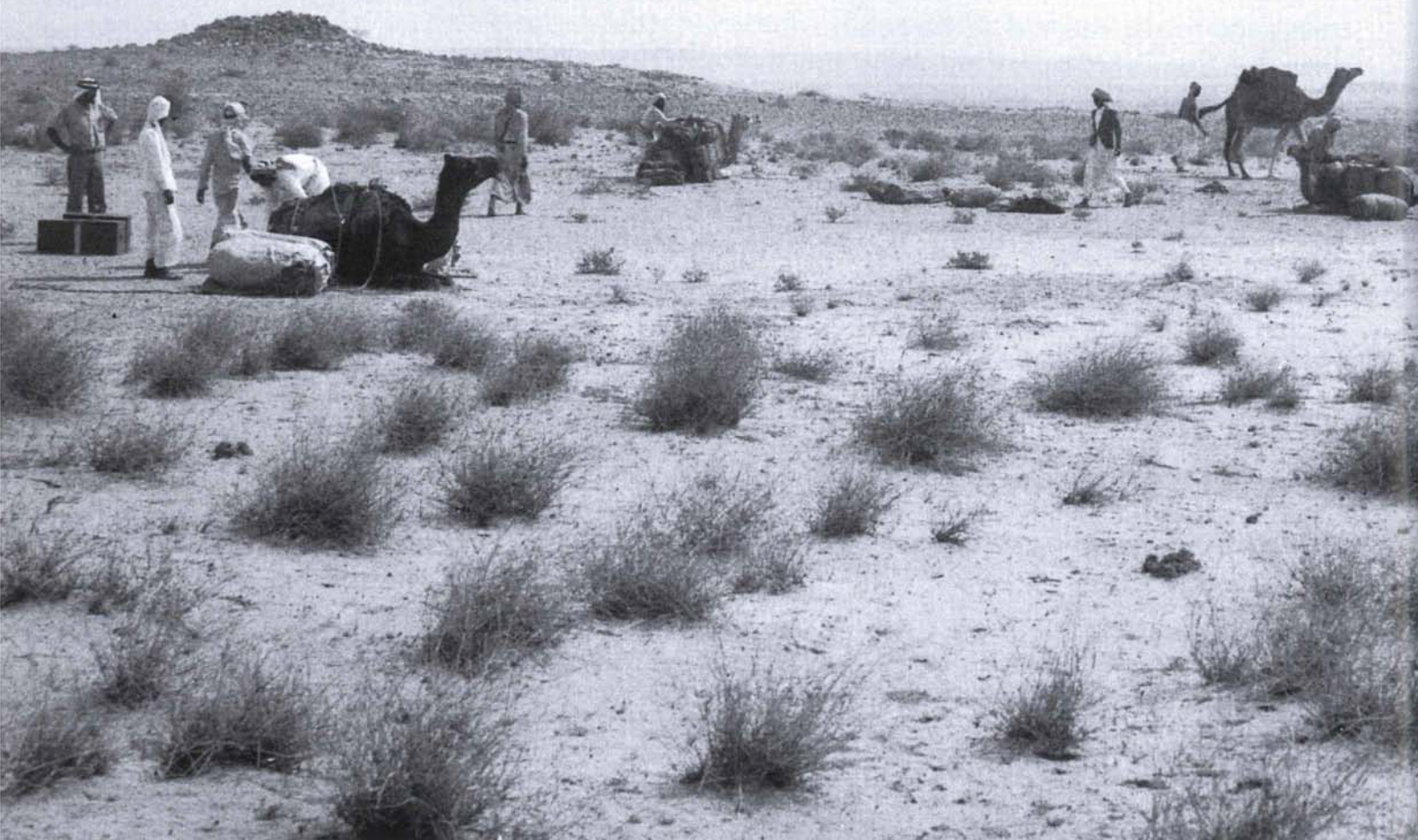
THE SHIPS

Saudi Aramco's Dubai-based subsidiary, Vela International Marine, Ltd., owns and operates 19 supertankers—one of the world's largest fleets. Its vessels log about 1000 voyages annually, transporting roughly two million barrels of crude oil per day to customers in the United States and Europe. Vela also ships crude oil and petroleum products to Arabian Gulf and Red Sea regional markets.

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sites

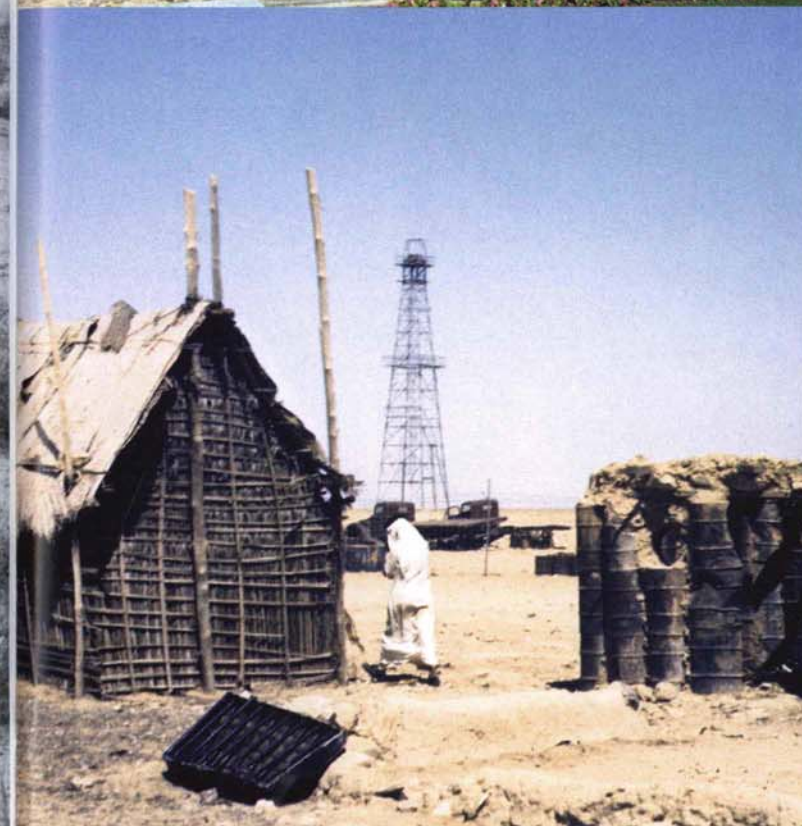
Where We Work



JIDDAH—KHUZAM PALACE
Lloyd N. Hamilton, representing Standard Oil of California (SOCAL), and 'Abd Allah al-Sulayman, finance minister of Saudi Arabia, sign the concession agreement on May 29, 1933. Earlier in the day, al-Sulayman had read the agreement out loud to King 'Abd al-'Aziz Al Sa'ud and his advisors.
(KARL S. TWITCHELL)

JABAL DHAHRAN
Geologist Bert Miller described the high ground near Dammam as "a textbook illustration of a dome" when he surveyed the area in 1933. *Jabal* means "hill" in Arabic; a dome is a geological formation that may indicate oil-bearing strata below.
(KARL S. TWITCHELL)

DHAHRAN—WELL NO. 7
Saudi Arabia's first commercially viable oil well is now referred to as the "Prosperity Well," and it is the centerpiece of a small park. It flowed for 45 years and produced some 32 million barrels of oil.
(ABDULLAH Y. DOBAIS)



'AIN DAR—WELL NO. 1
It took geologists nine years after drilling 'Ain Dar Well No. 1 to learn the full extent of the world's largest single oil field, Ghawar, which measures 280 kilometers (174 mi) by 26 kilometers (16 mi) at its widest point.
(KARL S. TWITCHELL)

EASTERN PROVINCE
When this photo was made in the early 1940's, many workers lived in the traditional palm-frond *barastis*, common throughout the eastern Arabian Peninsula.
(KARL S. TWITCHELL)

DHAHRAN—OIL SUPPLY PLANNING AND SCHEDULING (OSPAS)
Technicians coordinate the production and distribution of oil, gas, electricity and the products of refineries throughout the Saudi Aramco network from the OSPAS Operations Coordination Center.
(BANDAR SULTAN AL-AMMAR)



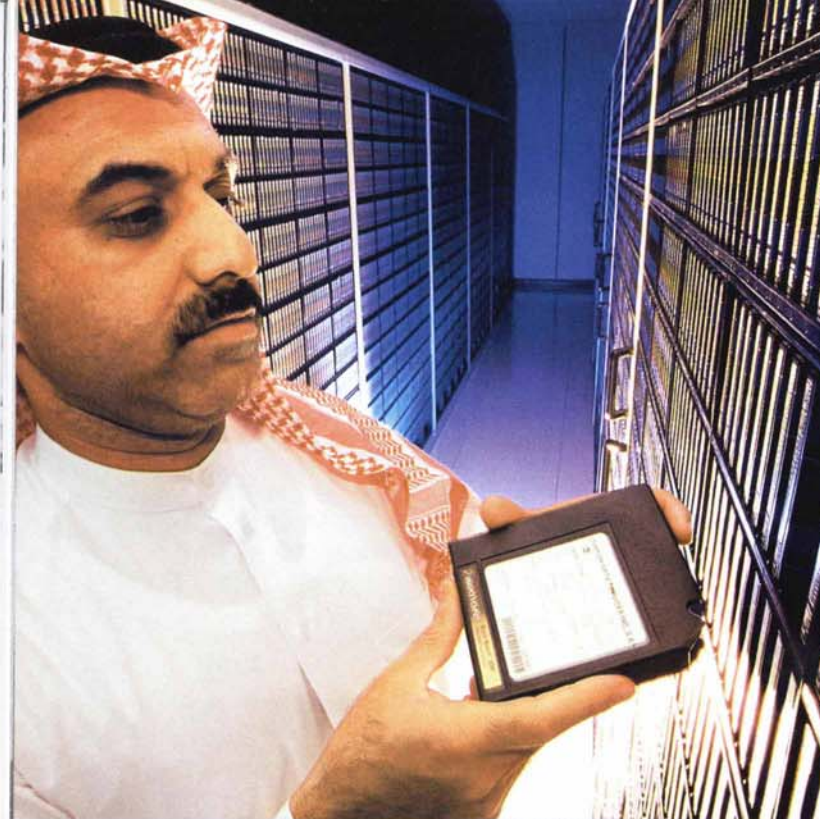
شركة الزيت العربية
السعودية

SAUDI ARAMCO

بئر عمار رقم ١ في الغوار
بئر الاكتشاف في حقول الغوار
برق بالحفر في مجاري الأرض ١٣٦٧ الموافق ١٠ أبريل ١٩٤٨
اكتشفت المنطقه بالزيت في ١٣ شعبان ١٣٦٧ الموافق ٢٠ يونيو ١٩٤٨
الإنتاج الأول ١٦٩٠٠ برميل في اليوم
في ٢٤ ربيع الأول ١٣٧٠ الموافق
٣ يناير ١٩٥١

AIN DAR WELL NO. 1
DISCOVERY WELL OF THE GHAWAR FIELD
COMMENCED DRILLING APRIL 10 1948
DISCOVER ARAB-D ZONE JUNE 20 1948
INITIAL PRODUCTION 16,900 BPD
JANUARY 3rd 1951

FHK



DHAHRAN—EXPLORATION AND PETROLEUM ENGINEERING CENTER (EXPEC)
Information on where to find and how to produce oil and gas comes from the EXPEC Computer Center, the largest information technology center in Saudi Arabia and home to four of the world's most powerful computers.
(KEN CHILDRESS)

DHAHRAN—HEADQUARTERS
The tree-lined streets visible beyond Saudi Aramco's headquarters for administration, engineering and exploration are part of the original "Main Camp" residential area. At far right are one of Dhahran's mosques and its community center.
(ABDULLAH Y. DOBAIS)

DHAHRAN—RESEARCH AND DEVELOPMENT CENTER
Here, more than 300 specialists focus on finding improvements in all aspects of the petrochemical process, from supply reliability and reservoir management to safety and carbon sequestration technology.

DHAHRAN—GEOSTEERING CENTER
Using real-time imaging, specialists communicate with crews drilling "smart" wells in the field to steer drill bits precisely into the most productive oil and gas deposits.

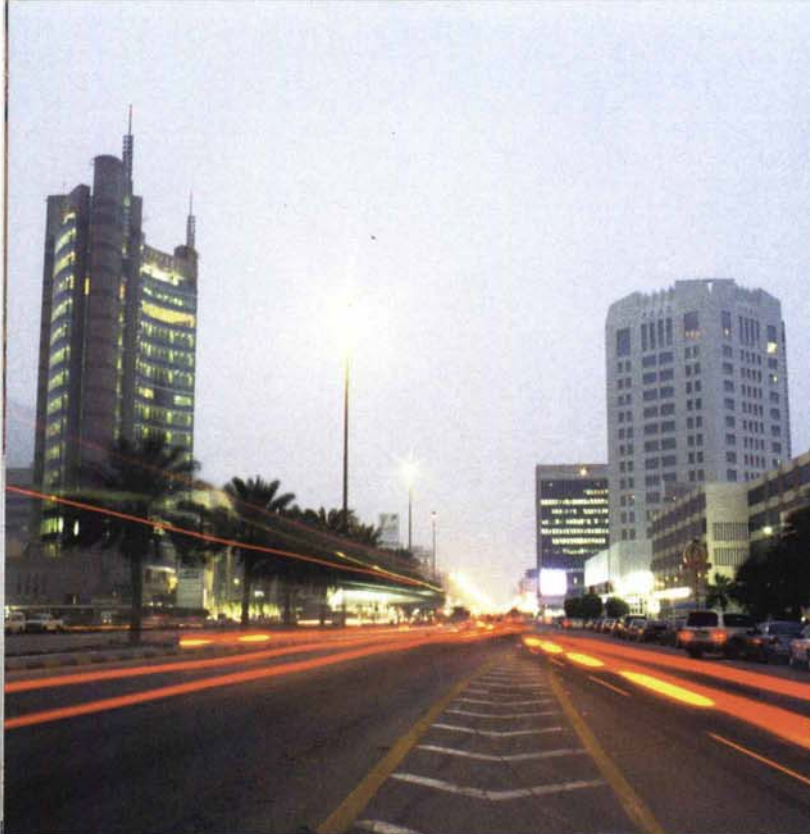
DHAHRAN—MAIN CAMP
Streets in the heart of Dhahran today follow paths laid down as dirt tracks by the early explorers. It is still called "Main Camp" even though it has been more of a small town since World War II.
(DICK DOUGHTY)

DHAHRAN—MAIN CAMP
Once restricted to senior staff and offering only a cafeteria-style dining hall as a restaurant, "Main Camp" today is a mix of international and Saudi residents; a handful of privately owned restaurants now operate on camp.

DHAHRAN HILLS
Families gather in one of Dhahran's community parks. Some 7000 expatriates, with roots in more than 50 countries, live in Dhahran and the company's other international communities. In the background, a bilingual sign explains the children's area of the park.

DHAHRAN HILLS ELEMENTARY SCHOOL
The front hall celebrates the diversity of its student body. Like all Saudi Aramco schools, its instruction is in English and its curriculum largely American.
(DICK DOUGHTY)





AL-KHOBAR

Once a pearling village, this is now a city that, together with the provincial capital of Dammam to the north, is part of a seamless conurbation of some two million people along the Gulf coast.

DHAHRAN—IBN AL-MOTH-AFER INTERMEDIATE SCHOOL

Built by Saudi Aramco in 1992–1993, this is one of some 140 schools the company has raised since 1953, when it built its first school for Saudi children under an agreement with the government.

(SALAH A. AL-ALWANI)

DHAHRAN—INDUSTRIAL TRAINING CENTER (ITC)

Aramco's roots go back to a time when there was no industrial workforce in the country. The company soon instituted training programs for every aspect of the industry, many of which continue today.

(FAISAL I. AL-DOSSARY)

RAS TANURA—ITC

Opened in 1957, the company's ITC at Ras Tanura was one of the first. In 2007, Saudi Aramco sponsored more than 11,000 people in full-time training or education courses—a number comparable to the student body of a medium-sized university.

(ABDULLAH Y. DOBAIS)

DHAHRAN—SAUDI ARAMCO MEDICAL SERVICES ORGANIZATION (SAMSO)

From its origins as the first medical institution in the region, SAMSO now provides health care for more than half a million people—all of them company employees and their dependents.

(FAISAL I. AL-DOSSARY)

RIYADH—SAUDI ARAMCO GOVERNMENT AFFAIRS

Since the signing of the concession agreement in 1933, the prosperity of both kingdom and company has depended on their working relationship, and from the earliest days the company has maintained representatives in Riyadh, the country's capital.

AL-MUBARRAZ—ITC

Built in the 1980's in one of the Eastern Province towns that predate the oil industry, this is one of the centers where the company devotes a total of some 10 million man-hours annually to career preparation for young Saudis.

DAMMAM

Since 1951, company loans under the Home Ownership Program have enabled more than 53,000 Saudi employees to build houses throughout the towns of the Eastern Province. Many of the homes accommodate extended families.



ضجيج خطر
اليس واقيات الاذنين
NOISE HAZARD
WEAR EAR PROTECTION

انتبه
CAUTION

ينبغي لبس قبعات السلامة
SAFETY HATS REQUIRED



ABQAIQ
In 1940, tents clustered near one of the first wells; by 1950, there were some 44 wells in the area. Today Abqaiq is the site of the largest crude-oil processing plant in the world, with a capacity above seven million barrels a day.

ABQAIQ
Because the oil industry is inherently hazardous and working conditions are often harsh, safety has always been a paramount concern, and Saudi Aramco's safety record has won international awards in the oil and gas industry.
(TURKI MOHAMMED AL-GHAMDI)

QATIF PRODUCTION PLANTS
This "megaproject," opened in 2004, adds 650,000 barrels of oil and 370 million cubic feet of gas to production capacity each day. The company defines as "megaprojects" construction projects costing more than \$1 billion.
(KEN CHILDRESS)

DAMMAM—SAUDI CONSOLIDATED ELECTRIC COMPANY (SCECO)
In 1976, Aramco took on the consolidation of the numerous smaller electrical companies that operated in the Eastern Province and the extension of electrical services to the new industrial city at Jubail.

ABQAIQ—DINING HALL
After World War II, employees and families took up residence in what became one of several Aramco satellite communities. As in Dhahran, the dining halls offered alternatives to home cooking and a place to socialize.
(BERT SEAL)

RAS TANURA SCHOOL
Along the coast north of Dhahran, students and teachers of the Saudi Aramco-operated Ras Tanura School demonstrate local pride on the playing field.
(ABDULLAH Y. DOBAIS)

RAS TANURA—SEA ISLAND
Opened in 1966, this offshore loading terminal is one of the company's 10 oil and gas terminals on the Gulf and Red Sea coasts that together load more than 9000 tankers annually—nearly 25 every day.

RAS TANURA—SURFSIDE LANES
Bowling alleys, both here and in Dhahran, are among the sports facilities maintained by the company for employees.
(DAVID KAISER)





Jubail, the village where
SOCAL's geologists first came
ashore, is now Saudi Arabia's
largest industrial city.



HARADH

Oil was found here in 1949, near the southern end of what came to be recognized as the Ghawar field. Haradh is now also the site of a new gas plant that adds substantially to the country's Master Gas System.

(KEN CHILDRESS)



JUBAIL

Today Saudi Arabia's largest industrial city, built from scratch in the late 1970's, sprawls over the site of the small village where SOCAL's geologists first landed in 1933. It now hosts more than a dozen basic-industry sites and more than 200 light manufacturers.



SIDON, LEBANON—TRANS-ARABIAN PIPELINE (TAPLINE) TERMINAL

The 1700-kilometer (1054-mi) pipeline from Saudi Arabia to the Mediterranean shore of Lebanon allowed the company to ship oil to Europe without shipping it around the Arabian Peninsula. Completed in 1950, the Sidon terminal shut down in 1983.



PUMP STATION NO. 3

Eleven pumping stations keep oil moving across Saudi Arabia to Yanbu' and Rabigh on the west coast. Yanbu' is home to an industrial city and a shipping terminal; a giant integrated oil-refining and petrochemical complex is under construction at Rabigh.



KHURSANIYAH

This processing plant for the Khursaniyah field will add half a million barrels of oil and a billion cubic feet of gas a day to company capacity. It is one of 10 megaprojects either recently completed or under way.



TANAJIB

More than 1700 people work in the onshore and offshore operations that bring oil from fields under the northern Gulf to this plant for processing.

(KEN CHILDRESS)

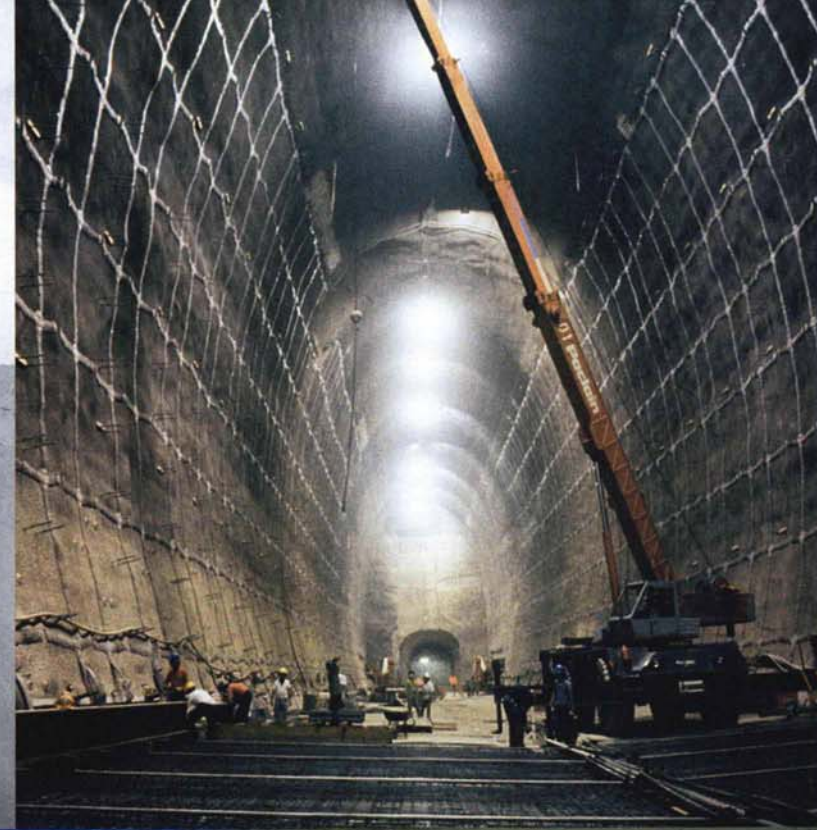
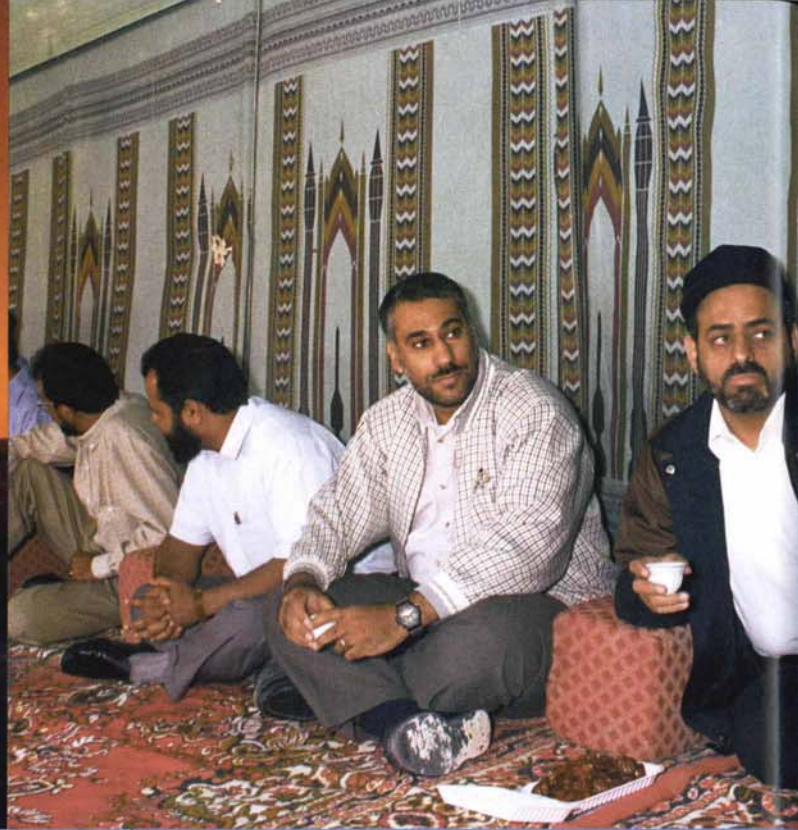


BERRI CAUSEWAY

On September 23, 1933, when SOCAL's geologists arrived to explore, they were taken to a nearby hill called Jabal al-Berri. Today, this causeway serves the Berri Gas Plant and oil field.

(SHAIKH MOHAMMED AMIN)





'UTHMANIYAH

Among the first gas plants to feed into the nationwide Master Gas System, this plant also generates electricity from heat that would otherwise be wasted—a process known as cogeneration.

'UTHMANIYAH

In addition to its own 52,000 employees, the company has long hired hundreds of contractors whose own workforces perform a variety of tasks, from construction to maintenance work.

(HADI A. AL-MAKAYYI)

QASIM

Distributors' tank-trucks can load up at one of 19 "bulk plants," like this one in central Saudi Arabia, that supply gasoline, liquefied petroleum gas (LPG) and other domestic needs throughout the kingdom.

SHEDGUM

Another gas plant that taps the vast resources of the Ghawar field is at Shedgum, which is linked to processing plants at Abqaiq, to the northeast, and Yanbu', on the Red Sea coast.

(ABDULAZIZ M. AL-MOAWIWEED)

SAFANIYA

After the discovery of the world's largest offshore oil field at Safaniya in 1951, workers laid pipelines undersea and then south across the desert to bring the oil onshore for processing and shipping.

(RUSSELL LEE)

ABHA—SAUDI STRATEGIC STORAGE PROGRAM

Tunneled into solid rock beneath hills north of Abha, in southwestern Saudi Arabia, these man-made caverns comprise one of five underground storage facilities for oil and petroleum products built since 1999 and operated by Saudi Aramco.

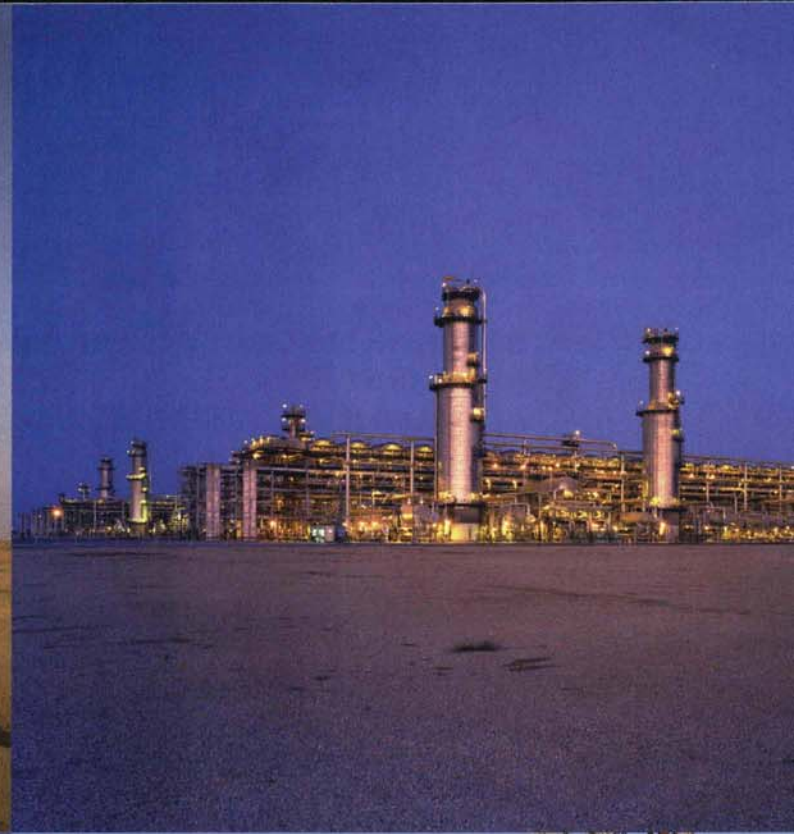
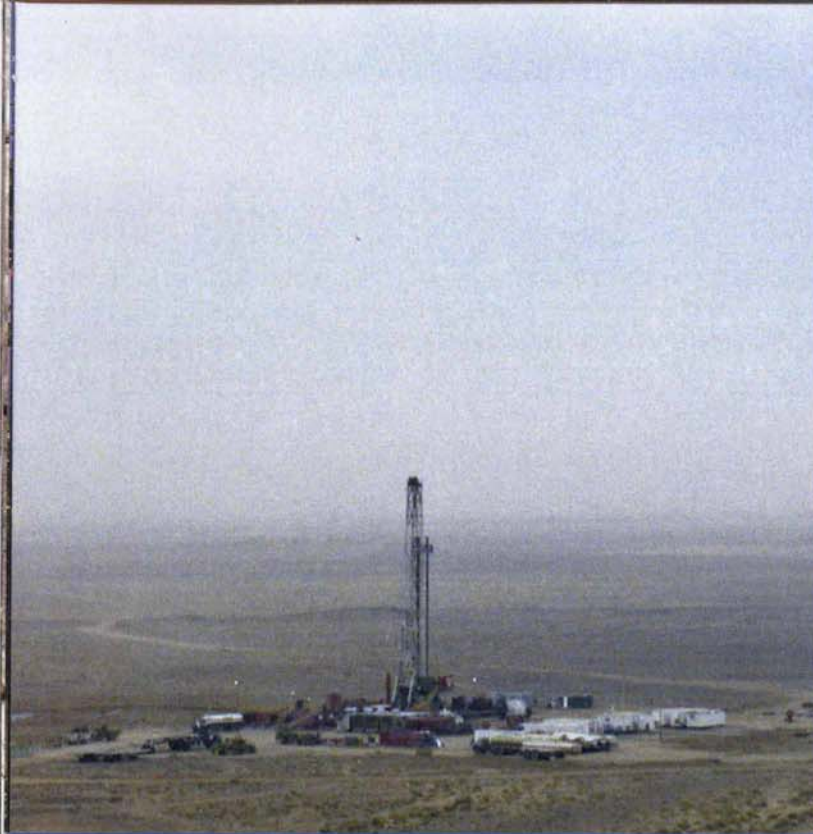
RIYADH

Among other products, the refinery at Riyadh produces asphalt for the kingdom's modern road system. Feedstock for the 120,000-barrels-per-day refinery comes from the East-West Crude Oil Pipeline.

EAST-WEST PIPELINES

Today's network of Saudi Aramco pipelines covers nearly 19,000 kilometers (11,800 mi), linking wells, separation and processing plants, refineries, terminals and customers. The longest are the East-West Crude and NGL Pipelines system, which stretches some 6000 kilometers (3700 mi).





AL-JAWF
Although photos of huge processing plants filled with spaghetti piping can help communicate the sheer scale of Saudi Aramco, much important work also takes place at lonely outposts, both in the desert and offshore.

RABIGH
The company's third west-coast refinery will soon be joined by the much larger PetroRabigh project, a joint venture with Japan's Sumitomo Chemical Co. that will produce high-value petroleum products and ethylene- and propylene-based petrochemical derivatives.
(HUSSAIN A. AL-RAMADAN)

SHAYBAH
The administrative headquarters of Saudi Aramco's most remote oilfield, located in the Empty Quarter, boasts the only grass for several hundred kilometers in any direction. Its facilities newly expanded, Shaybah will produce about 750,000 barrels of oil a day.
(KEN CHILDRESS)

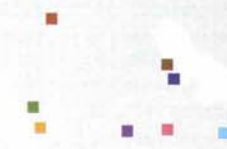
QURAYYAH
The seawater plant at Qurayyah was built in 1978 to treat water before it was injected into the ground near the Ghawar field to maintain oil-field pressure. A 2007 plant expansion, including new offices, has doubled the original capacity.
(ABDULAZIZ M. AL-MOAIWEED)

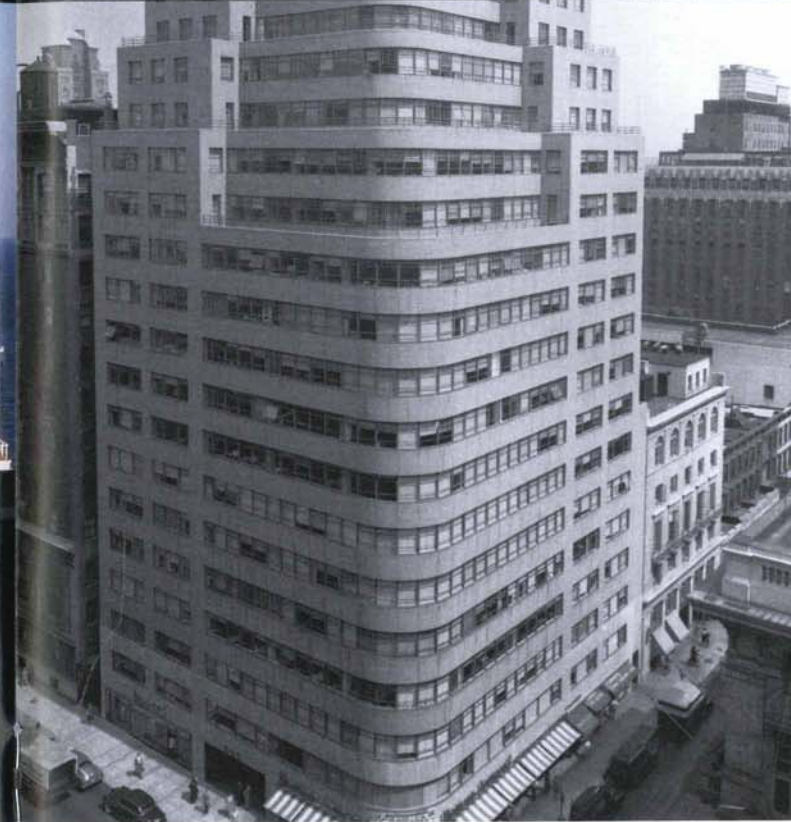
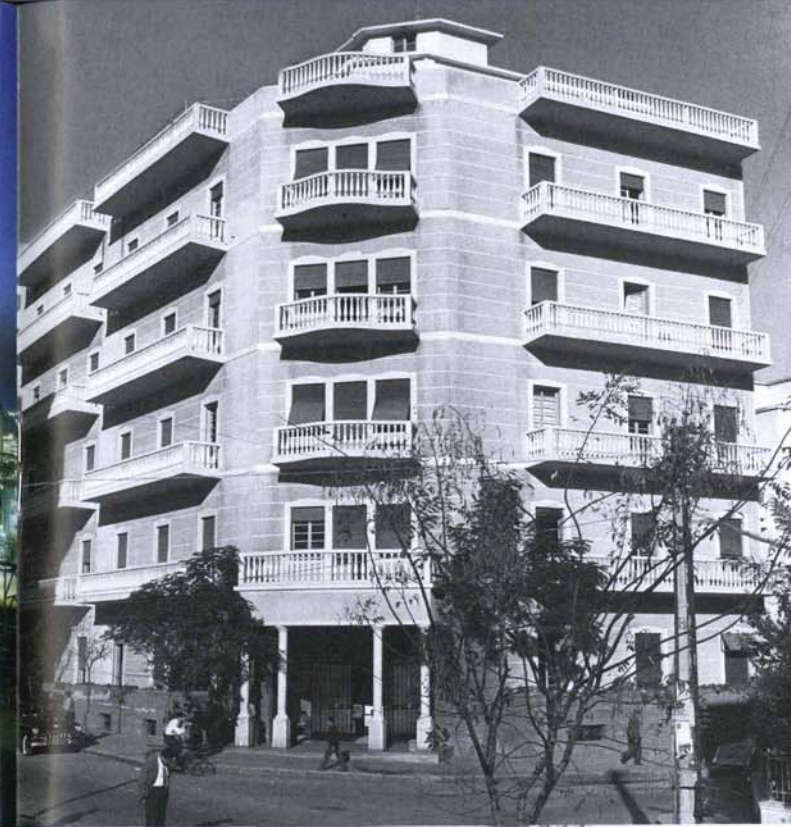
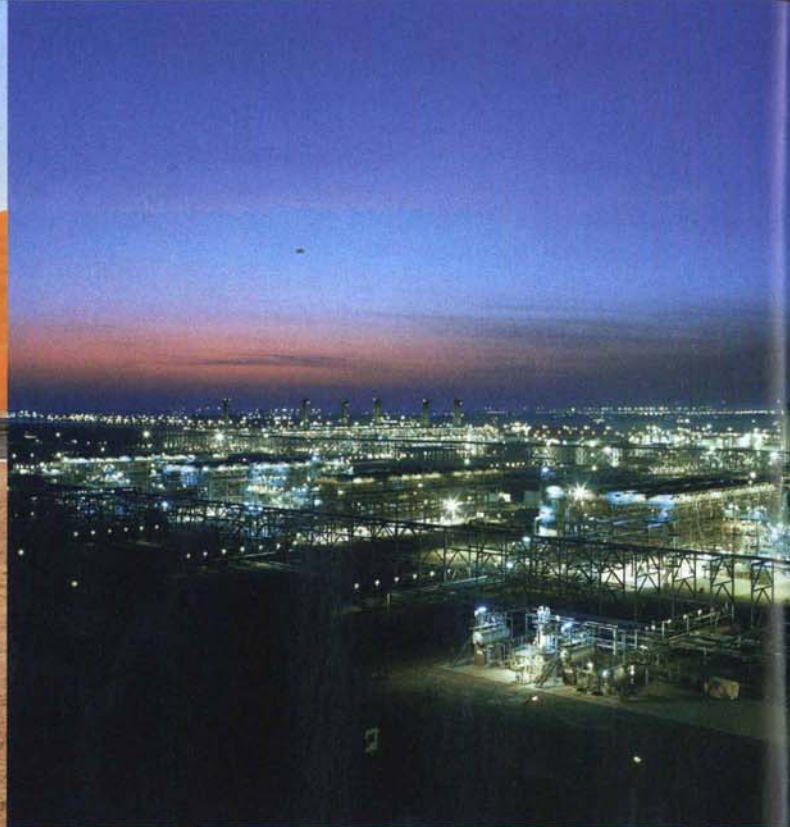
THUWAL—KING ABDULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KAUST)
Tasked with the creation of an international research university, Saudi Aramco is building KAUST's \$10-billion campus and its supporting city out of the desert.
(BRYAN DENTON / ATLAS PRESS IMAGES)

JU'AYMAH
The first gas plant to come on stream with the Master Gas System was on the east coast at Ju'aymah, also the location of a major shipping terminal.
(MARK MERCER)

HAWIYAH
Hawiyah is one of two gas plants that came on line early this decade; it was one of the first whose construction was managed almost entirely by Saudi planners, engineers and technicians.

RUB' AL-KHALI BASIN
China's largest petroleum-products producer, Sinopec, has partnered with Saudi Aramco to explore for gas in parts of the Empty Quarter. Joint ventures with companies from Russia, Italy, Spain and other countries are exploring elsewhere in the Empty Quarter.





SHAYBAH

Shaybah's remoteness required construction of a self-sufficient working community—and an airport capable of landing 737's, so that workers could return frequently to their families.

(MARK MERCER)



YANBU'

Equipped with 74 storage tanks, the largest of which can hold one and a half million barrels of oil, the Yanbu' refineries employ some 700 technicians.



JIDDAH

Another refinery, serving the kingdom's domestic needs, Jiddah is configured to meet the unusually high fuel demands of the annual *hajj* (pilgrimage), during which some two million pilgrims travel in and out of nearby Makkah.



FUJAIRAH, UNITED ARAB EMIRATES

One of Vela International Marine's 21 vlcc (Very Large Crude Carrier) tankers waits to pick up its next cargo from a Saudi Aramco terminal. Vela, a subsidiary based in Dubai, transports about one-third of Saudi Aramco's crude oil.

(DICK DOUGHTY)



BEIRUT—ARAMCO OVERSEAS COMPANY (AOC)

Established in Rome in 1948 to support the company's needs for equipment, personnel and technical support, AOC was Aramco's first subsidiary. From its early days, the Beirut branch office handled purchasing for Tapline and helped recruit personnel from Arab countries.



LEIDEN—AOC

AOC's headquarters moved to Leiden from The Hague in 1984, and its services in support of Saudi Aramco include purchasing and logistics, engineering, IT and financial, legal and marketing functions.



NEW YORK—ARAMCO

In 1948, Aramco moved its headquarters from San Francisco to 505 Park Avenue in New York. Although the headquarters moved on to Dhahran only four years later, the company maintained its New York office until 1974, when its US support operations were transferred to Aramco Services Company in Houston.



NEW YORK—SAUDI PETROLEUM INTERNATIONAL, INC.

Corporate sales and marketing are headquartered in Dhahran, but today's logistics, sales and customer relations are handled in several global offices. New York coordinates Western-Hemisphere marketing and transport.





"This mutual dependency, where one need meets another, creates a situation in which nations of the world are encouraged to work together in their own interest, thus creating broader global stability and enhancing supply security in the process."

—Abdallah S. Jum'ah
President and CEO of Saudi Aramco



HOUSTON, TEXAS—ARAMCO SERVICES COMPANY (ASC)
The company's largest us subsidiary employs more than 300 support specialists in technical services, materials procurement, recruiting, finance, subsidiary legal affairs and public affairs—including the editorial offices of *Saudi Aramco World*.

LONDON—SAUDI PETROLEUM OVERSEAS, LTD. (SPOI)
Based in Mayfair, in central London, SPOI is responsible for marketing crude oil, liquefied petroleum gas and refined products in Europe, Africa and South America.
(CATHERINE CAROLAN)

NETHERLANDS ANTILLES—STATIA TERMINALS, NV
This independently owned oil terminal on St. Eustatius offers storage for Saudi Aramco crude oil while it awaits transshipment to ports mostly on the east coast of the us.

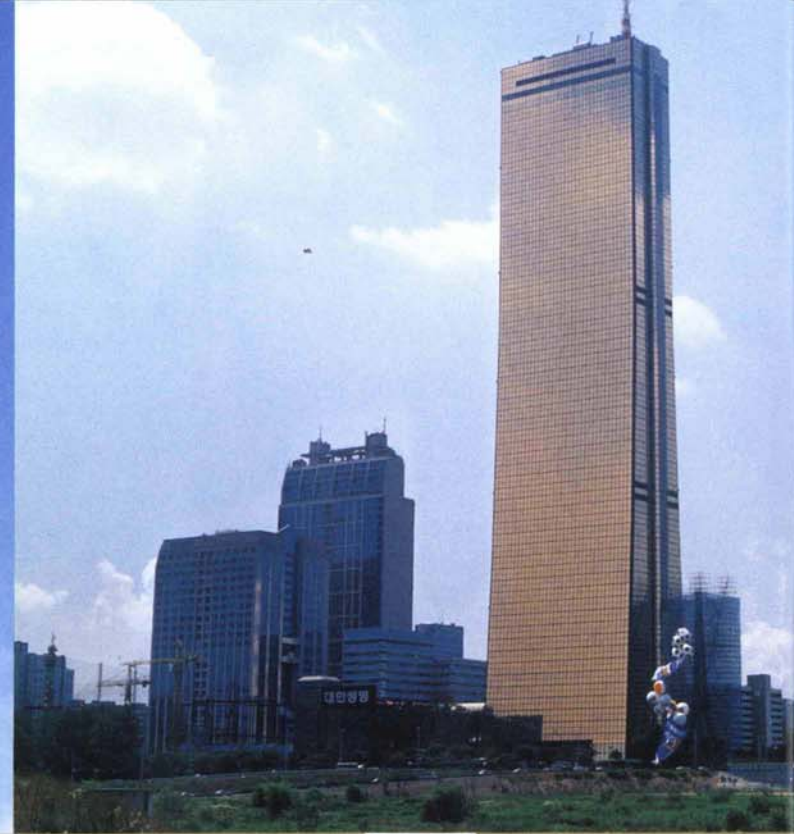
PORT ARTHUR, TEXAS—MOTIVA
Now undergoing expansion that will nearly double its output, this refinery will become the largest in the us. It is one of four owned by Motiva, Saudi Aramco's 10-year-old joint venture with Shell Corporation.
(MOTIVA)

SHANGHAI—AOC
Opened with ceremony earlier this year, AOC's Shanghai office provides materials sourcing, engineering and inspection services support to Saudi Aramco's newest operations in China.

HONG KONG—AOC
AOC's Hong Kong office monitors the rapidly growing business environment of the Far East and Southeast Asia and manages Saudi Aramco's global partnership investments.

WASHINGTON, D.C.—ASC
Monitoring business and government activities, this office represents the company in the us capital.
(LOUIS ABOUD)





Number of worldwide subsidiaries and international affiliates, respectively, listed at www.saudiaramco.com: 17 and 7.

SINGAPORE—SAUDI PETROLEUM, LTD.
Marketing support for sales throughout the Far East and Southeast Asia is the focus of the sales office in Singapore.

SEOUL—S-OIL
Joint-venture partner S-Oil is one of the largest refining and marketing companies in South Korea, with some 1600 service stations as well as exports throughout the Asia-Pacific region.
(S-OIL)

XIAMEN, CHINA—SAUDI ARAMCO SINO COMPANY LIMITED
This new Saudi Aramco subsidiary is a joint-venture partner with Fujian Petrochemical Co. and an Exxon-Mobil subsidiary in two projects in Fujian Province: a petrochemical processing plant and a retail fuel marketing network.

TOKYO—AOC
Materials sourcing, purchasing and personnel recruiting for Japan, South Korea and Australia are run from AOC's Tokyo office.

MANILA—PETRON CORPORATION
Petron, a joint-venture partner since 1994, supplies some 40 percent of the fuel requirements of the Philippines. It also supports 23 schools and operates the Petron Foundation.
(PETRON)

KUALA LUMPUR—AOC
Working from offices in the Petronas Towers since late 2006, the staff of AOC-KL buys oil and gas equipment for Saudi Aramco from manufacturers in South-east Asia and India, and supports Saudi employees receiving advanced training in the region.

TOKYO—SHOWA SHELL SEKIYU KK
Showa Shell Sekiyu is a leader in refining and sales of petroleum products in Japan. Saudi Aramco acquired an interest in the company in 2004 through its subsidiary AOC and supplies crude oil to its three refineries.



On February 15, www.saudiaramcoworld.com announced:

"Real Arabia" Youth Digital Media Contest

**Get Published—
Win an iPod nano™
or iPod touch™—Ends March 31!**

WHO'S "YOUTH"?

Either nationals of Saudi Arabia, living anywhere in the world, 24 years old or younger, or expatriates of any nationality now living in (or in the past having lived in) Saudi Arabia, 24 years old or younger.

WHAT'S "REAL ARABIA"?

It's you. Your life. You know how people around the world often wonder what Saudi Arabia is really like? Is it just a place they see on TV? Is it just made up in Hollywood? Do you ever feel like you wish the world knew what you knew? What if people could catch a glimpse of something you know is true about who you are and where you live? Would it help people understand better where you come from?

Saudi Aramco World helps its readers get to know people and places, so all you have to do is—be yourself. Honesty, sincerity and creativity are more important than fancy techniques.



RILEY COLE, 9



HANNAN AL-GHAMDI, 10



YASMINE MINKARA, 9



RENAD SARHAN, 12



AUSTIN FISCHER, 13



EVAN FISCHER, 17



GILBERT RATAEZYK, 16



RAPHAEL GOMEZ, 23



JUMANA AL-MULLA, 5

Hello, my name is Hong Jie Yin. I'm 13 years old and I had lived in Saudi Arabia for about 8 years now.



HONG JIE YIN, 13



SALVADOR ORDONICA, 15

Winners' List

Congratulations to each entrant below for a glimpse of life through your eyes—and through your hearts.

A star indicates a Grand Prize iPod nano™ or touch™ winner!

12 and UNDER

* Riley Cole	Dhahran, Saudi Arabia
* Hannan Al-Ghamdi	Reading, UK
* Yasmine Minkara	Dhahran
* Renad Sarhan	Reading
Jumana Al-Mulla	Seoul, South Korea
Lucas Fei	Dhahran
Haseenah Molumo	Dhahran
Deji Ogunsola	Dhahran
Amjad Sarhan	Reading
Rand Sarhan	Reading
Ali Sheikh	Dhahran
Bilal Siraj	Jubail, Saudi Arabia

13 to 17

* Austin Fischer	Dhahran
* Evan Fischer	Dhahran
* Gilbert Rataeyk	Mercersburg, Pennsylvania
Salvador Ordonica	Ladera Ranch, California
Hong Jie Yin	Jubail

18 to 24

* Raphael Gomez	Al-Khobar, Saudi Arabia
Yousef Saleh Ba-Isa	Al-Khobar

Visit www.saudiaramcoworld.com to see what our contestants did and hear what they have to say: They're the kids of Arabia—energy for generations to come!





A KING AND TWO SALUKIS

Written by Jane Waldron Grutz Illustrated by Norman MacDonald

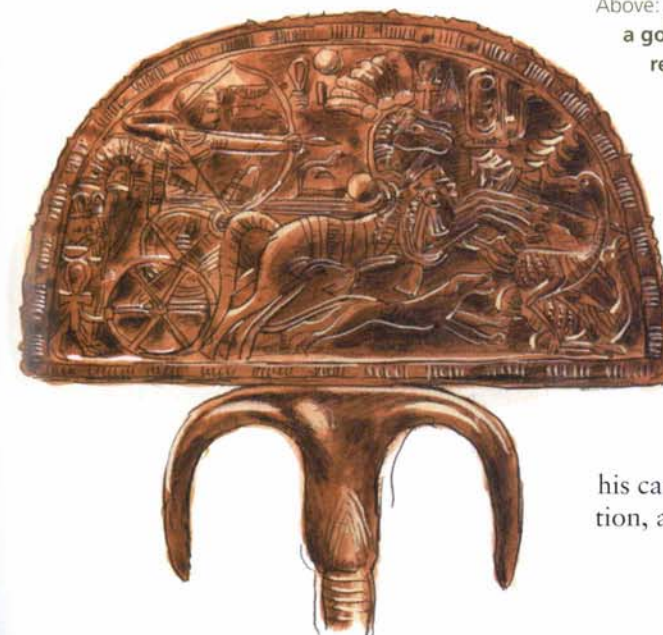
"HE IS A GENTLEMAN. HE GREW UP WITH THE SALUKI."
—ARAB PROVERB

There can be little doubt that Saudi Arabia's King 'Abd al-'Aziz knew a good saluki when he saw one. He had learned the worth of these elegant gazehounds as a boy, when he and his father, 'Abd al-Rahman Al Sa'ud, lived

with the Al Murrah tribe on the fringes of the Rub' al-Khali, or Empty Quarter. Exiled from his family's historical homeland near Riyadh by the rival House of Rashid, 'Abd al-'Aziz quickly learned the ways of a tribe renowned for its near-legendary tracking abilities, for its fine black milking camels and,

not least, for its swift-running red salukis—the graceful lop-eared hounds that could skim across the desert sands and bring down the fleet gazelle or the nimble desert hare.

To the Al Murrah, and indeed to all Bedouins, the saluki had nothing in common with the *kalb*, the rough watchdog that guarded their tents. Like the ancient Egyptians before them, the Bedouin honored the saluki



Opposite: Abdul Farouk I, gift of King 'Abd al-'Aziz Al Sa'ud to Field Marshal Sir Henry Wilson. Above: Sabbah the Windswift, gift of the king to Shaykh Hafiz Wahba. Lower: Decorating a gold fly whisk from the tomb of Tutankhamun, a hunting scene includes a dog that resembles a modern saluki.

as *al-hurr*, "the noble one," and poets called it "the prince of swiftness."

Almost every Al Murrah family had one or two salukis, for without them there would be no small game to eat.

The Bedouin depended on his camels for milk and transportation, and it was only on a great

occasion, such as the appearance of an honored guest, that he would slaughter so valuable an animal. If it were not for his saluki, the chances of an occasional hare for the family cook-pot would be slim.

The treatment accorded this much-favored hound reflected its importance to the family's welfare. During the heat of the day, the saluki could be found in the shade of the women's quarters, curled up in a quiet corner or being made much of by the children.

SALUKI PORTRAITS BASED ON PHOTOGRAPHS PROVIDED COURTESY OF THE SOCIETY FOR THE PERPETUATION OF THE DESERT-BRED SALUKI



"It was in the cool hours of the early morning that the saluki proved its mettle. This was when the children took it out to course the desert hare, scarce during the long, hot summer but reasonably abundant in the early days of spring.

In later years, 'Abd al-'Aziz often told stories of his years with the Al Murrah. No one remembers whether he ever mentioned a favorite saluki, but it is known that, by the 1940's, King 'Abd al-'Aziz owned some of the finest salukis in the land.

The king's salukis were highly trained hunting dogs that usually accompanied him to the desert for his annual spring hunt, a time when he and his entourage would spend several weeks living as their forefathers had done.

These extended desert forays were important social occasions and, as often as not, distinguished guests would be invited to spend a day or two with the royal party. It was on such an occasion in the early 1940's that British Field

Marshal Sir Henry Wilson and his aide Colonel Chapman-Walker were among those in attendance.

It turned out to be a good day's hunt, with one lively, crop-eared hound in particular showing unusual hunting skills. The guests were delighted with the dog's performance and applauded him when he appeared. Among the most enthusiastic was Colonel Chapman-Walker, who remarked casually to the king that, of all the hounds he had seen that day, he liked the black-and-tan one best.

With characteristic Arab generosity, King 'Abd al-'Aziz insisted on giving

the saluki to the field marshal as a gift of honor, together with a suitable female. The saluki was named Abdul Farouk I and the consort Lady Yeled Sarena Ramullah. The presentation ceremony involved all the pomp appropriate to such an occasion.

The field marshal took Abdul Farouk I and Lady Yeled with him on wartime assignments to Cairo, Algiers, Naples and finally Washington, D.C., where he headed the British Joint Staff Mission. It was when Wilson was about to return to England that a difficulty arose: British regulations called for a six-month quarantine for animals

With characteristic Arab generosity, King 'Abd al-'Aziz insisted on giving Abdul Farouk I to the field marshal as a gift of honor, together with a suitable female, Lady Yeled Sarena Ramullah.

coming from abroad, a hardship so severe that the field marshal decided that, rather than take his beloved dogs with him, he would give them to Esther Bliss Knapp, who was thought to know more about salukis than almost anyone.

For many years, Esther Knapp had served as president of the Saluki Club of America, and she was well known for her monthly column in the American Kennel Club Gazette. As a breeder, her goal

at Pine Paddocks kennels in Ohio was not to alter the saluki, but to preserve a breed of dog so perfectly adapted that it had remained unchanged for more than 6000 years. She especially admired salukis with the aristocratic bearing she called "the look of eagles"—and in Abdul Farouk I and Lady Yeled she found two such dogs.

In later years, Knapp became fond of saying, romantically, that Abdul Farouk arrived on a magic carpet. With his elegant head carriage and far-seeing

"oriental" eyes—traits that later became characteristic of the Pine Paddocks saluki line—he did seem to create a sort of magic around him. In 1946, he was named the first crop-eared

saluki champion in the US, and in 1949 Lady Yeled was named the first US smooth-coated champion bitch.

But it was Abdul Farouk's great-grandson Ahbou Farouk who became one of the greatest saluki show dogs of all time. To Knapp, Ahbou Farouk's aristocratic bearing seemed to embody the very essence of the breed. Show judges often agreed, and during a career that spanned the late 1950's and early 1960's, he won 12 all-breed best-in-show awards, 38 group firsts and many other prizes. He was the first saluki ever to be named to the US list of top 10 hounds and, in the eyes of at least one reviewer, he was number one on that list.

King 'Abd al-'Aziz also made a second canine gift to the West. Sabbah the Windswift never equaled the show-ring success of either Ahbou Farouk or Abdul Farouk I.

EVEN TODAY, SOME 60 YEARS LATER, ABDUL FAROUK I AND SABBAH THE WINDSWIFT ARE REVERED AMONG SALUKI FANCIERS.

Indeed, thanks to a broken leg that mended badly, Sabbah never even entered a show ring. But his progeny did, and over a 20-year period, no fewer than 29 out of 64 English champions carried Sabbah's blood, in addition to many other American, Scandinavian and other champion salukis.

Sabbah had been bred by Amir Muhammad Al Sa'ud, a nephew of King 'Abd al-'Aziz and a well-known saluki fancier who had given Sabbah to the king. Although a little stockier than some salukis, Sabbah was nevertheless a handsome fellow with a happy temperament, as the consistently high carriage of his feathery tail attested.

In 1950, 'Abd al-'Aziz in turn presented Sabbah as a gift to his ambassador in London, Shaykh Hafiz Wahba. Had the ambassador been living in Saudi Arabia, he would no doubt have been delighted with so fine a gift, but the embassy in London proved to be no place for a lively hunting hound. Indeed, it was when trying to jump the fence of the embassy grounds that Sabbah injured his leg. The inevitable result

Shaykh Wahba's embassy in London proved no place for a lively hunting hound.



was a brief but highly persuasive phone call to another woman who knew all about salukis and valued them accordingly.

Years later, Vera Watkins remembered the elegant embassy car that came down the muddy lane leading to her Windswift Kennels. The ambassador sat with his chauffeur in the front seat, she noted, leaving the entire back seat to his regal saluki. And as was fitting, it was the ambassador himself who presented Sabbah to Watkins "with much ceremony."

Sabbah was all Watkins had hoped for—and more than she had expected. In every respect he seemed to represent the best Arabia had to offer and, as the foundation dog of her saluki line, he passed these characteristics on to his offspring. The result was the famous Windswift type saluki, which Watkins described as "smaller than some because of their close desert breeding... but with tremendous personality, beautiful intelligent heads... and superb speed."

Compact in body—he was only 64 centimeters (25") at the shoulder—Sabbah was full of high spirits and an engaging good will that made everyone fall in love with him—particularly Watkins, who never failed to comment that Sabbah was "full of brains."

Even today, some 60 years later, Abdul Farouk I and Sabbah the Windswift are revered among saluki fanciers for their elegant conformation, for their grace of movement and, above all, for their intelligence, which enlivened the noble art of hunting.

For beautiful as the saluki is, it is first and foremost a hunting hound, and it is that prowess that has enabled the breed to thrive for millennia. No one knows exactly when the saluki originated, though it is generally agreed that the saluki-type hound may have been among the first dogs to be intentionally bred for certain characteristics.

Included in the evidence for this early relationship between humans and



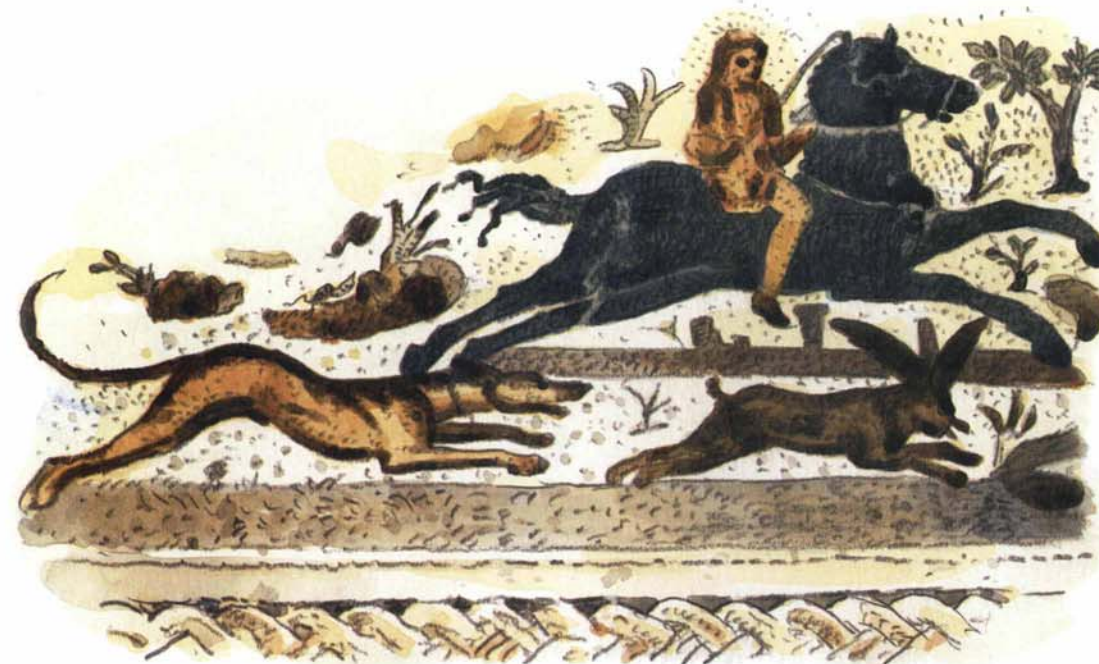
It is generally agreed that the saluki-type hound may have been among the first dogs to be intentionally bred for hunting qualities. Saluki-like hounds appear in both Mughal-era miniatures from India (top) and this Roman floor mosaic at Mt. Nebo in Jordan.

dogs are stamp seals dating to between 4000 and 3700 BC from Tepe Gawra in Mesopotamia. On them, the hunting hounds look like the salukis of today.

A bit later, near 3600 BC, a Sumerian tomb discovered at the site of ancient Eridu offers a more poignant reminder of the dog's close relationship to man: Near the skeleton of a small boy, excavators found "a saluki-type dog." Placed near the dog's mouth was a bone, as if to give it sustenance in the afterlife.

Images of saluki-like hounds also appear on one or two Egyptian artifacts from the Pre-Dynastic period before 3000 BC, and a few images appear on objects from the Old Kingdom. During the New Kingdom, the saluki was widely used as a decorative motif.

The saluki came to the attention of the West somewhat later, although from the fifth century BC on, saluki-type hounds appear in hunting scenes on Greek vases. The Romans' familiarity



Above: A Roman mosaic from Tunisia, dated to the third century, shows a saluki-like hound chasing a hare. Right: The bronze plaque commissioned in 1544 by Duke Cosimo de Medici depicted his favorite saluki.

with these graceful hounds is evidenced in the many hunting scenes depicted on Roman mosaics in North Africa and Asia Minor.

In China, the story of the Emperor Kao Wei in the mid-sixth century of our era suggests that the saluki had become established in the Far East by then. Kao Wei owned a saluki he called Ch'ih Hu, "Red Tiger." The dog was fed the choicest meat and rice and, in true saluki style, he rode on a mat placed before the Emperor's saddle.

By the beginning of the Islamic period, the saluki could be found from China in the East to Morocco in the West, though, over time, regional differences appeared in the breed. The further north the saluki spread, the larger it became; the salukis of Arabia, however, remained light, fine-boned and perfectly formed to race across the deep Arabian sand.

According to most breed standards, the saluki can range from 58 to 71 centimeters (23–28") at the shoulder, and



its coat may be feathered or smooth. (Feathering refers to the long silky hair that, in many cases, is found on the ears and tail and at the back of the saluki's front and hind legs.) As feathering has little to do with hunting prowess, the Arab looks more for other qualities: a long muzzle, a deep chest, a tiny waist, and hocks well let down.

As early as the 12th century, Crusaders began to bring salukis back to Europe, where they were greatly admired. By the 16th century, the saluki had become especially popular in Italy, where in 1544 Duke Cosimo de Medici commissioned a bronze relief of his favorite saluki from the celebrated goldsmith Benvenuto Cellini.

The popularity of the breed was renewed in the 19th century, when such well-known British travelers as Lady Anne Blunt, Vita Sackville-West and Gertrude Bell each adopted salukis during her travels. In her book *A Pilgrimage to Nejd*, Blunt commented more than once on her hounds' extraordinary speed and stamina.

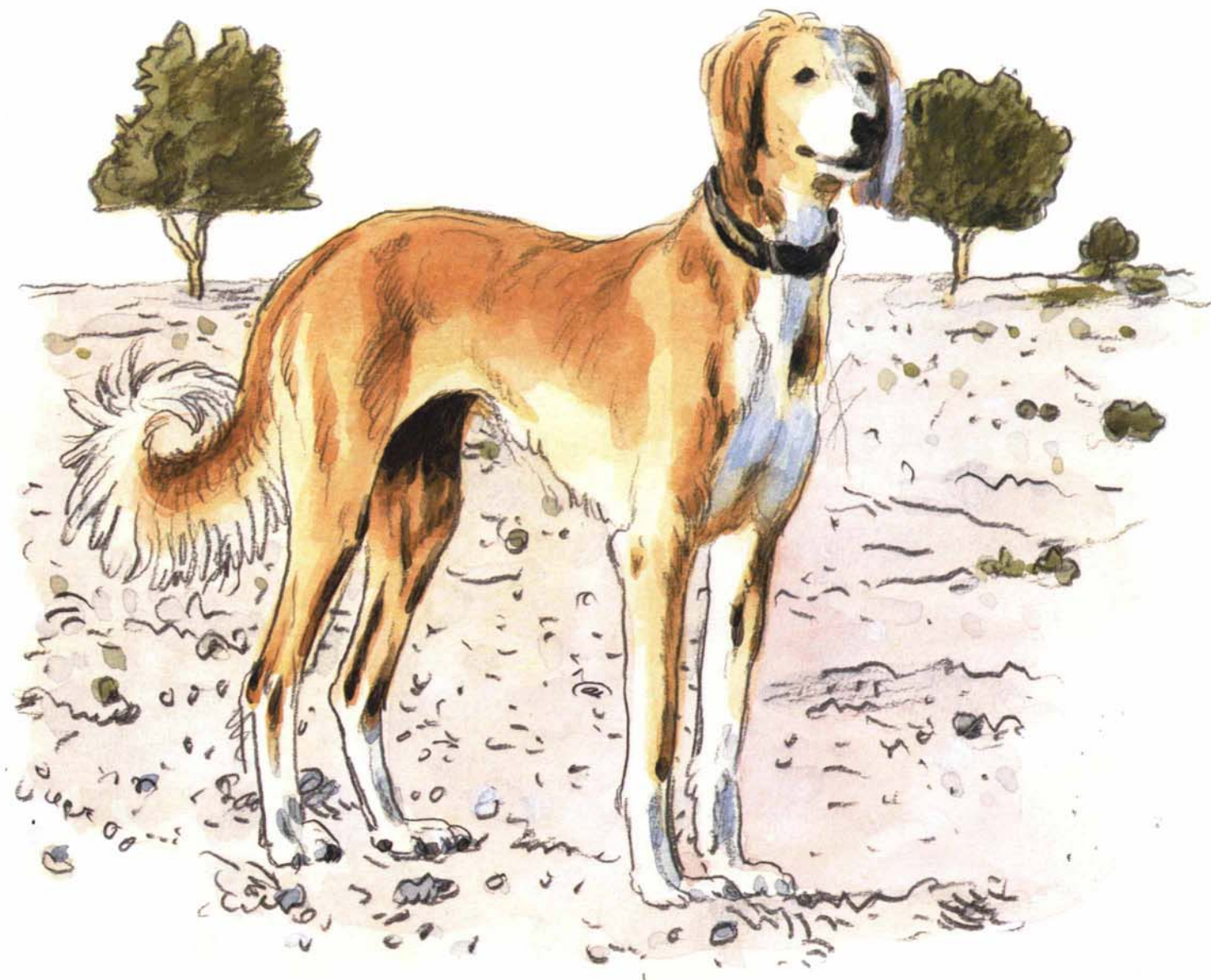
Yet as every fancier knows, it is neither speed nor stamina alone that makes the saluki such a formidable hunter. Rather, it is the quick thinking required to actually catch the quarry. As coursing enthusiast John Burchard likes to say, "It's not what the head looks like; it's what's inside the head that matters."

Burchard's enthusiasm for saluki coursing came from an interest he developed in falconry as a post-doctoral student. In Arabia, falcons are often paired with salukis, and it wasn't long after Burchard took a consulting position with Aramco in Saudi Arabia in 1970 that he acquired Sha'ila, a lovely little saluki of Al Murrah tribal stock.

Sha'ila was fawn-colored, affectionate and extraordinarily swift. She accompanied Burchard during the two winter seasons he spent as a member of King Khalid's hunting party, and she won much admiration from the king's falconers, many of whom were Al Murrah tribesmen.

Most of her offspring inherited her winning ways, and a number of Sha'ila's descendants became coursing champions. Two of them—Baomid and Behzad—won Swiss racing championships in 1986, and that year Baomid also won the Belgian championship.

Like Burchard, Sir Terence Clark has a soft spot in his heart for the Al Murrah saluki.



Trained as an Arabist, Clark learned about the feats of the saluki long before 1985, when he was appointed British ambassador to Iraq. On that posting he acquired two Iraqi salukis named Tayra and Ziwa. When Ziwa died some years later, Clark and his wife, Liese, felt there was nothing to do but to find another saluki to replace her.

In the meantime, the Clarks had moved on to Oman, so it was from there that they undertook a driving trip through Saudi Arabia. En route they stopped in the Al Murrah village of Anbak. There they spotted “the little face” of a saluki peeking out from under a tent flap, and both say they knew in that moment they had discovered what they were looking for. An hour later, Clark parted with his brand new binoculars and put the saluki, named Najmah, on the car seat for the long drive back to Muscat.

Contemporary descendants from Al Murrah bloodlines include Najmah, top, and Sha’ila, left.



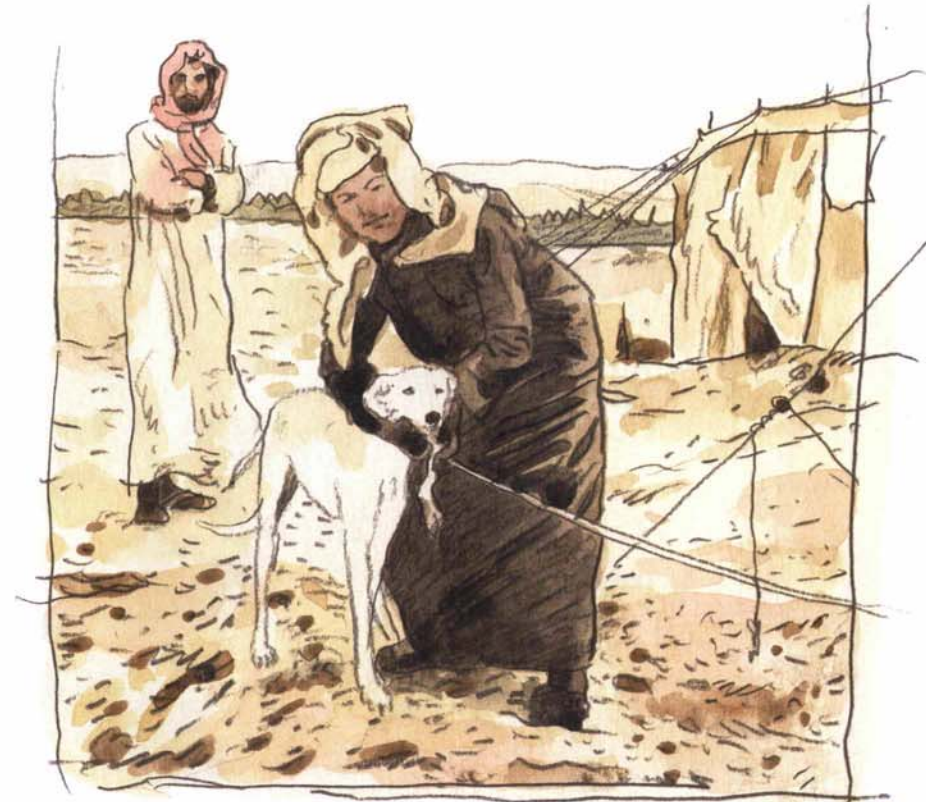
A modern Al Murrah man holds a young saluki.

Even so, Clark remains optimistic. He notes that a renewed interest in saluki heritage is leading some Arabs to establish kennels to breed fine salukis. And though the anecdotal evidence from Anbak suggests otherwise, Clark remains convinced that “typical” salukis can still be found in the small settlements where tribal people have always regarded them as an integral part of life.

Clark also sees renewed interest in these hounds in other parts of the saluki’s range, particularly in North Africa and Kazakhstan, thanks to an altered political climate.

The saluki also continues to do well in the West. Knapp died in 2000, but such fanciers as Marilyn LaBrache Brown of Washington and Sue Ann Pietros of Florida continue to breed from the Abdul Farouk I pedigree. In 1991, one of his descendents won for Pietros the Saluki National Specialty championship, and in 2005 the granddaughter of the 1991 winner won the same competition.

The Windswift breed too continues to prove successful, with at least one devoted fancier in the US. Since Elaine Yerty of Texas first acquired salukis from Vera Watkins more than 25 years ago, she has bred the “old-fashioned” desert-type dogs, whose looks have won them countless prizes in the show ring and whose natural instincts have also made them winners on the coursing field. And the Windswift dedication to retaining the qualities of the small, desert-bred saluki has always generated great interest on the part of Middle Eastern breeders. In her book, *Saluki*:



Companion of Kings, Watkins tells of a contingent sent to England by “a Gulf shaykh” to find a suitable saluki. After visiting most of the kennels in the southern part of the country, they came at last to Windswift Kennels. There, to their great delight, they

found not one but two salukis that they knew would meet the shaykh’s high expectations. As Watkins was careful to point out, these beautiful salukis were direct descendents of her great foundation dog—Sabbah the Windswift. ☉



Jane Waldron Grutz, a former staff writer for Saudi Aramco, is now based in Houston and London, but she spends much of her time working on archeological digs in the Middle East. She wishes to express her gratitude to the many members of the Society for the Perpetuation of the Desert Bred Saluki whose insights enriched this article, particularly directors Sir Terence Clark, Elizabeth Dawsari, Herb Wells and Elaine Yerty.

Norman MacDonald (www.macdonaldart.net) specializes in history and portraiture—of humans. This is his first set of animal portraits (not counting his own dog, Prince, his friend’s parrot or the occasional horse).



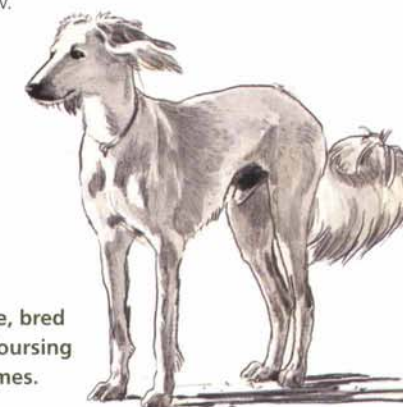
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Al Sa’ud historical home: J/F 99
al-hurr: May 61
Lady Anne Blunt: M/J 80
Gertrude Bell: J/A 97, J/F 99

SPDBS: www.desertbred.org



Tallahamra Tiparite O’Hare and Tallahamra Carl Jr. O’Hare, bred by Herb Wells of California, both carry the titles “cc” (“Coursing Champion”) and “cm” (“Courser of Merit”) after their names.



HEADS HIGH

Written by Peter Harrigan

Photographed by Lars Bjurström



It is impossible to convey to our unfamiliar minds all the romance and glory attached in the Bedouin mind to the idea of camels.

—Sir John Bagot Glubb, *The Bedouins of Northern Iraq*

Driving across the empty, flat, sandy plain of Um al-Rughaiba, about 320 kilometers (200 mi) north of Riyadh, with 160 more sandy kilometers (100 mi) to go to the town of Hafr al-Batin, there is little to reveal that, for a few weeks each year, this featureless area hosts one of Saudi Arabia's largest festivals.

Several recently laid asphalt roads intersect the straight, two-lane highway, and they look as though they might lead off to settlements over the eastern horizon. But no: After a few kilometers, they end in the sand. They mark the perimeter of the temporary city that springs up here each November, a city of tents and trucks and livestock that covers about 100 square kilometers (39 sq mi)—an area more than one and a half times the size of Manhattan Island. There is nothing to hint that one of these side roads will become a main street, or that another will lead past a row of impromptu buildings and tents to an arena that sprawls over the equivalent of two US football fields.

It begins in the months after high summer, when drovers of more than 100 camel herds, comprising roughly 10,000 camels, begin journeys that last days or weeks and culminate here before the practiced eyes of camel judges. In one sense, it's a migration built on tradition: Since long before modern nations drew borders in the Arabian Peninsula's deserts, in years with good early rains, the Um al-Rughaiba region has been a fall grazing magnet for herds from throughout the northern, central and eastern provinces of Saudi Arabia as well as from Kuwait and as far off as Qatar and the United Arab Emirates. But these days, the November gathering occurs regardless of the rains, and it is taking on a new international significance.

At Mazayin al-Ibl, spectators admire a prize-winning herd.

In Arabic, this is Mazayin al-Ibl, "The Best of the Herds," a vast camel show that attracts more than 160,000 people, from unschooled Bedouin herders to the private-jet set. All come to show, admire—and sometimes buy—the finest specimens of *Camelus dromedarius*, and to celebrate a resurgent Arabian heritage now in modern trappings. At its height, on the eve of the weekend when the winners are announced and paraded in the main arena, and the owners collect prizes worth some \$2 million, the views and sounds from the fringes of the vast encampment are mesmerizing.



As dusk falls over the desert and the day's final call to prayer, *al-isha*, rolls across the plain, hundreds of small generators begin whirrs and chatters that will last till dawn. In the light of the lamps and campfires that brighten the tents, trailers and canopies, patches of glowing orange reflect from the copper sides of coffee pots, and the rough bell tones of mortars grinding coffee ring out amid random bellows, roars, growls and grunts from camels. Pickup trucks bounce and rattle across the sand, their red tail-lights bobbing and their headlights sweeping, picking out white canvas marquees and long, low-slung, traditional tents made of camel-hair cloth.

As night draws in, the movement quiets, dust settles and a sky of stars stretches down to the horizon. Songs, laughter and chatter rise with the smoke of campfires. Fireworks arc into the sky from soirées that go into the wee hours.

Despite 21st-century mechanical intrusions, the scene evokes the often greater pre-industrial gatherings of tribal confederations in the northern Arabian Peninsula. In 1912, Carl Raswan, a young German traveler and Arabian-horse breeder, after journeying through empty desert for weeks, wrote in awe of such an encampment: "Scattered across the desert rose seven thousand tents and thousands of camels; tens of thousands were cropping the miniature plants. Never could I have imagined such a sight as these congregations of camels spreading out towards the rising land." He describes a city of tents: "Smoke rose from thousands of black dwellings, and in between large camel herds, hundreds of them, were wending their way home." Such gatherings often numbered more than 100,000 nomads, with even greater numbers of

Set up to accommodate more than 160,000 participants and spectators—and some 10,000 camels—the tent city at Um al-Rughaiba covers an area half again as large as New York's Manhattan Island.

livestock, but, unlike Mazayin al-Ibl, they often took place over the parched summer months, when the tribes gathered their herds around wells.

Today, Mazayin al-Ibl is the signature event in a series of roughly a dozen smaller provincial shows, loosely referred to in English as "camel beauty pageants" or even "Miss Camel competitions." But such flippancy does scant justice to the events. These are Arabian camel shows, where camel connoisseurship is refined and handed down over generations. Unlike at horse, cattle or other

stock shows in the West, the camels here are considered not only for individual qualities of breeding, form, character, coat, grooming, color, posture, gait and so on, but also for their qualities in a herd as a whole.

From his wood-paneled library in a quiet Riyadh suburb, linguistic anthropologist and ethnographer Saad Abdullah Sowayan expounds on the virtues of the dromedary with enthusiasm and eloquence. "The Arabian camel is the strongest yet most tender, patient and beautiful of animals. It's a fantastic example of adaptation with dignity, mansuetude, nobility and high standards."



Adorned with tassels and embroidered strapping, a herd of black camels marches toward the arena. According to breeding standards, the ears of a fine black camel will be distinctly upright.



Sowayan focuses on the significance of the camel in Arabic language, culture and literary heritage. Understanding this, he says, is a clue to understanding today's rising interest in camel shows throughout the Arabian Peninsula. "Once you have delved into the rich corpus of poetry where camels feature, you have a reference point, and you know what to look for. There is a deep attachment and a concept of beauty. You have to study and understand the literature as well as the animal in order to be able to fully appreciate it," says Sowayan, who has spent several decades in the field researching, recording and writing on the cultural elements, poetry, language and symbolism associated with the Arabian camel.

Sowayan explains that, metaphorically, the animal that was first domesticated some 4000 years ago became "the means of transmitting the oral tradition," for Bedouin poems typically opened with phrases like "I send this poem to you on so-and-so camel," and in the poem's prelude, the poet demonstrated his literary artistry and encyclopedic knowledge with an elaborately lyrical, expert description of a fine mount. After the recitation, the hearer would memorize it, and his own camel would then carry him, and the poem, to another community.

"Camels are an inexhaustible source of Bedouin lore. Conversation always leads back to them," Sowayan says. Culturally, he argues that the camel is "more important to us than the Arabian horse. A good part of the imagery, metaphor, motifs, and much of the esthetic and linguistic repertoire of

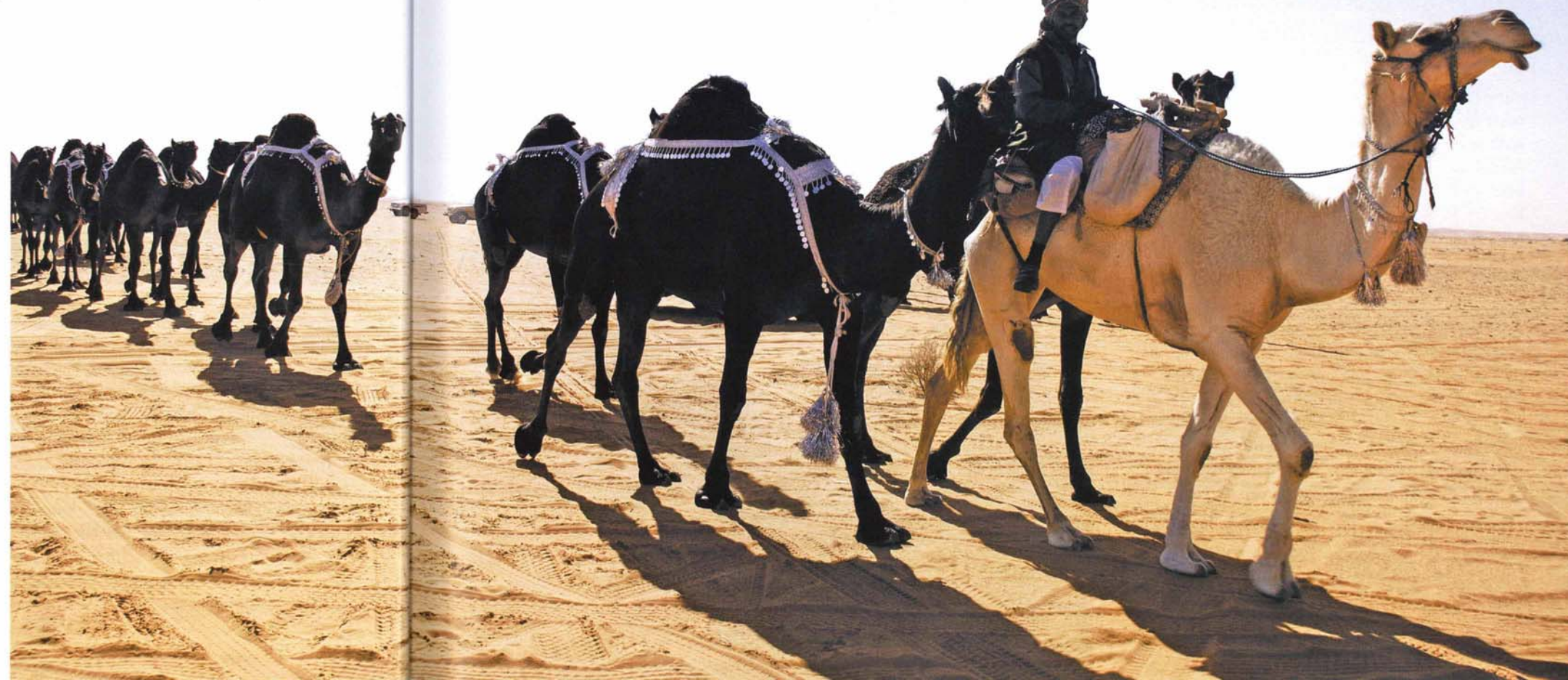
A poster announces the grand prize award and royal sponsorship of Mazayin al-Ibl.



Arabian oral literature relates to the camel. Since it can do just about everything a horse can do and then more, the camel still deserves a lot more credit than it is getting."

Regional and especially international media coverage of Mazayin al-Ibl and other camel shows reinforces Sowayan's point, as reporting often ignores this tradition and focuses instead on the exotic and the quirky, reinforcing a condescending, comic stereotype of the camel as a symbol of cultural backwardness. Articles that acknowledge the complexity, nuances and underlying historic significance of the event are rarely seen in western coverage.

It doesn't help, however, that, though the name "Mazayin al-Ibl" has the right ring to it in Arabic, "The Best of the Herds" so far defies an English translation that conveys the appropriate gravitas. English-language signs around the awards arena can be even less helpful: One declares, "Increasing interest in Arabian Camels as a result of the King Abdulaziz Prize of Fancy Camels." For an event comparable to the





Displaying the discipline that won it "Best of the Herds," a herd of white camels stands at attention. Opposite: Another carefully groomed herd awaits a judge's eye. The herd's drover is mounted, in the background.

Arabian Breeders World Cup horse show in Las Vegas, the Crufts Dog Show in the UK, or the National Western Stock Show in Denver (the self-proclaimed "Super Bowl of cattle shows"), it can almost seem, well, unfair.

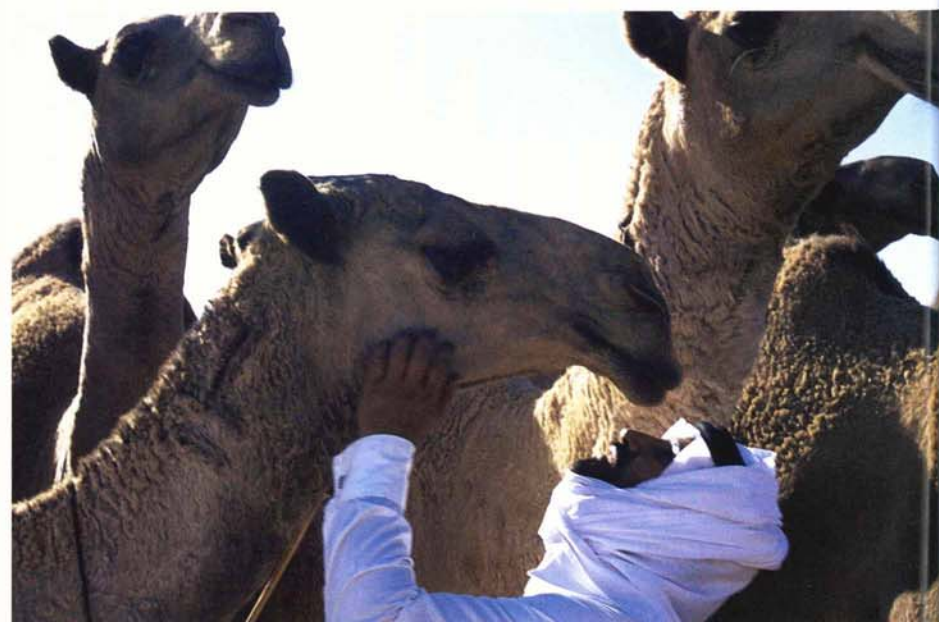
As in all such competitions, picking out prize animals is serious business. Over early-morning mint tea, Arab coffee and steaming glasses of fresh camel milk served in his camel-hair tent near the main enclosure, Abdullah bin Jilawi shares his insights into camel judging. A keen camel breeder from the Al-Hasa Oasis in Saudi Arabia's Eastern Province, Bin Jilawi is president of the Mazayin al-Ibl's seven judges, tasked with selecting prize animals from among males, females, several color categories, different age groups and, finally, the best in show.

I had hoped that he would whisk us off to one of the many nearby herds and demonstrate his judging technique, but, with traditional Arab politeness, he quietly explains that this will not be possible: For the president of judges, or indeed any of the judges, to home in on one herd, or even a single camel, outside his official rounds could immediately set off rumors among dealers and breeders, for once a camel is announced as a prize-winner, its value skyrockets. As an

example, Bin Jilawi tells of one winning camel in 2003 that was valued at roughly half a million US dollars before the event; after winning best in show, it commanded a price seven times greater. Others seated in the tented *majlis* are quick to agree with Bin Jilawi, and they all have anecdotes of similar cases.

The judging actually takes several weeks, with the judges making their way among the herds scattered widely across the desert around Um al-Rughaiba. They carefully look first at the herds for their general qualities, narrowing contenders into groups of 10 and then assessing individuals within the group.

"As well as physical features, we also assess the gait of the camels, we pick out the strong in groups, and we view the



Judges evaluate both individuals and herds.



way the whole herd moves, looking for a unified, orderly and naturally relaxed movement. Then we home in on individuals," says Bin Jilawi.

He goes on to explain how judges assess characteristics differently within the main color categories. "On a camel from a black herd (*mijaheem*), we expect larger feet with upright ears. On the light brown gold breed (*sha'al*), we look for medium-sized feet and ears that are raked back and not upstanding." Camels from a white herd (*maghathir*), highly valued and generally the most popular with spectators, should have ears that are low set and well raked back.

He explains how competitions were once oriented to families, clans and tribes. Now, he explains, they have become increasingly geographically based, broadly regional and more inclusive, as entrants to the Saudi contest increasingly make the trek from home ranges in Kuwait, Qatar, the United Arab Emirates and Oman—four of the other five Gulf Cooperation Council (GCC) member states. There were some two dozen GCC entrants last year. "In just a few years, we have made huge strides with this show. Foreign countries are now approaching us from outside the GCC to ask if they can enter camels. We are planning to internationalize the event beyond the region," says Bin Jilawi.

Another change, he says, has come in recordkeeping. Until recently, owners and breeders relied on memory for every detail of the genealogies of their individual camels. Now, technology is lending a hand, as high-bred camels are increasingly registered on computer databases. Similarly, a new wireless, handheld scoring device is automating the calculation of the judges' results, allowing judges to maintain greater anonymity.

Logistics at Mazayin al-Ibl are managed by Mohammed Abdullah Fallaj, a former football player from the Riyadh

Hilal team. He speaks of the plans under way to improve the festival's facilities: zoning to ensure that camels are separated from the main market area and clear avenues within the encampment for fire safety. "Traffic management is one of our biggest challenges. Thousands of vehicles converge on the site. We have plans to mark out and surface an expanded grid system of roads," he says, adding that plans also include a hard helicopter landing pad for medical emergencies, an airstrip upgrade and improved fire, police, civil-defense, ambulance and veterinary stations.

Government support for Mazayin al-Ibl and many of the country's smaller camel festivals lies largely with the Supreme Commission for Tourism (SCT). To provide a field visit for the judging of camels, the SCT's Ali al-Ambar, who holds a Ph.D. in ethnology, takes me on a tour of herds that are slowly heading toward the show area, their owners hoping for prizes.

He spots a herd of white camels moving as a train, and we stop as they approach. Their strides are graceful, even languid. "What a beautiful herd!" he exclaims. Al-Ambar explains that judges look at such individual traits as the frame and overall configuration; the head, neck, face, eyes, ears, mouth, lips; legs, joints and feet; coat texture; and shape of the tail. The members of this herd, he points out, are impeccably groomed: Camels are often washed, and even shampooed, in preparation for the show.

Back in the exhibit area, al-Ambar introduces Ghaeed al-Mutairi, whose family has kept prize camels for generations. Al-Mutairi has lost exact count of prizes he has won at



Top prize for the finest camel is the 'Abd al-'Aziz Award, given here by HRH Prince Meshal ibn 'Abd al-'Aziz, who has been the leading developer of Mazayin al-Ibl in recent years. The award is named for the prince's father, founder of the modern state of Saudi Arabia. Lower: After the ceremonial plaque, the second part of the grand prize award is keys to this Hummer H2. In addition, there are more than 70 smaller vehicles awarded as prizes, from pickups to SUV's.



concerns about describing his job *in situ*. On a nearby specimen, al-Mutairi uses his long cane to rapidly point out attributes of the well-bred camel. "The coat is important. We look for curly hair, like coiled springs. The tail should not be too long, wide at

the root, tapering to its end and edged with an attractive mane. The back legs should have smooth, curved contours, nicely rounded at the joints to the fore with the two legs widely spaced apart." And what of the all-important food store, the iconic hump? "That's simple," he replies, tapping the mound of fatty tissue: It needs to be high, well-placed and upright on a long back. That takes him down to the animal's side, which needs to be in perfect proportion to an attractive sweeping undercarriage housing the animal's three stomach compartments.

"And," al-Ambar adds, "there's so much more to it. Small details are vital. He hasn't even begun to explain what's expected from the feet or the features and positioning of the head."

On awards weekend, the herds congregate around the public arena, which is bounded by earthen berms some 3.5 meters (12') high. At one end, there are bleachers for the public, with seating capacity of more than 5000, and at the other end is an open-sided marquee with seating for about 500 people. Next to that is a giant tent set with dining tables for a similar number of invited guests. Handlers lead the winning animals into the arena, where they are paraded before the audience and presented with ribbons. The owners receive commemorative shields and trophy cups, and the grand prizes come from a lineup of more than 70 new, desert-ready vehicles, from Nissan pickup trucks to the grand prize, a Hummer H2.

The economics of camel dealing are no less intricate than the judging. There are critics who complain that camel prices have been inflated by speculators or, worse, wealthy dilettantes

provincial competitions, but he believes he and his 21-year-old son Ahmed have picked up at least 10 vehicles in the last 18 months. After winning first prize—a Toyota Land Cruiser—in the dark brown (*safir*) category in 2006, al-Mutairi was offered more than \$1 million for the camel, but he refused, preferring to keep it for breeding. Ahmed, he says, has developed an eye for winning camels, and he believes the youth has the skills to become a judge one day.

Al-Mutairi is on the lookout for new breeding stock from other herds, and once he has spotted a prospect, he sends a proxy to make an offer and negotiate. In this way, he recently bought a three-year-old camel which—after several years of care and feeding on a diet that includes whole-grain wheat bread, camel milk and dates—he expects will bring a price that will repay his outlay a hundredfold.

Al-Ambar goes on to introduce judge Jasser al-Mutairi (no relation to Ghaeed), who appears not to share Bin Jilawi's

dabbling in a kind of retro fashion. But experienced owners and breeders know that a good eye is just the beginning: Constant attention, feeding and expert care are all required to develop and keep a prize camel.

The opportunity for trading creates a busy camel market with live auctions and discreet private deals. Other stalls in the market area do a brisk trade in camel consumables, camel paraphernalia and camel accessories: saddles, bridles, decorative jackets, neck bands, silver tassels and bells; feed, salt licks and veterinary remedies (both traditional and patented pharmaceutical); as well as DVDs, audio cassettes, books and pamphlets on poetry, Bedouin songs, camel folklore and specialist academic subjects. There are also stores that sell peripherals to modern "SUV nomads": camping equipment, handicraft items and bulk foodstuffs, including varieties of rice, grains, dates and herbs. And for those who just want to relax and enjoy the atmosphere, watch life go by and chew the cud, there are fast-food stalls and coffee shops serving espresso and cappuccino.

It was not camel shows, however, that began the cultural rescue of the camel from precipitous decline: Camel racing did that. Beginning in the 1950's as oil revenues rose, nomadic populations moved to settled communities and motorized vehicles took over the camel's once-essential role in transport. In 1964, with the support of King Faisal ibn 'Abd al-'Aziz, Saudi Arabia held its first major organized national camel race, which was also the first in the larger region. In the coming decades, throughout the country, camel racing over prepared courses became one of the few active reminders of the heritage associated with the animal.

In 1985, what had by then become Riyadh's prestigious annual royal camel race spurred interest in wider heritage activities, and the first Janadriyah Heritage and Culture Festival was inaugurated north of the city. Today, this annual festival, one of the largest in the Arab world, still opens with a camel race that now attracts more than 600 contestants. Similarly, in the 1980's and 1990's, the sport also took off in Qatar, Kuwait, the United Arab Emirates and Oman. It has grown into a full-blown modern sporting business, now making use of microchips, computerized records, camel drug testing, research and breeding centers using artificial insemination and embryo transfer, camel hospitals, dedicated training and exercise facilities and "robot jockeys," introduced in 2004 in Qatar and the United Arab Emirates.



CAMELS AND LITERATURE, THEN AND NOW

Bedouins developed a wide range of vocabulary to differentiate camels according to sex, color, age, size, fitness, habits, qualities, defects and other distinctive features. They also developed specific words for camels when in a group, camels loose at pasture, camels organized in caravans, camels grouped for raiding parties and camels in other circumstances.

The 19th-century orientalist scholar Baron J. F. von Hammer-Purgstall, who served as Austrian ambassador in Constantinople, published numerous texts and translations of Arabic, Persian and Turkish authors. He also enumerated the various names for the camel in Arabic, counting 5744 different names and epithets.

Today, poetry retains enormous popular appeal in the Arabic-speaking world, as evidenced by shelf space given over to displays of poetry titles in bookstores and by the weekly prime-time TV show "Poet of the Millions," beamed throughout the Arabian Peninsula from Abu Dhabi. The program, in which contestants' skill at extemporizing and reciting verse is judged by audience voting via text message, American Idol-style, commands the highest rating in the Arab world, with a regular audience of 70 million. Topics and themes have included parental respect, Arab coffee—and, of course, the camel.

The popularity of racing helped bring about the demise of one camel stereotype—that of the plodding beast of burden—as it helped promote the more alluring qualities of speed, endurance and grace. This in turn heightened interest in breeding and in the definition of the camel's archetypal characteristics in much the same way as horse racing spurs interest in horse shows.

Nearly 60 years ago, H. R. P. Dickson, long-time British resident representative in Kuwait, mentioned thoroughbred horses in an analogy designed to help westerners appreciate the variety among camels. After numerous journeys into the deserts of northern and eastern Saudi Arabia, he wrote in *The Arab of the Desert: A Glimpse into Badawin Life in Kuwait and Saudi Arabia* that "the difference between a good riding camel and the ordinary pack camel is as marked as the difference between a thoroughbred racehorse and an ordinary carthorse. Like the thoroughbred horse, [the riding camel] possesses a small head, wide forehead, small nostrils, longish

Stalls in the market area offer camel paraphernalia and accessories.

ears and large eyes, and is wonderfully gentle and understanding. In body she is slightly built with thin legs, giving the appearance of fine lines. Her movements resemble those of the gazelle, whether she is at rest and grazing or moving at full speed." And he adds, "the chief characteristic of the well-bred camel... is its staying power."

Today, as corporate sponsors increasingly line up to support Mazayin al-Ibl and other contests alongside government backing, the event is moving into the mainstream of regional attractions.

Other Gulf states are organizing camel shows, too: In Abu Dhabi, the Authority for Culture and Heritage (ADACH) held the Mazayin Dhafra Camel Festival in April. Mohammed Khalaf al-Mazrouei, director general of ADACH and deputy head of the festival's committee, sees the event as part of his country's efforts to promote local folklore through cultural events. "Purebred camels have been part of Arab cultural, social and economic life, and they will remain so to future generations as young participants take part in this festival," he says.

In Riyadh, Sowayan hopes this will be so. "Since its domestication, Arabs have developed a symbiotic relationship with the camel. Those that live in close harmony with it can readily appreciate it both esthetically and materially," he says. "And for all of us," he adds, "the richness of Arab



A mother shades her calf, born during the festival.

poetry continues to set and provide a perfect template for assessing the fine and beautiful qualities of a prize camel. The Arabian camel is not just surviving. It's surviving with its head high." ●



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Related articles from past issues can be found on our Web site, www.saudiaramcoworld.com. Click on "indexes," then on the cover of the issue indicated below.

Camel racing in UAE: M/J 01
Janadriyah festival: S/O 85, J/F 99
qasidah: M/A 80, J/A 01

www.saadsowayan.com
www.mzayan.com (Arabic)

Further Reading

Marvel of the Desert, The Camel in Saudi Arabia. Angelo Pesce. 1984, Falcon Press, 0-907-15121-3.

Nabati Poetry: The Oral Poetry of Arabia. Saad Abdullah Sowayan. 1985, University of California Press, 0-520-04882-2.

THE ODE OF TARAFAH

The most celebrated poems of the pre-Islamic period were known as the *mu'allaqat* ("suspended"). They earned this name because they were considered sufficiently outstanding to be hung on the walls of the Ka'bah in Makkah for public display. The typical poem of this period is the *qasidah*, or ode, which normally consists of 70 to 80 pairs of half-lines. Traditionally, qasidahs describe the nomadic life, and they open with a lament at an abandoned camp for a lost love. The second part praises the poet's camel (or, in some cases, his horse) and describes a journey and the hardships it entails. The third section contains the main theme of the poem, and finishes by extolling the poet's tribe and vilifying its enemies. The excerpt that follows is from the *qasidah* by Tarafah ibn al-'Abd, who is regarded as the greatest pre-Islamic Arab poet, if not the greatest of all time.



Ah, but when grief assails me, straightway I ride it off mounted on my swift, lean-flanked camel, night and day racing, sure-footed, like the planks of a litter; I urge her on down the bright highway, that back of a striped mantle; she vies with the noble, hot-paced she-camels, shank on shank nimbly plying, over a path many feet have beaten. Along the rough slopes with the milkless shes she has pastured in Spring, cropping the rich meadows green in the gentle rains; to the voice of the caller she returns, and stands on guard with her bunchy tail, scared of some ruddy, tuft-haired stallion, as though the wings of a white vulture enfolded the sides of her tail, pierced even to the bone by a pricking awl; anon she strikes with it behind the rear-rider, anon lashes her dry udders, withered like an old water-skin. Perfectly firm is the flesh of her two thighs—they are the gates of a lofty, smooth-walled castle—and tightly knit are her spine-bones, the ribs like bows, her underneck stuck with the well-strung vertebrae, fenced about by the twin dens of a wild lote-tree; you might say bows were bent under a buttressed spine. Widely spaced are her elbows, as if she strode carrying the two buckets of a sturdy water-carrier; like the bridge of the Byzantine, whose builder swore it should be all encased in bricks to be raised up true. Reddish the bristles under her chin, very firm her back, broad the span of her swift legs, smooth her swinging gait; her legs are twined like rope untwisted; her forearms thrust slantwise up to the propped roof of her breast. Swiftly she rolls, her cranium huge, her shoulder-blades high-hoisted to frame her lofty, raised superstructure. The scores of her girths chafing her breast-ribs are water-courses furrowing a smooth rock in a rugged eminence, now meeting, anon parting, as though they were white gores marking distinctly a slit shirt. Her long neck is very erect when she lifts it up calling to mind the rudder of a Tigris-bound vessel. Her skull is most like an anvil, the junction of its two halves meeting together as it might be on the edge of a file. Her cheek is smooth as Syrian parchment, her split lip a tanned hide of Yemen, its slit not best crooked; her eyes are a pair of mirrors, sheltering in the caves of her brow-bones, the rock of a pool's hollow, ever expelling the white pus more-provoked, so they seem like the dark-rimmed eyes of a scared wild-cow with calf. Her ears are true, clearly detecting on the night journey the fearful rustle of a whisper, the high-pitched cry, sharp-tipped, her noble pedigree plain in them, pricked like the ears of a wild-cow of Haumal lone-pasturing. Her trepid heart pulses strongly, quick, yet firm as a pounding-rock set in the midst of a solid boulder. If you so wish, her head strains to the saddle's pommel and she swims with her forearms, fleet as a male ostrich, or if you wish her pace is slack, or swift to your fancy, fearing the curled whip fashioned of twisted hide. Slit is her upper lip, her nose bored and sensitive, delicate, when she sweeps the ground with it, faster she runs. Such is the beast I ride, when my companion cries, "Would I might ransom you, and be ransomed, from yonder waste!"

— From "The Ode of Tarafah" in *The Seven Odes*, A. J. Arberry, translator. 1957, Allen & Unwin.



In his traditional Bedouin black camel-hair tent, partitioned by hand-woven divider walls, a Riyadh breeder serves coffee with dates, tea and fresh camel milk to a steady flow of visitors.



For students: We hope this two-page guide will help sharpen your reading skills and deepen your understanding of this issue's articles.

For teachers: We encourage reproduction and adaptation of these ideas, freely and without further permission from *Saudi Aramco World*,

by teachers at any level, whether working in a classroom or through home study.

—THE EDITORS

Class Activities

This edition of Saudi Aramco World celebrates the 75th anniversary of the agreement that led to the founding of the company that publishes the magazine. Activities focus on one theme: Presentation.

Theme: Presentation

How does a company present itself? That might sound funny. Certainly people present themselves—paying attention to what they wear, what they say, and what they do—sometimes with an eye to creating a particular image or impression. But—companies? Absolutely! The people who comprise organizations of all types put a lot of thought into how to present the companies they're part of. Mostly you see this in advertising: You've probably seen TV ads in which one big store presents itself as contributing to community projects, and another presents itself as employing very caring people who want to nurture their customers. You can be sure that those retailers have gone to a lot of trouble and expense to present themselves the way they do.

What about Saudi Aramco? Let's look at this edition of the magazine to find out. Our explorations will focus on three kinds of presentation: chronological, anecdotal and visual.

One form of presentation is *chronological*.

Start on page 2 with "75 Years: Saudi Aramco by the Numbers." It's a timeline that lists important events in the order in which they happened—chronological order. Maybe that's what you expect when you read about history. First this happened, then that happened. Remember, though, that historians decide which events to put on timelines and which to leave out. Study the timeline. With a partner, identify the different types of events that are on the timeline. For example, some are political events ("Abd al-Aziz proclaims the Kingdom of Saudi Arabia"). Others are legal and economic ones ("Concession agreement signed between Saudi government and CASOC"). Still others are technological ("Trans-Arabian Pipeline completed"). Use colors to identify and key the types of events, or make lists of them. What do you think the timeline's creators want you to know about Saudi Aramco? What is it about the events on the timeline that leads you to that conclusion?

Remember, too, that it's important to ask what's missing. What kinds of events don't you see on the timeline? If you're having trouble thinking of any, scan some news magazines or tabloids. Then list the kinds of events you don't see on the timeline. Does this help clarify what the timeline's creators want you to know and think about Saudi Aramco?

Now that you've examined the contents of the timeline, make a timeline of your own life or your family's history. What events will you put on it? What kind of events are they? How are they similar to or different from the kinds of events in the magazine's timeline? What

is useful about your timeline? What is useful about the Saudi Aramco timeline? In a broader sense, when might it be useful to have information in chronological order? Keep your thoughts in mind as you read the next article, "75 Facts: A Beginner's Guide to Saudi Aramco."

Another form of presentation is *anecdotal*.

An anecdotal presentation is a presentation that is composed of brief stories, or anecdotes. Keeping in mind the timeline, turn your attention to "75 Facts: A Beginner's Guide to Saudi Aramco." With a group, look at the six two-page spreads that comprise the article. What topic or theme would you say dominates each spread? List them. Then compare your list with the different types of events you identified in "75 Years." How well do they match up?

How does the anecdotal presentation differ from what you are used to seeing when you read history? Do you like this form of presentation? Why or why not? Why do you think *Saudi Aramco World*'s editors decided to present the company's history this way, rather than in a more conventional, history-book style?

To explore this question, make a T chart. In one column, list the benefits of presenting the history anecdotally—what you like about this format. In the other column, list the potential drawbacks of this format—what you don't like about it. With a group, role-play a conversation among the editors at *Saudi Aramco World*. The conversation would be taking place when this issue of the magazine was in the planning stages. Use your T Charts as the basis for your discussion about how to present the 75-year history of Saudi Aramco. Report to the class about what your group has decided.

Then think about your own life, family history or school history. What anecdotes would you tell in order to present it to others? Write a few such anecdotes—enough to fill one or two pages of the magazine. Think about how the anecdotes relate to your timeline. Can you connect each anecdote to an event on the timeline?

A third form of presentation is *visual*.

Turn to the photo essay, "75 Sites: Where We Work." The table of contents identifies three themes in the photo essay: Saudi Aramco as a global business enterprise, a network of people and a place where people use technology. Look over the photos and decide which category each one falls into. How do the three themes relate to the kinds of events on the timeline and the topics and themes in "75 Facts"? Are there other themes you see? Is it always easy to tell? Why or why not?

Choose one two-page spread. Look at the photos carefully and read the captions. What does the spread tell you about Saudi Aramco? In other words, what story can you piece together from the patchwork of photos in your spread? Report to the class on the spread you analyzed. Then as a class put together your findings.

Class Activities (cont.)

Discuss: What is the value of the photo spread? What can it do that other forms of presentation *can't*? What *can't* it do that other forms of presentation *can*?

Now return to your life or family history. What pictures would illustrate it? How would you present those stories? Again, look at your timeline and anecdotes. How do the photos relate to them? Sketch ideas for a visual spread that includes anecdotes and photos together. Do you like it better than the two forms presented separately? Why or why not?

Drawing conclusions: What can you conclude about how Saudi Aramco presents itself? More broadly, can you generalize about how groups and individuals present themselves?

Having read and worked with the first three articles in this issue, answer these questions: What topics does Saudi Aramco include in its self-presentation? What themes does it include? What topics and themes are absent? Based on what's included and what's not, what image do you get of the company? Write a paragraph that summarizes

what Saudi Aramco is like according to what you have read and seen in this magazine.

Now turn your attention to a place closer to home: your school. What's a yearbook, after all, if not a school's self-presentation? Get a copy of a recent yearbook. Pretend that you know as little about the school as you knew about Saudi Aramco before you read this magazine. Ask yourself the same kinds of questions about the school yearbook as you asked about the magazine: In what formats does the yearbook present the school's story? What themes and topics does it address? What does it *not* include? What overall impression do you get about the school from the yearbook?

As a group, make a yearbook for your class using this issue of *Saudi Aramco World* as the model. Think about the different formats you want to include. Will you include a timeline? If so, what events will it include? Will you have facts in anecdote form? If so, what topics will they address? Will you include photos? If so, what will they consist of? Assign tasks to different groups and make the sections of your class yearbook. Assemble them.

Analyzing Visual Images

How can photos show change over time?

History is the study of continuity and change over time. If you look at two photos of the same subject taken at different times, you can often learn much about both continuity and change. Look at these two photos: the aerial photo of Abqaiq on the top left of page 24, and the aerial photo of Dhahran at the top right of page 20. What is the subject matter of each photo? What do the two sites in the photos have in common? How are they different? How would you sum up the changes over time that the two photos, viewed together, show? Imagine you are a writer for *Saudi Aramco World* and that you are putting these two photos side-by-side in the magazine. Write a caption that explains for readers the change over time.

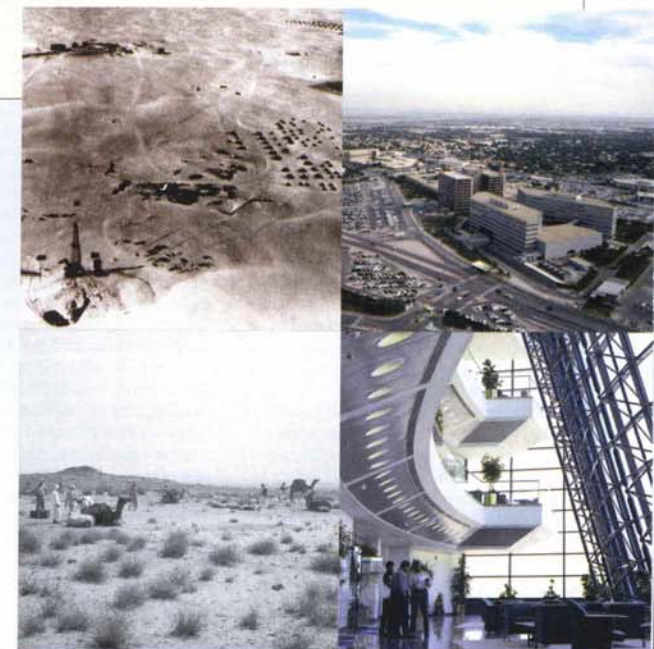
You can also see change over time by looking at and comparing the composition of photos. Look at the main photo on page 18. Everything about the photo looks old, doesn't it? With a partner, identify the characteristics of the photo that evoke "oldness." Contrast that photo with the third photo of Dhahran on page 20. What in that photo evokes "newness" or seems "modern"? Look closely at the composition of the two photos. The horizon of the first photo splits the picture nearly in half—half the photo is above the horizon; half is below. What is in the top half of the photo? Why is it so big? Why didn't the photographer (or editor) crop (trim) the photo so that the top part was smaller? What effect does the big sky have on you as a viewer? What is in the bottom half of the photo? How is it similar to and different from the top half? What effect does it have on you? When you put the two parts together—and of course notice that the photo is black-and-white—how does it make you feel as if you're looking at something from long ago?

Now look closely at the third photo of Dhahran on page 20. It has more vertical lines than horizontal lines. How do they divide the photo? What about the way the photo is divided evokes "modern"? Put the two photos side-by-side and write a caption that describes for readers how these photos show change over time.

Choose two other photos from "75 Sites" and do the same exercise with them. Compare your photos and caption with another student's. Discuss the value of using photos to show historical change.

What do the layout and shapes of photos express?

When you look at this photo essay as a whole, two things might stand out: The photos all touch each other, and the photos are all squares, rather than the usual rectangles. Why do you think the designers at *Saudi Aramco World* decided to present the photos this way? As you think about the answer, remember that the designers have two aims. One is to get readers to pause and pay attention to the photos (rather than just flipping past them). The other is to express something that is consistent with the messages about the company. How might the shape and layout add to what you know about the company so far?



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Events & Exhibitions



Babylon is a bold attempt to reconcile history and legend by assembling some 400 objects from around the world to document both the factual foundation of the ancient city in about 2300 BC, and the myth rooted in that fact and depicted in European art from the 16th century onward. This approach is made possible by the use of new studies that depend on neither biblical nor classical sources; rather, the great eras of Babylonian history are represented by stela, statues and statuettes, precious objects, and documents and texts in the form of cuneiform tablets, papyri and manuscripts. The evolution of the mythical and psychological representation of Babylon in the West—its “rediscovery”—is presented through a collection of printed works, drawings, paintings and miniatures. The exhibition thus allows the viewer to evaluate the influence of Babylon’s cultural heritage in both past and present. Musée du Louvre, **Paris**, through June 2; Museum of the Ancient Near East, Pergamonmuseum, **Berlin** (as “Babylon: Myth and Truth”), June 26 through October 5; British Museum, **London** (with about 100 objects), opens November 13.

Imposing lions like this one, made of glazed brick sculpted in relief, lined the ceremonial approach to the city of Marduk in Babylon.

Teachers’ Workshops: Teaching About Islam. The Center for Muslim-Christian Understanding at Georgetown University is offering a new series of full- and half-day professional-development workshops for teachers from elementary through high school. Outreach centers, school districts, civic organizations and educational institutions may select from a variety of content modules correlated to national and state academic standards and curriculum frameworks for teaching about Islam and other world religions. These modules link to many broader subject areas such as math, literature and the arts; modules on Islamic Spain and Islam in the media are included. For further information or to schedule a workshop (25 participants minimum), visit www1.georgetown.edu/sfs/acmcu/about/education/outreach/, contact susan@cmcuworkshops.net, or call 703-442-0638.

Mummies: The Dream of Eternal Life combines natural history and anthropology to take the visitor on a trip to the various regions, cultures and continents where mummification—of humans or animals—is practiced or natural mummification is used. The exhibition includes the Ice-Age “Windeby Girl,” a complete Egyptian mummy with sarcophagus, a child mummy from Peru and mummified animals; the oldest exhibit is from the age of the dinosaurs and the most recent from the second half of the 20th century. Reiss-Engelhorn Museums, **Mannheim, Germany**, through May 18.

Between the Sea and the Desert: The Many Cultures of North Africa showcases the rich and diverse textile culture of the Maghrib, western North Africa. Luxurious silks and embroideries from the coastal cities present a cosmopolitan Mediterranean tradition based on Hispano-Mauresque, Arab and Ottoman sources. The men’s

robes and women’s shawls produced by the indigenous Berber population reveal traditions that flourished and remained unchanged deep in the Atlas Mountains. Rugs made by sedentary Arabs and Berbers of the plains between the sea and the desert, with their bright colors and dramatic patterns, demonstrate the weavers’ exposure to the different cultures of Maghrib. Textile Museum of Canada, **Toronto**, through May 18.

Royal Tombs of the Scythians: Under the Sign of the Golden Griffin displays more than 6000 spectacular finds from recent excavations of burial mounds—*kurgans*—on the steppes of Eurasia, the home of the legendary horse-borne nomads known as the Scythians. From the eighth to the third century BC, they held sway over an area stretching from Outer Mongolia across Siberia to the Black Sea. Now, modern archeology and scientific and anthropological research can show us the environmental conditions, eating habits, illnesses, and family and trade relationships of this people, creating a comprehensive portrait of Scythian life. Exhibits include mummies so perfectly preserved that their tattoos and parts of their clothing have survived; objects of gold and silver; garments of fur, felt and silk decorated with jewels; magnificent jewelry, weapons and ornamented armor; and objects made of wood and leather. Museum für Kunst und Gewerbe, **Hamburg**, through May 25.

Origins of the Silk Roads: Sensational New Finds from Xinjiang presents Han Dynasty (Bronze Age) grave goods from the Tarim Basin, including rare textiles and other organic objects preserved by the region’s extraordinary aridity, that open a new window on people’s lives and lifestyles—and the development of the Silk Roads—in the period from the second millennium BC to about AD 500. More than 190 objects are on display. Reiss-Engelhorn

Museum, **Mannheim, Germany**, through June 1.

Before Departure (all my changes were there) is an exhibition of large installations by Turkish artist Eylem Aladoğan that were inspired by her travels in desert areas of Arizona, Utah and Nevada. Architectural and organic elements interact in her art, which uses craft techniques and such materials as wood, ceramics, metal, felt and leather. Kröller-Müller Museum, **Otterlo, Netherlands**, through June 8.

Maps: Finding Our Place in the World features more than 100 unique, rare and often beautiful artifacts, including maps on cuneiform tablets, medieval maps, manuscript maps of explorers, globes, maps of areas all around the earth and maps of nowhere: utopias and imaginary maps. This ambitious exhibition broadens visitors’ understanding of the almost universal human activity of map-making. Walters Art Museum, **Baltimore**, through June 8.

Excavating Egypt: Great Discoveries from the Petrie Museum of Egyptian Archaeology offers a view into the lives of both royal and average Egyptians, showing more than 200 ancient objects and works of art from the earliest periods of Egyptian history to the late Roman period. The exhibition also tells the story of William Matthew Flinders Petrie (1853–1942), one of archeology’s greatest pioneers, and his exploration of ancient Egyptian civilization. Excavation notes and personal journals shed light on his innovative methods and his theories on the science of archeology. Exhibits include one of the world’s oldest garments, a rare beaded-net dress from the Pyramid Age, ca. 2400 BC; a fragment of a history book from 2400 BC; the earliest examples of metalwork in Egypt; the earliest examples of glass; the oldest “blue-print,” written on papyrus; and the

oldest known royal monument. **Columbia [South Carolina]** Museum of Art, through June 8; Lowe Art Museum, University of Miami, **Coral Gables, Florida**, June 28 through November 2.

Anatomy of the World: Science and Art in the Papyrus of Artemidorus displays a unique and incompletely understood document of science and art in antiquity. Found in a village in Upper Egypt, the papyrus was originally 2.5 meters in width; it is covered with text passages by the Greek geographer Artemidorus, who lived at the turn of the first century BC in Ephesus (Turkey). A map has been inserted between two columns of text, and the entire back of the papyrus, as well as every bit of free space on the front, has been covered with fine drawings of human heads and limbs and exotic animals. Egyptian Museum, Altes Museum, **Berlin**, through June 10.

China: At the Court of the Emperors presents more than 100 masterpieces from the Tang Dynasty (618–907), whose capital at Chang’an was the eastern terminus of the Silk Roads and, in the eighth century, the world’s largest city, with a population estimated at two million. The dynasty reigned over a renaissance of the arts, crafts and literature; the exhibition displays frescoes, stone sculptures, gold and silver objects, ceramics, terra-cotta statues, glass plates, jewels and precious lacquer-work, including recent finds from Shaanxi Province. Some of these objects reflect Islamic techniques and influences from Persia. Palazzo Strozzi, **Florence, Italy**, through June 20.

Butabu: Adobe Architecture of West Africa: Photographs by James Morris presents 50 large-scale images of structures from monumental mosques to family homes. These African adobe buildings share many of the qualities now much admired in the West:

sustainability, sculptural form and the participation of the community in conception, fabrication and preservation. Queens Library Gallery, **Jamaica, New York**, through June 21.

Cairo 1975 is a collection of black-and-white photographs by Ted Gorton that show the lives of ordinary, dignified and humorous Cairenes, living among decaying relics of the past, in a moment just before major geopolitical upheavals changed their world. Brunei Gallery, SOAS, **London**, through June 21.

Lukas Werth in Pakistan. Werth’s photographs have a unique aura: The settings are determined by the subjects themselves, and the selection for the images of both historic and modern urban locations, and both religious and private spaces, speaks to the very delicate relationship between photographer and photographed. Local architecture and decoration are used to indicate foreignness, and Werth’s presence in relation to his subjects seems restrained but not secretive. Pergamonmuseum, Museum für Islamische Kunst, **Berlin**, through June 22.

Faith & Power: Women in Islam. Muslim women have occupied positions of power for as long as Islam has existed. This ranges from the commercial reputation of the Prophet Muhammad’s first wife, Khadija, through the 12th-century Yemeni ruler Malika Arwa, to the modern-day political leadership of such Islamic states as Pakistan and Bangladesh. This exhibition explores a rich history that has often been overlooked and also provides a physical dimension with artifacts from distant times and places. Jewelry, clothing and the accoutrements of power bring new vividness to the lives of forgotten queens, consorts and wielders of influence from behind the throne. Islamic Arts Museum **Malaysia, Kuala Lumpur**, through June 30.

The Path of Princes: Masterpieces of Islamic Art From the Aga Khan Museum Collection reveals a millennium’s worth of artistic production from the ninth to the 19th century. With provenances ranging from Spain to Indonesia, these objects from the Aga Khan Museum Collection testify to the craftsmanship of centuries of artisans. Among the works on display are illuminated manuscripts, metal and glass, as well as jewelry and paintings. Museu Calouste Gulbenkian, **Lisbon**, through July 6.

Far From Home shows 29 works of art that address the displacement of individuals and populations as they move to new parts of the world for economic, political, educational or family reasons. It also addresses the expansion of global networks created as these migrants, now in new places, maintain their connections to their homeland and heritage. The artists’ narratives present a more nuanced global identity and unexpected commonalities not only among each other but among viewers of the art as well. **North Carolina** Museum of Art, **Raleigh**, through July 13.

Every Picture Tells a Story: Persian Narrative Painting explores the ways

painters translated tales from classical Persian literature into visual form. The exhibition features 26 works, including a complete manuscript of Jami’s account of *Yusuf and Zulaikha* (Joseph and Potiphar’s wife, in the story’s Biblical version); other paintings are from various manuscripts of the *Shahnamah* (*The Book of Kings*), the Persian national epic; *Khalilah wa Dimnah*, a collection of animal tales that may have inspired Aesop’s *Fables*; and the poet Nazami’s *Khamseh*. **Portland [Oregon]** Art Museum, through July 27.

Muraqqa’: Imperial Mughal Albums From the Chester Beatty Library, Dublin. Among the most remarkable of Mughal paintings and calligraphies are those commissioned by the Emperors Jahangir (1605–1627) and Shah Jahan (1627–1658) for display in lavish imperial albums. A window into the world-views of the emperors, these exquisite images depict the rulers, the imperial family in relaxed private settings, Sufi teachers and mystics, allies and courtiers and natural history subjects. Produced by the atelier’s leading artists, they reveal the conceptual and artistic sophistication of the arts of the book at their apex in the early 17th century. The exhibition brings together 86 masterpieces—many not previously exhibited in the United States—from the renowned Dublin collection. Sackler Gallery, **Washington, D.C.**, through August 3.

Allure of the East: Orientalism in New York, 1850–1930. Through paintings, prints, photographs and books as well as silver, lighting and metalwork, the exhibition (a prelude to “Woven Splendor,” below) explores New Yorkers’ fascination with the “Orient”—defined as the Middle East, North Africa and Moorish Spain. The installation includes paintings of Orientalist artists that hung in New York salons and depictions of New Yorkers sporting traditional Middle Eastern dress. By the 1860’s, New Yorkers were also incorporating facets of Eastern design, as well as imported exotic objects, in domestic interiors influenced by Islamic art. Photographs of interiors reveal opulent luxury; decorative arts inspired by the East are also exhibited, including Islamic-style silver by Tiffany & Co. and Moorish-style chandeliers and lighting from Tiffany Studios. **New-York** Historical Society, through August 17.

Woven Splendor From Timbuktu to Tibet: Exotic Rugs and Textiles From New York Collectors chronicles the 75-year history of the Hajji Baba Club, the nation’s oldest and most prestigious rug collecting club, while examining the history of the Oriental rug in New York. Some 75 objects are exhibited, including rugs, costumes and other Middle Eastern and Central Asian textiles, as well as photographs depicting Oriental rugs in collectors’ homes in the early 20th century and revealing how such objects were originally made available through galleries and World’s Fairs. The exhibition explores how rugs were produced and used in their countries of origin, as well as how Americans initially understood these objects. **New York** Historical Society, through August 17.

Tutankhamun and the Golden Age of the Pharaohs includes 130 works from the Egyptian National Museum, among them a selection of 50 spectacular objects excavated from the tomb of Tutankhamun, including one of the canopic coffinettes, inlaid with gold and precious stones, that contained his mummified internal organs. Additional pieces in the exhibition derive from the tombs of royalty and high officials of the 18th Dynasty, primarily from the Valley of the Kings. These additional works place the unique finds from the tomb of Tutankhamun into context and illustrate the wealth and development of Egyptian burial practice during the New Kingdom. O2, **London**, through August 30.

Living Under the Crescent Moon: Domestic Culture in the Arab World demonstrates the diversity of domestic lifestyles between Morocco, Syria and the Arabian Peninsula, from the nomadic tents of the Tuareg or Bedouins to Moroccan casbahs, from the grand courtyard houses of Marrakech, Damascus or Cairo to buildings by such 20th-century architects as Hassan Fathy, Elie Mouyal or Abdelwahed El-Wakil. Numerous models and reconstructed room environments provide an opportunity to physically experience various building types, while domestic objects such as ceramics, textiles, tools and architectural elements offer impressions of everyday customs. Specially for the exhibition, numerous photographs and films were produced that document forms of domestic life virtually unknown to outsiders. Vitra Design Museum, **Weil am Rhein, Germany**, through August 31.

Lost Kingdoms of the Nile: Nubian Treasures from the Museum of Fine Arts, Boston provides unprecedented insight into ancient Nubia, the extraordinary African civilization often overshadowed by ancient Egypt. Presenting some of the most significant archeological treasures ever found in Africa, the exhibition includes more than 250 objects in gold, silver, bronze, ivory, stone and ceramic ranging in date from 7000 BC to modern times. Highlights include a golden diadem, here reconstructed in its entirety for the first time; finely crafted ceramics; *shauabti* figurines, buried to work for the dead; and inscriptions. Carlos Museum, Emory University, **Atlanta, Georgia**, through August 31.

Humanitas: Images of India presents the product of a five-year photographic adventure: portraits of the ordinary people of India—especially Gujarat—as they go about their lives. With these images, Angeleno photographer Fredric Roberts hopes to convey the power of his subjects’ relationships with God, their land, their neighbors and their families, and reveal their own sense of self-possession and self-worth despite their material poverty. Museum of Photographic Arts, **San Diego, California**, through September 7.

For Tent and Trade: Masterpieces of Turkmen Weaving includes some 40 rugs and tent trappings from the museum’s world-class collection, all

woven from the white, long-staple, highly hygroscopic wool of adaptable, fat-tailed Saryja sheep, endemic to Central Asia. In spite of the fact that most of the weaving is done on simple horizontal looms staked to the ground, the work of Turkmen weavers, of which extant examples date back to the fourth century BC, is very skillful, well designed and highly patterned. Also on view are five striking mantles masterfully embroidered and worn by women of three different Turkmen tribes. de Young Museum, **San Francisco**, through September 7.

In Palaces and Tents: The Islamic World From China to Europe describes Muslim contacts with neighboring cultures through more than 300 objects, divided into three chronological sections and one political one, dealing with Russia, that includes a magnificent Bukharan tent. State Hermitage Museum, **St. Petersburg, Russia**, through September 7.

To Live Forever: Egyptian Treasures from the Brooklyn Museum uses some 120 objects dating from 3600 BC to the year 400 of our era to illustrate the range of strategies and preparations that the ancient Egyptians developed to defeat death and to achieve success in the afterlife. The exhibition explores the belief that death was an enemy that could be vanquished, a primary cultural tenet of ancient Egyptian civilization, and explains the process of mummification, the economics and rituals of memorials, the contents of the tomb, the funeral accessories—differentiated by the class of the deceased—and the idealized afterlife. Exhibits include the vividly painted coffin of a mayor of Thebes, mummies, stone statues, gold jewelry, amulets and canopic jars. **Indianapolis** Museum of Art, through September 7.

Land of the Pharaohs is an exhibition of popular Egyptian objects chronicling everyday life in ancient Egypt, including farming, personal adornment, religion and beliefs. The display also features Roman-period Egyptian objects on loan from the British Museum. Segedunum Roman Fort, Baths & Museum, **Wallsend (near Newcastle) [uk]**, through September 8.

Tutankhamun: The Golden King and the Great Pharaohs is [another] extensive exhibition of more than 140 treasures from the tomb of the celebrated pharaoh and other sites. It includes his golden sandals, created specifically for the afterlife and found on his feet when his mummy was unwrapped; one of the gold canopic coffinettes, inlaid with jewels, that contained his mummified internal organs; and a three-meter figure depicting Tutankhamun as a young man, which originally may have stood at his mortuary temple. Providing context and additional information are 75 objects from other tombs in the Valley of the Kings. Museum für Völkerkunde, **Vienna**, through September 28; Carlos Museum, Emory University, **Atlanta, Georgia**, opening November 15.

Magic in Ancient Egypt: Image, Word, and Reality explores how the Egyptians, known throughout the ancient world

for their expertise in magic, addressed the unknown forces of the universe. Ancient Egyptians did not distinguish between religion and magic, and believed that the manipulation of written words, images and ritual could influence the world through a divinely created force known as Heqa, personified as the eldest son of the solar creator Atum. The exhibition also examines connections between magic and medicine and the use of magic after death. **Brooklyn Museum, New York**, through September 28.

Perspectives: Y. Z. Kami presents two monumental portraits from the Tehran-born artist's current series depicting individuals in meditation. In a third work, he uses collage and verses by Jelaluddin Rumi to create a spiral of calligraphy. **Sackler Gallery, Washington, D.C.**, through October 13.

Ghada Amer: Love Has No End, the first US survey of the renowned artist's work, features some 50 pieces from every aspect of Amer's career as a painter, sculptor, illustrator, performer, garden designer and installation artist. These include such iconic works as *Barbie Loves Ken*, *Ken Loves Barbie* (1995/2002) as well as numerous works devoted to world politics, including some of her more recent antiwar pieces. While she describes herself as a painter and has won international recognition for her abstract canvases embroidered with erotic motifs, Amer explores and expresses broader ideological and aesthetic concerns: the submission of women to the tyranny of domestic life, the celebration of female sexuality and pleasure, the incomprehensibility of love, the foolishness of war and violence, and an overall quest for formal beauty. **Brooklyn [New York] Museum**, through October 19.

Catastrophe! The Looting and Destruction of Iraq's Past deals with both the looting of the Iraq National Museum in Baghdad and the ongoing looting of archaeological sites that poses an even greater threat to the cultural heritage of Iraq and the world. Archaeological finds and photographs of looted sites and damaged artifacts illustrate such themes as the importance of archeology to history and identity; looting

and damage to archaeological sites; past combat damage and current construction damage; loss of archeological context; the routes looted artifacts take from Iraq to art markets; progress of recovery efforts at the Iraq Museum; and what can be done. **Oriental Institute Museum, Chicago**, through December 31.

Treasures: Antiquities, Eastern Art, Coins and Casts presents more than 200 of the most significant objects in the Ashmolean's world-renowned collections. The exhibition provides visitors with a rare opportunity to discover the historic crossing of time and culture in this portrayal of artistic achievement and the development of civilization in Europe, the Near East and the Far East. The treasures represent more than 30 cultures dating from Paleolithic times to the present day, and are presented in nine sections reflecting basic aspects of human activity and interest throughout history. **Ashmolean Museum, Oxford [uk]**, through December 31.

Persian Visions: Contemporary Photography From Iran presents more than 80 images that provide a revealing view of Iranian life and experience. The 20 artists featured are among Iran's most celebrated and include Esmail Abbasi (references to Persian literature), Bahman Jalali, Shariyar Tavakoli (family histories), Mehran Mohajer, Shoukoufeh Alidousti (self-portraits and family photographs) and Ebrahim Kahdem-Bayatvin. Some have lived abroad and returned to view their homeland from a changed perspective. Antiexotic and specific, these images make up the first survey of contemporary Iranian photography to be presented in the United States. **Mulvane Art Museum, Topeka, Kansas**, May 17 through August 24.

Hedi Slimane MUSAC is a site-specific installation that continues the Tunisian-French fashion designer and artist's exploration of youth esthetics in relation to music as a factor in the construction and transformation of identity. **Museo de Arte Contemporáneo, León, Spain**, May 17 through September 7.

The Horse examines the long, powerful relationship between horses and humans and shows how horses have changed warfare, trade, transportation, agriculture, sports and many other facets of culture. Exhibits include fossils and artifacts from around the world and from 50 million years ago to the present. Among the institutions cooperating in creating the exhibition is the Abu Dhabi Authority for Culture and Heritage, and the roles of the horse in Arab culture—and of Arab horses in equine culture—are part of the exhibition. **American Museum of Natural History, New York**, May 17 through January 4.

Turkish Delight: Türkiye'den Tasarım—Design From Turkey. Turkish themes and design elements have inspired European art and handicrafts for centuries, and this selection of 80 objects created by internationally known Turkish designers shows that that relationship continues. The 12 designers represented in the exhibition,

The Third Space: Cultural Identity Today explores the effects of displacement, alienation, exile, diaspora, transnationalism, hybridity and cosmopolitanism on cultural identity in a global society. The title refers to the interstices between colliding cultures, a liminal space in which new cultural identities are formed, a new area in which meaning and representation can be negotiated. Artists who work in this space speak of a creative edge that derives from being in a place that simultaneously is and is not one's home.

The exhibition includes 15 works by nine artists, whose nationalities are described as Indonesian, Ghanaian-German, French-Algerian, Moroccan, Palestinian, Vietnamese-American, Iranian-American, Nigerian-Cuban-American and Native American. **Mead Art Museum, Amherst College, Massachusetts**, through June 8.

Lalla A. Essaydi: "Les Femmes du Maroc #14" (2006) (detail). C41 print on aluminum, 30 x 40"



though of different generations, have in common that their work includes elements from far back in Ottoman and Turkish artistic traditions, combined with modern functional forms. Visitors will find themselves intrigued by the conversations that arise between the museum's historical artifacts and the modern objects in this exhibition. **Pergamonmuseum, Museum für Islamische Kunst, Berlin**, May 22 through June 29.

Afghanistan: Hidden Treasures from the National Museum, Kabul explores the cultural heritage of ancient Afghanistan from the Bronze Age (2500 BC) through the rise of trade along the Silk Roads in the first century of our era. Among the nearly 230 objects on view, all from the National Museum of Afghanistan in Kabul, are artifacts as old as 4000 years, as well as gold objects from the famed Bactrian Hoard, a 2000-year-old treasure of Bactrian grave goods excavated at Tillya Tepe in 1978 and long thought to have been stolen or destroyed, but rediscovered in 2003. The earliest objects in the exhibition, from Tepe Fullol in northern Afghanistan, are fragmentary gold vessels dated between 2500 and 2200 BC. A second group, from the former Greek city Ai Khanum in a region conquered by Alexander the Great, includes Corinthian capitals; bronze, ivory and stone sculptures representing Greek gods; and images of Central Asian figures carved in Hellenistic style. Trade goods from a third site, at Begram, date from the first century and include ivory statues and elaborately carved Indian ivory reliefs. Many of the Bactrian objects reflect the distinctive local blend of Greek, Roman, Indian and Chinese motifs. **National Gallery of Art, Washington, D.C.**, May 25 through September 7.

The Greeks presents more than 180 artifacts that shed light on the imprint left by the Greeks on world civilizations and cultures. The exhibition is divided into sections that cover prehistory and antiquity, the Byzantine period, the Greeks in the Ottoman Empire and the creation of today's modern Greek state. Exhibits, from the Benaki Museum in Athens, include sculptures, ceramics, jewelry, textiles, paintings, metalwork, icons, toys, figurines, lamps and wooden chests. **Canadian Museum of Civilization, Gatineau, Quebec**, May 30 through September 28.

The Lure of the East: British Orientalist Painting, 1830–1925 shows more than 110 images of bazaars, baths and domestic interiors in the Near and Middle East by such artists as Joshua Reynolds, J. F. Lewis, W. H. Hunt, David Wilkie, John Singer Sargent, William Holman Hunt, J. M. W. Turner, Roger Fenton, Andrew Geddes and Edward Lear. It is the first exhibition to survey British painters' representations of the Middle East from the 17th to the early 20th century; their responses to the people, cities and landscapes of the region; the cross-pollination of British and Islamic artistic traditions; and the use of "the Orient" as an exotic backdrop. Catalog £25. Tate Britain, **London**, June 4 through August 31; **Pera Museum, Istanbul**, opening in October.

Teaching About the Arab World and Islam is the theme of full-day teacher workshops conducted by Arab World and Islamic Resources and School Services (AWAIR) of Berkeley, California. ① www.awaironline.org. Sites and dates currently scheduled include **Monticello, Arkansas**, June 10; **San Francisco**, July 18–19; **Puebla, Mexico**, August 11–12.

Geometry of Hope. Monir Shahroudy Farmanfarmaian, born and again working in Tehran at age 84, shows a style formed in equal measure by her deep ties with her country, her apprenticeship in New York and her years in New York and Paris. She is the only contemporary artist who has explored the use of mirror mosaics, Islamic geometric pattern and traditional and contemporary reverse-glass painting in her modernist works. **Leighton House Museum, London**, June 18 through July 12.

The Arts of Kashmir demonstrates the cultural riches of the region, with its Hindu, Buddhist and Islamic art dating from the fourth to the 20th century. The exhibition includes some 135 objects: carpets and embroidery, calligraphy, furniture, paintings, papier-mâché and sculpture. **Cincinnati [Ohio] Art Museum**, June 28 through September 21.

Faces of Ancient Arabia is drawn primarily from a recent gift of more than 70 works of Yemeni alabaster sculpture dating from the third century BC to the third century of our era, and focuses on the importance and splendor of the kingdoms of Southern Arabia—the land of the Queen of Sheba—which prospered through trade in incense and other precious goods with Egypt, the Near East and the Roman Empire. The exhibition examines these kingdoms' artistic sophistication and visual splendor. Ancient authors wrote about the region's immense wealth, huge temples and precious statues, and marveled at its multistoried houses and elaborate irrigation systems. Works by contemporary Yemeni artist Fuad al-Futaih and modern photographs of present-day Yemen are also on display. ① 410-547-9000 or info@thewalters.org. **Walters Art Museum, Baltimore**, July 20 through September 7.

Ayşe Erkmen: Weggefahren is a comprehensive solo exhibition of the Turkish conceptual artist's works. First forging a "path" from the building's outside to its interior, she links the various spaces leading to the actual exhibition site on the first floor of the east wing. Along with sculptures and a large installation dovetailing with earlier works, the exhibition includes her film oeuvre. **Hamburger Bahnhof, Museum für Gegenwart, Berlin**, September 13 through January 11.

Art & Empire: Treasures from Assyria in the British Museum. From the ninth to the seventh centuries BC, the Assyrians emerged as the dominant power in the Near East, controlling all of present-day Iraq, Syria, Jordan, Lebanon, Israel and Egypt, as well as large parts of Turkey and Iran. It was the largest empire known until that time. In the area of Mosul, in northern Iraq, the kings built splendid palaces, their gates flanked by colossal human-headed bulls and lions, their walls lined with great stone slabs intricately carved in relief with scenes memorializing in fascinating and sometimes grisly detail the king's exploits in warfare and in hunting, palace life and court rituals. This exhibition includes the most powerful and moving of the art of the Assyrians: military dress and equipment; horse trappings and harnesses; carved ivories, furniture fittings and metal vessels; figures of deities, clay tablets, clay seals and sealings; and exorcism and omen texts, mathematical texts and literary compositions. **Museum of Fine Arts Boston**, September 21 through January 4.

Garden and Cosmos: The Royal Paintings of Jodhpur. Newly discovered paintings from the royal collection of Jodhpur form the core of this groundbreaking exhibition of 61

paintings from the desert palace at Nagaur, along with a silk-embroidered tent. The startling images, 120 centimeters in width, are unprecedented in Indian art and reveal the emergence of a uniquely sensuous garden aesthetic in the 18th century. Ten 17th-century Jodhpur paintings borrowed from museum collections in India, Europe and the US reveal the idiom from which the innovations of later Jodhpur painting emerged. **Sackler Gallery, Washington, D.C.**, October 11 through January 4.

Wonderful Things: The Harry Burton Photographs and the Discovery of the Tomb of Tutankhamun. The tomb was one of the first large-scale excavations to be thoroughly documented through photography. Its clearance took 10 years, and in that time, photographer Harry Burton took more than 1400 large-format black-and-white images that document the Valley of the Kings, the initial discovery, the moment when the excavators first glimpsed the artifacts inside, the entry to the burial chamber, the shrines and coffins that protected the king, and the king's mummy, wreathed in floral collars and bedecked with gold jewelry. The exhibition consists of 50 of Burton's photographs and explains the early use of photography in archeology, the photographic career of Harry Burton, and how the photographs fueled the excavators' public relations campaign and spawned the myth of the curse of Tutankhamun. **Carlos Museum, Emory University, Atlanta, Georgia**, opens November 15.

Beyond Boundaries: Islamic Art Across Cultures is the long-awaited opening exhibition of Qatar's new Museum of Islamic Art. Part of the museum's collection was exhibited at the Louvre in 2006 under the title "From Cordoba to Samarqand," and featured

metalwork, ceramics, jewelry, carpets, calligraphy, textiles and carved ivory. Recently, the museum bought the Nuhad Es-Sahid collection of Islamic metalwork and 40 Mughal and Persian miniature paintings from the collection of Stuart Carey Welch. **Museum of Islamic Art, Doha, Qatar**, November 22.

Arts of the Islamic World presents the three principal media for artistic expression in the Islamic world: architecture (religious and secular), the arts of the book (calligraphy, illustration, illumination, bookbinding) and the arts of the object (ceramics, metalwork, glass, woodwork, textiles, ivory). The works date from the ninth to the 17th century. On view are brass bowls and candlesticks, folios from copies of the Qur'an, earthenware and ceramics, and paintings from the traditions of Iran, Iraq, Syria, Egypt and other parts of North Africa, Turkey, Afghanistan and Uzbekistan. **Freer Gallery of Art, Washington, D.C.**

The Saudi Aramco Exhibit relates the heritage of Arab-Islamic scientists and scholars of the past to the technology of today's petroleum exploration, production and transportation, set against the background of the natural history of Saudi Arabia. **Dhahran, Saudi Arabia**.

Information is correct at press time, but please reconfirm dates and times before traveling. Most institutions listed have further information available on the World Wide Web, and our Web site, saudiaramcoworld.com, contains more extensive listings. Readers are welcome to submit information for possible inclusion in this listing. Some listings have been kindly provided by *Canvas*, the art and culture magazine for the Middle East and the Arab world, on the Web at www.canvasonline.com.

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