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Ice: The Final Frontier

The company has combined its formidable talents to crack the toughest exploration challenge of them all: The Arctic.

It is a land of absolutes: At the surface, the massive landscape of the Arctic is intimidating and humbling. Wind-swept vistas of white juxtapose with skies of impenetrable blackness. Temperatures regularly plummet to -50° Celsius (-58° F) and the wind can cut like a scythe.

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This is not a land for the faint of heart. Yet underneath the frozen vastness of the Arctic lies one of the last, great undiscovered and undeveloped resources of hydrocarbons on the planet.

A recent report by the U.S. Geological Survey estimates that the area north of the Arctic Circle contains the potential equivalent of 412 billion barrels of oil, including 90 billion barrels of crude, 1.7 trillion cubic feet of natural gas and 44 billion barrels of natural gas liquids. That's roughly one third of all proven reserves on the planet.

While close to 84 percent of those resources lie offshore, locked under pack ice and located at seemingly impossible depths, the numbers are too big to ignore. There are already more than 400 discovered oil and gas fields north of the Arctic Circle, containing 240 billion barrels of oil-equivalent crude oil and natural gas.

It's just the tip of the iceberg. The remaining resources in the "High Arctic" that many experts once thought might never be tapped could now be developed within the next 15 to 20 years thanks to improved technology

(and perhaps a little help from the recent phenomenon of rising polar temperatures). But exploration, development and transportation remain increasingly expensive as you move north. There is simply no infrastructure in place. It is harsh, remote and a long way from supply centers and markets.

Few energy companies have the capital, expertise or patience required to make Arctic exploration profitable. Chevron is one of them and has been quietly building up the organizational capability needed to pursue Arctic opportunities.

Chevron currently has upstream basin interests in Cook Inlet, Alaska, and the Mackenzie Delta, Beaufort Sea and east coast of Labrador in Canada - as well as properties off the west coast of Greenland.

Support for all these diverse Arctic areas is provided by the recently established Arctic Center, based at the Canada Business Unit (CBU) in Calgary. It houses some of the world's foremost Arctic subject matter experts, and its role is to support global Arctic exploration, asset development and business development projects across the upstream.

Canada seemed the natural choice because the country is a recognized leader in the Arctic offshore, largely due to extensive exploration activities that started in the 1960s and continued into the 1990s.

Activity was stimulated by rising oil prices, significant discoveries and federal government incentives that underwrote many of those exploration programs. This allowed Canada to produce a core of Arctic oil and gas experts – many of whom now work for Chevron.

Over the past three years, Chevron has assembled a diverse and close-knit team. Members have significant Arctic offshore expertise in marine operations, drilling, naval architecture, logistics, facilities, and ice and structural engineering – with some having worked together on Arctic projects for over 25 years.

"You need a long-range vision, innovation and the commitment to make Arctic development feasible," says Rod Maier, CBU manager of Frontier Development. "But most importantly you need the right people.

We recognized early on that Arctic subject matter experts are in short supply, so we recruited a number of world-class people for CBU and other Chevron global Arctic projects."

While the size of the prize is indisputable, finding, developing and getting it to market safely, reliably and in an environmentally

responsible manner will be incredibly challenging and expensive. The biggest reason? Ice.

Pack ice drilling is unique and relies completely on the ability of specialized ships in the ice management fleet to handle wind-driven pack ice. The gigantic ice formations are unpredictable and quick shifts in wind direction can move them tens of kilometers a day – right into a drilling rig, pushing it off location. So a marine support fleet is just as critical a component as the mooring or dynamic positioning system in an offshore operation.

“It’s really all about handling the ice,” says Bill Scott, manager of the Arctic Center. “The ability to efficiently manage shifting ice conditions and safely extend the drilling season is such a critical factor in the Arctic.”

While it is frigid and ice-laden, the Arctic ecosystem also is fragile and interconnected. Strict environmental standards are enforced in all major Arctic nations, including rigorous relief well planning requirements. This requires drillers to start and finish wells within the short two- or three-month summer season.

As exploration prospects turn into producing developments, operators will need to prove their capabilities to safely drill year-round. Chevron’s Arctic Center is proactively looking at ways to reduce the possibility of spills or blowouts. Oil trapped under shifting ice can be difficult to contain.

One significant tool being tested is a proprietary Alternative Well Kill System that will prevent widespread spillage in the event of a blow out – see sidebar on next page.

Another important area of research is in developing specialist ships for drilling, ice breaking, supplying rigs or tankering product to distant refineries. Chevron is considering an innovative modular design concept that would cut construction costs and make vessel maintenance simpler in the Arctic, far from the dry docks where repairs usually occur.

Arctic challenges are many, and it’s not surprising that Roald Amundsen, one of the original Arctic explorers who searched for the North Pole, made this remark about persevering in the unforgiving terrain:

“Every day some new fact comes to light - some new obstacle which threatens the gravest obstruction. I suppose this is the reason which makes the game so well worth playing.”

His words might well be applied to today’s generation of polar explorers based at Chevron’s Arctic Center.

– End –



Building on Our Middle East Legacy

Strong and enduring partnership lies behind Chevron's success in extending its operating agreement in the Partitioned Neutral Zone.

Chevron and our legacy companies have an eight-decade-long tie to the countries of the Middle East. It's a connection that was dramatized by the earliest discoveries of Middle East oil that opened up the Persian Gulf as the world's center of production.

Last year, we continued to make history in the Middle East. Through an extension and amendment of our operating agreement with the Kingdom of Saudi Arabia, we are assured of making important new contributions. This agreement grants Chevron the right to continue developing the petroleum reserves of the onshore Partitioned Neutral Zone (PNZ) between Saudi Arabia and Kuwait for the next 30 years on behalf of the Saudi government, which holds a 50 percent undivided interest in the petroleum resources of the entire Zone.

"This contract extension continues our unique status as the only international energy company with upstream operations in the Kingdom of Saudi Arabia," said Ahmed Awwad Al-Omer, president of Saudi Arabian Chevron.

The company is working to make a quantum leap in its PNZ production. We are now commissioning a large-scale pilot as the next step in ambitious plans for applying steamflooding technology on a full-field basis to dramatically increase heavy oil production from the PNZ's Wafra Field (see video on page 5).

The discovery of oil at the Wafra Field was made in 1953 by a joint venture involving American Independent Oil Co. (Aminoil) and Chevron predecessor Getty Oil Co. More than half a century later, only a small portion of the field's vast potential reserves has been recovered. Through the use of steamflooding, we anticipate being able to extract additional billions of barrels of the field's heavy oil.

The success of steamflooding at Wafra also may significantly increase the value of other heavy oil fields throughout the Middle East. And the project already has had a direct payoff in enabling Saudi employees to gain additional skills through extensive training programs at our steamflood operations in California as well as on-the-job experience.

Chevron's roots in the Middle East date to 1928 when company predecessor Standard Oil Co. of California (Socal) acquired from Gulf Oil Corp. the right to explore on the Persian Gulf island of Bahrain. Within four years, Socal made a historic discovery of oil at Jebel Dukhan No. 1, known as "the hill of smoke."

Building on that Bahrain find, Socal was quick to begin negotiations to explore for oil in the vast deserts of Saudi Arabia. The eventual prize more than justified the patience and persuasion required by Socal's lead negotiator, a lawyer and land-lease expert named Lloyd Hamilton, during three and half months of discussions with the Saudi Arabian king and his minister of finance. By July 1933, Socal earned the right to explore some 828,796 square kilometers (320,000 sq mi) of desert. Some of the vast area of crystalline rocks, limestone hills and long, curving cliffs had been visited by Westerners only two or three times in all of its history.

Socal geologists "Bert" Miller and "Krug" Henry mounted camels and embarked on a survey that eventually led them to a promising area of limestone hills. They named it the Dammam Dome.

As the search for oil widened, Miller and Henry were joined by other colleagues, including Socal chief geologist Max Steineke. It was Steineke who made the decisive recommendation to drill deeper at Dammam No. 7 in 1938, after four years of frustrated hopes in the Dammam complex of wells.

At a total depth of 1,441 meters (4,727 ft), Dammam No. 7 encountered large quantities of oil. Before the well was 50 days old, it produced 100,000 barrels.

After playing a major role in the discovery of Dammam No. 7, Steineke pressed ahead, leading a geological team to a site 48 kilometers (30 mi) away. His efforts led to the 1940 discovery of the huge Abqaiq Field.

Both of these discoveries were made under the flag of the California Arabian Standard Oil Co. (Casoc), which Socal had

founded in 1933. Three years later, Casoc had become a joint venture of Socal and The Texas Co. (later Texaco). The company was renamed Arabian American Oil Co., or Aramco, in 1944.

The pioneering work of Steineke, Miller, Henry and their colleagues eventually led to the discovery of 32 oil fields, including Ghawar, the biggest in the world – 241 kilometers (150 mi) long by 40 kilometers (25 mi) wide and holding 60 billion barrels of oil – in 1948.

Three years later, Aramco discovered Safaniya No. 1, the world's largest offshore oil field.

Chevron and its predecessor companies have operated in the PNZ for nearly 60 years under an agreement originally signed by Getty Oil Co., then by Texaco when it acquired Getty in 1984. Chevron surpassed the 3 billion-barrel production landmark in the PNZ in 2004.

Starting in 1994, Chevron provided technology and reservoir management services at the Burgan Field, one of the world's largest. The Burgan Field was discovered by Chevron legacy company Gulf Oil Corp. in 1938. Under a second agreement, our technical, operations and managerial employees share their knowledge with employees of the Kuwait National Petroleum Corp.'s three refineries.

In 2000, Chevron's relationship with the Kingdom took on a new dimension with the launch of the first of three massive Chevron Phillips Chemical Co. basic chemicals joint ventures. These projects, financed with private sector Saudi partners, have been constructed at Jubail in Saudi Arabia.

"Chevron and predecessor companies have worked closely with Saudi Arabia for more than 75 years and have played a significant role in the development of its petroleum industry," said Chairman Dave O'Reilly at last September's announcement of the agreement extension.

"The benefits of the extension will be realized both within the region and globally."

– End –

Tracing the Roots of The Chevron Way

Chevron's core values – getting results the right way – originated from the earliest days of our predecessors.

The first edition of our guiding principles came out in 1996, but, long before that, Chevron and its legacy companies not only talked publicly about their responsibilities but put words into deeds.



Out of the Rubble

The earliest manifestations of a company that knew how to do the right thing emerged from the rubble of the 1906 San Francisco earthquake.

"We found ourselves staggering and reeling," remembered one eyewitness. "Then came the sickening swaying of the earth that threw us flat upon our faces. Big buildings were crumbling as one might crush a biscuit."

The earthquake still ranks among the world's worst natural disasters. More than 28,000 buildings were destroyed. Tens of thousands of residents were left homeless and hundreds lost their lives.



An Early Challenge

"The Standard Oil Company," reported the Oakland Tribune, was "the very first company to get money to this coast. And when the \$250,000 arrived, our people took heart of hope." (The money included funds personally authorized by Standard

founder John D. Rockefeller and donations raised at corporate headquarters in New York.)

In nearby San Pablo, Standard erected the 15-acre "Camp Rockefeller" for refugees.

Tools, sewing machines, cooking stoves and furniture helped parents provide for their children and men and women get back to work. "The Standard Oil Company," said the Tribune, "has placed hundreds of families on their feet."



Commitment to Communities

Such quick action established a pattern of ethical corporate behavior that survives to this day. Like roots of the same tree, our legacy companies, especially Gulf, Texaco and Unocal, have shown a commitment to their communities and to values that went beyond the day-to-day conduct of business.

In 1914, for example, Texaco became the only energy company to join the National Safety Council as a charter member, an early expression of our current Chevron Way pledge to protect people and the environment.

In 1915, a jury at the Panama-Pacific International Exposition awarded Chevron its Medal of Honor in recognition of "the company's business morals and practices."

Published in 1923, *Standard Oil Spirit* (inset) set progressive policies for employee pay, hours and benefits. Its author, Kenneth R. Kingsbury (pictured), Standard Oil president, wrote: "A satisfactory relationship between workers and employers is essential to the prosperity, welfare and happiness of the nation."



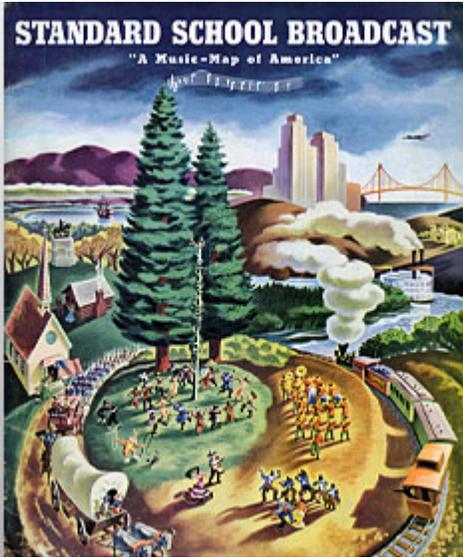
Ethics Equal Business Success

In a memorable 1927 speech entitled, "Character, the Foundation of Successful Business," John D. Rockefeller Jr. echoed the beliefs of his father, linking a company's ethical standards with its financial performance. Citing qualities such as integrity, loyalty and lawful conduct, he asked rhetorically, "Is there any one of them that can be ignored without hazarding continuing business success?"

Unocal, for one, posted its noble philosophy above the entrance to its Los Angeles, CA refinery. "Veritas, Omnia, Vincit", read

the cartouche – “Truth conquers all.”

By the 1930s, the scope of ethical corporate behavior had broadened to include community and cultural awareness. In employee publications, Chevron’s predecessor companies stressed the need to respect social customs and diversity of people in international operating areas, such as the Middle East.



A Cultural Influence

Texaco and Chevron also launched major efforts to elevate cultural awareness in the United States. The California firm aired its first Standard School Broadcast in 1928. Twelve years later, Texaco sponsored a live radio show from the Metropolitan Opera House in New York. Each week, the nation’s leading singers and orchestras could be heard in public schools and living rooms across America. Meanwhile, direct support for education increased, through scholarships, financial aid, and, later, through in-class lectures and tutoring by company employees.



Our Corporate Responsibilities

In a 1962 publication entitled *What We Believe*, Chevron for the first time offered an official definition of corporate citizenship. Besides contributions like assisting schools and paying taxes, “We try to earn public confidence by supporting and practicing positive conservation measures ... and sound community development,” the document said. Beneath the heading, “Governmental Affairs,” it included a special subsection on “Human rights.”

In 1977, Caltex – the Chevron-Texaco international marketing venture – proved such rights were not an abstract concept. The partnership became a charter signatory of the Sullivan Principles that opposed South African apartheid. Drafted by the Rev. Leon Sullivan (pictured between former Chairman Ken Derr and former U.N. Secretary General Kofi Annan), the principles demanded equal pay for equal work, an end to workplace segregation and increased racial diversity in management. They also sought better schools and health facilities for employees and their families.



Going 'Beyond Compliance'

For the next 20 years, social and quality of life issues would dominate the corporate conscious — and conscience.

In a 1987 speech, Chevron Chairman George Keller broke through years of conflict by calling on industry to “stop using the word ‘environmentalist’ as if it were spelled with four letters.” He urged that companies move “beyond compliance” and work to protect and improve the environment.

Chevron and its predecessor companies did just that. In 1989, defining our “Mission, Values and Objectives,” Chevron cited environmental concerns as a high priority. In 1990, Unocal put words to action, purchasing and scrapping thousands of older cars in a program to help clean up the air in Los Angeles, CA (former Unocal Chairman and CEO Dick Stegemeier is pictured with some of the scrap).



Doing Things The Right Way

During the same period, growing racial, ethnic and gender changes among employees drew increasing public and regulatory scrutiny. In 1991, Ken Derr, Keller’s successor, identified workplace diversity not merely as a business initiative, but as a “business imperative.” The next few years saw greater management accountability, action plans and metrics. New diversity councils pushed for flexible work schedules, improved selection processes and increased diversity training. In 1998, Chevron became the first major energy company to offer domestic partnership benefits.

Corporate ethics were being swept by a new concept that sought to engage a larger community of stakeholders with a legitimate interest in company activities. Financial assistance shifted from philanthropy to “investment.” Increasingly, monitoring and reporting performance in areas of social and environmental concern became a corporate responsibility.

Since 1967, Chevron has produced oil from Barrow Island, Australia, without detriment to native species such as these wallaroos, an endangered marsupial species.



It's Called The Chevron Way

In 1996, Chevron Corporation issued The Chevron Way, linking the company's vision, values and strategies. Revised in 2001 at the time of the Chevron Texaco merger, The Chevron Way was reissued in 2005 to reflect the company's new identity and to incorporate new values of ingenuity and high performance.

Today it is published in 14 languages. It tells the world what we do, what we believe and what we plan to accomplish. It reflects our expectations about how our people will perform in the workplace and in their communities. It expresses our intention to achieve world-class levels of safety, efficiency, environmental awareness, ingenuity and integrity.

"The Chevron Way is all about our vision, it's about people, partnership and performance. It's also about our values," said Chairman Dave O'Reilly at his recent Global Employee Teleconference. "At its core, it's about results, but it's about getting those results the right way."