

RUWAIS: A STORY OF SUCCESS

A MODERN INDUSTRIAL TOWN
REPLACES ACRES OF ARID SAND DUNES

RUWAIS INDUSTRIAL ZONE

The wise policy of His Highness President Sheikh Zayed Bin Sultan Al Nahyan and the guidance and support of H.H. Sheikh Khalifa Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, were behind ADNOC's construction of a great Industrial Complex at Ruwais.

Today, Ruwais stands as one of Abu Dhabi's main industrial landmarks, a vital edifice heralding the completion of yet another phase in the Emirate's ambitious and extensive industrial development program.

In fact, due to its fast pace of growth and continuous development, the Ruwais Industrial Zone, as it is popularly referred to, became one of the most important industrial areas in the Gulf region. Located some 235 kilometers to the west of Abu Dhabi City, the Ruwais In-

dustrial Zone is host to many of the oil and gas processing facilities and lies within comfortable reach of the onshore oil

fields. The Gulf waters, being relatively deep, allow tankers easy access to the industrial installations.

The zone includes a Refinery, a Urea/Ammonia Fertilizers Plant, an onshore Gas Plant and NGL Fractionation facilities.

INFRASTRUCTURE

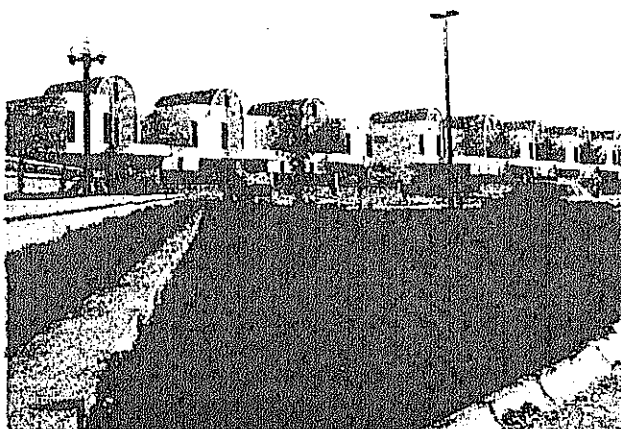
To support the ambitious industrial fortresses envisaged at Ruwais, an equally ambitious and comprehen-

sive infrastructure base has been conceived and implemented.

Infrastructure facilities at Ruwais include a port, road and sewerage networks, power station, desalination plant, water pipelines, administration buildings, workshops and camps, huge storage and maintenance facilities, a fully equipped modern hospital, helipad, mosques, fire station, a telecommunications center and a Housing Complex provided with all means of comfort.

In addition, Ruwais Industrial Zone also has three bulk cargo marine terminals for the Refinery, the Onshore Gas Plant and the Fertilizers Plant.

An existing air strip at Jebel Dhanna has been upgraded, and, augmented with a terminal building and other services, was transformed into a category "B" airport serving the Ruwais/Jebel Dhanna area.





RUWAIS HOUSING COMPLEX

From the initial stages of planning the Ruwais Industrial Zone, the construction of a housing complex was envisaged to house the people who were going to operate the industrial facilities and their families. At a distance of 250 kilometers west of Abu Dhabi City on the Abu Dhabi - Qatar highway, the Ruwais Housing Complex is situated on a 6 km² plateau, 11 meters above sea level.

Set up halfway between the Ruwais Industrial Zone and Jebel Dhanna, the site of the Housing Complex was carefully chosen to be away from industrial pollution.

The location of the Ruwais Housing Complex in a remote area entailed the need for all necessary services and ancillaries to be made available to meet the various requirements of its inhabitants and render the complex a modern integrated town.

To attain this objective, ADNOC undertook the construction of several projects aimed at providing general services, ancillaries and utilities.

Complemented by other

facilities including commercial centers, banks and supermarkets, the Ruwais Housing Complex comprises some 1358 housing units and administration buildings as well as an educational system including a kindergarten, primary, preparatory and secondary schools, police station, post office, fire brigade, filling stations, mosques, a market place, a TV station and other utilities.

Its two recreation centers comprise air-conditioned gymnasiums, theatres, bowling halls for indoor games and other sports facilities as well as restaurants. There is also a private beach club for the benefit of the complex residents.

As part of ADNOC's efforts to increase the greenery in the complex, the Company planted more than 42 hectares with different types of trees and plants in addition to 140 hectares which form a green belt around the Complex including more than 22500 trees. There is also a plants nursery for supplying the Complex with plants around the year.

TWO DECADES OF SPECTACULAR ACCOMPLISHMENTS

One of the world's leading oil companies, Abu Dhabi National Oil Company (ADNOC) has played a major role in the oil industry sector on all levels.

An embodiment of the aspirations of the Ruler, Government and people of Abu Dhabi, the achievements realised by ADNOC speak for themselves.

The following is a brief chronological account of ADNOC's main accomplishments over the past twenty years.

November 1971: Formation of ADNOC

January 1973 : ADNOC acquired 25 per cent stake in ADMA and ADPC

January 1974 : ADNOC increased its shareholdings in ADMA and ADPC to 60 per cent.

April 1976 : The Emirate's first refinery was commissioned at Umm Al Nar (capacity : 15,000 BPD).

April 1977 : The first cargo of LNG from Das Island was shipped to Tokyo Electric Power Company.

July 1977 : Incorporation of ADMA-OPCO as a National Company to succeed ADMA Limited.

November 1977 : Formation of ZADCO for the development of Upper Zakum reservoirs.

October 1978 : Formation of UDECO for the development of Umm Al Dalkh field.

October 1978 : Incorporation of ADCO as a National Company to succeed ADPC.

April 1980 : ADNOC was awarded its first sole-risk concessions, three offshore blocks and two onshore blocks.

February 1981 : ADNOC drilled its first sole-risk exploration well.

June 1981 : The 120,000 BPD refinery at Ruwais was commissioned.

September 1981 : Official start up of GASCO NGL fractionation plant at Ruwais.

March 1982 : Ruwais Industrial Projects inaugurated.

August 1983 : Umm Al Nar refinery expansion to 60,000 barrels a day started.

November 1983 : ADNOC started its first Khuff gas well. The Khuff Exploration programme resulted in the discovery of gas and condensate in many fields.

February 1984 : ADNOC's first offshore oil discovery in IC structure, followed by the discovery of IB and Bu Dana in the same year.

April 1984 : Bab Thamama 'C' Gas Project was commissioned.

April 1988 : Amalgamation of UDECO operations under ZADCO

June 1988 : The Abu Dhabi Supreme Petroleum Council was established by Emiri Decree as the ultimate authority on all matters relating to oil and gas in the Emirate.

June 1990 : ADGAS Expansion Project approved. The project entails doubling the capacity of the LNG facility on Das Island and the development of offshore gas field.

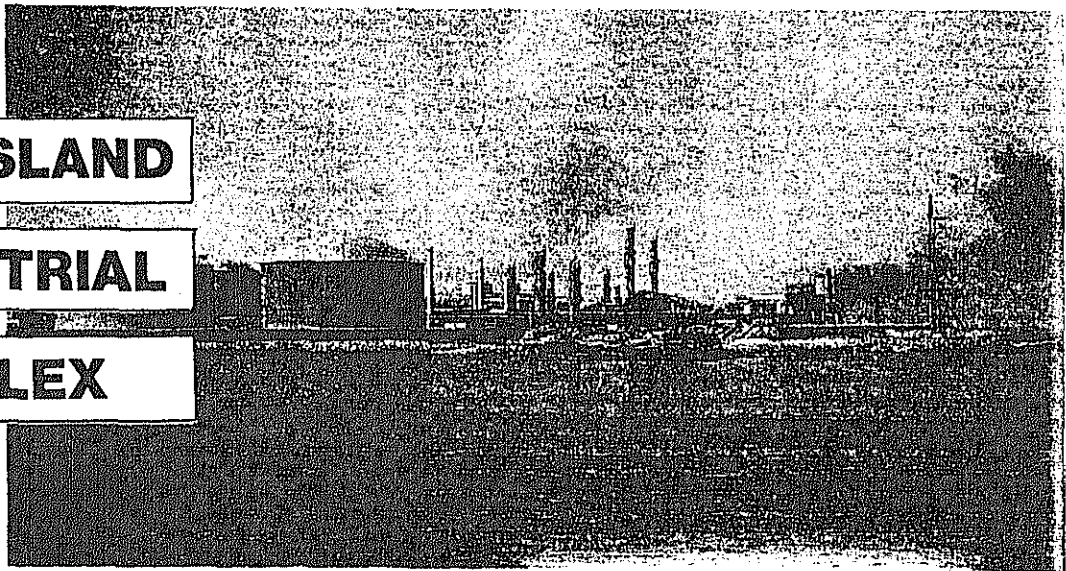
June 1990 : Bab onshore gas development project approved. It called for the development of the huge Thamama 'C' and Tahmama 'F' gas reservoirs in Bab field.

February 1991 : ADNOC's first onshore oil discovery in the Halba Structure.

DAS ISLAND

INDUSTRIAL

COMPLEX



Another ADNOC landmark, the industrial complex at Das Island became the focus of world attention on more than one occasion.

It was a momentous event in the history of Abu Dhabi when the country's first shipment of offshore crude oil from Umm Shaif Field operated by ADMA-OPCO was exported from the Island in July, 1962. In 1977 April, Das once again attracted world attention when a liquefied gas carrier lifted the first LNG cargo from ADGAS' plant on the Island.

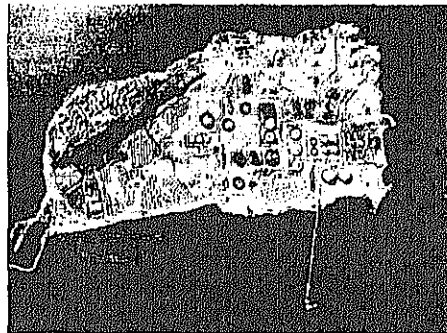
Once a desolate, uninhabited terrain, hardly a square mile in total area located nearly 100 miles northwest of Abu Dhabi, DAS ISLAND today comprises one of the giant landmarks in the Emirate's hydrocarbons industrial sector.

The Island is congested with oil and gas installations - process plant, pipelines, storage tanks, workshops and deep sea loading berths including a single buoy mooring (SBM) which can handle tankers of up to 410,000 dwt.

Das Island is also home to the Gas Liquefaction Plant (LNG) owned and operated by Abu Dhabi Gas Liquefaction Company (ADGAS).

Like other industrial centers in the Emirate, Das has kept pace with modern trends. To-

day, it is a self-supporting industrial complex with modern living quarters complete with messing and club facilities such as cinemas and swimming pools in addition to many other basic services and health care facilities including a modern hospital.



MAINTAINING A CLEAN ENVIRONMENT

A Firm Commitment

Preserving the environment has always been one of ADNOC's keen concerns.

ADNOC and its Group of Companies assume a leading role in addressing local, national and regional environment issues and promoting environmental awareness.

In line with the Company's firm commitment to this noble goal, ADNOC has established a Marine Pollution Control Center at Ruwais to ensure quick response to any accidental oil spillage.

The Center is equipped with all necessary facilities, inclusive of an advanced computer model which enables prediction of oil spill trajectory.

Furthermore, ADNOC also participates in regional orga-

nisations concerned with the protection of the Gulf environment.

In recent years, the Company has also given greater attention to air pollution. Flaring of associated gas, a main source of pollution, has been minimised after the commissioning of ADGAS offshore and GASCO onshore gas projects. Besides preventing the wastage of a valuable resource, such projects have helped in maintaining cleaner air. ADNOC is also removing sulphur from gas in order to reduce pollution.

Recently, as part of its overall program of environmental protection, ADNOC has expanded its Environmental and Occupational Health Depart-

ment, which was originally set up to help protect the health of the Company's employees, to encompass environmental protection.

The Department provides a focal point for all matters relating to the environment and the direct and indirect effects of the oil industry upon it. As such, the Department liaises with all Group Companies, Ministries, municipalities and other governmental departments concerned as well as United Nations specialised bodies, the World Health Organisation (WHO) and other international agencies, consolidating and disseminating information and participating in the necessary protocols involved.

HUMAN RESOURCES DEVELOPMENT AND WELFARE

ADNOC IN THE SERVICE OF THE COMMUNITY

Personnel: ADNOC "Cares"

ADNOC's major human resources objective is to attract, retain, train and motivate suitably qualified employees. This is accomplished through the provision of sound professional advice, efficient rendering of services to employees, formulation, review and issue of personnel policies and guidelines coupled by the proper implementation of such policies and procedures in a multi-national environment.

In keeping with its broader corporate responsibility, ADNOC provides adequate training for its staff and liaises and coordinates with the ADNOC Group of Companies for the attainment of this objective in the most harmonious and effective manner.

Continuous training of employees to maintain high efficiency has become standard procedure at ADNOC. An average of 800 employees participate annually in technical and professional training programs.

Training programs are designed to prepare trainees to perform the jobs to which they will be assigned and to develop skills and abilities of established employees (on-the-job training) in order to improve their performance in their current jobs. The programs are also designed to accommodate changes in technology and improvement in equipment or methods.

Employee Welfare

The welfare of each employee constitutes one of ADNOC's keen interests. The Company's compensation programs are

carefully formulated and balanced. ADNOC has also established and maintained certain benefit plans and programs, in addition to normal compensation, to meet the reasonable needs of employees and to comply with statutory requirements. Furthermore, the Company also grants various allowances to assist its staff. Such allowances are separate and apart from the monthly basic salary.

Several recreational and cultural facilities including clubs, a central library, an audio-visual center and a video library as well as an elaborate Company-sponsored sports program are incorporated in the

Company's benefits plan. Suitable accommodation and maintenance services as well as medical care and other benefits and services are provided in line with ADNOC's firm commitment towards further enhancing employee welfare and comfort.

ADNOC has a central clinic at its headquarters premises as well as three satellite clinics at Umm Al Nar industrial area. A staff of 51 makes up the Company's Abu Dhabi Medical Service which includes an occupational health unit catering for industrial disease and injury.

The Company's Remote Areas Medical Services consist of a sophisticated operation which runs a 30-bed hospital in Ruwais capable of carrying out all routine surgery as well as clinics in the industrial areas at Habshan, Jebel Dhanna, Bu Hasa, Asab, Bab and Medinat Zayed. ADNOC's Ruwais Hospital also carries out full materni-

ty and emergency services for all patients brought in for attention.

The Housing Complex at Ruwais consists of 1358 housing units, mostly villas, ADNOC had constructed since it started the project in 1979. Today, the Complex comprises a fully comprehensive community with recreational facilities and all amenities.

Currently, ADNOC is undertaking a project which would add three new schools to the Complex.

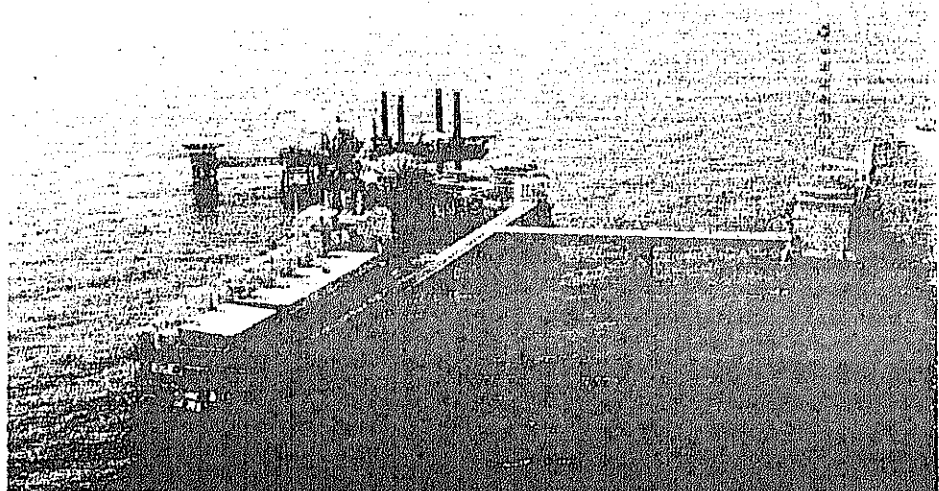
Preparing UAE

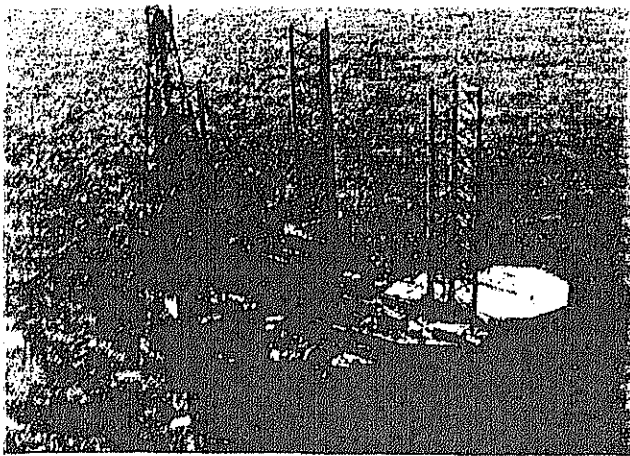
Nationals:

A Firm Commitment

One of ADNOC's prime objectives in the area of personnel development is to increase the employment of UAE nationals at all levels.

To attain such objective, the Company focuses on the training and development of young nationals at home and abroad.





ADNOC's efforts in developing a national cadre are reflected in the current status of UAE nationals forming 25% of the Company's workforce.

Career Development Center (CDC)

Another ADNOC milestone in the training and development of UAE nationals is the establishment, in 1978, of the Company's Career Development Center (CDC), currently considered one of the leading vocational institutes in the region.

The CDC provides eligible UAE nationals with full-time training programs in order to take up employment within the ADNOC Group of Companies.

This year, the CDC is training a record 240 UAE nationals.

The range of vocational training made available by the CDC is designed to satisfy the basic needs of the Group in its requirements for operators, maintenance technicians, other vocational needs and administrative assistants.

Located at Umm Al Nar in Abu Dhabi, the CDC is equipped with the latest facilities and equipment

modern technology could provide.

Furthermore, in line with ADNOC's policy, equipment and teaching methods are constantly upgraded at the Center. The 1990-91 training year, for example, witnessed an expenditure of \$1.4 million on new or upgraded equipment including a \$800,000 computer-generated control panel simulator.

SUCCESS IN SAFETY MANAGEMENT

Achieving An Accident-free Operations Record

The issues of industrial and non-industrial safety constitute another area on which ADNOC focusses with great care and attention.

Such safety concerns lie at the core of ADNOC's standard operating procedures and the Company boasts a high standard safety record at its various installations.

The refineries at Ruwais and Umm Al Nar and the gas sweetening plant at Habshan, for example, all won the British Safety Council Health and Safety Management Five-Star Awards in 1989-90.

A program of International Safety Rating System is currently being implemented to further improve the safety of plant workforce and promote a healthy work environment.

During the past three-year period, Ruwais Refinery achieved 4.4 million working hours without any accidents while each of Umm Al Nar Refinery and the gas sweetening plant at Habshan achieved a total of 1.8 million accident-free working hours during the same period.

On the non-industrial, it is worth mentioning that as far as all its premises are concerned, ADNOC has an effective and integrated approach for loss prevention management with safety awareness being achieved at all levels.

The Company's safety program at office and owned residential premises has received recognition from the Civil Defence Authority.

ADNOC's ZAKUM FIELD A World Giant

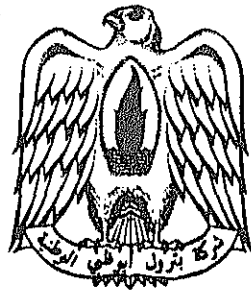


Zakum field, discovered in Abu Dhabi in 1963, is the 4th largest offshore field in the world based on its oil-in-place.

It is also considered the second largest offshore field in the Gulf.

*Abu Dhabi National
Oil Company*

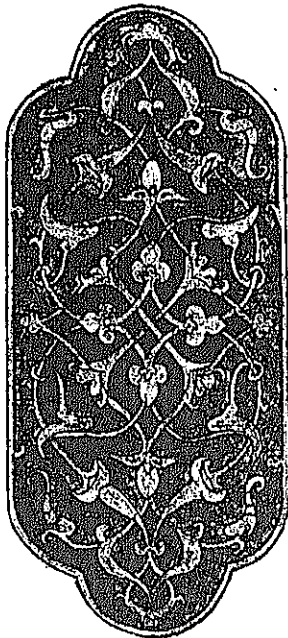
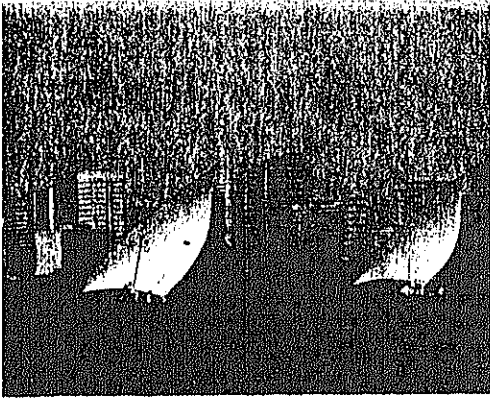
ADNOC



1971-1991

20 Years of Progress

INTRODUCTION



The Abu Dhabi National Oil Company — ADNOC — came into being in November 1971, although it did not start operations until early the following year. At the outset, the company had seven employees and was charged with implementing Government policy on exploitation of the country's hydrocarbon reserves in a way that best serves the interests of the country. The company assumed responsibility for ensuring orderly exploration throughout the whole of the Emirate's territory, both onshore and offshore; maintaining productive capacity in producing fields by implementing the highest standards of reservoir engineering and maintenance; and developing the more difficult structures which had been identified.

By 1971, Abu Dhabi was already a significant oil producing country, with production averaging about 908,000 barrels a day, equivalent to 1.8 per cent of world production, for the year. In November 1971, production averaged just over 970,000 barrels a day and that was in less than 14 years after the first commercial oil discovery in the country, at the offshore Umm Shaif field. That month, the posted price of Umm Shaif crude, f.o.b. Das Island, was US\$2.331 per barrel. The posted price of Murban was US\$2.341 per barrel. Onshore production was controlled by British Petroleum (BP), Shell, Compagnie Francaise des Petroles (Total-CFP), Mobil, Esso and Partex through Abu Dhabi Petroleum Company (ADPC). Offshore production was controlled by BP and Total-CFP, through Abu Dhabi Marine Areas Limited (ADMA). In 1971, the Emirate had no direct stake in the exploitation of its hydrocarbon reserves. ADNOC set about changing that situation.

The company started its move into oil exploration and production. In 1972 it set up National Drilling Company (NDC), as a joint venture, to handle drilling operations in the Emirate. NDC became a wholly-owned subsidiary of ADNOC in 1978. Also in 1972, Japan Oil Development Company (JODCO) acquired 45 per cent of BP's shares in ADMA. In 1973, ADNOC established four joint

ventures covering diversified activities in the petroleum industry in Abu Dhabi Emirate and abroad, namely National Petroleum Construction Company (NPCC), Abu Dhabi Gas Liquefaction Company (ADGAS), Abu Dhabi National Oil Company for Distribution (ADNOC-FOD) and Pak-Arab Fertilizer Company (PAFCO) in Pakistan. In the same year, and after little more than a year of preparatory work, ADNOC took a quantum step forward by acquiring 25 per cent stakes in ADPC, the onshore concession holder, and ADMA, the offshore concession holder. However, within a year, ADNOC increased its holdings in those companies to 60 per cent. Abu Dhabi encouraged the original shareholders in ADPC and ADMA to continue their participation within joint-venture structures. All of the early joint-venture partners have continued their participation and JODCO has added significantly to its joint-venture participations with ADNOC.

The Upper Zakum field was part of the offshore concession transferred to ADMA in 1955 and in which the Zakum field was discovered in 1963. Zakum ranks among the 10 largest offshore oilfields in the world. In 1977, ADNOC exercised its rights under the Participation Agreement to develop Upper Zakum, a tight, complex structure. BP and Total-CFP declined to participate, so it was left to ADNOC and JODCO (12 per cent interest) to carry on. The Zakum Development Company (ZADCO) was incorporated in 1977 and the development programme was launched. It included an oil loading terminal on Zirku Island, more than 50 kilometres from the field. By the end of 1982, ZADCO had started production from Upper Zakum reservoirs.

In October 1978, Umm Al Dalkh Development Company (UDECO) was established. UDECO was entrusted with the development of the Umm Al Dalkh offshore field, which is jointly owned by ADNOC (88 per cent) and JODCO (12 per cent). In July 1980, ADNOC and JODCO agreed to develop the Satah offshore field jointly on the basis of 60 per cent:40 per cent

undivided interests respectively. UDECO took responsibility for the development of Satrah.

In mid-1985, Umm Al Dalkh field came on stream and two years later the Satrah field came on stream. Output from both Umm Al Dalkh and Satrah fields is piped to the Zirku Terminal for final processing, storage and shipping.

The Abu Dhabi Marine Operating Company (ADMA-OPCO) was set up in 1977 to operate ADMA's offshore concessions. In the following year, Abu Dhabi Company for Onshore Operations (ADCO) was established to operate ADPC's onshore concessions. In 1988, the activities of UDECO were amalgamated with ZADCO in order to optimise operations control and maximise cost reductions. This restructuring and streamlining of ADNOC's exploration and production joint ventures was in line with its brief to manage the Emirate's hydrocarbon reserves efficiently.

A major component of efficient management was utilisation of large volumes of associated gas. All gas resources are owned by the Emirate and associated gas was being wasted through flaring instead of being a significant source of revenue for the government. ADNOC, in consultation with its partners, decided that liquefaction, and export, of offshore gas was the only profitable and environmentally acceptable option. The Abu Dhabi Gas Liquefaction Company (ADGAS) was set up to liquefy associated gas recovered from ADMA-OPCO's concessions, supplemented by supplies from the Uweinat gas cap. Production at the Das Island LNG plant began in 1977 and the first cargo of LNG was loaded in April of that year.

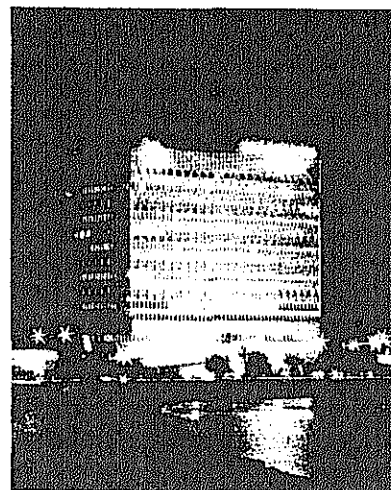
Abu Dhabi Gas Industries (GASCO) was established in December 1978 to handle onshore associated gas, with NGL extraction plants at the Bu Hasa, Bab and Asab oilfields. The gas processing plants came on stream in 1981.

In the meantime, the downstream sector of the industry was being developed. In 1976, the first oil refinery in the UAE, a 15,000 barrels

per day unit, was commissioned at Umm Al Nar. Three years later a 280 million cubic feet per day Thamama 'F' gas sweetening plant and distribution pipeline network was commissioned and in June 1981 the 120,000 barrels per day refinery at Ruwais was commissioned, followed by the GASCO Ruwais NGL fractionation plant in September of the same year. Ruwais Fertilizer Industries Limited (FERTIL), a joint venture between ADNOC and Total-CFP, began trial production in 1983 and full production of urea and ammonia in 1984 using onshore lean gas. In 1984, the Thamama 'C' gas plant of 450 million cubic feet per day capacity was commissioned. Expansion of the downstream sector continues unabated.

A significant milestone was reached

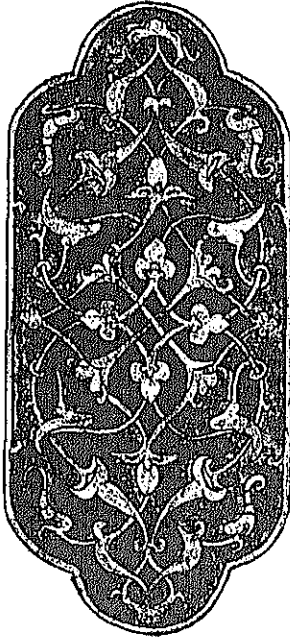
INTRODUCTION



in ADNOC's development when, in 1980, it was awarded two onshore and three offshore concessions to explore at its own risk. ADNOC, while accepting that Abu Dhabi already had a significant number of large discoveries, was confident that the application of the latest seismic techniques for exploration would reveal new hydrocarbon accumulations. That confidence was rewarded with three new offshore discoveries in the IC, IB and Bu Dana structures and an onshore discovery in the Haliba structure.

ADNOC has come a long way in the last 20 years. Today it manages and oversees oil production of about 2 million barrels a day, which currently ranks it in the top 10 oil producers in the world. And it has the capacity to go higher while maintaining the highest standards of reservoir management. LNG capacity is being doubled and an onshore gas development project is well under way. ADNOC has emerged as a skilled and efficient integrated oil company well able to use opportunities and meet the challenges ahead.

STRUCTURE



The Abu Dhabi National Oil Company was established by the Government of Abu Dhabi on 27th November 1971 to be responsible for, in terms of Law Number 7; exploration for, and production of, oil and natural gas; refining and transportation of products; and marketing.

On 5th June 1988 the Abu Dhabi Supreme Petroleum Council was established by Amiri Decree, under the Chairmanship of His Highness Sheikh Khalifa bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, as the ultimate authority on all matters relating to the oil and gas sector in the Emirate. The SPC effectively assumed the authority and responsibilities of the Department of Petroleum and the Board of Directors of ADNOC. The current Secretary General of the Council, His Excellency Sohail Faris Al Mazrui, is also General Manager of ADNOC.

The Council is responsible for formulating oil and gas policy and overseeing the operations of Abu Dhabi's oil and gas and related industries. Implementation of policy, effective and efficient management of the industry and ensuring that the highest standards achieved by its peers in the global industry are adhered to is ADNOC's responsibility.

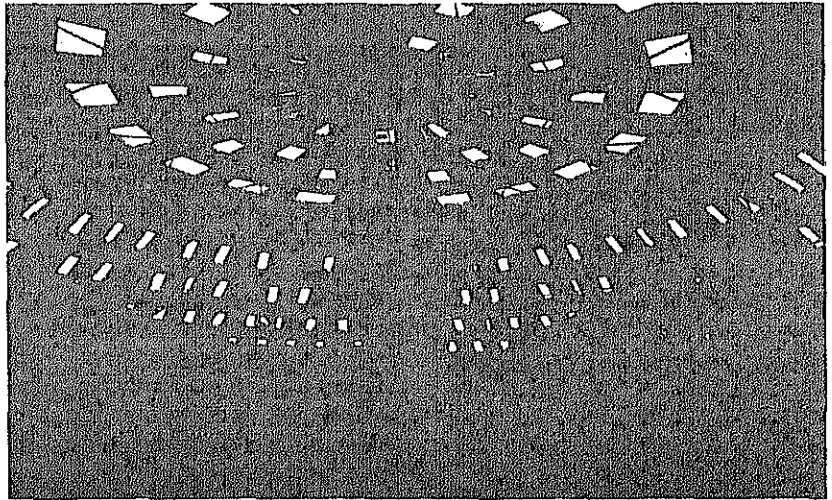
ADNOC is structured into nine directorates, which are organised by operating function.

The Exploration and Production Directorate is responsible for all E&P activities in the concessions operated by the three joint-venture companies

— ADCO, ADMA-OPCO, ZADCO — and in ADNOC's sole-risk concessions. The Directorate's brief is to ensure that the Emirate's territory, both onshore and offshore, is fully surveyed and explored and that maximum production, consistent with the application of the best field management practices, is achieved. In addition, the Directorate co-ordinates the activities of four joint-venture oilfield support services companies, as well as the wholly-owned National Drilling Company.

The Processing Directorate has responsibility for ADNOC's refining and gas processing operations, as well as a 575-kilometre gas distribution pipeline network, all of which are wholly owned and managed by ADNOC. The Directorate manages the only two refineries in the UAE. The Umm Al Nar refinery was established to meet the growing needs of Abu Dhabi. Replacement of that refinery by a larger one, the addition of a refinery at Ruwais and various upgrades means that ADNOC now meets the whole UAE's need for refined products and has a substantial surplus available for export.

Marketing Directorate is responsible for worldwide marketing of crude oil from ADNOC's equity shares in the three joint-venture production companies and for sales of refined products, both in the UAE and abroad. The Directorate also handles sales of natural gas liquids from ADNOC's equity share in GASCO, which handles associated gas from



onshore oil production, along with other non-associated gas streams.

The most recently formed Directorate is Planning and Co-ordination, which took over corporate planning and organisation development responsibilities, in addition to legal services and group co-ordination divisions. The latter division is responsible for co-ordinating and monitoring the operations of three joint ventures in Abu Dhabi — GASCO, ADGAS and Ruwais Fertilizer Industries (FERTIL) — and three foreign affiliates — Pak-Arab Fertilizer Company and Pak-Arab Refinery Company in Pakistan and Arab Petroleum Pipelines Company in Egypt.

The Projects Directorate's role is to implement capital projects for ADNOC and sometimes for ADNOC Affiliates.

Currently, more than 12 projects are being implemented. These include ADGAS's third LNG Train Project at Das Island, ADNOC's Onshore Gas Development Project at Habshan, ABK Gas Development Projects, Umm Al Nar Refinery Expansion, Process Automation and Advance Control Project for ADNOC Plants and other miscellaneous projects.

The Administration Directorate has a diverse range of responsibilities, including the provision of hospital and medical services at group facilities throughout the Emirate. Within the medical services group is an expanding environmental and occupational health department which is establishing sophisticated monitoring systems throughout the group, but, particularly, where there is a risk of air or water pollution. The Directorate is also responsible for administering the township of Ruwais, which was established in support of the refinery and the other industries it attracted.

The Finance Directorate has three main divisions — finance controller, treasury and financial systems and procedures. The finance controller function is to manage budgeting, accounting, financial reporting analysis and control. The primary purpose of the treasury is to manage risks and safeguard financial assets.

The third division plans, co-ordinates and promotes the development of coherent financial and accounting policies, procedures and systems. The Directorate also represents ADNOC

STRUCTURE



on the Finance and Board Advisory Committees of key group companies.

The Data Processing Services Directorate operates one of the most powerful computer systems in the Middle East, on which it performs tasks ranging from a straightforward payroll run to highly complex reservoir simulations. ADNOC has gained a worldwide reputation for the sophistication of the latter application.

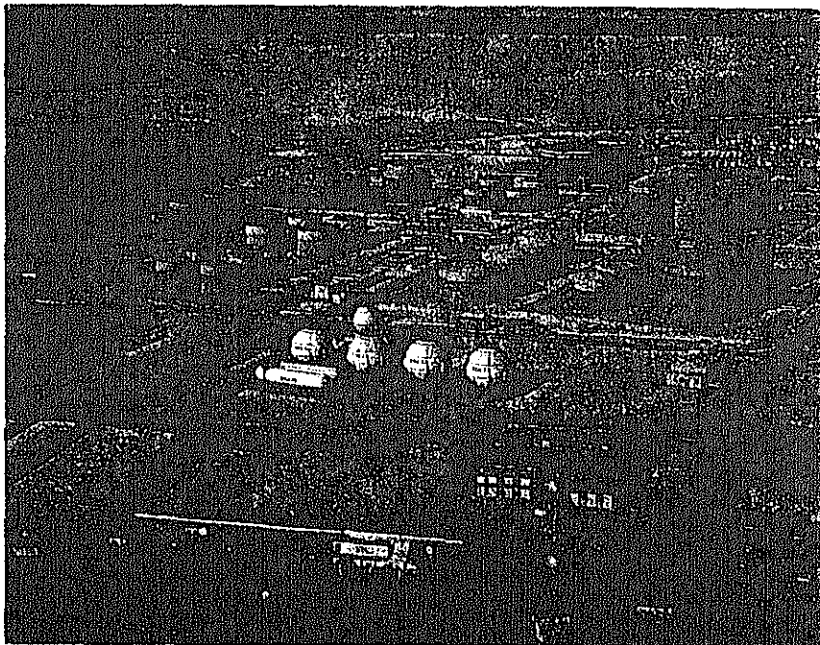
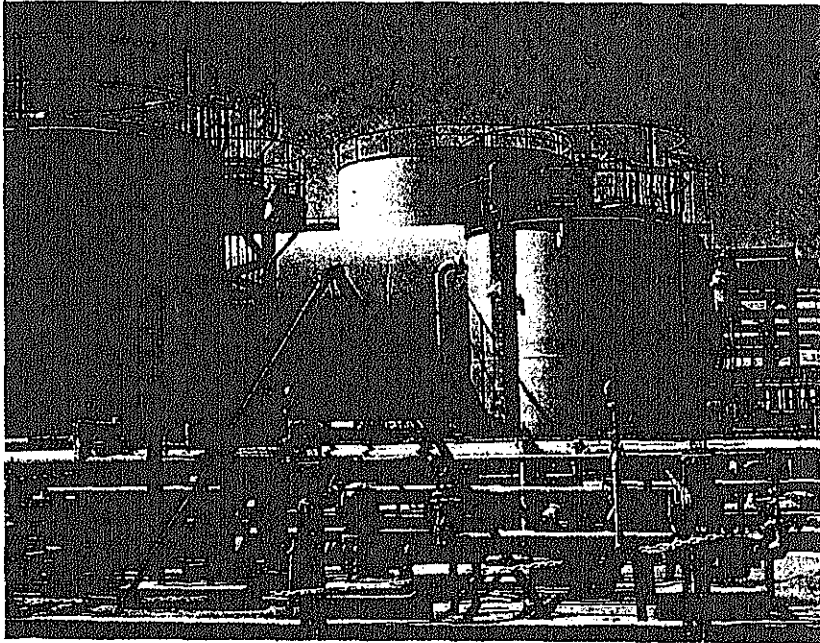
The Personnel Directorate, as well as being involved in the normal range of human resources activities, such as recruitment, training and compensation, has become deeply involved in education, particularly the education of employees and National high school graduates at appropriate universities around the world. The Directorate also runs sophisticated technical training programmes.



INTERVIEW

Abu Dhabi National Oil Company (ADNOC) has been in existence for 20 years. During this period ADNOC has gained a reputation as an efficient, progressive and technically-competent company.

Here, the company's general manager, His Excellency Sohail Faris Al Mazrui, reflects on how that reputation was built and deliberates on ADNOC's key success factors.



Q: ADNOC has only been in existence for 20 years, yet it has become one of the world's leading national oil companies. How have you achieved that success?

A: We have achieved our present position by adhering to the wise guidance of His Highness Sheikh Zayed bin Sultan Al Nahyan, President of the United Arab Emirates and Ruler of Abu Dhabi, who signed the decree to establish ADNOC on 27th November, 1971.

At the same time, His Highness Sheikh Khalifa bin Zayed Al Nahyan, the Crown Prince and Chairman of the Supreme Petroleum Council, has been skilfully setting ADNOC strategies and policies in order to achieve the highest business standards. We resourced ADNOC with a core of highly qualified National staff, supported by skilled staff from various nationalities. We formed joint ventures with selected partners in the upstream, downstream and services sectors of the oil industry and maintained steady, good relations with those partners. We worked hard to establish a good name in the hydrocarbon markets and to create a large base of committed clients. We also managed to create and maintain good business relations with a select group of highly reputable local and international contractors and suppliers who successfully supported our projects and operations. Furthermore, we followed an active business development strategy which resulted in timely commitment and implementation of our major projects.

Q: Your clients find you a good company to do business with. How have you managed to acquire this loyal customer base?

A: One of the most important things for buyers of crude oil, gas and refined products is reliability and security of supply. Throughout our history we have proved to be a reliable and secure supplier.

Also, the quality of our crude oil, gas and products is considered to be among the best.

Furthermore, we are known to conduct our business in a fair,

systematic and professional manner. We are using one pricing system, which is clear and known by all our clients. It is the same for everyone.

All the above good business practices helped us build up loyalty among our customers.

Q: The majority of your customers sign one-year term contracts, which are normally rolled over. Do contracts get cancelled?

A: We have been doing business with most of our customers for a very long time. We only deal with well established clients and they see us as a reliable supplier that they like to continue with.

Of course, in a business that is as cyclical as the oil business there are bound to be some short-term difficulties associated with demand fluctuations. When there is a glut of oil in the market some clients may not want all the oil they have contracted for. On the other hand, when there is a surge in demand, some customers may want more than we can supply. By being flexible, these problems are usually overcome. We have never faced any difficulties in placing our oil in the marketplace.

Q: How do you determine the price of your hydrocarbons?

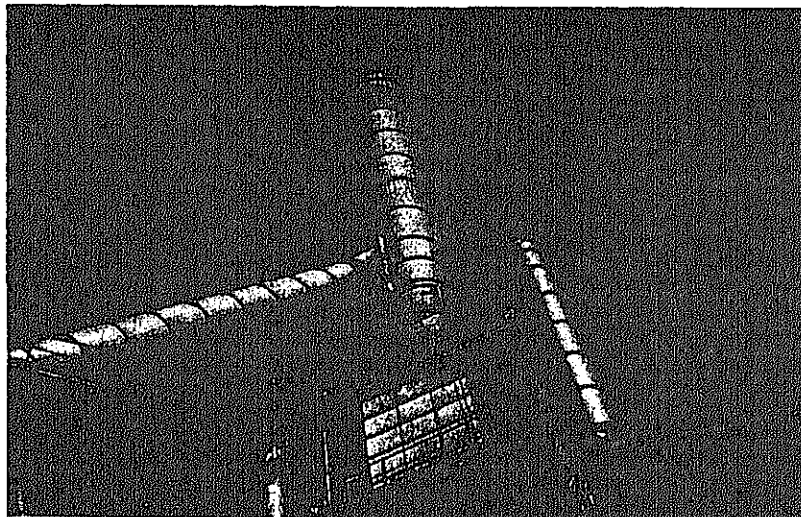
A: We do not pre-determine the price. We follow the market trends and ensure that our prices are fair for ourselves and our clients. Our pricing system efficiently responds to changes in the marketplace.

Q: Your suppliers also find you a good company to do business with. How have you achieved such good relations with them?

A: All parties dealing with us as contractors to ADNOC, whether they are suppliers of equipment, goods and services or they carry out construction work locally, find that we are fair in our dealings with them. Everyone has an equal chance. We use the same yardstick to evaluate their performance. Local companies are encouraged and foreign companies are given a fair chance to compete for work here. Most of all, of course, we respect our contracts and commitments.

Q: Most of the upstream and downstream operations in Abu Dhabi are in the form of joint ventures with foreign companies. How and why did that system evolve?

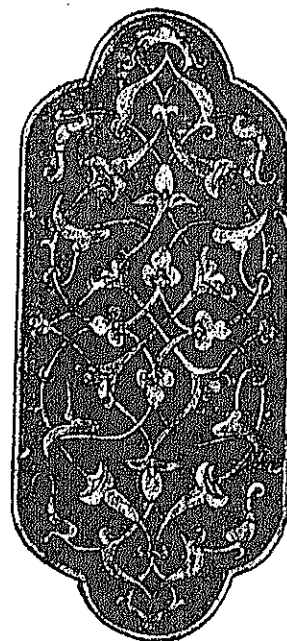
INTERVIEW



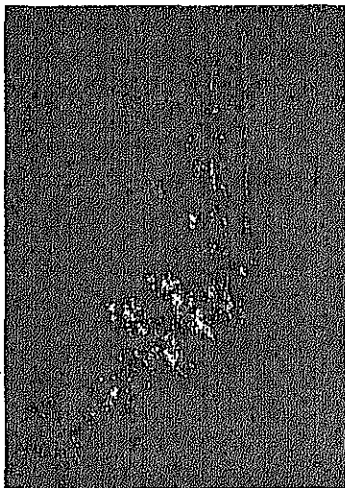
A: The system of joint ventures has an historical base. Foreign companies had been involved in exploration in the area since the late 1930s — long before ADNOC was formed — and started making discoveries in the late 1950s. With the formation of ADNOC 20 years ago the government decided that our involvement in the industry would be in the form of joint ventures with the two groups of foreign companies which were then operating onshore and offshore Abu Dhabi. We started with a 25 per cent holding in 1973 which was subsequently raised to 60 per cent in 1974.

The two joint ventures were rewarding to both ADNOC and the foreign partners. The government, through the national oil company, had sovereignty over the country's natural resources. ADNOC benefited from the technology, experience and expertise of the international oil companies participating in the joint ventures. They were also willing investors in the expansion of the oil business. The success of these ventures led to the establishment of more joint ventures with new partners.

The new ventures covered upstream and downstream activities in addition to various specialised service companies.



INTERVIEW



Q: What are your joint ventures in the downstream area?

A: Joint ventures in the downstream sector are mainly for gas processing. Offshore, ADGAS was formed to build a gas liquefaction plant on Das Island to process and utilise offshore associated gases. GASCO was set up to process onshore associated gas. FERTIL was established in Ruwais to produce ammonia and urea from natural gas.

Q: Will you continue with your policy of operating through joint ventures, where foreign partners usually have an equity share in exploration and production and some downstream operations?

A: As you know, several major oil producing countries elected either to nationalise their oil industries or buy their partners' shares. Of course each country does what it feels is in its best interests under the prevailing circumstances.

At the end of the day, whichever form of co-operation is chosen, what matters is the extent to which the host government benefits. The foreign partner should be allowed to earn a reasonable profit. Both parties have to feel that the form of participation is rewarding.

Our joint venture experiences have been very successful and rewarding for all the parties. We see no reason to change such a winning formula.

Q: ADNOC is in the process of implementing a major expansion scheme. How is that progressing?

A: We are currently focusing on the development of our massive gas and condensate reserves.

Offshore, we are currently involved in a major project to double the capacity of the LNG facility on Das Island. This project is unique in that it is the only LNG project in the world which has a single buyer. When Tokyo Electric Power Company, of Japan, the buyer, sought to secure additional supplies of gas, in the face of rapidly growing Japanese demand, we were asked about the possibility of expanding the Das Island plant. The result was an agreement to buy the full

current and additional capacity. Work is now well under way on the third processing train and it will come on stream, on schedule, in 1994.

Onshore, we started another major gas and condensate development in the Bab field. Gas is recycled in one reservoir to produce condensate. Gas is produced from another reservoir to meet growing local gas demand for sea water desalination and power generation, as well as for growing local industries in Abu Dhabi. This project is scheduled for completion in 1995.

Q: How much will these projects cost and how do you anticipate financing your expansion?

A: These are mega projects and the cost of each project will exceed one billion dollars. In any major expansion project we consider all possible financing options. We look at self financing, borrowing from local and international institutions and optimum utilisation of suppliers' credit facilities. We balance our financing resources to ensure sound project economics. It is worth remembering that we have borrowed in the international capital markets in the past to finance specific projects. So we are not strangers to the market and our credibility is well established.

Q: Do you have any plans to increase your refining capacity?

A: We are studying the feasibility of doubling the capacity of the Ruwais refinery. No decision has been made yet.

Q: Turning now to oil production in the wake the Gulf war. Do you have the capacity to increase production if it is decided that you should?

A: As a company, we are carrying on with our normal business. Our level of production is determined by the Supreme Petroleum Council, which is the Government of Abu Dhabi. We take into consideration our commitment to Opec, our commitment to a stable oil market over the long term and our responsibilities as the main generator of funds for the country.

Abu Dhabi has huge reserves and the potential to increase production is certainly there. But, at this time, we do not have any plans for a major increase in production capacity. Activities are normal, as they have been over the last few years, in terms of developing our oilfields both onshore and offshore. This is an ongoing process. We are maintaining our capacity and increasing our flexibility to cope with the short-term demand fluctuations which have become a feature of the oil market over the last few years.

Q: If Opec quotas are reintroduced will you be constrained by them?

A: We have tried over the years to comply with our commitment to Opec and keep within our quota. However, the success of the quota system will depend on its fairness and ability to satisfy the requirements of the individual Opec members.

Q: ADNOC is making a positive response to the question of environmental health and environmental protection. Can you outline the steps you are taking and why you see those as being necessary?

A: As you see, the government of Abu Dhabi has been extremely successful in creating and maintaining a pleasant and clean environment. ADNOC is committed to this noble goal.

Our biggest concern is marine pollution because of our total dependence on sea water desalination plants for our fresh water and electricity supplies. Also, we have to protect Gulf fisheries. And nobody wants to see again the sort of beach pollution we witnessed in Kuwait. We have established a Marine Pollution Control Centre at Ruwais to ensure quick response to any accidental oil spillage. The centre is equipped with all necessary equipment, inclusive of an advanced computer model which enables prediction of oil-spill trajectory. We also participate in the regional organisations concerned with the protection of the Gulf environment.

Air pollution has been gaining

greater attention in recent years. Flaring of associated gas was a main source of air pollution. This has been minimised after the commissioning of ADGAS offshore and GASCO onshore. These gas projects prevented wastage of this valuable resource and helped in maintaining cleaner air. We are also removing sulphur from gas in order to reduce pollution and have been able to find a market for the recovered sulphur. We are now reducing the sulphur content of gasoil.

As part of our overall programme of environmental protection we recently expanded our environmental health department. This department was originally set up to help protect the health of our employees. Now, its strategy also includes the protection of the environment and monitoring pollution levels.

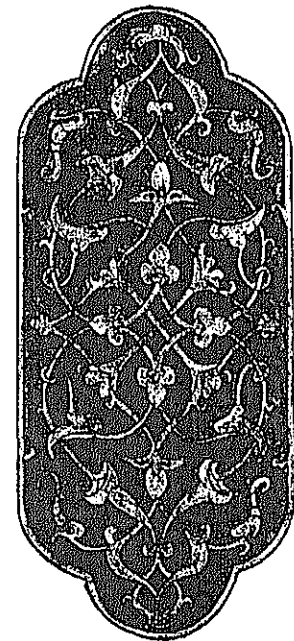
Q: In your opinion, what have been the highlights of the last 20 years?

A: The last 20 years were full of achievements. When the company was formed 20 years ago it was little more than a paper company. Since then it has emerged into the world marketplace with a good reputation as a reliable supplier of crude oil, gas and products. It has built up strong relationships with loyal and discerning customers in a competitive and volatile market. It has been the senior partner in a number of very successful joint ventures. It has gained a good reputation for the quality of its oilfield engineering practices and for the efficient development of oilfields.

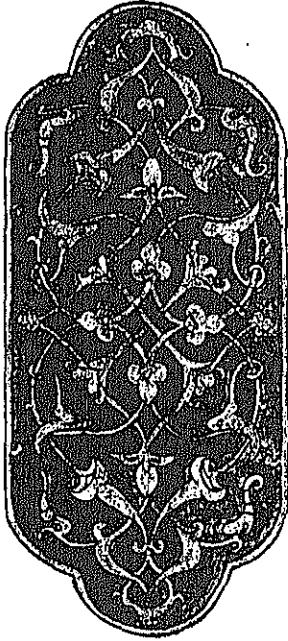
Twenty years ago, the country was young and its oil industry was young. They have grown up together and emerged as significant players on the world stage. They have been 20 years of sustained, prudent growth and progress. We intend to maintain that record in the next 20 years and have the will and expertise to enable us to achieve that objective.

If I have to single out one of ADNOC's achievements, I shall undoubtedly mention, with pride, the large number of highly qualified nationals who are now leading ADNOC towards the 21st century.

INTERVIEW



EXPLORATION AND PRODUCTION



The Exploration and Production Directorate is responsible for all of ADNOC's onshore and offshore hydrocarbon exploration and production activities, both in ADNOC's independent areas — the Sole Risk concessions — and in the Joint Ventures.

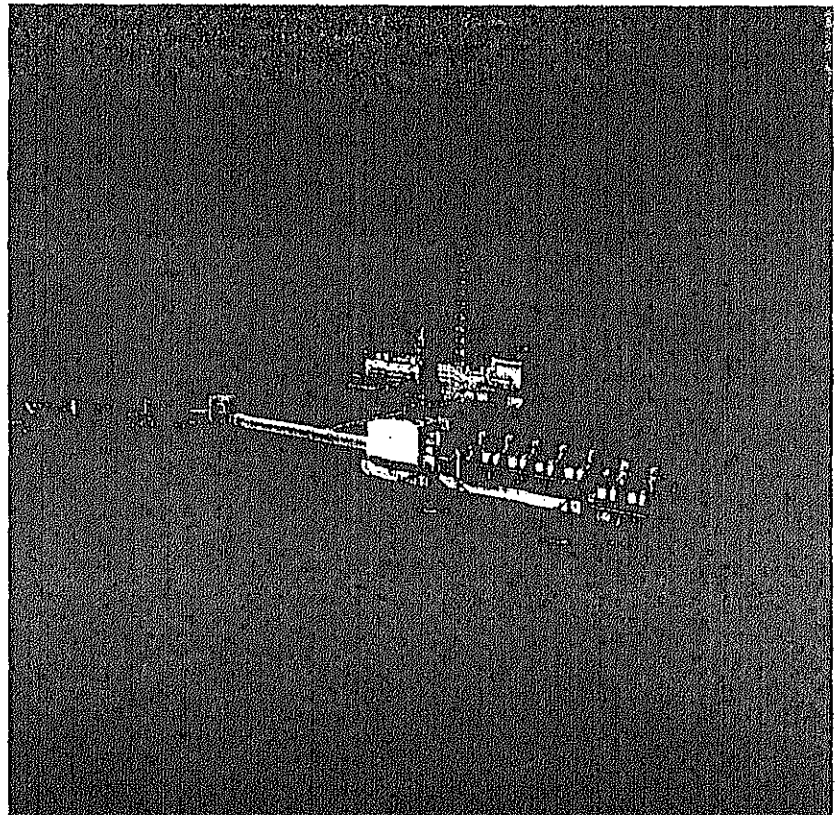
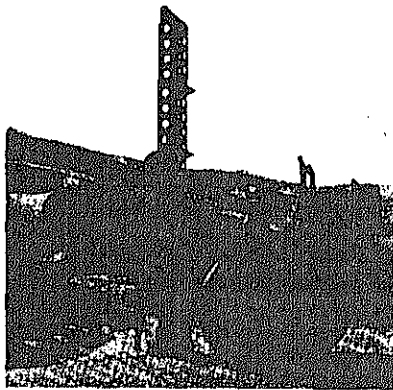
ADNOC has majority shareholdings in the three main oil companies — Abu Dhabi Marine Operating Company (ADMA-OPCO), Abu Dhabi Company for Onshore Operations (ADCO), Zakum Development Company (ZADCO) — which account for about 95 per cent of Abu Dhabi's oil production. There are also five independent producers — Bunuq Company, Amerada Hess, Total ABK, Abu Dhabi Oil Company and Mubarraz Oil Company — which are supervised by the Supreme Petroleum Council.

The Exploration and Production Directorate was established in 1975, subsequent to ADNOC's participation in the joint-venture companies, with the objective of rationalising exploration strategy, assessing the potential within the country and

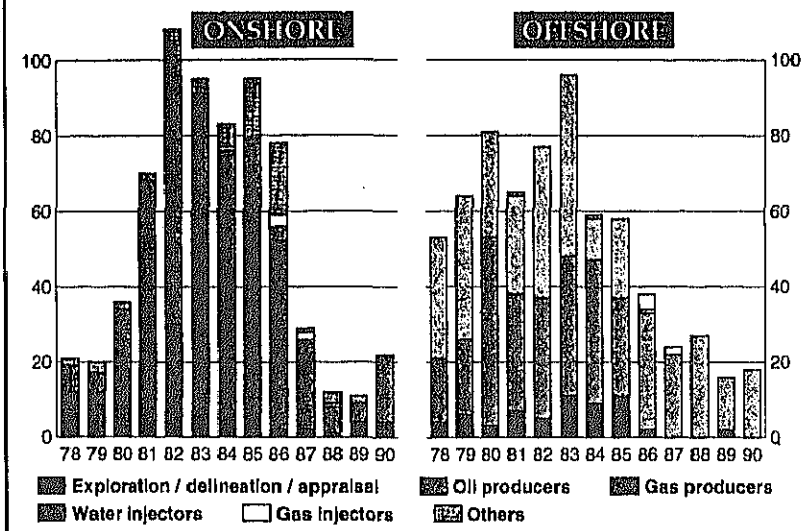
evolving a strategy on production optimisation. In 1980, ADNOC acquired rights to explore for and produce hydrocarbons, both onshore and offshore, and since then E&P Directorate has made a significant contribution to exploration activities.

The stage of exploration has now been reached where seismic data has been acquired over most of the territory of the Emirate. The Directorate is fully staffed by experienced professionals and equipped with the latest interactive computer workstations to interpret the seismic and geological data. Numerous prospects have been discovered and a systematic drilling programme to assess the resources is ongoing.

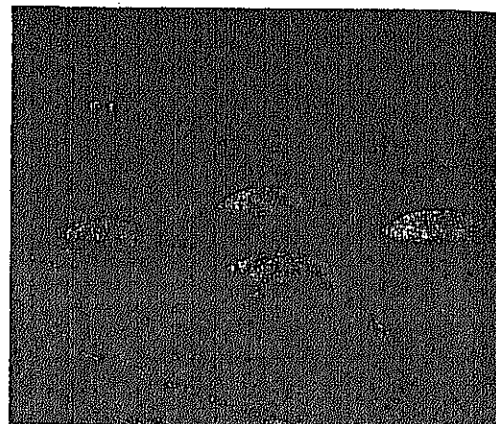
Another area where the E&P Directorate has built up considerable expertise is in reservoir studies. The Directorate, with the support of Data Processing Services Directorate, now runs reservoir simulations on a Cray computer. The simulations are designed to predict how a reservoir will behave, the levels of pressure that are likely, the volume of water



NUMBER OF WELLS DRILLED BY ADNOC GROUP OF COMPANIES 1978-1990



EXPLORATION AND PRODUCTION



injection that will be needed and the number of wells that will be necessary to achieve optimum production.

The Directorate is also responsible for harnessing and exploiting natural gas. Planning for the gas sector is not only related to liquefaction for export, but also to meet the requirement for electricity generation and water desalination for domestic consumption.

There is a close working relationship between the E&P Directorate and the operating companies. Based upon guidelines given by E&P Directorate, each operating company does its own detailed planning on future field development, the drilling and production levels and the financial projections. These plans are then reviewed by the shareholders and finalised in line with the policy and strategy indicated by the Supreme Petroleum Council.

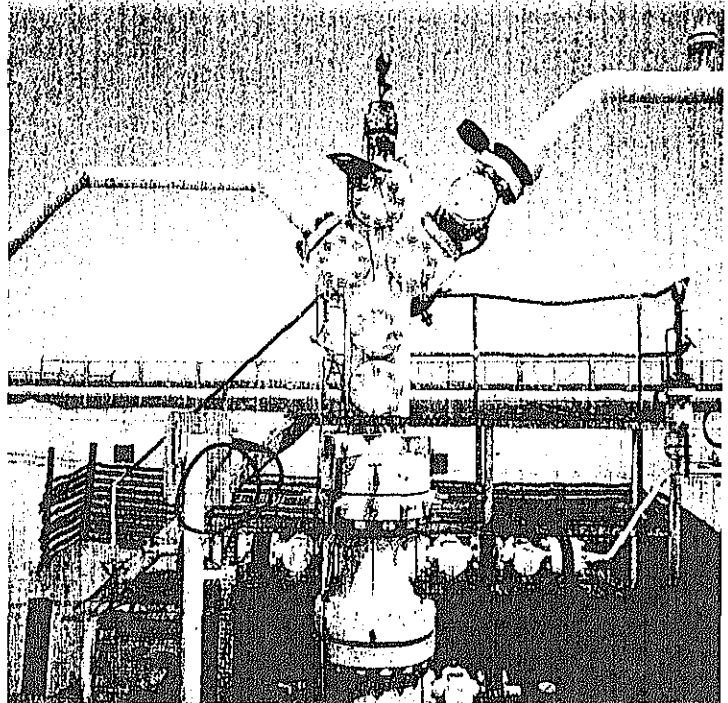
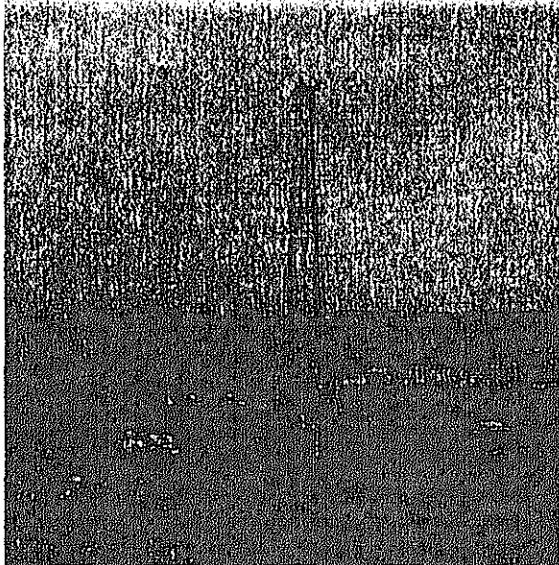
Onshore production is handled by ADCO. It was reconstituted as an operating company in 1978; ADNOC has a 60 per cent shareholding, British Petroleum, Shell and Total-Compagnie Francaise des Petroles each has 9.5 per cent, Mobil and Exxon have 4.75 per cent each and Partex holds 2 per cent. ADCO has onshore concession areas which extend offshore to cover the 3-6-

mile strip below the high water mark off the mainland and also around the Emirate's islands and coral reefs in Abu Dhabi waters.

The first oil concession agreement in Abu Dhabi, for an onshore area, was signed in 1939 by Petroleum Development (Trucial Coast) Limited. The outbreak of World War II curtailed exploration. The search for oil began in 1946 and the first exploratory well was drilled in 1950 at Ras Sadr. Oil and gas were discovered in 1959 at Murban-2; and the discovery of commercial quantities was made in 1960 at Murban-3, in the Bab field.



EXPLORATION AND PRODUCTION



Onshore production comes from the five onshore fields — Bab, Bu Hasa, Asab, Sahil and Shah. Plans to increase output from the Bab field, from about 100,000 barrels a day to 250,000 barrels a day by the end of 1993, are making good progress. Pressure support programmes and facilities to maintain and meet future production levels are being upgraded.

A pipeline network, which is also being modified, links the producing fields to refineries at Umm Al Nar and Ruwais and the export terminal at Jebel Dhana, where storage capacity is undergoing significant expansion to cater for the increase in onshore production.

Offshore production is the responsibility of two joint ventures, ADMA-OPCO and ZADCO. The shareholdings in ADMA-OPCO are ADNOC 60 per cent, British Petroleum 14.67 per cent, Total-CFP 13.33 per cent and Japan Oil Development Company (JODCO) 12 per cent. The participating interest holdings in ZADCO are ADNOC 88 per cent and JODCO 12 per cent.

The original offshore concession was granted in 1953 to the D'Arcy Exploration Company. In the

following year, the concession was assigned to Abu Dhabi Marine Areas (ADMA), a company owned by BP and Total-CFP. The first commercially exploitable oil discovery in Abu Dhabi was made in this concession area, at Umm Shaif, in 1958. Five years later, an even bigger discovery was made at Zakum, which still ranks among the 10 largest offshore fields in the world. ADNOC increased its shareholding in ADMA to 60 per cent in 1974, at which time BP assigned part of its holding to JODCO. ADMA-OPCO was incorporated in 1977 to operate the concession on behalf of the shareholders.

ADMA-OPCO's producing fields are Umm Shaif and Lower Zakum. The Lower Zakum crude is pumped directly to the oil processing and exporting terminal at Das Island, while Lower Zakum's associated gas is dried, compressed and transferred to the processing complex at Umm Shaif. The gas is then combined with associated gas from the Umm Shaif field and non-associated gas from the Uweinat gas cap before being transferred to the ADGAS liquefaction plant at Das Island. Crude from Umm Shaif flows under its own pressure to

