

Oman Economic Review

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OER's Special Issue
on the 40th Anniversary of
Petroleum Development Oman



READY FOR NEW CHALLENGES

John Malcolm, MD, PDO



Unlocking Omani Potential



Focus on Environment



Increased Stress on Gas

PARTNERSHIPS

Promoting local
community contractors

E-BUSINESS

Bringing efficiency &
transparency

SOCIAL INVESTMENT

Part of business
planning

Caring and sharing despite complexity

Time flies fast. Till early 1960s, Oman was struggling to find viable crude oil reserves lying underneath the sandy dunes in its arid interior. The hard work and patience paid off when Petroleum Development Oman (PDO) struck oil at Yibal in 1962. Then came 27 July 1967, the historic moment in the history of the Sultanate, when Oman's first shipment of crude oil was loaded onto a tanker. Thereafter, PDO has never looked back. As the nation celebrates the 40th anniversary of the first export, PDO has emerged as one of the leading oil & gas companies in the Middle East and is widely recognized for its catalyst role in the socio-economic transformation of Oman.

Oman Economic Review congratulates PDO on the momentous occasion and appreciates the Company's caring and sharing policy despite operating in adverse and complex environment. In its history, PDO has seen many ups and downs. On every occasion it has come out stronger from the experience. Today, PDO again has an uphill task in its hand



– explore for new fields, prolong the life of existing fields, upgrade its infrastructure, develop its human resources and enhance its contribution to the society. “Nothing new”, one can say, as the same challenges were there earlier also. But PDO realizes that it cannot afford to bask in the glory of its achievements. Tough times are ahead; indeed, they're here already. The expectations of the society are increasing day-by-day; the market is changing as Oman is integrating with the global economy. While working on this special issue, OER team interacted with a wide range of PDO employees. We could make out very clearly that every member of the PDO team is aware of the challenges ahead, but they are unfazed. The spark in their eyes says it all – “we are ready to make the next 40 years more memorable.”

This special issue of OER is dedicated to PDO's effort towards managing sustainable development of the hydrocarbon production with the motto – people, partnership and progress. It summarizes PDO's journey in the last 40 years with focus on its key achievements. But it also looks ahead. OER speaks to the senior managers in PDO on their vision for the Company, and we focus on the significance of issues such as social investment, health, safety and environment in the overall business planning process of PDO.

OER is thankful to PDO's External Affairs & Communications department – Abdul-Amir bin Abdul-Hussein al Ajmi, Gregory Greenwell, Ahmed al Sawaei, Mohammed al Mahrezi and rest of the team – for their constant support and valued feedback in bringing out this special issue. We hope you enjoy reading it.

**Oman
Economic
Review**
www.OERonline.com

SPECIAL ISSUE ON PDO

2007

Published by

United Press & Publishing LLC
PO Box 3305, Ruwi, Postal Code - 112
Muscat, Sultanate of Oman
Tel: (968) 24700896, Fax: (968) 24707939
Email: publish@umsoman.com

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Printed by Oman Printers

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Celebrating the past while looking ahead

Petroleum Development Oman (PDO) celebrated the 40th anniversary of its first oil export with the publication of a book about the company's history and a few other events



On 27 July 1967, the oil tanker Mosprince arrived at Mina al Fahal (or Saih al Maleh, as it was then known) to load the first export cargo of Omani crude. Over the forty years that have elapsed since that particular date, PDO has exported over 7.5 billion barrels of crude oil for the benefit of the Sultanate. To celebrate its 40th anniversary, PDO recently organized an

event that attracted the who's who of Oman.

On the occasion, PDO released the special book 'Underground to Overseas: The Story of Petroleum Development Oman', written by Sir Terence Clark, the former British ambassador to Oman. The book, launched by HE Nasser bin Khamis Al Jashmi, Undersecretary, Ministry of Oil and Gas,

chronicles PDO's long journey from producing oil from just a couple of fields in 1967 to producing oil, gas and condensates from over 100 fields today.

Underground to Overseas traces PDO's history from its very first days with interviews of over 200 past and present members of staff. "This is

a book not only about the past; it is also about the present with a glimpse into the future,” said Sir Terence. “It shows through the accounts of individual Omanis how, with the support and encouragement of PDO management, what was originally a rather exclusive expatriate company has been transformed into an integrated member of the wider Omani community.”

“Our aim in staging this book launch as well as other 40th-anniversary celebrations is three-fold,” said Abdul-Amir al Ajmi, PDO’s External Affairs and Communications Manager. “The first is simply to mark the event which was critical to the Sultanate’s development; the second is to pay tribute to PDO staff – past and present – who have made our continued oil and gas production possible; and, finally, it’s a good opportunity to communicate to the Omani public PDO’s ongoing commitment to the Sultanate’s renaissance.”

Addressing the distinguished audience, PDO’s Managing Director John Malcolm said: “More than 40 years ago, the Omani Government entrusted us with the challenging task of developing an oil industry in Oman. Since 1970, we have been blessed with His Majesty’s unwavering support as well as the support of His Government, most notably the Ministry of Oil and Gas with which we work in close partnership.”

He added, “At the heart of our success has been a commitment to teamwork and the ability to work together towards a shared vision. As our operations have grown over the years, our teams have got bigger and increasingly include people from outside the Company’s ranks. Contractors are now an integral and inseparable part of our teams and critical to our success. I would like to take this opportunity to give special thanks to all those companies with which we work hand-in-hand on a daily basis. Your contribution has played a key role in our success.

“Of course, PDO is an integral part of Omani society not least because the vast majority of our employees are Omani nationals. It is important for us to interface with society so that people understand what we do and the role that we play at the service of the Sultanate. Over the years, we have built up ties of friendship across many sectors of Omani society and I take this opportunity to thank the Omani nation as a whole and all its people for their kindness and support over the last 40 years.”



“We are very happy with the performance of PDO in the last 40 years. Like any other oil company, it has faced lot of challenges in its journey but it has always managed to overcome those challenges successfully... We hope that PDO will continue to deploy latest enhancement technologies to make Oman produce oil for the next 40 years also.”

HE NASSER BIN KHAMIS AL JASHMI
Undersecretary, Ministry of Oil and Gas



“PDO has made a significant contribution not only in the production of oil but also in the development of Oman’s economy and society. The company has given excellent opportunities to Omanis to get trained and become skillfully employed. I feel proud to see so many Omanis occupying top positions in PDO.”

HE HAMAD BIN HILAL AL BUSAIDY
Undersecretary, Ministry of Manpower



“I think overall PDO has done a good job. It is on the right track. Oman is a beautiful country. PDO has maintained a fine balance in oil production and environment protection. The new comers in the market should take into account the maintenance of the natural beauty of Oman while exploring and producing oil.”

HE ANNELIES BOOGAERDT
Ambassador, Kingdom of the Netherlands



“It is a great moment for all of us and we appreciate the achievements of PDO in the last 40 years. PDO has set a good example for all of us to follow – we have to be strong and able to resist all obstacles in our path. We must stay and make sure that we do what intend to do.”

HE KHALIL BIN ABDULLAH BIN MOHAMMED AL KHONJI, Chairman, Oman Chamber of Commerce & Industry



“I’ve worked in PDO twice in the past. So I have the privilege of seeing PDO for 26 of its last 40 years. It was a remarkable company then. It is a remarkable company now. It has always thrived on the application of new technology. It has always been very good in using technology to rise to the challenges posed by Oman’s difficult geology.”

DR. ANDREW WOOD
Shell Country Chairman in Oman

HE Nasser Bin Khamis Al Jashmi, Undersecretary, Ministry of Oil and Gas, inaugurating the photo exhibition that showcased the history of PDO



Malcom further said: "We have changed from being a largely foreign oil company – owned and operated by non-Omanis. Today, we are an affirmedly Omani company albeit one with a diverse multinational workforce. Even though, at the last count, we have more than 50 nationalities working for us, most of our top management is Omani. Almost all of them have worked up through the Company's ranks in so doing providing a valuable lesson to young Omanis joining PDO that by making the most of the available training opportunities to build up professional competencies and leadership skills, one can get to the very top of the Company.

"PDO has also changed dramatically from being an oil company that produced oil by drilling a prodigious number of wells to being a technologically driven oil and gas company. And I stress the word gas because of our current gross production of around 1 million barrels a day of oil equivalent, about 40 per cent of that is gas or gas liquids. The days of easy oil are well and truly over. In order to maintain oil production for the next 40 years and beyond, we have been focussing on the latest enhanced oil recovery

(EOR) techniques. Highly complex projects such as Harweel miscible gas, Qarn Alam steam and Marmul polymers injection have made us leaders on a global scale in the application of enhanced oil recovery techniques. Indeed, we are the only company in the world to be in the process of simultaneously implementing projects using all three of the available EOR technologies."

On the challenges front, Malcolm said, "Each of the last 40 years has brought with it special challenges – and in some cases dramas – that the company and its staff have had to deal with such as the well blow-out at Yibal in 1967 and major flooding in the interior in 2004. But our 40th Anniversary year brought with it what could have easily become the Company's biggest corporate emergency ever. Tropical cyclone Gonu tested our emergency response to the full and I am glad to say that the Company acquitted itself very well. Fortunately, Company's oil and gas production was not affected.

"But, as we all know only too well, Gonu wreaked devastation in and around Muscat as well as ar-



Sir Terence Clark

eas around Qurayat bringing with it tragedy to countless families. It fills me with great pride to have witnessed the response of my fellow colleagues – both Omani and expatriates – to these terrible events. In the days after the cyclone, PDO volunteers collected many tons of goods and distributed them to affected areas. What struck me was how many of my colleagues taking 4-wheel-drive vehicles to affected villages had themselves lost their own homes in areas around Ghubra."

Success Story

OER relates the tale of how Petroleum Development Oman (PDO) grew from an inauspicious beginning to become the solid pillar of Oman's economy and society



1967: The first export cargo of Omani oil is loaded on to a tanker

After many years of exploration activities in the hostile desert environment, Petroleum Development Oman – then known as Petroleum Development (Oman) Ltd. – drilled its first well, Fahud 1, in 1956 with the confident expectation that it would strike oil. The well, however, was abandoned as a dry hole after having been drilled to a depth of 3000 meters. What no one knew at the time was that the well had missed a rock layer containing more than a billion barrels of oil by just a few hundred meters. In 1957 another well uncovered the Marmul field. But the development of the field was not considered

worthwhile at that time. Despite these setbacks, exploration continued and an economically attractive oil deposit was eventually found in Yibal in 1962. In 1963, the Natih field was also discovered, and it was followed closely by success at Fahud, when a second well was drilled there, 1.5 kilometres from that ill-fated first well. Those three discoveries in quick succession marked the birth of Oman as an oil-producing nation.

In the next few years, PDO worked towards setting up adequate transport infrastructure facilities such as a pipeline to the coast and arranging all

the other hardware necessary to transport and export Oman's crude. A 276-kilometre pipeline requiring 60,000 tons of steel pipe was laid, the labour being provided by the inhabitants of whichever villages happened to be near the worksite.

The pipe laying took place at the same time as the construction of an industrial complex at Saih al Maleh (later re-named Mina al Fahal), the building of a tank farm, the installation of single-buoy moorings for sea-going tankers and the erection of a 20-megawatt power plant. The whole devel-

opment — including the pipeline, the coastal industrial area, the tank farm, the marine terminal, a chain of radio repeater stations and housing for staff at Ras al Hamra — cost US\$70 million.

Beginning of exports

Five years after the discovery of oil, the first export of Omani oil took place on 27 July, 1967. The Mosprince, a 83,000-ton tanker of the Mosvold Shipping Company of Norway, arrived off the coast of the Sultanate of Oman to load the cargo of crude oil. It took several days to load. The cargo headed to Japan on behalf of Shell International Petroleum Co. Ltd.

Recalling the glorious day, Sir Terence Clark in his book 'Underground to Overseas' wrote: "According to the bill of lading dated 8 August 1967, the cargo consisted of 543,800 barrels of 'net clean oil of API gravity 33.2 degrees', valued at US\$1.42 a barrel. What distinguished that oil was not its volume, purity, density or price; what distinguished it was its provenance. For that oil was the first ever to be exported from Oman."

On 23 July, 1970, His Majesty Sultan Qaboos took over from his father as ruler of the country. He made his first visit to the PD(O) offices on 18 August 1970.

Consolidation phase

From 1970 to 1979, PD(O) focused on maintaining its production, replenishing its reserves and developing higher standards of professional management and technical expertise. As a result, it made some significant discoveries early in the decade — Ghaba North in 1972, followed by Saih Nihayda, Saih Rawl, Qarn Alam and Habur. All five fields were on stream by 1975. A new 20-inch pipeline was also constructed, to transport the crude oil to the main pipeline, 75 kilometers east of Fahud. With new discoveries and development of transport system, the oil production averaged 341,000 barrels per day in 1975.

At the same time, the oil price hike in 1973 was a boon for Oman as the greater realization value improved the economics of producing oil in remote locations. Consequently, the focus of exploration activity was moved to the eastern flank of the south Oman geological basin. Wells soon revealed the Amal and Amin fields, amongst others. The Marmul field, considered uneconomic to develop when it was originally discovered,



was now shown to be commercially viable upon reappraisal. The high oil prices compensated for the fact that the Marmul crude oil was heavy and viscous. These and other oil fields in south Oman played a significant role in the growth of reserves and production in the coming years. On behalf of the government, PD(O) constructed a gas pipeline from the Yibal field to the coast, fueling a power and desalination plant at Al Ghubrah in 1978.

Bob Jetses, who was made the managing director of PD(O) in 1977, recalls: "In June 1977, it was agreed to go ahead with the development plans not only of the long-fallow Marmul field but also of the recently discovered Amal field. On 9 October, it was decided that the oil from both fields would be evacuated via a 220-kilometre pipeline over the Qara mountains to a new export terminal at Mina Raysut. The cost of the project was put at around US\$300 million, phased over

a three-year period – then the largest single investment in Oman’s history. Initial production in early 1980 was expected to be 30,000 barrels a day. The development plans were to involve the drilling of some 70 producing wells, 20 in Amal and 50 in Marmul beginning in 1978. The pipeline was to pass through some of the wildest and most unspoiled terrain in Oman. For the first time in its history, PDO conducted a full-scale environmental impact assessment over the route.”

The year 1979 brought four additional discoveries in the south and two in the north. The most important discovery was at Rima, 140 kilometres northeast of Marmul. Whereas the oil found so far in the south had tended to be heavy, the oil at Rima was of a quality very close to the export blend. At that time, the Company began seriously looking at its long-term prospects. The big question was: what was a sustainable production level for PDO for the next 20 years? Initial estimates showed that a plateau level of 320,000 barrels a day might be achieved up to the year 2000. But history proved those initial projections to be wildly off: the Company produced 600,000 barrels a day by 1988 and touched 840,000 mark in 2000.

Gas production was another focus area as part of the long-term prospects. Jetses said: “Since there was an unused 20-inch pipeline available, we proposed to use this to construct a gas supply line from the Yibal gas field to the coast. The government liked the idea. When gas came available at the coast, the first customer was the desalination plant at Ghubra. The available gas reserves and the pipeline capacity were more than enough to also later supply other customers with a low-cost fuel.” The Yibal Gas Plant came on stream in 1978.

Changing Times

The 1970s were important for other reasons as well. On 1 January, 1974 the Government of Oman acquired a 25 per cent shareholding in the Petroleum Development (Oman); six months later the shareholding was increased to 60 per cent, backdated to the beginning of the year. As a result, the foreign interest in PD(O) was now made up of the Shell (34 per cent), Compagnie Française des Petroles (4 per cent) and Partex (2 per cent). These shareholdings have remained unchanged to the present day (although Compagnie Française



His Majesty Sultan Qaboos bin Said visits PDO

des Petroles is nowadays known as Total).

The success of PD(O) in the period 1962-79 had a profound impact on the Omani society also. Apart from oil revenue that led to widespread socio-economic infrastructure development, many Omani citizens found employment with PD(O). In the initial years, the Company’s emphasis was on providing unskilled and semi-skilled work to the tribes in whose area the operations were taking place. As a result, local Omanis were employed and trained to perform a wide variety of activities. Later on, a new unit was formed in the company to promote Omanisation. The new unit worked towards co-ordinating and stimulating the recruitment and employment of Omanis and the advancement of those already employed. By the end of 1970, 62 per cent of staff were Omanis out of a total of 669 employees. In-house training facilities were set-up and upgraded, and more Omanis were sent abroad for advanced training and education.





New Trajectory

The period 1980-2005 was a phase of rapid growth, complex challenges and new opportunities for Petroleum Development Oman (PDO). **OER** reports

Petroleum Development (Oman) underwent a change on 15 May 1980. It was registered by Royal Decree as a limited liability company under the name Petroleum Development Oman – now without parentheses in its name. In the early 1980's, production rose to new record levels, dispelling, it seemed, any doubts about the future of Oman's oil and gas industry. By the end of 1984, average daily production had risen to 400,000 barrels a day.

Meanwhile, the Company had become involved in setting up the Government Gas System, to provide natural gas from the interior to industry on the coast. And it was remarkably successful in that undertaking.

Meeting new challenges

In 1986, the oil prices collapsed. Almost instantly PDO was required to cut costs while increasing production and maintaining reserves. The Company could respond to these somewhat opposing imperatives by relying on innovation. Technological leaps in processing the huge volumes of data acquired in three-dimensional seismic surveys helped PDO to explore with great success during this period. Horizontal wells, which made their debut in 1986, yielded between two and four times the production from any one given well. (They have since become the norm in PDO.) Time and again the Company broke its own records for drilling wells in the shortest time and for drilling the longest horizontal wells. A notable achievement of 1986 was the passing of the safety milestone of one million man-hours worked without a lost-time accident – not once but four times in a row!

By the end of 2000, PDO had witnessed a substantial increase in production. Some of the increase was due to the application of the latest technology to existing fields, and some was made up of "new oil" from fields that were not only found but also developed at an ever-accelerating pace. During the period 1967-1980 all of PDO's production came from 11 fields; by 1988, 50 fields provided the sum total of PDO's oil output; by 1990 it was 60, and in 1999 it was nearly 100.

When PDO's gas-exploration campaign in the early 1990's made it clear how bountiful the country's gas fields were, the Government decided to establish a completely new industry: the export of liquefied natural gas (LNG). In



“ The Study Centre was set-up to underpin future field developments, drawing on appropriate techniques and technology to develop the Company's assets in the optimum way ”



1996, PDO concluded an agreement with the Government to develop the central Oman gas fields in order to supply gas to an LNG plant in Qalhat, near Sur. To fulfill its end of the agreement, the Company had to drill wells, hook them up to a new gas processing plant at Saih Rawl, and then transport the processed gas via a 352-kilometre pipeline to Qalhat. Furthermore, PDO would then be responsible for guaranteeing the delivery of gas for 25 years.

This upstream LNG project, costing US\$1.2

billion, is the single biggest project in PDO's history. And it was executed as planned. The Saih Rawl Central Processing Plant and the gas pipeline from Saih Rawl to Qalhat were dedicated to the nation in November 1999, the first downstream cargo of LNG was shipped to Korea in April of 2000, and His Majesty the Sultan officially opened the LNG plant six months later.

Having built up such momentum in its oil production as it entered the 1990's, the Company fully expected the trend to continue. Unfortu-

nately, the Company's field-development strategy for the start of the 21st century – based on incremental infill drilling with horizontal wells and extensive waterflooding – had its momentum dissipated before the waterflooding projects, which require comprehensive reservoir studies, could be fully implemented. The natural production-rate decline of its major oil fields eventually caught up with the Company at the start of the millennium. And to make matters worse, its business had fundamentally changed: its new fields were coming in smaller sizes; its new wells were delivering lesser oil; its costs were going up. The fact was that the Company's operating model – the way it was carrying out its business – was not sustainable in the longer term.

Managing sustainability

John Malcolm joined PDO as managing director of PDO towards the end of 2002. Following a comprehensive review that led to a sweeping change programme, PDO laid out ambitious production-recovery plans based not only on waterflooding but also on enhanced oil recovery (EOR) techniques: the application of heat, chemicals or gas solvents to alter the way oil or injected water flows in a reservoir. But, in order for them to be sustainable in the long run, the plans had to be executed for substantially less money than originally envisaged, making them all the more challenging. A total of US\$2 billion in cost savings over the five-year period 2002-2008 were incorporated in the Company's budget.

Fortunately, because of the long-term nature of investments that would be required, the Omani Government agreed at the end of 2004 to extend PDO's exploration and production concession and operating agreements for 40 years – until 2044.

Malcolm emphasizes the value of the Study Centre which he had established shortly after his arrival. "The Study Centre was set-up to underpin future field developments, drawing on appropriate techniques and technology to develop the Company's assets in the optimum way. We probably have more PhDs per square metre than any comparable establishment in the Middle East."

Sir Terence Clark in his book 'Underground to Overseas' wrote: "Malcolm's new strategy hinged on people. Not only would they have to thoroughly analyze the available reservoir data at the Study Centre to formulate field development plans, but



also they would have to manage wells and reservoirs and carry out waterfloods and enhanced oil recovery (EOR) projects out in the field."

Meanwhile, gas continues to be a growth area for the Company. A new gas-processing plant was commissioned in Saih Nihayda in 2005, and another one is due in 2008 for PDO's newest gas field in Kauther. With the addition of those two processing plants, about 40 per cent of the hy-

drocarbon energy that PDO supplies will come from natural gas – the fuel that has a central role in the Government's economic diversification plans. PDO thus now faces a formidable set of challenges. But the execution of its EOR projects, the expansion of its gas production and the implementation of new ways of working mean that, technically as well as socially and environmentally, PDO is expected to remain in the forefront of the region's oil and gas business.

STEADY progress

In 2006, despite the challenges, Petroleum Development Oman (PDO) made substantial progress. 2007 and beyond seem promising. **OER** reviews

In 2006, PDO made significant strides in its quest to become a long-term sustainable hydrocarbon producer in Oman. The Company made significant progress along most technical fronts last year. It achieved exploration success, laid out the groundwork for the projects that will ensure the Company's long-term sustainable production and operated its existing oil and gas fields with better efficiency.

New discoveries

Over the last few years, PDO's exploration directorate has worked hard to find new oil and gas fields. In 2006, it completed 10 exploration wells, and three of those wells revealed a promising new oil field and two field extensions. One discovery is at Budour Northeast, located in the Birba area of south Oman. A production test showed that the well could produce 8,200 barrels per day. The other two discoveries – in the north of the country lying at depths of about 1,500 metres – are extensions of the Ufuq and Dafiq fields, whose discovery was originally announced in 2005.

A key contributor to PDO's field development plans is the Company's Study Centre. In 2006, the Study Centre completed nine major Field-Development Plans and initiated 13 new ones. As a result, PDO's stock-tank oil initially in place (STOIIP) rose by 1.7 billion barrels. (STOIIP is the amount of oil thought to be originally contained in a rock formation expressed as barrels at stock-tank conditions i.e. under atmospheric pressure and room temperature.)

During 2006, PDO conducted various kinds of civil work at Harweel, the site of the Company's first full-field enhanced oil recovery (EOR) project, to establish a base to accommodate the 2,500 workers and 500 supervisory staff



that will be constructing a massive oil and gas processing facility there. In fact, PDO plans to construct many more EOR facilities over the next few years.

To improve the well and reservoir management activities involving its 3,750 wells spread over 120 fields, PDO began making its fields 'smarter'. The Company has applied the latest technology to compile vast amounts of data about wells – both downhole and at the wellhead – about the various gathering and processing facilities in the field, and about the network of flowlines and pipelines that connects them. It has also applied sophisticated computer models to try to accurately reproduce the performance of the entire production-system ensemble on the basis of that data.

Major drilling campaigns and other engineering projects were also executed according to schedule at many of its fields last year. As a result, the Kauther gas field and its associated processing plant, for example, will be ready for commissioning in 2008.

In a project designed in close collaboration with the Government, PDO awarded MedcoEnergi International the first-of-its-kind service contract to develop a cluster of 18 small fields in the Nimr-Karim area of south Oman. The Karim Small Fields Service Contract will give MedcoEnergi a 10-year mandate to accelerate the development of a group of PDO's 'small fields' so PDO can devote more attention to its portfolio of large fields, which account for more than 80 per cent of Oman's total oil production. Under the terms of the agreement, MedcoEnergi and its partners will develop a work programme and arrange for its budgeting and financing.

This is an important novel contract and, over the coming years, PDO plans to actively support it and monitor it closely. In fact, PDO is going ahead with a second such service contract covering the Rima Satellite Cluster, which is currently producing 2,100 barrels per day from nine fields. Another nine underdeveloped fields are also included in the project's scope. All in all, the area has about 650 million barrels of oil in place.

Meeting targets

PDO's oil production was within the target range of between 580 and 600 thousand barrels a day.



For the fourth year in a row, PDO has met its oil-production target. Its gas and condensate production was equivalent to 430,000 barrels of oil a day, boosted by the new Saih Nihayda gas plant and the loop gas pipeline to Sur.

To improve business efficiency by further enhancing its inventory management, PDO reduced its stock of bulk materials and spare parts by US\$4.2 million against the target of US\$2 million.

In reviewing performance of the company, John Malcolm, PDO's Managing Director, stated in the company's Annual Report 2006: "I think it is fair to say that despite the increasingly complex nature of our business, we managed in 2006 to contribute to the sustainable development of the Sultanate. But what about the future? Well, as long as we adhere to our business priorities, I think PDO's contribution will continue for many years to come."

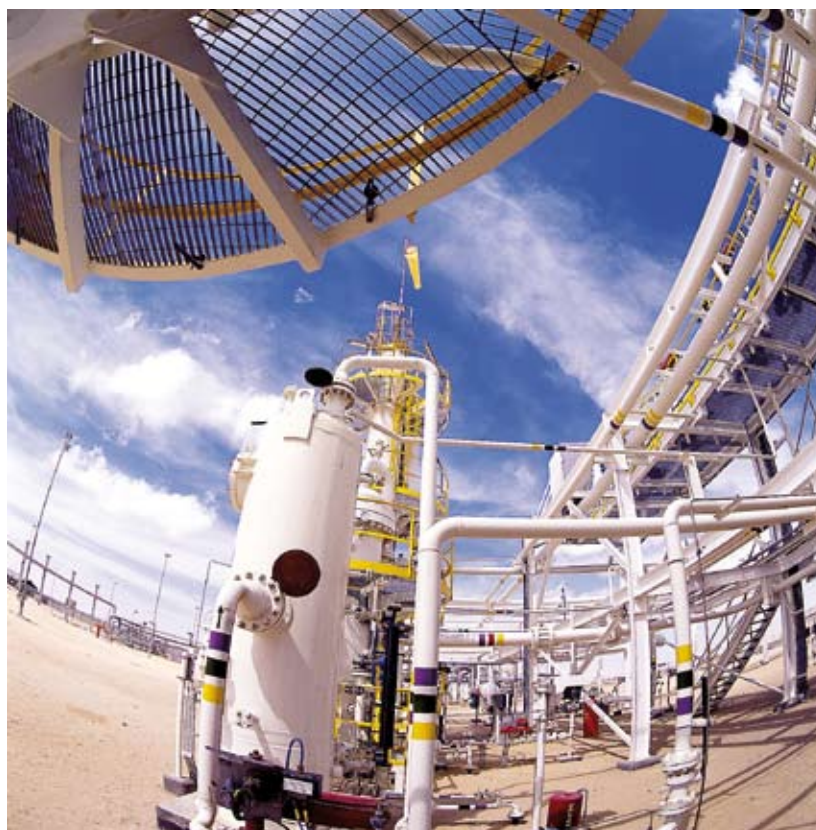
To manage the increasing number of projects, PDO intends to establish an in-house Front-End Engineering & Design (FEED) capability. In the FEED phase of projects, processes and equipments are specified and technical and commercial risks are identified so that they can be managed during the project execution phase. The FEED capability is expected to be in place by 2008.

On the development of human resources especially Omanis, PDO hired over 100 Omani graduates; 68 Omanis were promoted to senior management positions within the Company. PDO, the top private-sector employer of Omanis, has almost 80 per cent Omanisation. In another significant development, Middle East Learning Hub was established in 2006 in collaboration with Shell International. It will provide a spectrum of learning opportunities not only for the company employees but also for employees from other Shell companies around the world.

Finally, PDO won in 2006 the coveted Sheikh Mohammad Bin Rashid Al Maktoum Award for Arab Management in recognition of its achievements in promoting local entrepreneurs.

Way forward

In order to sustain its good performance in the future, PDO needs to ensure that it main-



tains its operational excellence along with high standards of well and reservoir management. It must make sure that pumps and compressors at fields are working, the oil and gas pipelines are functioning and oil & gas facilities are running properly. It should continually monitor and accordingly adjust its operations and revise development plans.

In project delivery, PDO should work towards delivering its big-ticket projects on time and within the specified budget – the Kauthar gas project,

the EOR projects at Harweel, Qarn Alam, Marmul and Fahud as well as the waterflood projects.

Waterfloods are the key to maintaining oil production in the medium term. Over the next five years, PDO is planning to expand or initiate a total of 15 waterflood projects. But PDO cannot rest after those projects are brought on stream. Throughout the entire decade beginning with 2010, PDO has to complete nearly one major field-development project per year to maintain the momentum.

Sustainable development amid complexity

John Malcolm, Managing Director of Petroleum Development Oman (PDO) in a freewheeling interview with **Akshay Bhatnagar** talks about how the Company has successfully achieved a fine balance between meeting its business targets, managing change and developing human resources



How has been the journey for PDO so far especially in the last five years?

Oil production for PDO, and in Oman in general, has never been easy. It's hard because of the massive diversity of the country's geology and the extent of our infrastructure. We currently have 124 fields. If you take our combined oil, gas and condensate production, it is equivalent to a million barrels of oil per day. We've a concession

area that is equal to the size of England. We've had to work hard. Many times in the last 40 years, our projects threatened to become uneconomic as a consequence of a drop in oil prices and the high cost of technologies that were needed to be deployed. But our focus has always been on acting now to derive benefits in the future.

I believe in continual change. The last five years

have been tough, as we've had to implement new technology, rebuild the company and re-skill our people to manage the change. We are deploying waterflooding and enhanced oil recovery (EOR) techniques for a stable and sustainable production. It is not easy to do, but we have to do it for a promising future.

In the last few years, we've consistently met our

oil-production targets. Take 2006 for example. We produced 589 thousand barrels a day against the target range of 580-600 thousand barrels a day. It's a decent performance by any yardstick, keeping in mind the complexities involved. Gas is increasing in importance for us. Our gas and condensate production was equivalent to 430,000 barrels of oil a day in 2006 and it will continue to grow in the coming years.

Talking of future, what role do you see for PDO in the Vision 2020?

As per my understanding, to make Vision 2020 into a reality, there's a need for sustainable development. PDO is also working in the same direction. Sustainable development is when you balance the work's economic imperatives with the work's HSE aspects and also with its social aspects. This has been at the core of what we do.

How we create wealth is more important than the wealth we create. How we work with others – how we help to develop not just the people but other companies – also is important. It is not for us alone but applies to all the industrial sectors. We have to deliver our business plan consistently. But at the same time, we have to develop the people and maintain the balance between what's good for the people and what's good for the business. If you focus only on the people, you may lose sight of your business; but if you focus only on the business, your people will leave you.

Another aspect of our business involves change to stop us from becoming extinct like a dinosaur. What was good yesterday need not necessarily be good for tomorrow. It's the same in any industry.

How do you react when some people say that PDO has already become a dinosaur?

If you look in the last five years, you'll see how much we have improved on most performance parameters. That's partly due to the introduction of high-technology studies in the country. We've now a Study Centre, where we've probably got more PhDs per square metre than anywhere else in Oman. If you look at our investments today, we've got three major EOR projects in execution; we're also building a new gas plant. We've changed significantly.

I agree that we need to change more and at the same time deliver and develop our people. Don't forget: we had a "near-death experience" not so

long ago. We don't want to go back there. There are lot of things we could do better.

Liberalization has brought competition as well as entrusted PDO with the role of a big brother.

How do you look at this complex situation?

We've a privileged position in Oman; that's true. The privileged position comes with a certain set of responsibilities as well. But we welcome the competition. It's difficult to convince people that you're good in certain areas. Let people see how well PDO does in a more competitive environment, and then they will be persuaded. I think it is good for the country.

How do you ensure that the employees follow the business principles of PDO? What

“How we create wealth is more important than the wealth we create. How we work with others; how we help to develop not just the people but other companies also is important”

mechanism do you have in place to ensure that their related grievances are addressed?

We try to do business in a very ethical manner. We all follow the Company's business principles and understand our duty to the shareholders and society. Supervisors, managers and directors communicate with their staff through different channels using appropriate tools to ensure that our business principles are maintained.

In fact, I communicate regularly with PDO staff. Every two to three months, we've a communication session involving the entire staff. Thanks to technology, I can sit in one room with an audi-

ence to answer questions, but at the same time staff sitting at their desks can see and hear me through their computer terminals. They can also ring me with their questions, which I then answer "live". In the last such session we had, over 3000 people logged in. The transcripts from such sessions are also made available on our internal web, where there is the MD's webpage. Any staff member can post comments and questions on the webpage, and I respond to them. Sometimes I get very tough questions too.

Do they question your actions also?

Yes, of course. People ask: "John why did you do this?" Then I explain. When a PDO staff member is upset, I would like him at least to trust the PDO system to air his grievance. Only then

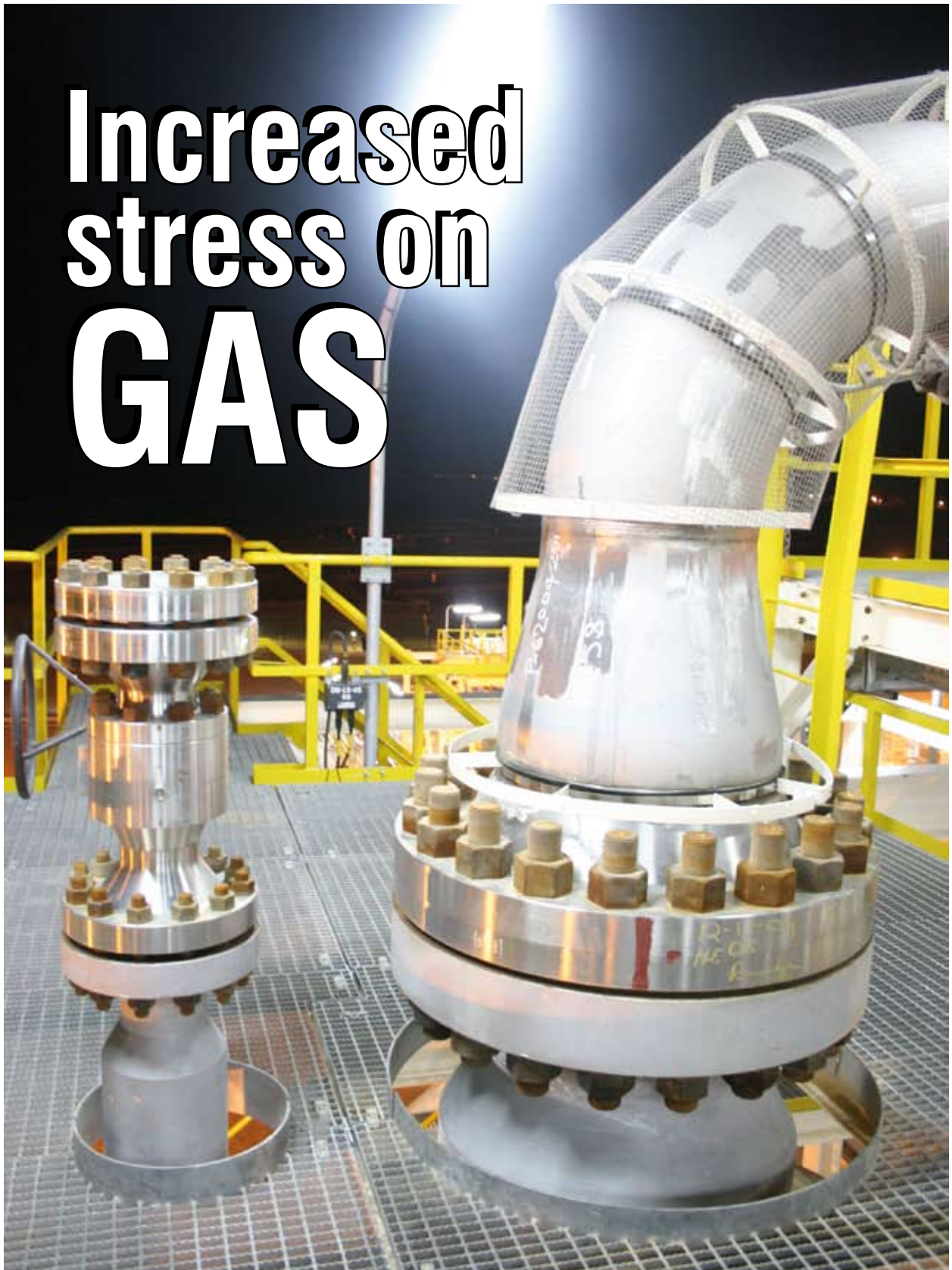


will staff talk openly. We make mistakes, and we'll always make mistakes. The fundamental thing is that you should treat everyone the way you would like to be treated by them. It doesn't matter what job they do or what contribution they make.

You've put in almost five years in MD's office. What's next for you?

I'm definitely still learning, and there are enough challenges to keep me going. In terms of ambition from career point of view, I've only one ambition and that's to see PDO remain stable and prosperous.

Increased stress on GAS



With natural gas fuelling major emerging industries and enjoying lucrative export market potential, Petroleum Development Oman (PDO) has been expanding its gas related activities in a major way. **OER** reports

Once under the shadow of oil, gas is now becoming quite prominent with demand for it soaring globally thanks to the development of numerous industries that are gas intensive in nature. Oman is no exception to the global phenomenon.

The gas age started in Oman on 29 October 1978 when His Majesty Sultan Qaboos inaugurated the Government Gas Plant at Yibal. The plant at Yibal had an initial processing capacity of two million cubic metres per day and the gas was transported via a 345 km long 20-inch pipeline to Al Ghubra to fuel power and desalination plants. Currently, the plant capacity has been expanded to 23 million cubic metres per day. It supplies to industry and small volumes back to PDO for production operations in the Fahud and Natih oil fields also.

Unlike crude oil, the gas that is found in fields on its own (known as 'non-associated' gas) has always been the sole property of the government, with the exploration and production of this national resource entrusted – until recently – exclusively to PDO.

Gas captured as a by-product of crude oil production, so-called 'associated' gas, is, however, the preserve of whichever company is operating the field. For PDO, associated gas is an extremely useful resource, fuelling the network of power stations that provide electricity to its operations across the country.

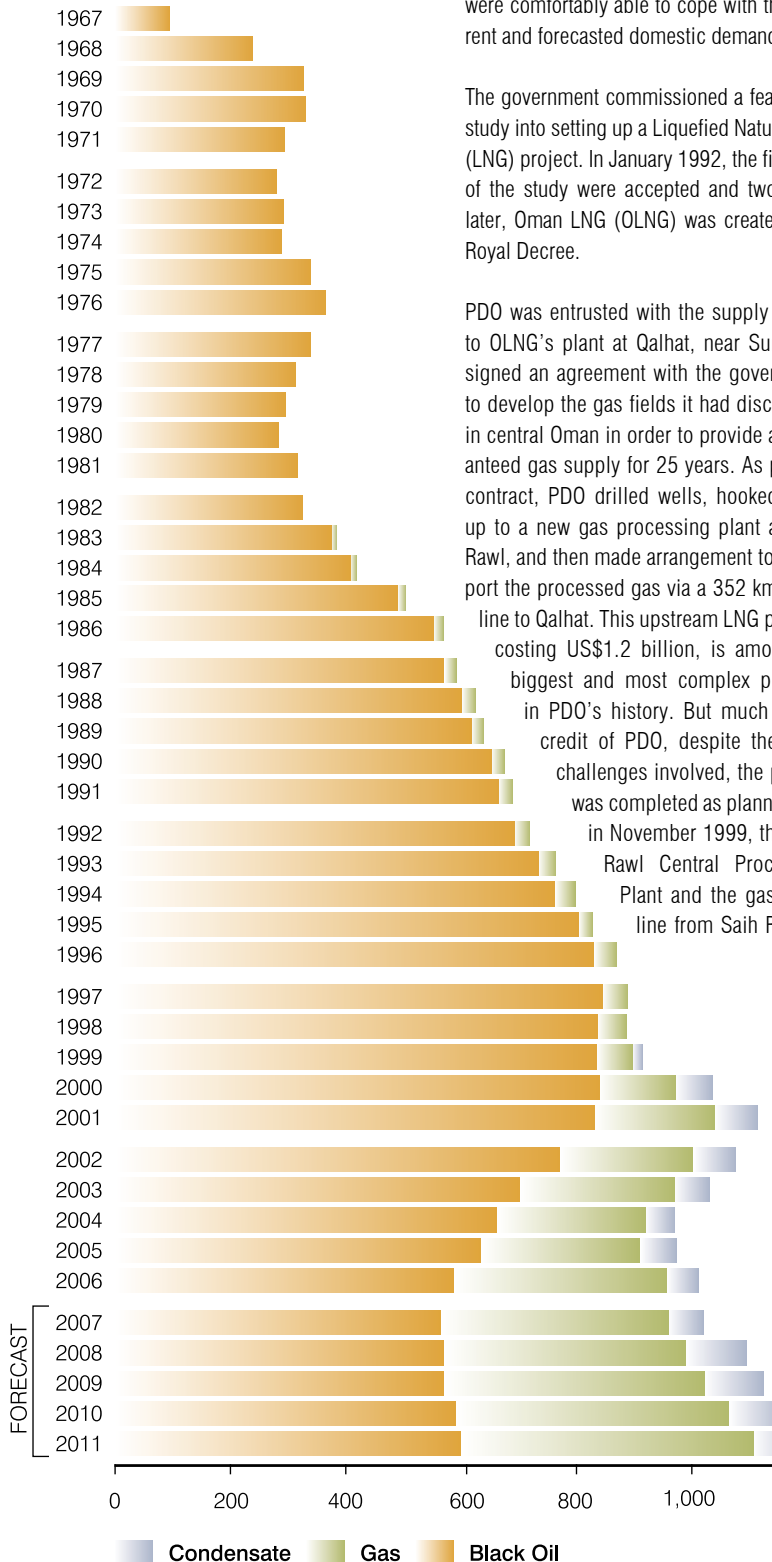
Going back to the historical perspective, in 1984 PDO got the green light for a major gas exploration campaign on behalf of the government. The Ministry of Oil and Gas set aside a healthy budget in excess of US\$100 million to invest in a gas exploration programme. A dedicated drilling rig was commissioned.

The gas exploration campaign was an enormous success. Major gas discoveries – Saih Nihayda (1989), Saih Rawl and Barik in the Ghaba salt basin (1991) – were made. In fact, just three years into what was a ten-year programme, the



PDO – Oil, Condensate & Gas Production

Barrels of Oil Equivalent



initial target of discovering three trillion cubic feet of gas had been achieved. By early 90s, Oman's reserves of non-associated gas were comfortably able to cope with the current and forecasted domestic demand.

The government commissioned a feasibility study into setting up a Liquefied Natural Gas (LNG) project. In January 1992, the findings of the study were accepted and two years later, Oman LNG (OLNG) was created by a Royal Decree.

PDO was entrusted with the supply of gas to OLNG's plant at Qalhat, near Sur. PDO signed an agreement with the government to develop the gas fields it had discovered in central Oman in order to provide a guaranteed gas supply for 25 years. As per the contract, PDO drilled wells, hooked them up to a new gas processing plant at Saih Rawl, and then made arrangement to transport the processed gas via a 352 km pipeline to Qalhat. This upstream LNG project, costing US\$1.2 billion, is among the biggest and most complex projects in PDO's history. But much to the credit of PDO, despite the huge challenges involved, the project was completed as planned and in November 1999, the Saih Rawl Central Processing Plant and the gas pipeline from Saih Rawl to

Qalhat were dedicated to the nation.

With its gas supply guaranteed, the LNG plant was commissioned on time to make its first shipment of LNG. Since then, long-term LNG export deals have also been signed with customers in Japan, India and France. But demand for gas within Oman has also risen sharply since the turn of the century, most notably among the new gas intensive industries (producing steel, aluminium, petrochemicals etc.) that are developing around the port of Sohar, as part of Oman's economic diversification drive.

Even though gas production in Oman has grown by leaps and bounds – PDO expects to deliver as much gas in the next five years as it has done in the previous 30 years – the demand pressure is growing. The government has opened up the field to international players also. Until recently, PDO was solely responsible for exploring, developing, operating and supplying gas on behalf of the government. Now part of PDO's concession area has been handed over to British Gas and BP.

Nevertheless, PDO is also doing all it can to support the government's efforts to further exploit the natural gas resources of the Sultanate. In the next five years, PDO is expected to bring a further 11 fields on stream, making a total of 17 fields in operation. These include very deep fields in the south of Oman. Investment in processing capacity has also been maintained, with a new gas processing plant brought on stream in Saih Nihayda in 2005. Apart from serving Oman LNG's plant at Qalhat, gas from Saih Nihayda is also delivered to a second, recently opened, LNG plant which is operated by Qalhat LNG. This gas is transported through a new 48-inch pipeline that was designed and laid by PDO.

A further big processing plant – designed to process 20 million cubic metres of condensate rich gas per day – is due to come on stream in PDO's Kauther gas field in early 2008. Once the Kauther plant is up and running, natural gas will account for some 40 per cent of all the hydrocarbon energy PDO supplies. In 2009, PDO is planning to install one of the largest compressors (in Arabia) at the Saih Rawl field. These compressors are so big that they'll have their own 120-megawatt power station.

Making MORE of less



Colin Lothian, Senior Analyst - Middle East Energy Research of the consultancy Wood Mackenzie examined the significant achievements and challenges that lie ahead of the oil & gas industry in the Sultanate of Oman in a conference presentation. Here are the excerpts:

If we were to believe the numerous reports in business journals and other publications about the decline in oil production in non-OPEC Middle East (which includes Oman), it would be easy to conclude that opportunities in these countries were in short supply. In the absence of any future significant new oil discoveries, I would agree that peak oil has passed for Oman, Yemen and Syria. However, when we consider the remaining resource potential, it is certainly clear to me that huge potential remains.

All of the three countries face substantial challenges in sustaining production in mature fields, in realising value from their gas resource and perhaps most fundamentally in attracting the necessary levels of investment and required skills to ensure the pace of development is maintained – not an insignificant challenge. But each country has a long history and proven track record of working effectively with the international industry, and I see this as fundamental to their respective continued success.

Contrary to the journals and press reports, I actually consider the future for the upstream industries in these countries to be very positive for a number of reasons: all have a strong desire to maximise potential from their resource base, all have substantial remaining potential from new and existing plays, all are prepared to encourage new entrants and with them comes a fresh set of approaches and new ideas. The amalgamation of these and other factors gives me confidence that their respective industries will continue to prosper through the next decade and beyond.

I think it is interesting to note the potential recovery in oil production, which we forecast in Oman on the basis of the plans of PDO, Occidental and other operators. Despite the fact that I consider peak oil to have passed, the reserves picture in each of the countries gives me confidence that the oil and gas industries have long lifetimes ahead of them.

The combined total, over 15 billion barrels of oil equivalent of remaining reserves, illustrates to me the huge potential which remains to be realised in non-OPEC Middle East. Both Oman and Yemen have yet to reach 50 per cent depletion of their reserves and successful exploration effort will reduce this figure still further – again highlighting for me the positive future that lies ahead.

Oman has achieved a steady and sustained growth since oil production began in 1967. When you look at production in this context, which includes oil, gas and condensate – production on a barrel-equivalent basis continues to grow steadily through to the end of the decade and indeed beyond, not decline! From early days in the start-up of the major oil fields of Yibal, Fahud, and Rima, through oil production additions from Occidental's Safah field and on to the more recent success in Oman and Qalhat LNG, Oman has consistently achieved a strong steady production growth.

This strong and continued production growth in Oman has undoubtedly arisen as a direct result of the very successful working relationships that have been established with the international industry – predominantly with Shell and the other private PDO shareholders but also with Occidental, and more recently, a new suite of operators – such as CNPC, PTTEP, BG, PetroGas and MEDCO.

With plans now in place from all of Oman's producing companies, and what appears to be a renaissance in exploration, we expect that Oman will succeed in stabilising its oil production over the next few years and beyond, with very real prospects of continued growth in its gas business.

The nature of developments, in recent years, has become increasingly more complex, and particularly in Oman, operators have been excelling themselves in pushing the boundaries of current technology. Discovery sizes, for oil at least, have been decreasing as operators extract the full potential from established plays – we have witnessed very few new discoveries made in excess of 100 million barrels. Furthermore, there have also been progressively higher volumes of gas being discovered, rather than oil.

And reflecting upon the increased complexity of developments and the generally smaller pool size, unit costs, unsurprisingly have been rising rapidly. This reflects the technological challenges, but also a major resource challenge, which has become prevalent, and all too apparent, in our industry over the last few years. Our regular discussions with the international majors and supermajors have confirmed just how stretched they all are in providing skilled, experienced staff for any new projects.

In a Middle Eastern context, this could become

Wood Mackenzie Perspective – Challenges for Oman

- Low-relief oil pools
- High water cuts
- Exploration on margins of proven play fairways
- Tight reservoirs
- Low-energy oil
- Offshore frontier exploration
- Small field developments
- Deep, tight gas exploration and development



“We expect that Oman will succeed in stabilising its oil production over the next few years and beyond, with very real prospects of continued growth in its gas business”

especially critical if the industry needs to find the resources to support the re-development of Iraq in the near future. And, at the same time, major projects in both Kuwait, Qatar, the UAE and Iran, could all conspire to push resource levels past breaking point.

The cost of maintaining production at current levels is rising steadily. Given recent evidence, this increase could be still higher in light of re-

cent trends in steel prices, the growing demand on the service industry and increasing rig rates.

Contrary to the resource and financial challenges which I have just outlined, it is also clear that industry interest in non-OPEC Middle East is higher than it has ever been. I think there is a strong feeling that high or higher oil prices are here to stay at least until the end of the decade and perhaps longer.

Building partnerships within the industry



Petroleum Development Oman (PDO) actively contributes to the growth and development of other companies in the best interests of the Sultanate. **OER** reports

The role of Petroleum Development Oman (PDO) is not restricted to being an oil & gas company. It plays a much larger role in the socio-economic development of the nation. Besides the government and society, PDO is intrinsically linked to the industry as well. For many years, PDO was the only oil and gas producer in Oman. As Oman has liberalized the

market, PDO has been called to provide its operational and logistical support to the new players – national as well as international. In 2006, PDO undertook joint studies, traded data and even drilled a joint well with other companies active in Oman. A few months back, PDO even signed a co-operation agreement with BP covering the development of the Khazzan and Makarem gas

fields, which were discovered by PDO in its oil-concession area.

PDO works with the Ministry of Oil and Gas on the Omani Technical Training Programme (OTTP), to provide a source of Omani technicians for the oil and gas industry. Sohar Aluminium, Sohar Refinery Company and Occidental of

Oman have all sent young Omanis for training through OTTP.

The Company has devised contracting strategies to create growth opportunities for other companies. In close collaboration with the Government, PDO awarded the first-of-its-kind service contract for the development of a cluster of 18 small fields (currently producing 12,000 barrels per day) in the Nimr-Karim area of south Oman. The Karim Small Fields Service Agreement gives the contractor – MedcoEnergi of Indonesia – a 10-year mandate to accelerate the development of the fields, allowing PDO to devote more attention to its portfolio of large fields, which account for more than 80 per cent of Oman's total oil production. Under the terms of the agreement, MedcoEnergi will finance the development of the fields, recovering its costs from the Company on the basis of the value of the oil produced while the Company's shareholders retain full equity rights to the crude oil. The Company intends to tender a second such service contract this year, covering the Rima Satellite Cluster, which currently produces 2,100 barrels per day from nine fields.

Another major contract with significant innovations was the one awarded to increase compression facilities at the Saih Rawl gas field. The Company developed a contracting strategy based on incorporating the front-end engineering and design as part of the tendering process. The strategy enabled the Company to work with the contractor to reach an early alignment on the design, thereby shortening the overall delivery timeframe.

Most of the Company's activities are supported by more than 400 contracts for goods and services with a total contract value of some US\$11 billion. To improve the management of such an extensive and varied portfolio of contracts, the Company deployed in 2006 a Contract Performance Management framework for all new contracts of more than US\$50 million in value. The framework creates a joint management plan between the Company and the contractor to safeguard the cost, delivery deadlines and quality of the contracted goods and services whilst respecting the Company's standards regarding the health and safety of people and the protection of the environment.

PDO's Local Community Contractor (LCC) programme is a flagship social-development effort to channel its contracts to businesses based in the Company's concession area. Launched in 1998, the LCC initiative gives people living in the Company's concession area opportunities to establish their own companies, which could then provide services to PDO. There are two types of LCCs: Al Ahliya and Private. Al Ahliya LCCs comprise eleven companies that have been set up along tribal lines in consultation with the Ministry of Oil & Gas, local Government authorities and tribal sheikhs. The ownership of a given Al Ahliya company is open to any member of the corresponding tribe. Private

Bahwan Engineering, Al Hassan Engineering... the list goes on – that have also grown up with PDO over the years. OER spoke to top officials of these companies to understand the role played by PDO in their journey of success.

Dr. P. Mohamed Ali, Managing Director, Galfar said: "Our relationship with PDO started in 1977, when we built a small garage for R.O. 900. In 1979 came the 'major' break when we won a contract to put fences around the oil production areas in Lekhwair, Fahud and Yibal. Since then, we have been continuously associated with PDO and are currently working in 22 oil and gas locations. Of the 19,100 people we have in the com-

“A vital reason for our growth as PDO contractor has been our total compliance with their requirements of Safety, Environmental Protection, Quality, Planning and Scheduling”

DR. P. MOHAMED ALI, Managing Director, Galfar

LLCs comprise those LCCs that are not of the Al Ahliya type. Al Ahliya LCCs may accept work related to the oil and gas industry in all areas of PDO's operations. Private LCCs are restricted to accepting work in their geographical base that is not specific to the oil and gas industry, thereby allowing them to pursue opportunities in other industries.

During 2006, new business valued at more than US\$70 million was awarded to LCCs, bringing the total spent by the Company over the last six years through the scheme to over US\$290 million. In December 2006, the LCC programme won the coveted Sheikh Mohammad Bin Rashid Al Maktoum Award for Arab Management in recognition of its achievements in promoting local entrepreneurs.

As stated earlier, PDO has played a major role in the development of many companies – including MB Petroleum, Galfar, Shaleem Petroleum,

pany, 8,200 are employed in PDO projects.

Following the award of the Fahud Township Development Contract in 1980, an important milestone in our association with PDO, there has been a regular flow of projects. The Fahud Sewage Treatment Plant (1981) made us work on major wastewater activities. The Civil Services Contract (1983), covering the whole of PDO's north Oman operations, was a huge challenge for us in planning, scheduling, manpower deployment and logistics. But the one contract that shaped and ensured our future with PDO was the Mechanical Services Contract, first awarded in 1988. It has given us continuous experience of working in the oil fields and facilities.

Galfar has always been extremely comfortable working with PDO. A vital reason for our growth as PDO contractor has been our compliance with their requirements of safety, environmental protection, quality, planning and scheduling. By

following PDO's style of contract management, we were able to vastly improve our performance in all areas of project execution. PDO has always been supportive and encouraging as Gal-far was the first fully Omani-owned contractor to take up major and challenging projects in the desert locations. It was this relationship and the very positive encouragement that motivated us into establishing, in 1990, the National Drilling and Services Company, the first local oil-drilling firm, and in taking up the first-ever turnkey drilling job which was successfully completed in six months.

"We have been doing extremely well in the area of Omanisation. Here too, we took the cue from PDO. The Government has recognized our commitment in providing employment to Omani nationals and training them. And, we thank PDO for showing us the way!"

El-Fatih Ali Omer Hassan, Executive Manager, Shaleem Petroleum Company SAOC said: "Shaleem Petroleum Company SAOC was established as a Local Community Company (LCC) in line with the directives of His Majesty Sultan Qaboos bin Said in the year 1998 with the aim of providing employment opportunities for local communities in the Sultanate of Oman. Since the LCC programme's inception, we have made steady and substantial progress towards achieving our stated goals. The credit for our achievement fully goes to PDO that has systematically guided us in our performance and execution of work.

"We have been awarded with a major multi-million dollar contract for Well Workover Services with PDO in south Oman. Shaleem Petroleum has grown from a single hoist with 40 people in 2003 to five hoists with almost 300 people today. We are maintaining an Omanisation level of over 80 per cent – a great success story behind our phenomenal growth. PDO, through audits, inspections, site visits and individual one-to-one discussions, has supported Shaleem."

Maqbool Ali Salman, Managing Director, Al Hassan Engineering Co. SAOG said: "I convey my heartiest congratulations to PDO on the occasion of 40th Anniversary of the first shipment of Oman crude oil, which laid the foundation of progress and prosperity of the nation. Al Hassan Engineering Co. SAOG (AHEC), member of Al-Hassan



Group of Companies, the only EPC (Engineering Procurement Construction) company listed on the Muscat Securities Market, has been involved in the development of upstream oil & gas resources of Oman through PDO for past more than two decades. AHEC has successfully completed several PDO projects in various disciplines like Civil, Structural, Mechanical, Electrical, Instrumentation, Painting, Pipeline etc., including Power stations, Sub-stations, Overhead Transmission Lines, Engineering Maintenance Contracts, Oil & Gas Gathering Stations and Water Injection facilities. Out of the different projects of PDO completed by AHEC; the following projects received awards:

- Best Project Award for the year 2005 by PDO for Saih Nihayda Gas Plant & Associated Facilities Project; and
- Second Best Project Award for the year 2005 by PDO for 48" Size, 270 Km Central Oman Gas Pipeline Project.

"AHEC, rated as one of the most reliable Contractors by PDO, has one of the best HSE records and have been strongly contributing towards the development of Omani youth; by providing them on the job training and employment opportunities.

"PDO is our prime client for two decades and because of its focused approach towards oil &

gas industry, as the nodal agency for the development of this sector, it has provided us with immense opportunity to grow in a structured manner. Over the years it has inculcated in us the values to put high stress on reliability, quality and HSE; which has put us in the elite league of their contractors' panel, capable of executing major projects. Our valuable experience of working with PDO has also helped us in pre-qualifying as an EPC contractor with major oil & gas companies in the neighbouring countries.

"PDO having most of their systems & procedures from world-leader Shell; has continuously encouraged its contractors to follow international business process standards in projects execution. This has enabled us to ramp-up our internal business processes with state-of-the-art IT systems.

"We owe a lot of thanks to PDO for their fairness and transparency in business transactions, unstinted cooperation, guidance, support and for the opportunities they have been providing us all these years.

"Due to growing focus for further development and expansion of oil & gas sectors by the Government of Oman, PDO will continue to play an important role in the growth of our business and we foresee our association to further strengthen in coming years."



**'Working
for PDO
was a good
training
ground'**

HE Mohammed Al-Barwani recounts his experience with Petroleum Development Oman (PDO). He is the Chairman of MB Holding Company LLC, Honorary Consular of Republic of Poland in Oman and a member of the board of directors in several organizations including Oman Air, Al-Madina Gulf Insurance (Chairman) and TransGulf Investment Company (Chairman)

On the 40th anniversary of Petroleum Development of Oman's (PDO) oil exports, I would like to recall my long association with PDO. I joined PDO in 1976, shortly after graduating from the US. For the first two years, I was posted as a well site petroleum engineer on drilling rigs.

The work was challenging and demanding, as also very rewarding. We were involved in drilling, exploration and production wells, some of

which were major oil discoveries, I felt like I was part of an organisation that was contributing directly to the national economy.

Working for PDO was a good training ground, and it prepared me at a young age to take responsibility and be accountable. I had a lot of responsibilities, and gained wide experience in taking orders, managing operations, dealing with people, and having to report to my supervisor in Mina al Fahal.

Later, PDO sent me to UK to study for a Master's degree in petroleum engineering, and I continued working for PDO in different petroleum engineering departments for 10 years until I resigned in 1986 to start my own business.

I started MB Petroleum Services in 1986. PDO imports a large number of products and services from international oilfield services companies. The larger ones already had their own offices in Oman and were already represented.

So, I was left to approach the smaller companies, and offered to represent them and market their products in Oman.

However, even these smaller companies turned me down for lack of business track record, lack of facilities such as warehouses, workshops, banking lines, etc. Nevertheless, at the end, I managed to sign up a couple of principals; marketed their products and provided technical support. From then on, the business slowly picked up. As our track record built up we signed up more principals. In 1991, we successfully provided our first well-servicing rig to PDO. A year later we were successful in providing three more units. Since then we have serviced and repaired thousands of wells. In the initial years, 80 to 90 per cent of our business came from PDO contracts.

MB Petroleum's strategy was to align its services with PDO's requirements. By following this strategy, we were successful in making PDO our largest customer, and no doubt we benefited from this association. PDO also benefited equally by having a local service provider whose services were competitively priced as well as which understood PDO's technical requirements, their safety compliance, quality, Omanisation and sustainable development to local communities.

However, our association with PDO has not always been a honeymoon. PDO is a very demanding customer that has very high standards and does not tolerate poor service quality. We have had to deliver high standards and compete with major international services companies to get PDO contracts, which was not an easy task. But having to deliver high standards of services made us a world-class service provider that could compete internationally.

Our successful track record opened new opportunities for new business for us. We not only expanded our scope of business with PDO, but also expanded our operations to new markets including Europe, Middle East and Asia.

PDO and Shell

PDO and Shell have excellent reputation in the international market. They are known for their strict adherence to high standards of operations. Our sustainable association with PDO

“Our association with PDO has not always been a honeymoon. PDO is a very demanding customer that has very high standards and does not tolerate poor service quality. We have had to deliver high standards and compete with major international services companies to get PDO contracts, which was not an easy task. But having to deliver high standards of services made us a world-class service provider that could compete internationally”

provided us with the necessary systems and credibility acceptable in the international market. Our ability to provide satisfactory services to international clients around the world gave us confidence to compete with the best companies in the world.

Today MB Petroleum has operations in 11 countries and employs close to 4,000 people. MB Petroleum is a subsidiary of MB Holding, which has wide interests in oil, gas and mineral explorations, and investments in financial services.

It's the tough teacher that makes a good student. Similarly, our relationship with PDO has made us a successful company. We have acquired the skills to compete globally, I am glad to say that today we are the most multinational of any Omani company. We operate in Germany, Hungary, Syria, Saudi Arabia, Qatar, Yemen, Mozambique, India, Malaysia, and China. We have also had operations in other countries such as Russia, Indonesia, Austria, and Tanzania.

Initially, it was our business with PDO that fuelled our growth. Later, as we moved into exploration and production of oil and gas, our model was to develop a junior oil company that will acquire small oilfields, which are not economical for major oil companies. Our break-

through came in 1999, when Petrogas acquired Elf's oil field in Oman, and in 2001 when Petrogas bought the Daleel oilfield from Japex.

Junior Mining

Along the same concept of a junior oil company, we started a junior mining company, National Mining Company (NMC) and explored for copper. Copper was mined in Oman in ancient history; Oman's name in the Bronze Age (2300 BC) was Magan, which was the source of copper to Mesopotamia. In 2007, after a decade of exploration for copper, NMC started producing copper in Oman. Hence, we now have interests in oil, gas and minerals exploration and production.

Our plan for the future is to continue global expansion in our core business areas of oil, gas, and mineral exploration. In the coming years, we plan to expand our operations in North Africa, and South East Asia. The business opportunities in the global market are unlimited, and the fuel for this growth was provided by PDO in early days of our business.

As we diversify and make strategic forays into new markets, I congratulate PDO on the 40th anniversary of the successful exports of Omani oil and wish that PDO would continue to play as a catalyst in the success of other Omani companies.

Nurturing Leadership

OER features some of the prominent personalities' experiences while working for PDO and the role played by PDO in shaping their careers



"I started work with PDO after finishing school. It was in 1962. I finished with PDO five years later, in 1967. I learned a lot, because at that time just a few Omanis were employed in PDO but they did a variety of jobs: from office work to technical work to guard work and to even the driving work. I think that period was full of experience, full of activities, from which I have benefited a lot. Actually, I based all my commercial activities afterwards on the knowledge that I learned at that time.

"I was involved mostly with the administration of materials during my stay in PDO. I handled ordering, MESC coding and material specification. So, I became exposed to every type of activity related to importing of materials, storing them, and issuing them to the appropriate drilling areas. When I started my own business, I actually started with the same type of materials. I started with tools, paint, electrical appliances and so on. Why? Because at that time PDO was the largest purchaser in the whole of Oman. For a business like my new one, it was natural that it would be my aim to sell things to PDO. So, yes, I learned a lot from PDO, and then I applied the same things in my own activities as a businessman."

HE MOHAMMAD AL ZUBAIR

Advisor to His Majesty the Sultan for Economic Planning Affairs

"I worked in PDO during the period 1982 to 1987. I was a young graduate then, and joining PDO was a good experience. As you come from the university, you have a lot of information and knowledge. But when it comes to the realities of working in the field, it is a different experience. As an engineer, I worked as a Site Supervisor. It was a very good experience to learn in the field. What I also noticed in PDO was that, as you learn and get experience, you develop yourself and your career.

"As the next step, I moved to project engineering and civil engineering and worked in some of the big oil fields like Nimr, Marmul and Fahud. I worked in the different areas of the Sultanate where the oil is produced. And that is also an experience by itself – going and seeing the different parts of the country. You see the working environment in every area. You build up contacts with the outside world. As PDO has a close association with Shell, it gives an employee the chance to go to other countries such as Holland for training and development. The good thing about working at PDO is that you have to be concerned with different types of activities – engineering, administration, finance etc. It gives you a good exposure to business in a wider sense. I am very happy to see that now PDO is celebrating its 40th year since the first oil shipment. PDO, keep on doing a good job."

HE ENG. SALEM SAID AL GHATTAMI

President, Oman Chamber of Commerce & Industry



"I've spent various periods of my life in PDO. The first time was in Azaiba, where I joined as Accounts Clerk in June or July 1966. I stayed there for a year before deciding to continue my studies. So, that was my first period. And that was a good training, because it helped me in my accountancy qualification. I needed that one year practical experience for my FCCA qualification.

"The second period was when His Majesty Sultan Qaboos came to the throne in 1970, and PDO invited me to come and join them – I was in Dubai then. So, I joined PDO. I think it was July '72. They appointed me initially as an Assistant General Auditor, and then I became in-charge of the treasury. I stayed at that latter job for a year, until the government invited me in July '73 to join what used to be called the Department of Accounts but is now known as the Ministry of Finance. So, again, working with PDO in Internal Audit was a good learning experience. Remember: PDO's budget in those days was larger than the government budget! So, the discipline imposed by systems, procedures and controls as well as the management of financing and cash flow – all those things were important aspects of my PDO job that I carried with me when I joined the government. I wish PDO, which is one of the most important companies for the Omani economy, all the best."

DR. MOHAMMED MOOSA
Ex-Minister of Development



"I joined PDO in 1959 and left it in 1972 – which means that I spent almost 12 years at the company with colleagues like Mohammed al Zubair, Mohammed al Jamali, and Khalfan bin Naser al Wohaibi.

"I started working in the field of exploration at Fahud from 1959 to 1961, after which I was transferred to the company's office in Azaiba. (The main office was later transferred to Mina al Fahal.) At that time, I was working in the warehouse that supplied orders for spare parts, auto parts and other supplies. We used to process applications from abroad. I learnt how to be more punctual. I thought of myself as a punctual person, but I learnt at the company the exact meaning of punctuality. I like to see everybody punctual and dedicated. I used to be upset if I noticed overstaffing in any department. I was sent in 1970 to attend an advanced course in management. The four-month-course focused on material management and, as far as I know, I was the first Omani to go to UK to study computers. After His Majesty Sultan Qaboos' accession to the throne in 1970, the late HH Sayyid Tariq bin Taimur al Said, who was the Prime Minister, offered me a post in civil aviation, a subject that required me to go for different training in the UK. There is a big difference between the PDO of today and the PDO of that time. It has now become a very well-known oil company."

SAYYID SALIM BIN NASSER
Ex-Minister of Transportation and Education

(Source: Al-Fahal)



‘PDO is the largest private-sector employer of Omanis’

Mundhir S. al Barwani, Human Resources Director, talks about the Company’s HR practices besides a host of other related issues in a tête-à-tête with **Akshay Bhatnagar**

How critical are human resources for PDO to continue its success story?

In today’s competitive market, people have become much more critical. In fact, I would say that human resources have now become more critical than financial resources. There are plenty of investors around the world willing to put money into projects. But if you don’t have people of the right calibre, then I’m afraid you’ll struggle to execute the projects. Human resources are the key to drive your business performance forward.

In PDO, we believe that our success is powered by our human resources. The fact that new market players are trying to attract talent from PDO is an indication of the excellent quality of our people.

How many Omanis are working in PDO?

As of now, 3,927 out of the total 5,097 employees are Omanis. More Omanis work for PDO now than ever before. Moreover, almost 360 Omanis are in senior or top management positions.

People from different nationalities and cultures work in PDO. How do you ensure that they work in harmony so that they work towards the common objective of the company?

In PDO, we’ve about 50 nationalities. It doesn’t matter whether the employee is an Omani or an expatriate, the focus is on business delivery. Each employee has an annual business performance contract in place, and his performance is reviewed at least once a year according to that contract,

which specifies expected deliveries from him. This drives enthusiasm, competition, commitment, accountability and clarity to perform as per the prescribed role. In case a disagreement comes up, we have a dedicated team to look into the matter and lead to an amicable solution.

Can you tell us about the induction programme for a new employee in PDO?

Every new employee has to undergo a comprehensive two-day induction course that gives knowledge about the Company, its stated objectives and how relevant information could be taken from respective departments within PDO. Depending upon the technical discipline of the employee, there are additional tailor-made train-

ing and familiarization programmes in place as part of the on-boarding mechanism.

PDO follows a very sound HR policy. How do you ensure that your business partners like contractors also follow similar high standards of HR development?

Contractors run their own business, and we don't interfere in their business. If they seek advice from us in certain areas of expertise, we always discuss it with them. But at the end of the day they are accountable for their business.

Does it mean that you don't expect them to have certain bare minimum HR standards?

That's part of contractual arrangement. The contractors are bound by the contractual obligations particularly on the health, safety and environment fronts. We do expect them to deliver certain level of HR competence as per the contractual requirements.

There is a severe shortage of professionals in oil and gas industry worldwide. How PDO is meeting this challenge?

True, this is a challenge for us as it is for any other oil & gas company in the world. We have changed the way we recruit people. To scout the talent, we are exploring newer markets where we've never been before. Algeria, for example. We are now recruiting people from there. We are relying on professional HR agencies to attract people from all over the world. Shell, as a shareholder in PDO, is also committed to providing us with professionals.

... but professionals are leaving PDO as well for more lucrative options outside?

I do agree that it hurts when someone leaves the Company. But if you look at the bigger picture, our investment in the person has not gone waste. He/she takes up a job to serve another company, but ultimately the Sultanate is benefiting from his/her productivity. We are proud that there are ex-PDO employees in all almost all oil & gas companies operating in the country today.

How long you have been working in PDO?

I'm approaching 20 years.

What changes have you seen in terms of new recruits or the potential candidates approaching PDO in the last 20 years?

In the "old" days, when we joined PDO, we never thought we'd leave. Today, if you believe that a

new recruit will also think in similar way, then you're wrong. Our recruitment strategy is to hire more people than we actually need, as we expect some of them to leave eventually. Our experience is that some will leave after three years, but most stick for at least five years. If they remain in Oman, as I said earlier, that's not a loss. We always hope that staff leave for the right reason, such as a better opportunity to develop a career

and not just for money alone. For our part, we try our best to give employees challenges and opportunities as well as the means to develop their skills and competencies.

When I joined PDO, we were producing 800 thousand barrels per day. Today, we produce much less because the fields are getting older. Gone are the days of easy oil. Our facilities are



ageing. And that's the challenge of our business. PDO has always had a challenging environment that requires people to give their best. Those who get excited by this challenge will remain with us. We appreciate their dedication and trust in us.

Too much of work also makes Jack a boy dull, as the popular English saying goes. How do you ensure that your employees have a fulfilling life after office hours?

In PDO, we make sure that the work environment is not only exciting but also enjoyable. We work hard and play hard too! We have excellent recreational facilities to provide adequate opportunities for rejuvenation – golf, football, sailing, indoor sports... we have them all. We also encourage our people to avail themselves of their annual leaves, to relax by going back to their home country or to go on a holiday trip. We don't allow people to carry forward more than one year's leave. This is simply to encourage people to take a break and rest rather than just accumulate leaves.

Do you have any mechanism in place that facilitates mentoring of employees?

Absolutely. We've a system called 'workplace learning'. We did a successful trial of it in the Study Centre, and now we're implementing it in other sectors of the Company. Under this scheme, what you learn should be transferred to your team members. This means every individual would have a coach or a mentor. The mentor is expected to guide the young professionals into different areas of work and also to provide advice in area beyond work. If the individual decides to ask for guidance in his personal life, it is always there. Our managing director also interacts with PDO team members through a open forum on his website.

You are the cornerstone of PDO's HR practices. How do you keep yourself updated?

My team and I attend relevant conferences, read about new HR development practices and take part in related open discussions and forums.

What are the other new challenges that HR is facing in Oman?

I think HR will be facing a new challenge in Oman with the legalisation of labour unions. Another important change is that the HR fraternity in Oman needs to move away from the old approach that focused on personnel and administrative function; it needs to become a pure HR consultant to the business. The function of HR



PDO's key training programmes

1. Middle East Learning Hub launched in 2006, in association with Shell, brings world-class learning programmes into Oman.
2. 'Workplace Learning' for young Omani graduate staff at the Study Centre aimed at creating a new cadre of highly skilled technical professionals.
3. 18-month Technician Omanisation Programme (TOP) to develop its maintenance technicians and production operators from the pool of young, non-graduate Omanis.
4. Two-year Vocational Technical Training programme (VTTP) aimed at young people from the PDO concession area.

is not to police staff but to facilitate the management of people in the business. Once you get that mindset right, your policies probably need to be different, the way you recruit people needs to be different, the way you pay and retain people need to be different. And that's something that will always keep us asking ourselves how best can we serve our people.

Is there any development on the formation of labour union in PDO?

We believe that it is up to the employees to decide whether they want to have a union or not. The management has no direct role to play in that. I believe that management should not be part of the formation of union. But I also believe that management should not obstruct a union's formation.

How soon do you think that a labor union will be a reality in PDO?

I see it coming probably in the coming three months or so.

How is the management preparing for it?

The management is looking at providing proper education and guidance to the people in the true spirit of the regulation. We're trying to establish a smaller unit or section where people will learn on how to arrive at collective agreements etc.

Isn't it going to be a challenge for you as PDO has employees from different countries at different levels with different kinds of needs?
You're right, but there will be only one union...

But isn't there a probability that in a large company such as PDO a small section of the union could drive it in a wrong direction that may not be in alignment with the management's objective?

That's exactly what we're trying to avoid. If we get it right now, it'll be a smooth ride later on. If we get it wrong now, it could lead to trouble in future. But the bottom line is that we need to be prepared.

Conducting business the e-way



Petroleum Development Oman (PDO) has made a major headway in adopting a secured electronic supply chain management system to bring down cost and enhance efficiency and transparency. **OER** takes a look

The usage of information technology (IT) in organizations has made a substantial contribution to improvements in both the efficiency of resource management and the effectiveness of streamlining and transforming business processes. In order to harness the full potential of IT, Petroleum Development Oman

(PDO) prepared a blueprint of existing business operations and the supporting IT systems in the late 90s. The key finding of the study identified six strategic themes within Supply Chain Management (SCM) area – financial, transparency, process visibility, process simplification, standardization, automation and competent workforce.

To realize the six strategic themes, the oil and gas company implemented SAP enterprise management system in January 2002. A SAP business warehouse was subsequently implemented in January 2003. "This provided PDO with an integrated platform for the management of the enterprise as a whole and the subsequent

adoption of further e-business tools and processes,” said Mahmoud al Lawati, Head-Services Supply Chain, PDO.

Moving on to further improve the e-business process, PDO implemented iX2. This is a digital document exchange that is developed by Oman TradeNet (OTN), a local startup e-procurement company. It was designed with simple yet easy-to-implement functionality that is based on the 20-80 rule – twenty per cent of the e-procurement functionality satisfying eighty per cent of business needs.

“The web-based software application enabled PDO to electronically link with its over 2500 vendors and exchange documents with them. It is a very fast, reliable and cost effective medium for exchanging documents such as request for quotation, purchase order, service entry and smart invoice. It removes the information black hole,” added al Lawati.

Vendors register for free at a website and get to read all incoming communications for free. If they decide to respond, they are charged for sending the quotation. Invoicing is done through the OTN exchange. PDO is running a pilot to test the electronic invoicing and payment service. This will eliminate the manual process of checking that the services have been carried out and payment could be made to the vendor,” said al Lawati.

When PDO sends an RFQ (request for quotation), vendors can both access the RFQs and reply using iX2. Quotation details are locked into the system until the bid due date, when they are released to the PDO buyers who issued them. This will ensure the controls are in place and remove any doubt of confidentiality on vendors quotes. Quotations are analyzed, and a PO (purchase order) is issued to the winning bidder through iX2. To maximize the use by vendors, free training sessions are offered. If a vendor does not own a PC or has no permanent internet connection, a text message is sent to the vendor's mobile phone with the information update.

In addition to SAP and iX2, another key system of the e-business process in PDO is Public Open Tender (POT). This system enables PDO to broadcast tenders to a worldwide supplier community including suppliers that are not

E-PROCUREMENT BENEFITS

- Cost reduction that results from huge gains in procurement efficiencies, particularly for the buyer
- Enabling the buyer to locate vendors that better match their needs
- Reducing requisition-to-order time cycles for both buyers and vendors
- Extending and/or consolidating the vendor base
- Increasing process visibility across the supply chain
- Increasing spend visibility
- Enhancing relationships between buyers and vendors
- Enhancing corporate governance (e.g., reducing off-contract maverick spending for the buyers and increasing compliance)
- Increasing professionalism through the adoption of best practice

registered with PDO. The interested parties are invited to visit PDO's new open-tender website at www.pdotenders.com, where they can obtain more details about the process. POT went live in November 2004.

“The next stage on our journey in e-business is to enable technical submissions for tenders. There are some improvements which need to be addressed in the infrastructure to allow the use of this feature. When this feature becomes operational, then this will be a major milestone reached on our journey in digitization of our supply chain process,” said al Lawati.

Online bidding (OLB) is also an important component of PDO's e-business process. This is a reverse-auction method of collecting price information using an internet tool. All other aspects of a traditional tender process are the same. In the online auction, pre-qualified and invited suppliers have an opportunity to submit their price. Online bidding evaluates offers in exactly the same way as sealed bids; therefore for any given set of tendered prices, the resultant award

decision for an online bid would be the same as for a sealed bid. OLB determines the overall best value proposition – not just the cheapest.

OLB promotes transparency and highlights integrity in the tendering process. It reveals market information and true market prices. It provides bidders with the chance to improve on their offers in response to competition. It improves tender results through up-front preparation (more accurate specifications and more disciplined internal assessment of value offering of suppliers). PDO experience so far has demonstrated that the offers reflect the competitiveness of the market.

An important addition to e-business in PDO is procurement card. The use of the procurement card enables PDO departments to procure and pay for inexpensive items by utilising the corporate credit card. The utilisation of the procurement card offers substantial benefits to both buyer and seller alike. It eliminates much of the paper work and many steps involved in purchasing. The savings on administrative costs alone are well worth the employment of procurement card.

‘Social investment has been the driver of PDO’s business success’

PDO’s size and its role in the economy means that it is inextricably linked to Omani society as a whole. PDO’s social investment standards are second to none in Oman. **Akshay Bhatnagar** speaks to Abdul-Amir bin Abdul-Hussein al Ajmi, External Affairs and Communication Manager, PDO on the oil & gas major’s social investment strategy and its key initiatives



What social investment means to PDO?

PDO’s production of oil and gas is a major contributor to Oman’s economy. Over the last 40 years, we have worked hard to ensure that we are able to perform our duty of a good corporate citizen. The focus of PDO’s social investment (SI) strategy is to maintain and nurture the environment, protect and improve society’s health and provide opportunities for community development. Although we focus on the PDO concession area, but our work with the community spans the entire nation.

Who drives the SI programmes in PDO?

They are implemented by PDO’s external affairs and communications department in close co-operation with other departments within the company under the guidance of the Social Investment

Committee which includes senior government officials and PDO managers. The SI advisors work with project management team right from stage one of the concept selection, designing, construction phase and operation of the project.

Don’t you think that SI leads to escalation of project cost?

For PDO, SI is not an afterthought. It is a part of our business principles. It is not a cost for us but a driver of our business success. It enhances our credibility as a responsible company that is committed towards instigating and supporting initiatives for the benefit of the society.

How do you undertake SI activities?

We do not carry out SI in isolation. At the organizational level, we engage and partner with gov-

ernment bodies and local authorities to design and implement SI plans. We consult stakeholders including local people, Walis and Sheikhs etc. to make sure that our SI activities are integrated into the local social, economic and environmental context and accepted by communities. The SI committee established by the government, besides PDO’s top management, assesses, evaluates and endorses proposed social investment projects and monitors progress of the approved ones. We have an Integrated Impact Assessment (IIA) programme in place to steer our social investment.

Could you elaborate more on IIA?

Launched in 2003, IIA is a unique initiative that effectively ties together all the different strands of PDO’s social responsibility and sustainable

development agenda. It takes into consideration environmental, social and economic impacts when implementing the projects. It helps to avoid possible adverse impacts that might occur in the absence of such study. We involve communities, follow-up work progress and evaluate projects post implementation. All these factors contribute to the overall success of the project. Most of other Oil & Gas operators in Oman do ask us how to carry out IIAs in order to achieve the desired benefits.

Could you give one shining example of IIA's success?

Though there are many to talk about but Harweel's example is a special one. An IIA conducted in Harweel area of south Oman revealed that only one person was left in the Sultanate who still practiced the ancient art of camel bone carving. He was over 80 years old. PDO's desire to create sustainable projects for local communities led it to try to revive this rare craft and preserve a bit of cultural heritage. PDO took the challenge of training local women in the art of camel bone carving to save it from extinction. The company initially sponsored five local women to be taught the craft, as well as imparting advice on how this could be converted into a sustainable business. The project has been so successful that PDO is currently funding the creation of a full-fledged craft centre that will give employment to local people and will be run by Oman's Public Authority for Crafts and Industry.

What are your other recent social investments?

In 2006, PDO signed 11 memoranda of understanding (MoU) committing over RO1.5 million for a range of initiatives in education, healthcare, fisheries, traditional crafts and community development. Taken together, the MoUs represent the largest package of social development initiatives financed in one go by PDO. In December last year, our Local Community Contracting programme won the coveted Sheikh Mohammad bin Rashid al Maktoum Award for Arab Management. Over the last six years, we have invested close to US\$200 million supporting local entrepreneurs through this programme.

In 2007, we have already announced number of social investment plans. The communities in the Harweel area in Dhofar will benefit from two reverse osmosis water treatment plants. Twenty-four schools across Oman will be provided



PDO's Social Investment Categories

- Strategic social investments – Local community contractors, education and training.
- Social investment within major oil & gas projects – Local employment, traditional craft business, veterinary care.
- Corporate social investment projects – Establishing small businesses, education materials, information technology for visually impaired, multimedia centre.
- Grants and donations
- Gift to the nation – Traffic Safety Institute, Oil & Gas Exhibition Centre, Planetarium and Public Knowledge Library.
- Local community support – local employment opportunities, public utilities.
- Disaster recovery relief



with playground sunshades offering a safer and healthier environment. PDO has partnered with Public Authority for Craft Industries to support and revive traditional handicraft industries in Al Dakhliya and Musandam.

The development of the Al-Hujira Craft Centre for Women in Al-Suwaik will create jobs and contribute to find new markets for regional Omani craft products. In Dhofar, PDO will support two training courses for 50 people to learn

how to set up and run small businesses. PDO's MoU with the Environment Society of Oman (ESO) will allow the ESO to hire an "environmental champion" to undertake environmental awareness work in Muscat. PDO's support for a Paleolithic Survey of Central Oman will help deepen the understanding of Oman's early history. More proposals are under consideration. PDO left no stone unturned in providing full support to the authorities and society to restore normalcy post Gonu cyclone.

HSE: No complacency

The complexity and scale of the operations of Petroleum Development Oman (PDO) are always a cause of concern for the Company's health, safety and environment (HSE) standards. **OER** takes stock of PDO's performance on the HSE front



Petroleum Development Oman (PDO) is known for setting new benchmarks in health, safety and environment (HSE) standards in the Sultanate. In some cases, its HSE norms are much stricter than the global standards. Talking about the HSE objectives of the Company, Naaman Ali al Naamany, Corporate HSE & SD Manager said, "We want to protect the health and safety of anyone affected by our activities – whether employees of PDO and of its contractors or merely by-standers. We also protect the environment and aim to be recognized as

a good corporate citizen. We have devised our HSE, Engineering and Operations Management systems to ensure this."

How does PDO ensure that HSE guidelines are followed? Al Naamany said, "Our HSE department acts as the conscience of the organization. Our yearly HSE business plan is developed, implemented and continuously reviewed in accordance with the specified standards that form part of HSE Management system. The HSE corporate activities cover operational safety, engineering

safety, environment, auditing, incident investigations, sustainable development and occupational health. Each section is important.

"Let me give you a simple example. We use 780 different types of chemicals out of which seven can cause cancer. So we must implement religiously adequate occupation health control measures to make sure that our people, environment and society at large are not affected by any oversight or mishap. We constantly revisits our guidelines, improve them if necessary, do reviews and audits to

keep a constant check on the activities.” He added, “The HSE department is like a watch dog. I report directly to the managing director on HSE issues.”

On the HSE performance front, PDO had mixed results in 2006. Five people working either for PDO or its contractors were killed while on company business. Most of these were unnecessary deaths in road traffic accidents. In fact, road safety is the biggest challenge for PDO. In order to avoid such mishaps, we have undertaken several initiatives. One of them was the convening of three conferences that were attended by all the CEOs of contracting companies, to develop concrete measures to improve safety performance across the Company’s operations. To date, only one fatality has been recorded this year (2007).

On the road and industrial safety issue, al Naamany informed: “We are in an evolving industry. Between last year and this year we have increased our activities in terms of kilometres driven by 38 per cent. Previously, we used to clock 1 million man-hours in five days. Now we do that in four days.” On the positive side, the number of lost-time injuries related to road traffic accidents is less than the number of road traffic accidents – which clearly demonstrates that PDO’s standards are effective. For example, in 2006, PDO had 155 roll-over accidents, out of which 54 resulted in lost-time injuries.

PDO organized the first Regional Occupational Health Conference in December 2006. The conference brought together experts from around the globe including representatives from the World Health Organisation, other international organisations, and private companies from the Gulf region and beyond. The conference showcased PDO’s leadership in the field of occupational health. The participants endorsed the Muscat Declaration on Occupational Health – a road map for healthcare policymakers in the region.

On the environmental front, PDO has been successfully recertified as meeting the internationally recognized ISO14001 standards. And, in recognition of its long-standing efforts to preserve the Sultanate’s natural environment, it was awarded the private sector’s Environment Award for Excellence. PDO works closely with environment authorities to avoid any damage to the eco-system. Continued efforts have been made by PDO to reduce the amount of gas that is



Naaman ali Al-Naamany, Corporate HSE & SD Manager, MSEM, PDO

flared. According to PDO’s Annual Report 2006, the flared gas amounted to 0.718 million tonnes, down from 2005, when a total of 1.117 million tonnes of gas were flared. As a result, the Company’s emissions to the atmosphere were equivalent to 6.35 million tonnes of carbon dioxide, considerably less than its 2005 emissions which were equivalent to 8.17 million tonnes of carbon dioxide. More efforts to reduce this further are being undertaken.

Major projects, such as the Qarn Alam steam-injection project, the Marmul polymer-injection project and a range of waterflood projects, were all subjected to an Integrated Impact Assessment (IIA) before being given final shareholder approval to proceed. That shows the commitment

of PDO to preserve the environment and minimize the disturbance to society. IIA addresses not only the social consequences but also the health and environmental consequences of the Company’s intended activities. It makes sure that the Company is fully aware of potentially negative impacts caused by its planned activities and ensures it takes the necessary steps to mitigate them. IIAs were conducted not just for all new field-development projects but also for the expansion and modification of existing facilities. Take for an example, the cumulative impact of the re-development of fields in and around Nimr was also subject to an IIA in 2006.

As PDO breaks new ground, it is also set for new HSE challenges in the coming years.

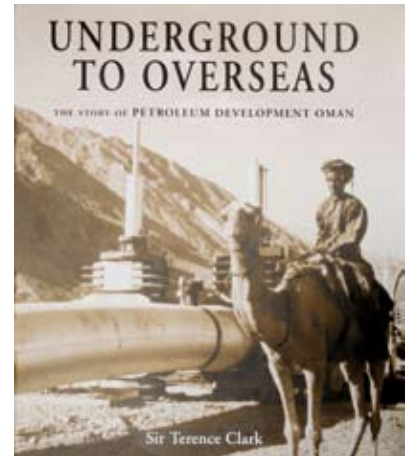
Books – Published by PDO

PDO has a distinguished history not only of producing oil and gas but also books. To celebrate Oman's 30th National Day in the year 2000, it published **Oman: Then and Now**, a photographic testament to Oman's Renaissance. In 2006, it published Oman's first (and, so far, only) Arabic oil and gas dictionary.

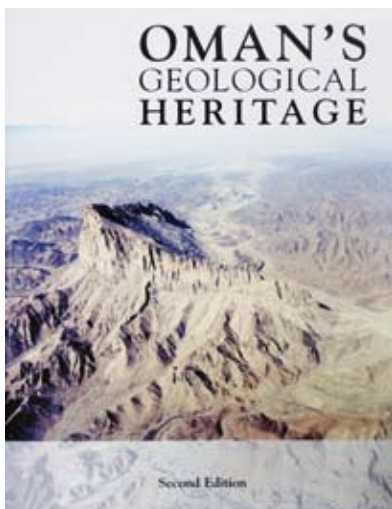
More recently, it has published two unique books described below

Underground to Overseas: The Story of Petroleum Development Oman

The bilingual book written by Sir Terence Clark, an ex-British diplomat who has been associated with Oman for over 30 years, narrates PDO's extraordinary story, from the first frustrated attempts to discover oil to the Company's glowing prospects in its 40th anniversary year as oil exporter. First person accounts are interwoven with Sir Terence's compelling narrative, vividly evoking key moments in the Company's history. Recalling his experience while working on the book, Sir Terence said: "Working back from the drama of the first oil export, I simply let the people from those early pioneering days tell their story in their own words. Some of their stories defy PDO's present culture of health and safety. But then, they were often working in remote and inhospitable areas, where they had to resort to their own skills and ingenuity to find a way to get the job done – even if it meant bending the rules and testing conventional wisdom. A common thread running through all their accounts is the genuine friendship that developed between the Omani workforce and the foreign experts, all of whom retain a great affection for Oman to this day." Illustrated throughout, *Underground to Overseas* captures the spirit of the times and chronicles an outstandingly successful partnership between a commercial enterprise and a nation that is developing by leaps and bounds.



A must read for anyone who wishes to have a good understanding of Oman.



Oman's Geological Heritage

When originally published by PDO in 1990, *Oman's Geological Heritage* provided the first in-depth study of Oman's geological evolution to emerge as the layman's guide to Oman's geology. The second edition, released towards the end of 2006, takes into account new geological discoveries and recent technological improvements such as satellite imagery. The new edition includes an expanded text and numerous new images. The work was undertaken by a team comprising PDO's in-house geologists and international experts. It includes the recent findings such as the discovery of rare fossil pine cone in the Huqf. Likewise a substantial number of new meteorites that have been found on the flat plains of the Jiddat al Harassis finds place in the book. One, discovered in the Wusta region in 2002, is thought to have formed on the moon 3.9 billion years ago. It landed on the earth just 9,700 years ago.

The book's chapter on Oman's oceanic troughs sheds light on the deeper understanding of the role played by plate tectonics. It also takes closer look at climate issues. Oman's climate over the past hundreds of thousands of years has seen cycles with higher rainfall which has provided much of the water now found beneath the desert surface. The book points out that global warming may lead to a rise in sea levels around the coasts of Oman, and higher rainfall that could maintain reasonable reserves of water provided they are used with care. A delight for the readers who have basic to deeper interest in Oman's geology.

Copies of *Underground to Overseas* will soon be available at Family Bookshop Stores, where copies of *Oman's Geological Heritage* – in either the English or Arabic version – can already be obtained. Copies of *Oman: Then and Now* and the Arabic *Oil and Gas Dictionary* are not available for sale to the public.

Going down memory lane

40 years is a long journey, indeed. Many people joined and departed the Company. OER compiles the memoirs of some of them

Darwish Ramadhan al Zadjali:

"I joined PDO's marine department in 1967, working as a crude-oil sample tester – the only Omani in a four-man crew. On the day the Mosprince arrived at Saih al Maleh (as the location was then known), I started work at 7 am and didn't finish until 11 that night.

Loading the Mosprince was a very slow process. I remember it took three days to get all 543,800 barrels of oil on board. Everything was done by hand in those days, but now the loading is controlled electronically. If the tanks are full, we can pump oil at a rate of up to 60,000 barrels per hour. After three years working at the tank farm, I

Mohammed al Hinai:

"On February 14, 1968, I went to work for a PDO contractor in Fahud. I served food to the staff of a drilling rig there. Exactly two years later – on February 14, 1970 – I transferred from the contractor to PDO itself in search of a better job. Working as a mud tester on Rig 4, I learned English slowly but surely with the help of the Western expatriates also working at the rig site. In 1974, when His Majesty visited Rig 4 at Ghaba North, I was chosen to give a welcome speech. This helped me catch the eye of PDO's management, and they pushed me to study for a scholastic degree to act as an inspiration to other Omani employees. At the end of the year, Abdullah al Lamki came to Rig

England in mechanical engineering. I completed those studies with a technical degree in July 1979. Later that year I completed a three-month drilling course in Holland, giving me the foundation to become an assistant driller. I continued to be an assistant driller until September 1983, when I went again to Holland. There I qualified to be the first Omani to reach the status of driller. I worked as a driller for several years, although I had a spell of six months as a wellsite petroleum engineer. In 1988 I qualified as a drilling supervisor (although in those days we used to call such a supervisor a "tool pusher"). Ten years later I was promoted to senior well engineer. Since 2005 I have been working as well engineering co-ordi-



Darwish Ramadhan al Zadjali



Mohammed al Hinai
(Sunshine)

took on the role of Berthing Master Assistant, an offshore job with the nautical rank of Second Officer. Again, I was the first Omani to be appointed to do this job. And it's a job I've enjoyed doing ever since. The last 40 years have flown past almost like 40 days, and in November 2009 I'll be retiring from PDO after 42 happy years."

4 as wellsite petroleum engineer. He suggested I join a correspondence school to learn English and mathematics. As I couldn't afford such courses on my wages, he even lent me the money to pay for them – a debt he never collected to this day!

Soon thereafter I qualified for overseas studies in

nator for all PDO operations. I am very proud of my achievements over the past 40 years. I have grown up with PDO, working my way up through what is perhaps the toughest career path in the oil and gas industry."

Source: PDO periodicals *Al-Fahal* and *Al Manhal*