

**Power Play**  
New energy strategy

What will be the outcome of the new pricing mechanism for natural gas & electricity?

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**Field Experience to Optimize Gas Lift Well Operations**

Most oil wells, at some point during their economic life, require artificial lift in order to obtain the maximum recovery of oil for maximum profit.

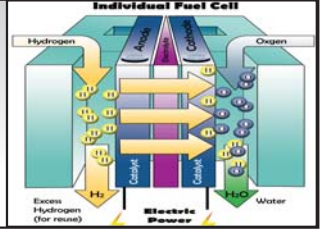
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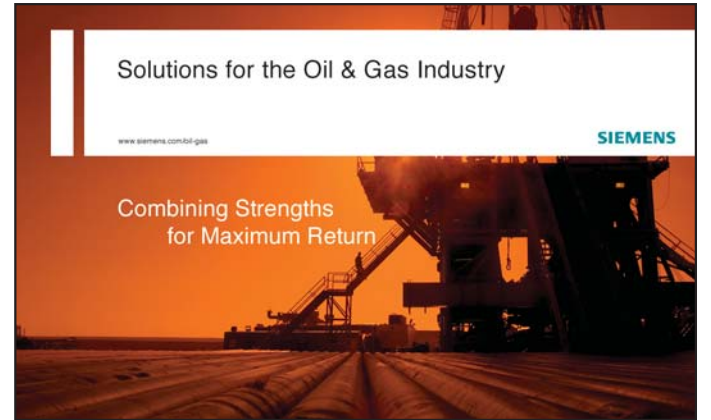
**What If... Hydrogen was the main source of energy**

Have you ever wondered how the world would be if hydrogen energy was applied everywhere?

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# Egypt Oil & Gas Newspaper



## Special Announcement

## New movements in top managerial positions in the petroleum sector

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# Brownfield: Is it Farewell for Now?

By Diana Elassy

The pressing issue of aging fields in Egypt is finally discussed and debated



On September 9-10, Egypt Oil & Gas held its first independent event entitled "The Brownfield Development and Production Optimization Conference and Exhibition." The event was in essence a comprehensive sequel to a workshop held the prior year. The workshop's success encouraged the continuation of, what was seen through the outcome of the workshop as, an increasingly significant topic in the oil and gas industry in not just Egypt but world over

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An Egypt Oil & Gas Organized Debate

## Operators Vs. Service Companies

December 2007



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## Inside An Egyptian Conference: The Good, the Bad, and the Ugly

AS all our readers know, we recently concluded our International Brownfield Development and Production Optimization Conference and Exhibition. This two day conference was the first of its kind in the Middle East and the first of its kind for me. I have organized academic conferences and lecture series, but this was the first time I was involved in the organization of a partially commercial, partially intellectual conference. This experience for me was dowsed with awe-inspiring revelations. I would like to take this chance to share my experiences, and more importantly to scrutinize these experiences and explore what they might insinuate in the grander scheme of our market.

I begin with the exhibition portion of the event. The routine part about the exhibition is that all the companies that partook in the exhibition put forth much effort on their booths. This effort was both while pitching up their areas and also prior to the event during the preparation phase. The interesting aspect about this however is not the tremendous effort that was exerted, but rather the objective of said effort. Everyone wanted to meet the Minister of Petroleum, they wanted to see and be seen. The Minister was unfortunately called out to an important OPEC meeting and could not attend, to the disappointment of the attendees.

The Minister delegated the task of the commencement ceremony to Eng. Hassan Akl, the chairman of the Ganoub El-Wady Holding Company. And once again, the objective of the exhibition was to see and be seen. While Akl circled the exhibition hall, passing by each booth, so did everyone else. While Akl spoke, the conference hall was filled with eager listeners. However, when Akl left, so did many of the attendees, leaving the exhibition hall a hushed memorial of people's efforts.

This was the exhibition; and while it was distressing to see many pass the opportunity to interconnect with varying companies of the sector, this distress waned in comparison to what happened at the conference.

The first day of the conference witnessed the attendance of many company delegates. The first session was a true success; this was of course prior to the speakers having to battle over the attention of the attendees with the lunch buffet; needless to say the lunch buffet won; the session which followed lunch on the first day had about one fourth of the morning attendees.

To me, these minor incidents, which to many are just the emblematic symptoms of an archetypal conference and exhibition in Egypt are telling of a true ailment in our society. We no longer care to listen or to learn. The speakers at the conference addressed and presented some of the most enlightening subject matters, but the delegates did not seem to care much, as long as they received their certificates of attendance. Such antics are deserving of a high school student and not engineers in a booming market. Apparently, you can take the delegate out of high school, but you can't take high school out of the delegate.

Although, to be fair, there were the rare and few delegates that attended each session and actively participated; they genuinely seemed to care; to want to better their knowledge and as such did. To those few delegates I say thank you. Thanks for your appreciation of the speaker, but more importantly for your appreciation of knowledge.

*Diana Elassy*  
Editor-in-Chief

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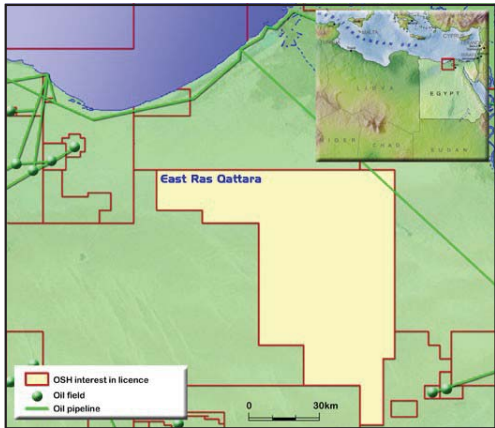
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# Egypt

## Sipetrol starts its drilling activities in Ras Qattara



Australia-listed Oil Search announced that its joint venture partner Sipetrol had started drilling at the Raheek-1 exploration well in the East Ras Qattara block in the Western Desert of Egypt.

Raheek-1 is Oil Search's fourth exploration well in an extended drilling program in this area during 2007 and 2008.

The well has a planned total depth of 3932 meters and will target the oil-bearing Bahariya and Kharita formations, reported *Upstream Online*.

The Raheek-1 well is a partnership between Oil Search with 49.5% interest and Sipetrol International, as operator with the remaining 50.5% share.

(*Upstream Online*)

## MoP signs three new agreements triggering \$193 million investments

Egypt signed three new agreements with local and foreign companies, under which they will set a program to search for natural gas in the Mediterranean and North Sinai, with nearly \$193 million investments.

Eng. Sameh Fahmy, the Egyptian Minister of Petroleum said that the signing of the three agreements symbolizes the success of the ministry in luring foreign investments to Egypt. Fahmy added that international oil companies have the expertise in the search for oil and gas in the different regions of Egypt.

The agreements were signed with Egyptian, Italian, British, Thai and Chilean companies, which would explore for natural gas in a 13,000 square kilometers area with a commitment to drill 18 wells, said the Minister in a statement.

(*MoP*)

## Lukoil makes a new oil discovery at Meleiha Block

An exploration well drilled by Agiba on the Meleiha Block, in the Egyptian Western Desert has discovered commercial hydrocarbon reserves on the Gawaher structure, which was prepared for drilling with 3D seismic survey.

The well has flowed dry crude oil at an average rate of 1000 bpd during the testing. Appraisal of drilling results, adjustment of the field reserves, further drilling-out and development of field infrastructure is presently going on.

First commercial oil from the new field has come into the market already and it is expected that the production on the block will reach 1.5 thousand bpd.

The Extension of the Concession Agreement on the Meleiha Block up to 2024 as ratified by the Parliament of Egypt has come into effect this April. Parties to the PSA are IEOC Production (a subsidiary of the ENI) with a 56% interest, LUKOIL Overseas (24%) and the International Finance Company (IFC), which holds a 20% interest.

Agiba Petroleum is the project operator, which is a joint venture of the state-owned Egyptian General Petroleum Corporation (EGPC), IEOC and IFC.

More than 17 million tons of oil has been produced on the block during the last 30 years. The operating well stock is 141 units, while 12 of them (with a combined rate of 3,200 bpd) were drilled since the beginning of this year.

A total of 800 thousand tons of oil were produced on the concession in 2006. (*Rigzone*)



## Dover Petroleum to Abandon Egyptian Well

Dover has informed Sea Dragon that the EWA-4X well in the Gulf of Suez is to be plugged and abandoned after failing to find substantial hydrocarbon deposits, as the well has reached a total depth of 5,250 feet and has entered the basement formation which in this area is an igneous granite rock formation.

"The highly deviated onshore well has achieved all of its objectives, having successfully penetrated in an offshore position, a major sequence of Carboniferous Nubia formation with several potential sandstone reservoirs", reported *Rigzone*.

Unfortunately none of these potential reservoirs provided indications of economic hydrocarbon accumulations, thus no testing is planned and the well is currently being electric wire-line logged and prepared for final plugging and abandonment, said Dover.

Currently, the partners are now assessing the results from this exploration well and reviewing the future program in the block in light of the new evidence gained from this well. (*Upstream Online & Rigzone*)

## New movements in top managerial positions in the petroleum sector

Minister of Petroleum Eng. Sameh Fahmy made some leadership changes within the Petroleum Sectors. The changes are as follows:

Eng. Sherif Ismail is to be Chairman of Ganoub El Wadi instead of Eng. Hasan Akl, who retired this year.

Eng. Mahmoud Latif is moving from Badr El Din to EGAS as the new Chairman.

Eng. Mohamed Nagi is moving from El Wastani to be the new Chairman of Badr El Din

Eng. Mohamed Moenes is moving from El Wastani as Operations Manager and was appointed as Assistant Chairman for Khalda Petroleum.

Fahmy said that this movement aims at channeling the outstanding expertise in the natural gas sector so the projects of extending natural gas to Ganoub El Wadi can be managed and executed according to the specified schedule. These networks will reach Aswan by 2009 in addition to the development of the explored fields in Upper Egypt. (*MoP*)

## PetroJet wins International Tender to Execute Potash Project in Jordan

PetroJet has won the International Tender offered by the Jordanian Potash Company to execute its \$85 million project, announced the Egyptian Ministry of Petroleum.

Through this bid, which witnessed the participation of several international companies, PetroJet was chosen to implement a new unit project to produce 450 thousand tons annually of Potash, which is used in various chemical industries, including fertilizers.

The Egyptian company will bear the execution of civil works, buildings, and mechanical works including supplying, installing structures, pipes with their accessories, fire control system for buildings, installing equipment and engineering inspection works, tests and implementing electricity works, telecommunications, apparatus, air conditions, in addition to undertaking the needed tests.

(*MoP*)

## Groundstar Resources: Drilling at WEEM Block to Begin in November

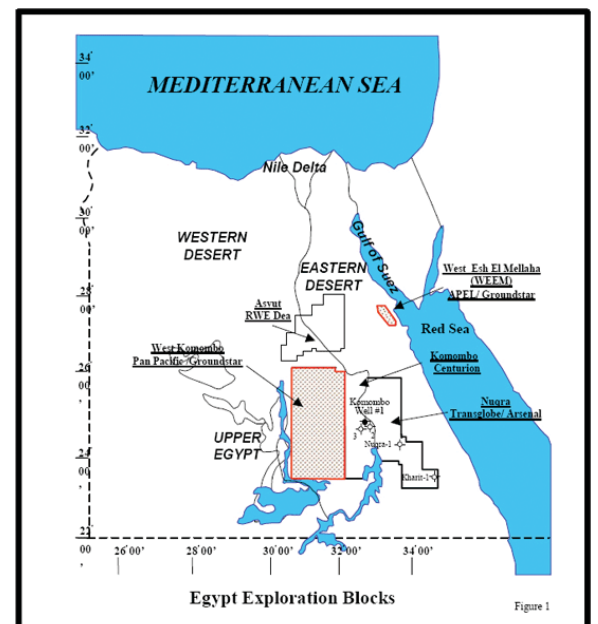
The operator of the block, Aminex Egypt, has advised Groundstar that a brand new drilling rig is available to drill two wells back to back on the WEEM block beginning in mid November 2007.

The rig is rated at 2000 hp and is currently in Egypt. It will drill its first well in Egypt for another operator, then move to the WEEM block. Two seismically defined prospects in the south part of the block near Lukoil's production area are to be drilled. One well will drill to approximately 12,000 feet and the second to approximately 6,500 feet.

Earlier last September, Centurion Energy announced the discovery of the first

commercial oil field in Upper Egypt. The well tested light crude oil (37 degree API) from a Cretaceous reservoir at about 4,000 feet. Centurion also announced a US\$30 million development program, which will include early production by truck and rail tanker to a refinery at Assiut. This commercial discovery has great significance to Groundstar, as the WKO block is located immediately to the west of the Centurion Kom Ombo block. The WKO block has similar subsurface geology with a thicker sedimentary section. Groundstar looks forward to an exciting future with respect to its West Kom Ombo exploration activities.

(*Rigzone*)





## Dana Gas makes historic oil discovery in Southern Egypt



Dana Gas has made the first oil discovery in Southern Egypt from its El Baraka-1 exploration well drilled in Komombo Concession in Upper Egypt, announced the company in a statement.

The discovery was hailed by the Egyptian Petroleum Minister, Eng. Sameh Fahmy, who visited the site on location and renamed the new field Al-Baraka.

"We are very excited about the discovery" said Rashid Saif Al-Jarwan, General Manager of Dana Gas, as these results prove the presence of an oil province outside Egypt's conventional producing areas. This important discovery could have a positive impact on the economic development of the Upper Egypt region. Our forward plan is to work with our partner Ganoub El Wadi (Ganope) to analyze the test results and determine the full value of the discovery in terms of recoverable reserves and productivity of the various reservoirs".

Hany Elsharkawi, Dana Gas Country Director added that this is the first time for oil to be discovered in commercial volumes in Southern Egypt. The company is very much encouraged by these significant results and plans to continue its aggressive exploration/appraisal program in the area. "We are working very closely with Ganope and the Oil Ministry to bring this oil on production as early as possible utilizing the existing transportation and refining facilities," said Elsharkawi.

The El Baraka-1 well was drilled by Dana Gas' Upstream Division, Centurion Petroleum Corporation, to a total depth of 8712 feet and the well penetrated several oil bearing

zones. Testing of the Early Cretaceous Abu Ballas Formation produced approximately 150 barrels of oil per day from a 39 foot perforated interval. The recovered oil has a specific gravity of 37°API with wax content similar to the crude oil currently being produced and exported in large quantities in Sudan. Three additional intervals were also encountered in the deeper Early Cretaceous section and recovered various oil volumes on test. Oil reserve estimates of the various zones of this discovery are currently being evaluated.

The Komombo concession is located 700 km from Cairo and 320 km from the closest refinery at Assiut.

Dana Gas is currently the 6<sup>th</sup> highest natural gas producer in Egypt, a country whose gas reserves have doubled in the past 5 years to over 70 trillion cubic feet. Dana Gas aims to drill 12 wells by the end of 2007. (Dana Gas Press Release)

## Egypt to invite international firms in three rounds

Egypt will invite international oil companies to participate in three oil and gas exploration rounds by the end of this year, said Eng. Sameh Fahmy, Minister of Petroleum.

"Very soon I am going to issue three bid rounds," Fahmy told *Dow Jones Newswires* on leaving a briefing by Organization of Petroleum Exporting Countries members. "It will be before the end of the year," he added.

Fahmy said the ministry will issue the bid rounds through three state-run companies, including Egyptian General Petroleum Corp., which handles oil exploration in all but the southern parts of Egypt. Bids will also be invited through Ganoub El Wadi Holding Petroleum Co. (Ganope), which is in charge of oil exploration in the south.

As for gas exploration contracts, the Egyptian Natural Gas Holding Co. (Egas) is to be in charge to receive the demands.

Fahmy highlighted that Egypt's oil production, standing now at 650,000 barrels a day, would be raised by a daily rate of 100,000 barrels next year, or 15%. "We are expecting to increase production to 750,000 barrels a day next year, mostly from the Gulf of Suez and the Western Desert," he said.

Future new gas finds will first be directed to the local market, which is seeing fast-rising demand growth from domestic industries, before being used for new liquefied natural gas projects, Fahmy added.

Plans to develop the downstream oil sector were also being developed. "Maybe four or five refineries are under assessment. We are talking about mega projects and smaller refineries," he said. This includes plans to set up a large-scale integrated refinery and petrochemicals complex with India's Reliance Industries Ltd., Fahmy said. "We are also talking with several other companies, from Kuwait and Saudi Arabia. They are private investors," he added. (Rigzone)

## Joint Japanese-Korean investments to build diesel plant



Japanese trading house Mitsui and Co. and South Korean construction firm GS Engineering & Construction Corp. have won a \$1.8 billion contract to build a diesel oil refinery in Egypt to respond to rising car demand in the emerging economy.

"With the prevalence of private cars due to [Egypt's] economic growth, there is a serious problem of a lack of diesel fuel," said Mitsui in a statement.

The plant "will use the residue oil produced from an existing refinery and refine it into diesel fuel for domestic consumers," added the statement.

The date of operation for this plan is to start by mid 2011, with an expected production of 1.5 million tons of diesel per year, despite the plant's capacity to produce 2.5 million tons.

The joint Japanese-Korean business is to build this plant on behalf of the Egyptian Refining Company which is 85% owned by Egyptian investment fund Citadel Capital and the remaining by a state-run oil company.

This contract symbolizes the largest order for Mitsui in the region of the Middle East. (AFP)

**Cartoon**

By Rany Amen

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## Reliance reveals the possibility to invest \$10 billion in Egyptian oil sector



Reliance Industries is "thinking" of investing nearly \$10 billion in Egypt's oil, petrochemicals and plastics industries, which will create up to 90,000 new jobs, said a company spokesman.

The Indian company is considering the construction of a one billion dollar refinery and to invest another \$7 billion in a number of petrochemicals and plastics industries.

The announcement was made following a meeting in Alexandria between Egypt's Prime Minister Ahmad Nazif and Reliance executives.

It is worth mentioning that a number of Indian companies have shown their interest mainly in Egypt's natural gas sources. ONGC Videsh has acquired exploration rights in the North Ramada Concession in the Gulf of Suez, where the Indian company has already announced its first discovery.

The same company is reportedly trying to acquire a one third interest in Shell's North East Mediterranean Deepwater concession for \$380 million.

Three years ago, the Gas Authority of India acquired a 15% stake in Egypt's private natural gas distribution company NATGAS. *(The Economic Times)*

# International

## Halliburton introduces new sand control screen solutions

Halliburton announced the delivery of three new screen solutions for sand control at the 2007 Offshore Europe Exhibition and Convention in Aberdeen, Scotland. These innovative solutions are: the EquiFlow™ Oil Selector™ valve, which is capable of significantly reducing unwanted water or gas production without wellbore intervention; EquiFlow™ inflow control devices, which delay early water or gas coning, thereby increasing recoverable reserves; and PetroGuard™ Advanced Mesh screen, which provides reliable sand control in heavy oil and poorly sorted sand environments.

"The industry is caught between the engineering challenges of increasingly complex completions and the need to reduce overall completion costs to improve well economics," said David King, senior vice president, Halliburton's Completion and Production Division. "Halliburton has analyzed the challenges posed by water or gas breakthrough in order to simplify sand control completions while increasing reliability."

Wells are often drilled in formations prone to unwanted water or gas production, which displaces the flow of hydrocarbons. In conventionally completed wells, water or gas breakthrough is addressed through remedial treatments. Halliburton's proprietary EquiFlow Oil Selector valve helps to prevent unwanted water or gas from entering the production string. This enables operators to avoid down time and reduces operational costs associated with remediation and the handling and disposing of produced water.

Horizontal completions increase contact with the reservoir to help optimize production, but there is the risk of water or gas breakthrough which may

ultimately result in having to abandon the well. The unique design of Halliburton's EquiFlow inflow control device (ICD) helps operators capitalize on optimum reservoir contact with horizontal wells by delaying water or gas breakthrough to increase productivity and ultimate reservoir recovery.

The PetroGuard Advanced Mesh screen technology resists plugging in heavy oil and also in variable quality pay sands that would otherwise require the expense of more complex gravel pack installation. Unlike conventional oilfield screens that can plug rapidly, the unique construction of PetroGuard Advanced Mesh screen increases the application range of screen-only completions, thereby reducing overall completion costs. *(Halliburton Press Release)*

## ONGC and BP to cooperate in E&P Business in India and Abroad

Oil and Natural Gas Corporation Ltd. (ONGC) has entered into a Memorandum of Understanding (MoU) with BP, to collaborate in Exploration & Production (E&P) business in India and abroad, which include sharing of knowledge in Coal Bed Methane (CBM) and Deepwater exploration.

The MoU was signed by ONGC's Director (Exploration) D K Pande and BP's President, Middle East & South Asia, Steve Peacock, in the presence of ONGC's CMD R S Sharma, BP India's Country Head Ashok K Jhavar, other Directors of ONGC, and senior executives of ONGC and BP.

The memorandum also envisages possible participation in each other's acreages in India and abroad, including offshore licenses and the CBM acreages in India. The MoU also provides for joint bidding by ONGC and BP for exploration acreages in India and abroad.

The MoU is valid for an initial period of 18 months, which can be extended further by mutual agreement of the two corporations.

Both oil majors have varied experiences in Exploration and Production business and this synergy will give competitive advantages to both entities in global operations, commented Sharma on the benefits of this MoU. *(Oil Voice)*



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## Iran: UAE Crescent should pay higher price for gas



Iran announced that it might search for other customers for gas assigned to a deal negotiated with Crescent Petroleum or use fuel itself if the UAE company does not pay a higher price, announced the Iranian Oil Minister Gulam Hussain Nozari.

Since the deal was signed in 2001, Crescent, a shareholder in the UAE energy firm Dana Gas, has been locked in "tortuous" negotiations with Iran concerning the prices for exporting gas.

"Until the price is corrected, we are not going to sell them [Crescent] natural gas... If we do not succeed in correcting the price, we have other customers from emirates and also Oman for the gas," said Nozari in a news conference.

The Iran- UAE's project involves the supply of gas from the Salman Field in the Gulf to Crescent, which established an independent company than Dana Gas solely for the process of importing fuel from Iran.

It is worth mentioning that Oman and Kuwait stand among Gulf Arab states seeking natural gas supplies from Iran, which holds the second-biggest natural gas reserves in the world after Russia.

On their part, Dana Gas officials denied that the deal's delay is due to pricing issues and claimed that it was due to an "offshore gas

production platform that should have been finished in September 2005 by Iran but which was still being built".

(Gulf News)

## Syrian Oil Minister: fuel price to rise due to refugee influx

Suffian Allaw, Syrian Oil and Mineral Resources Minister announced that fuel prices might increase soon, and blamed the increase in part on an influx of refugees into the country from neighboring Iraq, according to AFP.

Sufian highlighted that "the cost of fuel oil and bottled gas would almost double, from the equivalent of 14 to 24 US cents a liter and 2.9 to \$5 respectively."

The Minister attributed the reason for such increase in the prices of petrol, heating oil and domestic gas to three main factors; increased demand, expensive petrol and smuggling.

It is worth mentioning that approximately 30,000 new refugees arrive every month in Syria, and Syrian Vice President Faruq Al-Shara has said the influx constitutes an "economic, social and political burden."

Allaw also said the price rises aimed to stop smuggling of state-subsidized fuel oil from Syria into neighboring states where the price per liter was higher, "causing losses to state coffers of around \$240 million a year."

Last July, Syria and Jordan were warned by the United Nations Refugee Agency concerning the health and education services in both countries, which were coming under increasing strain due to the number of Iraqi refugees.

(AFP)



## Suez and Gaz de France resolve impasse to merger



Suez and Gaz de France moved closer to clinching a \$123 billion merger after agreeing on the financial terms for a deal that involves floating off shares in Suez's Environment business.

"It is a very balanced deal organized around GDF's core business. We are sticking with what was planned, the same parity and the same organization. It is a merger of equals," the source told Reuters.

The move is in line with what was demanded by President Nicolas Sarkozy, who has recently stepped up pressure for a deal to be done even though trade unions remain firmly opposed to such a merger.

The financial details will now be put to the boards of the two companies for their consideration, the source said.

A CGT trade union official said Sarkozy had indicated the state would have a stake of about 40% but a representative of the FO union had said the stake would be 34 %, the minimum the state can hold under French law.

(Gulf News)

## TAQA to purchase Pioneer Canada



Pioneer Natural Resources Co, Photo archive

The Abu Dhabi National Energy Company PJSC announced the purchase of Pioneer Canada, a subsidiary of the US firm Pioneer Natural Resources Company for \$540 million.

According to the terms of this deal, Pioneer is to provide TAQA with an additional 59 million barrels of (gross) WI P+P oil and gas reserves, more than 10,000 barrels of energy per day (boe/d), and will add to TAQA's best-in-class exploration and production team with newly acquired expertise in coalbed methane exploration and production.

"The Pioneer business is a great addition to TAQA's existing operations in Canada. The acquisition provides further scale and efficiencies to our

existing businesses by adding 27% to daily production, increasing 2P reserves by 35%, and providing a reserve life index (RLI) in excess of 17 years," said Peter Barker-Homek, CEO of TAQA.

It is worth mentioning that last August, TAQA announced that it will own and operate TAQA North Ltd, following the completion of the acquisition of Northrock Resources Ltd, a subsidiary of the US firm Pogo Producing Company for \$2 billion.

The new entity, TAQA North, is set to provide TAQA with an additional 142 million barrels of proven oil and gas reserves, accounting for more than 37,000 boe/d (gross), and a best-in-class exploration and production team.

(Mena Report)

# Power play New energy strategy, new conundrum

By Mohamed El-Sayed

## A new energy pricing system is still making waves in political and industrial circles

SINCE Minister of Trade and Industry, Rachid Mohamed Rachid, announced that a new pricing mechanism for natural gas and electricity used by energy-intensive industrial sectors will be applied, the decision has triggered mixed reactions in industrial and political circles as well. Having been approved by the Supreme Energy Council, the new pricing mechanism is the second phase of a new industrial policy which, Rachid's ministry says, includes a series of measures to enhance the efficiency and competitiveness of the Egyptian industry.

According to Rachid, the first step is introducing a new mechanism for pricing natural gas and electricity used by 40 plants which consume large amounts of energy. "This aims to better clarify and make predictable the prices of energy for investors," Rachid pointed out. He added that the new system was developed in coordination with both the ministries of petroleum, and electricity and energy. "The new system aims to raise the price of natural gas and electricity gradually until it reaches cost recovery," he added. At that level, the price will not be subsidized at all after a three-year transitional period. Accordingly, the price of natural gas will gradually rise from \$1.25 to \$2.6 per million units, while the price of electricity will be divided into three categories. Very high voltage will go up from 11.1 to 17.8 piastres per KW; high voltage from 13.4 to 21.6 piastres per KW; medium voltage from 18.3 to 29.5 piastres per KW.

The new pricing system will be applied to 40 factories operating in four vital sectors, namely cement, steel, fertilizers and aluminum. The combined production of these plants represents 20% of output by local industry, and uses 55 per cent of subsidized energy, according to

Rachid. The forty plants employ only seven percent of the industrial labor force.

The new pricing system, as a matter of fact, will help save LE15 billion for the government's budget which were paid in subsidies. According to Rachid, the government will create a fund that uses part of the redirected subsidies to promote local manufacturers' attempts at increasing their energy efficiency and minimize their energy consumption.

A committee will also be formed to monitor and regulate energy prices for industry, in order to ensure the smooth transition into the new system.

The new system will neither be applied to small industries nor sectors which employ a large number of the labor force, as they will enjoy current energy subsidies for one more year. However, the ministry will reconsider their energy prices.



The decision, in fact, ruffled members of the parliament's tempers. In a heated parliamentary session held last month, members of the parliament voiced their fears from a hike in commodity prices due to the new energy pricing system. Replying to the criticisms of MPs, Rachid retorted that the new system was aimed at increasing the competitiveness of the Egyptian industry. He said that the aluminum plant in Nagaa Hammadi, for example, "doesn't determine the prices according to energy price, but according to international prices." As for the cement industry, he pointed out that the government determines its prices, which are also not influenced by energy prices.

Mohamed Abul-Enein, chairman of the Industry Committee at the People's Assembly, supported the government's move, nevertheless. He said that "the decision is fair and will take subsidies from the companies that used to get energy at cheap prices and give it to ordinary citizens. The three year transitional period is enough for the plants to redraw their strategies."

However, economists

and energy experts cast doubts on the efficiency of the new system. Abdallah Shehata, professor of economy at Cairo University and researcher at the Egyptian Centre for Economic Studies, is of the opinion that "the new energy pricing will not affect industrial businesses, for they will employ high technology that saves energy." But the problem, Shehata continues, is that these businesses "will unjustifiably raise the price of their end products."

Therefore, local consumers will be the only losers due to this new system."

Shehata attributed the current economic conundrum to a lack in governmental tools to put a brake on skyrocketing prices of vital commodities. "The government does not have a price-controlling system that can undermine any unjustified hike in prices," he pointed out.

Reda Moharram, professor of petroleum engineering and mining at Al-Azhar University, begged to differ.

He argued that energy prices should be applied to all plants regardless of the amount of their energy consumption.

"The ministry should review the decision of exempting plants that employ a large number of workers from the new energy prices system, for most of the new plants employ high technology and fewer numbers of workers," he said.

Moharram believes that a great part of products that receive energy subsidies is exported, thus subsidies do not benefit their target—ordinary citizens. "There are great amounts of fertilizer, steel and cement production that are covered by energy subsidies and are exported. This means that the Egyptian government provides subsidies for foreign consumers who buy these products," he added.

Mohamed El-Sobki, former chairman of the Electricity and Customers Protection Agency, saw the new energy pricing system from another perspective.

"The new system is a positive step towards protecting Egyptian exports, since some European countries impose anti-dumping fees on Egyptian subsidized products." If the government continued to provide plants with electricity with reduced prices, he added, "electricity companies would have gone bankrupt."

He ruled out the possibility that product prices would increase "since the price of energy input in the production of steel and cement does not constitute a burden.

However, Aluminum industries will be negatively affected since they consume huge amounts of energy."

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# Gasoline Street Sellers: A Donkey, A Tank of Gas and A Rough Day's Work

Picture an old man with two younger boys riding a cracked wooden three-wheel cart driven by a weak donkey. Moving around the streets of the more impoverished districts in Cairo, the man starts his journey at 7 in the morning. By filling the large metal containers on his carriage, he is now ready to call for the sale of gasoline

By Ethar Shalaby

GOING hand in hand with the problem of the lack of natural gas existing in most of the Egyptian houses, the sale of gasoline in the streets can be considered a further addition to the problem. It is nothing more than a hectic and illegal job, but at the same time, it might be the only dependant business for some people.

Shaaban Mahrous, a 57-year-old gasoline street seller, says his sole job is to refill the metal containers with gasoline and sell it in the streets. Selling gasoline in the streets is considered the life saver for him and his wife and eight sons.

"My sons help me out every day in refilling the containers with gas. The problem is that the demand for gas is not very frequent. It can take me four or five hours roaming in the streets with no single reply to my sale calls," says Mahrous.

He added that most of their clients are mainly drivers, as they use it to refill the tanks of their cars.

Mahrous says, "Most of the people who buy from us (street gasoline sellers) are taxi drivers. They take the gas from us after we refill the tanks from the gas stations. We sell it for a much cheaper price than that of the station".

His 13-year-old son Gamal says he helps his father in refilling the metal containers in the cart and

exchanges shifts with him to lessen the load. "My father starts at about 7 in the morning every day until I come back from school at 3 in the afternoon. I start the afternoon shift by riding over the carriage and moving around to different streets than those visited by my father," he says. Gamal says his brothers sometimes help him out during certain days of the week, when he has to study over the cart to maintain his good academic standing at school.

"Sometimes my brother, Ahmed, drives the cart until I write my homework while we are roaming the streets. I know it is tiring and hectic. I don't live my life as normal boys do and I do not hang out with friends... But I have to help my father because he is an old man and already suffering from heart disease," says Gamal.

But the story of Mahrous and his sons is not the only one. Azeem El Araby, another seller who sells gasoline in the streets, complains about the business,

which he describes as "non-profitable and time consuming".

"What can I say? I am 60 years old and I have been working in this exhausting business for more than 30 years now. I remember when I was a child, my father used to take me on his cart and teach me how to drive the cart with the donkey... At the beginning I used to think it was fun roaming the streets and earning 5 pounds every day, but when I got older, I re-evaluated the whole issue within myself," says El Araby. He added that none of his sons help him out in selling his gasoline in the streets, but he has some friends who usually drive the gas cart with him to entertain him while moving around.

"Many friends come over with me every morning. They help me find drivers to sell them my gasoline for their cars. Not many drivers ask for the gasoline sold in the street; in most cases they go to gas stations because they fear that my gas would ruin their cars," says El Araby.



He says his job is illegal and dangerous, but asserted that he never found a more suitable job than selling gasoline in the street.

"This job is dangerous. I live in a 10-meter-apartment with all my family in an alley in Masr El Qadima district. I park the cart in front of the house and if a man threw a cigarette near the cart, the whole cart and the house will go up in flames," says El Araby. Despite the risk, he assures that his job makes him feel more satisfied than anything else.

"I know I am an old man to still be working alone, but at least I do not steal in order to get money for my family. Sometimes you have to bear the hard things in order to live in this country," says El Araby.

Mahmoud Zakareya, a 25-year-old gasoline seller, says the government is not providing suitable jobs for any of the graduates, so he thought of buying a small gasoline cart to start up his own business.

"My father died three years ago and I have three sisters and my mother. I applied to most of the jobs that might be reasonable for me and none were as convenient as selling gasoline in the streets...I might be earning only 4 pounds a day, but at least I feel I am a working and am an effective person, not a useless, jobless one," says Zakareya.

He says he thought of working in this field in particular as his uncle, who sells gasoline as a part time job besides his job as a porter, suggested he do the same. "My uncle has his own cart and he encouraged me to drive with him and see if the job will suit me. I tried going out with him for more than four times and I found that he is already established very good contacts with taxi drivers and lorry drivers whom he sells gasoline to," says Zakareya.

He also stated that the most important thing in this business is to build up your own networks with the clients, so that you won't waste much time trying to sell the amount of gasoline filling the metal containers in the carriage.

"If you know a couple of taxi drivers who you deal with every day, then you have guaranteed a constant income that would help you feed your family everyday," he says.

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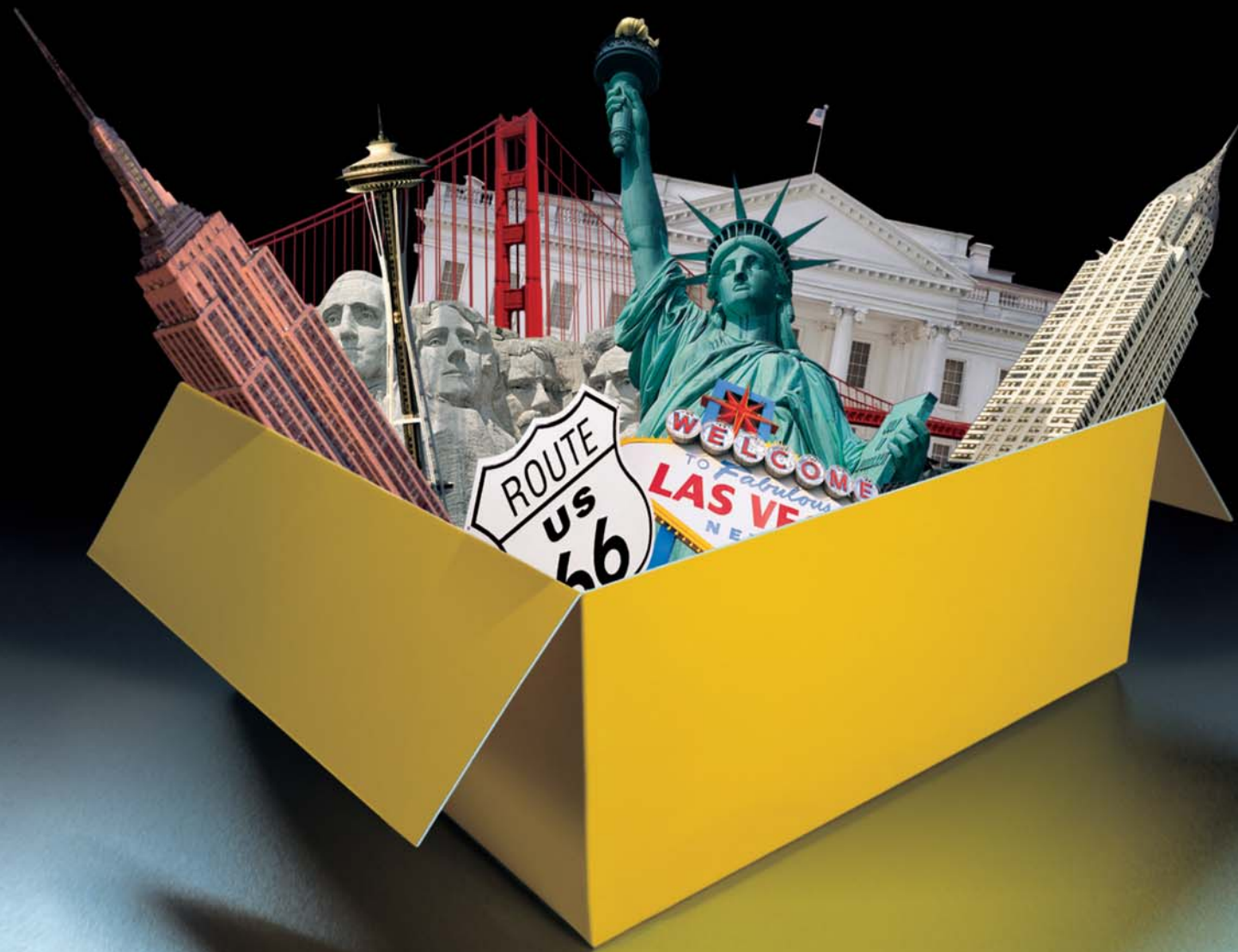
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# Field Experience to Optimize Gas Lift Well Operations

By: Dr. Atef A/Allah, Production General Manager, Egas

It is commonly known that when an oil well is first completed, the natural reservoir energy causes the fluid to flow to the surface for some period of time. However, most oil wells, at some point during their economic life, require artificial lift in order to increase the reservoir energy needed to raise fluid to the surface and obtain the maximum recovery of oil for maximum profit to the producer well. Artificial lift systems include rod pumping, gas lifting, hydraulic pumping, and centrifugal pumping. Continuous gas lift is the most commonly used artificial lift system in the oil industry. It is inherently a high volume method and the only one which makes use of the reservoir gas energy. This paper discusses the use of a multiphase flow meter to optimize gas lift field operations. In particular, it will compare analysis methods for individual well's performance using Multiphase Flow Meter versus Standard Nodal Analysis. This paper will also tackle GUPCO's field experience of gas lift offshore operations

## Introduction

The proper measurement of production in marginal fields and new developments to optimize gas lift operations is a very important factor in the oil industry. The enhanced allocation of gas lift wells can result in immediate production payback by increasing each well production versus the injection ratio through real time well data readings.

The changes in a well performance due to increased water cut led by its turn to changes in injection pressure required to efficiently lifting the well and also a decrease in the reservoir pressure or equipment malfunction.

Hence, production optimization cannot be obtained because too much or too little gas is injected as the output of constant well performance changes and causes less well production rates.

Total production of a field can be increased, if it is properly managed with exact and accurate measurement of well performance using real-time data. The major challenges are associated with the optimization of gas lift well measurement and monitoring output through the use of multiphase flow technology.

## Traditional well testing

The proper and accurate measurement of oil, water and gas in the production stream represents a critical reservoir management.

Multiphase measurement using traditional methods creates several problems.

First of all inaccuracies associated with the separation of production stream act as major deterrent in this measurement process. The second problem, which lies in the entrapment of phases within each other and also mathematics, shows that a complete phase separation cannot occur.

With a multiphase flow meter, there is no separation, hence the oil is measured as it flows through the meter and instantaneously the readings appear on the monitor panel. Three phase separator measurements require costly maintenance schedules. The third problem of traditional separators is their large size and heavy weight.

This problem is considered as a critical issue, specifically in offshore platforms or remote facilities, where space and weight are of major concern.

## Multiphase flow meter

On the other hand, the Multiphase Flow Meters (MPFM) provides accurate, real time measurements of oil, water and gas flows simultaneously, without separation of the phase.

The MPFM can be used in all flow patterns, having both oil and water continuous fluid streams. It requires no field calibration or prior knowledge of fluid properties. Figure (1) shows the multiphase flow meter.

## Multiphase measurement brings three fundamental advantages to oil companies and operators

1. Reduction in capital expenditure by eliminating test lines, separators and separate flow monitors. The meter also has size and weight advantages over test separators with the ability to perform all measurements through a un-manned process. All of which, represent sizeable investments for such

Figure (1)



locations as remote exploratory fields to transfer tankers.

2. More accurate well testing. By tying up well test result and comparing them to the measured shipped oil at the LACT unit, the overall production processes is hindered due to the comparison of old data or shipped oil.

3. Real-time well output measurement. This allows the tracking of each well's dynamic production behavior, and results in real-time well optimization. This is especially evident in secondary recovery technologies such as gas-lift operations as well as diluents or injection wells.

## Gas Lift Measurement Problems

The main problems associated with the optimization of Gas Lift Operations lie in the achievement of accurate measurement of small amounts of liquid (2-3%) in high gas (95-99.5%). Gas injected down hole reduces the density of the fluid and allows the low formation pressure to push up the lower density column.

Gas compression incurs expensive capital and operational costs. If too much gas is injected into the well, the gas can possibly blow through the well and uneconomically lift a low amount of liquid. The amount of gas that the liquid column can hold depends on oil viscosity and surface tension, both of which vary from well to well, depending on water cut. For example, if the mixture is water-continuous, the viscosity will be close to water, while a tight emulsion of 20-30% water can be extremely more viscous than the pure oil.

The second problem of gas lift measurement is the lift process itself. To properly optimize Gas-Lift operations, a measurement device is needed to accurately measure not only all three components but also to handle the common and irregular multiphase flow regimes that torment the traditional measurement process.

## Field operations

For many years, the industry standard for gas lift well optimization was based on nodal analysis using field-proven flowing pressure correlation for vertical and horizontal flow. In almost all cases, it has been impossible to accurately make the predicated model results match the reported well test data, or obtain a material balance for the field. This has occurred chiefly because of the inability to obtain accurate and repeatable well test results using standard testing methods. The time required to test and analyze an individual well was restricted, since the test separator is normally in use and dedicated to standard field operations. By using a multiphase flow meter, GUPCO's engineers were able to obtain accurate real time data of well production and review the effects of changing the operating parameters of an individual well. By using the data acquired, not only were the operators able to achieve better results in individual well performance, but they were also able to approach a material balance for field production. The use of a multiphase flow meter allowed GUPCO to overcome the problems outlined above.

To use a multiphase flow meter for optimization, GUPCO had first to consider the required operating characteristics of such a meter. It needed a meter that would be accurate and easily transported between individual wells. This meter was also not to be affected by changes in

fluid properties such as density or salinity. It was imperative to choose a meter capable of handling high gas volume fractions, as large as 99%, since gas lift wells fall under this category. It had also to accurately measure in all flow regimens, due to the fact that gas lift wells generally present the entire spectrum of flow regimes in pipes.

## Case study

We will use a well that is 7,000 feet deep, has 3 inch tubing, a flowing size of 3 inches and 3,000 feet in length, a wellhead pressure of 80 psi and a P.I. of 5 bld/psi. The static reservoir pressure is 2600 psi. Typical performance relationship predications are shown in Figures 2 and 3. These examples show maximum flow rates with variable wellhead pressures for the given well. Moreover, they show the effects of injection gas volume on production. A decision can be made as to the desirable injection rate and resulting production rate based on field requirements from this data.

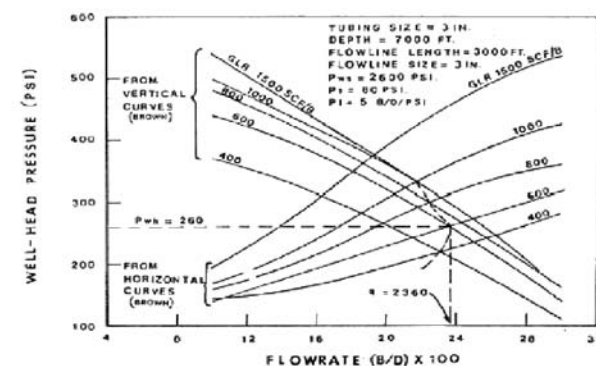


Figure 2 - Predicting Maximum Flow Rate - Variable Wellhead Pressure

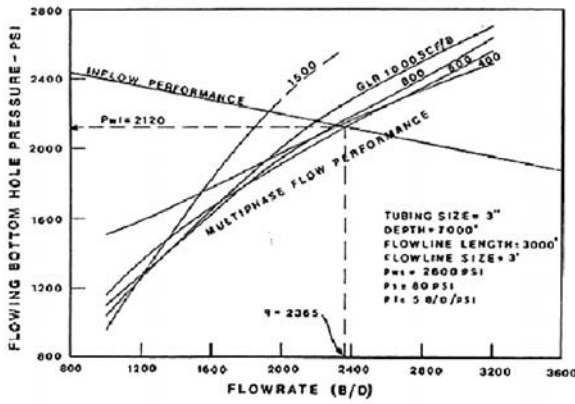


Figure 3 - Predicting Maximum Flow Rate - Variable Wellhead Pressure

The limitation of such a method is that it requires us to assume consistent production rates all throughout the test period. The problem arises in applying such data, to data received from a typical two pen recorder chart. Figures 4 and 5 show such charts obtained from a well during the testing cycle. As seen on the charts, it is virtually impossible to make any accurate statement as to what the effects of actual rates may be on this given well. Let us compare that to the real time data obtained by the multiphase flow meter at the GUPCO facility (Figures 4, 5, and 6).

It can be seen that changes in the well performance can be observed immediately in real time. This allowed the operation engineers to make decisions in real time as to what changes were desired. It is also important to note that the real time data acquired was plotted and saved, and provided a well "signature". Use of this signature is invaluable when comparing one test to a previous test. From now on, we will be able to notice a production problem in minutes rather than days, since any changes in that signature will reflect changes in the well performance. It is also imperative that we review the real time data as it relates to water cut and oil production.

Note how the water cut changes during the test. During a non-real time test, if we take water cut sample only once during the test, we may be very wrong in our projections. The only way to get accurate data is via real time. The data acquired from testing wells with the MPFM can be easily input into a spreadsheet. Doing this for each well and combining the data

allowed us to develop a priority list based on Injection Gas wells based on the amount of oil produced for a given amount of gas injected. A list of this type is invaluable when it is necessary to shut wells in due to a loss of available gas lift gas volume. Without accurate well test data; we could very well compound our production losses due to shutting in the wrong wells. We would like to introduce some actual data obtained using the MPFM- in GUPCO's field in Egypt. Overall test data in our standard report forms, no apparent problem was found. However, when reviewing the actual real time data we found obvious problems. Well 1 shown in Figure 6 demonstrates a stable gas lift operation with production rates and injected gas rates appearing stable over the period of the test.

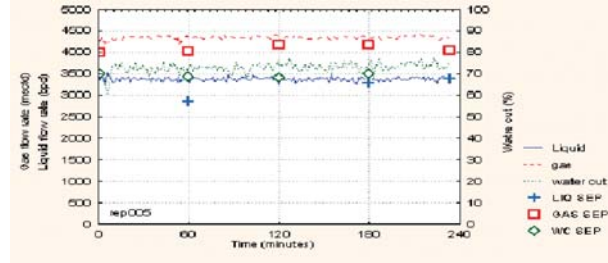


Figure 4 - Well #1

Now notice the real time data acquired from Well 2 (figure 5). This data indicated a serious problem with the well operation. Notice the severe heading in liquid production and gas injection. The conclusion was that the well either had a bad gas lift design, a mechanical failure of the gas lift valves, or communication between the casing and tubing. This problem is easily shown in our real Time data, but it would have been virtually impossible to find using only a standard test report.

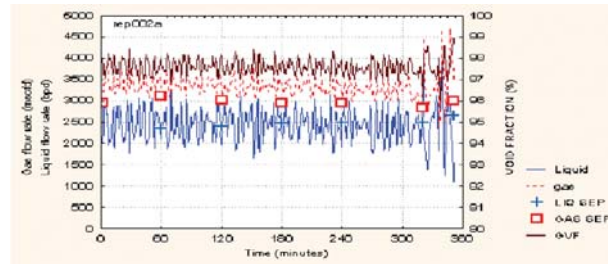


Figure 5 - Well #2

Now notice the real-time data from Well 3 (figure 6), it shows that the well was logging up approximately every four hours. The indications were that there was a mechanical failure in the gas lift valve or poor spacing of the valves, which prohibited us from working down-hole to the lowest possible injection point. Additionally, we checked characteristics of the produced water to ensure that all water was from the producing formation.

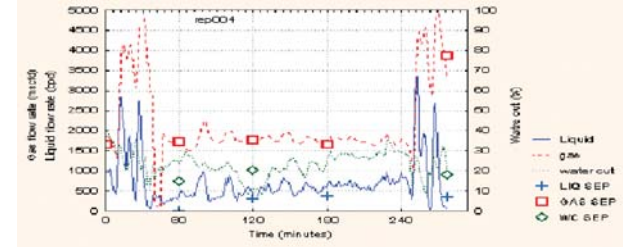


Figure 6 - Well #3

The above examples illustrate the absolute need for real time data when attempting to optimize wells. This applies equally to wells producing naturally as well as those producing by gas lift or ESP pumps. Continuing the data application, we have found savings in injection gas, better well performance and the ability to develop a true priority list based on gas injection requirements. Equally as important, it is the ability of our reservoir engineering department to use the data acquired to analyze reservoir performance. GUPCO's engineers now have the ability to do analysis of producing formations based on true accurate real time test data. Real time test data is imperative when conducting reviews of the reservoir's performance and future capabilities.

### Conclusion

The result is very accurate and comes from a multiphase flow meter that is light and compact enough to be placed on offshore platform. It can operate through a wide range of changing fluid Conditions. With the use of real time well data a production facility can accurately analyze individual well performance and use this data as a diagnostic tool for well maintenance and provide direct correlation between changing well activities for proper optimization.

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# Brownfield: Is it Farewell for Now?

## The pressing issue of aging fields in Egypt is finally discussed and debated.

### On September 9-10, Egypt Oil & Gas held its first independent event entitled "The Brownfield Development and Production Optimization Conference and Exhibition." The event was in essence a workshop sequel to a workshop held the prior year. The workshop's success encouraged the continuation of, what was seen through the outcome of the workshop as, an increasing significant topic in the oil and gas industry in not just Egypt but world over

Continued from page 1

#### The Commencement Ceremony

The conference was held under the auspices of the Egyptian Minister of Petroleum, H.E. Eng. Sameh Fahmy and was sponsored by PICO Energy Petroleum Services, Halliburton, Weatherford, Baker Hughes, Centurion, and Xerox. The commencement ceremony was conducted by Eng. Hassan Akl, Chairman of the Ganoub El-Wady Holding Company, per the Minister's request. Mohamed Fouad, President of Egypt Oil & Gas, the organizer of the event, launched the opening ceremony. Fouad stated that "in our globalized world; we don't lack innovation, we don't lack creation, but at times we do lack communication. We here bring you this communication. Our industry has problems, but it also has solutions. We are merely attempting to form a junction between the two." Following Fouad's speech, Akl began the conference by reiterating the Minister's speech (the Minister could not attend due to pressing engagements).

Akl began by briefly defining brownfields as aging oil and gas fields that have matured 30 years or more. He then ensued to the importance of these resources, stating that 2/3 of the world's oil production is currently from these fields and that every field that begins production is on its way to becoming brownfields. Thus the significance of these fields is of an abstract value and it is the duty of all in the industry to pay close attention to the management of these fields. After his reading of the Minister's speech, Akl proceeded to the opening of the exhibition ground of the event.

#### The Brownfield Exhibition

The brownfield exhibition had a varying concupnity of both public and private companies ranging from petrochemicals to services to training. Among the companies participating were The Egyptian Natural Gas Holding Company (EGAS), PICO Energy, Middle East Oil Refinery (MIDOR), Weatherford, Engineering for the Petroleum and Process Industries (Enppi), BLI Consulting and Training, Petroleum Marine Services (PMS), Petrosport, CO-OP, Misr Petroleum Company, the Egyptian General Petroleum Corporation (EGPC), the Egyptian Petrochemicals Holding Company (ECHEM), Ganoub El-Wady Petroleum Holding Company, and the Petroleum Projects and Technical Consultations Company (PETROJET).

EGAS was established in 2001 by the Egyptian Ministry of Petroleum in order to have an institution that focuses solely on Egypt's natural gas resources. Some of the company's activities include the expansion of the natural gas network in the domestic market, the management of gas transmission and distribution systems, the undertaking of techno-economic studies, and the magnetization of investment in natural gas projects in the country.

PICO Energy is a private institution that provides services to the oil and gas sector in Egypt. Among the services provided by this company are energy research and analysis, integrated services, API approved workshops, logistics services, and safe and environmentally friendly energy solutions to the Egyptian oil and gas industry. MIDOR is one of the Middle East's largest and most sophisticated refineries. It is located in the Ameriyya Free Zone in Alexandria, Egypt and utilizes state of the art

By Diana Elassy



production units. The company processes a wide range of crude oils, which can be used to produce high quality petroleum products. The company serves both the domestic and international market.

Weatherford International Oil Field Services is one of the largest diversified oilfield services companies in the global market. The company has over 33,000 employees serving in over 100 countries. They have 87 manufacturing facilities supporting 730 service bases. The company provides services and products for drilling, completion, production, and intervention applications.

Enppi was established in 1978 as a major engineering and EPC contractor. The principal shareholder of the company is EGPC. The company provides full integrated engineering, procurement, project management and construction supervision for oil and gas, chemical, petrochemical and power industries not only in Egypt but also the Middle East, North Africa, and South America.

BLI Consulting and Training provides technical and management training to the petroleum sector in Egypt. Some of the technical courses provided include health, safety and the environment, geophysics, petroleum refining

**سماح فهمي: تنمية الاحتياطيات البترولية من الزيت الغضار والغاز الطبيعي**

كتب: نبيل صالح الجوين

أكد المهندس سماح فهمي وزير البترول والثروة المعدنية في كلمته الافتتاحية للندوة، أن إنتاج الزيت الخام من البترول في مصر سيصل إلى ١٠ ملايين برميل يوميًا بحلول عام ٢٠١٠، وهو ما يتطلب تطوير احتياطيات البترول في مصر لتتناسب مع هذا الإنتاج.

**سماح فهمي: تنمية احتياطيات الزيت الخام التحدي الحقيقي أمام قطاع البترول**

كتب: عادل إبراهيم

أكد المهندس سماح فهمي وزير البترول والثروة المعدنية في كلمته الافتتاحية للندوة، أن إنتاج الزيت الخام من البترول في مصر سيصل إلى ١٠ ملايين برميل يوميًا بحلول عام ٢٠١٠، وهو ما يتطلب تطوير احتياطيات البترول في مصر لتتناسب مع هذا الإنتاج.

**سماح فهمي: زيادة معدلات إنتاج آبار البترول القديمة باستخدام التكنولوجيا الحديثة**

كتب: عادل إبراهيم

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**للمتحدثين في الندوة**

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and gas processing, drilling technology, reservoir engineering, production operations, oil and gas management, strategic growth, decision-making, and self-management.

PMS was established in 2001 as an Egyptian free zone company. The objective of the company is to provide safe, competent, and quality services to the local and regional offshore oil and gas industry. The main activities of the company include construction, maintenance, and services.

Petrosport, which is owned by the Egyptian Ministry of Petroleum, is Egypt, Africa and the Middle East's first company specializing in the field of sports investment. Among the activities of the company are the establishment of sports infrastructure in Egypt by providing up-to-date technologies in the fields of playgrounds and sports essentials in all sport games and the building of new lines of sports experts projecting from strong scientific sports base.

CO-OP and Misr Petroleum Company are both downstream companies in the Egyptian oil and gas industry. CO-OP's activities include marketing petroleum products, lubrication oils, and chemical and bunkering. Misr

Petroleum's activities also include the marketing of petroleum products with sales value of approximately EGP 125 Billion annually and an Egyptian market share of 40%.

EGPC is most commonly known as the Egyptian regulatory body delegated with the task of carrying out joint exploration and production schemes with multinational entities. Some of their other activities besides exploration and production include refining and marketing of petroleum products.

ECHEM was established in 2002 with a mission to manage and develop the petrochemicals industry in Egypt through the magnetization of investment and the creation of alliances with local producers, off-tankers and international shareholders. The company follows a Master Plan, which bestows a total investment of around USD 10 billion to cover 14 petrochemical complexes, including 24 projects and 50 production units during the coming 20 years.

Ganoub El Wady is one of the Ministry's main entities, which was established according to Prime Minister Decree no. 1755/2002. The company's main objectives include marketing new blocks for oil and gas exploration through

international bid rounds, increasing Egypt's production, proven, and possible reserves for crude oil and natural gas, and establishing joint-venture companies to manage operations on behalf of the company and its partners.

PETROJET is a multidisciplinary integrated construction contractor offering services related to the oil, gas, petrochemical and industrial sectors in Egypt and the Middle East. The company's activities include mechanical works, pipelines, static equipment, pipe coating, and offshore structures fabrication, assembly and load out.

**The Brownfield Files: Day One**

The conference portion of the event consisted of five discussion sessions divided on two days. The first day of the conference began with the above-mentioned commencement speeches by Hassan Akl and Mohamed Fouad, President of Egypt Oil & Gas. The first session of the conference was entitled "Introduction to Brownfields: From Logistics to Economics."

The session discussed brownfields in Egypt in general terms. The first speaker, Elsayed Orabi, the Reservoir

Studies General Manager at EGPC, discussed statistics and maturity of brownfields in Egypt. His discussion revolved around the locations and production rates of many of the brownfields found in Egypt.

Following Orabi was Nabil Salah, a Reservoir Engineer in a Field Study group studying most of the mature reservoirs in the Gulf of Suez. Salah presented a brief success story about a small oil field in the Gulf of Suez named GS327. The success of the field was due to organic reserves growth and operational efficiency during drilling. Following Salah was a presentation of Dr. Mostapha Oraby's paper entitled "Confirming Reserves with Certainty." Orabi is the Middle East Petrophysics Manager for Halliburton Sperry Drilling Services. The paper essentially revolved around how the petrophysical part of a field study should be incorporated with geological and geophysical aspects in order to produce more probabilistic estimation of Initial Oil In Place.

The session ended with two presentations expressing the economic and management aspects of brownfields. The first of these presentations discussed the economics of brownfields and was delivered by Sherif Wadood, the Managing Director of PICO Energy Petroleum Services. Wadood spoke of the economic benefits of brownfields. No longer should brownfields be seen as yielding negative returns on investment, but rather, in light of raising hydrocarbon prices, are quite economic and present an excellent opportunity for investment. The final presentation of the session was given by Ahmed Hassan, Chief Reservoir Engineer at Pico International Petroleum. Hassan discussed brownfield management and how proper management can yield new opportunities through data in-depth analysis and re-engineering.

The second session of the first day was entitled "Integrated Reservoir Engineering" and consisted of three presentations. The first presentation was delivered by Emad Refaat, reservoir engineer in the General Petroleum Company (GPC), and was entitled "Maximizing Productivity in a Layered Reservoir Using a New Interpretation for Old Geological and RFT (RDT) Data." This was essentially a case history of the Baker-Amer oil field which is located on the western side of the Gulf of Suez.

The second presentation was entitled "High Resistivity, High Water Saturation: Addressing the Problem to Avoid Water Production." The presentation was given by Ahmed Salah, the Sedimentology Division Manager in the Exploration Department at Belayim Petroleum Company (PETROBEL). The final presentation was entitled "Utilizing 3D Modeling to Improve Efficiency of Displacement by Water Flooding in Laminated Reservoirs—Case Study (Aman and Mel/North East Fields)." The presentation was delivered by Mohamed Shehata, the Reservoir General Manager of Agiba Petroleum Company, and discussed the company's strategy in managing water injection in laminated reservoirs.

**The Brownfield Files: Day Two**

The second day of the conference consisted of three presentation sessions. The first session was entitled "Integrated Reservoir Engineering: Case Studies." The session, as is seen with the title, essentially covered brownfield case studies and the varying methods utilized in increasing production in these fields. The session featured case studies from some of Egypt's top operating



and service companies including EGPC, Halliburton, Agiba Petroleum Company, Belayim Petroleum Company (PETROBEL), Badr El Din Petroleum Company (Bapetco), with Bapetco's Senior Reservoir Geologist, Maamoun Wahdan, presenting their case.

The case studies presented new methods of optimizing production such as thermal recovery and team integration and also presented some problematic sites and their solutions such as maximizing recovery from tight gas.

The second session of the day was entitled "Drilling Brownfields" and was mostly presented by service companies. Some of the issues discussed included cementing challenges, addressed by Osama Sanad, Account Manager at Halliburton Overseas Company; under-balanced drilling, presented by Hani Qutob, the Principal Advisor-Reservoir Engineering at Weatherford International; and cost-effective drilling, delivered by Paul Hill, Egypt's Technology Lead for Sperry Drilling Services.

The final session of the day was entitled "Brownfields Completion and Artificial Lift." The session consisted of four presentations. The first presentation was titled "Artificial Lift Case History—Re-Screening Study" and was a joint effort presentation by Sayed Rezk, Deputy Operations Manager for North Bahariya Petroleum Co. (NORPETCO), and Ahmed Omar, Artificial Life Application Engineer for Weatherford. The second presentation discussed artificial lift systems in general and was delivered by Ahmed Shoukry, MENA Region Business Development Manager for Weatherford Artificial Lift Systems Product Lines. The third presentation was titled "Field Experience to Optimize Gas Lift Well Operations" and was given by Dr. Atef Abd El Hady, Production General Manager at EGAS. The fourth and final presentation was delivered by Ayman Yousri, Weatherford's Completion

and Production Systems, Sales and Operations Manager for Egypt, Syria and Sudan. The presentation was entitled "Case Hole Completion."

### Brownfield Conclusions

Based on the presentation given at the conference, a few deductions were reached. The first of such deductions is the fact that brownfields are of extreme importance to the future rising energy demands of the world. Before the introduction of recent technologies, brownfields were seen as a cost burden, but now available technology renders brownfields economical and affords operators a positive return on their investment.

Another point reached in this conference is that production optimization is not solely a science, but rather a culture. It is a certain mindset needed to properly manage a brownfield in order to achieve the maximum return on investment. This mindset is necessary for all involved in the industry and not any specific demographic. Both public and private entities have to share in the effort. In terms of legality, terms and conditions of the applied production sharing agreement should be revised to achieve a win-win situation for shareholders.

As has been seen with the conference, the technology is available; there is a distinct spirit of willingness in the industry, but the government has to play its role and lead this spirit to greater and greener pastures. The conference revealed several prospects, but what remains is the next step. Let's hope it's taken sooner rather than later.

*\*Note: For more on the International Brownfield Development and Production Optimization Conference, including audio and visual excerpts of the conference, please visit the Brownfield Panorama at [www.egyptoil-gas.com/brownfield](http://www.egyptoil-gas.com/brownfield).*



## Excerpts from H.E. Sameh Fahmy's Brownfield Conference Speech



THIS conference is an excellent opportunity to exchange views and ideas among the experts and leaders of the global petroleum business presenting their vision on how exploration and production will emerge into the 21<sup>st</sup> century.

This topic is gaining more importance knowing that applying proper reservoir management in mature oil fields and utilizing the most up-to-date technologies is economically competitive in maximizing production and increasing reserves through optimum utilization of existing infrastructure and facilities.

Furthermore, increasing recovery efficiency is one of the crucial tools in developing more reserves in the developed reservoirs through continuous reservoir monitoring, pressure maintenance, optimizing injection and production profile...

... After years of production, historical data and information yields that many fields have complex reservoir and fluid characteristics in addition to dissimilar pressure distributions. One of the major challenges facing brownfields management is to fully understand the current performance and predicting future plans within different reservoirs.

Brownfields basins present great technological challenges, industry must manage and arrest production declines over the short term while increasing recovery factors over the long term...

... Like many countries in the developing world, Egypt's oil and gas industry is one of the main engines of economic growth. The Ministry of Petroleum is taking major and most active role in developing this industry to fuel the social and economic development plans for the country...

... Utilizing new technologies led to achieving several successes including finding and developing more reserves from old fields specially in the Gulf of Suez and Western Desert areas, in addition to producing commercial volumes of heavy oil that have not been produced for many years.

We are sure that there are still significant opportunities to identify and develop reserves in brownfields all over Egypt, these opportunities include:

- Finding news reserves in developed areas
- Improving recovery efficiencies through introducing different secondary and tertiary recovery methods
- Production enhancement through Horizontal drilling and hydraulic fracturing...

... There is as much opportunities today as there ever was, but they are different lying in more remote and harsh and mature areas as well as deep and ultra-deep waters requiring huge investments. These opportunities can't be explored without applying the state-of-the-art technologies.

Extensive exploration for hydrocarbons has to continue both on land and offshore to discover new fields both in frontier areas and traditional basins, as well as exploring for new oil and gas horizons within existing oil fields through the use of advanced technologies and integrated disciplines.

Technology transfer has become very crucial for the oil and gas industry. It requires the continuous dialogue and exchange of experience and information through international gatherings like this conference.



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# Ramadan Programs

As we all know, during the holy month of Ramadan TV provides a massive collection of Arabic shows, series, cooking and religious programs. Ramadan programs give a whole new meaning to being a couch potato, jumping from one series to another. There are a wide variety of series tackling important issues occurring within our society. Below are listed some of these series with a brief description of each

By Sarah Rashdan



## Qadiyat Rai Aam (A Case of Public Opinion)

*Qadiyat Rai Aam* is a social drama that discusses the issues of drug addiction, rape and other general ethical matters occurring within the Egyptian society. The famous actress, Yousra, plays the role of Dr. Abla, a well-respected pediatrician, known for her dedication and veracity in her work. The turning point of this drama is when Yousra and two other fellow female workers get attacked and raped on their way home after a late shift. The series revolves around the consequences and how these women are treated and viewed by society and the obstacles they face in their quest for justice.

*Starring: Yousra, Samy Al Adel, Ibrahim Yousry, Samir Sabry, Ragaa El Gedawy, Liqaa Al Khamisi, and Olfat Omar.*

## Al Mallek Farouq (King Farouq)

*Al Mallek Farouq* tells the whole story of the last king of Egypt's, King Farouq I, controversial life, starting from the day he was born till his burial.

*Starring: Tim Hassan, Mena Al Fadali, Ezzat Abu Aouf, Wafaa Amer, and Mahmoud El Guindy.*

## Yetrabba Fi Ezzo (Raised in his Prosperity)

*Yetrabba Fi Ezzo* is a social comedy that tackles the concept of education and its value in the Arab world, and, in specific, how Arabs should treasure their cultural ethos. The series stresses on the way children should be brought up and how generations should inherit cultural principles. This is shown by Hamada Ezzo, played by actor, Yehia Al Fakharany, who is unable to take any responsibility and still relies on his mother to make decisions for him, even though he is over 60 years old. He also has three sons from three different marriages whom he neglects.

*Starring: Yehia Al Fakharany, Rania Farid Shawqy, Nihal Anbar, Hana Shiha, Ahmed Azmy and Karima Mokhtar. Written by Youssef Maati and directed by Magdy Abu Omera.*

## Azhar

The series presents the actress Fifi Abdo as *Azhar*, a beautiful, smart, challenging woman whose dearly loved husband passes away. Her husband's death motivates her to move into her family's house in Upper Egypt to raise her son and daughter. *Azhar* is a persistent person who never gives up, especially when it comes to the future of her family members. Her life goes through dramatic changes but she patiently and strongly overcomes the harsh phases and difficulties whether in her family or her new marriage.

*Starring: Fifi Abdo, Gamal Ismael, Mohammed Alshaqanqiri, Ragaa Hussein, Mohammed abd al Hafez, Abd Alrahman Abu Zahra, Fadia Abd Alghani, Mohammed Kamel, Fatouh Ahmed. Directed by Mohammed Al Noqaly.*

## Awlad Al Leil (Children of the Night)

The series takes place in various locations in the City of Port Said including Bouz El-Balat, Haay El-Bodra and the main harbor in the late 30s. Gamal Seliman plays a role of a young man called Sa'eed Abu Al Makaram, who helps his uncle in a small antique shop in the middle of the local market. Sa'eed tries to fight the corruption in the market especially

after the kidnap of his son.

*Starring: Gamal Seliman and Ghada Abdel Razek. Directed by Rasha Sharbatgy.*

## Hanan Wa Hanin (Tenderness and Desire)

The series is a semi-autobiographical story, with Omar Al Sherif, playing the role of Raouf Soliman, an Egyptian engineer who has lived in America for over 30 years. He marries Amina, portrayed by Madline Tabr, who turns out to be a bitter and greedy woman. The only good thing out of this marriage was his daughter whom he keeps reiterating tales about Egypt.

He then returns back to Egypt and meets his first love, Hanan, played by Sawsan Badr. The series was shot in several locations including, New York, Alexandria and Cairo in addition to sites in different cities in Egypt. *Hanan Wa Hanin* stresses on the importance of one's roots and homeland in lieu of the ever expanding immigration crisis.

*Starring: Omar Al Sherif, Madline Taber, Ahmed Ramzy, and Sawsan Badr.*

## El Dally

*El Dally* is a police drama revolving around a prominent politician called Said El Dally, who becomes the victim of a failed assassination attempt that results in the murder of his eldest son. The start of the police investigation into the matter raises the question of who is the real Said El Dally.

*Starring: Nour El Sherif, Sawsan Badr, May Nour El Sherif, and Wafaa Salem. Written by Walid Youssef and directed by Youssef Sharaf El-Deen.*

## Rajol Wa Sit Sitat (A Man and Six Ladies)

*Rajol Wa Sit Sitat* is a comic series. Ashraf Abdul Baqi plays the role of Adel Said, a 35 year old man who owns a bazaar in the Pyramids district. He is a calm and cool man, who loves art, likes to read and write poems. His work runs well but his life is full of striking developments. He lives with his wife and daughter in an apartment that they share with his mother and sister as well as his mother-in-law and sister-in-law. Adel is the only man among all these women. Though he tends to be lonely and loves privacy, he finds himself faced with all kinds of feminine problems.

*Starring: Ashraf Abdul Baqi, Liqaa Al Khamisi, Zizi Mostafa. Directed by: Asad Fouladkar*

## Qalb Imra'a (A Woman's Heart)

This drama is about an attractive and poor woman called Nawal, who dreams of living a safe, stable and luxurious life. She marries a wealthy businessman, who turns out to be physiologically disturbed and dies by accident. Nawal's husband's family forces her to give up her children's inheritance. Nawal then gets married again, this time for love, to Fathy, who promises to look after her and her children from her previous marriage but things turn bitter when she discovers that Fathy is a drug dealer. After failing in her second marriage Nawal meets Marwan a rich guy who fulfills all her dreams. Seeking to get revenge from her first husband's family Nawal becomes involved in many corruption and bribe cases.

*Starring: Ilham Shaheen, Samira Abdul Aziz, Maged Al Masry, Rashwan Tawfiq, Shaheen, Ahmed Khalil, Youssef*

*Osman and Menna Fadaly. Directed by Magdy Abou Emeira*

## Aljanna Fi Beyotena (Paradise in our Home)

*Aljanna Fi Beyotena* is a religious program that addresses the issues of love and treatment between married couples, and the collapses that likely appears in families after years of commitment. This program is presented by the Islamic Preacher Amr Khaled, who seeks to provide simple solutions for today's Arab family's fundamental difficulties aiming at setting up blissful homes, appropriate manners and having content family members capable of overcoming troublesome lives.

## Kitchen (Chef Ramzy)

*Kitchen* is a cooking program presented by Chef Ramzy Choueiri, who shares with his viewers his famous recipes and answers any of his audiences' questions concerning different recipes. On week-ends there is something special being offered to the viewers, which is that the viewers get to travel with Ramzy through "Siyaha Ma'a Chef Ramzy" and discover the different flavors, not only from the many Lebanese regions, but also from all over the world, where he shares the best foreign recipes from China, Brazil and, Argentina, amongst others.

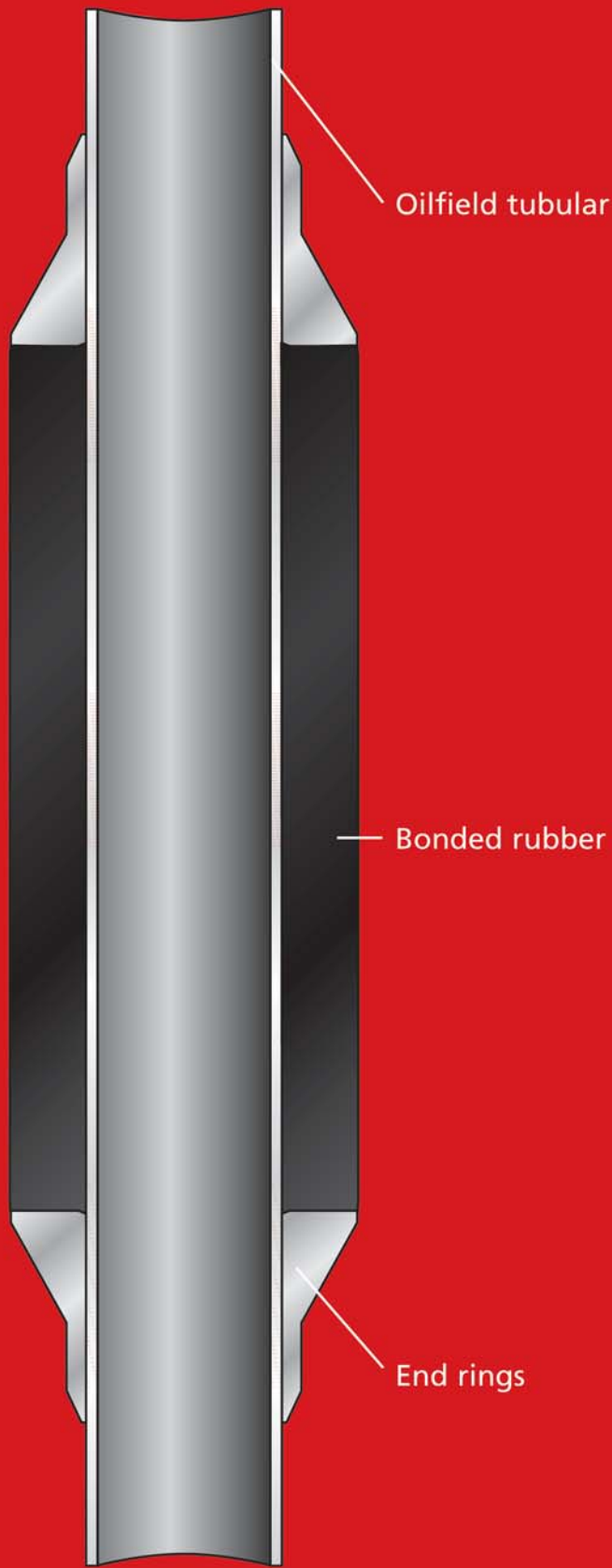
## Fan Al Tabekh (The Art of Cooking)

*Fan Al Tabekh* is another cooking program presented by Afnan Al Ziyani. She offers a variety of recipes for Ramadan from around the world in 30 minutes. Afnan guides her audience with step by step instructions for making the best recipes from around the world. The show consists of cooking with celebrities, giving nutritional advice and the latest news regarding food recipes.

It would seem that this Ramadan is unlike any other. The month is jam-packed with TV series, making this month more of an event for actors than for the audience. With the insane amount of shows presented, it is difficult to attempt to follow more than two at a time. The variety of shows is also another appealing feature, with TV catering to people of all walks of life, from the young to the old and the culinary predisposed to the religiously inclined. Hope this Ramadan is spent more with family than in front of the TV, but if not, you're in luck.

### Ramadan Series Schduel

| Time     | Program             | Channel   |
|----------|---------------------|-----------|
| 10:00 pm | Al Mallek Farouq    | MBC       |
| 12:15 am | Yetrabba Fi Ezzo    | Channel 2 |
| 9:20 pm  | Qadiyat Rai Aam     | Channel 2 |
| 4:30 pm  | Aljanna Fi Beyotena | Mehwar    |
| 11:30 pm | Hanan Wa Hanin      | Channel 2 |
| 10:30 pm | Al Dally            | Channel 1 |
| 7:15 pm  | Rajol Wa Sit Sitat  | Channel 2 |
| 2:45 pm  | Qalb Imra'a         | Channel 1 |



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## Mido gives the perfect reply to racist chants

EGYPTIAN footballer Ahmed Hossam (Mido), the Middlesbrough forward was subjected to unsavoury racist chants during a stormy hard-fought derby between Middlesbrough and Newcastle United a few weeks ago. Mido has defended his actions in confronting the Newcastle United fans who singled him out for racist abuse.

Mido labelled as drunkards those among the 3,000 supporters who risked tarnishing Newcastle's reputation with voicing offensive chant.

"I just think it's ridiculous," the forward, signed for £36 million from Tottenham Hotspur earlier this month, said. "Maybe some of them were drunk or something," he added.

In fact, the chants were too vociferous and sustained to be ignored. "I heard it, it was very clear and I understood what they were saying," Mido said. Middlesbrough have no plans to make an official complaint, but a club spokesman confirmed that the FA will not tolerate any instances of anti-Islamic chanting.

Police and stewards were mobilised in front of Newcastle supporters as they were approached by Mido with his finger to his lips in a shushing gesture, before he was ushered away by his Middlesbrough teammates. "The chants made me want to score more goals," Mido said. "I was delighted to score and I wanted another."

The supporters of Newcastle United could be banned from watching coming matches of their team as the English Football Association launched an investigation into the incident. Officials at the FA began studying audio and video footage of the game. Sources said that racist chants directed at Mido from visiting Newcastle supporters were "clearly audible" and it is understood that the FA will contact Cleveland police today and ask for their cooperation in identifying those involved before making them the subject of banning orders.



## Middlesbrough signs Shawqi



THE English Premiership club Middlesbrough signed Egypt midfielder Mohamed Shawki from African champions Ahli for 650,000 sterling pounds last month. Shawki, 25, agreed on a three-year contract after impressing manager Gareth Southgate during a trial session.

He will link up with compatriot Mido, who recently moved to Middlesbrough from Tottenham.

Shawki was on bad terms with Ahli's Portuguese head coach Muel Jose who gave the green light to the club's board to sell him off. Jose described Shawki as a "rotten apple that might spoil other ones."

Meanwhile, Ahli managed to sign Egyptian international Ahmed Fathi from Sheffield United on a four-year deal for £ 3675.000 starting from January. Fathi played for Ismaili before he was sold to the second-division English club.

## Three Footballers Pass Away In a Couple of Weeks

IN the course of a fortnight three footballers passed away during matches, a matter that rocked the football world. First, Clive Clarke, Leicester skipper, suffered a heart attack in the dressing room at half-time and lost consciousness while playing a game in the English Carling Cup last month. Paramedics had to restart his heart before rushing him to hospital, although the signs are that he is on the road to recovery.



and Zambian striker Chaswe Nsofwa have also given up the ghost within 10 days last month after collapsing on football pitches.

Deaths among footballers are not uncommon. Last year, on 31 August Egypt was inflicted by such an ordeal. Ahli's bright midfielder Mohamed Abdel-Wahab's death at the age of 23 during training shocked the nation. A young, promising and healthy young man, his death was all of a sudden.

Walsall apprentice Anton Reid, Sevilla midfielder Antonio Puerta

### Standings

|    | Team             | P | Home | Away | W | L | D | GF | GA | Points |
|----|------------------|---|------|------|---|---|---|----|----|--------|
| 1  | Petrojet         | 5 | 3    | 2    | 4 | 1 | 0 | 10 | 5  | 12     |
| 2  | Al-Ahli          | 5 | 2    | 3    | 3 | 0 | 2 | 8  | 5  | 11     |
| 3  | Ismaili          | 5 | 3    | 2    | 3 | 1 | 1 | 9  | 3  | 10     |
| 4  | Al-Gaish         | 4 | 2    | 2    | 3 | 0 | 1 | 5  | 2  | 10     |
| 5  | Zamalek          | 5 | 3    | 2    | 3 | 2 | 0 | 5  | 3  | 9      |
| 6  | Aluminum         | 5 | 2    | 3    | 2 | 1 | 2 | 6  | 7  | 8      |
| 7  | Tersana          | 5 | 3    | 2    | 2 | 2 | 1 | 10 | 9  | 7      |
| 8  | Ghazl Mahalla    | 4 | 2    | 2    | 2 | 1 | 1 | 7  | 6  | 7      |
| 9  | ENPPI            | 5 | 2    | 3    | 2 | 2 | 1 | 9  | 9  | 7      |
| 10 | Telecom Egypt    | 5 | 3    | 2    | 2 | 3 | 0 | 5  | 7  | 6      |
| 11 | Arab Contractors | 4 | 2    | 2    | 1 | 1 | 2 | 5  | 5  | 5      |
| 12 | Masri            | 4 | 2    | 2    | 1 | 2 | 1 | 5  | 5  | 4      |
| 13 | Baladeya         | 5 | 2    | 3    | 1 | 4 | 0 | 7  | 13 | 3      |
| 14 | Harras Al Hodoud | 5 | 3    | 2    | 0 | 3 | 2 | 5  | 8  | 2      |
| 15 | Suez Cement      | 5 | 2    | 3    | 0 | 3 | 2 | 3  | 7  | 2      |
| 16 | Ittihad          | 5 | 2    | 3    | 0 | 3 | 2 | 2  | 7  | 2      |

## Kaka the richest footballer in Italy

AC Milan playmaker Kaka is the highest paid player in the Italian Serie A with an annual salary of £ 34million, according to a research made by Gazzetta dello Sport. The Brazilian superstar has surpassed Roma ace Francesco Totti, who makes £ 33.7million a year and tops the list of Italian players.

Italy's outstanding goalkeeper Gianluigi Buffon follows Totti with a £ 33.4million annual salary, as Inter trio Zlatan Ibrahimovic, Patrick Vieira and Adriano are all level with the Juve guardian.

The top ten list includes the names of Inter's new recruits Christian Chivu and David Suazo, in addition to Milan's Brazilian midfielder Emerson.

The Milan rivals also hold the record for the highest annual wage bills, as the Rossoneri and Nerazzurri spend about £ 380million and £374million respectively on player's wages.

Cagliari are the team with the least wage budget, paying £ 37.5million, which means that top duo Kaka and Totti are collectively earning more than the total salaries of all Cagliari players combined together.



## Egypt held by Burundi

THE African Nations Cup title holder Egypt failed to secure its qualification for the 2008 finals in Ghana, having been held to a 0-0 draw with Burundi in their Group Two.

With the final games in the group being played in mid October, Burundi and Botswana are two points behind Egypt which is still on the head of the group with nine points. A home win over Botswana will secure Egypt a berth in the finals next year.

Egypt won the African Nations Cup for a record fifth time last year on its home turf, having defeated Ivory Coast in the final match after a shoot-out.



# The Changing Dynamics of Energy in the Middle East

The fluctuation of energy prices and their repeated rise and falls have illustrated the importance of the Middle East region as a fundamental energy provider for the whole world. This book discusses and analyzes the impact of oil and gas prices on global demand and on the international energy market, focusing on the Middle East and its effective role worldwide

"IT explores the possible future causes both of major interruptions in supply, and failures to maintain and expand export capacity, and, though it does not predict a major energy crisis, it does describe factors that could produce one," according to an *Amazon.com* review.

The two authors of "The Changing Dynamics of Energy in the Middle East", Anthony H. Cordesman and Khalid R. Al-Rodhan studied each country of the region in terms of each one's plans to maintain its energy stability. The authors then compare their analysis with the forecasting models of international organizations.

Moreover, Cordesman and Al-Rodhan tackled the attitude of the world's main importing countries, such as the United States, Europe, China, and India in terms of their way of dealing with the changing nature of global dependence upon Middle Eastern and North African (MENA) oil.

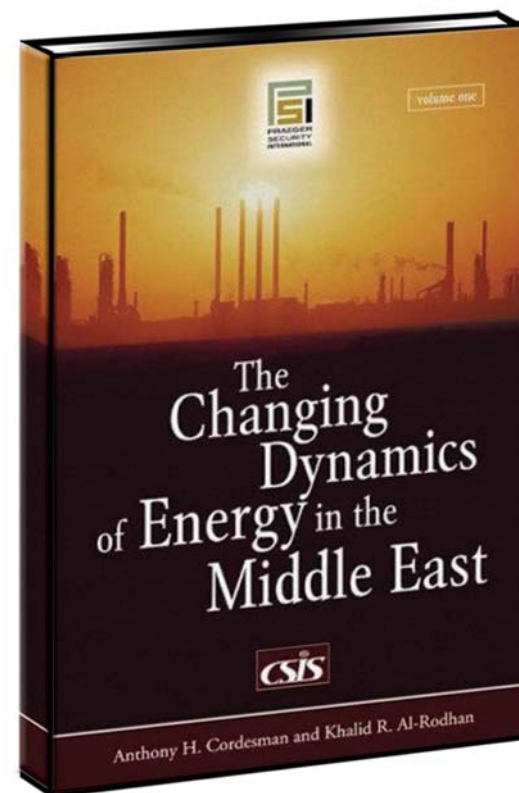
According to the International Energy Agency, the present projections of global oil demand suggest that world requirements would increase to 92 Mb/d by 2010 and to 110 Mb/d by 2020 from the 2002 level of 77 Mb/d. Assuming that demand grows by an average of 1% per year until 2020, the authors project world demand at 83 Mb/d by 2010 and 91 Mb/d by 2020. The attention will be then redirected to the MENA region as a main energy provider. And here comes the question; how the MENA will affect the energy market worldwide? Will it be able to meet the increasing demand? What are its future potentials in the oil and gas field?

Cordesman holds the Arleigh A. Burke Chair in Strategy at the Center for Strategic and International Studies and is an analyst and commentator for ABC News. He has reflected his deep interest concerning energy and Middle East politics, economics, demographics, and security in most of his writings and publications which account for more than 50 books. He has served in a number of senior positions in the U.S. government, including the Department of Energy, and several assignments in the Middle East.

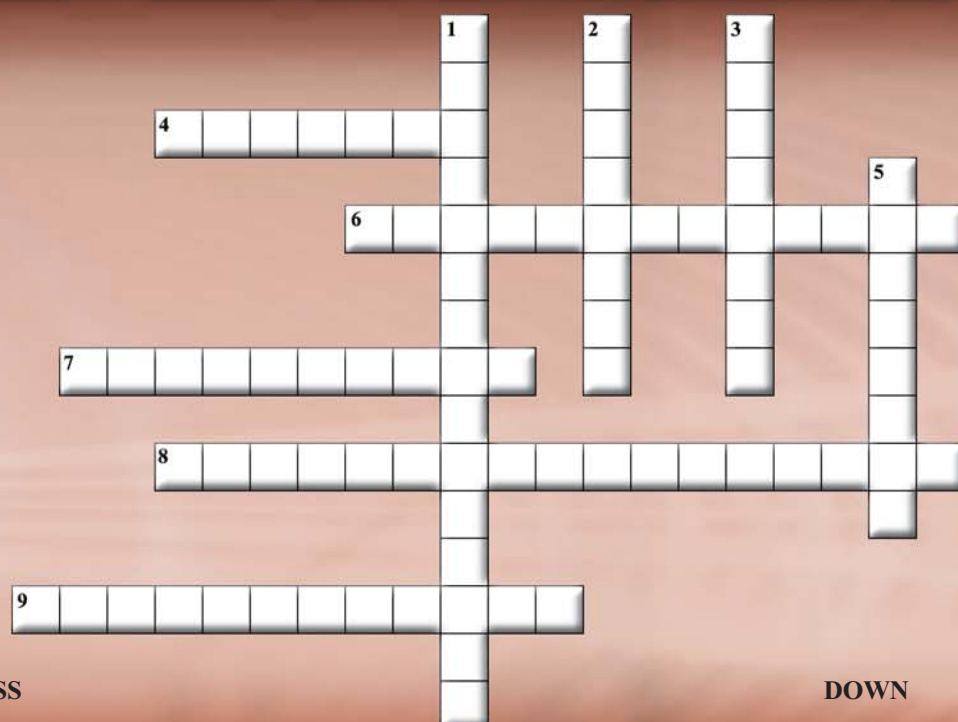
Al-Rodhan is a Visiting Fellow at the Center for Strategic and International Studies (CSIS) in Washington DC. He is a strategic analyst in the Gulf military, economic, and energy affairs. He is the coauthor of several books with Dr. Cordesman on energy security and military strategy including: *The Global Oil Market: Risks and Uncertainties* (2006); *Gulf Military Forces in an Era of Asymmetric Wars* (Praeger, 2006); and *The Changing Dynamics of Energy in the Middle East* (Praeger, 2006).

*The Changing Dynamics of Energy in the Middle East* offers "the most comprehensive data on current energy resources, production capacities estimates, import dependence, and national plans and strategies", through which it attributes the reason of the negative impact on the understanding of policy makers and strategic thinkers to the current lack of supply-driven models.

In conclusion, the two authors outline the possible strategic, economic, and demographic scenarios for the Middle East and their impacts on future energy.



## Oil & Gas Crossword



### ACROSS

- 4 A member of the exploration team whose primary duties are formulating and carrying out exploration strategies and managing an oil company's relations with its landowners and partners.
- 6 Assembly of valves and fittings located at the head of a well to control flow of oil and gas.
- 7 Drill crew members who handle the loading and unloading of equipment.
- 8 The extraction of additional crude oil, natural gas and related substances from reservoirs through pressure maintenance techniques.
- 9 A term used to refer the lightest products resulting from the refining process, because of their transparent appearance.

### DOWN

- 1 A rotating pump used for large volume oil and natural gas pipelines that takes in fluids near the centre and accelerates them as they move to the outlet on the outer edge.
- 2 A large metal bin on a drilling rig that usually holds a large amount of a certain mud additive, which is used in large quantities in the makeup of the drilling fluid.
- 3 An equipment used to remove unwanted gas from a liquid, especially from drilling fluid.
- 5 A hole drilled into the earth, usually cased with metal pipe for the production of gas or oil.

## Su Doku

|   |   |   |   |  |   |   |   |   |
|---|---|---|---|--|---|---|---|---|
| 4 | 8 |   | 6 |  |   | 1 | 3 |   |
|   |   |   | 8 |  |   |   |   | 7 |
| 2 |   |   | 9 |  | 5 | 6 |   |   |
| 1 |   |   |   |  | 7 | 8 |   |   |
|   |   |   |   |  |   |   |   |   |
|   |   | 2 | 3 |  |   |   |   | 1 |
|   |   | 4 | 2 |  | 9 |   |   | 5 |
| 9 |   |   |   |  | 1 |   |   |   |
|   | 2 | 3 |   |  | 6 |   | 1 | 8 |

Answers: 1. Centrifugal Pump 2. Bulk Tank 3. Degasser 4. Landman 5. Wellbore 6. Christmas Tree 7. Roustabout 8. Secondary Recovery 9. White Product

# What If... Hydrogen Was the Main Source of Energy

In its pure form, hydrogen is a gas at room temperature. It is classified as the simplest and most abundant of chemical elements, which can be used as a fuel and/or an industrial chemical. Hydrogen gas can be used as a fuel in specially designed internal combustion engines. Moreover, it can generate electricity and heat when it is used in fuel cells

Imagined by Yomna Bassiouni

## How it is made? Used?

The largest user of hydrogen is the petroleum industry for converting crude oil into gasoline and hundreds of chemicals. Sometimes, it is used in welding torches for welding or cutting metals.

In order to make hydrogen ready for use as a fuel, hydrogen needs energy to be separated from other elements. In its general form, the majority of hydrogen is locked with water or fuels. Hydrogen can be separated from water, gasoline, natural gas, sewage and coal gas. Solar energy is considered as the ideal energy source required for the separation process. However, this is not the only method to perform this procedure; separation can be carried out either by liquefaction of the other components of the gas or by catalytic conversion. Hydrogen is prepared in the laboratory by the action of diluting acid on metals, like zinc, and by the electrolysis of water.

As a matter of fact, water (H<sub>2</sub>O) is the most well known and abundant source of hydrogen, thus the electrolysis method is the most common one to produce hydrogen through the utilization of electricity in order to split water molecules into component hydrogen and oxygen molecules.

The means of producing and distributing hydrogen energy is simple and accessible. Hydrogen could be produced at centralized manufacturing plants and then distributed to end users by tanker or pipeline, which is similar to the existing use of propane or natural gas. Also, there is another method of production, which is the on-site production. And, if hydrogen is used in motor vehicles, it can be produced on-board.

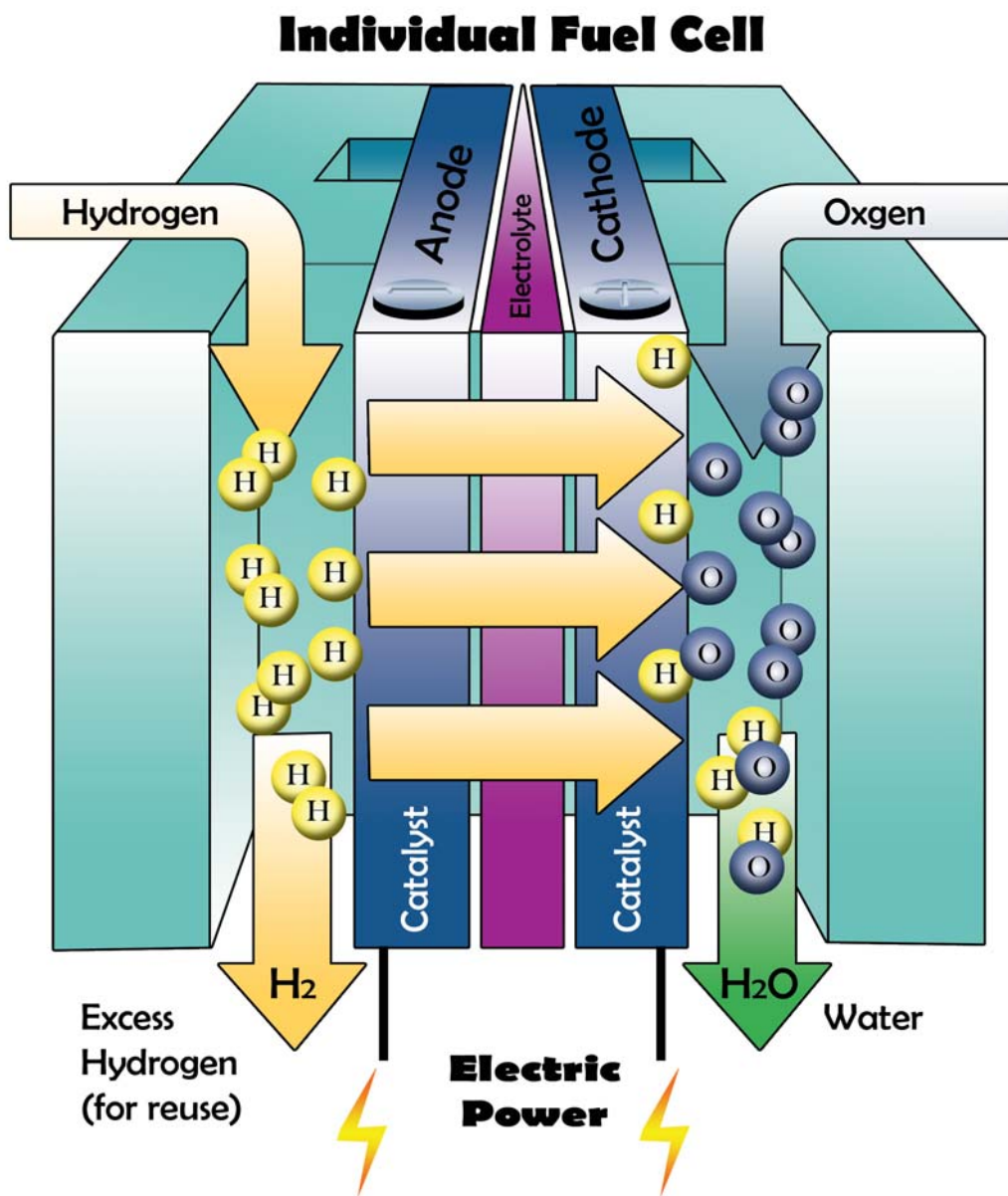
Concerning its shipment and transfer, hydrogen has two forms; gas or liquid. The first form requires tanks similar to propane but at significantly higher pressures due to the lower energy density of tanks containing metal hydride in which gas hydrogen can be stored.

As a liquid, super-insulated tanks at very low temperatures are indispensable for the storage of liquid hydrogen, which has a much higher energy density than gas.

## Advantages and Disadvantages

In the list of advantages resulting from the use of hydrogen energy, we can add the following. First, hydrogen energy is classified as pollution free. According to an article published in The Chinese newspaper *People's Daily News*, "the burning of hydrogen with air under appropriate conditions in combustion engines or gas turbines results in very low or negligible emissions." When compared to fossil fuels, Hydrogen is the only fuel whose production and end use can both contribute directly to eliminating many of our environmental, economic, and health problems. Engines utilizing hydrogen, which is a non toxic substance, last much longer and start faster despite the weather conditions.

Second, Hydrogen is characterized by its higher operation efficiency than internal combustion engines as more fuel is directly converted to electricity. Hydrogen fuel cells utilize the energy of a reaction between hydrogen and oxygen, which is converted directly and continuously into electrical energy, like a "re-fuelable battery", for electric vehicle propulsion. According to the recent



scientific research, Hydrogen represents the best technique to power future Electric Vehicles and existing vehicles which incorporate internal combustion engines.

Third, from an economic point of view, most internal combustion engines in automobiles and aircraft can be economically converted to utilize and burn hydrogen fuel. Due to the fact that hydrogen vehicles emit little or no carbon dioxide, these vehicles are viewed as an especially attractive option for reducing global warming trends.

Fourth, the technologies invented for the use of hydrogen have been tested and in use for many years. For instance, the chemical and petrochemical industries for the synthesis of chemical raw materials, such as production of ammonia, ethylene and methanol, have increased their demand for hydrogen. The processing of fuels in refineries (hydrogen production during thermo-cracking, hydrogen consumption for desulphurization and hydrogenation of fuels) is considered the most important producer and consumer of hydrogen.

Disregard the advantages discussed earlier, we can not ignore the other list of disadvantages. First, the cost of production and storage are still high and not feasible for everyone. Hydrogen powered vehicles are still in the research stage and are not generally available. Currently, hydrogen energy is more expensive than other energy sources and existing infrastructure has not been built to accommodate hydrogen fuel.

Second, the process of extracting hydrogen may require fossil fuels and therefore, this may generate pollution.

Third, the present lack of hydrogen manufacturing and distribution infrastructure represents a major drawback to the spread of the use of hydrogen energy worldwide. Although as explained earlier hydrogen can be stored and distributed using existing infrastructure, this may be a short to medium term solution to supplying hydrogen. There is a possibility in finding new methods to produce hydrogen from other fuels such as alcohol or gasoline that are processed using a reformer, which can be a longer term solution to solve the problem of storage and distribution.

## Countries investing in the development of Hydrogen Energy

Nowadays, there is a significant drift worldwide towards the development of diversified energy strategies. Many countries have altered their previous policies concerning energy and have implemented these strategies and developed new methods to better utilize more types of energies, among which is hydrogen.

Japan is one of the earliest countries that headed the studies on hydrogen energy, with a current focus on fuel battery. The Japanese government has further facilitated the hydrogen fuel supply by building hydrogen stations nationwide in order to boost hydrogen energy popularity in the country. Nearly 100 FCHVs have been licensed and the number is expected to reach 1,500 by 2030.

In 2003, the American government invested \$1.7 billion in a hydrogen fuel initiative which focused on the industrialized production, storage and application of hydrogen energy and a year later, it set up its first hydrogen station. By the end of 2005, a fixed hydrogen power device known as

"the third generation household power station" went into operation in the state of California. This device was 30% lighter than the second one with 25% increase in power generation and 50% expansion of hydrogen production and storage.

The European Union allocated nearly 30 million euros to double its investments in hydrogen energy and fuel cell during its sixth Framework Program (2002-2006). The five Nordic nations, Norway, Denmark, Finland, Sweden and Iceland have established the Nordic Energy Research with the goal of improving their capability in producing bio-hydrogen.

In china, scientists and researchers developed a sample vehicle driven by hydrogen fuel cells.

## What if hydrogen energy is produced in Egypt?

Trying to assess the future use of hydrogen, if Egypt produces hydrogen energy, it will then ensure lower rates of pollution and solve its environmental problems to some extent. The use of fuel cells and internal combustion engines in vehicles will save the oil and natural gas resources and solve the problem of oil and gas depletion.

Using small portions of the global land area, the government can manufacture enough Solar-Hydrogen to supply the entire energy requirement of the different industrial sectors in the country. Solar Hydrogen could make entire nations fuel-independent and pollution free for as long as there is sunshine and water.

# US refinery runs improving

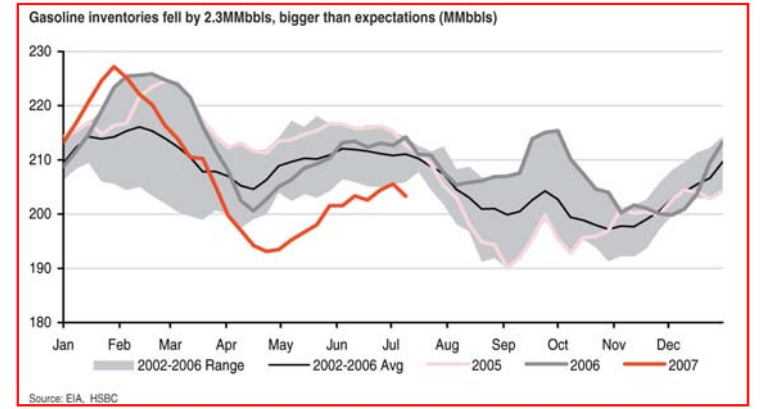


## US weekly oil product data shows gasoline still tight

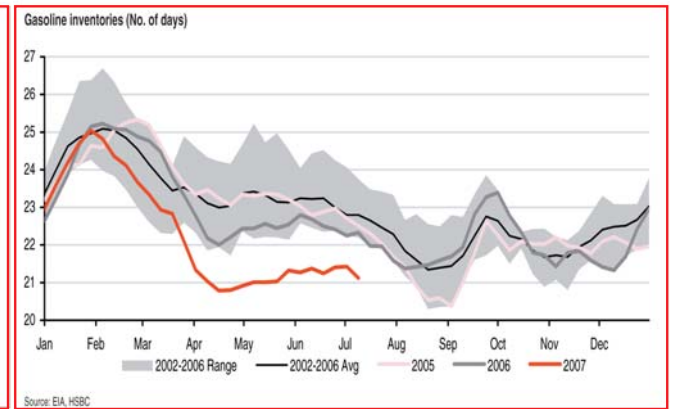
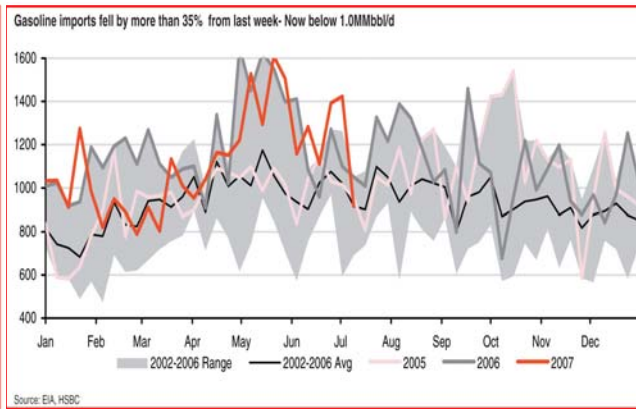
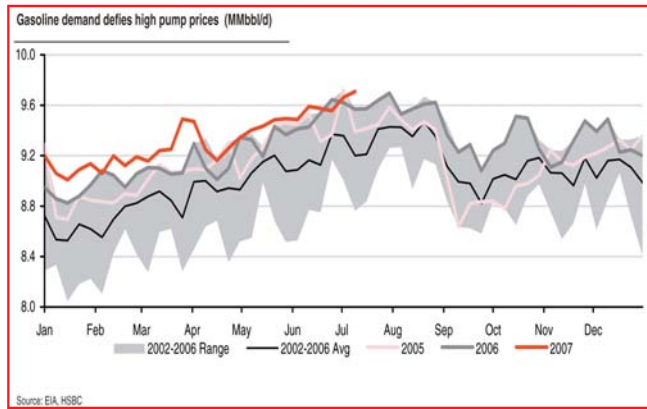
- ▶ Gasoline demand remains healthy but the main reason for the surprise 2.3mbb/d fall in gasoline inventories was the 500mbb/d fall in imports versus last week
- ▶ Refinery runs up 89mbb/d over last week but gasoline output slipped 64mbb/d. With more US refineries coming back into action, the current tightness could start to ease
- ▶ Total product inventories in the lower end of 5-year historical range in no. of days

### US demand—highlights for the week:

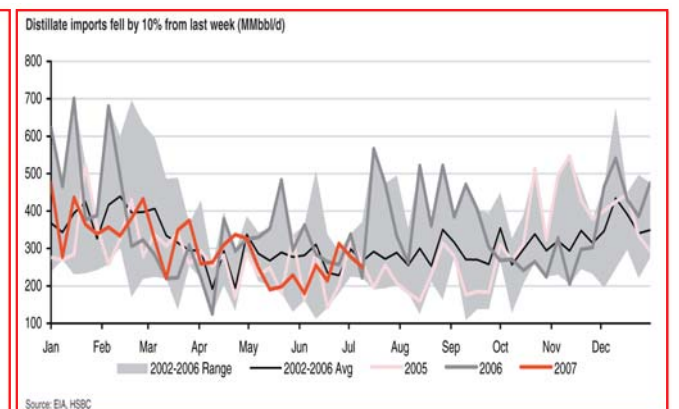
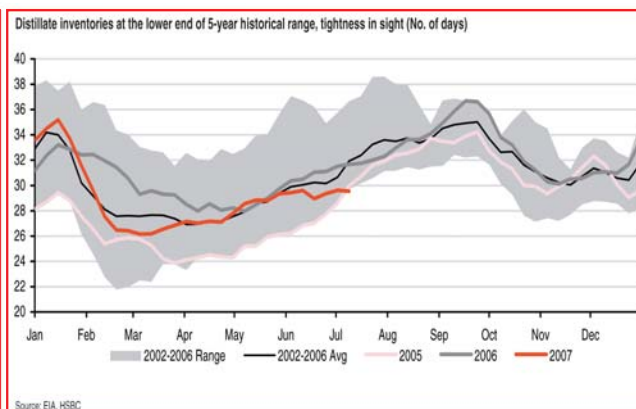
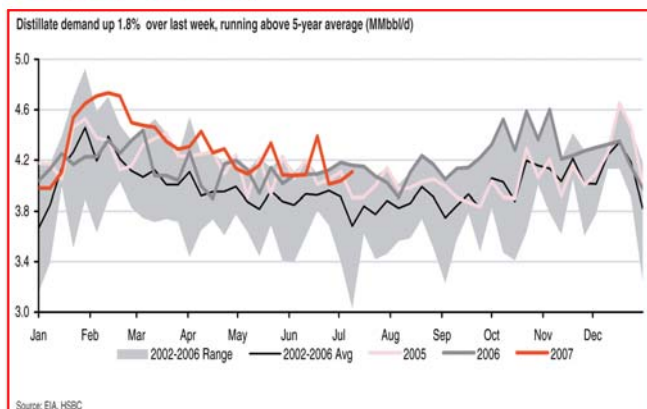
- ▶ Refinery utilization improved to 91% but still below normal levels. We expect utilization to rise further.
- ▶ Gasoline demand rose by 1.5% y-o-y, demand above 5-year historical range.
- ▶ Gasoline inventories substantially below 5-year range in terms of days supply.
- ▶ Total products inventory looking tight in terms of days supply, 32 days cover.
- ▶ Distillate demand up by 1.8% over last week, running above the historical average.



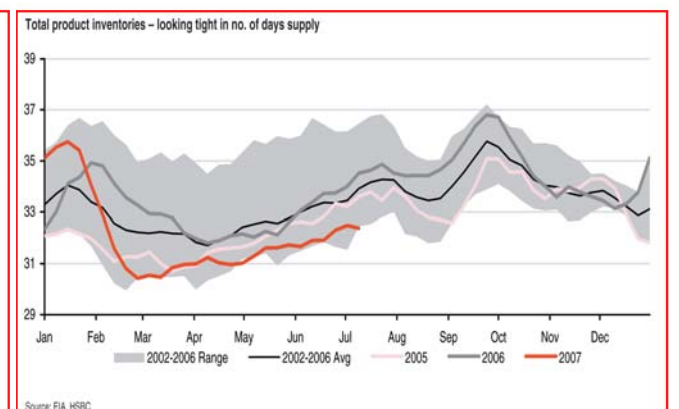
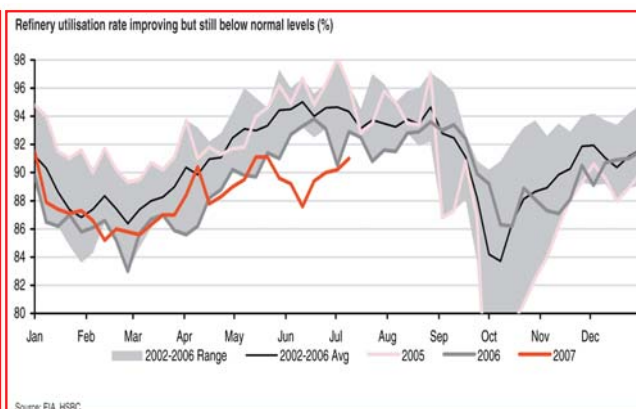
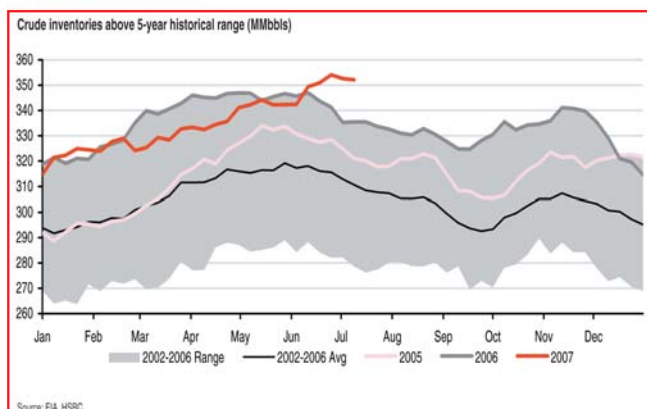
### Gasoline tightness continues



### Distillate demand strong



### Crude inventories

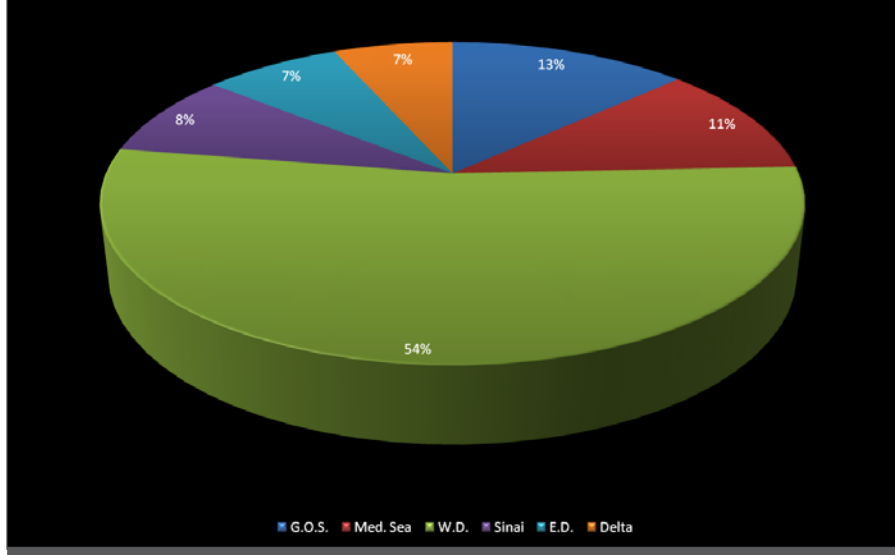


**Table 1**

**Egypt Rig Count per Area  
September 2007**

| Area              | RIG COUNT |            | Percentage of Total Area |
|-------------------|-----------|------------|--------------------------|
|                   |           | Total      |                          |
| Gulf of Suez      |           | 14         | 13%                      |
| Offshore          | 14        |            |                          |
| Land              | 0         |            |                          |
| Mediterranean Sea |           | 12         | 11%                      |
| Offshore          | 12        |            |                          |
| Land              | 0         |            |                          |
| Western Desert    |           | 57         | 54%                      |
| Offshore          | 0         |            |                          |
| Land              | 57        |            |                          |
| Sinai             |           | 9          | 8%                       |
| Offshore          | 0         |            |                          |
| Land              | 9         |            |                          |
| Eastern Desert    |           | 8          | 7%                       |
| Offshore          | 0         |            |                          |
| Land              | 8         |            |                          |
| Delta             |           | 7          | 7%                       |
| Offshore          | 0         |            |                          |
| Land              | 7         |            |                          |
| <b>Total</b>      |           | <b>107</b> | <b>100%</b>              |

**Rigs per Area September 2007**



Source : Egypt Oil & Gas

**Table 3**

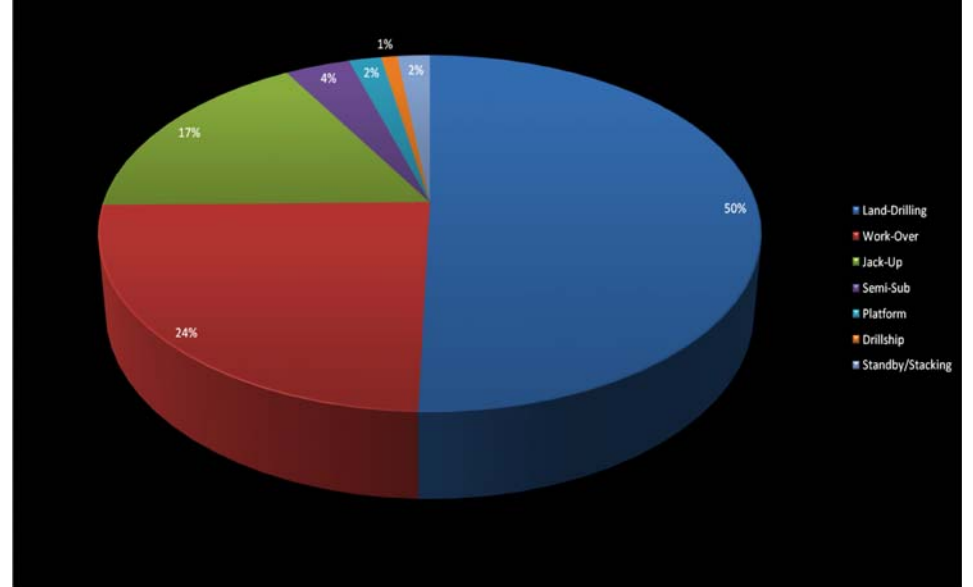
**World Crude Oil Production  
(Including Lease Condensate)  
(Thousand Barrels per Day)**

|                      | Equatorial Guinea | Gabon      | India | Indonesia | Iran  | Iraq  | Kazakhstan | Kuwait | Libya | Malaysia | Mexico | Nigeria      |
|----------------------|-------------------|------------|-------|-----------|-------|-------|------------|--------|-------|----------|--------|--------------|
| October              | 365               | 230        | 706   | 985       | 4,060 | 2,103 | 1,359      | 2,550  | 1,700 | 635      | 3,173  | 2,530        |
| November             | 365               | 223        | 701   | 985       | 4,020 | 2,003 | 1,399      | 2,500  | 1,650 | 614      | 3,163  | 2,480        |
| December             | 365               | 220        | 705   | 985       | 4,020 | 2,003 | 1,435      | 2,450  | 1,650 | 610      | 2,978  | 2,480        |
| 2006 Average         | 366               | 237        | 689   | 1,019     | 4,028 | 1,996 | 1,313      | 2,535  | 1,681 | 607      | 3,256  | 2,440        |
| 2007 January         | 373               | 240        | 699   | 988       | 4,040 | 1,753 | 1,298      | 2,450  | 1,680 | 627      | 3,143  | <b>2,365</b> |
| February             | 377               | 240        | 712   | 984       | 3,900 | 2,003 | 1,365      | 2,420  | 1,680 | 590      | 3,148  | <b>2,390</b> |
| March                | 381               | 238        | 707   | 969       | 3,900 | 2,053 | 1,405      | 2,420  | 1,680 | 590      | 3,182  | 2,275        |
| April                | 383               | 236        | 695   | 965       | 3,900 | 2,103 | 1,436      | 2,420  | 1,680 | 575      | 3,182  | 2,400        |
| May                  | 388               | <b>245</b> | 679   | 965       | 3,900 | 2,103 | 1,319      | 2,420  | 1,680 | 590      | 3,110  | 2,240        |
| June                 | 393               | 245        | 691   | 958       | 3,900 | 2,003 | 1,339      | 2,420  | 1,680 | 600      | 3,206  | 2,230        |
| 2007 6-Month Average | <b>383</b>        | 241        | 697   | 971       | 3,924 | 2,002 | 1,360      | 2,425  | 1,680 | 595      | 3,162  | 2,315        |

<sup>1</sup> Except for the period from August 1990 through May 1991, includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. From August 1990 through May 1991 all production in the Neutral Zone was included in the data for Saudi Arabia. In February 2007, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 510 thousand barrels per day. Revised data are in **bold italic font**.

Source : EIA

**Rigs per Specification September 2007**



**Table 2**

**World Crude Oil Production  
(Including Lease Condensate)  
(Thousand Barrels per Day)**

|                      | Algeria | Angola | Argentina | Australia  | Azerbaijan | Brazil | Canada       | China | Colombia   | Denmark | Ecuador | Egypt |
|----------------------|---------|--------|-----------|------------|------------|--------|--------------|-------|------------|---------|---------|-------|
| October              | 1,835   | 1,376  | 715       | 510        | 690        | 1,762  | 2,602        | 3,658 | 528        | 353     | 519     | 660   |
| November             | 1,805   | 1,452  | 660       | 470        | 780        | 1,766  | 2,658        | 3,682 | 528        | 350     | 511     | 615   |
| December             | 1,805   | 1,484  | 693       | 473        | 700        | 1,787  | 2,669        | 3,710 | 518        | 327     | 515     | 619   |
| 2006 Average         | 1,814   | 1,413  | 696       | 429        | 640        | 1,723  | 2,525        | 3,686 | 531        | 342     | 536     | 639   |
| 2007 January         | 1,838   | 1,584  | 704       | 453        | 815        | 1,736  | 2,578        | 3,658 | 522        | 318     | 517     | 616   |
| February             | 1,833   | 1,600  | 682       | 510        | 822        | 1,758  | 2,618        | 3,739 | <b>516</b> | 306     | 507     | 614   |
| March                | 1,829   | 1,640  | 686       | 400        | 863        | 1,769  | 2,694        | 3,685 | <b>519</b> | 321     | 482     | 612   |
| April                | 1,825   | 1,679  | 693       | <b>480</b> | 812        | 1,739  | <b>2,634</b> | 3,749 | <b>525</b> | 316     | 502     | 609   |
| May                  | 1,821   | 1,695  | 689       | 500        | 888        | 1,726  | <b>2,585</b> | 3,781 | <b>521</b> | 303     | 512     | 649   |
| June                 | 1,828   | 1,680  | 681       | 480        | 884        | 1,784  | 2,580        | 3,826 | 522        | 304     | 515     | 679   |
| 2007 6-Month Average | 1,829   | 1,647  | 689       | 470        | 848        | 1,752  | 2,615        | 3,739 | 521        | 311     | 506     | 630   |

Revised data are in **bold italic font**.

Source : EIA

**Table 4**

**World Crude Oil Production  
(Including Lease Condensate)  
(Thousand Barrels per Day)**

|                      | Norway | Oman | Qatar | Russia | Former U.S.S.R. | Saudi Arabia <sup>1</sup> | Sudan | Syria | United Arab Emirates | United Kingdom | United States <sup>2</sup> |
|----------------------|--------|------|-------|--------|-----------------|---------------------------|-------|-------|----------------------|----------------|----------------------------|
| October              | 2,380  | 730  | 885   | 9,450  | ---             | 8,800                     | 470   | 400   | 2,702                | 1,482          | E 5,195                    |
| November             | 2,466  | 724  | 845   | 9,320  | ---             | 8,800                     | 400   | 395   | 2,602                | 1,504          | E 5,149                    |
| December             | 2,508  | 721  | 835   | 9,420  | ---             | 8,750                     | 380   | 395   | 2,602                | 1,472          | E 5,275                    |
| 2006 Average         | 2,491  | 738  | 850   | 9,247  | ---             | 9,152                     | 378   | 406   | 2,636                | 1,490          | E 5,136                    |
| 2007 January         | 2,431  | 716  | 835   | 9,420  | ---             | 8,750                     | 399   | 395   | 2,613                | 1,510          | E 5,196                    |
| February             | 2,454  | 718  | 825   | 9,460  | ---             | 8,600                     | 406   | 394   | 2,573                | 1,654          | E 5,147                    |
| March                | 2,391  | 712  | 825   | 9,473  | ---             | 8,600                     | 402   | 393   | 2,612                | 1,554          | E 5,178                    |
| April                | 2,427  | 710  | 825   | 9,369  | ---             | 8,600                     | 447   | 410   | 2,611                | 1,566          | E 5,218                    |
| May                  | 2,181  | 708  | 825   | 9,390  | ---             | 8,600                     | 440   | 400   | 2,611                | 1,564          | E 5,240                    |
| June                 | 1,921  | 695  | 835   | 9,473  | ---             | 8,600                     | 470   | 400   | 2,610                | 1,487          | PE 5,139                   |
| 2007 6-Month Average | 2,300  | 710  | 828   | 9,430  | ---             | 8,626                     | 427   | 399   | 2,606                | 1,554          | PE 5,187                   |

<sup>1</sup> Except for the period from August 1990 through May 1991, includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. From August 1990 through May 1991 all production in the Neutral Zone was included in the data for Saudi Arabia. In February 2007, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 510 thousand barrels per day. Data for Saudi Arabia include approximately 150 thousand barrels per day from the Abu Safah field produced on behalf of Bahrain.

<sup>2</sup> U.S. geographic coverage is the 50 states and the District of Columbia.

--- = Not applicable. E=Estimated data. PE=Preliminary estimated data.

Revised data are in **bold italic font**.

Source : EIA



**Table 5**

**World Crude Oil Production  
(Including Lease Condensate)  
(Thousand Barrels per Day)**

|                      | Venezuela | Vietnam    | Yemen | Other <sup>1</sup> | World         | OPEC-12 <sup>2</sup> | OPEC-11 <sup>2</sup> | Persian Gulf <sup>3</sup> | North Sea <sup>4</sup> |
|----------------------|-----------|------------|-------|--------------------|---------------|----------------------|----------------------|---------------------------|------------------------|
| October              | 2,490     | 342        | 351   | <b>2,612</b>       | <b>73,893</b> | 32,016               | 30,640               | 21,135                    | 4,225                  |
| November             | 2,490     | 342        | 389   | <b>2,633</b>       | <b>73,438</b> | 31,632               | 30,180               | 20,805                    | 4,347                  |
| December             | 2,490     | 332        | 407   | <b>2,614</b>       | <b>73,404</b> | 31,554               | 30,070               | 20,695                    | 4,344                  |
| 2006 Average         | 2,511     | 344        | 375   | <b>2,679</b>       | <b>73,574</b> | 32,075               | 30,662               | 21,232                    | 4,343                  |
| 2007 January         | 2,380     | 332        | 418   | <b>2,645</b>       | <b>73,035</b> | <b>31,277</b>        | <b>29,693</b>        | 20,471                    | 4,298                  |
| February             | 2,383     | 336        | 358   | <b>2,686</b>       | <b>73,307</b> | <b>31,191</b>        | <b>29,591</b>        | 20,351                    | 4,447                  |
| March                | 2,445     | <b>301</b> | 356   | <b>2,710</b>       | <b>73,250</b> | 31,247               | 29,607               | 20,440                    | 4,300                  |
| April                | 2,445     | <b>321</b> | 354   | <b>2,680</b>       | <b>73,520</b> | 31,452               | 29,773               | 20,489                    | 4,354                  |
| May                  | 2,444     | <b>321</b> | 344   | <b>2,666</b>       | <b>73,043</b> | 31,304               | 29,609               | 20,489                    | <b>4,085</b>           |
| June                 | 2,444     | 281        | 344   | 2,696              | 72,823        | 31,189               | 29,509               | 20,398                    | 3,748                  |
| 2007 6-Month Average | 2,424     | 315        | 362   | 2,680              | 73,160        | 31,278               | 29,631               | 20,441                    | 4,203                  |

<sup>1</sup> Other is a calculated total derived from the difference between "World" and the sum of production in all countries listed in Tables 2, 3, 4, and 5).

<sup>2</sup> OPEC-12: Organization of the Petroleum Exporting Countries: Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. OPEC-11 does not include Angola.

<sup>3</sup> The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Kuwait-Saudi Arabia Neutral Zone is included in Persian Gulf production.

<sup>4</sup> North Sea includes the United Kingdom Offshore, Norway, Denmark, Netherlands Offshore, and Germany Offshore.

Revised data are in **bold italic font**.

Source : EIA

**Table 7**

**OECD<sup>1</sup> Countries and World  
Petroleum (Oil) Demand  
(Thousand Barrels per Day)**

|                      | France | Germany | Italy | United Kingdom | OECD Europe <sup>2</sup> | Canada       | Japan | South Korea | United States <sup>3</sup> | Other OECD <sup>4</sup> | OECD <sup>1</sup> | World         |
|----------------------|--------|---------|-------|----------------|--------------------------|--------------|-------|-------------|----------------------------|-------------------------|-------------------|---------------|
| October              | 2,044  | 2,792   | 1,690 | 1,774          | 15,908                   | 2,170        | 4,738 | 2,060       | 20,757                     | 3,339                   | 48,972            | NA            |
| November             | 1,913  | 2,777   | 1,766 | 1,857          | 15,881                   | 2,344        | 5,214 | 2,363       | 20,544                     | 3,471                   | 49,817            | NA            |
| December             | 1,890  | 2,556   | 1,686 | 1,811          | 15,143                   | 2,260        | 5,915 | 2,537       | 20,697                     | 3,518                   | 50,071            | NA            |
| 2006 Average         | 1,961  | 2,663   | 1,732 | 1,830          | 15,562                   | <b>2,228</b> | 5,159 | 2,174       | 20,588                     | 3,418                   | <b>49,129</b>     | <b>84,454</b> |
| 2007 January         | 2,033  | 2,338   | 1,614 | 1,827          | <b>15,002</b>            | 2,272        | 5,214 | 2,390       | 20,559                     | 3,366                   | <b>48,802</b>     | NA            |
| February             | 1,954  | 2,406   | 1,756 | 1,787          | 15,249                   | <b>2,448</b> | 5,562 | 2,387       | 21,271                     | 3,421                   | <b>50,340</b>     | NA            |
| March                | 1,923  | 2,508   | 1,712 | 1,786          | 15,200                   | <b>2,328</b> | 5,404 | 2,282       | 21,529                     | 3,530                   | <b>49,272</b>     | NA            |
| April                | 1,854  | 2,368   | 1,631 | 1,776          | <b>14,666</b>            | <b>2,189</b> | 4,876 | 2,215       | 21,579                     | <b>3,302</b>            | <b>47,826</b>     | NA            |
| May                  | 1,788  | 2,418   | 1,704 | 1,801          | 14,784                   | 2,307        | 4,405 | 2,071       | 21,631                     | 3,464                   | 47,662            | NA            |
| 2007 5-Month Average | 1,910  | 2,408   | 1,682 | 1,796          | 14,977                   | 2,307        | 5,084 | 2,267       | 20,704                     | 3,417                   | 48,756            | NA            |

<sup>1</sup> OECD: Organization for Economic Cooperation and Development.

<sup>2</sup> "OECD Europe" consists of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

<sup>3</sup> U.S. geographic coverage is the 50 States and the District of Columbia.

<sup>4</sup> "Other OECD" consists of Australia, Mexico, New Zealand, and the U.S. Territories.

NA=Not available.

Revised data are in **bold italic font**.

Notes: The term Demand is used interchangeably with Consumption and Products Supplied.

Source : EIA

**Average Currency Exchange Rate against the Egyptian Pound  
(August / September)**

| US Dollar | Euro  | Sterling | Yen   |
|-----------|-------|----------|-------|
| 5.832     | 7.959 | 11.716   | 5.067 |

**Stock Market Prices  
(August / September)**

| Company                             | High  | Low   |
|-------------------------------------|-------|-------|
| Alexandria Mineral Oils (AMOC.CA)   | 82.99 | 72.95 |
| Sidi Kerir Petrochemicals (SKPC.CA) | 17.55 | 16.68 |

**Table 6**

**World Oil Supply<sup>1</sup>  
(Thousand Barrels per Day)**

|                      |    | United States <sup>2</sup> | Persian Gulf <sup>3</sup> | OAPEC <sup>4</sup> | OPEC-12 <sup>5</sup> | OPEC-11 <sup>5</sup> | World         |
|----------------------|----|----------------------------|---------------------------|--------------------|----------------------|----------------------|---------------|
| October              | E  | 8,455                      | <b>23,547</b>             | <b>24,569</b>      | <b>35,259</b>        | <b>33,859</b>        | <b>85,135</b> |
| November             | E  | 8,378                      | <b>23,217</b>             | <b>24,161</b>      | <b>34,884</b>        | <b>33,409</b>        | <b>84,585</b> |
| December             | E  | 8,556                      | <b>23,107</b>             | <b>24,071</b>      | <b>34,805</b>        | <b>33,297</b>        | <b>84,382</b> |
| 2006 Average         | E  | 8,370                      | <b>23,642</b>             | <b>24,619</b>      | <b>35,307</b>        | <b>33,872</b>        | <b>84,650</b> |
| 2007 January         | E  | 8,462                      | <b>22,936</b>             | <b>23,966</b>      | <b>34,553</b>        | <b>32,945</b>        | <b>84,021</b> |
| February             | E  | 8,351                      | <b>22,827</b>             | <b>23,986</b>      | <b>34,469</b>        | <b>32,845</b>        | <b>84,344</b> |
| March                | E  | 8,460                      | <b>22,913</b>             | <b>24,065</b>      | <b>34,525</b>        | <b>32,861</b>        | <b>84,114</b> |
| April                | E  | 8,506                      | <b>22,960</b>             | <b>24,122</b>      | <b>34,731</b>        | <b>32,028</b>        | <b>84,591</b> |
| May                  | E  | 8,566                      | <b>22,959</b>             | <b>24,163</b>      | <b>34,582</b>        | <b>32,865</b>        | <b>84,354</b> |
| June                 | PE | 8,520                      | 22,877                    | 24,117             | 34,475               | 32,773               | 84,501        |
| 2007 6-Month Average | PE | 8,479                      | 22,913                    | 24,071             | 34,557               | 32,887               | 84,318        |

<sup>1</sup> "Oil Supply" is defined as the production of crude oil (including lease condensate), natural gas plant liquids, and other liquids, and refinery processing gain (loss).

<sup>2</sup> U.S. geographic coverage is the 50 States and the District of Columbia. Beginning in 1993, includes fuel ethanol blended into finished motor gasoline and oxygenate production from merchant MTBE plants.

<sup>3</sup> The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Kuwait-Saudi Arabia Neutral Zone is included in Persian Gulf production.

<sup>4</sup> OAPEC: Organization of Arab Petroleum Exporting Countries: Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

<sup>5</sup> OPEC-12: Organization of the Petroleum Exporting Countries: Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. OPEC-11 does not include Angola.

E=Estimated data. RE=Revised estimated data. PE=Preliminary estimated data.

Revised data are in **bold italic font**.

Source : EIA

**Table 8**

**World Natural Gas Liquids Production  
(Thousand Barrels per Day)**

|                      | Algeria | Canada | Mexico | Saudi Arabia | Russia | Former U.S.S.R | United States <sup>1</sup> | Persian Gulf <sup>2</sup> | OAPEC <sup>3</sup> | OPEC-12 <sup>4</sup> | OPEC-11 <sup>4</sup> | World        |
|----------------------|---------|--------|--------|--------------|--------|----------------|----------------------------|---------------------------|--------------------|----------------------|----------------------|--------------|
| October              | 320     | 673    | 405    | 1,439        | 425    | ---            | 1,773                      | <b>2,302</b>              | <b>2,726</b>       | <b>3,064</b>         | <b>3,040</b>         | <b>7,848</b> |
| November             | 330     | 683    | 383    | 1,439        | 419    | ---            | 1,769                      | <b>2,302</b>              | <b>2,736</b>       | <b>3,074</b>         | <b>3,050</b>         | <b>7,876</b> |
| December             | 328     | 668    | 396    | 1,439        | 424    | ---            | 1,734                      | <b>2,302</b>              | <b>2,739</b>       | <b>3,072</b>         | <b>3,048</b>         | <b>7,875</b> |
| 2006 Average         | 310     | 685    | 427    | 1,439        | 417    | ---            | 1,735                      | <b>2,301</b>              | <b>2,700</b>       | <b>3,034</b>         | <b>3,011</b>         | <b>7,804</b> |
| 2007 January         | 341     | 712    | 411    | 1,439        | 424    | ---            | E 1,670                    | <b>2,355</b>              | <b>2,813</b>       | <b>3,138</b>         | <b>3,114</b>         | <b>7,945</b> |
| February             | 340     | 762    | 405    | 1,439        | 426    | ---            | E 1,706                    | <b>2,366</b>              | <b>2,821</b>       | <b>3,140</b>         | <b>3,116</b>         | <b>8,027</b> |
| March                | 340     | 680    | 416    | 1,439        | 426    | ---            | E 1,767                    | <b>2,364</b>              | <b>2,819</b>       | <b>3,139</b>         | <b>3,115</b>         | <b>7,943</b> |
| April                | 340     | 661    | 420    | 1,439        | 422    | ---            | E 1,749                    | <b>2,361</b>              | <b>2,816</b>       | <b>3,140</b>         | <b>3,116</b>         | <b>7,971</b> |
| May                  | 340     | 670    | 413    | 1,439        | 423    | ---            | E 1,787                    | <b>2,361</b>              | <b>2,817</b>       | <b>3,140</b>         | <b>3,117</b>         | <b>7,969</b> |
| June                 | 340     | 621    | 418    | 1,439        | 427    | ---            | PE 1,775                   | 2,369                     | 2,825              | 3,148                | 3,125                | 7,893        |
| 2007 6-Month Average | 340     | 683    | 414    | 1,439        | 424    | ---            | PE 1,743                   | 2,362                     | 2,818              | 3,141                | 3,117                | 7,957        |

<sup>1</sup> U.S. geographic coverage is the 50 states and the District of Columbia. Excludes fuel ethanol blended into finished motor gasoline.

<sup>2</sup> The Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates.

<sup>3</sup> OAPEC: Organization of Arab Petroleum Exporting Countries: Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

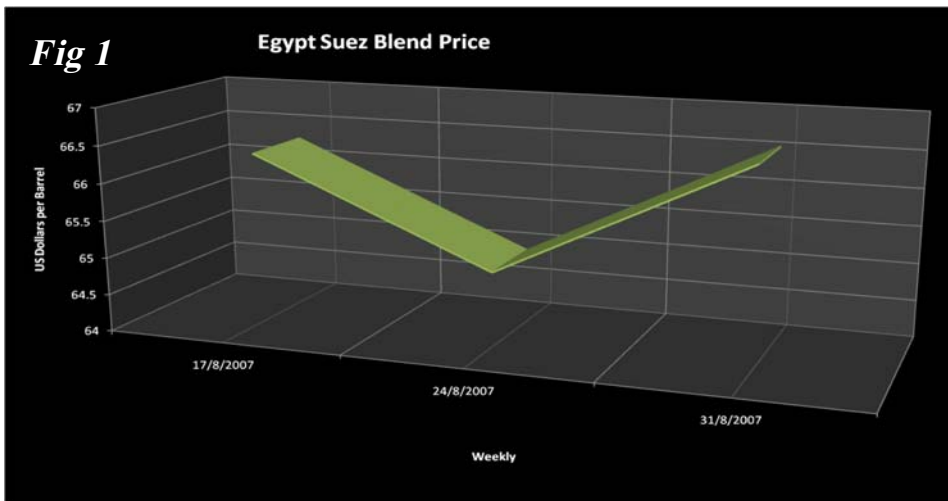
<sup>4</sup> OPEC-12: Organization of the Petroleum Exporting Countries: Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. OPEC-11 does not include Angola.

--- = Not applicable. E=Estimated data. PE=Preliminary estimated data.

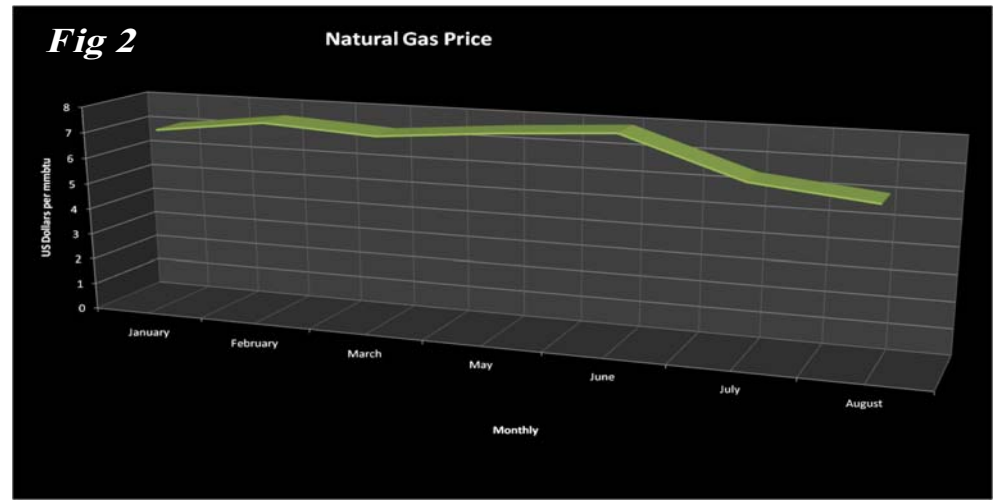
Revised data are in **bold italic font**.

Source : EIA

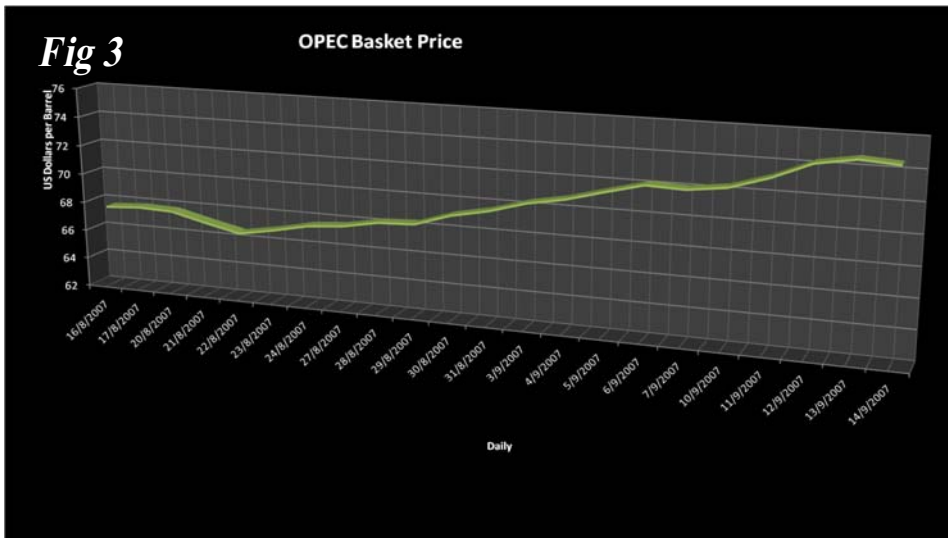




Source : Egypt Oil & Gas



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**Table 9** International Stock Prices  
Mid-August-Mid-September

| International Stock                      | High   | Low    |
|--|--------|--------|
| Schlumberger (SLB) NYSE (US Dollars)     | 100.37 | 87.24  |
| Halliburton (HAL) NYSE (US Dollars)      | 37.11  | 32.25  |
| Exxon Mobil (XOM) NYSE (US Dollars)      | 88.67  | 81.69  |
| Atwood Oceanics (ATW) NYSE (US Dollars)  | 79.35  | 66.32  |
| Weatherford (WFT) NYSE (US Dollars)      | 64.52  | 50.98  |
| Shell (RDS.A) NYSE (US Dollars)          | 81.68  | 72.40  |
| Apache (APA) NYSE (US Dollars)           | 83.19  | 73.59  |
| Baker Hughes (BHI) NYSE (US Dollars)     | 87.11  | 77.19  |
| BJ (BJS) NYSE (US Dollars)               | 26.50  | 23.95  |
| Lufkin (LUFK) NYSE (US Dollars)          | 59.50  | 52.84  |
| Transocean (RIG) NYSE (US Dollars)       | 108.05 | 98.15  |
| Transglobe (TGA) NYSE (US Dollars)       | 4.52   | 3.65   |
| GlobalSantafe (GSF) NYSE (US Dollars)    | 72.56  | 66.03  |
| BP (BP.) LSE Pence Sterling              | 571.00 | 527.00 |
| BG (BG.) LSE Pence Sterling              | 815.50 | 729.00 |
| Dana Gas (DANA) ADMS US Dollars          | 1.68   | 1.53   |
| Caltex (CTX) ASX Australian Dollars      | 24.93  | 20.00  |
| RWE DWA (RWE AG ST) Deutsche-Borse Euros | 82.62  | 79.97  |
| Lukoil (LKO) RTS (US Dollars)            | 77.50  | 71.00  |

Source : Egypt Oil & Gas

# New truck fleet for the Energy Industry

Trucking services and tailor made logistics solutions for the Egyptian Oil & Gas Industry are among the core products provided by PICO Logistics, a subsidiary of PICO Energy

## Safely done!

Ongoing new additions add to the rapid growth of PICO Logistics' truck fleet, which is projected to reach 150 trucks by early 2009 due to significant projects in the Oil & Gas Sector as well as other industries.

With a rigid QHSE management system of highest standard in force, PICO Logistics is committed to secured quality through management systems and environmentally responsible operations through its internal controls.

Drivers are equipped with personal protective equipment, undergo regular training on various truck models and on defensive driving and are certified by external bodies. Moreover, they are subjected to continuous monitoring and periodical health and drug tests.

Trucks are equipped in compliance with highest HSE requirements of the Oil & Gas Sector; and equipment can be upgraded according to individual company's specifications and needs. PICO Logistics rewards outstanding drivers' performance in compliance with its QHSE manual with special incentives.

With HSE, reliability, availability, promptness, quality and value paired with management systems and latest technologies, PICO Logistics is committed to all elements of its mission to become the partner of choice for customers outsourcing their logistical operations.

## Inspired by 25 years of successful in-house logistics

"Safely done!" reflects PICO Logistics' deep commitment to HSE and to its customers when providing logistics solutions to the Oil & Gas Industry upstream and downstream, including multi-modal transport solutions.

PICO Logistics has the background, skills and resources to provide innovative, customized, cost-effective and



seamless solutions to the ever-changing logistics requirements of the industry.

Drawing back on more than 25 years of successful in-house logistics serving the many PICO companies being engaged in the most vital sectors of the Egyptian economy ranging from energy, industrial, investment, real estate to agriculture and food retail, PICO Logistics was established as a separate legal entity with a capital of 100 millions EGP – the highest capital of an Egyptian logistics company – under the umbrella of PICO Energy group in 2006.

## A focused approach to the Energy Industry

As a one-stop-shop, PICO Logistics offers its service mix in discrete or integrated manner. With a strong network of international and well experienced agents especially in petro logistics, PICO Logistics is ready to handle all national and international operations for its clients in the Oil & Gas Industry.

Serving all customers' needs from one hand, PICO Logistics offers customized logistics solutions including E-solutions.

As IT has become the most important factor in logistics, PICO Logistics distributes proven software solutions and modules

with electronic platforms for innovative, value-added services and operational efficiency especially designed for the Oil & Gas Industry, offering consultancy services, installation, implementation and training of end users of the software solutions, which are fully integrated in one database with a common user interface.

## Ongoing Activities

As efficient transportation is a must to conduct a business successfully, TMS (Transport Management Systems) based on QHSE are applied in all domestic traffic operations. PICO Logistics' distribution system provides clients with the required optimum delivery times.

In cooperation with overseas partners, major air carriers and shipping lines, sea shipments (FCL -full-container-load- and LCL -less-container-load- shipments and all general cargo) and air freight are handled with maximum care and speed at competitive rates, enabling even most urgent requests to be met at fair rates. All shipments can be delivered door-to-door.

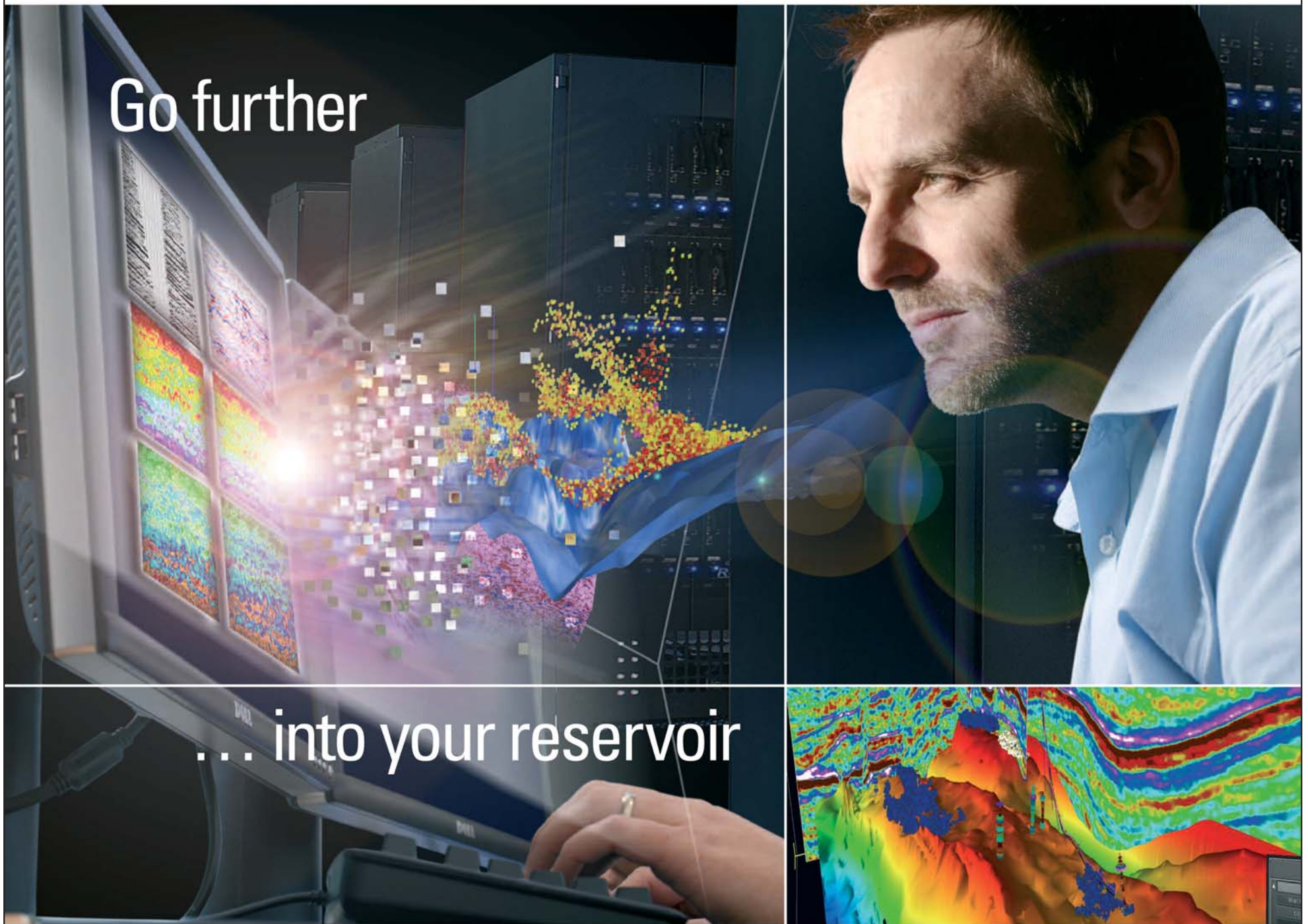
When it comes to customs clearance, customers benefit from the outstanding level of service provided by PICO Logistics' experienced teams in all Egyptian sea/air ports and bonded areas.

Services include clearance, consultation, local document preparation as well as free zone and transit clearance.

The removal department handles all moving of goods and personal effects of companies and their ex-pat staff, providing all packing, loading and delivery services on door-to-door basis.

Among the many activities of PICO Logistics, also fairs & exhibition handling and spares logistics play an important role. Covering the complete supply chain, exhibition goods or spare parts are delivered in a seamless, time- and cost-effective manner.





# Reservoir Seismic Services

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