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Issue 53

E&P operations intensified in

the Western Desert

The Western Desert has witnessed intensified drilling activities led by various companies, such | P₄ as Bapetco, GPC, Agiba, Naftogaz and Oarun.



To export or not to export...

Currently, there is no voice louder in the Ministry of Petroleum than amending the gas contracts with other countries. The people's revolution came to make the voice of the people heard and sometimes a strong factor in changing political scenes.

Hence, will all Egyptian gas contracts be reviewed?



Technology & Solutions

Reservoir Pathway Identification in a Fractured Carbonate Heavy Oil Reservoir



Unsolved equation: oil prices vs. economic recovery





Dover: our investments remain strong in Egypt **CORRECTION**

Egypt Oil & Gas Newspaper received an official statement from Dover Investments Limited commenting on the news published in April issue about Dover's withdrawal from Gebel El Zeit Concession.

Dover, the 100% contractor in the Gebel El Zeit Concession and partner in Gebel El Zeit Petroleum Joint Venture Company (a.k.a. Petrozeit) confirmed that there is no plan to withdraw from the Ras El Ush Concession nor it would cease to fund the Petrozeit Joint Venture. "This allegation is completely untrue."

Dover has not, nor has any intention of, issuing orders to stop financing Petrozeit as alleged. Nor does Dover intend to withdraw from Egypt. The political unrest of January 25th and after had absolutely no effect on Dover's operations or plans.

In fact, Dover is an active partner in new exploration in the Western desert where drilling of a six well program is already taking place in the heart of the prolific Abu Gharadig Basin.

Khalda develops new well in Abu-Gharadia

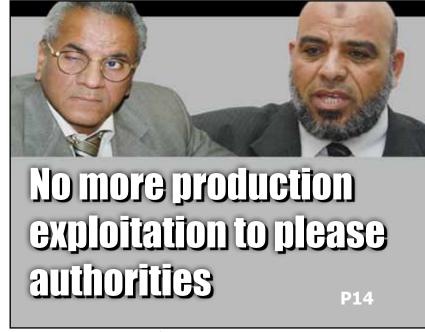
Khalda Petroleum Company is developing a new well in its Abu Gharadiq concession, which is part of the company's drilling plan of the fiscal year of 2010-2011.

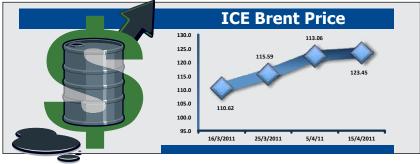
Khalda, the joint venture between the EGPC and Apache Corporation, took control of this well from the international BP. Based on the positive results of the Abu Gharadiq-83 well, which was tested through an open hole of 128 / 264 inch and cost a total investment of \$2 million, Khalda will start the development program for this well.

Petrobel to put development wells on production

Petrobel, the Egyptian Joint Venture owned by the EGPC and Italian Eni, is preparing for the placement of two development wells on production line.

The first development well is drilled in Petrobel's Abu Rudeis Concession area in Sinai, with total investments of \$4.1 million. The second development well is drilled in the Gulf of Suez with a total investment worth \$12.6 million.

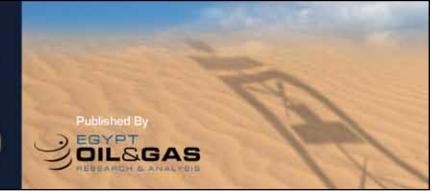




Egypt Drilling Report

Your gateway to an industry forecast





Is the public pressure affecting the decision-making?

In the shadow of events that took place since the 25th of January, the public has been the voice of change and demands. Personally, I believe that the public pressure is the reason behind the drastic measurements that occurred and still occurring in Egypt. The question is, how does it re-assess the decision making process and whether these changes and measurements are occurring just to please the public demands or because they should be happening according to the laws and regulations.

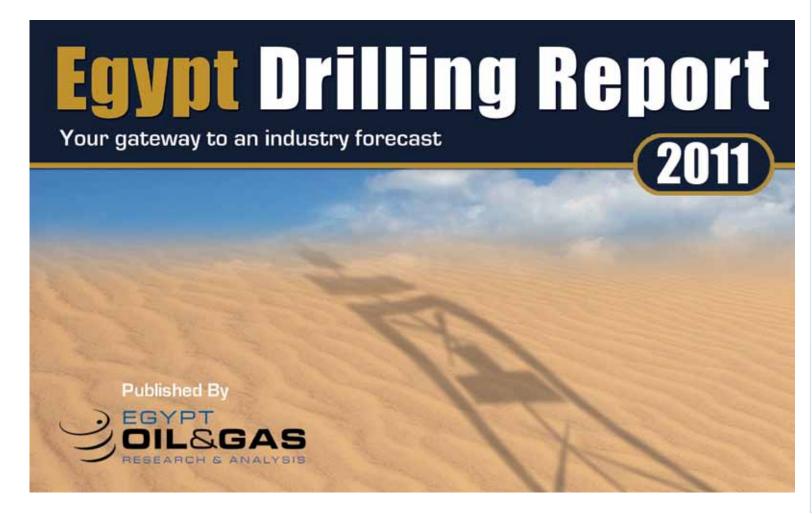
Nowadays, former officials from the Ministry of Petroleum are being condemned and investigated with regarding the deal of exporting Egyptian natural gas to Israel. The names of those people were so shocking to most of us in the sector. Some of these people were known for their good reputation and achievements in the sector. I am not questioning why were they jailed, my concern is whether they were condemned in order to calm down the public pressure or because they were part of the corruption in the Petroleum sector. We are

facing a lot of speculations regarding this issue, because we are not sure who is next and why, are people put in jail only to satisfy and ease the public anxiety or because they are guilty and should be sued for the corruption they caused.

Also, another concern I have is the way authorities are dealing with workers' demonstrations, whether asking for salary raise or to be transferred to full time employees. The question that should be asked: do we have the budget to obey their demands? Do we just give promises that are financially hard to be implemented? What if we do not have the finance to satisfy these demands, will the public condemn and attack the officials?

Unfortunately, I believe that the current decision making is subject to public pressure and emotional factors rather than being subject to the sound of logic and capabilities. Maybe the coming days will prove the opposite, who knows!

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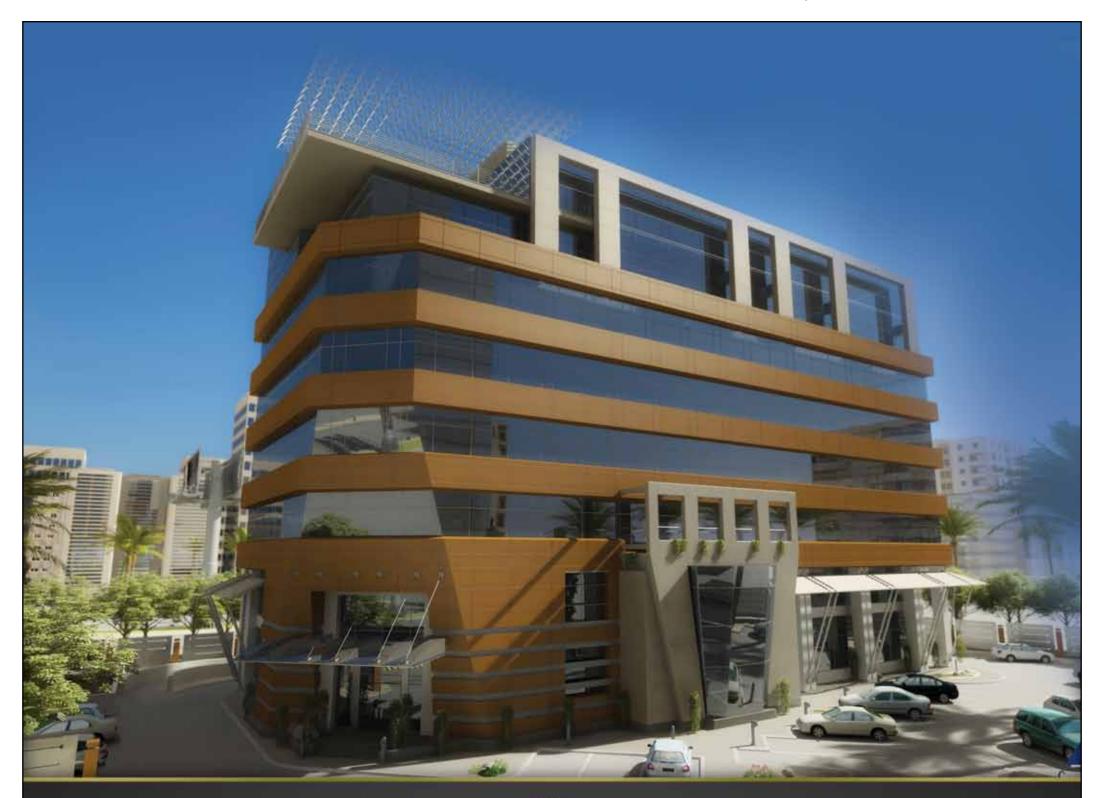
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Egypt News

Abu Qir to test its well

Abu Qir Petroleum Company finalized the drilling of a new exploratory well P1-5 in its acquisition area in the Mediterranean Sea.

The well was drilled to a total depth of 11,520 feet in the layer of Kafr El-Sheikh.the drilling operations were held by the Ocean-Spur rig.

Abu Qir, the joint venture between the EGPC and Italian Edison, will conduct tests on the well to evaluate its natural gas economic quantities.

The total investments of the new well reached

Abu Qir has started its operations following the signing of the January 15, 2009 agreement with the EGPC, through which Edison acquired all of the exploration, production and development rights to the Abu Qir field hydrocarbon deposits in Egypt through a production sharing agreement with

I in the Western Desert

The Western Desert has witnessed intensified drilling activities led by various companies, such as Bapetco, GPC, Agiba, Naftogaz and Qarun.

In the context of its 2010-2011 drilling plan, Badr El Din Petroleum Company (BAPETCO) started the drilling of two development wells, which are gas producing wells.

Bapetco will invest \$5.5 million in these drilling BAPETCO is a 50-50 joint venture between Shell and

the EGPC (Egyptian General Petroleum Corporation). Moreover, the General Petroleum Company (GPC) drilled a development well in its acreage in the Western Desert, with total investments worth \$3 million. This is part of the company's development program for the fiscal year of 2010-2011.

Agiba Petroleum Company successfully drilled a development well in the company's concession in the Western Desert.

Agiba, the joint venture between the Egyptian General Petroleum Corporation (EGPC) and Italian Eni, aims at increasing its crude oil production rate through the company's development plan for the fiscal year of 2010-2011.

The total drilling cost of the new development well costs \$1 million.

In addition to the drilling of development wells, Naftogaz of Ukraine drilled a new exploratory well EHG1-1 in its concession area of Abu Sennan at a total depth of 11,925 feet. The results showed 780 barrels of oil and condensates per day and 13.6 million cubic feet of natural gas in the Kreem formation. The well tests were completed by a small PetroServices rig.

The Western Desert witnessed also the drilling of two new development wells by Qarun Petroleum Company, which is seeking the increase of its crude oil production rates during the fiscal year of 2010-2011. The drilling costs of the two wells are \$3.2 million.

Dana Petroleum: new drilling in the Eastern Desert

Dana Petroleum started the drilling of a new exploratory well. Omar, in the area of the Eastern Desert. The rilling operation is held with a Weatherford-147 rig on a depth of 5605 meters in the Karim layer.

Dana received a primary production result of 985 barrels of equivalent oil per day and 18.9 million cubic feet of natural gas.

The total investment of the well counts for \$3.4million.

Petrodara starts development program

Petrodara Petroleum Company started the execution of its new development operations in last March 2011, by drilling two development wells in its concession area of the Eastern Desert.

The total drilling cost counts for \$1.3million, according to sources.

SUCO stabilizes production

Suez Oil Company (SUCO) is working hard to place new development wells, located in its Gulf of Suez fields, on the production line during the present fiscal year of 2010-2011.

Egypt Oil and Gas newspaper learned that the com-

pany drilled a new development well in the same acquisition area with a cost of \$12million.

The current target of SUCO, the joint venture between the EGPC and RWE Dea, is to maintain the production rate of crude oil at 20,000 barrels per day.

DAPETCO rising in South Dabaa

The South Dabaa Petroleum Company (DAPETCO) drilled a new development well in the South Dabaa concession, according to sources.

DAPETCO drilled the new well in last January 2011, as part of its plan to raise its production rate of crude oil during the current fiscal year of 2010-2011.

The total investments of the drilling operation reached \$4.4million.

It is worth mentioning that the South Dabaa is a joint venture between the EGPC and the Tunisian Company Hadi Bouchamaoui, a private company specialized in exploration. Bouchamaoui operates in South of Dabaa acreage, after it discovered six oilfields in the same location; four of them were placed on the production line since last February, with an output of 13,000bpd.

Dana Gas deepens in Delta

Dana Gas, a United Arab Emirates energy company, finalized drilling a development well in the Delta fields.

The company is seeking to increase its production rate of crude oil through implementing the new development plan.

Dana Gas plans to boost its production in Egypt by more than 20 percent in 2011 and is looking at a similar increase in 2012, the company's Chief Executive said in a statement.

"In Egypt, we plan to increase production by more than 20 percent during 2011, followed by a similar planned increase in 2012, when our third gas processing plant comes on stream," CEO Ahmad Al Arbeed

The total investments of this new well count for \$2.3million.



BMI: Egypt could increase gas export by 27%

Egypt has a great potential for ex- to 95 billion cubic meters by 2010, porting gas and could increase its production up to 27.66 percent over the next 10 years, said a report by the Business Monitor International (BMI).

compared to about 66 billion cubic meters in 2010. The export would provide a flow of foreign currency and east the import bill, said the The report said Egypt's gas ex-report, and titled "The Outlook for port is expected to increase to up the Egyptian Economy until 2020."

EGAS raises price of gas sales to **Union Fenosa**

The Egyptian Natural Gas Holding Co. (EGAS) signed an agreement allowing it to increase the price of natural gas sold to Union Fenosa SA, to reflect soaring global crude prices, according to an official for the Egyptian company.

The two companies also agreed to eliminate the upper limit on prices, said Enas El Sheikh, General Manager at the Egyptian company's information department.

Union Fenosa, a unit of Barcelonabased Gas Natural SDG SA that holds a 50 percent share of a gas-liquefaction plant in Egypt, didn't reply to an e-mail seeking comment.

The Egyptian state-run company, known as EGAS, is also negotiating to increase the price of natural gas it sells to Jordan, El Sheikh said.

Egypt has 77 trillion cubic feet (2.18

trillion cubic meters) of gas reserves and is the main producer of the fuel in the eastern Mediterranean, according to the U.S. Energy Department. The country exported 650 billion cubic feet in 2009, 30 percent of which went by the Arab gas pipeline to Jordan, Syria and Lebanon, or via the El Arish-Ashkelon line to Israel, according to the department.



Circle Oil: appraisal well to be drilled

Circle Oil said the Geyad-3C appraisal well, located to the south-east of the Geyad-1X ST well in the Geyad development lease, has been planned to be drilled to a total depth (TD) of 5,911ft measured depth (MD) in the Upper Rudeis.

The company said that the core objective for this well is to appraise and bring into production the oil bearing Shagar and Rahmi sandstones of the Kareem formation.

In the Geyad-1X ST well, both zones were tested in May 2009 at a combined sustained rate of

2,809bopd and 3.04mmscf/d of gas from the Rahmi sandstones on a 64/64" choke and the well was put on production.

In Geyad-2 ST, the Shagar sands were tested at a sustained rate of 3,850bopd and 4.62mmscf/d of gas on a 48/64" choke and the well was put on production.

Secondary objectives of the Geyad 3-C well are to penetrate and evaluate the hydrocarbon potential of the overlying South Gharib and Belayim formations.

Following the drilling of Geyad-3C, a program of water injection wells will be drilled to support oil production in both the Al Amir SE and Geyad fields.

The NW Gemsa concession, containing the Al Amir and Geyad development leases, covering an area of over 260sq km, lies about 300km southeast of Cairo in a partially unexplored area of the Gulf of Suez Basin.



Ghorab: We cannot stop gas supply to Israel

To complaints that Egypt is losing \$ 13 million a day on natural gas exports to Israel, Petroleum Minister Eng. Abdallah Ghorab responded, "There is no global gas price".

Ghorab highlighted in an interview with Shorouk Newspaper that Egypt exports gas to Israel at a higher price than the export price of US gas.

"I cannot understand on what basis they estimate the loss, if there is a loss at all - there is no global gas price."

The Minister said that most people would not believe that Egypt was exporting gas at a higher price than the price at which the US exports. He said, Egyptian gas sells for over \$3 per million btunearly double the price at which the US sells gas, which is close to \$1.5. The price is still lower than prices in Europe.

Ghorab added, "The very fact that we take a responsible position does not mean that we are betraying the country. People do not even want to believe that we are not exporting gas to Israel at a price of \$1.3 per million btu".

"Who said I was happy with the current gas export price? No, I'm not happy with current prices. I will never be satisfied; I will always want a better price. I, like other people, would like to sell the gas at \$14 or even more," the minister said.

The minister said that Egypt was not negotiating to change gas prices with Israel only, but with all the other countries to which it exported.

Asked about respecting the court ruling to stop the export of gas to Israel, he replied that had not yet received any ruling to enforce this decision. "As Petroleum Minister, I do not have the authority to stop the export of gas to Israel."

The Minister added, "Even if I wanted to, I could not accept such a decision. We are committed to supply gas to Israel under international agreements. If we break the agreements - they could sue us in the international court."

The North African Drilling Conference 2011

IQPC held the North African Drilling Conference 2011 in Cairo, last month. The conference discussed industry best practices, innovative technologies and strategies to enhance drilling process efficiency and cost-effectiveness. It also discussed the significance to be equipped with advanced drilling technologies, information and industry know-how in order to enhance efficiency and reduce operational costs and stay at the top of your industry.

This niche conference brought together drilling, completion and workover experts that discussed the latest challenges and developments related to drilling efficiency, provided industry best practices, innovative drilling technologies and strategies.

Day 1 started with the Chair's welcome by Ashraf Zeid, Integrated Project Management Operation Manager at Schlumberger. It was followed by Mr. John Hanton, Director, Operations at Caledus, A Tercel Company, and it was about The Total Depth Solutions™ Toolkit Providing.

The sessions included the outlining Solid Expendables Application, by Osama Abdalla, Sales Manager North Africa & Mediterranean at Enventure Global Technology, in addition to outlining New Drilling Technologies For Egypt by Richard Hawkins, Global PowerDrive Archer Product Champion at Schlumberger.

Identifying The Key Environmental And Operational Advantages Of Modern Cuttings Treatment Technologies co-presented by Yasser Saleh, Egypt General Manager at TWMA and James Shannon, MCIWM (Chartered Waste Manager), Environmental Team Leader at the same company.

The Rig Commissioning And Acceptance Prior To Spud by Ricky Joe Bohannon, Drilling Manager at Dana Gas gave the opportunity for the attendees to mingle and a networking opportunity.

The Interactive Roundtable Session included two tables. Table 1 was about ensuring the safety of drilling operations and led by Ricky Joe Bohannon the Drilling Manager at Dana Gas.

The second day tackled Solution Synopsis: StageFRACTM Multi-Stage Fracturing Systems by Vasco Felix, Technical Sales Manager at Packers Plus Energy Services.

Moreover, a case study about Progressive Capacity Pumping (PCP) Challenges In The Issran Oil Field was presented by Wael Hassan, Senior Petroleum Engineer at Scimitar, Egypt.

Understanding The Value Of Under Balanced Drilling (UBD) Technology For Drilling And Evaluating Basement Formations was presented by Paco Vieira MENA CPD & TS Engineering Manager at Weatherford International.

The IQPC conference provided an in-depth look for drilling technologies in North Africa, which granted the attendees an exposure to a variety of cases studies and panel discussions.

Government raises its stake in controversial Egyptian Refining Companyply to Israel

The Egyptian General Petroleum Corporation (EGPC) raised its stake in Egyptian Refining Company (ERC) to 24.2%, up from 15%, leaving the Arab Refining Company's stake at 75.8%.

This would raise the public sector stake to 49.5% of an oil refinery to be built in Mostorod, north of Cairo, where there is already a refinery project owned by EGPC's Cairo Oil Refinery Company, which will lease land and provide ERC with fuel oil as feedstock.

Public sector institutions already collectively hold a 25.3% stake in the Arab Refining Company, which is shared by the Egyptian General Petroleum Corporation, National Investment Bank, Banque Misr, the Social Pension Fund and Egypt Post.

The increase was decided on December 2010, but was not announced at the time.

"There is a possibility that the public stake will, again, increase slightly. The National Investment Bank is asking to be represented on board by an army official," reveals Abdel Fattah Abou Zeid, Chairman of ERC. "However, the final structure of capital participation is not settled yet."

The project will cost some \$3.7 billion, of which the capital accounts for a little over \$1billion.

The major stakeholder in ERC, the Arab Refinery Company, is gathering Arab and Egyptian funds along with the International Finance Corporation (a World Bank affiliate) and the German and Dutch governments.

Among the Arab investors are Al Rajhi Saudi Group, the sons of the United Arab Emirates' President and Citadel Capital.

The rest of the cost, i.e. \$2.6 billion, will be cov-



ered through international loans. These loans are secured by international institutions, including the International Finance Corporation (a member of the World Bank Group), the African Development Bank and the Development Bank of Japan.

Zeid added that these institutions imposed very strict environmental requirements. "Even more than the local environmental watchdog. So, we had to make sure that overall, we actually improve environmental conditions in the area," argued Seif Eddin Fateen, Environmental Advisor to ERC. Moreover, ERC had to comply with 19 conditions imposed by the local watchdog, according to Fateen.

The ERC faces criticism from environmentalists and workers that would have to be relocated for the refinery to be built. The refinery is planned to be built in a densely populated industrial area already suffering from high levels of pollution and there have been protests against them from local residents.



"You couldn't write a better script for a revolution"

Apache President and Chief Corporate Officer Roger Plank describing Egyptian revolution and its affect on petroleum sector

"I cannot understand on what basis they estimate the loss, if there is a loss at all - there is no global gas price... Who said I was happy with the current gas export price? No, I'm not happy with current prices. I'll never be satisfied; I will always want a better price. I, like other people, would like to sell the gas at \$14 or even more"

Petroleum Minister Abdallah Ghorab, commented on claims that Egypt was losing \$13 million a day due to lower-priced gas exports to Israel

"First-quarter results compounded the normal sequential drop in product, software and multi-client sales with exceptional weather conditions in the US and Australia and multiple activity disruptions from political unrest"

Schlumberger Chairman and CEO Andrew Gould commented on the company's first-quarter 2011 revenue of \$8.72 billion versus \$9.07 billion in the fourth quarter of 2010 and \$5.60 billion in the first quarter of 2010



Statoil, BP and Sonatrach consortium signs \$1.5 billion EPC contract in Algeria

Statoil, BP and Sonatrach signed a \$1.15 billion engineering, procurement and construction (EPC) contract with Petrofac International (UAE) in Algiers for the execution of the In Salah Southern Fields development project.

The EPC contract is part of the phase two development of the In Salah license. The project marks an important step towards maturing barrels for profitable production.

The three gas fields – Krechba, Teg and Reg – located in the northern part of the license, were initially developed in phase one, with the objective of delivering a production profile of nine billion cubic meters of gas annually.

This phase started in late 2001, and first commercial gas was delivered in July 2004. Based on the expected decline of gas production from these three fields, phase two of the development has now implemented to maintain the production plateau and sustain long-term gas sales commitments. It consists of four gas fields – Garet El Bifna, Gour Mahmoud, In Salah and Hassi Moumene – in the southern part of the license.

According to the terms of contract, Petrofac will build a number of facilities – including well pads, manifolds, flow lines, and a new central processing facility (CPF) with a gas processing capacity of 17 million cubic meters per day.

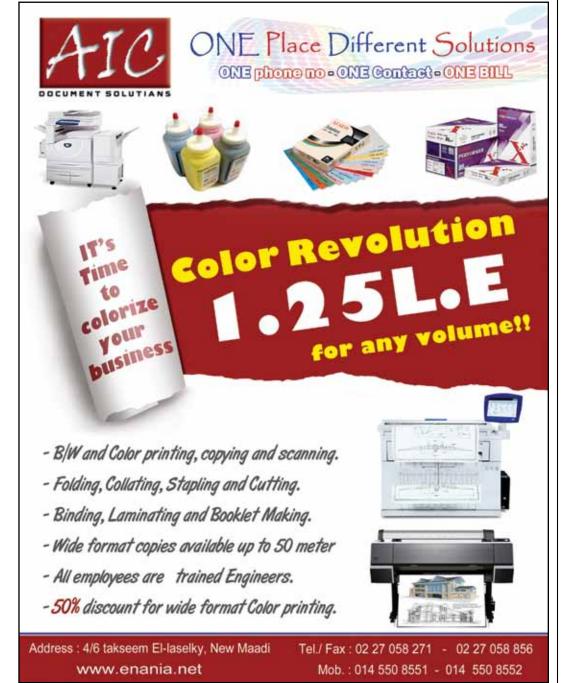
The CPF will be constructed north of In Salah town and tied back to the existing producing facilities located in Reg for further transport of the gas to Krechba CPF for carbon dioxide removal and gas export.

In his speech, Victor Sneberg, Statoil's country president in Algeria, stated his expectation to Petrofac to deliver on time, cost and schedule.

First gas from the Southern Fields development project is expected for the first half of 2014

The In Salah Gas Limited, a joint marketing company between Sonatrach, BP and Statoil, will be responsible for the marketing of gas produced from the In Salah.

It is worth mentioning that the investments shares of the three partners in the In Salah license are 35% for Sonatrach, 33.15% for BP and the remaining 31.85% for Statoil.



Tethys completes promising Oman Block 4 well

Tethys Oil, the Swedish Energy Company announced that its 2011 drilling program onshore the Sultane of Oman has continued with the successful completion of the horizontal sidetracking in the Saiwan East -2 well on Block 4.

The well has been completed as a producer and is being connected to testing equipment for a planned long-term production test. The rig has moved to the Saiwan East-1 area to drill the Saiwan East-7 exploration well (SE-7) to test the Khufai section in the southern part of the Saiwan East structure.

SE-2 was drilled as a vertical well in spring of 2009 and discovered the oil bearing Khufai limestone section, which on test flowed naturally 280 bpd of 33 degree API oil for 14 hours. A second Khufai well, SE-3, was drilled horizontally in summer 2010, which was tested over four days with a maximum flow rate during a 30 minute period of more than 10,000 bpd from a 467 meters horizontal section.

SE-2 was re-entered in February 2011 in order to complete a second horizontal well in the Khufai structure. The well encountered oil as expected and the 676 meters horizontal section will now be hooked up to testing equipment for a long term production test to further evaluate the Khufai reservoir. The well is planned to be tested for at least a 30 days period. In addition to confirming oil in the Khufai reservoir, open hole logs also confirmed the presence of heavy oil in the Miqrat, Amin and Buah formations.

The rig has been moved to drill the SE-7 well, an exploration well designed to test for the presence of oil in the Khufai section in the southern part of the Saiwan East structure.

The drill site is located 280 meters southwest of SE-1, drilled by Encana in 2004, and 11.6 kilometres to the southwest of the SE-2 Khufai discovery well.

Tethys has a 30% interest in Blocks 3 and 4. The other partners are Mitsui E&P Middle East B.V with 20% and the operator CC Energy Development S.A.L. (Oman branch) holding the remaining 50%.

Tethys' core area is the Sultanate of Oman, where the company is the second largest onshore oil and gas concession holder with license interests in three onshore blocks.

Gazprom, ENI to conclude Libyan Elephant Stake acquisition

Gazprom plans to acquire a 33% stake in ENI's Elephant field in Libya has been delayed, and will be finalized when the situation stabilizes in the North African country, announced Gazprom in a press release.

The announcement came following a meeting in Moscow between Gazprom Chief Executive Alexei Miller and ENI CEO Paolo Scaroni.

The two also discussed France's Electricite de France and Germany's Wintershall joining the South Stream project.

Aminex extends Nyuni Project in Tanzania



Aminex PLC received a formal six months extension to the Nyuni East Songo-Songo Productions Sharing Agreement (Nyuni PSA) from the Tanzanian Ministry of Energy and Minerals.

This extension is to cover the likely eventuality that the Nyuni-2 well, due to be spudded in the next few weeks, will not be completed within the life of the existing Nyuni PSA which expires this year.

"We are very grateful for the co-operation we have received from the Tanzanian authorities in facilitating completion of our current drilling program and we are looking forward to continuing activity in this interesting part of the East African coastal margin," commented Brian Hall, Aminex Chairman.

The Minister of Energy and Minerals signed a 25-year Development License for the Kiliwani North Gas Field. This license area has been carved out from the Nyuni PSA. terms for a new and expanded PSA to replace the expiring Nyuni PSA have been negotiated and agreed and are expected to be formally concluded in due course.

The investment shares of the Nyuni PSA are divided as follows: Ndovu Resources Ltd. 65% (operator), RAK Gas Commission 25%, Bounty Oil 5% and Key Petroleum 5%.

Circle Oil confirms gas discovery in Morocco

Circle Oil announced that the KSR-11 exploration well has been drilled, logged and successfully tested in the Sebou Permit, Rharb Basin, Morocco. The Company confirmed a gas discovery in the Main Intra Hoot target and secondary targets available for future testing in the Mid and Base Guebbas sands.

The well tested gas at a sustained rate of 4.0 mmscf/d on a 16/64" choke from the Intra Hoot. The perforated Intra Hoot zone of 17.9 meters at 1,761.2-1,779.1 meters MD has a calculated net gas pay of 11.6 meters.

"I am very pleased to be able to report that we have yet again continued our drilling success in Morocco's Rharb Basin. The KSR-11 well has been completed and, when required, will be available for future production. We tested this well at a smallrestricted choke size and it still achieved a good flow rate with very quick pressure build up. The second drilling campaign has been very successful and we have increased our ability to both supply gas and incrementally increase our resources in line with the business plan for the area. Everyone has worked hard to achieve this result and it is definitely appropriate to thank staff and our service companies for their efforts and also to thank ONHYM for their continuing support to our endeavours," commented Circle Oil CEO Chris Green.

The Base Guebbas zone of 37.7 meters at 1,636.0-1,673.7 meters MD has a calculated net gas pay of 5.5 meters. The Mid Guebbas zone of 22.8 meters at 1,464.1-1,486.9 meters MD has a calculated net gas pay of 4.1 meters.

The Guebbas Zones will be tested at a later date following production and depletion of the Intra Hoot producing zone. The well is being completed as a potential producer.

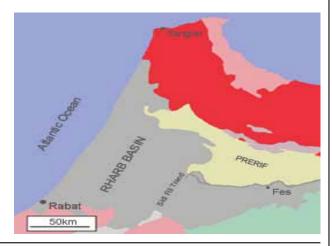
A full technical evaluation of all the results of the well is underway. This will allow for future plan-

ning as a precursor to further assessment of the resource, including conducting an extended well test to give a more complete estimation of the reserves.

The drilling rig is now being demobilized to end the 2010-2011 drilling campaign. Work is underway for consolidation of the results of this campaign together with planning for the next drilling campaign. The preparations for Circle's third Moroccan drilling campaign include the acquisition of a new 3D seismic survey over areas of Circle's permits not previously covered by 3D seismic.

In parallel, recent engineering testing of underground crossings of public transport infrastructure have been successfully completed as part of the construction preparation for the new 8-inch pipeline. Work on the pipeline is progressing in line with management's expectations.

The Sebou permit lies to the north-east of Rabat in the Rharb Basin in Morocco. The Rharb Basin is a foredeep basin located in the external zone of the Rif Folded belt. The concession agreement, in which Circle has a 75% share and ONHYM, the Moroccan State oil company, has a 25% share, includes the right of conversion to a production licence of 25 years, plus extensions in the event of commercial discoveries.



BGP Challenger concludes Seismic Survey Offshore Oman

In early 2011, the BGP Challenger successfully performed a 2D seismic survey in eastern offshore of Oman for Circle Oil.

The work area is located in Block 52, and close to the water areas of Somalia and Yemen, the piracy-prone areas. To make sure the project to be operated smoothly, BGP made rigorous security measures and emergency plan, and employed several security personnel from IBS, an international security company.

The acquisition program proved to be extremely

challenging. The work area is covered by intensive fishing boats and nets, and islands. Even more frustrating for the BGP Challenger, was the unpredictable position and movement of the boats and nets. The experienced international crew on board coped well and has subsequently achieved excellent productivity.

The client is very impressed with both the productivity and the quality of data acquired by BGP. The BGP Challenger has demonstrated BGP's position as a leading geophysical contractor in the oil and gas industry.

BP sues rig owner, safety device maker for disaster

On the first anniversary of the Gulf of Mexico oil spill, BP Plc sued Cameron International Corp for negligence, because a blowout preventer made by Cameron failed to avert the catastrophe, reported Reuters.

In a complaint filed in the federal court in New Orleans, BP said Cameron should be ordered to pay its share of any liability the British company might face under a 1990 federal law governing oil pollution.

Eleven people died when the Deepwater Ho-

rizon rig exploded. About 4.9 million barrels, or more than 200 million gallons, of oil later flowed out of a subsurface BP well. BP has incurred tens of billions of dollars of liabilities from the disaster.

"The blowout preventer failed to work and perform the function it was designed and manufactured to perform -- i.e., to secure the well," BP said in the complaint. "The blowout preventer was flawed in design, and alternative designs existed that did not have these flaws."

Gulf Keystone: higher estimates from Shaikan discovery

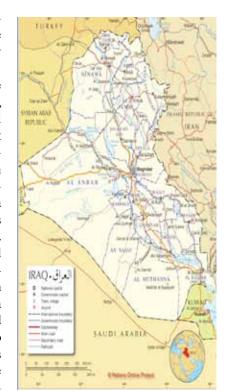
Gulf Keystone announced a major revision of the gross oil-in-place volumes for the Shaikan discovery in the Kurdistan Region of Iraq.

The revised gross oil-in-place volumes for the Shaikan discovery, as calculated by Dynamic Global Advisors (DGA), independent Houston-based exploration consultants, are a P90 value of 4.9 billion barrels to a P10 value of 10.8 billion barrels of oil-in-place with a mean value of 7.5 billion barrels and a P1 value of 15 billion barrels.

This is a very significant upward revision from the previously announced range of 1.9 to 7.4 billion barrels of gross oil-in-place with a mean value of 4.2 billion barrels and a P1 value of 13 billion barrels, also calculated by DGA. The revision is based on the data acquired since the last resource evaluation of the Shaikan discovery by DGA issued in January 2010, which was supported by an additional third party analysis by Ryder Scott consultants with a range of gross total petroleum-initially-in-place (PIIP) of 1.52 (P90) to 7.52 (P10) billion barrels.

The new data has been acquired as a result of: Shaikan-2 oil discovery and well test in the upper section of the Jurassic section, nine km to the east of Shaikan-1, Shaikan-1 extended well test production, Shaikan-3 testing and production results, Preliminary results of the analysis of 3D seismic data acquired for the Shaikan (599km²) and Sheikh Adi (215km²) blocks, Evaluation of existing seismic lines and regional geological data for the Ber Bahr, Akri-Bijeel (Bijeel-1 well) and Sheikh Adi blocks in addition to the PVT (pressure, volume, temperature) analysis of oil samples from the Triassic Kurre Chine tests at Shaikan-1.

"We have always believed that the initial gross oil-in-place range for the Shaikan discovery was a conservative estimate that would increase as more information became available. This gross oil-in-place



volumes revision by DGA, entirely supported by the Company's management and Board of Directors, confirms that belief. We eagerly look forward to additional drilling results from Shaikan-2, the soon to be spudded Shaikan-4 and the remainder of the Shaikan appraisal drilling program. We firmly believe that even with this upward revision the numbers for the Shaikan discovery are still conservative," said John Gerstenlauer, Gulf Keystone's Chief Operating Officer.

The Shaikan-2 appraisal well is now drilling deeper into the Jurassic and is scheduled to drill on into the Triassic. Once the well reaches TD at the bottom of the Triassic or into the top of the Permian interval, the Company will consider a possible further revision of the Shaikan oil-in-place volumes, taking into account additional information from the reservoirs previously only penetrated by Shaikan-1 and from potential additional discoveries from possible zones below those reached by Shaikan-1, projected by DGA to contain an additional 1 to 5 billion barrels of prospective resources.

ExxonMobil awards Southern Iraq Drilling Contract to Halliburton

Halliburton has been awarded a contract by ExxonMobil Iraq Limited (EMIL) to provide drilling services for 15 wells in the West Qurna (Phase I) oil field located in Southern Iraq.

Halliburton will provide a complete range of well construction services utilizing three drilling rigs to safely deliver the wells.

Joe Rainey, President of Halliburton's Eastern Hemisphere Operations, said, "This contract award is a testament to the ongoing success of our Eastern Hemisphere growth strategy and is in addition to work awarded in this field by this customer in 2010."

Halliburton has been active in the Middle East since 1946. Currently, Halliburton has more than 4,000 employees in the Middle East.

EDownstream

Japan to receive more LNG from Qatargas

Qatargas, the world's top supplier of liquefied natural gas, will boost LNG shipments to Tokyo Electric Power Co. and Tohoku Electric Power Co., said Chief Executive Officer Khalid Bin Khalifa Al Thani.

The two power companies are scrambling to restore generating capacity, some of which runs on natural gas, after the devastating March 11 earthquake and tsunami.

In an interview, Al Thani called Qatargas' Japanese customers long-term partners and said the state-run company will give top priority to supporting them, as directed by Qatar's government.

Qatar ranks first in the LNG production worldwide, with 77 million tons in annual capacity, of which Qatargas accounts for 42 million tons. It exports six million tons a year to Japan, the

equivalent of 10 percent of the country's annual imports. Four million tons go to Chubu Electric Power Co. and the rest to other electric and gas utilities, including Tepco, as the company is known, and Tohoku Electric. Some of the addon shipments to Tepco and Tohoku Electric are already en route, Al Thani said. He added that Qatargas is ready to expand supplies to the rest of its Japanese customers on request, but he did not give specific amounts or prices. Interest in LNG is on the rise in the wake of the accident at Tepco's Fukushima Daiichi nuclear complex, which has created momentum for reviewing nuclear power policy worldwide. Al Thani expressed confidence that demand for the fuel will grow and said there is little chance of oversupply in the next five years.

Shell seals \$1010 million-Nigeria Pipeline project

Royal Dutch Shell PLC (RDSA) signed a deal for a \$101 million pipeline project in Nigeria aimed at delivering gas as the government seeks to further exploit its huge natural reserves, announced the company.

The contract with Saipem Contracting Nigeria Limited is for a 42-kilometer (26-mile) pipeline to gather gas currently being burned off for use in Nigeria's domestic market.

Much of the natural gas in Nigeria is currently flared -- burned off -- in part because of a lack of infrastructure to process it.

The government wants to boost electricity production with gas-fired power plants as well

as export more of the natural resource.

"This is an extremely important project for (Shell) in terms of our commitment to ending routine gas flaring and consolidating our leadership position in the domestic gas market," said Shell Managing Director in Nigeria Mutiu Sunmonu.

It said it had previously awarded a contract for engineering, procurement and construction of the gas compression and processing plant to Daewoo Nigeria Ltd in October and that work was progressing.

The country's gas reserves have been estimated as the world's eighth largest. Nigeria is Africa's largest oil producer.

Competition starts for Bahrain LNG contract

Nine international companies will be running to import up to 800 million cubic feet of liquified natural gas (LNG) per day to Bahrain according to the country's Energy Minister, stated the Bahrain News Agency.

Dr. Abdulhussain bin Ali Mirza said that the firms have already submitted their bids to the National Oil and Gas Authority (NOGA) and that the winning bid would be announced later in the year, according to the Bahrain daily Akhbar Al-Khaleej.

The Minister added that the participation of major international companies in the tender reflects the strong trust in the kingdom despite recent incidents.

A special berth will be built near Khalifa Bin Salman Port to accommodate gas tankers, he also highlighted.

Bahrain's current daily gas consumption stands at 1.3 billion cubic feet. The country consumes all of its natural gas production domestically in power plants, enhanced oil recovery (EOR) projects, or in heavy industry, where natural gas is used as a feedstock. The largest domestic consumer of natural gas is Aluminum Bahrain (Alba), which is one of the largest aluminum smelters in the world.

Natural gas demand in Bahrain has grown rapidly in recent years and is expected to continue to do so in the coming years as a result of greater natural gas requirements for power plants and energy-intense domestic industry. To help meet rising demand, NOGA is leading an effort to increase the country's natural gas supply

Although annual production has grown in recent years Bahrain is finding that it will need to increase its natural gas production more significantly to keep up with the rising demand. In the interim, the government is seeking out supply agreements with neighboring countries.

Saudi Aramco: Refining Capacity to double

"The huge state-owned company's refining capacity will grow 50% from current levels to above six million barrels a day through expansion both at home and abroad," said Saudi Arabian Oil Co. Chief Executive Khalid Al Falih.

Four "grassroots refineries" are being considered, including one in Jaizan of Saudi Arabia, while joint-venture refinery projects are being reviewed in China, Vietnam and Indonesia, Al Falih said during a lecture at the Korea Chamber of Commerce & Industry in Seoul.

Through the expansion, including two new refineries, which are under construction in Saudi Arabia, the company's refining capacity will "soon" surpass the current four million barrels per day, he said, without giving a specific time

frame for this or for when the capacity would rise beyond six million barrels daily.

Saudi Aramco, as the company is known, is fully owned by the Kingdom of Saudi Arabia. It is one of the largest oil and gas companies in the world with activities in exploration and production, refining, distribution, shipping and marketing, according to the organization's website.

Over the next five years, Saudi Arabia plans to spend more than \$450 billion on capital projects, while Saudi Aramco will be spending a total capital budget of about \$125 billion on its domestic and international projects including new crude oil "increments," during the same period, Al Falih added.

Total develops its solar energy program

Total signed an agreement with EDF ENR to acquire all of Tenesol's operations (outside of France's overseas departments and territories), of which it already owns 50%.

Tenesol's operations in the French overseas departments and territories would continue to be equally owned by the Total Group and EDF ENR. Tenesol, which was created in 1983, is a top-tier solar energy operator in Europe, leader in the French market for large industrial and commercial photovoltaic rooftop solutions.

The company has a production capacity of 800,000 solar panels a year, or 170 megawatt peak2, at two plants, one in Toulouse, France, and the other in Cape Town, South Africa. The planned acquisition covers all Tenesol's operations, with the exception of those in France's overseas departments and territories, which employ more than 760 people in numerous countries and generated revenue of approximately €240 million in 2010.

"This project confirms Total's commitment to expanding rapidly in the photovoltaic solar energy industry," commented Philippe Boisseau, President of Total Gas & Power. "Completion of the deal would step up

of Total Gas & Power. "Completion of the deal would step up Tenesol's international expansion by capitalizing on the expertise of its teams and strengthening synergies with Total's other businesses."

The planned acquisition is subject to applicable legally required processes for notifying and consulting Tenesol employee representatives and the approval of the anti-trust authorities in the countries concerned. The closing of the transaction could take place in the second half of 2011.

Total is also present in the solar energy sector with a 50% interest in Photovoltech, alongside GDF Suez. Photovoltech

manufactures crystalline silicon photovoltaic solar cells.In December 2008, Total became the biggest shareholder in US start-up Konarka, which develops products based on organic solar technologies. The Group's stake is now nearly 25%.In June 2010, Total acquired a 25.4% interest in AE Polysilicon, a US start-up specializing in a new solar polysilicon production technology. Also of June 2010, Total was selected by the authorities in Abu Dhabi to build and operate the Shams 1 concentrated solar power plant. Total's partner in this project is Abengoa Solar, a Spanish company with expertise in concentrated solar power technology. Construction of the plant has begun and is expected to take two years. Total is also conducting significant R&D through partnerships with world-class laboratories in France, such as the Ecole Polytechnique engineering school's Laboratoire de Physique des Interfaces et des Couches Minces (LPICM - Interface and Thin Film Physics Laboratory) and the Toulouse-based Laboratory for Analysis and Architecture of Systems (LAAS), as well as in the United States, Switzerland, Belgium and Germany.

E.ON further expands its Renewable-power Capacity

E.ON installed and successfully tested the first of 94 turbines of Settlers Trail wind farm. Located in Illinois, Settlers Trail will be the fourteenth wind farm E.ON has built in the United States in just three years.

With 150 megawatts (MW) of capacity, it will be able to supply more than 45,000 households with clean electricity. When completed, Settlers Trail will take E.ON's a total installed wind capacity in North America over 2,000 MW strengthening the company's position as one of the continent's wind-power leaders.

Renewable-power in North America is one of E.ON's growth businesses outside Europe. In November 2010, the Düsseldorf-based energy company announced that in the future it intends to generate about one quarter of its earnings in four regions outside Europe: North America (wind power), Russia (conventional power generation), and two other regions it is currently in the process of identifying.

In 2010, E.ON invested more than €1 billion in renewables and expanded its wind and solar capacity by 600 MW to over 3,600 MW. E.ON plans to invest €2.6 billion more for the period 2011-2013.

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To export or not to export...

Currently, there is no voice louder in the Ministry of Petroleum than amending the gas contracts with other countries. The people's revolution came to make the voice of the people heard and sometimes a strong factor in changing political scenes. Hence, will all Egyptian gas contracts be reviewed?

By Sama Ezz El-Din

The petroleum sector has been hearing the sounds of the streets demanding to terminate the gas contract between Egypt and Israel. Exporting gas to Israel has always been a critical matter, but the Ministry of Petroleum knows too well that in such issues the sound of the mind is higher than the sound of the emotions, "Away from the negative emotions towards any of the countries, Egypt already signed an agreement so it is better to make the best of it and make amends to it if it is already signed," said Eng. Abdallah Ghorab, Egyptian Petroleum Minister in an interview with Al-Masry Al-Youm Newspaper.

Recently, the Ministry announced that it is reviewing the natural gas contracts with Israel, Jordan, and most of the contracts with other countries. The Ministry highlighted that it is targeting the raise of gas prices exported to Israel to reach \$200 million, in accordance to the inter-

national gas prices.

The East Mediterranean Gas Co. (EMG), owner and operator of the Arish–Ashkelon pipeline and the company that exports Egyptian gas to Israel, refused previously to engage in any negotiations to amend the gas contract. "EMG finally approved to revise the gas contract, but the insistence of the Egyptian side force them to agree. It will only take awhile to get an answer back from them," said a source at the Ministry of Petroleum.

Moreover, the Jordanian Minister of Energy and Mineral Resources Khaled Toukan revealed that he expects Jordan and Egypt to reach a new agreement on gas exports by the end of April. "The gas Egypt delivers to Jordan does not exceed 70 percent of the amount stipulated in the original contract," Toukan added.

Most of the experts find that the Israeli con-

tract is the most controversial. "Why are we wasting time in reviewing the contract with Israel or any other country? Egypt needs every cubic feet of gas for the domestic demands. The Jan 25th revolution came to secure the people's wealth and the Egyptian natural gas is a major asset," Ibrahim Zahran, former chairman of Khalda Petroleum Company and oil expert, told Egypt Oil and Gas Newspaper (EOG).

"Changing or amending the contracts will not have a big effect. Egypt needs its own natural gas to meet its local need; especially that gas is used as a source of power for mostly everything in Egypt," he added.

"The proven gas reserve is 23 trillion cubic feet of gas and Egypt already signed to export 18 trillion, there will nota be enough gas to survive in the coming years. Are we going to import gas with the high international prices when we are already selling ours with much less prices?" Zahran wondered.

The petroleum expert added that Egypt must stop exporting gas very soon, "There is no threat from calling off the contracts and let them go to any international committee. The law is with Egypt in all cases because we had a Force Majeure situation, the revolution happened and already the prices were lower than any other international prices and we can follow Algeria in the same subject."

On the other hand, Eng. Ahmed El Gedawy, Assistant General Director for Crude Oil Production at the General Petroleum Company (GPC), shed light that Egypt sold gas to Israel with much less prices than international prices, but still it is not time to cancel any contracts, "Egypt just went through a lot and it has just started to rebuild its shape after the revolution. It is not time to cancel any agreements, especially with Israel. Egypt needs to honor its contracts in the meanwhile."

"In the right time, the Ministry should review the local demands and if we can meet those demands then we continue exporting but only in accordance with the international prices."

"If we cannot meet our local gas demand, and 15% of Egyptian people are not connected to the national natural gas grid until now, then we should consider shutting down gas exports. Buying Solar and Fuel oil are also two important factors because both factories and power stations need gas. If Solar and Fuel oil prices are higher than gas, hence we should keep our own gas," added El Gedawy.

Lotfi Ramadan, General Manager for Oil production at Egyptian General Petroleum Corporation (EGPC), also agrees with El Gedawy that it is not time to cancel any contracts, "We are going through critical times so it is better to just amend prices for now."

Amr Kamal Hamouda, Head of the Fustat Centre for Studies and an oil expert, said that it is excellent that Egypt is reviewing the gas contracts especially to Israel, "We lost a lot of money because of the deformed gas contract with Israel and we need get some of our money back."

"But the Ministry is now obligated to be clear with the Egyptian people. The people need to know the mount of gas exported to Israel and a deadline for those negotiations. Also about the negotiations team, we are being told that it is the same previous team that once negotiated to sell our gas to Israel with the most unbelievable price," added Hamouda.

On the same matter, Ghorab told Al-Masry Al-Youm Newspaper that the sector has well trained negotiations team that know how to work for Egypt's best interest, "We do not need independent negotiators. Our team of negotiators is the best and there is no need for the talk of having outsider negotiators."

Hamouda pointed to the announcement by the Ministry of Finance that it does not have enough foreign currency to buy Fuel oil to supply the power stations, "If we do not have enough money to buy Fuel oil for the power stations, especially that Fuel oil price is much higher than gas, then we should stop exporting at once."

"If it is going to cost us to pay the penalty clause or head to an international committee. We will not buy Fuel oil when we already have our own natural gas."

"Our fortune of natural gas needs to be estimated. We need a committee of national experts, independent petroleum experts, and national supervisors to estimate our natural gas wealth and then decide if we have enough to meet our local demand or we should stop exporting," Hamouda elaborated.

"Not only the gas contract with Israel that needs to be amended, the contracts of the drilling in the deep water of the Mediterranean Sea should be reviewed as well. The contracts should include terms of best national interest. The BP contract with Israel to drill in the deep water and the way Israel is negotiating with BP side should teach us a lesson in negotiating," Hamouda advised.

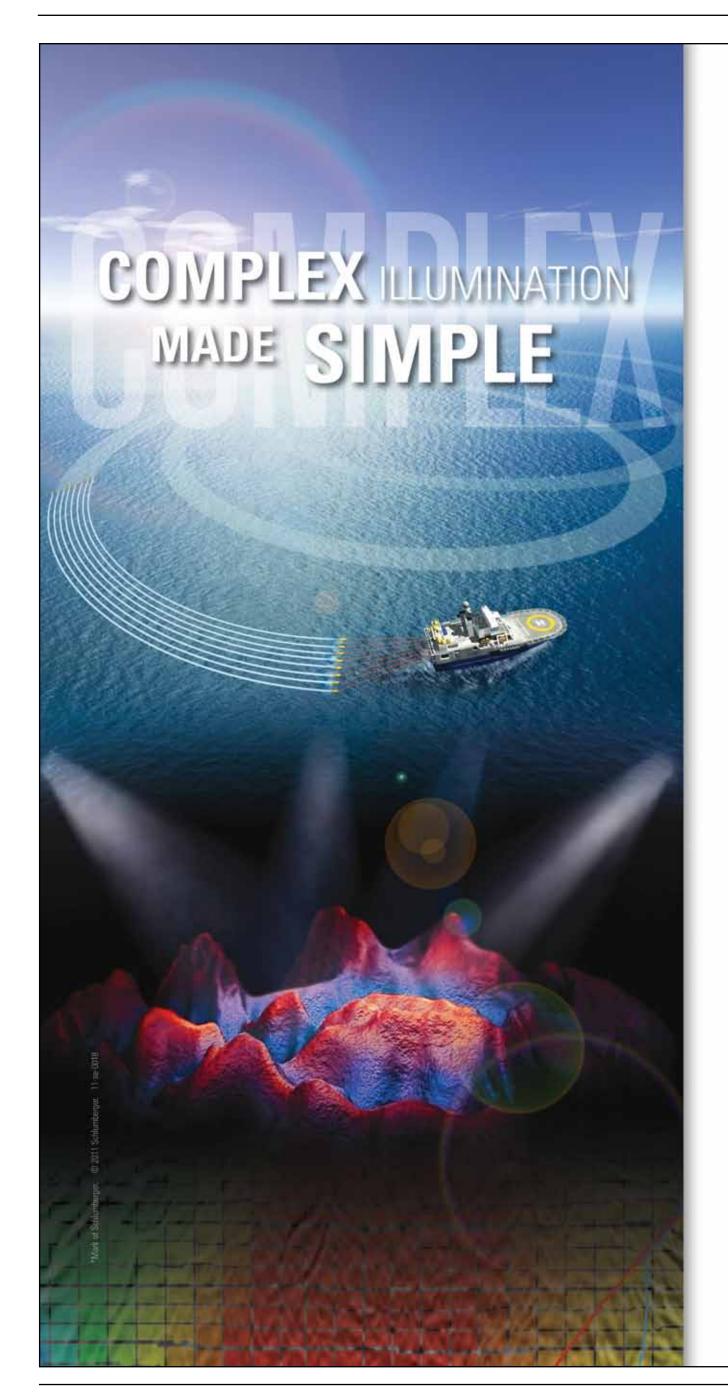
Lotfi Ramadan also advised that the coming stage will witness more exploration operations, more bid rounds and new locations are to be explored.

As for El Gedawy, he advised, "We should look for the best method for production, use the most excellent tools in order to have the finest results, and to use the top drilling rigs that will not wear away after short time of drilling."

All the thinking now is going towards listening to the people's voice. The petroleum sector is a major partner in the Egyptian community and it listens well to its own people, but also placing bad history aside and only listening to the mind sound in the matter of Egypt's best interest in the upcoming rise of Egypt as a leader country.



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The Egyptian petroleum sector faces a state of unrest following the January 25th revolution that has led to economic and political changes in the country. As a result of this chain of events, the Egyptian public pressure has been a challenging factor affecting the decision-making in the country. In the petroleum sector, this pressure has been calling to stop supplying Israel with natural gas despite, however, on the other side, the Egyptian General Petroleum Corporation (EGPC) denied any financial losses due to the gas exportation to Israel, as claimed by most of the public.

The issue of exporting gas to Israel is taking a great consideration not only in the petroleum sector, but also in all Egyptian sectors because of the extreme importance of these operations in increasing the financial revenues of the national economy.

This is the reason why Egypt Oil and Gas exposes the file of gas exportation hind the accusations of corruption.

Currently, the former minister of petroleum Eng. Sameh Fahmy is accused of several cases of illegal commissions, and wasting public money in the mentioned file.

As a matter of fact, there is a controversy between the experts of the petroleum sector; some are supporting, while others are condemning the whole deal. The mixed reactions towards this issue have been crowned by a latest study that estimated the pros and cons of abolishing the Israeli deal.

The first group of oil experts pointed their consent to stop the Egyptian gas supply to Israel in return of importing huge quantities of diesel, highlighting that the industry growth rate is 8% higher compared to the gas production growth rate. Hence, providing diesel to factories is more vital for the time being.

On the other hand, some opponents believe in the necessity of ex-

ficial at the Ministry to Egypt Oil & Gas Newspaper. "The Ministry should raise the annual cost of exported gas to \$290 million, which match the international prices, instead of the \$90 million received in 2009."

The top official, who asked to be anonymous, believes that the Ministry will resort to the first solution of price increase to ease the public tensions. "Despite the public pressure, the way to deal with this controversial is-

> sue should be based on economic commercial factors, rather than the political ones, since that the country is going through a very critical period," high-

Petroleum to manage and set terms of contracts signed by the EGPC, as the chairman of the board of directors inform the minister of petroleum about the board decisions for accrediting. Therefore the authority has no power to amend or cancel contracts without returning back to the superior political leadership, and, in case of any changes or amendments made by the minister, he should inform the EGPC within 30 days.

Another group of experts that are sustaining the review of all gas exporting contracts in general, calls for an intensified program to develop all the discoveries achieved to be put on the production line as quick as possible. The aim of this request is to increase the natural gas production in order to satisfy the domestic market needs for the coming years and keep enough reserves stored in Egypt. As such decisions contradict the working frame applied with the foreign petroleum companies in Egypt, the Ministry will then resort to import gas from abroad.

According to sources, there was a preliminary decision from the Ministry side to abolish all gas exporting contracts, however the initiative made by the Jordanian authorities to willingly amend the gas prices of its contracts reversed the situation. As a matter of fact, the Egyptian Ministry of Petroleum signed two gas-exporting contracts with Jordan. The first, According to Article 11 of law 20 of signed in 2004, stated that egypt to 1976, it is the right of the Ministry of export 77 billion cubic feet of gas at \$ 1.27per million BTU, while the second contract, signed in 2007, Egypt agreed to export 32 billion cubic feet at \$ 3.06 per million BTU. This latter contract had a term that give the Egyptian side the right to amend the gas prices but not before the year of 2019, prior to that there will be penalties on the Egyptian Ministry.

> "The willingness and understanding of the Jordanian side to drop all penalties and accept to amend the prices of

The Ministry should raise the annual cost of exported gas to Israel to \$290 million, which will match the international prices, instead of the \$90 million received in 2009

porting gas to Israel and believe in lighted the source. to Israel and investigates the truth be- the financial benefits that can support the Egyptian economy, taking into consideration the amendments of prices. This group quoted the Minister of Petroleum Eng. Abdallah Ghorab, who declared, "The main target we are working for is to achieve the best financial return of the agreements as long as they are already signed".

> There are two solutions for the Ministry of Petroleum; either increase the price of gas exported to Israel or abolish the whole gas deal, said a top of

Egyptian exported gas was a key element to affect the Ministry's decision to abolish all gas contracts," declared the official.

Asked about the exact figures of Egypt's gas reserves, he clarified that the proven gas reserves can last for the coming 20-30 years and that the daily gas production counts for 6.5 billion cubic feet.

"The Ministry of Petroleum along with the EGPC are jointly working on a study to consider the losses that would occur in case of stopping gas exportation to Israel compared to importing diesel that cost \$1200 per ton, according to the international prices. And in the case of proving that the cost of exporting gas is less than importing diesel, then the operation of exporting gas will end by next summer."

Moreover, the source expected an increase of gas production up to 340 million cubic feet per day, in addition to approximately 3000 condensate barrels daily.

Besides, the source asserted that the EGPC suffers from the difficulty of getting its financial dues at some working oil companies in Egypt, which use the local gas and export it instead of consuming it in the local market only,

with respect to the Egyptian laws.

It is worth mentioning that Article 7 of Gas Pricing states that if the second party (companies) is to export domestic gas, the pricing system should be then changed according to the ministerial decision and be agreed upon a new pricing mechanism. Referring to exporting the subsidized gas is considered violation of the law; the EGPC and the Egyptian Gas Holding Company (EGAS) should receive a share of the financial revenues, resulting from exporting gas by any company.

He also added that EGPC in the coming period is working on eliminating companies that violate the law out of new tenders, especially that the coming period will witness a great respect to laws and regulations to reach quality standards in all working petroleum companies, within the competition that exists between old and new competitors in the market of petroleum services.

Finally, he assured that all the workers in the oil sector are working hard to fulfill the local market needs of natural gas in the coming period, reducing the rate of gas exports down to 29% compared to the past year total production.

According to latest reports, the plan



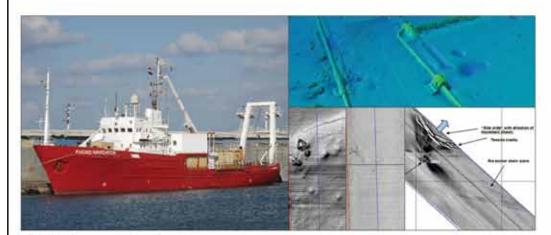
of the fiscal year 2010 - 2011 aimed at pumping EGP 38.2 billion investments in the petroleum and gas sector, including 15% for oil supplements and EGP 25.2 billion for gas production, which is 66% of the investments of the sector and EGP 10.1 billion for oil crude production, which represents 26% of the sector investments.

This new plan is considered a strong supporter to the Egyptian petroleum sector that plays an utmost role in the Egyptian economy, as the oil and gas sectors are the main source of generating electricity in Egypt. Meanwhile,

the proven reserves ratio of natural gas reached 47 million tons during the last fiscal year 2009 – 2010.

In addition, the Ministry of Petroleum implements an annual plan to increase natural gas reproduction through the attraction of foreign investments into the country, by signing new agreements with foreign companies, taking into account commitments to the domestic and international needs. Clarifying the impossibility of reserving the natural gas for a long time, therefore it is necessary to always set a production plan to be directed to the local market.

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M/V Fugro Navigator

The MVV Fugro Navigator has become a platform from which a wide range of Fugro's specialist survey services are delivered to the Egyptian oil and gas market.

On completion of a recent upgrade that included a DP capability, the MV Fugro Navigator took on a new challenge, a pre-engineering survey in deepwater utilising an ROV fitted with a full suite of geophysical sensors. Survey data were required for the design of 200 km of subsea flowlines and several manifolds in water depths of 300 m to 700 m, offshore Nile Delta.

The high resolution multibeam echosounder and geophysical data revealed a seabed consisting of unstable soils and severe gradients and also identified and mapped telecoms cables and control umbilicals running across the site, critical information for route selection and design that would not have been identified by traditional survey methods using towed systems.

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No more production exploitation to please authorities

Following our aim to be part of the positive change and draw a future scheme for the petroleum sector, Egypt Oil & Gas host a panel discussion about the challenges facing the oil and gas production in the Egyptian petroleum arena.

By Yomna Bassiouni

Asked about the system of production sharing agreement applied by the Egyptian Ministry of Petroleum, Eng. Ahmed El-Geddawy, Assistant General Director for Crude Oil Production at the General Petroleum local ones. In other words, why do I

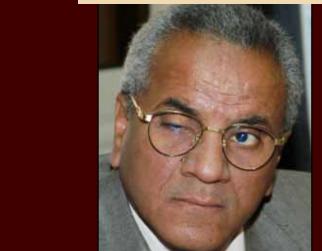
Company (GPC) reflected his opposition to this system by stating, "as an Egyptian loyal citizen, I am totally against the idea of prioritizing the foreign investments over the give the privilege to foreign companies to explore and produce oil and gas, while we do have the Egyptian investments and expertise to do such operations."

"I know that some people are for this system believing that it is more feasible and easier to get foreigner do the whole job and bear the risks and at the end share the production with the EGPC, but personally I believe it is an inefficient method!" added El-Geddawy. "The Egyptian petroleum industry does have the experienced personnel, but they just need the opportunity to take part of the industry, instead of the brain drainage we have been suffering from as experienced employees migrate for better job packages."

Commenting on El-Geddawy's perception, Eng. Lotfy Ramadan, General Manager for Oil Production at the Egyptian General Petroleum Corporation (EGPC) clarified that this applied

system reduce the risk level and secure a certain amount of production for the local market. "Whether I am for or against it, there are positive values behind this production sharing system," he highlighted.

Tackling the factors that lead to the increase or decrease of production levels in the country, El-Geddawy shed light on the lack of future vision and fixed plans as an important factor, which is not related to any technicalities. "Unfortunately, over the past years, there was a common trend followed by the top management of petroleum companies, which was, if not still, maximizing the production rate of the companies' fields to show off in front of the top officials at the Ministry of Petroleum." He added, "There is no plan for the future, most of chairmen thinks under their feet and cares more of their reputation by generating unprecedented production rates, while they should have been implementing



Some discoveries will be put on pro-Two of the recent discoveries include discoverv oil made by Khalda **Petroleum** Com-**Petro** pany and **Sennan Petroleum** Company

Eng. Lotfy Ramadan General Manager for Oil Production at the Egyptian General Petroleum Corporation (EGPC)

prolong the age of producing wells for the future generations."

From a technical perception, Ramadan highlighted that the most commonly used technique to extend the productivity and age of the reservoir is the water injection technique. "We should take into consideration the fact that the production plan is set in accordance to the national budget and what is required from the Ministry of Petroleum. For instance, the petroleum sector is asked to secure \$60 million, then we work to fulfill this target," added Ramadan. "When we convert this request to production figures, the EGPC contacts all operators to present their annual production plan to draw the general sector plan. However, most of the companies provide lower production rates, for example a company declare that its expecting annual production averages 80 million barrels, while its actual production is 105 million barrels! This is a mean to avoid any liability in case the production rates are not achieved," explained Ramadan.

Recently, there are attempts to increase the production rates over the coming period of time. "Some discov-

reasonable production plans in order eries will be put on production line soon, which will serve the Ministry target for production increase. Two of the recent discoveries include the oil discovery made by Khalda Petroleum Company and Petro Sennan Petroleum Company," highlighted Ramadan. "The oil discovery of Khalda was achieved in its Western Kalabsha Concession in the Eastern Desert and hit two wells, one oil producing and another gas producing. The first well showed an oil production rate of 3700 barrel per day, while the second showed 500 thousand cubic feet of gas, at a total depth of 14500 feet. The other discovery of Petro Sennan was hit in the Western Desert and showed oil production of 1200 barrels per day from the HG34/3 and HG34/4 wells," clarified Ramadan. "The total investments of Khalda's discovery counts for \$3.5 million, while the Petro Sennan's averages \$9 million for both wells."

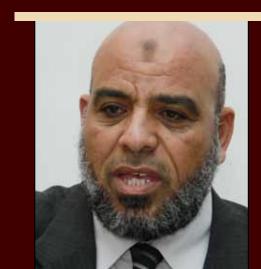
> Ramadan revealed that the EGPC is in the preparation phase for a new bid round that will include 18 new areas for exploration and production activities.

> Seizing the opportunity, El-Geddawy urged the EGPC to change the selection criteria of the bid rounds. "I do not deny that the price factor is crucial in any

bid round, however, it should not be the base for selection. Quality is much more significant to be considered in any bid round and it is the mean by which we can ensure the effectiveness of any E&P operation," he stressed.

Asked about their opinions concerning the current controversial gas exporting deal to Israel, both officials warned of stopping the gas supply to Israel and asked to amend the gas prices only. "This is not the right time nor the right political circumstances to abolish this deal. We should review all gas contracts in accordance to the international prices," said El-Geddawy.

Ramadan finalized the discussion by stressing that the Egyptian petroleum sector is a very rich one. "There are high potentials in terms of E&P activities and this is the right time to make the positive change."



I am totally against the idea of prioritizing the foreign investments over the local ones. Why do I give the privilege to foreign companies to explore and produce oil and gas, while we do have the Egyptian investments and expertise to do such operations

Eng. Ahmed El-Geddawv Assistant General Director for Crude Oil Production at the General Petroleum Company (GPC)





GALIOM Makes Inspection Data Acquisition an Easy Job

Ultrasonic wall thickness reading is one of the more labour-intensive inspection tasks. Using a data logger and GALIOM cuts time, effort and costs

Abstract

The advanced risk-based inspection and maintenance

software product GALIOM reduces risks and costs GALIOM facilitates data acquisition and helps inspectors to validate the results and plans

GALIOM

GALIOM is a combined asset integrity man - agement and risk-based inspection and main - tenance software product that can be used for any oil, gas or petrochemical facility.

The data logger module assists the inspec - tor with the wall thickness measurements and also reduces the data entry time for huge amount of data collected during inspection.

GALIOM helps to achieve the best possible balance between cost and risk by minimizing unplanned downtime and optimizing production.

GALIOM enables risk mitigation and inspection strategies to be developed and imple - mented with the aim of optimizing maintenance whilst staying within acceptable risk levels.

Carrying out technical inspections and compiling inspection data is laborious work. Oil and gas operators spend millions on having their

platforms and pipelines inspected and wall thickness data collected. While electronic data loggers, which record data over time or in relation to location, are commercially available and used extensively, data reporting is often done manually using paper forms. Electronic data is rarely kept in a centralized database.

Automatic Process

"This poses a challenge to managing advanced risk assessments,"

says Mathews Varkey, GALIOM Programme Manager at GL Noble Denton, referring to Risk-Based Inspection (RBI). During the analysis, engineers spend numerous

hours gathering and formatting data before some meaningful trend can be derived. An advanced risk-based inspection and maintenance software product such as GL Noble Denton's GALIOM can ease operators' minds, he explains. "The data logger module assists inspectors with wall thickness measurements, reducing the time it takes them to enter the huge amounts of data collected during inspection.

"To give an example," Mathews continues, "a petrochemical company that had been

using a legacy system for severalyears decided to switch to a more advanced process. Implementing GALIOM brought a totally automated solution to this scenario." The GALIOM implementation team first examined the data loggers the client was using. The team then used the GALIOM data logger integration module to enable the software





to communicate with the hardware and automate the ultrasonic wall thickness recording and data synchronization processes. Now the customer can capture data with the existing data loggers and process and monitor them using GALIOM.

The GALIOM module deployed by the customer plans, prepares and defines the scope of the inspection work. The two-way communication between GALIOM and the data loggers accelerates the inspection activities considerably. The test points are automatically generated by the GALIOM data logger module, and subsequently downloaded into the logging device for the inspection.

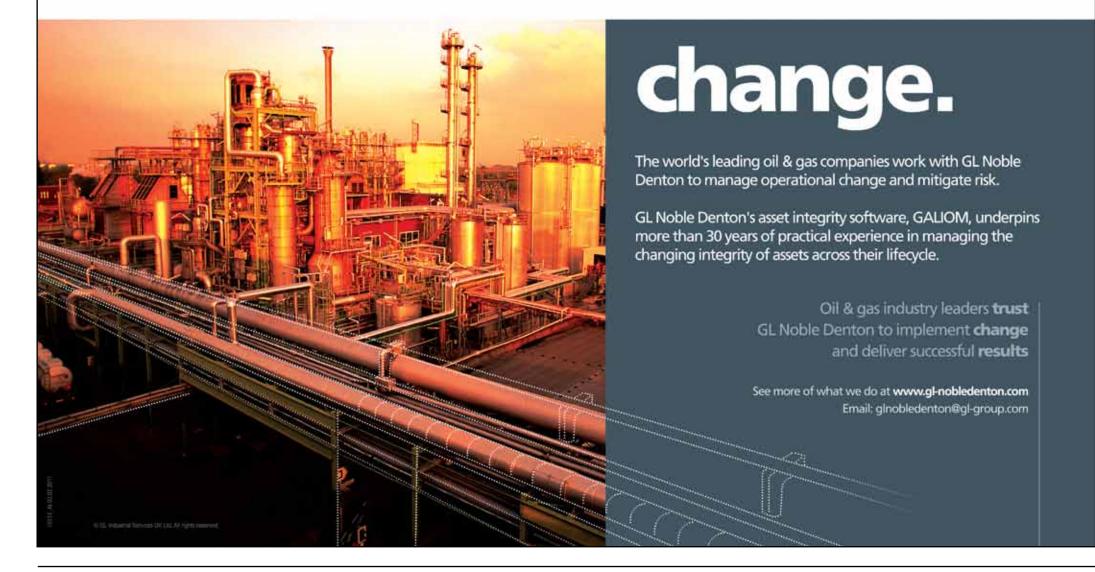
"In the field, the inspector does not need to create

test points any more, which saves a tremendous amount of time," says Mathews. Following each inspection, or at the end of the day, the data is downloaded into GALIOM for validation and reporting. GALIOM helps the inspector to validate the results and plans, and to create packages for reinspection. Finally, the wall thickness data collected is transferred into a monitored database for trending and analysis. Anomalous data goes through GALIOM's inspection memo and the anomaly screening module to initiate repairs and replacements. "GALIOM allows inspectors and engineers to acquire high-quality data efficiently," says Mathews.

The global independent technical advisor

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Reservoir Pathway Identification in a Fractured Carbonate Heavy Oil Reservoir

Mohamed. Samir, Wael Hassan, Maher Omara (Scimitar), Enas Thabet, Yousra Abugreen, Sameer Joshi (Schlumberger)

INTRODUCTION

The Issaran field, situated in the Egyptian Eastern Desert, is one of the few heavy oil fractured carbonate reservoirs in the world. It has an estimated 700 MMBBLS of 10-12 degree API crude in the Upper and Lower Dolomite reservoirs and the deeper Nukhul reservoir with 10% H2S. Production in 2008 was 5000 STBOPD, forecasted to increase to 6000 STBOPD in 2010. A Cyclic Steam Stimulation (CSS) project was started in Issaran in 2006.

Heavy oil is an unconventional oil resource that is characterized by higher viscosities and densities as compared to conventional oil. Most of the heavy oil reservoirs are deposited at very shallow depths. These hydrocarbons originated as conventional oil that formed in deep formations, which then migrated to the surface regions where the lighter hydrocarbons escaped. Primary recovery from such unconventional reservoirs can be as low as 1%, with ultimate recovery generally being < 30%.

Issaran oil field is located 290KM southeast of Cairo and 3KM inland from the western shore of the Gulf of Suez covering an area of 20,000 acres. The field was discovered in 1981 (Figure 1). The heavy oil project started in 1998 between GPC (General Petroleum Company) and Scimitar Production Egypt Ltd. The OOIP at that time was 410 MMBBL, reserve 0.2 MMBBL, recovery factor below 1% and the daily production was 170 BOPD. The productivity of the wells was very low and the average production per well was below 30 BOPD.

The field has been producing from different zones and each zone has its own unique characteristics. This required a special approach to overcome potential problems and optimize the production and reserves. The major heavy oil accumulations occur within shallow Miocene Dolomites and Limestones (Upper Dolomite, Lower Dolomite, Gharandal and Nukhul Limestones) and sandstones (Zeit). The average gravity of oil from all zones is between 10 to 12 API.

The Upper Dolomite Formation is this field is characterized by a depleted fractured dolomite reservoir with 10-12 API heavy oil. The top of reservoir depth is around 1000 ft with an average reservoir thickness of around 400 FT. The formation pressure is as low as 250 psia with a temperature of 120 degrees Fahrenheit. The oil has 10% H2S content and a viscosity of 4000 cp at standard

conditions. The reservoir rock is oil-wet, which is unfavourable for oil recovery factor. The Lower Dolomite formation has similar characteristics as the Upper Dolomite. Due to the shallow depth of the Upper and Lower dolomites, the oil cannot be extracted using cold production. Considering the above characteristics, the exploitation of these formations is very challenging.

The Gharandal formation consists of three limestone bodies with permeabilities lower than 20 mD. The deepest formation is the Nukhul zone, which has been the major producer of cold oil due to its highly fractured nature.

These different reservoir characteristics led to the application of different types of reservoir management for each zone (Figure 2). The Nukhul formation wells have been completed as openhole, Gharandal formation wells have been completed as cased hole and Upper and Lower Dolomite formation wells have been completed as cased /open hole steam injection wells, producing by cyclic steam stimulation.

Scimitar had planned to develop the Nukhul with cold production in vertical open-hole completions, since initial wells gave high liquid rates, due to high fracture permeability. However, these super-K layers soon created unwanted water channeling to the wellbore resulting in high water cuts. Also, injected steam rapidly channeled through the fractures and hence the injected heat could not be retained in the reservoir. Thus the heavy oil viscosity could not be reduced. Viscosity reduction is key to increasing heavy oil recovery.

Two main factors were found to contribute to the high water production from different reservoirs. These were water/steam channeling through fractures and difficulty in determination of the correct pay resistivity cutoff. These factors affected the different reservoirs as follows:

1) From Nukhul formation

Due to the high fracture intensity (Figure 3) water rapidly channeled through the fractures and overshadowed the oil contribution. Hence, an ESP which could create a high draw down was required in order to exploit the production from the oil zones. However, the limitation of the currently available Y-tools in the market represented a barrier to achieve this target. These Y-tools had a rate limit of 1000 BFPD with the available pumps, whereas the actual rate needed for achieving Scimitar objectives was 4000 BFPD. Use of the Schlumberger 400 series ESP in conjunction

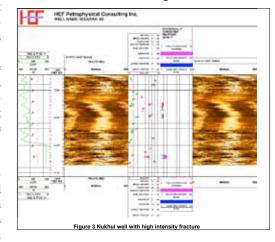
Issaran Northwest Southeast

Figure 2 Issaran Field Formation

with the new Y-tool, enabled Scimitar to reach the targeted well production rate.

2) From Upper Dolomite & Lower Dolomite Formation

More than 100 wells were completed in these formations, initially as open hole oil producers. The wells had varying pressures in the open hole layers and consisted of both cold and hot producers. After initially producing oil, a sudden increase in the water cut was observed in most of the old producing wells as well as the new drilled wells. Due to the low salinity of the produced water (< 10,000 PPM) the identification of the source of water was difficult. Hence, determining the correct cutoff



value of resistivity to distinguish between water and oil zones was a major challenge. This issue led to a misunderstanding of the correct oil potential in the open hole section.

Accordingly it was urgently needed to identify the water source in order to maximize the oil production as much as possible. An ESP capable of producing very high drawdowns was required to produce the well while performing production logging in flowing conditions, in order to differentiate between the water zones and oil zones in this type of heavy oil fractured carbonate reservoir (Figure 4).

Furthermore, breakthrough of the injected steam had been noticed recently in the field through the super-K layers, which highly reduces the efficiency of the steamflood project. Hence, identification of these super-K layers was essential in order to shutoff the water and steam breakthrough.

JOB PLANNING and RISK ASSESSMENT

It was critical to diagnose these super-K layers in a dynamic condition. Scimitar designed a special Y-tool in association with Zenith, which would enable PL to be carried out under ESP operation with high rates. The y-tool had to be built for 7" casing and the tubing size was designed to optimize production. The minimum restriction was 1.768" with a drift diameter of 1.698". The recommendation from the y-tool provider was not to

run anything larger than the drift size. This ruled out the use of some tools such as the Reservoir Saturation Tool (RST) in Water Flow Log (WFL) mode to identify the water production.

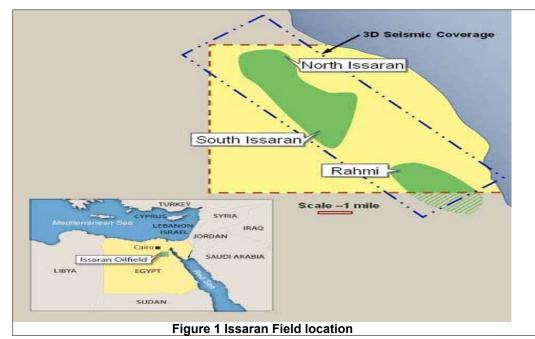
Considering the similarity between the oil and water densities, another tool, other than the density tool, had to be used to be able to differentiate between water and oil. The proposed tool string consisted of pressure and temperature sensors, fullbore as well as inline spinners and electrical probes (FlowView). Flowview measures the conductivity of the fluid at the tip of the probe, hence differentiating between water and oil. Figure 5 shows the production logging toolstring that was run and Figure 6 shows the operation of the Flowview tool. Figures 7 and 8 show the details of the new y-tool system.

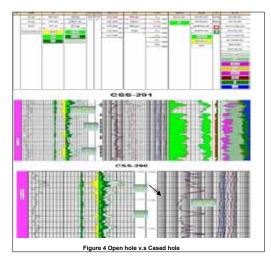
For the sake of comparison and testing, the density tool was added to the tool string in the first well to check the reading and based on the results a decision would be made on whether to continue using the density tool in the other wells, or removing it from the tool string.

Going through a risk assessment, there were concerns regarding getting stuck and having to break the weakpoint. In this case, the fishing operation would have been difficult to impossible, since the tool string will be sitting on one side in the 6" open hole section. Therefore, a centralizer was placed below the logging head, to ensure that in case of a fishing operation, the tool string would not be lying on one side.

The heavy oil imposed a risk on the tools as well, since it is very viscous and could stick on the Flowview probes as well as sticking on the spinner and restricting the measurements. Although

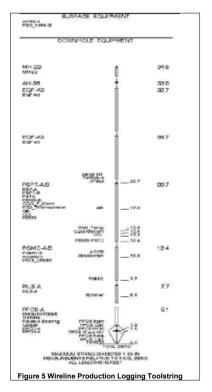
ner and resur						
	Nomenclature					
API	: American Petroleum Institute					
ВНР	: Bottom hole pressure					
BFPD	: barrel fluid per day					
BOPD	: barrel oil per day					
BW	: barrel water					
Ср	: centipoise					
CSS	: cyclic steam stimulation					
CSD	: cyclic steam drive					
ESP	: electrical submersible pump					
FlowView	: Trademark of Schlumberger					
Ft	: feet					
GPC	: General Petroleum Company					
H2S	: Hydrogen Sulphide					
HZ	: Hertz					
mD	: milli-Darcy					
MMBBL	: million barrels					
MMSTB	: million stock tank barrels					
Ohm-m	: ohm-metre					
OOIP	: original oil in place					
OWC	: Oil Water Contact					
PI	: productivity index					
PL	: production logging					
PPM	: parts per million					
RST	: Reservoir Saturation Tool					
SIP	: Selective Inflow Performance					
STBOPD	: stock tank barrels of oil per day					
WFL	: water flow log					
WHP	: Well head pressure					





the water cuts in the wells were high, which would reduce the risk of plugging the probes or the spinners, the risk could not be controlled. Therefore, this was a risk that had to be taken during the operation.

Due to the clearance between the tool string outer diameter, 1.688" and the inner diameter of the y-



tool completion 1.768", there was a risk that the tools would not be able to go through the completion. To avoid having issues or surprises on the job, the y-tool was brought to the Schlumberger base and the tool string was run through the completion in horizontal conditions, to confirm that the tool string could pass through the restriction. This dry run was performed and results showed that the tool string could pass through the restriction, but once the tools went out of the tubing, there was difficulty in retrieving the tools back into the tubing. Therefore, a wireline entry guide was connected to the bottom of the completion and that resolved the issue.

CASE STUDY 1

ISS-85 well (Nukhul Reservoir)

This well had been completed as an open hole cold oil producer in the Nukhul formation. However, the well soon started producing with 98% water cut at a total fluid rate of 6000 BFPD. Then the water production increased, dropping the oil production down to 20 BPD.

Two flowing surveys, (ESP at 70HZ and at 80HZ) and one shut-in survey of production logging were carried out. It was noticed that the productivity of the open hole interval changed with the change in speed of the pump.

Based upon the measured bottom hole pressures during the 3 surveys and the interpreted production rates, 4 reservoir zones could be identified in the open hole interval of 140 feet.

It was found that only about 30 feet of the open hole interval was contributing a little oil production at high drawdown. The remaining zones were contributing most of the water production. Two intervals which were the main source of water production could be identified. These flowing survey results are shown in Figures 9a and 9b.

During the shut in survey PL sensors detected a clear cross flow of water into the topmost zone from the other intervals below as seen in Figures 9c.

The calculated flow profiles from the PL surveys matched well with the flowrates measured at surface, indicating that there was good confidence in the survey results.

A Selective Inflow Profile was drawn, which could identify the individual layer pressures and PI (Figure 10).

Based upon the above results a decision was taken to install and cement a 5" liner in the openhole interval. The water contributing intervals were isolated and the oil contributing intervals were then selectively perforated. This resulted in increasing the oil rate from negligible to about 70 BOPD as shown in Figure 11.

CASE STUDY 2

CSS-280 (Lower Dolomite reservoir)

This well had been completed as an open hole producer in the Lower Dolomite formation but the well did not produce any oil at all, although while drilling there had been good indications of oil presence in the formation, as per the logs.

After performing production logging in flowing and shutin conditions the zonal contribution intervals were identified, as shown in Figure 12a. It was seen that all intervals with resistivity less than 30 ohm-m had produced water, whereas the oil pay interval had not participated in the production at all, even though the pump speed had been increased to create a higher drawdown, as seen in Figure 12b. Hence 30 ohm-m was confirmed to be the resistivity cutoff value for oil pay zones.

This confirmed that the water layers played a dominant role in the production from this well. The results of this log helped to redefine the resistivity cutoff for the pay zones in this field.

CASE STUDY 3

ISS-94 (Nukhul Reservoir)

This well had been completed as an open hole cold oil producer in the Nukhul formation but the well soon started producing with 6000 BFPD at 100% water cut. Another interesting observation was that closing in this well resulted in an increase in watercut in the surrounding wells. The surrounding water cut would go down again when this well was put back on production.

Two flowing surveys (ESP at 70HZ and at 75HZ) and one shut-in survey of production logging were carried out. 4 reservoir zones could be clearly identified in the openhole interval, as seen in Figure 13a. It was noticed that the productivity of the open hole interval changed with the change in speed of the pump.

A clear downward crossflow could be seen from the upper to the lower intervals during the shutin passes, as seen in Figure 13b. This explained the reason for the increase in water cut in surrounding wells during shut in.

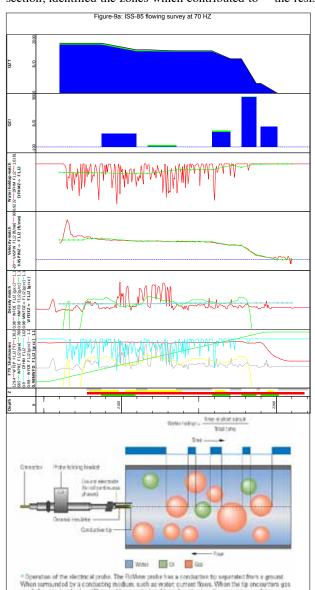
PL results confirmed that the whole openhole interval produced water. Accordingly, the Nukhul formation was plugged back using cement to eliminate the cross flow, thus reducing the water production in the surrounding wells. This well was recompleted to produce from the Gharandal formation.

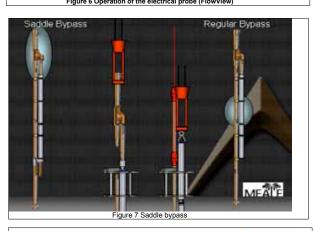
SUMMARY of PRODUCTION LOG-GING RESULTS

The new Y-tool (Figure 7) along with ESP 400 series gave the ability to produce the wells up to 4000 BFPD. This is the first time such a y-tool was used and it achieved the same rates as the actually designed well production rates with this pump.

The pressure gauge measurements and SIP calculation confirmed the multi layer pressures within the same formation (Figure 9).

The production log results had a significant effect on the Issaran field development plan. Detecting the different layer pressures through the open hole section, identified the zones which contributed to





ARTIFICIAL LIFT COMPLETION SYSTEMS TECHNICAL SPECIFICATIONS: 7" BYPASS SYSTEM 11 Complies (17) Site Replace (18) Site

Figure 8 New modified Y-tool

increasing the water production from surrounding wells. Layers reading up to 30 ohm-m were identified as water bearing. This led to an increase in the resistivity cutoff for hydrocarbon production.

Recompletion of these wells was done, by shutting off these lower resistivity zones, which led to a reduction in water cut from over 90% to less than 50%.

Hydrocarbon producing zones were thus better identified and Scimitar decided to implement a new development plan for the Upper and Lower Dolomite formations as well as the Nukhul formation. The plan is as follows:

A) Upper and Lower Dolomite formation 1) New Drilling wells

It was decided to complete some newly drilled wells as cased hole producers. This would be a pilot study, to compare the trade-off between shutting off the water production by casing the wells and the effect of the additional pressure drop through the perforated completion upon the productivity of the wells. Accordingly, new cased wells locations have been selected to test the whole field area (Figure 14). A comparison between the open and cased hole completion results is illustrated in Figures 15a and b. In both figures, the upper graph is for a cased producer, while the lower graph shows the case of an open hole producer. A good oil production (green curve) is seen from the cased wells (upper graphs) while hardly any oil production (green curve) is seen from the open hole wells (lower graphs) in both examples.

2) Current existing open hole wells

Select different injector well locations all over the field, install 5" liner and then selectively perforate the high oil saturation zones for steam injection into these zones (Figure 16). Care will be taken to avoid steam injection into highly fractured zones. This will force all the steam injection in to the oil zones which will reduce the heat loss to the water zones and maximize the heat transfer to the oil zones and pressure support.

The performance of the new liner wells before and after steam cycle has been illustrated in Figure 17 where wells CSS-86 (Upper Dolomite) and well CSS-121 (Upper Dolomite) have been chosen to test the idea in upper and lower formation. The figure shows that after installing the liner and selectively perforating the oil interval the incremental oil production is about 40 BOPD from each well.

B) Nukhul Formation

Increasing the drawdown in the Nukhul formation is the key factor to increase the oil production. Therefore, producing some Nukhul wells which have high productivity index and high reservoir pressure with the new ESP gave the ability to increase the production up to 20000 BFPD. This also had the favorable side effect of decreasing the water cut in some of the surrounding wells (Figure 18).

CONCLUSIONS

- 1. The Issaran field, being a complex reservoir, requires more than one monitoring tool for effective production surveillance and to perform optimization processes.
- 2. Using the modified Y-tool and new technology PL string, helped optimize the field production by identifying and shutting off the super-K layers that led to early water and steam breakthrough.
- 3. Reservoir management through an optimal field development plan is the key to increase production and consequently the recoverable reserves.



Unsolved equation: oil prices vs. economic recovery

Since the oil price hike in summer 2008, the oil prices have been witnessing dramatic decreases worldwide. However, this year, in the shadow of ongoing unrests in the Middle East and Africa region, oil prices have been escalating once more. This price increase is ringing the alert bell; would \$100 per barrel harm the economic recovery?

Prepared by Mostafa Mabrouk, Vice Chairman Assistant For Economic Affairs, Ganope

Financial markets and the Organization of Petroleum Exporting Countries (OPEC) are repeating their 2008 mistake in assuming the world can live with \$100/bbl oil. There is food price inflation in emerging countries, and when fuel inflation is added, domestic unrest develops.

Paul Horsnell at Barclays Capital in London expects oil prices to be a political issue in 2011, particularly in the UK where retail prices are at new highs due to increased taxes. The weak dollar, a civil war in oil-producing Libya, political tension throughout the Middle East and the earthquake in Japan all contributed to the steady increases in recent months. Threats to

oil production have increased the odds that gasoline will cost \$4 per gallon during the summer season (the period between April 1 and September 30) and heavier travel months. The U.S. Energy Information Administration put a 25% probability on the national monthly average retail price for regular gasoline exceeding \$4 a gallon during summer. Crude oil prices have been rising, but will hit \$120 a barrel are still below the \$148 per barrel that coincided with the record fuel prices in the middle of 2008 . the record of \$4.07 per gallon was set in July 2008. With the strife in Libya unlikely to end any time soon, and a

pretty weak but sill upward economic recovery, you shouldn't expect any relief in summer gasoline prices. At some point, the price of fuel would drive up the costs of consumer goods and become a drag on the economy.

Total boss Christophe de Margerie told Reuters ahead of an energy conference in Abu Dhabi that the global economy was just recovering. "It would have been better for the prices not to go too high too quickly," he said.

The market is bullish because there is increasing demand in emerging markets ... it (demand) is higher than expected. Brent crude rose above \$120 a barrel in New York, meanwhile, US

to settle at \$ 123.45 / barrel, while Asia crude oil delivery for May rose to settle at \$ 106.18 / barrel. A Reuters poll showed that US crude oil is expected to hit \$100 a barrel in the first quarter, but a new record high above \$147 is far less likely.

Based on projections from the EIA May 2010 report, members of OPEC could earn \$818 billion of net oil export revenues in 2011, but this figure will definitely rise to reach \$1063 billion as a result of current events in Libya which is not clear when to end. In 2009, OPEC earned \$571 billion in net oil export revenues, a 41 % decrease from 2008. Saudi Arabia earned the largest share of these earnings, \$153 billion, representing 27 % of total OPEC revenues.

Oil Supply in Middle East and Africa

Non-OPEC Middle East & Africa crude oil and NGLs production over the medium-term is expected to stay approximately flat, at just over 4.2 million barrels per day.

In the Middle East region, Oman will depend on heavy oil developments and enhanced oil recovery projects to offset decline rates and sustain a production level of around 0.8 million b/d. In this regard, good results have already been achieved at the Mukhanizana field using steam injection. Production at this field is expected to increase from 90,000 b/d in 2009 to around 150,000 b/d by 2012. In addition, Oman will add 10,000 b/d from the Marmul polymer injection project, 40,000 b/d from miscible gas injection at the Harweel field and another 40,000 b/d from steam injection at Qarn Alam field.

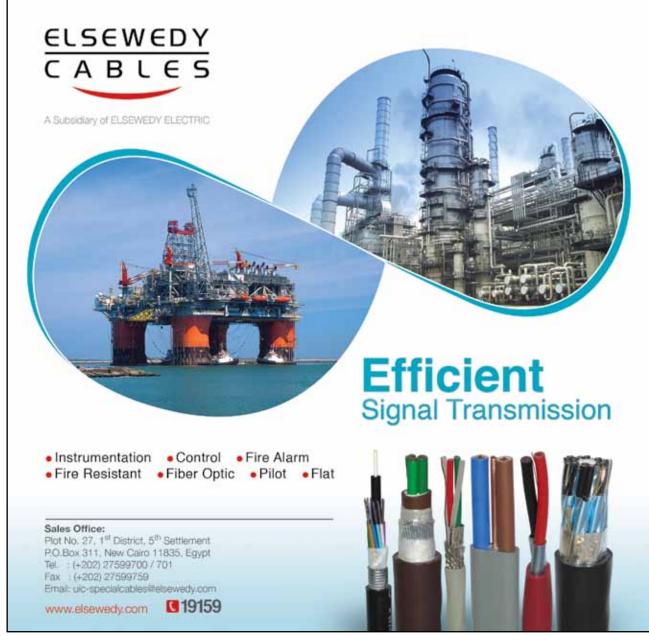
On the other hand, production from Yemen and Syria is expected to decline slowly over the medium-term. For Syria, increasing water production becomes an ever more serious problem in ma-

crude oil for May delivery rose ture and depleting fields. Crude oil and NGLs production in the non-OPEC Middle East is expected to fall slightly from 1.7 mb/d in 2009 to 1.5 mb/d in 2014.

> In Non-OPEC Africa, some growth is expected, mainly from Sudan and Congo. In recent years, considerable growth has occurred in Sudan, although this has not been as quick as anticipated just a few years ago. Looking ahead, the start-up of the Gumry and Meleta fields is set to add around 100,000 b/d of capacity by 2012.

Consequently, Sudan's crude oil and NGLs production was expected to increase from about 470,000 b/d in 2009 to 540,000 b/d in 2014. Production from Congo is expected to increase over the mediumterm, mainly due to increased investments in a new onshore development and the ramp-up in production from deep water projects, including the M'Boundi Upgrade, Moho /Bilondo, Haute Mer N'Kossa and Azurite. As a result, Congo's crude oil and NGLs production is anticipated to increase from about 270,000 b/d in 2009 to 340,000 b/d in 2014. Other countries contributing to the mediumterm growth include Ghana, driven by the Jubilee phase 1 (120,000 b/d) development, which started to produce 55,000 bbl/d at 15th December, 2010, with output set to rise to 120,000 b/d over the next six months as more wells come into production.

On the other hand, Egypt is projected to decline steadily from almost 700,000 b/d in 2009 to less than 600,000 b/d in 2014. This is driven by a production decline in the Gulf of Suez, which accounts for the majority of Egypt's oil production. However, the rate of decline is expected to be limited by the emergence of the Western Desert as a new oil-producing region and by growing condensate production. Crude oil and NGLs production in non-OPEC Africa remains fairly flat between 2009 and 2014 at around 2.6 mb/d.



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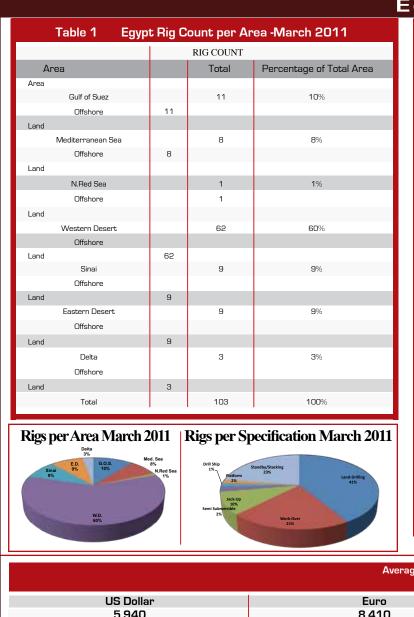
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Endustry Statistics



gypt Statistics											
Production - February 2011											
	Sold Million cubic	Planned feet Million cubic f	eet %	Oil Barrel	Equivalent Gas Barrel	Condensate Barrel	Liquef Barrel	ied Gas Ton	Total Gas & Derivatives Barrel		
Med. Sea	120959	146020	82.84		21599821	1381267	437034	38847	23418122		
E.D.				1936318					1936318		
W.D.	33495	34944	95.85	7003621	5981250	1496859	597925	53149	15079655		
GOS	928	2324	39.93	4583884	165714	63176	174532	15514	4987306		
Delta	12661	11788	107.41	81027	2260893	187821	97049	8627	2626790		
Sinai	190	196	96.94	1882615	33929	34470	76742	6822	2027756		
Upper Egypt				29560							
Total	168233	195272	86.15	15517025	30041607	3163593	1383282	122958	50105507		
		Actual	Planned	%	4000000						
Oil		15517025	17069136	90.91	3000000 25000000						
Condensate		3163593	3408440	92.82	20000000						



31424889

50105507

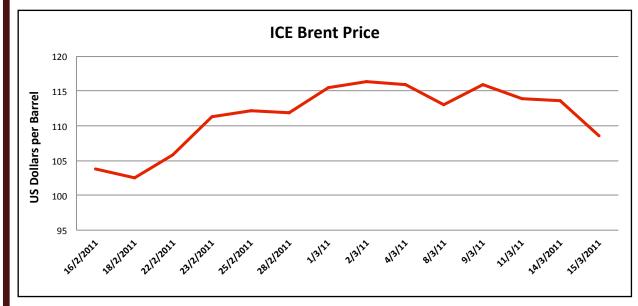
Gas & Derivatives

36151644

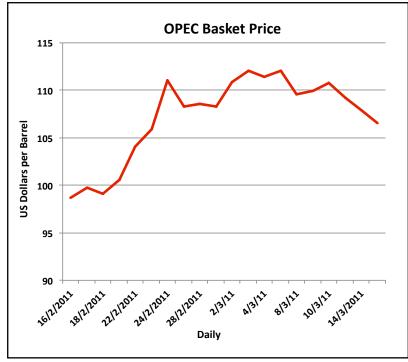
56629220

86.93

88.48







3675470

3637179



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CT & STIMULATION TECHNOLOGY

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