



SEISMIC

& the SOUTH SYRIA PLATFORM

Shell was awarded two new exploration blocks totalling an area of some 14,000 square kilometres in the southern desert of Syria at the end of 2006.

In December 2007 2D seismic acquisition operations commenced using Geofizyka Torun (GT), a Polish company, to acquire the data.

The exploration campaign is headed up by Syria Shell's Jean-Michel Larroque and supported by a team of exploration professionals based in Damascus and an evaluation team in Rijswijk in The Netherlands.

'Shell in the Middle East' talks to Ole Myklestad, Shell Country Chairman for Syria, about Shell's aspirations in Syria, then joins Jean-Michel on a field visit on the South Syria Platform...



Ole Myklestad,
Shell Country Chairman
for Syria

ACTIVITIES FOR SHELL IN SYRIA ARE ON THE RISE

with the start of exploration activities in the south of the country in two new exploration blocks which have been awarded to Shell.

Ole Myklestad, Shell Country Chairman for Syria, says, "Shell has been in Syria for many years now with our centre of operations, in terms of exploration and production, in the Deir ez Zor Province in the east of the country. The four PSCs [Production Sharing Contracts] which we have for this area are due for renewal and we are currently in negotiations with the Government and expect to come to agreement shortly," he says.

Shell has been in Syria for over 50 years. It has substantial investments and has produced more than two billion barrels of oil. With the renewal of the PSCs and new exploration activities in the south of the country, Shell is hoping to refresh and grow its long relationship with the Syrian Government and its people.

"Shell has also entered into an MoU [Memorandum of Understanding] with the Government to develop a Gas Master Plan for Syria," says Ole, "which we hope will help develop the gas business and lead to further business opportunities in the country.

"There have been big and positive changes in the way that the Government does business with the private sector which will open up many ▶

OLE MYKLESTAD CONTINUED

◀ new opportunities in Syria.

“The key goals for Syria Shell during 2008 will be to maintain good operational efficiency in AFPC [Al Furat Petroleum Company], Shell’s joint venture with SPC [Syrian Petroleum Company], with a strong focus on HSE [Health, Safety and Environmental] issues in all its operations in Syria and with a specific emphasis on road safety.

“Coming from Norway to Syria is quite a cultural change for me,” concludes Ole, “but one which I am enjoying enormously, despite the fact that the snow in Damascus last winter reminded me of the cold weather I left behind in Norway. However, the warm welcome I have received from the people of Syria has more than made up for it.”



Jean-Michel Larroque,
Exploration Manager for Shell in Syria

SYRIA SHELL SIGNED AN AGREEMENT to explore for hydrocarbons in Blocks 13 and 15, which between them total around 14,000 square kilometres,

at the end of 2006, with the effective date for the commencement of operations being the end of January 2007.

Syria Shell’s two new exploration blocks are in the South Syrian Platform, which is located in the southern part of Syria, close to where the borders of Jordan, Iraq and Syria meet.

Jean-Michel Larroque, Exploration Manager for Shell in Syria, says, “Under the agreement, Syria Shell has a commitment to drill four wells. To identify suitably prospective locations for these wells we have begun by conducting a 2D seismic acquisition campaign in Block 15, where we will acquire about 1,250 linear kilometres of seismic data before moving to Block 13, where we will acquire a similar quantity of seismic data.

“The purpose of the 2D seismic campaign is to delineate the geological plays which we are chasing in the sub-surface formations. Once we have acquired the initial data, and have obtained a better picture of the sub-surface with more accurate locations for the structures into which we would like to drill wells, we will shoot some infill seismic.

“We expect all of the seismic acquisition operations to be completed by the end of 2008. In addition to the seismic campaign we have reprocessed legacy seismic data which has already given us some idea as to the type of areas we should be examining.

“Shell has also conducted an aero-magnetic survey which was carried out at a very low altitude and which will, we hope, help us to delineate the sand fairways in the sub-surface structures. This was the first-ever high-resolution aero-magnetic survey to be undertaken in Syria, and the contractor was able to use



Main photo:
A tool-box
briefing meeting
held
before dawn
On the right:
A marker stake in
the field and
laying seismic
cables in
sub-zero
temperatures





Main photo: A recording truck.
On the right: A close-up of the vibroseis truck at work, and studying seismic data

the local airport at Palmyra.

“The formation in which we expect to find hydrocarbons is known as the Afendi Sandstones, which is Ordovician in age. The depth of this play varies from 1,000 to 5,000 metres, but the depths that we expect to drill to find hydrocarbons will be around 2,500 metres.

“This formation is usually overlaid by a Silurian shale, which in this area is called the Tanf. Whilst this area is pretty much frontier drilling it is not a completely virgin area in terms of exploration. One well, the Tanf 1, was drilled here many years ago and penetrated the apex of a structure in Block 15. This well was dry, but we believe that the structure might be prospective on its flanks where there might be some stratigraphic traps.

“After reprocessing some of the earlier seismic data we can now see these formations and this is why the current seismic operation is so important to enable us to delineate the area more accurately,” he says.

Whilst Shell has carried out near field exploration in its existing concession in Deir ez Zor province,

through its joint venture partner AFPC [Al Furat Petroleum Company], it has been a long time since Shell has carried out green field exploration operations in Syria.

Jean-Michel goes on to say, “This means that we have had to set up a whole new operational team. However, the exploration venture has benefited from Shell’s long-standing presence in Syria in terms of both administrative and support services in its offices in Damascus and operations in the field through AFPC in Deir ez Zor province - as well as, of course, very good relationships with the Government and SPC.

“Since start-up we have formed a new operations team in Damascus and an evaluation support team in Rijswijk in The Netherlands. The team in Syria has completed the tendering processes for a seismic contractor and we have been fortunate to acquire the services of Geofizyka Torun [GT], a Polish company, to carry out our 2D seismic campaign.

“The support team in Rijswijk will carry out the evaluation of the seismic data acquired in the field,

whilst also looking at the broader picture studying regional structures beyond Syria’s borders.

“Geological formations and structures do not know about man-made borders and so when we conduct exploration activities we have to focus not just on the country in which we are operating, but on the regional geology to obtain a regional overview.

“As a consequence, the Rijswijk team is studying a geological play which runs from Algeria to Oman and looking at data we have available from Shell operations in neighbouring countries, such as Saudi Arabia and Libya, where the same play exists.

“So the Rijswijk team is assisting us with this overall regional evaluation, as well as leveraging Shell’s technological know-how in exploration activities, on geology, on aero-magnetics and seismic,” he says.

Syria Shell’s team in Damascus is a lean team but is made up of experienced exploration professionals. Their job is to manage all in-country operations, such as the tendering of contracts, relationships with SPC ▶

JEAN-MICHEL LARROQUE CONTINUED

◀ and to manage HSE performance.

Says Jean-Michel, “On the ground we have a very experienced team of consultants who represent Shell in the field. Many of these consultants are staff who previously worked for Shell and are very experienced in the execution of seismic activities. Their main focus is on quality control and quality assurance of the seismic data which is being acquired for us by GT. They are also there to ensure that HSE performance is one hundred per cent and achieves Shell’s global target of Goal Zero, a policy which strives for ‘no hurt to anyone, no harm to the environment’.



A donkey from a Bedouin camp looks on unconcerned at the seismic operations

“GT has demonstrated a great deal of willingness to comply with Shell’s HSE standards and to implement HSE issues raised in the start-up audit and to improve their operations.

“In addition we have a number of sub-contractors. One of these is NASCO, which is in charge of providing catering services and making sure that 280 men eat three good meals every single day,” he says.



Shell’s Quality Control and HSE Consultants in the field in Syria: Travis Dearborn, Jim Plaice, Frank Thompson and Bob Laing

Summing up the conditions in which operations are taking place, Jean-Michel says, “The surface conditions are relatively good and whilst there are a few people around there are no large established residential areas. We come across Bedouin encampments from time to time but we have developed good relationships with the people we come into contact with and so far everything has been very amicable.

“In terms of animal life and vegetation, the environment is as sparse as its human population, apart

from the goat and sheep herds of the Bedouin. We are, however, taking good care of the environment and if we disrupt anything we make sure that it is put right. We also make sure that all waste materials are removed from the site for re-cycling.

“The area is quite flat and is a dream when it comes to shooting 2D seismic. If we need to shoot 3D seismic it will also be an excellent environment in which to do so.

“In terms of logistics, access and vicinity to infrastructure, things are not too bad as our base camp is only five



Members of the catering team who come up with three good and tasty meals a day for 280 men

hours from Damascus and two hours from the nearest city, Palmyra. The ease of access to the field has, in fact, really helped the working relationship between GT and Shell's Damascus-based team.

"Shell also has an oil and gas hub through its joint venture operations run by AFPC in Deir ez Zor, which is three hours from our area of operations.

"The exploration team is highly motivated and I am pleased to see a lot of support from the more experienced team members for the newcomers. Relationships with the Syrian contractors and staff are excellent and, indeed, half of my team in Damascus are Syrians.

"Progress with regards to seismic data acquisition was a little slow at first due to the severe weather conditions, sand and snow storms, which we experienced here on the South Syria Platform, but the weather improved and I am confident that the contractor will complete the programme on schedule," concludes Jean-Michel.



Janusz Zielinski, Vice Director of Seismic Data Acquisition at GT

JANUSZ ZIELINSKI, Vice Director of Seismic Data Acquisition at Geofizyka Torun (GT), has travelled to the South Syrian Platform to conduct an audit of GT's operations for Shell. It is the first time that GT has worked for Shell and it is only GT's second time in Syria, and that after an absence of 12 years.

"Working for Shell is a very good opportunity for GT to expand its operations into more international markets," says Janusz. "GT has over 40 years of worldwide experience

and has conducted seismic operations for many international oil and gas companies as far afield as Germany, Lithuania, Bulgaria, India, Iran, Kazakhstan and Russia.

"At the moment our target market, apart from Syria, is the Indian Sub-continent, where we have five seismic crews carrying out operations, four of which are conducting 3D seismic projects and one is carrying out a 2D seismic acquisition campaign.

"Our 20-year presence in India has been marked by many significant achievements, including a contribution to the biggest hydrocarbon discovery in the last 40 years in Rajasthan. On one of its recent projects in India GT also achieved a record of 3.8 million man hours worked without a single LTI [Lost Time Incident].

"Working with Shell is a perfect opportunity for GT to update and upgrade its HSE management systems and capabilities in order to make sure that GT is in alignment with Shell's very high HSE and quality standards.

"However, one reason that we may have been contracted by Shell is because GT's overall HSE record is also good. The company has not had any fatalities in recent years and our LTIs have been very low.

"Technically GT is also recognised as a company with high standards. We utilise the latest equipment, including the French-made Sercel 428 Digital Sensor Unit and state-of-the-art Nomad 65 vibroseis trucks, as well as the best software and technology money can buy.

"We are glad to be back in Syria and to be working with Shell. I believe that GT will earn the trust of the client and that this will lead to further work with Shell, both in Syria and elsewhere in the world," he concludes. **S**



A GT truck in the field