The world of LUKOIL's international upstream projects

From conservation of biodiversity to introduction of green technologies, LUKOIL Overseas has contributed to global efforts in environmental protection. The recent signing of the cooperation agreement with the World Wildlife Fund is another step in this direction.
Dubai oil firm to invest $10b in Philippines

Kampac Oil, a Dubai-based company, plans to double its investments in Philippines to more than $10 billion. The bulk will be used for the construction of Kampac Energy City in Sual, Pangasinan, a local daily reported. Besides a non-commercial port and city, the proposed project will also house three refineries, a petrochemical plant and liquefied natural gas regasification facility.

LUKOIL Uzbekistan has been making a significant contribution towards the preservation of historical sites in Uzbekistan. One of the major efforts in this direction is the company’s assistance to the country’s Ministry of Culture and Sports to restore the ancient settlement of Ming Urik and convert it into a museum.

The archaeological site is an important landmark in modern Tashkent. Ming Urik, which means a thousand apricot trees, is home to the ruins of an ancient city that’s often referred to as Chach in various documents of historical relevance. Numerous artefacts indicate that the city existed from the 1st century AD until the conquest of Central Asia by Arabs in the 8th century. Historians believe that the city was part of a union of several city states under the common name of Chach.

Scientists are of the view that the settlement was residence to Turkic rulers. At its centre stood a square structure of adobe bricks with semicircular towers on all sides. The layout inside the square and the construction pattern are based on principles visible in the iconic structure of Shanshek. Huge dumps of clean ash on the west side of the building and stocks of firewood in a room show that it was a place of worship, with an open fire altar on top.

Ming Urik also had the official palace of the rulers. It consisted of numerous rooms, including a gala hall, wide corridors, living rooms and storerooms. A religious complex with a shrine was also found at the site.

However, the ravages of time have not spared the building. A fire and subsequent alterations have almost completely destroyed its beauty. Only small traces remain of the many coloured frescoes that once adorned the walls of the structure with depictions of stories of the lives of tsars and nobles, heroic plots and religious ceremonies — similar to those found at the Afroasiab site near Samarkand.

Ming Urik was a part of the Tashkent oasis, which was a formation of four towns and up to 20 palaces. Close examination of the structure in Ming Urik and other sites in Tashkent indicate that the oasis was a part of the Sogdian culture area, which is considered by researchers as the highest standard of the cultural achievements in Central Asia before the Arabs arrived.

Ming Urik also brings to fore other revelations. There are good reasons to link the place of issue of a coin from the 7th century AD to Chach. It is believed that gold, silver and copper mined near Tashkent were used by Chach to mint its own coins. Traces of metalwork and pottery trades were also found in the territory.

The ceramic artefacts discovered were few in number but of tremendous significance. Iron implements, terracotta figurines and toys were also found.

At present, the Ming Urik monument is protected by the state. Its historical heritage attracts archaeologists and tourists from across the globe. Interesting installations have been set up to help visitors learn about our ancestors’ lifestyles and look at them through the prism of time.
Preserving a piece of scripted history

LUKOIL’s support to digitise Mesopotamian tablets can go a long way in the creation of an online resource

By Grigory Volchek | Oil Journal

A recent presentation of the new cuneiform script digital archive, hosted by Moscow’s renowned Pushkin State Museum of Fine Arts, was sponsored by LUKOIL’s charity foundation. It could not have been timed better because most of the artefacts, dating back more than 2,000 years, are decaying. Despite the use of the most modern preservation methods, they’re crumbling as a result of salt crystal accumulation on the tablets’ contours. Hence, the museum is trying to visually digitise the tablets in their present form using advanced technology.

High-tech solution

However, simply clicking a 2D picture with an advanced camera didn’t seem to be the most suitable solution. Moscow-based EPOS Group, which was hired by the Pushkin Museum to carry out the preservation work, is utilising a unique solution that allows the tablets to be digitised in 3D down to the smallest detail. The process involves placing each tablet inside a special box that isolates it from outside light. It is equipped with various lamps that can produce up to 16 unique combinations of lighting without glares or shadows — and a camera that automatically takes digitised, high-resolution (2,500dpi) pictures of the tablets from all angles. This information is then catalogued into a database, resulting in a near perfect digital copy of each tablet accessible for research and convenient viewing via a special program called Circular Synthesis.

The new digital catalogue is expanding the museum’s exhibition capabilities, facilitating convenient access to the full collection of tablets without damaging them. It is also making way for the creation of a new database for scientific and educational purposes and laying the groundwork for an online resource to giving ancient Mesopotamia.

To date, one-fourth of Pushkin’s tablets have been digitised and work is in full swing. The timing of the digitisation process is of significance as most cuneiform tablets have their origins in Iraq, says famous historian Olga Tomashevich. “This work is especially important for global science and arts, given the damage the ISIS group has done to unique cultural monuments in northern Iraq.”

“I’d like to thank LUKOIL for its support,” says Marina Loshak, Director of the Pushkin State Museum of Fine Arts. “Our long-term partnership is evident through this project and others such as the catalogues and valuable artworks LUKOIL has helped the museum acquire, events and youth programmes it has helped us organise and the restoration work we’ve done on many unique ancient architectural monuments.”

A helping hand

As well as the Pushkin State Museum, the LUKOIL charity foundation maintains close ties with many prestigious organisations such as Bolshoi Theatre, the Tchaikovsky Symphony Orchestra, Moscow Kremlin, The State Tretyakov Gallery and the State Historical Museum. Launched in 1993, the charity foundation is aimed at helping educational, health-care, medical and religious organisations, including museums, theatres, acting and sports clubs, orphanages, schools and veterans’ associations in Russia and abroad. It is currently headed by Nelly Alekperova.

The Pushkin State Museum of Fine Arts has a collection of 1,800 plus cuneiform tablets of different genres, including legal texts, accounting and business transactions, personal letters and literature. The bulk of the collection was put together by historians Nikolay Likhachev and Vladimir Golenishchev. Some of the famous artefacts include diplomatic correspondence from Egypt from the 14th century BC, texts by Assyrian kings and eulogies.

The dawn of the written word

The cuneiform script is one of the earliest known systems of writing, distinguished by its wedge-shaped marks on clay tablets made by a blunt reed used as a stylus. It originated more than 3,000 years ago in Mesopotamia, in the territories of modern Syria and Iraq. Originally, the writing went from right to left in columns but it changed later to left to right in lines. The first symbols represented objects to be counted — for instance, tradable goods — and were therefore pictograms. These evolved into recognisable combinations of pictograms (ideograms) to eventually become phonetic groups (words). Overall, cuneiform developed in around 1,500 languages and dialects, averaging between 300 and 900 symbols each. They were deciphered in the mid 19th century by German epigraphist Georg Friedrich Grotefend and British army officer Sir Henry Rawlinson.

The oldest existing cuneiform tablet is an administrative document from ancient Sumer, dating back to 3,500BC. Some of the world’s most ancient literature was written in cuneiform, such as the Epic of Gilgamesh.

From the second century onwards, the script gained popularity across the Middle East before gradually being crowded out by other forms of writing.
A team of biologists sets out for the deserts of Western Kazakhstan’s Mangistau region annually to study migratory patterns of birds and explore the prevalence of animals such as turtles, camels and gophers. The adjacent Caspian Sea guarantees that they are present in high numbers during spring. However, the high numbers make it impossible to keep an exact count, forcing visiting biologists to rely on sightings. The area is home to the North Buzachi oilfield, where LUKOIL has been working since 2005 towards the most stringent environmental commitments. Each year, in accordance with official agreements, the company hires a team of independent analysts to gauge the impact of its activities on the local environment.

"Wherever there is a production site, there will always be some impact on the environment. Our challenge is to minimise the impact in the surrounding areas and make sure that the quality of air, water and soil don’t change in the long term."

Elena Kovaleva
Head of Environmental Protection Group (Dubai), LUKOIL Overseas

LUKOIL signed a recent agreement with the WWF for nature conservation in Russia. From camels in Kazakhstan to marine ecosystems offshore Romania, Oil Journal finds out how LUKOIL Overseas is protecting the environment.

By Artem Zagoskodov | Oil Journal

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On land

The initiative in North Buzachi is just a small part of the worldwide efforts by LUKOIL Overseas to preserve wildlife and the environment, especially in Uzbekistan [read Sustaining the web of life, p. 5]. The company spent more than half a million dollars on these efforts from 2011 to 2013.

"The main principles [behind] our activities are to minimise the impact of the company’s operations on the environment, take precautions — for example, in cases such as the pipeline corrosion — and undertake repairs, with constant monitoring and analyses," says Kovaleva.

At one of its largest oilfields, West Qurna-2, LUKOIL Overseas became the first international operator in Iraq to commit to monitoring its environmental impact.

"No other oil major was doing it because they didn’t have to. We take it very seriously," explains Vladimir Bayzulin, Environmental Engineer, LUKOIL Overseas.

LUKOIL has been regularly maintaining a record of the prevalence of oil by-products, such as chloride, in local water and soil.

"It’s practically like the footprint of oil operations in the region," says Bayzulin. No less important is the prevalence of H2S and hydrocarbons in the air — all key indicators used to measure the company’s impact on the local environment.

"As an ecologist, I’m happy to report that all of our indicators are within the set parameters," says Bayzulin. "Our main principle is to do nothing that has an irreversible impact, and we have lived up to this. We present a report each year to the Iraqi authorities [and] they’re positive about our work."

At another project, on the Arman
field in Kazakhstan, the situation is similar to that of North Buzachi. “There’s some times only 200-700 metres between our clos est production sites and the Caspian Sea waterfront,” explains local Health, Safety and Environment (HSE) Manager Elmira Zhazhi girova. “Some production sites were thus built on elevated artificial islands. In real ity though, the Caspian is receding, and we don’t see seals coming to Arman anymore. “We never dump water that has been used for production,” adds Kovaleva. “At all sites, we pump the water back into the well to maintain pressure or into special dispos al wells. When we saw camels and other animals grazing and resting around our sites in Kazakhstan, we knew we were maintain ing low noise levels.”

Offshore
Houston-based HSE Manager David Perez is responsible for LUKOIL Overseas’ impact on offshore environments, especially in Romania, where the company is drilling its first exploration well on the territory of an EU member state at the East Trident and Rapsodia blocks of the Black Sea. “As a member of the Romanian Black Sea Titleholder’s Association, LUKOIL is at the forefront of implementing EU directives on offshore safety and en vironmental procedures and policies,” says Perez. “LUKOIL provides its comments and expertise to the Romanian government in re gard to offshore activities. “By working with the Romanian gov ernment, LUKOIL has assisted with the imple mentation of regulations that will guide safe and environmentally friendly opera tions in the offshore environment,” he adds.

These efforts include maintaining a zero-dis charge operation, which involves shipping all waste and drill cuttings to shore for proper disposal at a government-licensed waste fa cility. Leftover food is also shipped to shore because dumping overboard can disrupt the seasonal migration patterns of fish and sea mammals.

In addition, LUKOIL and its contractors practise a robust waste minimisation pro gramme that reduces and reuses virtually all the packaging and containers that arrive on board. All deck drainage is either treated through an oil water separator prior to dis charge or is at the very least inspected for oil sheens before being pumped overboard. Using these procedures, LUKOIL keeps the impact on the Black Sea at minimal levels.

In monitoring operations and their impact on the environment, LUKOIL has placed a marine mammal biodiversity observer (MMBO) on-board the rig, Development Driller 2, in Romania. The MMBO’s objective is to observe marine life and birds, and report any fluctuations in their seasonal patterns. By comparing this data over several months and, eventually, over years, LUKOIL will be able to accurately assess the biological impact on the native species.

In harmony
Meanwhile, spring is around the corner in Kazakhstan’s Mangistau region. This means it’s time for the turtles to get out of their bur rows. LUKOIL suspends some operations during this time because of low visibility caused by the heavy winds and sandstorms. The locals have a legend about how the arrival of the turtles ushers in the wind and sand,” says Kushalieva. “You’ve got to understand nature to be in harmony with it.”

The activities of the operator’s envi ronmental service in the Kandym-Khau zk-Shady project area are noteworthy. The Khauzk gas production facilities are located near Dengizkul Lake, a public ornithological reserve that is included in the Ramsar List of Wetlands of Interna tional Importance. “The Khauzk gas production facilities are located near Dengizkul Lake, a public ornithological reserve that is included in the Ramsar List of Wetlands of International Importance. “The activities of the operator’s environmental service in the Kandym-Khauzk-Shady project area are noteworthy. To prevent any negative impact on the biotic components from the project, LUKOIL Uzbekistan has developed a Biodiversity Action Plan in accordance with national requirements and the International Finance Corporation’s Performance Standard 6 for Biodiversity Conservation and Sustainable Management of Living Natural Resources. The plan has been reviewed and approved by international experts of the Asian Develop ment Bank, Multilateral Investment Guarantee Agency and Environmental Resources Management.

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It has seen a number of measures intro duced at the Khauzk gas production facilities. Staff access is limited within a 500-metre buffer zone around the water body; a likem-wide quiet zone has been established around the nesting locations of waterbirds; power lines have been equipped with modern bird protection boxes and markers; a speed limit has been introduced on roads around the lake; and all design decisions undertaken an environmental review by ornithologists. Ornithological monitoring of Dengiz kul Lake has been ongoing since 2012, as part of the Biodiversity Action Plan. The results of the monitoring studies confirm that the Khauzk-Shady project activity has no critical negative impact on the birds of the Dengizkul Lake Ramsar Site and the adjacent desert.

The lake is essential for nesting waterbirds. The monitoring results in dicate that species listed by the Interna tional Union for Conservation of Nature as globally endangered are found here during the nesting period. A lot of attention is also paid to the flora in the con tract area. In the desert, a grove of sorts has grown from 250,000 saxaul shrubs that were planted by the Alat Forestry as part of a programme organised by LUKOIL Uzbekistan. This has created fa vourable conditions for the desert fauna. “Nature and wildlife are the most beautiful things on our planet, and we have to make every effort to preserve them,” says Evgeniy Makarov, HSE Head, LUKOIL Uzbekistan.

The company’s environmental special ists [in Uzbekistan] are making prog ress in precisely this area, achieving high practical results.”
China’s investment in Iran oil industry hits $20bn

Iran’s Deputy Oil Minister Abbas Sheri Moqaddam announced this month that China’s investments into his country’s oil industry have crossed the $20-billion mark, Cihan News Agency reported. China is Iran’s biggest oil customer. In 2014, Iran’s crude exports to China rose by 28 per cent compared to 2013 to hit 27.46 million metric tonnes, about 550,000 barrels per day.

Dubai property stocks surge as oil rebounds

With Brent prices hitting a 2015 high this month at $63 a barrel, Gulf stock markets experienced a surge. Real estate developer Emaar Properties announced a profit forecast of over $1 billion in 2015, causing its stock to jump 9.4 per cent, raising Dubai stock exchange’s main index.

OPEC should consider return to oil quotas

The Organisation of Petroleum Exporting Countries (OPEC) should consider reintroducing members’ output quotes, which were dropped amid the oil price boom of 2008, an OPEC delegate told Reuters. One of the major reasons for doing so would be to prevent oversupply in the market following a potential lifting of sanctions on Iran, the delegate said.

Iraq to build solar and wind power stations

Iraq’s electricity ministry has invited expressions of interest from builders for the construction of one wind and three solar power stations in the Diwaniya, Najaf and Maysan provinces, reported Iraq Business News. Each station will have a capacity of between 5 and 10MW.

OPEC should consider reintroducing output quotas — in parallel with a potential lifting of sanctions on Iran — to prevent a potential oversupply in the market.

Low prices, coupled with the economic infeasibility of extraction and local environmental issues, spell an uncertain future for the development of unconventional reserves in Europe

Our verdict is clear: unconventional gas, which was seen as Europe’s energy panacea, is unlikely to reduce the gap between EU’s energy demand and falling domestic production, at least in the near future. Europe’s shale promise — Poland — also failed to fulfill investor hopes despite its record of the highest number of shale wells drilled in Europe. Actual drilling results in Poland were disappointing: none of the roughly 70 wells that were drilled proved to be commercially viable. And the wells drilled in the UK (fewer than 10) also do not seem to offer great prospects for commercial shale in the country. In fact, related upstream activities have led to a series of anti-fracking protests by local environmentalists, resulting in major operational delays.

The air of shale scepticism has caused an exodus of international energy majors from Europe’s unconventional upstream. Chevron withdrew from Lithuania in 2014 and earlier this year from Poland and Romania. In 2014 the American major also put on hold its operations in Western Ukraine, mostly due to doubts over commercial viability of fracking in Oleksa shale play. Early entrants, such as ENI, ExxonMobil, Marathon Oil, Talisman Energy and Total, also abandoned their projects in Poland between 2012 and 2014, with ConocoPhillips remaining as the only large foreign enterprise still working in the country. To understand the trend, it’s important to analyse the major reasons that have resulted in the present scenario.

Geological obstacles

Complicated structures played a major role because shale plays turn out more difficult to develop here than in the US. Unforeseen geological complexities led to a loss of appetite among investors in European shale. Another unresolved problem that’s linked to geology is the cost of shale drilling. Exploration wells in Europe require extensive experimentation and lack the economies of scale achieved in more mature areas such as Marcellus play in the US. Wells in Poland cost three to five times more than the US average cost of about $5 million per unit. These differences are becoming even more pronounced with a strong dollar, which grew 20-30 per cent against the euro, zloty and other European currencies. And you cannot forget that a sizeable part of equipment and workforce is still imported from the US.

Low oil price and capex cuts

The cost of drilling gets particularly high when oil prices are low and companies have to cut their investment programmes. France’s Total said it will spend up to 30 per cent less on exploration work, while Shell, the EU’s largest oil company, will cut its capital spending by $5 billion from 2015-17. The situation is similar across the pond: last month ConocoPhillips announced a three-year plan to reduce its annual capex budget by $16 billion to $11.5 billion.

A reduction in investment and energy prices is also leading to a decrease in drilling activity. According to data from Baker Hughes, the number of active US horizontal rotary rigs fell from 1,224 in April 2014 to 770 in April this year. Two weeks ago, the US Energy Information Administration released its forecast indicating a drop in US shale production by 57,000 bpd by early May, the first net production decrease since 2008.

A recovery in oil prices could change the situation, but the companies would have to wait for at least two to three years for the price to recover before making investment decisions on European shale. By then, the big money may have directed itself to more promising regions such as Argentina, China and South Africa.

Environmental activism

A number of EU countries are densely populated with high real estate prices. It is therefore not surprising that not-in-my-backyard feelings are extremely strong in relatively pro-shale countries such as Poland and the UK. Fears about the chemicals used during fracking and the waste water are particularly strong.

Fracking has been banned in Bulgaria and France and stopped de facto in the Netherlands. Germany is on the verge of introducing a fracking ban as well. On April 1, Germany’s cabinet approved draft legislation effectively banning shale gas fracking until 2019. Moreover, environmental protection regulation is more stringent across Europe than in the US, thereby limiting the operational plans of energy companies.

Coupled with low oil prices as well as a lack of qualified labour and local fracking technology, the environmental issues will delay development of unconventional reserves in most of EU member states.

Though excessive dependence on imported fossil fuel is seen as a major challenge, the implementation of zero-carbon energy solutions is seen by Brussels as the top policy priority. While the UK and Polish governments are ready to give shale tax breaks, Brussels remains less enthusiastic. “Smart grids [the integration of renewables into power networks] should become Europe’s shale gas,” said Maroš Šefcovic, European Commission Vice-President at an April 1 conference, confirming that it’s Europe’s top energy priority.

— The author is a Senior Fellow at the EastWest Institute in Brussels
Military recaptures Iraqi towns

Iraq’s military has taken control of a previously ISIS-controlled area south of the Beiji oil refinery, say senior officials. General Ayad Al Lahabi said the military, backed by divisions of the popular mobilisation forces and coalition airstrikes, gained control of Al Malha and Al Mazaar, located three kilometres south of the refinery.

The talent war rages on

Some of the brightest young minds in engineering, information technology and economics fought it out at Hilton Moscow to start their careers with LUKOIL

LUKOIL has taken control of a previously ISIS-controlled area south of the Beiji oil refinery, say senior officials.
GLOBAL PERSPECTIVE

Photo of the issue

This photo was taken by Bruce Falkenstein during his initial days at LUKOIL while transitioning from Vanco. Falkenstein is now Manager — Licence Management, Compliance and Joint Operations in Houston, the US. He says it’s the bright, coloured food this Ghanaian woman held proudly that made him stop and take notice. She was selling cooked shrimp by the roadside. Falkenstein adds that this photo stands out not only because it captures the experience of that weekend, but also displays the pride, humour, bounty and beauty of Ghana.

Falkenstein was in the country on business. During the weekend, he explored the Volta Region, Akosombo Dam, which provides hydroelectric power to Accra, and Lake Volta, which is about 300km from the capital. The picture was taken of Akombo village, located just below the dam where the fresh, cold waters are ideal to take a dip in to cool off on a hot day. Falkenstein drove past baboons along the roadsides, enjoyed the tranquil setting of the Volta river under sprawling trees along its bank, went boating on the lake and visited Dodi Island to watch the local dances. Ghanaians love wearing colourful clothes, but this woman didn’t need any with the bold shades of her shrimp and the well-coordinated headscarf that matched her produce.

Winning shot
LUKOIL employees who are handy with a camera are welcome to send any photos snapped in any of the countries we operate in to oiljournal@lukoil-overseas.com.

Beyond the office
Dubai-based Corporate Transport Administrator, Yana Bokoyeva, got hooked to guns while holidaying in the Caucasus, and she hasn’t looked back since.

LOCK, STOCK AND BARREL

Do you have a talent or hobby that you’re proud of? Maybe you’re into skiing, handicrafts or orienteering. Or do you have exotic animals as pets? Whatever it may be, send pictures with a brief description to oiljournal@lukoil-overseas.com to share with LUKOIL Overseas.

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