BRAZIL PART 2

The Story Continues…

A Special Report From *Oil and Gas Investor* and Global Business Reports

BRAZIL: E&P AND SERVICE TRENDS

From Boom To… Boom?

Both Petrobras and the government's contract terms adopt a more flexible stance to attract investment.

Global Business Reports' first report on Brazil (October 2008, *Oil and Gas Investor*), found an oil and gas market in full bloom. Petrobras—the mixed public/state Brazilian petroleum company founded in 1953—had just discovered the pre-salt (or subsalt) fields, the price of oil was above $100 a barrel, and both Petrobras and the Brazilian government were eager to attract E&P and service and supply companies to assist in exploiting the huge potential.

Just as importantly, the (by most accounts) excellent political leadership that Brazil had experienced since the mid-1990s had created a stable macroeconomic climate, with 6% average GDP growth over the last four years, a stable banking system, exports of $200 billion per annum and inflation at 4%. This picture meant that the attractiveness of Brazil's economic potential was now outweighing the onerous nature of the country's adherence to labor-friendly laws, promotion of national companies, high tariffs and taxation.

Then, as now and for many years to come, the key actor in hydrocarbons was Petrobras, responsible for 99.9% of production and about 95% of service contracts. Petrobras' aim had long been oil self-sufficiency for Brazil, an aim achieved in economic terms in 2008 with the country reaching production of 1.9 million barrels a day.

Petrobras is now retooling its operations in a strategy that emphasizes exportation over internal consumption. Such a move—loudly debated at the September 2008 Rio Oil and Gas Expo—would involve no less than a transformative leap forward for oil and gas activities in Brazil. Indeed, Petrobras' five-year plan (being tweaked at press time) called for 146 vessels (including anchor handling tug supply vessels (AHTSs), platform supply vessels (PSVs), tankers, 24 producing platforms, six refineries, 40 drilling rigs and the world's first "floating production, storing and offloading (FPSO) factory."

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Brasbunker provided one of the largest netting enclosures ever made, in Camamu Bay, Bahia.

Of course, even then there were clouds on the horizon.

Barely weeks after the Rio Expo, Sao Paulo's Bovespa stock exchange joined the rest of the world in turning away in fear from the subprime losses that have now infected the entire global financial system. With trillions of dollars in capital wiped out of the world markets and the price of oil nose-diving, the main question for Brazilians, as for the rest of the world, was "what happens now?"

The dozens of executives and officials interviewed for this report were cautiously optimistic. Ironically, the "country first" socialism that was arguably responsible for holding back foreign investment and economic and human development for so many

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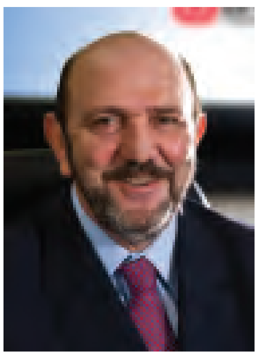
decades has to some extent insulated Brazil from the worst ravages of the credit crunch. Billion-dollar companies in Brazil may boast corporate governance structures and quality controls on a par with those found anywhere in the world, but the vast majority of these are neither listed nor have any intention of going public. Of those prepared to talk about their financial arrangements, a clear majority had Brazilian private-equity partners that, they argued, would also be less affected than most. Lastly, and perhaps most importantly, the government under the popular President Lula has set out a clear strategy for mitigating the effects of the crunch—adding extra credit to the market through its own organs, freeing up Brazilian firms' ability to seek credit abroad and accelerating the pace of the fiscal and monetary reforms it had already outlined. And, Brazil has the reserves to walk the walk.

Gaining entry

One of the wittier epithets about Brazil is Charles de Gaulle's "Brazil is the country of the future, and will remain so." He had a point: While opportunity exists, never have the words "caveat emptor" been more apt than in describing capital-intensive investment in Brazil. Most observers agree that doing business in Brazil is very difficult.

The sundry laws and regulations that determine the rules of the game are mystifying. Plinio Machado, founder of city gate and parts supplier and manufacturer Vanasa Multigas, Sao Paulo, notes with amusement that the documentation required by Petrobras for a truck-sized city gate "took up as much space as the equipment itself." It turns out he was not joking. Indeed, the bureaucracy involved in being a service and supply company to Petrobras requires the full-time dedication of a sizeable portion of staff.



Ricardo Pessoa, CEO, UTC Engenharia

Becoming a significant player also requires a significant presence on the ground. Labor restrictions and local content rules (Petrobras requires that local content make up about 65% of the equipment and labor in most contracts) are obvious reasons to have a substantial local operation.

Part of the difficulty is Petrobras' dominance. The company is legally required to negotiate a good deal from its suppliers and routinely pays some 35% less than market price. As well as being a prudent shopper, Petrobras wants the best and to understand the "hows and whats" of what it has purchased. Those who want to do business with Petrobras must provide premium technologies at a bargain price.

Can such a strategy be profitable for suppliers? Evidently, yes. An annual revenue growth rate of 15% was low for the companies interviewed for this report, and several companies had attained revenues of $200 million-plus after being in business for barely a decade. A striking example is EPC firm UTC Engenharia, which, in its 2007 annual report, set a goal of doubling revenues to $700 million by 2014; according to CEO Ricardo Pessoa, it had reached its goal by year-end 2008.

Petrobras' hard-nosed attitude toward risk in contracts, the increasing level of internal and external environmental controls on its activities, and the growth in scale and value of the contracts it issues are linked to a series of three catastrophic accidents—the most notorious being the 2001 Guarabana Bay pipeline spill. The incident created a huge scandal both inside and outside of Brazil and was integral to Petrobras' realization that the expertise, capital and risk-sharing capacities found in the oil and gas market abroad were now essential to Brazil's future. Thus the company has become more flexible when negotiating contracts, particularly

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when it comes to sharing risk.

UTC's Pessoa points to the difference between the tenders put out for the P-55 and P-57 FPSOs as compared to those for P-43, P-47 and P-48. "Petrobras is really making efforts to open up space for innovation. They are standardizing their specs, and being much less prescriptive with them, really letting the market influence what they do rather than the other way around."

While Petrobras is changing, Brazil's government is also making it easier for companies to enter the sector. Indeed, gaining entry to Brazil is relatively easy. That said, getting a company up and running afterwards is less so, and making it profitable on a large scale is a significant challenge. Partly, this is due to the importance of relationships. Many of the international firms that have been successful in Brazil have a long history there. Until recently, this "relationship requirement" put off many firms whose technology or services were suited to Brazil, but that preferred to sell though distributors.

Testing the water

A common mode of entry for companies such as Seacor and Norskan Offshore has been to test the water first by entering Brazil in a small way. Norskan Offshore CEO Hans Ellingsen explains that the company initially made a token $2.5-million investment into a one-line handler in order to gain access to BNDES funding (one of Brazil's principal development finance organizations). Once it had established relationships and processes and the peculiarities of Brazil's business environment had been integrated into the company's practice, it quickly upgraded to a fleet of six ships, focused primarily on premium anchor handlers built in Brazil. Norskan now has a firm base and settled strategy focused on "conducting an excellent human resource policy to retain workers while maintaining an excellent relationship with Aker Yards, the only yard in Brazil capable of building the bigger and more advanced vessels, whose capacity we have bought up until 2013," says Ellingsen.

Setting up construction operations within Brazil makes a big difference in the navigation sector, and firms such as Norskan, Edison Chouest Offshore, Seacor and Brasbunker are just a few examples of firms that have already or are actively considering setting up construction premises. It is also a strong driver in most other sectors, such as pipe manufacturing and adaptation, city-gate construction and manufacturing of less capital- and technology-intensive products.

As well as meeting technical requirements, manufacturing in Brazil helps companies establish themselves as core suppliers to Petrobras. Even firms that cannot manufacture their more complex solutions in Brazil, such as Aggreko and Roxar, are actively considering manufacturing at least some of their parts or more simple solutions in the country.

For those whose solutions are specific and both technology and capital intensive, the road to selling involves a complex and time-consuming process that Ed Riley of Mount Engenharia describes as "multidimensional chess." Petrobras is a large and complex entity, and its relevant divisions—for example, engineering, exploration and production, procurement, CENPES (its highly respected research center), and those charged with specific projects—all have separate processes, as well as changing levels of "pull," which must be navigated before a given solution can even be officially considered for a contract.

Norskan Offshore CEO Hans Ellingsen

Of course, Petrobras is not the only factor in doing business in Brazil. Clovis Galdino, Subsea 7's operations manager, says it was "our work with Shell which really created a paradigm shift for us here." Independents are more ready to use new solutions, as well as proven solutions new to Brazil. Their increasing footprint means that there is more space for establishing a given solution in the market.

Further, while the long process of being approved to work with Petrobras trundles on, it is possible to pick up contracts that mitigate the question marks over short-term profitability for new entrants. Mario Gibson, Latin America vice president for award-winning wireline firm Welltec, explains that the work that the company has "been able to pick up with Shell, alongside 'standard' logging jobs for Petrobras, has been instrumental in sustaining our interest in being a long-term player in Brazil."

The challenges of the Brazilian market are: regulation and licensing, sourcing quality human resources, sourcing quality partners, and ensuring that one's finances remain healthy despite the pressures of working predominantly for a state company. While daunting, these challenges are not insurmountable, as many Brazilian and international firms have proved.

The entrance strategy

On the software side and in other specific areas, such as highly sophisticated ultradeep-sea solutions, qualified firms do pick up contracts. Heitor Tozzi of environmental consultancy GSI Brooks says, "Petrobras is very keen to avoid being 'locked in' to a given supplier in any area. It likes splitting work and—while this might be frustrating for some—it is very good in terms of encouraging new entrants and ensuring that the technology used in Brazil is constantly improving."

Firms such as CGG Veritas, Paradigm, Roxar, Beicip Franlab and others have been direct beneficiaries of this approach; the flip side, however, is that Petrobras retains a larger project-management role. Some observers believe that Petrobras is moving away from this project-management role, however, and is increasingly attracted to the idea of giving out larger and larger contracts. Multinationals that can spread costs believe this gives them a definite advantage.

Additionally, multinationals can acquire companies whose solutions would add to their existing portfolios. One independent E&P that has acquired an exploration portfolio is Canadian-financed newcomer Brasoil. Entering the market in 2006, the firm used Canadian private-equity funds to buy into assets held by Quieroz Galvao before successfully bidding for an exploratory block in the ninth bidding round. "Yes, there are challenges in Brazil, but we aim to become a major independent in the country, which is possible with the right funding," says Brasoil CEO Don Parker.

Brasoil has complemented its strong financial backing with strategic alliances that have provided a diverse exploration portfolio. It partnered with fellow independent Norse Energy to win the rights to three deepwater blocks in the ninth bidding round. The blocks — S-M-1035, S-M-1036 and S-M-1100 — are adjacent to each other in 200 meters of water some 100 kilometers northeast of Coral Field.

Brasoil's portfolio also contains a mix of shallow-water and onshore holdings, ranging from mature, producing blocks to potential prospects, and including a 10% interest in Petrobras-operated Manati, Brazil's largest nonassociated gas field.

Capital trends

The question of whether Brazilian companies can compete is an open one that Petrobras, the Brazilian government and Brazilian firms themselves have been striving to answer in the affirmative. One of the key limitations has always been capital. Brazilian banks and funding bodies are notoriously stingy with their loans, hobbling local companies' growth.

But while capital remains a problem, the situation has eased. Jose Augusto Pereira of PipeWay, which developed the award-winning "Feeler Pig," says his company has benefited from support from Petrobras' CENPES research center and the Studies and Projects Finance Agency, which receives government money to invest either in universities or companies to develop innovative products. "We have received about $1.5 million over the past 10 years to invest in research. This funding is very difficult to get. You need to be a solid company with a solid business plan and a solid technical team in order to re-

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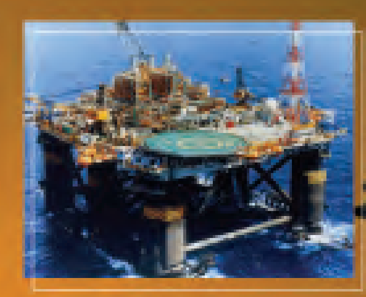

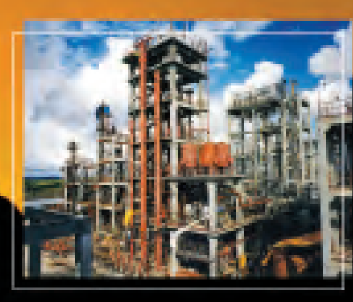

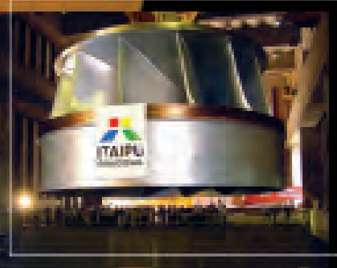

Grupo Schahin's *SC Lancer* drillship is part of a new generation of Brazilian offshore vessels.

ceive it, but it's there."

Another welcome development has been the emergence of Brazilian private-equity and venture-capital firms eager to combine their knowledge of the Brazilian market with their knowledge of modern finance. Fortunately, due to the restrictive nature of Brazil's financial regulation, most of these firms were prevented from becoming involved in some of the more arcane financial products at the root of the current global financial crisis.

A third model for success is "marriage" between Brazilian and international firms, such as the union between Fluke Engenharia and Acteon. The latter is primarily a services company, while Fluke is primarily a manufacturing firm, although it also provides services. The reason for a mixed marriage? "Acteon was interested in us firstly because of our strong relationship with Petrobras and secondly because of our significant infrastructure, both physical and human," says Antonio Manuel F. dos Santos Filho, general director of Fluke Engenharia, Acteon.

Fluke holds the contract for 100% of Petrobras' moorings and torpedoes and owns two 80,000-square-meter shipyards in the Rio region. The attraction for Fluke is telling: "We wanted to start working for Petrobras outside Brazil and, outside of Brazil Petrobras tends to contract full-service third parties to manage all aspects of their mooring and foundations, rather than parcel off the work into smaller contracts. We were limited by capital and technology and Acteon supplies both," says dos Santos Filho.

Indeed, Acteon has been fortunate to acquire two shipyards. These are in short supply and in high demand given the scale of what Petrobras will need on the navigation side and its requirement that its needs be met through Brazil-constructed vessels. Some question the feasibility of that model. As Norskan Offshore's Hans Ellingsen says, "For the 24 vessels now 'on the street', only one shipyard [Aker Yards] can build the big anchor handlers and we have bought all their capacity up to 2013." The situation is less urgent on smaller vessels, as many companies now have their own shipyards—CBO, Wilson & Sons and Edison Chouest Offshore, to name just a few.

The past few years have seen domestic and foreign firms prosper in Brazil. Whether Brazil continues to host such growth in the future remains unanswered, but the signs are positive.

From risky to safe?

Petrobras is a vast company with an extremely successful recent track record of making technological advances while holding down costs. Its policy of supporting Brazilian firms is unlikely to change anytime soon, nor is its habit of putting intense cost pressure on its suppliers. On the whole, Brazilian firms are concerned but bullish.

"In the past, companies in Brazil were lucky if they could know what was going to happen the next week—five-year plans were a fiction, and 15-year plans a dream," says Setal Engenharia's CEO Alberto Padilla. "With our new-won stability, though, and the massive discoveries that keep being thrown up, this has changed. The strong pressure that Petrobras has put on its suppliers to improve and the relationships that we are forging with international players mean that Brazilian companies will be first choice in one of the most stable oil and gas markets in the world."

International firms can also take solace from Petrobras' continuing dominance of the market. Petrobras, unlike other national oil companies, is a mixture of public and private capital that is rightly a source of pride for Brazilians. It will proceed with significant investments and, according to many insiders, can remain profitable with a crude oil price as low as $20 a barrel.

Equally importantly, nearly all those interviewed expressed confidence that Petrobras would ease the financial pressures that it currently places on service and supply firms. Ricardo Pessoa of UTC echoed others in saying that "Petrobras is a huge generator of cash. It is very liquid and is aware that many of the firms it needs to complete its projects are not. I have no doubt whatsoever that it will reduce the level of capital it requires of partners, while at the same time shouldering more of the burden of risk in terms of large-scale projects."

> ***"Acteon** was interested in us firstly because of our strong relationship with Petrobras..." Antonio Manuel F. dos Santos Filho, general director of Fluke Engenharia, Acteon*

Separately, some argue that the falling price of oil means that there is actually increased opportunity for firms providing solutions that improve efficiency and increase yield. "For us the focus is improving petroleum production," says Francisco Fernandez of Champion Technologies. "The price may be going down, but that's okay as it means we're actually better off as our services are more in demand."

Similarly, Mario Gibson of Welltec argues that technologies that "fit with the complexity inherent in much of the E&P work in Petrobras' inbox will benefit over the next year or two: technologies that allow for the minimization of the use of explosives, and maximization of well isolation, facilitate horizontal drilling and manipulate the slide from well opening and closing."

Sums up Clovis Galdino, general manager of Subsea 7: "Pre-credit crisis there was a lot of worry about the services market being chronically undersupplied. I think this will now be less of a danger, and some of the new players circling about may back off, but there will still be more than enough work for the companies that have the assets and solutions that fit Brazil's needs." □

The Right Ingredients

As Fernando Schahin, chief financial officer of Grupo Schahin, puts it, "Developing what we have is a monumental task, and this was so even before the credit crunch. We need refineries, more skilled human resources, technology, research....It will be hard for the Brazilian private sector to cope with the challenge."

That the general unevenness in quality, capital and knowledge across Brazil's various sectors is recognized is a welcome note, given that previously, ambitions and reality often failed to connect.

Brazil's actual need for, and ability to finance, large-scale investments is best summed up by Paulo Vilela Ibanez, CH2M Hill's Brazil operations director. "Brazil is rich in natural resources—containing the world's largest reserves in iron ore and copper, as well as giant new offshore finds that will double oil and gas production.

"Brazil has big EPC (engineering, procurement and construction) companies and a very good standard of engineering more generally, but what it lacks is the resources to do all the work that needs to be done. This is the main bottleneck. So for an international company that has resources all around the globe and proven expertise, Brazil is a big opportunity."

COLOMBIA

Emerging From the Shadows

A Special Report From *Oil and Gas Investor* and Global Business Reports

COLOMBIA: INTRODUCTION

Investor Confidence In A Friendly Fiscal Climate

The oil and gas sector is a major beneficiary of a friendly fiscal climate, investor confidence and improved security.

Colombia's most famous exports remain a combination of the legal and illegal: coffee and coca. Recently, however, President Uribe's government has been trying to introduce a third ingredient—oil. With the stated aim of increasing production to 1 million barrels of oil per day and extending reserves beyond 2015, Uribe has set exacting targets for the industry.

Early results are encouraging. Both production and reserves estimates have increased over the past year. Although less than the 2000 peak, when Caña Limon Field was at its zenith, production rose to 620,000 barrels of oil per day in October 2008 from 517,000 daily at year-end 2007. Proven reserves have increased from supporting a self-sufficient Colombia until 2012 to self-sufficiency until 2015.

Since coming to power on a foreign-investment-friendly ticket, the Colombian government has attracted significant foreign interest due to its friendly fiscal climate, investor confidence and improved security. The oil and gas sector has been the major beneficiary.

In comparison with its close neighbors, which seem determined to make foreign investment as difficult as possible, Colombia is an oil and gas investor's heaven. Companies with operations based out of Venezuela and Ecuador are refocusing their budgets and corporate strategy on Colombia.

The formation of the Agencia Nacional de Hidrocarburos (ANH) in 2003 has been key to encouraging foreign and local companies to operate alongside state giant Ecopetrol. ANH now controls the bidding rounds and allocation of licenses, which Ecopetrol previously controlled. Ecopetrol is now a purely commercial partner for companies entering into agreements. This has increased confidence and led to ever-growing numbers of both E&P and oilfield services companies entering, or returning to, Colombia.

The large amount of unexplored and undeveloped land, opening up of new areas formerly outside the government's control and prospect of heavy crude in the Caribbean offshore present opportunities for companies of all sizes. "We don't have any practical limitations to operating in any part of the country right now," says Javier Gutierrez, president of Ecopetrol. "Attacks on infrastructure have reduced substantially—last year (2007) we had 30 by November. The largest number of attacks is normally in Caña Limon, and this year it has only had two attacks."

Falco's rig camps are exported for use in Africa.

Despite this improvement, some areas still require special security considerations. These include the border area with Venezuela and the Putumayo area in the south.

Alongside majors such as Shell,

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Chevron and BP, an increasing array of juniors see potential in Colombia. Many of its fields are smaller than those of its neighbors and fall under the majors' radar. This creates space for companies whose aim is to produce 15,000 to 25,000 barrels of oil per day, such as Petrominerales and Perenco.

Nevertheless, despite government support, the ANH's efforts and the activities of companies in the field, there still hasn't been a find large enough to interest the majors. "Although there has been no major discovery in the recent past, there are many opportunities," says Minister for Energy and Mines Hernan Martinez Torres. "Exploration was down to two or three wells a year in early 2000 because of security problems and uncompetitive contracts. This year we will drill more than 100 wells." With these levels of exploration, the expectation is that sooner or later there will be a discovery worthy of the majors' interest.

Until late 2008, there was confidence that all ANH targets for discovery would be achieved. The fall in oil prices over the last quarter, however, has led some players, particularly from outside the country, to question the sustainability of industry growth. Many fields in Colombia are difficult to access, engendering high transport costs. Oil prices below $50 per barrel make the margins on these fields slight. Some companies, carried away in the boom times, have over-reached in the most recent bidding rounds.

The ANH operates a strict penalties system that it is willing to apply. The last bidding round's contracts required that exploration and seismic studies be undertaken before the first quarter of 2010, with attendant penalties for failure to meet the deadline. In many cases, only if prices return to close to $65 a barrel by the end of 2009, will companies be safe from the worst of the international oil price fall-out.

How Colombia's E&P companies deal with these new challenges, and the trickle-down effects on services companies operating in the area (who traditionally have commanded high prices), will be of great interest to the government, local companies and multinationals that are placing their faith in Colombia. □

Contract Improvements And Technological Innovations

The introduction of new technologies to Colombia's abundant small and midsized fields and Ecopetrol's improved contract terms are opening up opportunities.

The discovery of the BP Cana-Limon Field in late 1999 seemed to herald a new dawn for oil and gas production in Colombia. Production reached an unprecedented 1 million barrels of oil per day and reserves increased exponentially. Against a background of civil strife, this was a great achievement. The discovery was a rare bright spot in a tale of gradual decline.

Javier G. Gutierrez, president, Ecopetrol

In recent years, however, the decline has been reversed. This is due in part to the Agencia Nacional de Hidrocarburos' (ANH) encouragement of exploration and development, but primarily it is due to companies' introduction of new technologies and techniques to the abundant small and midsized fields in Colombia. The government has helped by making small fields more financially viable, reducing royalties to 8% of production.

The formation of the ANH was coupled with the commercialization of Ecopetrol, copying a model laid down in Brazil between Petrobras and the ANP (Agência Nacional do Petróleo). Ecopetrol now takes a much smaller share in agreements with other companies operating in the country. "They changed the Ecopetrol association contract from a 50/50 participation to allow a 70/30 split in favor of the operating companies," says Alejandro Martínez Villegas, president of the Asociacion Colombiana del Petroleo.

Ecopetrol, which listed in September 2008 on the NYSE, remains the biggest player in the Colombian market. Virtually every operating company in the country works with it in some shape or form. Javier G. Gutierrez, president of Ecopetrol, says of its growth, "Developing association ventures with other companies is a very important part of our strategy. It strengthens us and we hope to continue these relationships." This strategy has prompted Ecopetrol to look beyond Colombia to the Gulf of Mexico and also at joint ventures with Petrobras in Brazil.

Nevertheless, the company fully understands its role in helping to develop its home turf. "It is important for us to develop within the industry," says Gutierrez. "We want the best for Colombia, and we want to do well as a competitive company. The most important thing is for Colombia to be attractive and competitive. We might not make the discovery, but we are helping to create the correct environment for a major discovery to take place."

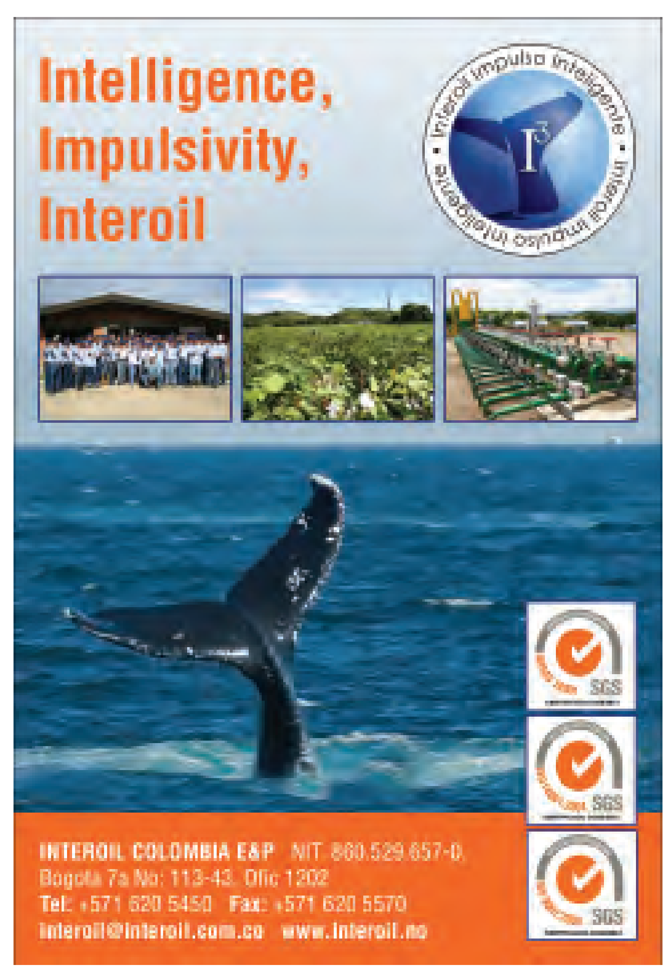
Majors like Esso and Shell are returning to the country at the invitation of the ANH, looking for larger fields and offshore development. Yet, as Bernardo Franco Nieto, general manager of Perenco Colombia, says, "Colombia has a niche for all exploration companies, from the super majors to the very small independent companies. Colombia has tremendous potential and prospectivity." It is this prospectivity and the lure of unexplored areas that are attracting new companies.

Some larger companies take advantage of their financial power to buy their way in. Hupecol, which discovered Cara Cara Field, found this out the hard way, when Cepsa Colombia bought the field. Cara Cara was one of the major discoveries of recent times, producing 25,000 barrels per day at its peak. Not only did CEPSA take the field, it also took over the manpower. "We had to let go half of our staff with the Cara Cara sale, as they were transferred with the asset," says Marcela Vaca Torres, Hupecol general manager.

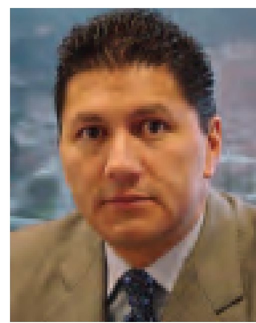
The smaller size of Colombia's fields has created space for independent companies like Petrominerales, a subsidiary of Canadian Petrobank, to operate successfully. Since signing the IPC for Neiva and Orito fields in 2002, Petrominerales has continued to expand its position. "The past year has seen quite a change for the company," says Jack Scott, executive vice president. "We have made a large discovery at Corcel in the Llanos Basin and are building a big production facility so that we are now operating our own production."

Corcel was drilled in July 2007 and brought into production by September of that year. "The cycle on our Corcel wells is 60 days from first spud to production," says Scott. "These are high-impact wells of 5,000 barrels per day. Recoveries on a primary production scheme here are 35% to 40% of reserves and upwards."

Success in Colombia isn't guaranteed. Many operators consider a rate of one well out of seven going into production as



good. Therefore, the size and geological conditions of the exploration areas are important. Petrominerales' Scott claims, "We are probably one of the largest landholders in the country with 14 exploration blocks. We have about 1.6 million acres of land exploration rights, split between heavy- and light-oil potential." This potential, combined with the company's experience, should bode well for continued discoveries and successful operations.



Mauricio De La Mora, general manager, InterOil Colombia

While Canadian interest in the country has been increasing, other foreign independents are also present. InterOil, based in Norway and listed on the Oslo exchange, entered Colombia in 2005 with the purchase of Mercantile Oil & Gas. "When the company was bought we were producing 1,600 barrels per day. Now we are close to 4,500. InterOil's acquisition included Mercantile Colombia, Mercantile Peru and Compania Rio Bravo—a services company," says Mauricio De La Mora, general manager of InterOil Colombia.

InterOil succeeded in increasing output from 14-year-old fields using a combination of fraccing and directional drilling. The company faces a typically Colombian challenge, however, on its Altair block, which is home to a tribe of El Medano Indians. De la Mora explains the process involved in protecting their rights and welfare and responding to their traditions: "We are trying to negotiate as cleanly and transparently as possible. You have to accept the values of the tribes. For example, the main negotiator must be male."

The indigenous groups in Colombia are protected by a specific set of laws that companies must abide by to be invited to work on their land. "With the Indians and the community, you need to get a social license and ask them to be part of the project," says David Arce Rojas, president of David Arce Rojas Consultores & CIA. "But they don't approve or negotiate the project; it is the government that approves the project."

Not all of Colombia is inhabited by indigenous tribes, just as not all of it is covered by rain forest. This diversity is what makes it such an interesting place in which to operate.

Lewis Energy recently acquired an area near Cartagena. "We just got a large block called San Jacinto in the main round," says Rod Lewis, founder and CEO. "It is everything between Barranquilla and Cartagena in the north of the country. It is a block with a little bit of infrastructure. There are no producing wells and a couple of pipelines."

This is Lewis' first foray into the country as an operator. Previously, it was involved in joint ventures with operators such as Solana and Gran Tierra. It may seem strange to get involved as an operator in a time of lower prices, but Lewis doesn't see it that way. "We are heading into the real world now. Before, at $147 per barrel, the Starbucks salesman could come out here and make money."

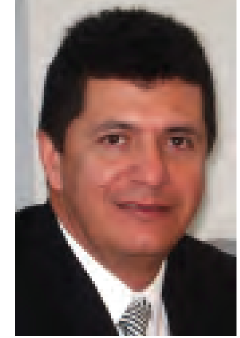
Lewis Energy hopes to bring its expertise in ancillary services, including drilling and pipeline construction, to the Colombian market. Ecopetrol dominates the pipeline business, but various companies, including Mansarovar Energy, a Sinopec OVL venture, and Lewis Energy, have shown serious interest in becoming involved.

The influx of new technologies and expertise benefits independents. Omega Energy has been pushing to develop a space in the market since obtaining its first contract in the 2003 round. Using new technologies, Omega has been developing La Punta Field. "We are increasing our success rates using new technologies such as 3-D seismic that help us see and interpret what is under the ground," says Omar Leal Quiroz, Omega Energy Colombia's president. "Combining this information which we have about the field formations, we can determine the best potential locations to drill our wells."

Omega continues to develop the market and to surmount the challenge of human resources. This bodes well for its future. "I am convinced we have the right people here at Omega and the industry knows this," says Quiroz.

Opening up the market for foreign players is one aspect of the ANH's job that

> **"I am convinced** *of having the right people here at Omega and the industry knows this." Omar Leal Quiroz, president, Omega Energy Colombia*



Omar Leal Quiroz, president, Omega Energy Colombia

"Before, *at $147 per barrel, the Starbucks salesman could come out here and make money."*
Rod Lewis, CEO and founder, Lewis Energy.

has been achieved. The less-trumpeted news is that they have also made it possible for local players to get involved in the sector. After initial problems, when companies that bid successfully failed to meet the requirements, conditions have been tightened and only capable and committed local companies remain.

There are challenges for the smaller local companies, particularly when it comes to financing, as illustrated by the creation of various short-term alliances. "It is tough for Colombian companies to develop within the market," says Mario Bolivar, president of TCOil. "A local Colombian company can't compete against a foreign company which has more money and access to credit. Here in Colombia private companies have to raise money out of our own businesses."

And there are other issues facing operators in Colombia, according to Bolivar. "There is still a shortage of drilling equipment. To drill a well in Colombia costs more than double a well in the U.S. Sometimes the only rig available is a bad piece of equipment." This is more often a problem for smaller companies, which are unable to guarantee the drilling companies a long-term contract or investment.

Nonetheless, Colombia remains attractive for many companies, both local and foreign. The ANH November 2008 round resulted in 22 out of 45 licenses issued, and the Mini-Ronda saw 50 of a possible 102 blocks issued with a value of US$346 million. These figures were slightly below what was expected when the rounds were announced in early 2008 due to slumping oil prices.

Colombia still contains vast unexplored areas, and opportunities in gas, particularly, are largely untapped. Assuming that oil prices rise to the $60 to $80 mark, the future for Colombia's E&P operators looks assured, with one caveat: a significant find is required to justify the exploration costs and maintain interest.

Yet confidence remains high. "The trend is good and we are optimistic. Foreign investment will continue increasing and I hope there will be a new discovery very soon. The heavy-crude area is very prospective, the Caribbean offshore areas as well. Companies are investing serious money in Colombian geology, so that I am optimistic we will make a discovery," concludes the ACP's Villegas. ☐

A Rejuvenated Service Industry

Local companies add their knowledge and expertise to multinationals' efforts to tackle Colombia's tough conditions.

The growth of the service industry is evident in the significant increase in Campetrol members, from 32 in 2005 to 63 in 2007.

Although the industry is well served by services and new technologies, E&P companies complain that prices are too high. Service companies respond by pointing to the difficult access in many areas and problematic climate conditions.

The recent renewal of interest in Colombia has led companies such as Baker Hughes to reinvest. "Latin America has been the smallest region for Baker, but it is starting to gain space in the minds of management due to countries like Brazil and Mexico," says Henry Galindo, corporate affairs manager. "Colombia is the third country in our Latin American strategy." Colombia is a key part of many companies' plans.

This return hasn't been problem free. Baker Hughes suffers from the industry-wide boom-time problem of recruitment and is struggling to recruit skilled Colombian workers.

Service companies' interest in Colombia is perhaps best illustrated by the story of Campetrol chairman Jorge Cárdenas' own company, Equipem. Working out of both Colombia and Venezuela, Equipem has changed its priorities. "We decided to prioritize our assets in Colombia, improve them, and increase investment and operations," says Cardenas.

This potential is what has kept larger companies such as Schlumberger, Halliburton and San Antonio International working in Colombia over the years. Their presence has benefited the industry. Halliburton has assisted the ANH with the mapping and creation of new blocks for the bidding rounds, and has brought its latest technologies to Colombia, working closely with Ecopetrol to introduce multilateral well technology.

There is a well-developed local scene, focused heavily on the Colombian market where local knowledge reaps significant rewards. A country with such diverse community structures and environmental conditions benefits from local knowledge and expertise.

One local company among the many service companies in Neiva is Hydrocarbon Services. "We learned how to construct the necessary equipment with local suppliers and could start offering very good prices," says general manager Juan Carlos Moreno.

The entrepreneurial spirit coming out of Neiva is epitomized by the two brothers who head Mecanicos Asociados, a Colombian operation and maintenance company. Overcoming setbacks of family bereavement and professional loss in the early 1990s, they have grown the company to achieve revenues of more than $73 million last year. Antonio José Villegas, president, credits low management turnover for the company's success.

Now competing actively with the major industry players, Mecanicos Asociados is looking abroad for its next expansion, an objective that sets it apart from many other Colombian companies. This expansion will be assisted by Stork from the Netherlands, which acquired a significant portion of the company.

The tough Colombian conditions mean that companies who do go abroad find their products are suited to the most difficult conditions. For example, Falco Campamentos, constructors of modular living systems for the oil and gas and mining industries, claims that its modular camps are strong enough for up to 40 people to dance on their roofs. "The lack of good roads in Colombia caused these camps to break quite rapidly in the past," says Fernando Angel, president. "They did not last long enough. In the petroleum zones the conditions of the roads are even more difficult. Therefore the skids and walls needed to be made stronger to cope with the road conditions in Colombia. "

Angel explains how the company meets the logistical and communication demands from Colombia. "We use a combination of sea transport, river transport, helicopters, planes and road transport, depending on the region and area." A recent shipment to the Democratic Republic of Congo traveled perched on the top level of a container ship.

How will the Colombian service and supply market respond to lower oil prices and less cash available from E&P companies? The exploration side of the business should be steady into late 2009 and early 2010, as E&P contracts signed with the ANH have contractual obligations for seismic surveying and exploration drilling. After that, the continued high membership of Campetrol will depend on the price of oil. □