PARKS PATON HOEPFL & BROWN

ENERGY INVESTMENT BANKING, LP

MUSINGS FROM THE OIL PATCH

January 9, 2006

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Managing Director

Note: *Musings from the Oil Patch reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating oilfield service companies. The newsletter currently anticipates a semi-monthly publishing schedule, but periodically the event and news flow may dictate a more frequent schedule. As always, I welcome your comments and observations.* Allen Brooks

A Wild Two Weeks for Energy

Investors jumped back onto the energy stocks at the start of the year in what almost looked like panic buying

The last week of 2005 and the first week of 2006 have been wild for oil, gas and energy stock prices. The wildness has been driven by a series of geopolitical and industry events rather than the usual winter weather news that often will swing prices. A confrontation between Russia and the Ukraine over natural gas prices, continued violence in Nigeria, an explosion that resulted in 12 deaths in a West Virginia coal mine and growing political tensions in the Middle East as a result of Israel's Ariel Sharon's stroke and escalating terrorism in Iraq have dominated the news of the past several weeks. In response to these events, investors jumped back onto the energy stocks at the start of the year in what almost looked like panic buying. Will this scene be repeated throughout 2006, or is it a passing euphoria?

The Philadelphia Stock Exchange's Oil Service Index (OSX), and energy stocks in general, had been struggling since the middle of December. An early blast of winter weather had morphed into an abnormally warm period. As a result, crude oil and natural gas prices were softening as storage volumes grew, despite the large volumes of shut-in production in the Gulf of Mexico. Oil prices that had peaked at $70.85 in early September after Hurricane Katrina leveled south Louisiana and Mississippi, were slumping. The talk within the industry, and on Wall Street, was how low would oil prices need to go before OPEC acted to defend prices by cutting its production?

Boone Pickens told CNBC that oil prices were headed toward $50 per barrel

The oil industry icon, Boone Pickens, now an energy hedge fund operator, told the talking heads on CNBC early one morning that oil prices were headed toward $50 per barrel. Long-term, he said, prices would go higher, but in the near-term they were definitely slipping to lower levels. After several spectacularly prescient oil

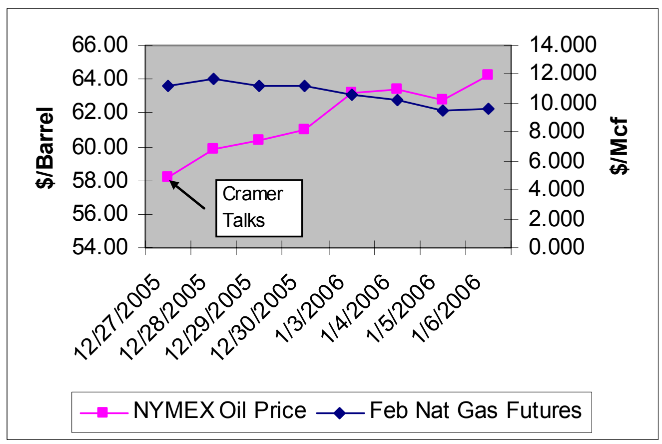
Boone remarked, "The good times in the energy business have returned."

One of the great bulls on energy stocks gave up on the integrated producers and even the natural gas-oriented stocks in mid-December

price forecasts, Boone's word has become the gospel. The funny thing about Pickens' very early morning appearance on CNBC was when he told the panel he was headed to the airport to fly home to Texas. When queried about his Newark Airport departure, he looked puzzled and said no, he wasn't going to Newark but rather to Teterboro Airport in New Jersey (the home of private aviation in the New York City region). As everyone laughed in recognizing that Pickens was headed for a private plane, Boone remarked, "The good times in the energy business have returned."

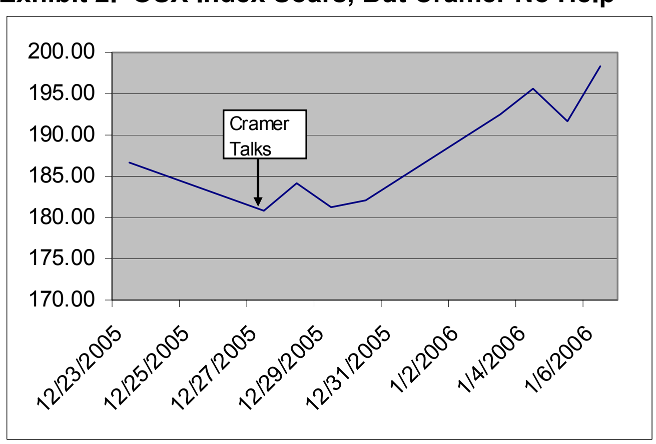
As crude oil and natural gas prices continued to drift lower into the Christmas holiday weekend due to continually revised weather forecasts calling for warmer than normal temperatures for an increasingly larger area of the country, energy stock prices also weakened. One of the great bulls on energy stocks, Jim Cramer of TheStreet.com and CNBC's Mad Money call-in investment show, gave up on the integrated producers and even the natural gas-oriented stocks in mid-December, but he still liked stocks of the drillers as he refers to the companies in the oilfield service

Exhibit 1. Oil and Gas Futures Prices Diverge



Source: NYMEX; PPHB

Exhibit 2. OSX Index Soars, But Cramer No Help



Source: PHLX; PPHB

industry. But even Cramer became concerned about the tone of the energy stocks and he penned a piece on December 27 for TheStreet.com entitled, *Who Will Step Up to Stabilize the OSX?*

As if Cramer had become the Pied Piper, crude oil futures prices started to climb on December 28, and have continued that advance into early January. Unfortunately, Cramer only had a one-day impact on natural gas futures prices and the OSX. As the Wall Street expression goes, it is hard to fight the tape, and during that holiday week Cramer was definitely trying to do that. Of course, Cramer's shtick is riding the momentum trends in his investment recommendations and when the momentum is against you, it is hard to move markets in the opposite direction.

The first week in January has brought a changed outlook for energy investments – or so it seems

The first week in January has brought a changed outlook for energy investments – or so it seems. The news over the New Year's holiday was about the growing struggle over natural gas prices between Russia's Gazprom and one of its major customers, the Ukraine. The price battle reflects the new attitude of Gazprom to extract market prices from its traditional Eastern European clients. What has become apparent in this struggle is the difference in interpretation of what is the market price. That definition may have something (or a lot) to do with the customer's political standing with the Putin government in Moscow.

While the struggle between Gazprom and the Ukraine led to Russia cutting off the gas flow to this customer, the 15% reduction in gas volumes resulted in reduced volumes making it past the Ukraine to other Gazprom customers. In Germany and Italy, gas volumes coming from Russia were reportedly down somewhere between 18% and 20% from normal. The Ukraine officials claimed they did not siphon off gas from the Gazprom pipeline that was not legally theirs under the terms of their supply contract. The outcry from European governments over the gas supply cutbacks, especially as Europe was in the grips of a severe winter storm, was loud. It had its desired effect as Gazprom and the Ukraine negotiated new supply and price terms allowing the flow to be restored.

As the European gas market began to settle down, an underground explosion in a coal mine in West Virginia trapped 13 miners early Monday morning, January 2. The poisonous gas in the mine eventually killed 12 of the miners and left the 13th in critical condition due to damage to his brain from an extended period of time without sufficient oxygen. The mine is owned by Anker West Virginia Mining Company, previously bankrupt, which was recently acquired by International Coal Group (ICO-NYSE). The mine had been cited by the Mine Safety and Health Administration (MSHA) arm of the U.S. Department of Labor, for 208 safety violations last year.

The trifecta of geopolitical events last week was the stroke suffered by Israel's leader

The trifecta of geopolitical events last week was the stroke suffered by Israel's leader, Ariel Sharon, on Wednesday. Sharon is recognized for having single-handedly improved the outlook for a possible settlement of the Israeli-Palestinian issue. His loss could doom the progress already made so far in the peace effort, and it could even inflame Jewish/US and Arab tensions within the Middle East. Adding to this problem was the sudden upsurge in terrorist suicide bombings in Iraq that killed up to 130 on Thursday, including 5 Americans, after three weeks of relative calm. An additional six Americans were killed in multiple roadside bombings.

This first week of January has seen oil prices climb higher in response to these geopolitical events, despite bearish weekly U.S. crude oil and petroleum product inventory numbers. Natural gas, on the other hand, continues to suffer from weak demand in the face of unseasonably warm winter weather across much of the country leading to an abnormal build in gas inventories last week.

We attribute the jump last week in crude oil prices from $61 to over $64 per barrel to the geopolitical events

We attribute the jump last week in crude oil prices from $61 to over $64 per barrel to the geopolitical events. Our interpretation was that oil traders saw Europe being strangled by Russia as the government brandished its newfound political weapon – natural gas – to extract retribution from a political foe. Is this an isolated event or the start of a pattern? With the U.S. dependent upon coal for generating over 51% of its electricity, a government crackdown on mine safety could lead to higher costs and even mine shutdowns with loss of supply. The political demise of the 77-year old Sharon has changed, potentially irreparably, the face of Israeli-Palestinian relations, and with them the level of tensions throughout the Middle East – home to over 30% of the world's oil supply. Given these events, it is easy to understand the jump in oil prices. It is also easy to see why energy stocks came back into vogue, especially the oilfield service stocks. Taken together, these events suggest that the energy industry will need to spend more money exploring and developing oil and gas resources around the world in more politically-secure areas. Those areas, wherever they are, traditionally have proven to be operationally more challenging and thus provide an increased revenue and profit opportunity for the service companies.

Leaders of the 2005 stock market will remain the leaders of the 2006 market and that means energy

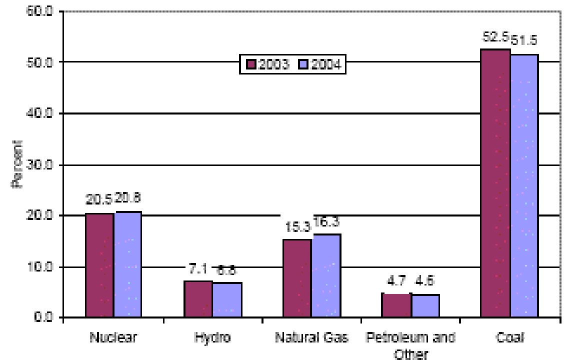
Stock market lore holds that about two-thirds of the time, the performance of stocks in the first week of January will hold for the entire month. Additionally, about 70% of the time, a positive January portends a positive year for stocks. Given that expectation, the rise in energy stock prices during this first week of 2006 (XOI, +6.6%; OSX, +8.9%; OIH, +8.7%) suggests another good year for these stocks. Another way to put it is that the leaders of the 2005 stock market will remain the leaders of the 2006 market and that means energy among others – that is until they are no longer the leaders. We are watching for any signs of a change in market leadership.

Coal Mine Disaster Could Hurt Power Market

The coal mine disaster could result in significant problems for the electric power industry in 2006

The January 2nd early morning explosion in an underground coal mine in West Virginia, while leading to the deaths of 12 miners and the critical injury of a 13th, could result in significant problems for the electric power industry in 2006. While the electric power generation business increasingly relies less on coal than it did in the past, coal still fuels over 51% of U.S. electric generating capacity. The possible near-term problem for the coal industry may be production disruptions due to a stepped-up safety inspection effort of mines by the U.S. government in response to this accident.

Exhibit 3. Coal's Importance in Power Industry

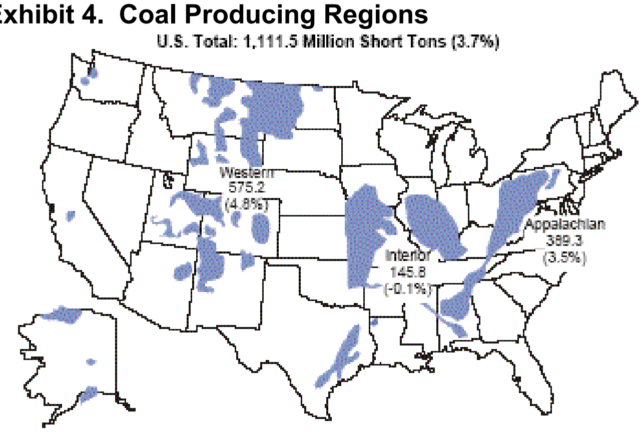


Source: EIA

The horror of the recent mine disaster was more reflected in the mishandling of the news from the rescue efforts than from the accident itself

The horror of the recent mine disaster was more reflected in the mishandling of the news from the rescue efforts than from the accident itself. Initially, one miner was found dead near a vehicle used to transport workers into the mine when the rescue team arrived 11,200 feet from the mine's opening. The location of the miners was about 260-feet below the surface of the earth, but several miles from the mine mouth on the side of the mountain. When the rescue team discovered the other miners, as they checked for signs of life, rescuers communicated by cell phones to the rescue command at the surface. Their communications were intercepted and rumors that the 12 miners were alive spread, although not confirmed by the mine's managers or other officials. Three hours later, and after the news media had reported the safe recovery of the trapped miners, the truth that 11 of the 12 had died was announced.

Exhibit 4. Coal Producing Regions



Source: EIA

The mine, near Sago, in northwest West Virginia about 100 miles east of Charleston, had been fined $24,155 for 208 violations in 2005. The total monetary figure is likely to rise as the dollar-value of nine citations that are being appealed by the operator has not been determined by the mine-safety agency. There were 49 citations issued in the fourth quarter of last year. There were 18 of the 208 citations issued that are the most serious type and are referred to as "unwarrantable failure orders," which are problems the operator knows exist but fails to correct. Thirteen of these 18 orders were issued in the past six months, but 15 of them have been corrected. The remaining three citations are being worked on currently by the operator. They dealt with roof and/or wall support issues. The key question is how many of these citations and failure orders were due to poor maintenance of the mine related to its prior bankruptcy, its subsequent change in ownership and the recent significant increase in production?

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The Sago mine was owned by Anker West Virginia Mining Company, a subsidiary of Anker Coal Group, Inc. That company was acquired by International Coal Group, Inc. on March 31, 2005. It was one of three major coal operations acquired by ICO, founded by renowned distressed securities investment banker, Wilbur Ross, in May 2004, in an effort to revitalize a beaten up industrial sector. Mr. Ross has successfully revived the domestic steel industry with his "roll-up" of bankrupt and distressed company strategy. He is also trying to do it with the auto parts and textile industries.

The coal mining industry has been increasing its tonnage mined over the past 26 years while contracting the number of operating mines. Between 1978 and 2004, the number of operating underground coal mines shrank from 2,692 to 642. However, the volume of coal these mines produced grew from 229.1 million short tons (ST) to 367.1 million ST. The number of operating surface mines declined from 3,293 to 944 over this same time period. Surface-mined coal volumes increased from 402.7 million ST to 745.3 million ST. Collectively, there has been about a 74% decline in the number of operating mines with a corresponding 76% growth in tonnage mined. Clearly, coal mining efficiency has improved significantly with the introduction of new mining technology and increased automation.

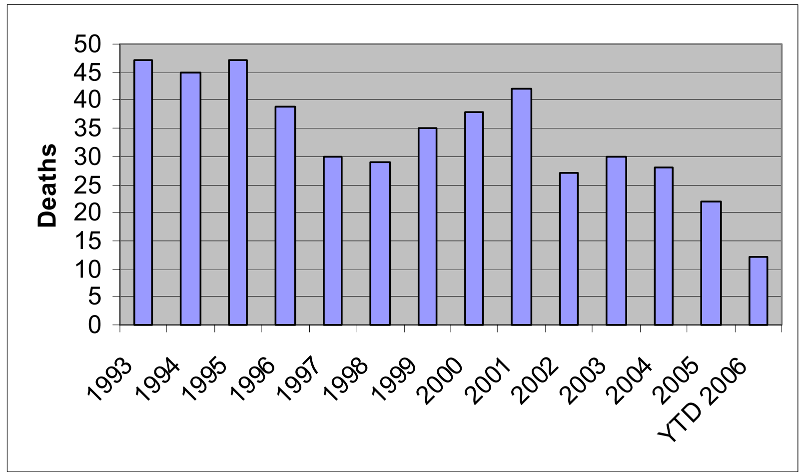
Coal mining efficiency has improved significantly with the introduction of new mining technology and increased automation

In light of the mine accident and investigation of its cause, a question may arise over whether the U.S. should reconsider its anti-nuclear power plant attitude for meeting the country's future energy needs. At the present time, nuclear power accounts for slightly more than 20% of our electricity generation. That percentage has grown as many older plants have been updated and kept in service and commercial nuclear engineers have been able to increase the output of these plants. Oil-fueled power plants now account for less than five percent of our electricity output and hydro-electric is less than seven percent. Coal has been losing market share as pollution restrictions and environmental legal challenges are forcing the closing of older, less efficient coal-fired power plants. Increasingly,

Nuclear power accounts for slightly more than 20% of our electricity generation

our electric power needs have been met by building gas-fired power plants because they are perceived as more environmentally friendly. Today, natural gas accounts for more than 16% of our electric power generation capacity.

Exhibit 5. Coal Mine Deaths Have Declined Recently



Source: MSHA; PPHB

Nuclear power will be part of that debate despite fears associated with the Three Mile Island power plant and the Chernobyl accident

As people follow the Sago mine investigation, they should consider that over the last 13 years we have lost 471 coal miners in accidents, or roughly 35 per year. Whether the loss of 12 miners last week portends a record year for coal miner deaths in 2006 is mere speculation. However, the human loss from miner deaths, coupled with the human toll from deaths associated with lung problems due to coal power plant emissions needs to be weighed against alternative ways of getting power. Nuclear power will be part of that debate despite fears associated with the Three Mile Island power plant and the Chernobyl accident, which claimed 4,300 lives. The safe operation of nuclear power plants in Japan, France, Sweden and China needs to be evaluated as part of the debate.

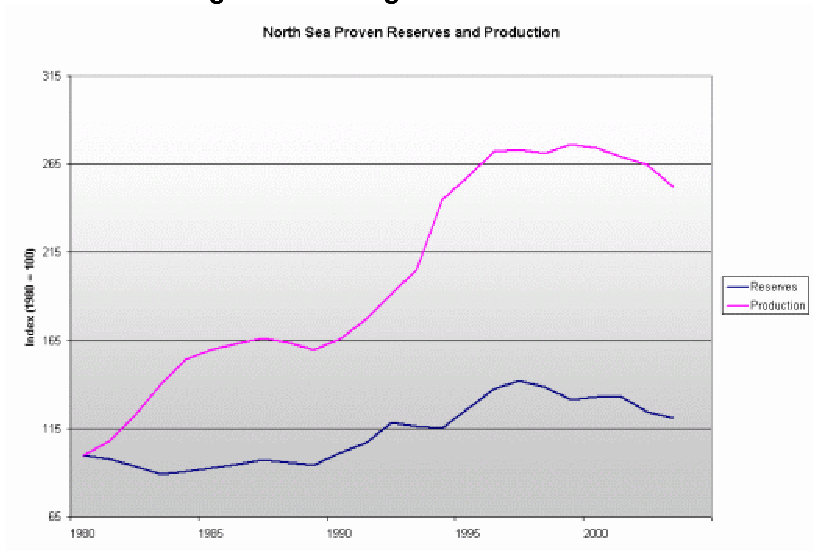
UK North Sea Production Falling

Third quarter oil and gas data released last week by the UK Department of Trade and Industry show rapidly falling production

The detailed third quarter oil and gas data released last week by the UK Department of Trade and Industry show rapidly falling production that may create serious supply problems for the country in the not too distant future. According to the data, crude oil production fell 12.8% to 19.3 million tons (141.5 million barrels) compared to the third quarter of 2004. The decline was partly explained by stepped up field maintenance plus the fire-related shutdown of the Schiehallion field in the northern offshore region. Even the startup of seven new fields after September 2004 did little to slow the 2005 production fall-off.

The International Energy Agency (IEA) now says Britain will become an oil importer four years ahead of the UK government forecast.

Exhibit 6. Falling Reserves Signal Bleak Production Outlook



Source: KCI Communications; BP plc

The UK petroleum industry is increasingly worried and re-evaluating its future activity given the proposed new tax regime

The improvement in oil and gas prices has stimulated an upturn in drilling activity. There were 30 exploration and appraisal wells drilled in the UK sector of the North Sea during the third quarter, up from 16 in the year-ago period. However, the petroleum industry is increasingly worried and re-evaluating its future activity given the proposed new tax regime put forth by UK Chancellor of the Exchequer Gordon Brown that is due to take effect in 2006.

Natural gas production in the third quarter fell 14.2% to 192.5 terawatt-hours (TWh). Gas imports in the quarter jumped by 79% to 33.65 TWh. Significant field maintenance hurt gas production, but so did dwindling gas reserves and lower demand. UK gas demand fell by one percent due to milder temperatures and higher industrial gas prices. The very cold weather experienced in late December in the UK may alter that situation in the fourth quarter.

Watching the New ExxonMobil?

Do the year-end moves in Venezuela and Brazil portend a new strategy for ExxonMobil?

With the retirement of former ExxonMobil (XOM-NYSE) Chairman Lee Raymond and the elevation of new boss Rex Tillerson, one has to wonder if the year-end moves in Venezuela and Brazil portend a new strategy for the world's number one private oil company. At year-end, ExxonMobil announced that it was selling its 25% stake in the Quiamare-LaCeiba field in the Anzoátequi region of Venezuela to its partner, Spain's Repsol (REP-NYSE). The field produces about 15,000 barrels per day (b/d) of oil. ExxonMobil was the only private oil company that refused to agree to Venezuela's revised lease terms last year. Some 32 fields have been transferred to Petroleos de Venezuela SA (PdVSA) under its effort to re-negotiate the terms of its oil leases. PdVSA is now producing about 532,000 b/d from the fields transferred by private oil companies.

ExxonMobil has opened a data-room for its interest in four areas in Brazil's offshore block, BC-10

Last Friday, the Brazilian financial newspaper, *Valor Economico*, reported that ExxonMobil has opened a data-room for its interest in four areas in Brazil's offshore block, BC-10, that was recently declared to contain a commercial oil field. The field, 120 kilometers offshore the city of Vitoria in the state of Espirito Santo, is reported to contain 400 million barrels of oil and is located in 1,500-2,000 meters of water depth. Royal Dutch Shell (RDSB-NYSE) holds a 35% share of BC-10, as does Petroleo Brasileiro SA (PBR-NYSE). ExxonMobil holds a 30% interest. According to the financial daily, only India's Oil and Natural Gas Corp. (ONGC) has shown interest in the ExxonMobil position.

Based on these two data points, one has to wonder whether ExxonMobil, under Tillerson, will be more willing to 'cut and run' from countries and projects that appear not to provide extraordinary returns. One would think that a 120-million barrel oil field in Brazil, even if located in very deep water, would be of interest to the company. On the other hand, for ExxonMobil not to be willing to play the game that all the other oil companies are playing in Venezuela, we find somewhat, although not totally, surprising. Despite the announced agreements by private oil companies to enter negotiations with PdVSA about forming joint ventures to operate fields that were previously totally under the control of these companies, there have not been any negotiations finalized.

These actions may only reflect a continuation of ExxonMobil's traditional hardball tactics with governments and financial returns

It may be too early to draw conclusions about a new strategy for ExxonMobil under Mr. Tillerson. The two actions, assuming the Brazilian sale report is correct, may only reflect a continuation of the company's traditional hardball tactics with governments and financial returns. Additionally, it cannot be forgotten that Mr. Tillerson was the key ExxonMobil executive involved in negotiations with Russia over the company's Sakhalin investment, an exercise in patience. Russia may still hold attraction for ExxonMobil as it watches the economic and stock market gains that have accrued to its competitors, BP (BP-NYSE) and ConocoPhillips (COP-NYSE), both active there. One has to think that the new strategy of the Putin government won't allow ExxonMobil into the country until Putin has completed strengthening his political and economic position. However, the potential reserves and technical and financial challenges available in Russian oil and gas fields has to be of interest to Tillerson who will need to figure out how to invest the huge cash balances and free cash flow generation Lee Raymond is leaving as his legacy. You can only buyback so much stock.

Iraq Oil Exports Fell Last Year

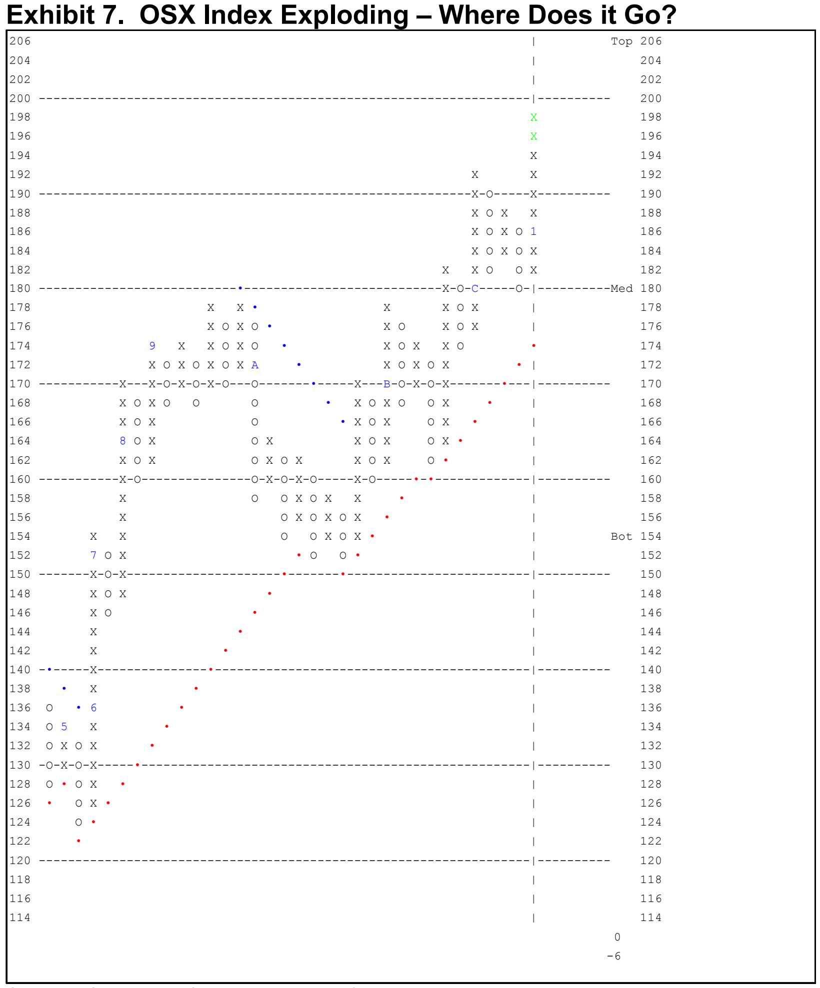
According to the oil ministry figures, Iraq's crude oil exports fell 4.7% in 2005 to 508 million barrels (1.41 million b/d) from 2004's 533 million barrels (1.48 million b/d). Of the 2005 exports, 496 million barrels were exported from the southern region through the Basra terminal with the remaining 12 million barrels being shipped from the northern terminal. In 2004, the southern versus northern export volume split was 514 million barrels and 19 million barrels, respectively. Does anyone remember when the debate was over when Iraq would be exporting 3-5 million b/d?

OSX Explodes in the New Year

The OSX broke a double top at 192 on January 3, the first trading day of the new year

The Philadelphia Exchange Oil Service Index (OSX) has exploded since New Year's Eve. The OSX climbed by 8.9% in the first week of 2006. As shown by the Dorsey, Wright & Associates point and figure chart, the OSX broke a double top at 192 on January 3, the first trading day of the new year. It has since climbed six more points. The interesting question, given this trading pattern, is whether this advance will be as strong as experienced in earlier periods such as when the index broke a double top at 136 in June of last year, or at 154 during July. Those breakouts are on the far left of the chart and contain the numbers 6, 7 and 8 in the rows of X's. Or will the OSX index experience smaller upward moves such as during the fall months?

Exhibit 7. OSX Index Exploding – Where Does it Go?



Source: Courtesy of Dorsey, Wright & Associates

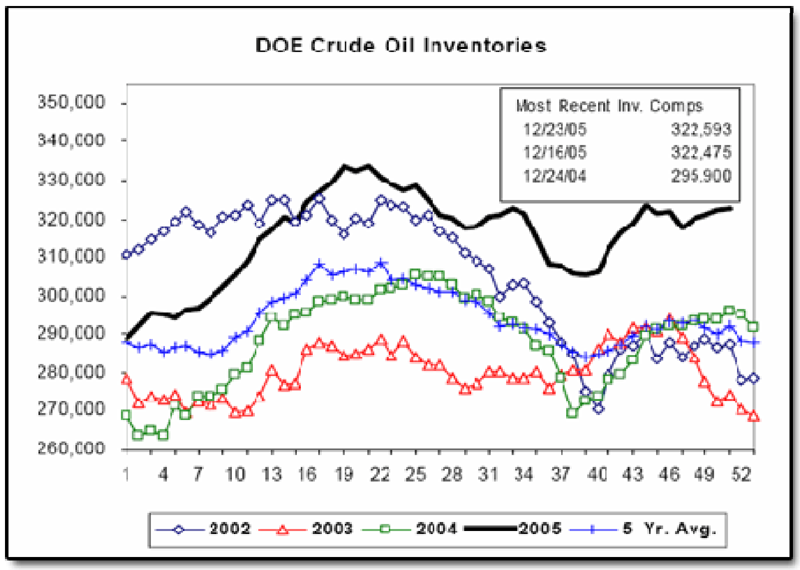
The jump in the OSX was accompanied by the trifecta of geopolitical events

The jump in the OSX was accompanied by the trifecta of geopolitical events discussed above, rather than the weather. However, we are still in the winter months so weather could impact oil and gas demand and investor sentiment – either positively or negatively. Likewise, the geopolitical situation in the world remains dicey and events could transpire that would either tighten or loosen the globally tight supply/demand oil balance that is driving oilfield activity.

We still would caution investors to watch the mindset of the public toward energy consumption and to also watch attitudes toward industry drivers such as crude oil inventories

Our best guess is that the oilfield service stocks continue to move higher, although without the explosiveness experienced in the past week. We still would caution investors to watch the mindset of the public toward energy consumption and to also watch attitudes toward industry drivers such as crude oil inventories. At the present time, these inventories are looking less of a positive for higher crude oil prices. It may be that crude oil prices are being driven by "hot hedge fund money" that can quickly leave the building.

Exhibit 8. Crude Oil Inventories Are Bearish



Source: EIA; US Global Investors

Britain Needs More Gas by 2010

Natural gas currently supplies fuel for 40% of Britain's electricity output

Great Britain, once a significant energy exporter, may be importing half its gas needs by 2010, according to a report by the British Broadcasting Corporation (BBC) last week. Natural gas currently supplies fuel for 40% of Britain's electricity output. That figure will rise in the future as the current generation of nuclear power plants in the country is decommissioned. How the country will meet this rising gas demand was the subject of the BBC report.

According to the report, existing British North Sea gas fields will be supplying only 10% of the gas needs of the country. An existing pipeline to Belgium, which has been used to export gas to continental Europe in the past, has been reversed and will deliver 15% of the UK's peak gas demand by the end of 2006. A new pipeline interconnector to be built between the Netherlands and the UK is targeted to supply 10% of the country's needs. Up to a quarter of the UK's gas coming from the European pipeline network, however, will be dependent upon the flow of gas from Russia that is the continent's largest supplier. The terms of how Russia sets gas prices will determine how much British consumers pay for their future gas supplies.

How Russia sets gas prices will determine how much British consumers pay for their future gas supplies

Other sources of gas supply for the UK will be the Langeled pipeline that will link Britain with the huge gas field off the coast of Norway. That supply may account for 16% of the UK's peak demand when it is fully operational. In addition, a small amount of gas is imported as liquefied natural gas (LNG) via a terminal on the Isle of Grain, in Medway, Kent in the southern part of England. New LNG import terminals are being built at Milford Haven in Wales. These terminals are scheduled to begin receiving LNG in late 2007. When these terminals are fully operational, they will be capable of supplying up to 20% of the UK's gas needs.

While the UK will become dependent upon imported natural gas for a substantial amount of its needs, the country is constructing a diversified supply portfolio

While the UK will become dependent upon imported natural gas for a substantial amount of its needs, the country is constructing a diversified supply portfolio. This is the safest way to protect against being held hostage by any one supplier. Imported supplies will be coming from Norway, the Middle East and Russia via Europe. Importantly, the country will still be supplying half its gas needs from domestic fields, with the possibility that it may still find additional supplies in the future. If there is one concern for the UK, it may be its growing dependence on European supplies that in turn will be dependent on Russia.

China Begins Coal Mine Safety Crackdown

The government announced it will close 5,290 mines

China has increased the number of coal mines it plans to shut down due to safety concerns. The government announced it will close 5,290 mines compared to the 4,000 estimate it reported last year following safety inspections. The mine closing figures were quoted at a conference held by the State Administration of Work Safety and were reported by the official Xinhua News Agency.

Officials said that there are about 34,000 coal mines, 24,000 of which are small mines

The Chinese government has launched a series of mine safety campaigns in recent years in an attempt to lower the number of accidents that kill more than 5,000 Chinese coal miners annually. Unfortunately, the death tolls have remained largely unchanged in recent years. Officials said that there are about 34,000 coal mines, 24,000 of which are small mines producing 10,000 to 30,000 tons of coal a year. The officials have said that more than 12,000 mines would be inspected in the latest safety campaign.

An unanswered question is which mines will be closed and how the government will enforce the closure of mines. According to the

There are widespread reports that mines closed by the government safety inspectors often reopen illegally soon afterwards

government, small, unlicensed village mines account for the bulk of the fatalities. There are widespread reports that mines closed by the government safety inspectors often reopen illegally soon afterwards. Possibly because of this situation, the Chinese government recently dismissed two deputy provincial governors and was prosecuting 96 officials accused of negligence or colluding with mine managers in six high-profile accidents. Those accidents resulted in the deaths of 528 people during the previous 13 months.

Those accidents included a November disaster that killed 169 miners when coal dust caught fire at the Dongfeng Coal Mine in the northeastern city of Qitaihe. There was also an accident last February where 214 miners died in an explosion in the Sunjiawan Coal Mine, also in the northeast region of China. The February accident was the deadliest reported mine accident since the 1949 communist revolution.

China derives about two-thirds of its energy from coal and coke related products

China derives about two-thirds of its energy from coal and coke related products. Even though the government is sponsoring the construction of more nuclear power plants and is building additional hydroelectric complexes, coal will continue to fuel a substantial amount of the country's electric power needs in the future. From a global image and pride point of view, China will need to work hard to improve the safety of its coal mining industry.

LNG Entering a New Stage?

Golar LNG announced the first ever conversion of an LNG carrier into a LNG Floating Storage and Regasification unit

Golar LNG (GLNG-OTC) announced on January 5 that the company had signed a contract for the first ever conversion of a 129,000 cubic-meter-capacity LNG carrier into a LNG Floating Storage and Regasification (FSRU) Unit. Keppel Shipyard of Singapore will undertake the conversion for an estimated S$90 million ($54.9 million). The conversion of one of Golar LNG's existing carriers should be completed in the second quarter of 2007.

The conversion will entail installing a new forward turret, a side-by-side mooring system, LNG loading arms, an aft thruster with a compartment, a regasification plant and the replacement of cargo pumps. The regasification plant will consist of pumps and steam-heated vaporizers. The carrier's existing steam power electrical and marine systems will be upgraded.

Berthing, loading and un-berthing of LNG carriers will be accomplished within a 24 hour period

The LNG offloading carriers will be moored in a side-by-side configuration with the FSRU to replenish the terminal. Berthing, loading and un-berthing of LNG carriers will be accomplished within a 24-hour period with the actual cargo unloading requiring 16 hours of the total time. This operating schedule should allow cargos to arrive every nine days. The FSRU will be permanently moored to the seabed with the turret in 50-feet to 150-feet of water depth and, via a subsea pipeline, will ship gas to shore at a maximum rate of 240 tons per hour at pressures of up to 85 bar.

Golar LNG's FSRU can be available approximately three years ahead of a conventional land-based terminal

Golar LNG has performed a market study of LNG terminal needs and has discussed specific potential opportunities to employ its FSRU. The results of its investigation of the market suggest that Golar LNG's FSRU can be available approximately three years ahead of a conventional land-based terminal. Moreover, the annual savings in energy production costs can be more than $50 million. What we are not sure of is whether the cost savings are related to the use of an open-loop versus a closed-loop system for regasification of the frigid LNG as this choice can produce significant operating cost differences.

Under the open-loop system, the LNG is warmed by passing it and seawater through adjoining tubes of heat exchange vaporizers. The proximity of the warm seawater and the frigid LNG enables the warmth of the seawater to heat up the LNG, leaving the much colder seawater to then be returned to the ocean. The reduction in seawater temperature can result in destroying fish and other marine life that cannot withstand the colder water.

There is a greater operating expense with the closed-loop system

The alternative to the open-loop is a closed-loop system where the LNG is warmed by burning a small portion (up to 2% of the volume) of the LNG to create heat to warm the balance of the cargo. Clearly there is a greater operating expense with the closed-loop system as its cost is impacted by the value of the LNG burned. This battle over the use of these two LNG warming alternatives has been intense in those Gulf Coast states that are dependent on both energy and fishing for their economic health.

LNG liquefaction and regasification projects globally are lagging behind projected timetables

As newly designed offshore alternatives, such as Golar LNG's FSRU, to locating LNG terminals onshore may help speed up their approval, the consequences of their design and use on regional economies are becoming more contentious. Currently, it appears that LNG liquefaction and regasification projects globally are lagging behind projected timetables, but the long-term outlook for the LNG business still appears healthy and important in meeting our future energy needs.

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