

## MUSINGS FROM THE OIL PATCH

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**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

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### The Canadian Oilfield Conundrum

Last week we attended part of the annual investor conference sponsored by the Petroleum Service Association of Canada (PSAC) in Calgary. The morning was cool, but temperatures were projected to head into the upper 70's, which they did. The sky was blue after an extended period of cool and rainy weather. It was an idyllic first day of summer.

#### **The cheery mood was broken by a dour analysis of the current state of the Canadian oilfield industry and its outlook**

The cheery mood, however, was broken by a dour analysis of the current state of the Canadian oilfield industry and its outlook. While next year's activity level should improve, the financial impact of the improvement is not particularly rosy, unless you consider progress going from the current depressed activity level to anything higher. What struck us as very interesting was a comment by the opening speaker who, facing an auditorium packed with investors, analysts, bankers and industry executives, reflected on the bleak attendance at the Canadian Association of Petroleum Producers (CAPP) investment conference held the prior three days. The disparity in investor interest may signal that the stock market believes that oil and gas producers have experienced their best days while the future for Canadian service companies is much brighter. Or is it?

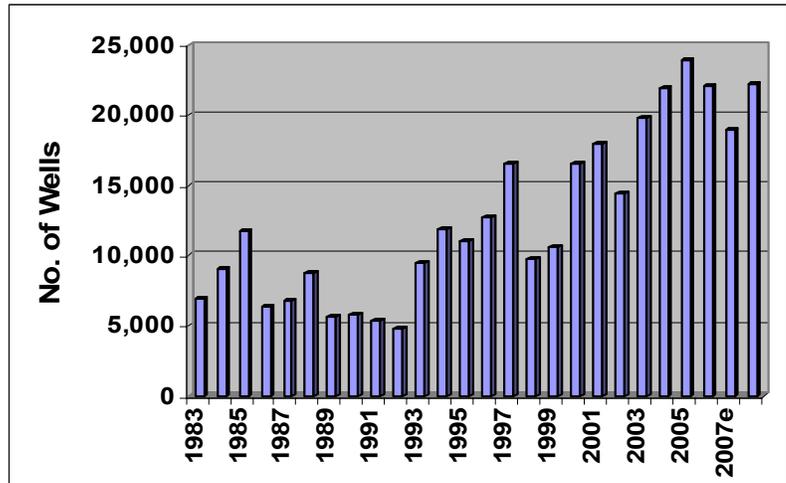
#### **Investors have written off 2007 and focused on 2008**

According to Roger Serin of TD Newcrest, investors have written off 2007 and instead are focusing on the resumption in the oilfield activity uptrend in 2008. His firm's market outlook calls for a 25% drop in producer spending in the Western Canadian Sedimentary Basin (WCSB) for 2007. That is a substantially greater fall in spending that has been projected by the Lehman Brothers' mid-year 2007 exploration and production spending survey released a few weeks ago. Mr. Serin is not as sanguine about the industry outlook

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for 2008 as others, even though his firm is calling for an increase in the number of wells drilled compared to this year. The problem is their forecast of 22,250 wells in 2008 is still below the 24,727 drilled in 2005 and the 23,034 drilled in 2006.

**Exhibit 1. 2007 Wells Drilled Will Be Below 2003 Activity**

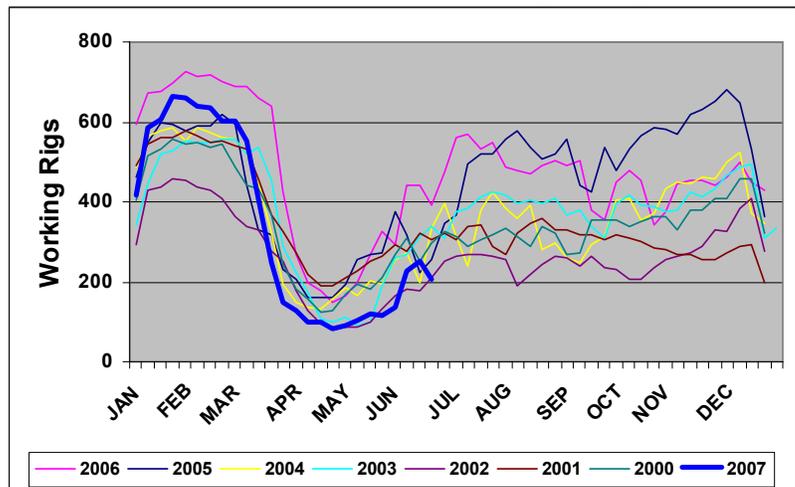


Source: CAODC, PPHB

**This revised forecast was about 2,700 wells lower than the prior forecast**

Recently, the Canadian Association of Oilwell Drilling Contractors (CAODC) lowered its forecast for well completions this year to 16,339, some 150 wells below the total recorded in 1997. This revised forecast was about 2,700 wells lower than its prior forecast, but after compiling first quarter activity, the revision was necessary. The CAODC has also lowered its rig activity forecast. They now expect only an average of 376 working rigs for 2007, with a 44% average utilization. That is roughly 20 to 25 percentage points lower than the fleet utilization rates of 2004 to 2006.

**Exhibit 2. Canadian Contractors Are Having a Rough Year**

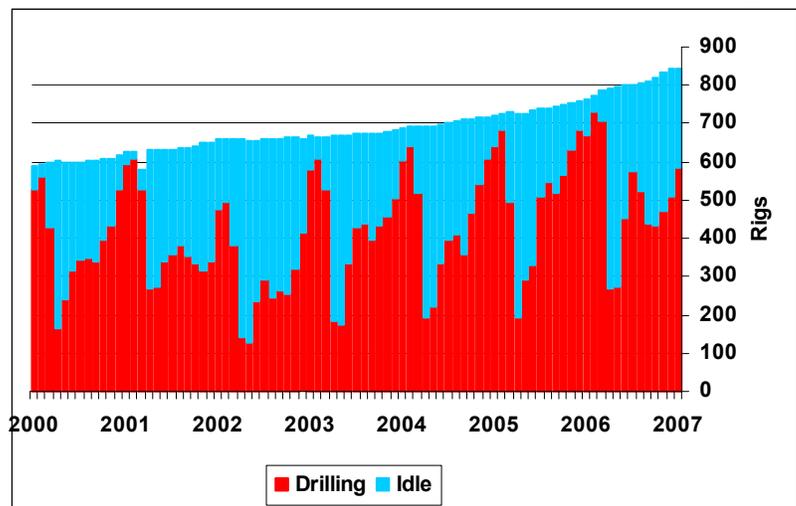


Source: CAODC, PPHB

**The 50% increase in the rig fleet size since 2000 means that fleet utilization rates are abnormally low, depressing pricing and operating margins**

The biggest challenge the Canadian oilfield service industry faces is the growth in service capacity that has been, and continues to be, brought on stream. While the absolute level of rig activity has not declined that much compared to prior downturns, the 50% increase in the rig fleet size since 2000 means that fleet utilization rates are abnormally low, depressing pricing and operating margins. The estimated 2007 fleet utilization rate of 44% is below the lows experienced in 1998-1999 and 2002. It is his outlook for drilling activity where Mr. Serin differs from the more optimistic analysts and investors. He sees higher rig utilization due to more wells being drilled in 2008, but only a little improvement in profit margins. That is not an attractive scenario to support higher oilfield service company stock prices.

### Exhibit 3. Canadian Fleet Growth Has Pressured Profitability



Source: CAODC, PPHB

**The record spending on oil sands projects and oil and gas drilling in 2005 will not be repeated anytime soon as development costs have soared**

Based on conversations with other industry participants who were not in attendance at PSAC, the escalation of oilfield service costs and lower natural gas prices has eroded producer profit margins severely. Until producers can push oilfield costs down, they have little incentive to step up drilling. And it seems that the producers are maintaining their discipline on E&P spending. Mr. Randy Eresman, CEO of EnCana (ECA-TSX), the largest driller in Canada, told CAPP attendees that he anticipates the decline in natural gas drilling will likely continue for two more years. He said that the record spending on oil sands projects and oil and gas drilling in 2005 will not be repeated anytime soon as development costs have soared. Mr. Eresman's prediction comes despite his acknowledging that "Canadian gas production has declined as a result of a significant pullback in activity over the last year." But he went on to say, "I suspect you will continue to see declining production in Western Canada for the next couple of years."

It would appear that producers are going to hold their spending in check, at least until they get to the fall negotiations to set oilfield

**The larger Canadian oilfield service companies wanted to highlight more of what they are doing in either the United States and/or in international markets**

service prices for 2008. For producers, the mantra is: "Oilfield costs are too high." If they can adhere to this spending discipline, they will get lower service prices for 2008 – at least from those service companies that have no alternative operating areas. And therein was the tale of many of the service company investor presentations at PSAC.

The larger Canadian oilfield service companies all gave perfunctory attention to their Canadian operations, but they wanted to highlight more of what they are doing in either the United States and/or in international markets. For example, Trican Well Service Ltd.'s (TRC-TSX) CEO Murray Cobbe highlighted how non-Canadian revenues in 2006 were 23% of the company's total, but he expected that share to be roughly 45% this year and closer to 55% in 2008. Some of the share gain is due to the weaker Canadian market, but a larger part of the gain is from Trican's strategy to expand its Russian operations and its securing a new contract in North Africa (Algeria). Given these dynamics, should Trican be looked at differently by investors from the other Canadian oilfield service companies?

When we consider current expectations for the Canadian oil patch for the balance of this year and in 2008 and beyond, a number of possible events could significantly alter them. For example, weather will always be a wild card in commodity price trends. A hot summer could boost natural gas demand, but likewise a hot winter could curtail energy consumption. There remains a huge question mark about the rate at which Canadian natural gas production will drop and whether it will place a floor under gas prices and stimulate increased drilling and production activity. There are rumblings in Canada about possible changes to the Province of Alberta's royalty scheme along with the possibility the federal government might institute a carbon tax to help the country achieve its Kyoto Protocol commitments for curtailing greenhouse gas emissions. Longer term, there remains the question about the economic feasibility of constructing the Mackenzie Valley natural gas pipeline. Lastly, the oil and gas industry is struggling to understand what impact the change in taxation of income trusts will have on the future of the junior (small) producers. Traditionally, they have worked to build production to certain levels, say 3,000 to 5,000 barrels per day, before selling to the income trusts. With the new limitations of income trust growth, will this exit path for junior producers continue to exist? All of these issues, depending on how they unfold, will impact energy markets and Canadian oilfield activity.

**Some investors remain convinced second quarter earnings will be a disaster, sending stock prices lower – something they are hoping to capitalize on**

In the mean time, investors have to place their bets on how events will unfold and what impact they will have on commodity prices, oilfield activity and ultimately the revenues and profits of the service companies. Some investors we talked to remain optimistic about the health of the Canadian oilfield service company earnings. Others, however, remain convinced second quarter earnings will be a disaster, sending stock prices lower – something they are hoping to capitalize on.

**We came away with the impression that this industry is on the cusp of significant restructuring**

For us, we came away with the impression that this industry is on the cusp of significant restructuring. Whether that restructuring involves massive capital investment in non-Canadian markets, shifting Canadian assets out of the country, consolidations among the companies, or sales to larger, non-Canadian service companies, we don't know. We are quite confident, however, that the Canadian oilfield service industry five years from now will look considerably different than it does today. Whether that's good or bad for investors remains to be seen. For the near term, it probably suggests a dull market for service stocks. Longer term, we'll put our money on the good side of the table.

## **Everything but the Cluck!**

**Researchers have developed a process to convert chicken feathers into a biodegradable, durable, lightweight plastic**

There was an old marketing program that talked about how pig farmers were able to utilize every part of the pig but the squeal. Well, we are learning that researchers have developed something similar for chickens. A team of researchers at Virginia Tech has just developed a process for converting the keratin in chicken feathers into a biodegradable, durable, lightweight plastic.

The key technological points are that we have lots of feathers – an estimated 2 billion pounds of dry chicken feathers per year – that are either converted into animal feed or dumped into landfills. In addition, the new plastic can be made by the same equipment used to create petroleum-derived plastic. A final point is that the keratin plastic process involves lower temperatures, thereby providing some energy savings.

At the present time, the research team is working to produce biodegradable flowerpots made from the keratin plastic. The reason for this product selection is that it does not require government regulatory approval, which would be required for food packaging or soda bottles. Just think if this product proves successful, chicken farmers may have a way to increase their income by selling a largely wasted asset generated from their poultry operations that could be used to offset the rising cost of corn chicken-feed due to ethanol demands.

**Researchers have developed plastics based on corn and wheat starch for single-use food-service containers**

In another agricultural development, researchers at the U.S. Department of Agriculture have developed plastics based on corn and wheat starch for single-use food-service containers. The researchers have developed a baking technology that produces starch-based biodegradable food containers with properties similar to those of the polystyrene foam containers currently used for fast food and carry-out services. While the researchers haven't said that these containers can be eaten, just think of the implications if they can be. Then you would finish off your fast-food takeout meal by eating the containers rather than throwing them away! It may, however, mean one more decision. What flavor of container would you like?

## Beijing Gets Serious About Energy Before Olympics

**The energy-saving police will check if energy consumption in offices, hotels, schools, shopping malls and other large buildings meets the national standards**

According to the Xinhua News Agency, Beijing has formed a 20-member team to monitor energy-saving practices of businesses in response to the government's calls for energy consumption reductions in the country's big cities. The new "energy-saving police" are part of Beijing's "Green Olympics" promise for next year's Olympic Games. The energy-saving police will check if energy consumption in offices, hotels, schools, shopping malls and other large buildings meets the national standards. This means air conditioning can be no cooler than 79°F in summer and heating no warmer than 68°F in winter.

Beijing has also mandated that solar, wind, hydroelectric and other forms of renewable energy provide 10% of the country's electric power by 2010, and that key industries reduce energy consumption by 20%. The government has admonished local administrations to save energy and has even closed companies with high energy consumption but low product output. The aim of these efforts is to get near-term energy use down by the time of the Olympic Games so that electric power output from coal-powered generating plants can be cut back to improve Beijing's air quality. The government also plans to restrict automobile traffic in and around Beijing during the Olympic Games to further help improve the air quality.

**Beijing may fail to achieve its goal of 245 days with good air quality in 2007**

Just last week, the State Environmental Protection Administration announced that Beijing may fail to achieve its goal of 245 days with good air quality in 2007. A spell of dry, windless weather has trapped pollution from farmers burning their fields after harvesting as they prepare a second planting in the summer. As a result, the air quality for 13 of the first 22 days of June failed to reach the national standards for clean air.

In 2006, Beijing reported 241 days of "blue sky days," or those with pollution levels below official benchmarks. So far this year, the city has had barely over 100 such days. That means to reach its goal, it will need to average 23 blue sky days per month for the second half of 2007. Based on the experience of many past years, achieving that goal will be challenging. Thus, we should not be surprised at the energy-saving police effort. It will be interesting to see how tough this effort is and whether it gets tougher as the year goes on.

**Those who fail to improve after warnings "will face penalties and their names will be publicized on TV, on the radio and in newspapers"**

Beijing has established a special phone number so the public can report buildings that fail to conform to the energy consumption rules, according to Xinhua News. But maybe the ultimate harassment factor is that those who fail to improve after warnings "will face penalties and their names will be publicized on TV, on the radio and in newspapers," according to Huang Qian, the head of the energy-saving police. Nowhere have we read of fines or penalties for failing to meet these energy-saving appeals. We wonder if the fear of losing face works better than financial costs in China, because it sure doesn't work in the U.S.

## Will Hurricanes Disrupt Energy Markets?

**An online financial advisory service suggested that there were three reasons why oil prices would stay high for the foreseeable future**

An online financial advisory service we ran across suggested that there were three reasons why oil prices would stay high for the foreseeable future making energy stocks the place to be investing. This was right after the recent stock market correction that saw many energy stocks drop like a rock due to hot-money reaping their gains and heading for the storm cellar. If you remember, the market correction was caused by a new investor tax in China, a jump in domestic interest rates and concerns about accelerating inflation. When more recent economic statistics were released suggesting that inflation was less of a concern and economic activity was stronger (May retail sales were better than expected), the stock market resumed its upward course.

The three threats to our energy market offered to support the oil and gas investment scenario included two based on political considerations and one based on the weather. The three threats are listed below:

“Threat #1 Hurricane season is here, and it should be a whopper!

“Threat #2 Trouble in Iraq could ignite the Persian Gulf.

“Threat #3 A potential al Qaeda attack on U.S. oil facilities.”

**Crude oil prices began to climb when the fighting in Palestine and the Gaza Strip between Hamas and Fatah escalated into a full-scale civil war**

Crude oil prices began to climb when the fighting in Palestine and the Gaza Strip between Hamas and Fatah escalated into a full-scale civil war. The refrain on investment news shows and in investment newsletters was: The chaos of Palestine could possibly spill over into other Middle East countries and disrupt oil production and shipments. This escalating violence followed immediately on the news of Typhoon Gonu, a rare Middle East typhoon, roaring through Oman, across the straits of Hormuz and into Iran taking the lives of 61 people in the region. While the typhoon barely impacted offshore Middle East oil production, it did disrupt oil tanker traffic, but only briefly. However, as we are slowly beginning to understand, the tightness of the global oil supply chain - from wellhead to gas pump - does not provide much room for disruptions. Earlier this year we saw U.S. crude oil and gasoline prices jump when fog delayed oil tankers from offloading their cargoes in Houston for several days.

While chaos was engulfing Palestine, U.S. government officials were reporting that Iraqi violence was worse than anticipated, which raised the political rancor that President Bush's military surge strategy was not working. Given these events, it appears the newsletter's Threat #2 is certainly a valid concern that could tangibly impact the global energy market.

We were surprised to see Threat #3 as we have not heard anything about these fears in recent months, beyond the elevated security concerns that generally have gripped the industry since 9/11. The

**For the petroleum industry, is the oil and chemical infrastructure that lines the Houston ship channel the prime target or the downtown headquarters of ExxonMobil or Shell Oil?**

last time we checked on Threat #3, we were almost sorry we did, since Houston is reportedly the prime target. The issue for the petroleum industry is whether the oil and chemical infrastructure that lines the Houston ship channel or the downtown headquarters of ExxonMobil (XOM-NYSE) or Shell Oil (RDS.B-NYSE) would be the prime target. Clearly, the further east the target is from the PPHB office and my home on Houston's west side the better, but that is not really a comforting, or even a rational, thought.

The fear of the 2007 hurricane season being a repeat of 2005 was cited by the investment newsletter as Threat #1 and another reason investors should be investing in energy stocks. We have already experienced two named storms before the June 1 official start to the hurricane season. As the newsletter pointed out, the Colorado State University 2007 tropical storm forecast calls for 17 named storms, nine hurricanes and five Category 3 hurricanes with winds of 111 miles per hour or greater. But the more ominous aspect of their forecast is their estimate that there is a 74% probability of one or more tropical storms landing on U.S. shores, up from the historical 52% probability.

**“Is New England due for the big one [hurricane]? The answer is no.”**

During the first week of June, the state legislators in Rhode Island were treated to testimony about that state's vulnerability to a major hurricane that went counter to the conventional wisdom. Mr. S. Ming Lee, the president and CEO of AIR Worldwide Corp., one of the world's leading companies in catastrophic modeling, asked and answered the burning question: “Is New England due for the big one [hurricane]? The answer is no.” He went on to explain, “There is no statistical or scientific evidence that we [New England] are overdue.”

According to Mr. Lee, the concept of dependency works with earthquakes. By that he meant, energy does build up in tectonic plates over time, so that at some point the absence of an earthquake will make it more likely that one can be expected in the future. But there is no parallel concept when it comes to hurricanes. He went on to say that the data does show that rising sea-surface temperatures are increasing the risks of more and bigger hurricanes, but there is little impact projected for the Northeast.

**Insurance company officials have cited the increased risk of a major hurricane striking Rhode Island and/or the Northeast as justification for rate increases and policy cancellations**

Mr. Lee's presentation was designed to undercut testimony from the insurance industry and its experts in the Rhode Island legislature's examination of the reasons for the huge jump in local homeowner insurance rates and the increase in homeowner policy cancellations. Insurance company officials have cited the increased risk of a major hurricane striking Rhode Island and/or the Northeast as justification for their actions. They also cite the increased costs of re-insurance due to past storms and the increasing value of coastal properties. To that latter point, Mr. Lee pointed out that the increased exposure to losses was due to continued coastal development. As he pointed out, “Exposures are doubling every decade, so we expect to see losses doubling every decade.”

**Mr. Lee's company lowered its estimated annual losses for residential properties in New England by 7%**

**New England gets hit with an average of one tropical storm every 11 to 12 years**

**The Met Office forecast would represent a below-normal activity year relative to the 1990-2005 long-term average of 12.4 storms**

The most stunning revelation from Mr. Lee's testimony was that when his company analyzed building vulnerability, changes in storm-surge models and other data during the past three years, it lowered its estimated annual losses for residential properties in New England by 7%, while it hiked estimated commercial losses by 18%. (I wonder if my Rhode Island homeowners' insurance bill will go down this year. I'm not counting on it.)

Matthew Belk, a meteorologist and hurricane program leader for the National Weather Service in New England, said that he agreed with Mr. Lee that hurricane activity in one year has nothing to do with what may happen in the following year. But he pointed out that New England gets hit with an average of one tropical storm every 11 to 12 years. It hasn't been hit with a hurricane since Bob in 1991. And it hasn't experienced a major hurricane since Carol in 1954, some 53 years ago. As Mr. Belk put it, "I would say the odds are the odds."

The most recently released official tropical storm/hurricane forecast will further stir the controversy over the level of storm activity this summer and its impact on the U.S. Atlantic and Gulf of Mexico coasts. The forecast was prepared by the UK Government's Met Office in collaboration with the European Center for Medium-Range Weather Forecasting. It is based on the GloSea representation of dynamical and physical processes characteristic of tropical storms. This is done by counting the frequency of tropical storms in the model forecasts. However, as the dynamical model grid does not fully establish exactly which storms are tropical storms, the numbers are calibrated using tropical storm behavior in past forecasts. The process also includes predictions of the sea surface temperature (SST) anomalies in the Atlantic Basin. This season, a cooling trend in SST is expected in the tropical North Atlantic, and this favors fewer tropical storms than seen in recent years prior to 2006.

The Met Office forecast for the July through November hurricane season calls for the likely number (70% probability) of North Atlantic tropical storms to range between 7 and 13, with a central value of 10 storms. This would represent a below-normal activity year relative to the 1990-2005 long-term average of 12.4 storms. The Met Office forecast covers the remaining five months of the hurricane season and excludes the two named storms – Andrea and Barry – that have already developed.

#### **Exhibit 4. Met Office 2007 Storm Forecast Below All Others**

Tropical storms in the North Atlantic July - November									
Met Office					AccuWeather	NOAA	CSU		
2002	2003	2004	2005	2006	2007E	2007E	2007E	2007E	2007E
12	13	15	25	9*	10	7-13	13-14	13-17	17

\* One additional storm has been identified by NOAA making the season total 10  
Source: Met Office, NOAA, AccuWeather.com, CSU, PPHB

In Exhibit 4, we show the history of tropical storms/hurricanes that developed during the five month forecast period. As can be seen, the new Met Office forecast's central estimate of 10 tropical storms this year is close to the number experienced last year. It should be noted that the National Oceanographic and Atmospheric Administration (NOAA), which determines tropical storms and hurricanes, has identified one additional storm in the 2006 season. This tropical storm was never named, but brings the total count for 2006 to 10 rather than the nine listed by the Met Office. We have also listed the 2007 forecasts from hurricane forecasters AccuWeather.com, NOAA and Colorado State University. These three forecasts call for more storms than the Met Office.

**Few people believe the Met Office's computer model is better than any of the other forecasting models, which means fear of possible storms and their associated damage will support current high oil and gas prices**

If it turns out that we have a below-normal activity storm season this year, the energy and insurance industries will likely breathe a huge sigh of relief. However, before the fact, few people believe the Met Office's computer model is better than any of the other forecasting models, which means fear of possible storms and their associated damage will support current high oil and gas prices. Let's hope the Met Office forecast proves correct. But more importantly, let's hope no storm damages our energy production infrastructure or causes meaningful human suffering in the U.S.

## Hot Growth and Oilfield Service – An Oxymoron?

The June 4, 2007, issue of *Business Week* contained a special report focusing on the top 100 small companies demonstrating what the magazine called "Hot Growth." To prepare its report, the magazine sifted through the Standard & Poor's Compustat database of 10,000 public companies for those with revenues between \$50 million and \$1.5 billion a year. They then ranked these companies by three-year sales and earnings growth rates as well as the percentage return on capital. To make the list, a company must have a market cap of \$25 million or more and stock price of at least \$5.

**The Hot Growth group's average annual profit growth was 90.1% compared to 21.9% for the Industrials**

According to the data from the honored group, these small cap companies exhibited profit growth well in excess of the Standard & Poor's Industrials. For the Hot Growth group, the average annual profit growth was 90.1% compared to 21.9% for the Industrials. Sales growth for the group at 34.5% was more than three times that of the Industrials. The group's return on capital performance also outstripped the Industrials by 8.5 percentage points at 19.8% versus 11.3%.

**The energy boom elevated 17 companies onto this year's list compared to only 5 in 2004**

The article compared the number of companies by broad industry sectors that made the list in 2004 compared to 2007. As one might expect, the impact of the energy boom elevated 17 companies onto this year's list compared to only 5 in 2004. Of the 17, there was a balance between oilfield service companies (9) and energy producers and transporters (8). Interestingly, but not surprising, only two of the nine oilfield service companies were on the prior year's list

– Unit Corporation (UNT-NYSE) and Lufkin Industries (LUFK-NASDAQ).

**Unfortunately, this group only earned 85% of the 100's return on capital average**

In Exhibit 5, we have extracted the data for the nine oilfield service companies that made this list. When we calculated the averages for this group of energy companies, we were somewhat amazed at its performance against both the group of 100 small cap hot-growth companies and the S&P Industrials. In terms of average sales growth, the group of nine was 160% better than the Hot Growth 100's average, while it was more than two times the average profit growth rate. Unfortunately, this group only earned 85% of the 100's return on capital average, but we suspect that this may have been due to the heavy weighting of capital intensive companies -land drillers (3) and offshore support companies (3) – among the group.

**The strength of commodity prices has been responsible for a substantial amount of the increase in oilfield activity**

What is most alarming about this report is the inclusion of energy producers and oilfield service companies in a compilation of “growth companies.” For the past few years we have been in a commodity up-cycle, and to think that the executives running these energy companies have been able to manufacture their growth is a huge mistake. The strength of commodity prices has been responsible for a substantial amount of the increase in oilfield activity. To believe otherwise would be to adopt the downhill bike rider mentality – it's my pedaling!

We recognize managers can make poor capital allocation decisions or fail to raise prices to protect and/or expand profit margins, but much of the earnings gains of the past few years have been due to increased equipment utilization that enables spreading overhead, depreciation and other fixed charges over more revenue dollars helping to boost profit margins. We are not trying to discredit the stewardship of the executives running these companies. But hopefully these managers can separate their contribution to their company's success from that of market fundamentals.

**Maybe this *Business Week* report says more about the short-term memory of Wall Street**

The last time oilfield service company executives began to believe their press clippings was in the early 1980s, just as the business was about to take a nose dive - not that we are predicting an impending industry recession. But maybe this *Business Week* report says more about the short-term memory of Wall Street, or its failure to remember the phrase: Past performance is not an indicator of future performance.

**Exhibit 5. Oilfield Service Companies in *Business Week's* Hot Growth Small Caps**

RANK	COMPANY (STOCK SYMBOL)	CURRENT RESULT		THREE-YEAR AVG.			INVESTMENT DATA			
		SALES \$ Mil.	EARNINGS \$ Mil.	INCREASE (%)		RETURN ON CAPITAL	STOCK PRICE		P-E RATIO	MARKET VALUE \$ Mil.
				SALES	PROFITS		52-WEEK HIGH-LOW	RECENT		
3	TGC Industries (TGE)	71.6	7.4	98.0	135.1	28.4	15-7	10	21	166
9	Flotek Industries (FTK)	119.7	13.3	93.9	129.5	22.2	39-14	39	28	353
13	Cal Dive International (DVR)	539.4	91.7	57.7	141.1	18.7	16-12	15	8	1,227
30	Unit (UNT)	1,154.8	301.7	58.4	90.0	15.6	65-41	57	9	2,652
31	Grey Wolf (GW)	964.7	224.3	50.4	421.8	14.7	9-6	7	7	1,331
50	Pioneer Drilling (PDC)	416.2	84.2	54.1	180.3	12.6	17-11	14	8	680
58	Lufkin Industries (LUFK)	620.2	75.6	32.8	104.9	13.9	71-49	62	12	929
62	GulfMark Offshore (GMRK)	268.8	107.8	26.6	507.1	12.5	50-23	48	10	1,079
75	Tidewater (TDW)	1,125.3	356.6	20.6	107.2	13.4	76-40	63	10	3,522
	Average	586.7	140.3	54.7	201.9	16.9			12.6	1,326.6

Source: *Business Week*, PPHB**CFLs Can Create an Environmental Nightmare**

We have been amazed at the growing popularity (measured by articles in the media and the number of people we've seen shopping at lightbulb displays) of compact fluorescent lightbulbs (CFLs) and the broadening array of bulbs now available. But personally, we have been frustrated by the CFL purchasing choices of major retailers. However, the most eye-opening story we have heard was the potential environmental disaster story associated with the breaking of a CFL.

**Since the beginning of this year, the range of CFL choices has exploded**

Lately, we have been purchasing CFLs for both our Houston and Rhode Island homes, so we have been visiting the logical outlets – Lowe's, Home Depot, Wal-Mart, Target and various local grocery stores. What we found was quite interesting. Since the beginning of this year, the range of CFL choices has exploded. When earlier we could only find replacements for incandescent bulbs in standard lamps and recessed lights, CFLs now come in candelabra and carriage lights, indoor/outdoor spot lights, vanity lights around mirrors and other shapes. Not only are the bulb shapes and applications growing, but the range of wattages, also.

**If the bulb's base employs a certain technology, the CFL can be used with dimmer switches**

What has been frustrating, though, is finding CFLs that work with dimmer switches. We had previously been told that CFLs would not work with dimmers, so we had X-ed out of consideration certain rooms in our houses for ever being CFL equipped. Recently, we were doing some research on CFLs and found out that if the bulb's base employs a certain technology, the CFL can be used with dimmer switches. So far, we have only found these specialized CFLs at the Westerly, Rhode Island Home Depot. We have yet to

check out the Houston Home Depots to find out if they stock these specialized CFLs. If they do, then we will assume they are stocked nationwide and we congratulate Home Depot for having a better sense of the potential market demand, since almost everyone we know has some lights controlled by dimmers.

In our local Lowe's store, we had a discussion about CFLs with the manager. He told us he had changed out his light bulbs for CFLs, and that he too was frustrated they didn't stock any CFLs that worked with dimmer switches. He told us to write to Lowe's headquarters since they made all the buying decisions and he only got whatever they sent him. He then made the comment that he was a little concerned about CFLs having mercury in them, given the environmental disaster story he had heard about.

We found out he was referring to a story carried nationally in April by FoxNews.com. The point being made was that the mad rush to ban incandescent light bulbs, as has been, or is being considered, in Canada, the European Union, Australia, California and a number of other states, might be foolhardy without looking at the possible ramifications of this decision.

**The report was about the misadventures of Brandy Bridges, who dropped a CFL while trying to install it in her daughter's bedroom**

The news report was based on an article in *The Ellsworth American*, the local paper for Ellsworth, Maine, which reported on the misadventures of Brandy Bridges, who had the unfortunate experience of dropping and breaking a CFL while trying to install it in her daughter's bedroom. She dropped the CFL and it shattered on the bedroom floor, which started her amazing experience.

Aware that the CFL contained potentially hazardous substances, Ms. Bridges phoned her local Home Depot for advice. They told her the bulb contained mercury and that she should call the local Poison Control hotline, which in turn directed her to the Maine Department of Environmental Protection. They sent a specialist who reported that the mercury levels in the bedroom were in excess of six times the state's "safe" level for mercury contamination of 300 billionths of a gram per cubic meter. The DEP specialist referred Ms. Bridges to an environmental cleanup firm that gave her a 'low-ball' quote of \$2,000 to clean up the room.

**At \$180 per year in cost savings, it will take more than 11 years to recoup her cleanup bill**

According to CFL literature, the annual cost savings in reduced electricity compared to an incandescent bulb over a one year period is estimated to be \$180. For Ms. Bridges, at that rate it will take more than 11 years to recoup her cleanup bill, assuming she never breaks another CFL. So before we ban all the other types of light bulbs available in favor of mandating only CFLs, it might make sense to examine the potential 'unintended consequences' from an accident.

## Fears Over Climate Change Mixed - Surveys Show

**As often happens, the survey results produced conflicting views**

Before President George W. Bush ventured across the pond to the G8 summit in Germany in early June, he proposed a new climate change initiative for the United States in an attempt to defuse the hostility from European countries over his administration's stance against mandatory greenhouse gas emissions restrictions. In an attempt to frame the climate change debate that was to go on at the G8, and to pressure the participants into accepting more stringent emission restrictions, the outcomes of various surveys taken of people's attitudes toward global warming were issued. As often happens, the survey results produced conflicting views. This makes it difficult to judge the G8's politically-motivated agreement for curbing future greenhouse gas emissions.

**The GMI survey found that 18% of its respondents said that the U.S. government's policy on carbon emissions was the biggest threat to the world's climate**

An email survey conducted in May by Washington-based Global Market Insite (GMI), showed that 62% of Chinese respondents and 63% of Indians agreed "it would be appropriate for developed countries to demand restrictions on carbon dioxide emissions from developing countries, such as China and India" despite their own government's rejecting mandatory carbon caps. China announced a new national climate action plan, but more on that later.

The GMI survey found that 18% of its slightly over 14,000 respondents in 14 countries said that the U.S. government's policy on carbon emissions was the biggest threat to the world's climate. That view was held by 13% of U.S. respondents and 23% from France, Germany, Italy and Britain. However, fewer than 12% of Chinese and Indians surveyed agreed that the U.S. is the biggest threat to the environment.

**The least climate change concern is expressed by people in industrialized countries**

Another climate change survey whose results were released prior to the G8 summit was the most recent in a series of surveys conducted every six months by the Nielsen Company and Oxford University's Environmental Change Institute. The survey was conducted in April and was contrasted with the prior survey completed last October. The new survey found that 42% of global online consumers believe governments should restrict companies' emissions of carbon dioxide and other pollutants.

Some of the other results were as expected: the least climate change concern is expressed by people in industrialized countries - the United States had only 13% who see climate change as one of their biggest worries, up 7% since October. On the other hand, the more concerned citizens such as the Swiss, who get most of their power from low-carbon sources, reported 36% of their respondents believing it to be their greatest fear, up 17% from the prior survey. But interestingly, not many people are prepared to make personal sacrifices to help solve the problem. Only 3% of respondents said people should reduce the amount they fly, even though aviation is one of the fastest growing sources of carbon emissions.

**In Russia only 3% of respondents were concerned about climate change, while 31% of Canadians were fretting**

The Nielsen survey found that environmental concerns are growing among the populations of the developing countries with large and growing populations such as China, India, Mexico and Brazil. In China, while only 9% of the respondents are concerned about the impact of global warming, the total was up by seven percentage points. India had an even more dramatic jump (up 11 percentage points) to 19%.

There were some dramatically divergent views among countries about the impact of climate change. For example, in Russia only 3% of respondents were concerned about climate change, while 31% of Canadians were fretting, up 18 percentage points after the federal government said the country's Kyoto Protocol goals are unachievable.

In an effort to confront this growing media emotionalism over global climate change, the Chinese government unveiled an action plan to address global warming. At the same time, the Chinese government stressed it will not sacrifice economic ambitions to international demands to cut its greenhouse gas emissions. Chinese officials said that emissions caps that slowed economic growth in poor nations would do more damage than climate change itself. This concern has been highlighted by climate change opponents who point to the significant percentage of the world's population without access to electric power, which instead relies on wood and cow dung for cooking and heating, and suffers from high infant mortality and overall death rates due to the pollution from these fuels.

Ma Kai, director of the National Development and Reform Commission, which steers China's climate change policy, said, "China will not commit to any quantified emissions reduction targets, but that does not mean we will not assume responsibilities in responding to climate change." China's first national climate change plan will combat global warming through energy saving, agricultural adaptation and forest planting.

**The rich countries have shifted their manufacturing to poor nations like China and then blame them for rising pollution, while dragging their feet over promises to share clean technology, Mr. Kai said**

Mr. Kai went on to point out that the wealthy countries of the world produced most of the gases currently heating the globe and still have far higher per capita emissions than China, so they should fund clean development rather than forcing poor countries to accept emission limits. The rich countries have shifted their manufacturing to poor nations like China and then blame them for rising pollution, while dragging their feet over promises to share clean technology, he said.

The China climate change plan promises to support clean transport, wind and solar power, recycling in industry, "stress-resistant" crops and shore walls to withstand rising seas. It looks to us as though China will present an attractive market for companies developing clean technologies and improved agricultural crops.

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