2017 NEAR-TERM DRILLING ACTIVITY OUTLOOK

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This is an Industry Paper written for those personnel who are involved in the oil and gas industry who run a small, bespoke service company in the drilling sector of the industry. It is hoped that some of the learning experiences which IDEAS has undergone these past years since the oil price crash will benefit others and help lead to not only the continued existence of their company but also future growth.
The paper has been written expressly for the purposes of knowledge / experience transfer and the advantages which knowledge / experience brings.

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Abstract

This paper has been written at the end of Q1 2017 during one of the drilling industry’s most awful periods to try to help those specialist service companies who might be struggling to survive in a business which does not appear to have a bright near-time future. The points raised in the paper are based upon IDEAS’ experiences throughout the past quarters of the current era of low oil prices. It contends that completely new expectations and business models are required to survive not just the current difficult climate but also how to evolve such that survival continues into the near future – into 2018 for example. At the time of writing (14th March 2017) West Texas Intermediate oil is trading at $48 per barrel, considerably below the “anticipated” $60 per barrel predicted by industry analysts.

Introduction

As we all know, the past few years have been awful for the drilling industry. Not only has the oil price refused to rise sufficiently for certain operations to be profitable, it has gone nowhere near the “sustainable” $60 / bbl which many analysts were stating in late 2014 / early 2015. Thus, the fall-out has been immense, with operators, drilling contractors, ship-yards, rig-building yards, service and supply company’s laying-off, collectively, hundreds of thousands of workers.

Of course, everyone is hoping for a return to $110 oil. But with the world’s geopolitical and economic scenes having changed so radically during the last couple of years (e.g. the incredible resurgence of USA oil production through shale drilling and the application of modern drilling and fracturing techniques, the re-emergence of Iraq and Iran as huge producers, the constantly high production of Russia & the Middle eastern countries [specifically Saudi Arabia] and new finds in African / South American countries / China), it seems unlikely that $110 oil will return anytime soon. Rather, we should accept the “paradigm” shift which has taken place, and this paradigm shift favours countries which produce cheap oil (where huge profit can still be made at $40 - $50) as opposed to expensive oil which is produced offshore (e.g. U.K., Norway, Angola etc.) – especially in deepwater areas.
This paradigm shift has had massive effects upon the industry. As IDEAS has offices in Singapore and Scotland, this paper will cover those areas served by these offices with the hope that the reader will learn something from the company’s experiences throughout the recent past.

**Background**

On a purely factual basis, the drilling industry (completely synonymous with the term oil industry) has a record of “hire and fire” The chart below shows the many sharp downturns in the drilling industry seen in the authors career since joining the industry in 1980.

![North Sea Drilling Plunges Chart](image)

**Figure 1: North Sea Rig Activity Since the Early 1980’s (Courtesy of Bloomberg)**

[Note: - Figure 1 relates to the North Sea, which is a harsh-environment. Whilst this chart will also reflect similar patterns in other, similar offshore parts of the world, it will not reflect the current, constant land-rig drilling in countries such as Russia, Iraq, Iran, Saudi Arabia and the shale plays of the USA for example].

One of the characteristics of this drilling recession compared with other, past drilling recessions is that there seems very little light at the end of the tunnel regarding “going back to work” as there has been no “rebound” in the price of oil this time. (For a couple of examples of the consequences of this, see Figures 2 – 6 and their related inscriptions). Indeed, one of the industry’s most respected experts – Sir Ian Wood who runs the hugely successful first-class Wood Group, has stated that there isn’t much for the North Sea industry to “bounce back into” (particularly from a reserves perspective). This is contrary to what many analysts were saying in late 2014 and early 2015, which gave hope: which we now see, at the end of the first quarter of 2017, was, in hindsight, overly optimistic. Decisions based upon optimism as opposed to hard, prevailing facts, are rarely, themselves, optimal. And of course, every business pores over what the newspaper / Internet columnists and industry experts say in the hope that it’s possible to determine when things are going to pick up and become brighter. But, just as no-one predicted this massive downturn, IDEAS believes that it’s rather futile to rely upon any analyst predicts. It’s not just
about “market price” anymore – it’s also about changing geo-politics, greener technologies, changing demographics (crucially, an aging population which once controlled the business world and the new “millenials” who are taking over the business world from their grandfathers, and, in doing so, changing the paradigms).

When the downturn began, it wasn’t immediately clear that the awful drilling recession of the mid-late 1980’s was again about to repeat itself (at least insofar as the North Sea was concerned) – but for far, far longer. What had happened then was clearly happening in Invergordon, a sheltered North East Scottish rig mooring facility with integrated rig repair and upgrade facilities. Not only were a range of semi-submersibles “stacked” at Invergordon by January 2016 but so too was the “West Phoenix”, an extremely capable dual activity semi (which was used in the “top kill” operations of well G-4 on the HPHT Elgin Platform located in the Central Graben area of the North Sea), Figure 2. Also, stacked at Invergordon by January 2016, were world-class Jack-Ups, Figure 3, constructed at the world’s top Jack-Up rig-yards (e.g. Keppel Fels) in Singapore. With so many first-class rigs being stacked, what’s the requirement for new builds? The impacts of stacked rigs (many being “cold stacked” as opposed to “warm stacked” are far-reaching. Drilling crews are laid-off; wells are simply not drilled which means the supply-chain is severely affected (GE Oil & Gas – formerly Vetco Gray – have just announced (early March 2017), sadly, the lay-off of 33 expert technical personnel at their facility in Montrose, Scotland due to slack demand for their products and services), larger service companies like Schlumberger, Halliburton and Baker have unfortunately had to lay-off people in their thousands worldwide, and rig-builders like Keppel Fels in Singapore have had to lay-off many people too. Small companies like IDEAS – which can typically be flexible and adaptable – suffer from cancelled training and consultancy contracts – because training is always one of the first services to be cancelled (as there’s no-one left to train) and no-one needs drilling consultants as there’s no drilling! And if there are any small crumbs of work to be had, the money offered is so low – and the terms so harsh – that sadly, the mantra of “no work is better than bad work” can sometimes hold true: because you cannot work at a loss (which desperation sometimes forces companies to do – just to “keep the lights on”). Sadly, industry tales of service and contracting companies not being paid for services carried out are currently rife throughout the industry.
Stacked rigs at Invergordon in North East Scotland are part and parcel of the currently bad North Sea situation, which of course manifests itself massively in Aberdeen, the so-called “Oil Capital of Europe”. This fact is of vital importance to IDEAS since 50% of our office resources are in Aberdeen, and it was clear that, by the beginning of 2016, no work was to be forthcoming from this region. What was happening was a repeat all over of the mid-late 1980’s with small service companies folding and large service companies laying people off by the thousands. Media reports suggested that as many as 125,000 oil-related people became out of work by January 2016, with the figure climbing to over 150,000 by March 2017.

Aberdeen, of course, has taken the brunt of the hit, with its environs faring little better. Failure by officials the diversify Aberdeen’s economy following all that should have been learned form the mid-late 1980’s crash has meant that those people who have lost their jobs have nowhere to go and so remain out of work. The socio-economic effects of poor diversification are disastrous and are a bad reflection on those counsellors who have done precious little for the past forty years. So, with no alternate work to be had (the only other established industries in the North East of Scotland are fishing and agriculture, and these are fully employed), the effects upon people are extreme to say the least. Not only are rigs laid-up as we can see in Figures 2 & 3 but supply boats are also laid-up as we can see in Figures 4 & 5. Helicopter flights are also fewer as are airplane flights. The knock-on effects are huge, rippling all down the “food chain” from the Operators to the Drilling Contractors to the Service & Supply Companies to the man who checks you in and puts your offshore bag into the helicopter. There are related effects too: in an insecure industry, people worry about their jobs, which is of serious concern from a safety perspective in the offshore environment. With platforms still operating, process and production personnel are dealing with potentially flammable situations on a daily basis and, on top of wage cuts, unions fear that insecurity can lead to potentially unsafe decisions being made and poor working practices.
Clearly, people worry (quite rightly) about the effects not just upon platform safety but also upon helicopter safety too (particularly regarding gearbox maintenance and metal fatigue). The North Sea does
not have a good helicopter safety record as it has had many crashes with large losses of life over the years (the last one being in Norway in April 2016). The fear is that less money will be spent upon maintenance.

![Figure 6: Offshore workers arriving Aberdeen Heliport (Photo Courtesy of Hemedia)](image)

So, given all of the above regarding the North Sea, where 50% of IDEAS’ resources are located, what can a small, bespoke and independent drilling firm learn from the downturn? And what might happen in the future? Let’s begin by reviewing our recent experiences and the events which have occurred – and continue to occur – throughout the down-turn and then let’s try and apply all that we’ve learned as a company over the last nearly four decades.

**Overall Review**
Discussions with an expert oil trader in Singapore in early 2015 yielded that, in the current market, there’s simply nothing you can do to sell anything because there are few real buyers. However, some people believe that, through demonstrating a company’s excellence, work must surely come, despite the continued predicted low oil price. The expert oil trader’s view (based upon experience) proves correct. As Margaret Thatcher, former Conservative Prime Minister of the U.K. once quoted, “You cannot beat the market”. Thus, in order to survive, a company must adapt to market forces. Whilst continuing to market itself. How best to market (particularly if you’re not well known to the few buyers that there may be)?

**Exhibitions & Conferences**
Exhibitions & Conferences are typically seen as ideal places in which to market / network. IDEAS went to a total of six Exhibitions & Conferences throughout 2016 with technical papers being presented at many of them. The company will also be partaking in the March 2017 Webinar on Well Integrity (relating to the latest International Standards) and Offshore Europe in Aberdeen, Scotland, later in 2017.
The first E & C in 2016 was the API Conference held in Kuala Lumpur, Malaysia where two technical papers were presented. E & C organisers came from as far away as the USA, with the local API Singapore-based representative representing API in fine form.

The second E & C was the Australasian Oil & Gas Exhibition held in Perth, Australia, in February, which was attended by IDEAS staff for marketing purposes.

The third Conference was entitled “Oil & Gas Outlook for Asia Pacific” and was held at the British High Commission in Singapore in March 2016. As we can see at the time of writing this paper (14th March 2017, with WTI standing at $48 per barrel), it is notoriously difficult to predict the future price of oil, because paradigms change.

The fourth E & C we attended was OTC, again in Kuala Lumpur, Malaysia, in March.

The fifth E & C attended was in Qingdao, China. Organised by the SPE and held in July at Qingdao Petroleum University, it was an excellent conference, with IDEAS presenting two papers (one technical, one management). One of the key learnings from this conference was how hard working, bright and intelligent the graduates of are today – with many of them doing a first degree overseas (e.g. Canada / Australia / America / U.K.) before attending the excellent Master’s Program at Qingdao or, vice-versa – i.e. doing the first degree at Qingdao with follow-up studies (Masters / PhD) at an overseas university. Truly excellent people, and all so hard working.

The final E & C was the IADC / SPE Drilling Technology & Exhibition held in Singapore in August 2016. An excellent “Opening Ceremony” speech was given by Keppel Fels. IDEAS presented two technical papers.

In summary, Exhibitions & Conferences in such a market are a necessity. But can the costs be borne? As stated earlier, IDEAS will be attending the March 2017 Webinar on International Standards regarding Well Integrity and Offshore Europe in Aberdeen, Scotland, later in 2017.

Training Courses
One of the first budgets to be slashed in a bear market such as this one is the training budget – whether it be by Operators, Drilling Contractors or Service Companies. As a training services provider, IDEAS has been hit massively by this down-turn. In short, most offshore training has been cancelled or “put on hold”. We foresee, however, that “Fracking Training” on land rigs will be in continual – and in upward – demand. All investment – whether monetary or in terms of time – should therefore be related to land-rig drilling and fracking training services.

We note a massive decline in demand in expensive well projects such as HPHT drilling, deepwater drilling and “remote” (e.g. Arctic drilling). We also note how “cut-throat” the mandatory Well Control services sector has become – with prices dropping in such countries as India for example – to $500 per person for IWCF Well Control Training – with, sometimes, only 2 people in attendance per class. Very few Well Control service providers can survive at these rates. Inevitably, “Lowest Cost” wins. But is “Lowest Cost” the best? This is a very fiery subject and is very much a topic of International debate world-wide.

So how do you make the right decision regarding what’s provided and what’s delivered? It is 100% true what Lord / Sir Alan Sugar, one of the UK’s most successful and admired businessmen says: Never have an engineer making business decisions! (This is also reinforced by Rolls-Royce Aero-engines which, in the early 1970’s, faced collapse as engineers were running the business as opposed to businessmen.
When the UK Government appointed businessmen to the top as opposed to engineers, the company’s fortunes turned around and today of course it is one of the world’s leading aircraft engine manufacturers, their engines being fitted to both Boeing and Airbus aircraft.

In essence – decisions in these areas should be made by business people – not by engineers.

It is also vital to have water-tight, signed contracts

Another experience learned the hard way is that, in such a dire market as this current one, no matter how good your products and services are, there is a tough argument as to how and when material should be upgraded. (However, at least personal satisfaction can be gained from both the up-grading and the results therefrom).

The final point ties-in with the above. During a business development trip to Scotland, IDEAS determined that an expert course, written by an expert management professional with oilfield experience, based in Edinburgh, would be ideal for the oil industry in South-east Asia. Entitled “Fit for $50”, and extensively marketed, the course received zero response. Thereby confirming what the expert oil-trader told us last year (i.e. in such a dire bear market there are simply no buyers, only pretenders).

Joint Co-operation
Throughout 2016 IDEAS tried joint co-operation with several companies ranging geographically from the UK to South-east Asia to Australia. Only two, proved to be worth working with, and only one out of these two yielded any financial result. The rest were either blusterers, time-wasters or outright clowns, wanting our expertise for free or to pay for airfares and hotels to exotic countries in the guise of business development “Because I have the contacts”.

The key learning in this area is to be very, very careful with regard to people’s claims regarding either their own or their company’s abilities / capabilities. You must be able to separate the wheat from the chaff, and this is difficult (almost impossible) if you’re an optimist. One good indicator as to a person’s integrity (whether they are a one-man band or whether they represent a company) is whether they offer to pay for an expensive dinner or not. If they don’t even bother to offer, then that’s a sure indicator as to how things are going to go in the future. Also, if you are asked to do work for free – or to help them for free - on the basis that “this will get work from the client” then, again, our key learning is to be careful.

Sincerity, trust and honesty are key. If you feel none of these attributes deep inside, then your instincts should tell you to be very, very careful.

Papers & Published Articles
Throughout 2016 the optimistic director of IDEAS believed it would be good for business if articles / papers were written / published and so many technical papers were written and presented at Exhibitions & Conferences and articles were written for publication. The realistic director believed strongly that this was all a waste of time. Yet again, she proved to be correct.

Despite all the many, many days invested in the writing of papers and articles, none yielded any positive financial result. They certainly were not worth the stress. The only value is to the author is that he wrote what he thought needed to be said. Even then, the value was nominal. At best, all you can say is “At least I tried”.

Consultancy
Despite Consultancy being IDEAS’ core competency, there was no business in this area throughout 2016.

**Business Development**

As has now become clear, the only person within IDEAS who understood the realities of the drilling business was the realistic director, not the optimist. A great deal of money, time, effort, energy and emotion had been invested throughout the year in BD in the U.K., South-east Asia and China. However, by the beginning of August, even the optimistic director could see what had been obvious to the realistic director for at least two years. But it took the world-shaking news that Keppel Fels, the world’s premier rig builder in Singapore (Figure 7), was laying-off thousands of its ship-yard workers for the final traces of optimism to vanish because Singaporean companies (who are brilliant at what they do) do not make decisions lightly – and, ultimately, they always prove to be right. We had tried. And we had tried as hard as we could to generate both repeat and new business. But with our main drilling contractor not renewing its contract and shutting its Singapore office and with no further work, despite the investment, we had little choice but to consider the inevitable: the awful process of reducing headcount which, for those who care about their staff, is the most painful business process in the world.

There comes a time when all things as we know them come to an end. Businesses start up. Businesses change. And businesses close. The author of this paper has seen this in the drilling industry for nearly forty years. Literally, hundreds of drilling industry related companies have come and gone throughout the world or have morphed, been bought out when times were good or crashed when times are bad. Since 2014, the drilling industry has been subjected to some of the harshest economic situations ever; as harsh as 1986, but for far longer and with more vehement intensity. It has become a lying, cheating, stealing industry, where public speakers and private corporation executives do not tell the truth (one major service company representative at the panel discussion at the IADC / SPE Exhibition & Conference in Singapore in August proclaimed that his company were investing heavily in its people – yet, just two days before, the news media stated that another two thousand people were to be laid-off, on top of the many thousands who had already been laid off. When challenged on this, he couldn’t be bothered to answer and immediately strode away).

So, one may ask: Why bother the expend energy, care and commitment to an industry which has become the awful behemoth it has? The correct answer is that one should not expend one’s life to such an industry. Would a farmer waste his time trying to grow crops on rock? Thus, sadly, the process of reducing the size of the business had to commence for BD was completely fruitless (and, it was believed at the time, would remain fruitless for some time to come). And the other truth was: we had run out of money.
The Hardest Part

The hardest part of 2016 wasn’t the malpractices we had collectively experienced throughout the year. It was knowing that those people who had worked so hard for you couldn’t be paid beyond a certain time frame and struggling to come to terms with this. Also, how do you do such a thing? After all, we are talking about people who you like and trust: and who have become your friend. Both directors really struggled with this. They both kept on hoping against hope that some work would come in. But it didn’t. And, based on what was happening in the drilling world (if the mighty, world-class rig builder Keppel Fels was facing tough times, then what chance does a small service provider have who has used up all its savings over the past near two years?).

Professional advice was sought from one of Singapore’s best-placed “understanding people” person the directors knew. We determined that we would do the absolute best that we could for our staff. There would be none of the awful ways in which people have been retrenched over the years. (The author recounts tales and newspaper articles of what BP did to many of its people in Aberdeen following the 1986 crash: - People were taken from their offices in Dyce to the old Beach Ballroom by bus. Senior London-based management couldn’t be bothered to speak in person to these people; rather, a video link was set-up instead. The people were told they were now surplus to requirements and were not allowed to go back to their desks to collect their things. These would be sent to them later. The now ex-BP employees said they were “treated like cattle at an abbatoir” and went home “shamefully”. The author also recounts how, when employed by Conoco in Aberdeen as a staff engineer in the early 1990’s, Conoco utilized the merciless process advised them by an American “How to Right Size” consultancy firm (following yet another oil price crash) which asked employees themselves who, amongst their
immediate colleagues, should be fired. Appalled at this awful process, the author voluntarily resigned. However, Conoco had the last laugh as the author, unknowingly, was not given any pension for his two years of dedicated work. Yet another example of how executives lie / withhold the truth from people / deceive people).

Thus, it was determined to be truthful, sensitive, caring and to give people as much dignity as possible; to give as many benefits (including time, computers and excellent testimonials) as we could and to be fully compliant, of course, with Singapore Employment Law. But it was still such a difficult thing to do. The drilling business is harsh: but none more so than when you let good people go.

You cannot fight the market.

Conclusions
There are many conclusions which one could draw from one of the drilling industry’s worst years in history. The following are perceived to be the most significant from IDEAS’ perspective:

• Engineers do not make good businessmen. The tasks of running a business should be left to those who are realistic and who have a professional business background. This was perhaps the greatest mistake the author made throughout 2016 – i.e. he should have listened to his fellow-director who is a realist and not an idealist.
• The oil industry / drilling industry has gone – and continues to go through – a major, paradigm change. No longer are expensive deepwater / HPHT developments which require massive capital investment feasible; no longer are difficult well problems feasible.
• It is not necessarily the case, as was portrayed by the “distinguished” speakers at the IADC / SPE Exhibition & Conference in Singapore in August, that high-end technology is the solution to the drilling problems of today. Iran, Iraq, Saudi Arabia and Russia – whose oil wealth comes principally from land rig drilling – all seem to be managing fine without it.
• So-called “distinguished” speakers / managers do not necessarily tell people everything that should be told: and, when running a small business, you must be very wary of the words which they use.
• Drilling-related businesses will notice increasing pressure as time passes. Unless these small companies can be thrown a lifeline, then they’ll fold or have no choice but to go dormant. Eventually, the western world will be down to four service companies: Halliburton, GEC/Baker Hughes, Schlumberger and Weatherford. We will continue to see M & A activity as time passes – e.g. GEC swallowing-up Baker Hugher, Schlumberger swallowing-up Cooper Cameron etc.
• Despite the awful practices in the industry observed throughout 2016 IDEAS personnel always retained their complete integrity.
• Laying people off is the hardest thing you’ll ever do when running a business. Should this happen, it is vital that one is truthful, honest and fair. One must give people time to find another job, testimonials worthy of their performance, help in finding another job and, most importantly of all: human dignity. This is vital.
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