

## Extended Abstract: The Business of the Geophysical Contractors: “Where We Are and What the Future Might Hold”

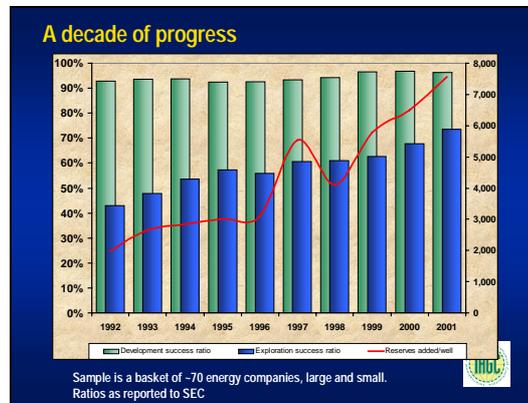
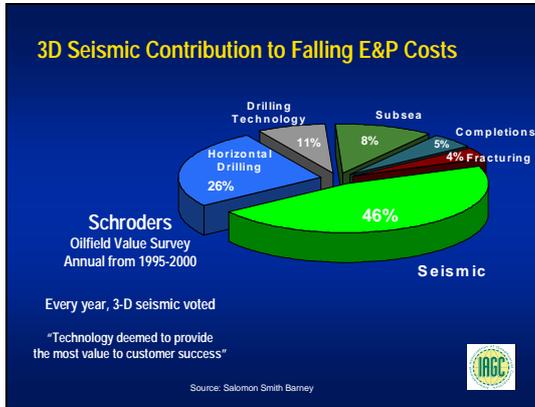
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In my presentation to the first PESGB/IAGC 2003 December Seminar – “Geophysical Technology – Present and Future Capabilities”, I will give a brief review of IAGC and what we are, will discuss a bit about the geophysical industry and its complexity, will remind the audience of the value provided to the broader E&P industry by the geophysical industry, will detail some of the factors leading to the current poor financial health in geophysical industry, and will offer my own thoughts, observations and suggestions about the future of the geophysical industry which I hope will provoke thought and discussion among the audience and readers.

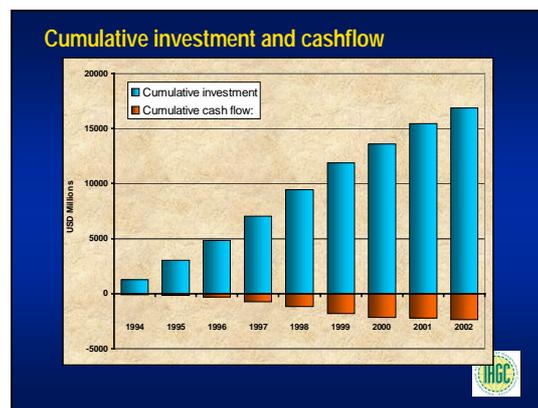
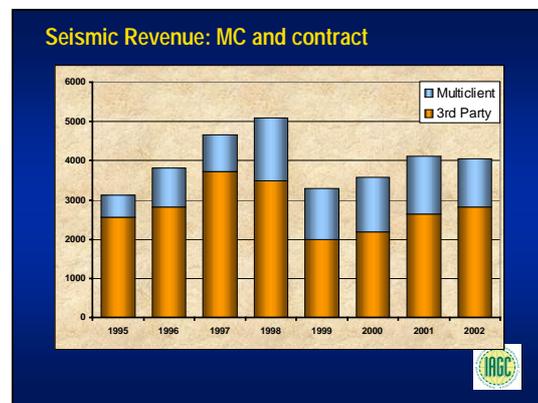
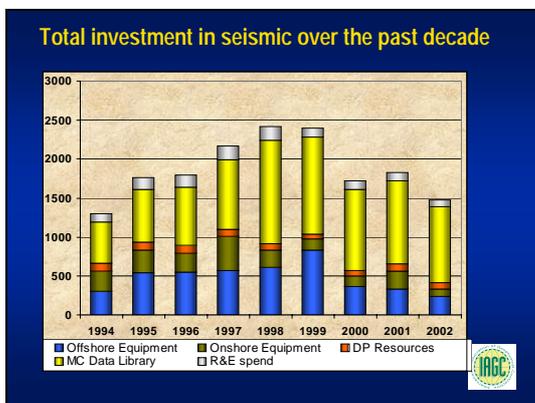
For those who are not as familiar with IAGC as its members are, we are the trade association of the geophysical industry – the economic entities providing geophysical goods and services to the E&P industry. Unlike PESGB, whose members are individuals associating themselves through PESGB to further the knowledge and professions in petroleum exploration, IAGC is an association representing companies whose commercial *raison d’etre* is to undertake the classic economic endeavor of risk and reward around its goods and services. As a trade association, IAGC adds value through its involvement with governments about their actions and how they can effect the geophysical industry, through providing a forum for the industry to set standards and define best practices, including safety manuals, model contracts, etc., and through addressing, to the extent allowed by competition and anti-trust laws addressing the commercial health of our industry. Through IAGC, its members pool their resources (time and money) and speak with one voice – a louder voice – on consensus issues. As such, their collective voice carries greater weight and is more effective.

Before we can look at what the future might hold for the business of geophysical contractors, it is important to remind ourselves of the current nature of the geophysical industry. I believe this can be summed up in one word: complex. Economically, the geophysical industry can be broken down into three core businesses: geophysical data acquisition services; data processing; and the financing, acquisition, licensing and ownership of non-exclusive data. The largest members of the geophysical industry generally have a significant presence in all three of these core business lines. There are many other participants in the geophysical industry who specialize in one or perhaps two of these core businesses. Additionally we have many niche players who either focus in a limited geographical region, on a given business line, or in other manners of differentiation. Adding to this complexity, client E&P companies readily participate in one or more of these core businesses e.g. processing and data licensing. There are numerous government owned E&P companies participating in geophysical acquisition services, either directly or through joint ventures. Further, we see equipment manufactures

leapfrogging their immediate customers, the geophysical contractors, and going directly to the client E&P companies to tout the benefits of their latest innovations and to encourage their next service contract to require that innovation.



As the slides above demonstrate, it is broadly recognized that geophysical tools have been the most significant contributors to falling E&P costs since the mid 1990's. Yet while the geophysical industry provides tremendous value to its customers, it has for the last six years, as an industry, not provided commensurate value to its (shareholders and owners). The following slides show the total investment in seismic over the last decade, the seismic revenue over the last 8 years, the consequences of low sales (write-downs), and the geophysical industry's cumulative investment (<\$15B) and cash flow (<\$2B loss) over the last 8 years.



As these slides demonstrate, while the geophysical industry has delivered tremendous value to its customers, it has by any reasonable standard failed to provide an acceptable return for the investment made by its shareholders and owners.

What are the causes of these poor financial returns on the part of the geophysical industry? Clearly, one must acknowledge the role of the geophysical industry itself. The E&P industry has changed dramatically over the last 6 years, yet the geophysical industry has done a poor job of reacting to that change. While there are many examples that change in the E&P industry, perhaps the most stark example is the its consolidation. And while the consolidation in the geophysical industry has also been dramatic, efficiency gains in data acquisition have mostly offset the reduction in geophysical industry participants.

One of the changes in the E&P industry over the last years, which in part has driven the trend to consolidate, has been their increasing drive to reduce costs. In addition to gains in efficiency from their own merged operations, E&P mergers have also largely been about being more cost effective. So each merger or acquisition of an E&P company concentrates purchasing power and has often resulted in increasingly aggressive procurement strategies leveraging that purchasing power, which translates into the squeezing of margins of suppliers (this is not unique to the geophysical industry). Larger and larger percentages of global geophysical spend is leveraged for thinner and thinner service-provider margins. Geophysical acquisition service providers are asked to take on increasing amounts of exploration risks in the contracts. Geophysical data owners are asked to waive contractual clauses which were valued as part of the original consideration of the contract (transfer fees). The cynic in me quickly concludes that the standard has become “a deal is a deal” when it benefits the E&P company, but a stern “let’s talk” when it is to their detriment. Yet no one is forcing geophysical companies to provide services or sell data on terms they do not choose, nor to waive contractual provisions. This is one of the many reasons to plainly acknowledge the contribution of the geophysical industry to its financial plight.

The preceding examples of causes of the geophysical industry’s poor financial returns have been largely influenced by changes external to the geophysical industry. Let’s now examine some of the causes internal to the geophysical industry. The first and most obvious cause would be the excess capacity experienced today in the geophysical industry. This excess capacity exists in both equipment and vessels, and arguably in data. One can imagine a number of reasons for this excess capacity, including: substantial industry consolidation (already discussed); low barriers to entry; government entries into the geophysical business; client encouragement of or investment in new equipment purchases; leakage back into the industry of equipment and vessels previously retired; and legal limitations on the part of competitors to deal with classic over-capacity situations (competition and antitrust laws). Other causes internal to the geophysical industry, which have already been

discussed, include insufficient or untimely reaction to external changes, acceptance of risk transfer, and business models that do not evolve with changing business.

In spite of the gloomy discussion to this point, I believe there's a bright future for the geophysical industry. Balance sheets are being strengthened throughout the geophysical industry, either by discipline, bankruptcy, or consolidation. Leaders in the geophysical industry have taken a hard look at their recent history and, I believe, have truly learned from the mistakes of the recent past. While their choices, and those of their companies, will be individual and independent, I am confident they will be more disciplined in their business decisions in the future and will not be as likely as in the past to take on risk without realistic prospects for reasonable compensation. Capacity has come out of the geophysical industry, and while more capacity reduction is needed, this trend is in the right direction. Among the public non-exclusive data owners, accounting practices governing non-exclusive data ownership have become much more realistic and transparent. This fact should force greater discipline in those investments, which should strengthen that core business.

The last cause for optimism I will mention is about the backbone and intestinal fortitude of the geophysical community. The most accurate way I have heard to describe how the E&P industry has approached its relationship with the geophysical industry is one of master and slave (sadly, not master and commander). And the geophysical industry has over time, I believe, acquiesced to and become accustomed to this approach to their relationship. I know this is generalized and will sound harsh and extreme to some. But it is my honest observation, having recently come into this portion of the E&P industry. I believe this is now changing, as it must.

As I look to the future I conclude that more change is coming for the geophysical industry. I offer the following predictions, based in no small part on my confidence that geophysical industry leaders have learned from the recent, painful past and will individually and independently make wiser and better business decisions:

We will see additional consolidation, which is already being explored by CGG with respect to PGS. We will see data acquisition service providers increasingly recognize that their capacity is their strongest bargaining tool, and they will increasingly refuse to bid on service contracts and tenders that are not fundamentally constructed in a fair and equitable manner. Turnkey arrangements, which in a marketplace characterized as static in size and enjoying overcapacity, and which provide a customer with greater leverage to transfer exploration risks to the service provider, will become increasingly rare for geophysical service contracts, as they have for drilling contracts. We will see less investment by contractors in new equipment, and the life of existing equipment will be extended as much as possible.

Geophysical companies will rethink their business models. They will seek to simplify them so their complexity can no longer be used against them. And they will seek increasingly creative ways to receive fair value for the services they provide and increased value for the intellectual property in their data libraries. Geophysical companies will think of themselves as solution providers to E&P companies who have increasingly exported their technical expertise. This trend, which I believe is very real, offers the opportunity for strategic alliances between geophysical companies and E&P companies. Such opportunities may be especially ripe between data acquisition service providers and national oil companies, smaller independents and emerging/start-up E&P companies.

We should all be able to agree that geophysical data and the tools to use it add tremendous value to the endeavor of exploring for and producing gas. Another common interest should be the further improvement of these data and tools as a means of providing even greater value through further reduction in E&P risk. But most fundamental of all, E&P industry and geophysical industry members share in importance the ability to acquire geophysical data in the first place. This fundamental ability is increasingly challenged globally through access restrictions, moratoria, burdensome regulations, hostile advocacy groups, opposition by local populations, etc. We must all strive for improvement in these common areas.

The question of the health of the geophysical industry and how it works its way out of its current financial plight will resolve itself. What is unclear is how and when this resolution will take place, and how painful it will be, both for the geophysical and the E&P industries. My advice to those of us in the room today is, in our commercial arrangements, to think win/win, not win/lose, and to strive for a more fair and reasonable risk/reward balance.

Thank you for your consideration of these thoughts.