

better reservoir decisions

Newsletter

The Role of a Consultant – What is it *Really*?

By Dr. Ivor R. Ellul
Knowledge Reservoir, Chief Executive Officer
(JPT Journal, Guest Editorial - July 2006 Edition)



The title of the article might cause one to pause momentarily since I am sure that we ALL know what a consultant is and what their associated role should be. I am equally sure that if one were to ask a group of consultants the same question the answers will be interestingly varied. As an engineer, consultant,

and ultimately, a business owner, I take this opportunity to distill over twenty-five years of experience that I have, in turn, used to build a leading consulting organization, while sharing some of the more controversial issues that arise.

The dictionaries proclaim that a consultant is an expert who gives advice. Additionally, it is believed that the word consultant has, in fact, been used for some time before 1892. So, what is it that has driven the need for this “species” from as far back as the 19th century? The answer is simple and has partly to do with the expertise factor, but, above all, it has to do with the time/money factor. A client employs a consultant to get something done quicker (and hopefully better) than they could have done it themselves given their lack of available and qualified resources. As a result, the job should cost less. In addition, the value added must always be significantly greater than the value paid out.

Consultants are prevalent in a number of industries including medical, aerospace, transport, construction. The energy industry is no different and one comes across a wide spectrum of, on the one hand, independent consultants and on the other, larger organizations geared to take on and execute large scale projects. Wherever you are in the spectrum, there are a number of very fundamental pre-requisites that define a true consultant. These are:

Expertise: This comprises the technical and, possibly, commercial background necessary to address the problems at hand and deliver a successful solution.

Experience: Armed with the technical know-how, this relates to the fact that the individual or company has successfully executed the type of work under consideration in the past.

Deliverability: No matter how smart and how experienced one is, if one cannot deliver on time, on budget, and to the client’s satisfaction then it is all for naught and the client’s time and money has been wasted.

Integrity: This is a key element in today’s business environment and hinges on you doing what you say that you are going to do while ensuring that there are no conflicts of interest along the way. This is especially important given the fact that a consultant is usually exposed to sensitive client data that must not be seen by any third party. Sanctity of contracts is key whether constituted on the basis of a hand-shake or as a result of a twenty-page document.

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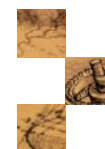
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Upcoming Events

- Sep. 24 - 27 **SPE ATCE**, Henry B. Gonzalez Convention Center, San Antonio, TX (**Stand 2701**)
- Oct. 1 - 6 **SEG Annual Conference**, New Orleans, LA (**Stand 1264**)

Knowledge Reservoir Services:
Subsurface Asset Consulting
Production Solutions
Knowledge Management



Knowledge Reservoir Displays Services at Four Major Upstream Conventions

During the first half of 2006 Knowledge Reservoir exhibited its services at four major upstream conventions including GEO2006 in Bahrain, AAPG in Houston, EAGE in Vienna and AAPG-SW Section in Midland, TX.

GEO2006 - 7th Middle East Geosciences Conference and Exhibition

Knowledge Reservoir UK's team (including David Humphrey pictured below with a client) had an opportunity to meet with our Middle East and North African clients from March 27-29 at the GEO2006 in Bahrain. KR's excellent booth position, just inside the main entrance, provided good traffic and the opportunity to meet with many people.



David Humphrey (left) at GEO

2006 AAPG Annual Convention

This year's annual convention was held in Houston's George R. Brown Convention Center from April 9-12 and as anticipated, participation and attendance broke past records. Knowledge Reservoir was represented by President Robert Archer, VP Kent Horstmann, Sales Managers Lee Shelton and Russ Kraus.



Lee Shelton (left) and Kent Horstmann at AAPG



Russ Krauss (left) and Robert Archer at AAPG

AAPG Southwest Section 2006 Annual Meeting


This year Robert Archer and Lee Shelton ventured west to Midland to market our services in the Permian Basin exhibiting at the regional section meeting from May 22-24. The regional meetings are a good place to meet geologists and geophysicists from many of the operators working in the smaller oil centers around the domestic oil patch. Midland proved to be a good show with more than 500 registrants.

68th EAGE Conference and Exhibition

Knowledge Reservoir (UK) Ltd. also attended the EAGE Convention in Vienna from June 12-15. UK Managing Director Aonghus O'Carroll, Business Development Manager David Humphrey, and KR's VP of Knowledge Management David Shaw made many new client and consultant contacts and renewed just as many existing ones.

SPE Annual Technical Conference and Exhibition

Looking ahead, ATCE will be held in San Antonio, from September 24-27. Knowledge Reservoir will have 15 attendees this year, and some of them will be presenting their co-authored papers. These include:

- Joe Lach, Dr. Ken McMillen, and Robert Archer: *"Integration of Geologic and Dynamic Models for History Matching, Medusa Field"* (SPE 95930 - See abstract of this paper on page 4)
- Dr. Gerald Kuecher: *"Formation Pressure Application for Correlating Miocene Turbidite Reservoirs in the Deepwater Gulf of Mexico"* (SPE 103660)
- Dr. Alberto Mezzatesta: *"Effective and Total Porosities: Their Reconciliation in Carbonate and Shaly-Sand Systems"* (SPE 102811)
- Dr. David Shaw: *"An Information Resource for Water-Management Solutions"* (SPE-102497-PP - See abstract of this paper on page 4) 

The Role of a Consultant – What is it *Really*? (Continued from Page 1)

Service: This is a difficult one and one that does not come easily particularly to consultants who have previously worked in oil companies. It relates to the mind set that:

1. The client is always right – or at least most of the time.
2. You are there to advise and that's it.
3. Once you are done advising you must not overstay your welcome.
4. If you do a good job you may be called back but this should not be an expectation.

For those of us who have been in the service business their entire career, there is an ingrained nature that follows the above rules. For others, well, let us say that they will never make it in the consulting world no matter how hard they try.

Value Added: There must always be an element of clear and resounding value added in order for the client to feel satisfied that they have gotten what they paid for and then some.

Having detailed what should make a consultant successful, one might, on the other hand, ask what the barriers to long term success are. These will be summarized in what I will call a series of effects:

• **The “charlatan” effect:** I have come across the gamut here from bogus degrees to the selling of snake oil. Not to mention the claims of working on projects that never really happened. One is reminded of the quip about summing up the years of experience of a resume resulting in a 130 year career.

• **The “I will play with the big boys” effect:** This appears to be fairly common nowadays where consultants are asked to “participate” in the “upside” of the field. So, in one fell swoop, the consultant has become a producer. Now what is wrong with this picture, I wonder? I will let the barrage of lawyers employed by the various “real” producers out there attempt to answer the question in the context of “conflict of interest”.

• **The “holier than thou” effect:** There are consultants out there who, having established some degree of expertise in an area, suddenly become the proclaimed mouthpiece for that area. Naturally, they act as the one and only “go to” guys with charge rates which are commensurate with this pedestal.

• **The “conflict of interest” effect:** A true consultant is ambivalent as to what tools are used to execute the work. The tools must be best in class and fit for purpose. Indeed he must be able to recommend to the client what software should be used on a project with the client making the ultimate decision. The client, on the other hand, must have a say-so in

what is used since they are paying for the tools one way or another. So, anyone pushing in-house developed/marketed software is, by definition, conflicted despite whatever assurances are provided to the contrary.

• **The “I do not need to listen” effect:** There are many consultants who believe that they really do know it all and that they can diagnose the problem before the client has even verbalized what it is. As a result they are off on a solution track which is, more often than not, tangential to a convergent solution. Naturally, time is being billed to the client in the process.

• **The “get rich quick” effect:** The industry is cyclic in nature meaning that there will be buoyant times and there will be not so buoyant times. There are some who subscribe to the philosophy that gouging when times are good will put them on the Bill Gates ladder to great wealth. What they tend to forget is that the industry maintains a memory which is almost elephantine in nature and that next cycle around they will scrape the bottom of the barrel.

So where does all this leave us? The industry is very much buoyant. Oil prices are staying at a level where previously marginal fields have now become economical. As a result, novel technologies are being pursued. This provides an excellent opportunity for many players in the consulting world to exhibit their wares and secure business that is ultimately intended to add value to their clients, the energy companies. The value added needs to be clear and succinct and, in return, compensated for on the basis of fair market value. In order to accomplish these objectives and achieve the ultimate goal of “sustainability”, the go-forward plan is quite simple – Find more and Produce more. A very simple mantra to keep in mind which should also help us consultants to “stick to the knitting” while “delivering the goods”.

The latter two somewhat clichéd comments should not be taken lightly but rather considered in the face of a client – service provider relationship that should maintain an interface that must not be blurred together with a responsibility that must not be infringed upon. Suffice it to say that, if the technologists at the manufacturer of the O-rings on the solid boosters straddled by Challenger were allowed to do their job, and present their recommendations, things might have been different.

The consultant has a very clear and important role to play. He / she must understand it, embrace it, and be allowed to play it. If these business elements are met, and if the prerequisites discussed earlier are checked, then there should be nothing to hinder a long term successful and harmonious relationship between the client and the consultant. ■

The following are abstracts of two papers that Knowledge Reservoir will co-present at the SPE Annual Technical Conference and Exhibition. For a complete list of Knowledge Reservoir's presenters and conference dates, see page 2.

Integration of Geologic and Dynamic Models for History Matching, Medusa Field

SPE 95930

Authors: **Joseph Lach, Kenneth McMillen and Robert Archer, Knowledge Reservoir, L.P.**; Jeff Holland and Ralph DePauw, Murphy Exploration and Production Co.; Bjørn Egil Ludvigsen, Scandpower, P.T.



Joe Lach

Abstract

Medusa Field in the Gulf of Mexico produces from turbidite sandstone reservoirs at depths between 10,000 and 14,000 feet. Production from the field commenced in December 2003, and six wells are producing at a rate of 40,000 BOE/D. Well A-3 is producing from the T4B reservoir at average oil rates in excess of 10,000 STB/D. The late Miocene T4B reservoir was deposited in a turbidite channel/levee environment with extensive thin-

bedded levee and isolated massive sand channel-splay facies. Stratigraphic cross sections and seismic amplitudes show rapid lateral change from levee to channel-splay facies. Depositional slopes, consisting of the east-facing levee flank and west-facing regional slope, and syn-depositional normal faulting control the location and thickness of channel-splay deposition. Conventional core in one T4B well provides information on depositional facies, reservoir properties and rock

compaction.

The decline of reservoir pressure early in the producing life indicated that well A-3 was connected to a smaller oil volume than estimated from pre-production models. However later performance, the ability to sustain oil flow rate and a slowing of the rate of reservoir pressure decline, suggested communication between the higher quality channel-splay and levee facies and a larger OOIP than indicated by the early performance. The eventual rise in producing gas-oil ratio and the onset of minor water production also affected the well's performance.

Simulation history matching commenced using pre-production reservoir characterization models with the objective to forecast well A-3 production and to evaluate the potential for a previously planned second well completion in the zone. Traditional history matching using the original static model was not satisfactory.

MEPO®, an optimization tool for assisted history matching, was used to complete the history match study. Multiple equiprobable history matches were obtained varying fault and facies transmissibility, fluid PVT, rock compaction curves, and critical gas saturation. The reserves and production profile risk for a future well completion have been evaluated with a range of the history match results. ■

An Information Resource for Water-Management Solutions

SPE-102497-PP

Authors: J. Roger Hite, SPE, Business Fundamentals Group; **David C. Shaw, SPE, Knowledge Reservoir, L.P.**; John M. Warren, SPE, Halliburton.

Abstract

Halliburton has been directing a multi-year, cross-industry initiative to develop a web-based Information Resource for Water Management Technology. It aims to help the working engineer to understand current and up-to-date Water Management principles, technologies, best practices and lessons learned. We present the philosophy and methodology employed in the analysis, design and implementation of this important industry resource.

Introduction

Water Management is an important and often neglected aspect of well management and production optimization. It can often cost substantial amounts of investment dollars, but is often poorly designed, implemented and managed. A key issue is that the industry is poorly informed about standards, available technologies, best practices and options. To address this issue, Halliburton has been directing a multi-year, cross-industry initiative to develop a web-based Information Resource for Water Management Technology. This public portal is intended for the working engineer, working throughout the petroleum industry, to understand current and up-to-date Water Management principles, technologies, best practices and lessons learned.

Key to the success of the Information Resource has been a careful mission and design study, executed in collaboration with industry experts taken from a variety of operating oil companies. These experts formed an advisory board that

both provided the initial direction and design concept, as well as validated the implementation and rollout. The Information Resource has been rolled out as a public portal open to any engineer who registers, and currently contains field experience and technical data for the majority of the available significant treatments.

The Information Resource has been modeled on standard portal concepts, and consists of main sections that include: Information; Lifecycle Issues; A Performance Database containing key performance indicators; Community of Experts links; and on-line Economic Evaluation and Treatment Design tools. Going forward, the portal provides a platform for providing future e-Learning, collaboration and document sharing tools. The key conclusions learned from this development project were the importance of: (a) involving key cross-industry experts and potential users in an efficiently-managed advisory board; (b) an accurate and well-defined mission statement; (c) a flexible and expandable software and IT platform for deployment; and (d) constant attention to the end-user and goals during technical development.

Cross-industry technology initiatives are very rare in the petroleum industry, and there are certainly none in the discipline of Water Management. At the same time, there are huge inefficiencies due to poorly designed, implemented and managed projects. The development of this Information Resource is not only important to Production Optimization engineers, but also to all those involved in the development of similar technology portals – whether in-house or public – across the industry. ■

Knowledge Reservoir Welcomes New Employees

Knowledge Reservoir has continued to grow rapidly since December of 2005, and it is delighted to welcome many new employees to the company. As new employees of Knowledge Reservoir, they are now part of an outstanding team of professionals proud to contribute to a company with an exciting future.



Toni Hill

Toni Hill joined the company in December 2005 as an Administrative/Accounting Assistant.



David Jefferis

David Jefferis joined Knowledge Reservoir in March as a Staff Geoscientist in the Subsurface Asset Consulting division.



Russ Krauss

Russ Krauss joined Knowledge Reservoir in January of this year as E&P Sales Manager.



Ricardo Sotto

Ricardo Sotto joined the company in March as Director of Business Development Latin America.



Stan Thurber

Stan Thurber joined the company in January as a Staff Engineer in the Subsurface Asset Consulting division.



Kimberly Kalsey

Kimberley Kalsey joined the company in March as HR/Recruiting Manager.



Kishor Pitta

Kishor Pitta joined Knowledge Reservoir in February as a Petroleum Engineer in the Knowledge Management division.



Dr. Bin Liu

Dr. Bin Liu joined Knowledge Reservoir in April as a Petroleum Engineer.

New Employees (Continued from Page 5)



Dr. Alberto Mezzatesta

Dr. Alberto Mezzatesta joined Knowledge Reservoir in May as Director of Production Solutions.



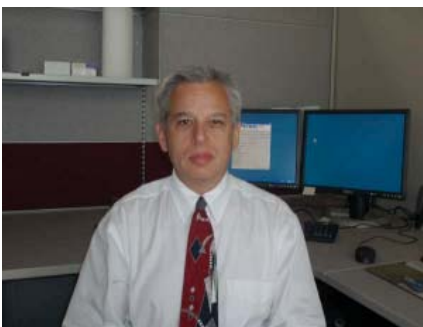
Troy Keeney

Troy Keeney joined the company in June as Systems and Applications Consultant.



Tra Haynes

Tra Haynes joined Knowledge Reservoir as Receptionist/Administrative Assistant in June.




Dr. Phil Levine

Dr. Phillip Levine joined the company in July as a Staff Geoscientist.

UK Staff


David Humphrey joined the UK office in March as Sales Manager.

Lynette Daley joined the UK office in May as Administrative Assistant.

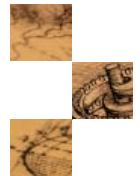
Aonghus O'Carroll joined the UK office in June as Managing Director and is responsible for Knowledge Reservoir's activities in Europe, Africa and the Middle East. 



UK Office Staff (left to right): David Humphrey, Aonghus O'Carroll and Lynette Daley

 "better reservoir decisions" newsletter is a bi-annual publication of Knowledge Reservoir. Knowledge Reservoir is a global energy consulting firm based in Houston, Texas with an office in Staines - Middlesex, UK. Knowledge Reservoir provides Subsurface Asset Consulting services, Production Solutions and Knowledge Management products and services to companies and organizations around the world. Knowledge Reservoir's services include:

- Integrated reservoir evaluations
- Reservoir simulation & modeling
- Geological/geophysical interpretation
- Petrophysical analysis
- Performance optimization
- Petroleum engineering solutions



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