

# digital energy journal

Where are the biggest Atlantic opportunities now?

Making exploration profitable

Why low oil price is the best time for ultradeepwater

How to reduce deepwater drilling costs

Event Report, Finding Oil in Atlantic Basins, May 27, 2015, London

Special report

## Finding Oil in Atlantic Basins

May 27, 2015, London



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# Making exploration profitable

For the exploration department of an oil and gas company to be profitable, of course it needs to find oil, but the profitability can also be ruined by high drilling costs, said Premier Oil's Director of Exploration Andrew Lodge.



Andrew Lodge

"People don't invest in exploration for average returns because of the [high] risk," said Andrew Lodge, Exploration Director of Premier Oil, in his opening remarks of the May 27 Finding Petroleum forum in London, "Finding Oil in Atlantic Basins."

"They want and expect good returns. 20 per cent internal rate of return, or 15 per cent minimum."

"If we [explorers] can't get that, why on earth should the money come to us? It should go to utilities, other forms of energy that can give predictable returns."

There have been some big exploration successes over the past 5 years, including pre-salt exploration, particularly in Brazil, he said.

But there have also been high cost discoveries, where the drilling costs damaged the profitability of the overall project. "We must be careful now with the geology we pursue," he said.

The oil and gas industry is "ridiculously competitive," to the point where companies will pay whatever they need to pay to get a drilling rig they want, Mr Lodge said. "The rig company knows that, the [drilling] price goes up," he said.

But expensive drilling rates can destroy all of the value in the whole project. By paying so much to drillers, "we are being in my view irresponsible, around what is effectively a margins business."

## Recent successes

The Atlantic margins have, over the past two years, "continued to breed success, particularly in deepwater."

Looking at the South Atlantic, "in the Western side of Brazil, the pre-salt has continued to deliver," he said.

Now, "the discoveries are starting to move back into more conventional deepwater post-rift plays" (oil which was deposited after South America and Africa broke apart).

"A couple of years ago there was a big licence round [in Brazil], there were over 20 wells planned or committed in that part of the world in the next 5 years."

There have been some interesting pre-salt discoveries in West Africa, "but they are also starting to wane a little bit, with the complexity of the pre-salt world," he said.

Interesting West African discoveries in the past couple of years include Cairn in offshore Senegal, and Cosmos with a "reportedly huge gas discovery" in deepwater Mauritania. "It will be interesting to see how they create a good return from that investment," he said.

However, "what we conventionally call the North Atlantic has not seen any significant discovery that I'm aware of over the past two year period."

## Low oil price

"Speaking personally, I always felt that an oil price greater than \$100 was unsustainable," he said.

"The problem was, as an industry we never recognise when the fall is going to happen, then we panic when the fall has occurred."

"Exploration is considered by the integrated companies to be a discretionary budget item. That means cuts, cuts, cuts, not only to the program but also, sadly, to the people."

"All we know is, [the price] will rebound. We don't know how long it will take to rebound and to what extent."

According to experts consulted by Premier Oil, the fundamentals driving the oil price "aren't as bad as you might expect," he said.

"On the demand side, with the big markets of China and India, growth is slowing, [but] it has not stopped. In some parts of Western world the growth is ongoing. There is a demand."

"The problem is there is too much supply."

No-one knows for sure about motivations in Saudi Arabia, but "fundamentally I think it is about capturing and maintaining market share."

"The biggest impact on the [Saudi] market share has been US unconventional resources."

"So I would translate it as [a move to try to] suppress US onshore oil, keeping it away from international markets," he said.

"How long that will go on for, we don't know."

"It has had an effect. The number of [new] wells has reduced."

So meanwhile for the oil and gas industry, "it is about getting the cost down, because that controls ultimately the rate of return to the investor."

When it comes to cost management, "we are dreadful in the oil industry and we've got worse and worse."

Watch Andrew Lodge's remarks on video at [www.findingpetroleum.com/video/1338.aspx](http://www.findingpetroleum.com/video/1338.aspx)



This special edition of Digital Energy Journal is an Event Report from our forum in London on May 27, 2015, "Finding Oil in Atlantic Basins".



### Event website

<http://www.findingpetroleum.com/event/8ea4d.aspx>

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# Finding oil with the play fairway approach

The play fairway approach to oil and gas exploration, mapping the areas of lowest exploration risk, has been successful in the North Sea. Could it also work for exploration in the Northeast Atlantic Margin?



Joanne Cranswick,  
Exploration Team Leader,  
LR Senergy

To trap oil or gas you need a good quality source rock of sufficient maturity, a reservoir layer, the potential for the hydrocarbons to migrate to this layer, and a topseal to keep the hydrocarbons in place.

As well as framing the geological structure, it aims to understand when sediments were deposited and their gross depositional environment.

Ternan works with all publicly available well and seismic data as well as published studies and references.

Play fairway mapping uses this data to determine areas of lowest regional risk for future exploration and identify the most likely areas for new discoveries.

There is still significant potential in the North Sea, she said.

### Northeast Atlantic Margin

In the Northeast Atlantic Margin the geology is more demanding, but this exploration methodology can still be applied.

The region has over 500 exploration wells, many shallow bore holes and an extensive seismic database.

“The whole length of the Northeast Atlantic margin is also covered by gravity and magnetic data,” she said.

The study uses all this available data to define the structure of the earth’s crust and map the elements of the petroleum system.

Gravity modelling highlights the sediment thickness and by inference the depositional basins.

“To properly understand the geological history of the Northeast Atlantic we have to reconstruct the plate positions during the Tertiary and Mesozoic” she said.

As Greenland separated from Norway, UK and Ireland a Mesozoic seaway was preserved along this margin and infilled with a variety of sediments and volcanic lavas.

For the North Sea stratigraphic analysis is followed by regional mapping to determine the areas of lowest exploration risk.

The Northeast Atlantic is severely disrupted by volcanism and continental breakup so plate reconstruction, seismic and potential field mapping are key parts of the work programme. Extra steps are needed to aid the understanding of reservoir distribution in areas with more complex geology and sparse well data.

The study showed that the hydrocarbon bearing reservoirs vary in age from pre-Cambrian to Eocene, a similar age to North Sea reservoirs.

“Ternan has been very successful in applying this methodology to the North Sea. We have had similar success adapting this to the Northeast Atlantic margin.”

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### North Sea approach

In the North Sea the approach examines the whole petroleum system, to understand how the basin has evolved.



# How to reduce drilling costs

Top tips for reducing drilling costs include asking questions about the drillers' management of their blow out preventer (as a means of reducing BOP related NPT) and paying more attention to the well engineering process, says Mike Dyson of Navigant.



Mike Dyson

A deepwater drilling rig can have, "in many cases", 25 per cent non-productive time, said Mike Dyson, Director, Oil and Gas Practice with professional services company Navigant, speaking at the Finding Petroleum forum in London on May 27, "Finding Oil in Atlantic Basins."

Mr Dyson was formerly BG Group's general manager well engineering, and has 30 years' of experience with Shell and BG Group.

One of the biggest causes of the high non-productive time is the blow out preventer (BOP) stack. "It tends to require a lot of maintenance" he said.

"Macondo shone a light on the way we manage pieces of equipment like that and the work we now do to make sure these things are reliable is expensive."

A BOP is very old technology, he said. "A subsea BOP is basically a land BOP with some accumulators and a control system around it. There's very little instrumentation. It is incredibly simple and certainly low tech."

To reduce the risk of BOP related non-productive time, it might be smart for operators to ask questions about how the BOP is being maintained when you hire a drilling rig, he said.

You could say to the drilling contractor, "show me the BOP track record, convince me you have the right quality of people managing that equipment, show me you're tracking maintenance and repairs, you're using spare parts supplied from a reputable manufacturer, the tests are carried out as per legal and company requirements."

"If necessary I suggest being prepared to pay more money to accept a higher quality solution."

One conference attendee commented that he had seen as many problems with BOP reliability

on new rigs as on old ones. "I tend to agree, that's certainly been my experience as well," Mr Dyson replied.

Mr Dyson was asked whether it was due to BOPs getting more complicated in response to Macondo.

"I don't think BOPs have got overly complicated. I think it's mostly around the maintenance programs that are now more rigorous, and the need to rebuild BOP technician competency which attracts more attention on those kind of rigs."

"Have we gone overboard on Macondo? I personally don't think so, I think it's tightening up what should have been happening anyway."

## Better well engineering

Oil and gas companies would also benefit from being more focussed on well engineering, he said.

"I hold up my hand and declare that I'm a well engineer. But in general, I think we've seen fairly disappointing upstream oil and gas project performance and well engineers have played their part in that."

Many oil and gas companies see well engineering as a non-core activity. "In some companies, it's been delegated to drilling contractors and service companies, without the management controls and interest it should have had, given the costs and risks to the business."

Mr Dyson explained the basic well delivery process. He said "many companies could improve their well delivery process. For example, most do not have a rigorous enough "decision gate" process. "I've seen projects go through to spud where significant risks and opportunities has not been thought through and managed."

The drilling costs should also be worked out more thoroughly, without giving senior management an opportunity to interfere.

"Many times there's been an accurate bottom up calculation of the cost, then senior leadership have said, that's too much, you must do it for x per cent less."

The lower estimate gets made in the plan, without any specific actions to deliver it and, guess what - it doesn't materialise," he said.

"There's a degree of honesty needed, and openness, on what a well is going to cost, so everybody understands and owns the numbers." By all means set separate performance improvement goals but avoid baking them into the plan.

You can also continually challenge the industry partners and service companies to find ways to do it more efficiently and effectively, he said.

## Contracting

In your contract with the driller, "I would certainly advocate incentivising for performance and safety," he said.

If you end up with a choice of a more expensive rig with a 'hot crew' which has worked on the rig before, or take a cheaper rig with a crew which has never worked together, he said. "In many cases I'd say, take the rig with the 'hot crew'."

Oil companies should not micromanage their drilling companies. "The concept of the operator planning, and contractor executing, I think is correct."

In your contracting with suppliers, "you should challenge prices, rates and margins, but you have to do it constructively," he said.

"Buyers often ask for large discounts. If that's coming out of a large profit margin it's not an unreasonable request. But make sure there's give and take in there, for example offer to extend the contract in return."

## Crew competency

For better drilling, you should also think more carefully about crew competency. "There's a big difference between a good drilling crew and an average drilling crew."

"When drilling a well, you've got one shot - make the most of it with the best planning and people you can."

# Finding Oil in Atlantic Basins

Crew competency is arguably a contributory factor to the Deepwater Horizon disaster, he said. "I have read elsewhere that none of the regular crew on the Deepwater Horizon had a university degree," he said.

"We're talking about the way we place significant investment, and certainly a big opportunity for risk and incident, in people who are very well intended and work very hard. But in many cases they are not educated to a level that would enable them to question decisions to the extent that they could have," he said.

A useful initiative is "crew resource management", an approach which comes from the aircraft industry, where you make sure different people in a team are communicating and questioning each other, he said. "That's an example of something we can do more of in the oil and gas business in drilling and operations."

Mr Dyson was asked about his views on the best way to handle local content requirements, where the country whose water you are drilling in demands that a certain number of crewmembers come from that country.

The demands are getting more technically focussed, for example stating that you must have a certain number of people at the higher technical roles, a member of the audience said.

"I think it certainly is a big requirement, and part of the overall upfront understanding of what is required, part of the decision on whether to make an investment in a play, in a country," Mr Dyson replied. "I would advocate it needs to be taken seriously."

"It's not an unreasonable expectation that you'd spend money in the country and help build capability. It needs to be embraced proactively and creatively."

"So hire good people from that location, put them into the company training scheme, and move them around the world. I'm a big believer in diversity, I think people add value wherever they work, even if it's not in their home country. So it's a fact of life to be embraced."

"I worked with folks in BG Group operating in East Africa, they certainly made it work. Not an easy challenge though," he said.

## Reducing spec

You may also be able to reduce the costs of the well by constructing it to a lower specification.

Companies tend to go for very conservative designs, making sure they can handle any pressure or temperature they might possibly find, and have options to do sidetracks.

Companies also often overdesign for low pore pressures, making the well stronger than they need to (or with more strings of casing), in case the rock is not as strong as expected.

"We might be better off designing for P90 (the conditions you are 90% sure of finding) and accepting that in some cases you won't get to the objective, he said.

## Comparing performance

You might identify savings by improving performance of different rigs, and by different crews on the same rig. For example you might find that one crew can do 20 joints of casing an hour, which is "not bad". But another crew can do 30 joints of casing an hour. That alone can lead to a saving of \$230,000 on a well. "And that's an operation we repeat many times."

"By understanding why there is such variability and raising everybody up to the best performing crews and rigs, there's a huge opportunity for everybody to do better," he said.

"The proviso is the crew doing 30 joints an hour had better be doing it safely. But in my experience, an efficient operation is a safe operation. They usually go hand in hand."

## IT

Information technology can also help drill wells faster in many ways.

Drilling wells is much safer than it was 25 years ago, but not much quicker, he said. "Let's bring some modern Information technology to drilling."

In his previous employment, "real time data centres, where you bring in information from key drilling activities to a central location and have experts look over the data, saved us a lot of down time and "train wrecks" in terms of bad decisions," he said.

"That kind of overview can be very powerful."

There are many ways to better monitor what is happening on the rig. For example "use a video camera to work out what's happening on the drill floor. And by using (low cost) in-

ternet connected sensors the industry has an opportunity to collect and analyse lots of performance data in real-time.

Companies currently usually collect data from drilling rigs every 15 minutes, but that might be too long a time interval to give you useful notice if something is going wrong, he said.

Also, geosteering and automated rig equipment "can make a substantial difference," he said.

## Costs will drop

Drilling costs are dropping whatever you do, he said.

The drop in exploration activity, in particular, is leading to less demand for drilling rigs. With many rigs on a 1-2 year contract, there is a delay between a drop in the oil price and a drop in drilling rig prices, he said. But prices are starting to drop now.

There are "lots of new-builds still under construction, which will further force the cost of drill rigs down."

At the same time we can expect to see reducing fuel costs for drilling, and reducing materials and talent (people) costs. There will be less competition for drilling licenses.

In addition, there is room to take costs out of the supply chain, which has become bloated over the past 5 years.

Drillers' competition for customers could encourage them to make more effort to try to drill more efficiently. Standard day-rate payments to drillers "are not that closely linked to how quickly and safely the operation is conducted," he said.

As a result of the low day rates, "many low spec rigs will, I think, disappear from the market. Day rates may be barely sufficient to pay an operating cost for a rig. There will be consolidation amongst drilling contractors and also service companies," he said.

Watch Mr Dyson's talk on video and download slides at [www.findingpetroleum.com/video/1339.asp](http://www.findingpetroleum.com/video/1339.asp)

# The best time for ultra-deepwater?

A low oil price era could be the best possible time to go ultra-deepwater, if it means drilling costs are cheapest - and there are plenty of possible targets in the North and South Atlantic, said Spectrum's Neil Hodgson



Neil Hodgson

The best time to drill in the ultra-deepwater could be when there's a low oil price, said Neil Hodgson, Executive Vice President Mediterranean and Middle East Region with seismic company Spectrum, speaking at the Finding Petroleum May 27 forum, "Finding Oil in Atlantic Basins."

Mr Hodgson defines ultra-deepwater as being deeper than 3000m water, about the deepest which has been drilled so far.

With the drop in oil price, oil companies are getting scared about deepwater, and going back to looking at shallower water, where the available targets are much smaller, he said.

But drilling rig day rates might be about to plummet.

Consider that from 2001 to 2005, day rates for drilling rigs were around \$150,000 a day, and the oil price was under \$50 a barrel.

But in 2005-2006, the oil price went to around \$60, and rig rates went up to around \$600,000 a day, and stayed high ever since.

The correlation here is simple supply and demand. When the oil price goes up, oil companies get more enthusiastic about drilling, and if there's not enough rigs "the day rate goes crazy," he said.

But the same can happen in reverse. "The last time oil was \$50 was in 2005, the rig day rate was \$150,000 a day," he said. "My contention is, if there's a fall in oil price and there's an oversupply of rigs, it will revert back to that position. Day rates for UDW rigs are already \$400,000 a day and declining."

Studies by Quest Offshore show that for the next four years, supply of drilling rigs will outstrip demand, he said. So "we can expect day rate to go right back down."

This means that a well which might cost \$200m with high rig costs now costs \$50m to \$60m. "Think of the scale of the risk reduction in that one step."

Since steel, the main variable component in the construction of drilling rigs, is the same price as it was 10 years ago, it doesn't make sense for people to say (today) that they can't drill in deepwater until the price gets [up] to \$100/bbl.

The only difference between today and 2005 is that the oil industry has got used to paying a higher rig price, he said.

## Can we do it?

Can we drill at ultra-deepwater? We have all seen the charts from oil companies showing how they are drilling in deeper and deeper water, and the different rig designs they have used, and there's no reason to stop at 3000m, he said.

Some companies have been drilling in deeper water longer than others, but it has not taken much time for the late starters to catch up, because most of the expertise in deepwater drilling resides with the driller, not the operator.

As an example, "Repsol started in drilling in deepwater in 2007, now they've drilled in 2700m of water," he said. "Deepwater drilling is not the domain of supermajors, it is the domain of every oil company."

"The deepest water well in the world is by ONGC offshore West Coast India, 3174m of water in 2013," he said. "The reason they could do it is they used a Transocean rig. That's where the equipment, technology and know-how resides."

Also consider that between 1986 and 2005, a time when the oil price was below \$50 the whole time, the maximum drilling depth increased from 2000m to 3000m, a big jump.

## Prospectivity

The next question to answer is if there is any prospectivity (ie potential oil and gas) in deepwater.

Mr Hodgson showed a chart of the thickness of sediment in oceans around the world. In much of the Southern Atlantic Ocean, there is between 7 and 9km of sediment.

There is more sediment that hasn't been explored than sediment that has been explored, he said. "We haven't explored it because we didn't

think we could [due to water depths], but we can."

Source rock has recently been found offshore Namibia, on the West African coast.

There could be a great deal of hydrocarbon source rock in the South Atlantic. Consider that the South Atlantic was previously an enclosed sea, with South America and Africa closer together, bounded to the South by the Falklands Plateau.

It is known by geologists as the Aptian Sea. "reported as the largest inland sea there's ever been on planet earth," he said.

As an isolated basin, it could collect a lot of sediment from rivers flowing from the West and East, he said. "Just like the Black Sea, it's a fantastic place for sinking organic material."

For oil in the source rock to form, you need about 3 to 4 km of sediment above the source rock, to heat it to the required 100 degrees C. You can map out which areas of the South Atlantic have this thick sediment, he said.

## Traps

To have a reservoir, you also need a trap.

Mr Hodgson reported on some research made by an oil major on all of their discoveries, and found that for slope channel systems (such as old riverbeds) you have a chance of success of 1 in 10, and the average resource size is 100 mmbbls.

However for oil discoveries in apron fan sands, the chance of success is 1 in 3 and the average resource size is a billion barrels.

This oil major has "drilled 100 exploration wells a year for 50 years, so they know what their chances of success are," he said.

In Uruguay (East coast of South America), there are "apron fan sands on the basin floor," he said. "These are the big plays we are looking for."

Much of the seismic imagery, shown in terms of time, shows the fans pointing upwards towards land, which means that the oil could migrate up the fan and get lost.

However if you convert time to depth, you see that the dip goes the other way, towards the ocean ridge. "You've got a perfect stratigraphic

## Finding Oil in Atlantic Basins

trap,” he said. This geometry is formed by plate scale processes creating very large traps.

“These are the biggest prospects you’re ever going to see.”

“You can pick any line offshore Uruguay and go from PSTM (post stack time migration) to PSDM (post stack depth migration) and always get the same thing,” he said. “When we convert it to depth, it all dips up in the seaward direction.”

A similar picture with apron fan sands can be seen from the East Coast of the US, Namibia, and the South Africa Orange Basin, Gabon, Mauritania (site of a recent Kosmos Discovery) and Senegal (site of recent Cairn discovery).

Mr Hodgson concludes that the reservoirs, the low risk traps and the source are all to be found in ultra deepwater and the economic risk profile for exploration is never better than when the oil price is close to \$50/bbl. Hodgson says “We

have begun the journey into deep water drilling – but we mustn’t stop before we get the prize”.

Watch Mr Hodgson’s talk on video and download slides at

[www.findingpetroleum.com/video/1349.aspx](http://www.findingpetroleum.com/video/1349.aspx)

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## TGS and the MSGBC basin

Ben Sayers, Project Developer with TGS, presented a talk on North West Africa Atlantic Margin MSGBC Basin Prospectivity (MSGBC stands for Mauritania, Senegal, The Gambia, Guinea Bissau and Guinea Conakry).

To date 177 exploration wells have been drilled in the basin with 115 (66 per cent) encountering hydrocarbons.

This includes 110 offshore wells, of which 60 are in water depths greater than 100m, and 30 of those are in water depths greater than 1000m, and two of those are in water deeper than 2000m.

TGS acquired over 28,000km of 2D seismic

data over the basin in 2012, and subsequently over a billion barrels of oil were discovered in the basin in 2014.

The region is relatively unexplored, with one well every 6,000km<sup>2</sup>, he said. The basin is around a third of the size of the Gulf of Mexico, extending from onshore to water depths of up to 4000m.

The basin has three main petroleum systems.

There is a post-rift sequence (with oil created after the rift between South America and Africa), with source rocks from the Aptian, Albian and Turonian epoch, reservoirs from the Upper Cretaceous and Tertiary era with clastic

rocks and Jurassic carbonates, and seals from the Upper Cretaceous and Tertiary shales or allochthonous salt (which means the salt originated some distance from its current position).

There is a pre-salt sequence with source rocks of Triassic lacustrine, reservoirs in Triassic syn-rift clastic rocks or Jurassic early postrift limestones; and seals of interbedded shales or salt.

There is a pre-rift Silurian/Devonian level sequence, proven onshore and probably extending onshore.

Watch video and slides on [www.findingpetroleum.com/video/1342.aspx](http://www.findingpetroleum.com/video/1342.aspx)



## Premier Oil

Andrei Belopolsky, Brazil Exploration Manager with Premier Oil gave a talk on prospective drift and rift plays in the Ceará basin of the Brazilian Equatorial margin.

There has been exploration in the basin, which is on the South Western part of the equatorial margin of Brazil, since the early 1970s, with several moderate size fields such as Xaréu, Curimã, Atum, and Espada Fields, with ultimately recoverable reserves of around 200m barrels of oil equivalent.

Deepwater exploration has been sparse with only 5 wells in water >1000m drilled to date. This has de-risked the working petroleum system.

A significant part of the deepwater acreage was licensed to operators in the 11th bid round in 2013.

Premier Oil, together with partner CEPSA have won two exploration licences in the 11th bid round and are now the dominant acreage holders in Ceará basin.

A multi-client 3D survey using broadband technology is planned for 2015 which is expected to result in a superior seismic image in time for impacting the exploration drilling programme in 2017.

(Video and slides not released to internet)

## Getech

Matthew Gelsthorpe, Geoscientist with Getech gave a talk on prospectivity of the Offshore Canary Islands.

Getech has identified a working petroleum system that can extend as far down as the Jurassic carbonate play.

Watch the talk on video at [www.findingpetroleum.com/video/1110.aspx](http://www.findingpetroleum.com/video/1110.aspx)

## Neftex

Sarah Laird, Regional Geoscientist with Neftex, presented a talk "Expanding Exploration Horizons: The Analysis of Play Ideas in the North Atlantic"

(Video and slides not released to internet)

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# Attendees list 'Finding Oil in Atlantic Basins' at The Geological Society in London, Wednesday, May 27, 2015

Allan Induni, Geoscientist,	Phil Beale, Regional Manager - Reservoir Services, E. Hemisphere, Geotrace Technologies Ltd	Andrew Lodge, Exploration Director, Premier Oil plc
Christian Bukovics, Partner, Adamant Ventures	Dirk Cuthbertson, Marketing Manager, Getech	Josh King, Analyst, RAB Capital
Paul Murphy, Key Account Manager, Oil and Gas Division, Airbus Defence and Space	Michael Golden, Consulting Petroleum Geologist / Russian Translator, Golden&Associates	Mike Rego, Managing Director, Rego Exploration (Oil & Gas Consultancy Services)
Gerry Farrow, Vice President, Aker Solutions	Somar Abdullatif, Senior Exploration Geoscientist, Gulfsands Petroleum	John Siegfried, Director, Resource Exploration Services Ltd
Chris Beech, Business Development Manager - Capital Projects, Amec Foster Wheeler	Chris Gravestock, Halliburton	Stuart Amor, Analyst, RFC Ambrian
Amelia de Coster, Bus develop, Amplified Geochemical Imaging	Sarah Laird, Halliburton Neflex	Alex Fowler, Marketing Geologist, Robertson
Ben Pleasant, Graduate Trainee in Sales and New Ventures, ARKeX	Bill Green, Account Director, Hermes Datacomms	Richard Windmill, Robertson
Anne-Marie Liszczyk, Geophysicist, ARKeX Limited	Kevin Phillips, Basin Research Geologist, IHS	Judit Meszaros, Geoscientist, Rockhopper Exploration PLC
Hugh Ebbutt, Associate Director, AT Kearney	William Slade, Ikon Science	Kevin Dale, Exploration Advisor : New Ventures, Sasol E & P International
David Craik, Consultant, Atlaslocal	Rhydian Williams, BD Manager EAME, Ikon Science	Terry Devine, Asset Development Manager, Schlumberger
Patrick Bailey, Portfolio Development Director, Azimuth Management Limited	Ronald Doherty, Manager Field Developments, Intecsea	Nahed Kahloul, Account Manager, Schlumberger
Edith M G Fugelli, Advisor, BP	Ravi Chandran, Director, Kalki Consultants Limited	Tom Martin, Director, Shikra Consulting
Bryn Austin, Director & Geological/ Geophysical Consultant, Brynterpretation Ltd	Elizabeth Patock, Senior Account Manager, Landmark	Peter Smith, Business Consultant, Smith Joint Ventures
Robert FE Jones, Regional Exploration Manager, Cairn Energy plc	Richard Handley, Account Manager, Landmark	David Mirzai, Analyst, Societe Generale
Jodie Hunt, Marketing Geologist, CGG	Joanne Cranswick, Team Leader - Exploration (UK), LR Senergy	Glyn Roberts, Director, Spec Partners Ltd
Roger Doery, Consultant	Amrit Brar, Marketing and Sales Representative, Lynx Information Systems	Neil Hodgson, New Ventures Manager, Spectrum
Peter Farrington, Consultant Geophysicist	Duncan Macgregor, Consultant Geologist, MacGeology	Hannah Kearns, Geoscientist, Spectrum
Corneliu Cosovanu, Geologist, CoreLab Integrated Reservoir Solutions-UK	Matthew Gelsthorpe, Geoscientist,	Stacey Quarles, Strategic Fit
Dan Kunkle, Director, Count Geophysics	Robin French, Senior Advisor, Mitsubishi Corporation	Ben Sayers, Project Developer, TGS
David Boote, DBconsulting Ltd	Laura Pingree, Directo, Moore Stephens	Robert Wall, Director of Finance and Commercial Operations, TGS
Stephen Norman, Business Development Manager, DNV GL	Michael Dyson, Manager, Navigant	Sean Akinwale, Business Development Manager, TGS Geophysical Company
Ben James, Sales Coordinator, Dolphin Geophysical Ltd.	Daniel Slidel, West Eurasia Geoscientist, Neflex	John Bridgeman, Research Analyst, The EIC
Simon Casey, Marine Sales Manager, Dolphin Geophysical Ltd.	Evi Otobo, Senior Geoscientist, Newcross Petroleum Limited	Fiona King, Analyst, The EIC
Brian Donnelly, Consultant Geophysicist	Ramesh Shukla, Shareholder of exploration companies	Nigel Quinton, Head of Exploration, Tower Resources plc
Martine Davis, EMEA Sales Manager, DrillingInfo	Helen Turnell, Principal Consultant, NR Global Consulting Ltd	Jerry Jarvis, Exploration Manager, Tullow Oil
Timothy Culwick, Solutions Architect, Drillinginfo	Tom Palmer, Palantir Solutions	Benjamin Panting, Research Project Geologist, University of Brighton
Christopher Walker, Chief Geophysicist, FairfieldNodal	Robert Parker, Consultant, Parker	Steve Bottomley, Director, Upstream Consultants Limited
Salar Golestanian, Managing Director, Finity Asset	Yasmin D'Este, Business Development Director, Petroleum Geo Services	Alec Robinson, President & CEO, Valient Energy
Jim House, Director, GeoSeis Ltd	John Clure, Managing Director, Phoenix Hydrocarbon Resources Ltd	Helen Ricketts, Business Development Manager, Wood Group Kenny
Alexandra Kenna, Managing Director, GEOSERVE LIMITED	Kevin Sylvester, Director, Pinnacle Energy Limited	Chris Gumm, Business Development Manager - Automation Business Unit, Wood Group Mustang
Stephen Shorey, Geotrace Data Integration Services Ltd	Andrei Belopolsky, Exploration Manager New Ventures, Premier Oil	Andrew Gilmore, Business Development Manager, Wood Group Mustang
Laurence Pearce, Business Development Manager, Geotrace Technologies Ltd	Mike Hohbein, Geological Advisor, Premier Oil	

# What did you enjoy most about the event?

Good variety of topics covered within the conference title. Some excellent slides and good questions raised as well.

Kevin Sylvester  
(Pinnacle Energy)

New concepts in exploration and the spirit of the moderator. Very inspiring.

Evi Otobo

A couple of very lively and entertaining talks, plus other talks that were informative and well constructed.

Stephen Shorey,  
Geotrace

Venue, Presentations AND the smooth runnings for ample Networking and Learning

Bryn Austin -  
Brynterpretation Ltd.

The friendly environment, quality of presentations and high skilled / experienced people attending

Corneliu Cosovanu-  
Core Laboratories

"Useful opportunity to keep up-to-date on this topic; breadth of "experience " and "fresh" attitudes amongst the speakers; Met some new contacts;

Neil Hodgson's paper. We need original thinking in the industry and its very hard to do that when up against all the constraints of a job in an oil company. My only opportunities to really think were on long-haul flights, which is not an ideal situation.

Catch up with colleagues.

Networking opportunity, and briefing on contemporary industry views on Atlantic basins.

Mike Rego, Rego Exploration Limited

It gave me an over all idea of the industry thinking in the current economic environment.

Kevi Phillips IHS

