

## **What is it about well locations that make them so indeterminate?**

**I started out in seismic**, offshore, attempting to locate a long winding streamer that was constantly moving while being drug behind a boat. I thought that was difficult. When I decided to take ensoco in the direction of locating wells, I thought, *“this is a piece of cake”... “only reason they might be wrong is because the coordinates got changed... it’s probably a coordinate transformation error or maybe a datum shift”*.

**Little did I know** just how many ways wells could be made incorrect? Little did I know about well data when I started down this path? So now I’m trying to convince everyone that industry methods for determining the correctness of wells is ineffective and even if they start out right, current processes cannot confirm they will remain that way. As I’ve delivered the message about well locations I’ve **received a wide variety of responses**.

- *“We take care of all our wells and we know they are right”*
- *“For our uses, we don’t really need them to be all that accurate”*
- *“We survey them again when we need to do something”*
- *“I have a thousand problems and location accuracy is just one of them”*
- *“I don’t have budget to address that, it just isn’t a priority”*
- *“We are not spending right now”*

**As somebody who** was trained by the industry in positioning and has spent a good portion of my career addressing positioning issues, it is disappointing to have your career invalidated with these kinds of answers. I actually think a lot about these answers; especially now, in this economic climate.

**As kids we would often say**, *“Why do I have to learn math, a foreign language, history, biology, etc., I’m never going to use it.”* The simple truth is even then we knew the answer but wouldn’t admit we were wrong in our opposition. I think most of the answers to resolving well accuracy are similar.

**We need things** like accuracy because the world and data and the way we are using it, is changing exponentially. What we have learned allows us to deal with the present and address the future.

**I’ve written a paper** which has a lot to do with the perspectives we have and the

comfort zones we let ourselves get into when we are unsure of what will happen next. I call it *Understanding the Future of Information*. It is intended to make us think about what is happening and how to shake ourselves out of the mindset of just coping and actually do something about the changes that are happening.

I have also taken the simple issue of well location inaccuracy and created a scenario, a *bundling equation* that addresses all those statements. With it I can honestly try and answer the negative responses.

- **“We take care of all our wells and we know they are right”**

Perhaps but yours aren't the only wells you deal with. What about the operator next to you who has a well in the path of a horizontal well you are going to drill? As you assess huge regional plays through your efforts or those of your vendors; which of the thousands of wells are providing informative data; or perhaps not?

- **“For our uses, we don't really need them to be all that accurate”**

This may be true, but is it true for other uses, other areas? Is it a policy you want to endorse companywide? How much inaccuracy is acceptable? How inaccurate are the wells? Do you know for sure?

- **“We survey them again when we need to do something”**

How often do you do this? What are the cumulative costs of doing things in that manner? Is it always necessary? What are the rules and criteria that make this an acceptable method?

- **“I have a thousand problems & location accuracy is just one”**

So what is the priority in solving these issues? Are there certain ones, which are keys to solving others? Is there a method that if used for one type of problem could be used for others? Are you really just pushing the hard stuff back to be dealt with later?

- **“I don't have budget; it's not a priority; and, we are just not spending now”**

In this economy, these are the most difficult to address and yet possibly they should be the easiest. We are spending. When we cease to spend, we cease to do business and we no longer grow our businesses. How we budget and how we spend are critical and recognizing solutions to reduce spending and still achieve goals are key to dealing with these times.

**The article I mentioned earlier refers to something called “bundling”.** There are other words that could describe the idea, *but it is simply sharing ideas, technology, and expertise to solve a problem.* The bigger the bundle the bigger, better, and least costly the solution. With ensoco, I have taken on the problem of location issues and *bundled* a solution to address two regional plays covering 510,000 wells as an example of how bundling works.

**So now I think my career may have some value.** It may not be because I conveyed my knowledge about geodesy and positioning as well as I could have, but because I may actually convince some people to look at “bundling” as a way to show others their own problems that can possibly be solved using a similar technique.