

Vol 20, July 2009

Don't Let Haynesville Prospects "Disappear"

How to Minimize the Risk By Knowing "the True (Well) Path"

There are multiple risk elements involved in oil & gas prospect generation in any area. It's logical to assume any company wants to keep risk at a minimum. But what most companies don't know about the wellpaths in their prospect areas CAN hurt their chances of finding gas or oil.

1) What you don't see (wells/wellpaths) may hurt your interpretation.

In a previous newsletter entitled "How do you know if your well data is real or an illusion?" (Vol, 15, Feb. 2009) the issue of missing wells and wellbores was discussed. In almost all areas, because of historic industry collection practices, **15-20%** of the drilled wellbores are **missing**. The missing wellbore issue causes a related pitfall for interpreters: They could be using the wrong well data.

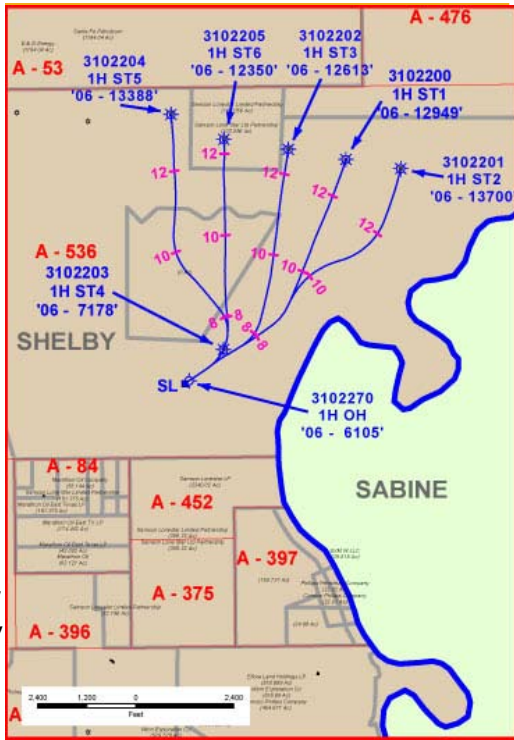
2) Well data will get linked to the wrong well header.



Figure 1: Missed wellbore.

The simplest and most common example of where wellbores are missing from the industry well records is shown in Figure 1. The sidetrack is there that led to a discovery, but the original hole is missing.

What then happens to all the digital well data (logs, tops, perms, cores, paleo, etc.) in the original hole (OH)? In the digital interpretation environment, all the data from the original hole is either lost (rejected) or it is linked incorrectly (lumped) with the sidetrack (ST) wellbore. Spatially the OH & ST are often quite different, and the 'lumped' OH data linked to the ST creates confusing subsurface 'control' points.



The above map demonstrates some of the superb wellpath control that is currently being captured by P2 Energy Solutions in the NW Louisiana-NE Texas area. (click map to see full program area and other examples).

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In areas with horizontal drilling like the Haynesville or Barnett Shale plays, the 'pilot' hole often becomes this 'missed' wellbore. All this incorrect information plays havoc with correct interpretation.

3) Formation tops being linked to the wrong wellbore.

As we review formation 'tops' (depths in a well of a specific pay horizon or lithologic unit) reported in state agency final well forms or in industry vendor databases, it is frequently not clear what wellbore the tops came from: the pilot hole or the sidetrack. Formation tops are often picked in the pilot hole because they have less distortion due to directional drilling and clearer log response than in horizontal logs.

But more often than not, formation tops are really associated with the 'officially numbered' wellbore - the horizontal wellbore. Thus great care must be exercised using reported tops in interpretation efforts.

Secondly, in tops created in-house by company interpreters, similar care must be exercised to link these tops to the correct directional survey, wellpath and respective API number. The Shelby County example (Figure 2, shown at right), where 7 wellbores exist and originate from the same surface location, is an example that linking tops to the correct wellpath is not always trivial.

Even when all wellbores for a well are recognized, log headers and other forms of well data require care to link as sometimes there is no sidetrack indicator, or sometimes the wrong sidetrack number is indicated. Further there are differences in sidetrack numbering based on information available or provided to service companies at the time. The long and short of it is that information from the same wellbore may get referenced as if it is from different wellbores - only care in comparing services dates and depths will eliminate data integration errors.

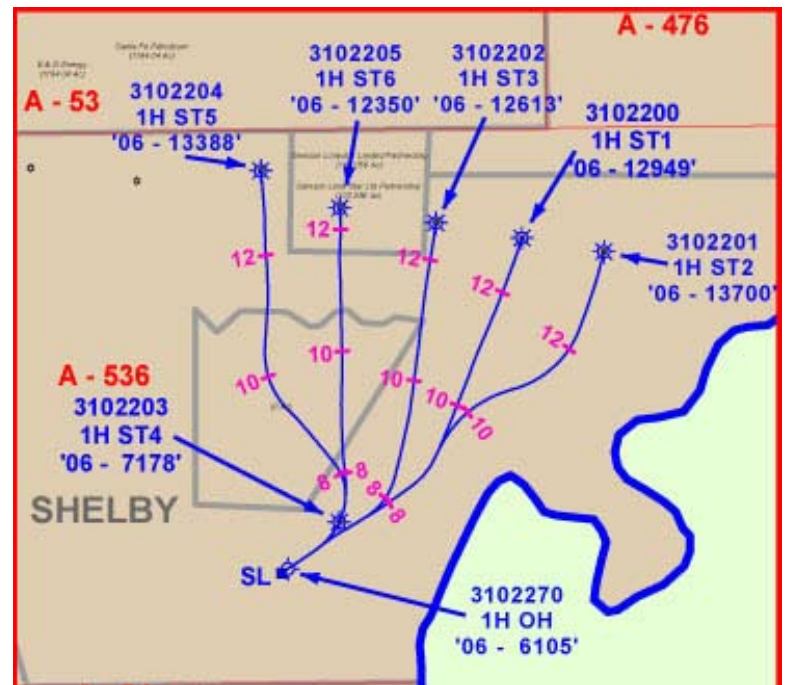


Figure 2: Shelby County excerpt.

Missing data on your maps means an unclear picture of what's going on underneath the surface. No one can afford to drill unnecessary wells in this competitive environment.

The good news: P2 Energy Solutions is now targeting the Haynesville-Bossier-Cotton Valley play area of NW Louisiana and NE Texas to create a directional survey composite database that focuses on solving several of the common risk factors:

- 1) Every wellbore is recognized and assigned an API number,
- 2) Every wellbore (where data is available) has an accurate directional survey composite captured and created.
- 3) Each directional survey composite is standardized for mapping purposes and formatted for use in the common industry interpretation applications.

For the interpreter, there is not finer wellpath control available anywhere.

If you're interested in Haynesville-Cotton Valley-Bossier directional well survey data, head to <http://info.p2es.com/tobinhaynesvilleDWS> and we'll keep you up-to-date on the progress. For further questions about P2 Energy Solutions' aggressive work to add missing wellbores to well inventories, contact us at <http://info.p2es.com/tobin>.



P2 Energy Solutions User Conference

The theme of this year's P2 Energy Solutions User Conference is "Achieve More With Less." The conference will be held October 26th-29th at the Loews Royal Pacific Resort in Orlando, Florida. We are offering three areas of learning opportunities this year:

Business Process Improvement Sessions: Learn how to achieve more with less using P2 Energy Solutions software and data products.

P2 Energy Solutions Product Training: Half-day and full-day options are available for these essential hands-on courses focusing on industry fundamentals, reporting, accounting and land management.

PetroSkills "Basics and Beyond:" P2 Energy Solutions is proud to partner with PetroSkills, the World's Leading Petroleum Training Alliance to offer a set of classes focused on oil and gas basics. Ideal for those new to the industry as well as industry veterans who would like to learn more outside their specialty.

Early Bird and group discount rates are now available.

Register before September 11th and receive up to \$300 off Business Process Improvement and Product Training sessions. Register before August 15th and receive an additional 10%.

Any company sending more than 5 people to the user conference will receive an additional 10% off the price for the 6th registrant and above.

Please note: discounts do not apply to the PetroSkills "Basics and Beyond" sessions.

Head to <http://www.p2esconf.com> to register today!

This newsletter provides a technical analysis of the key issues faced by the E&P community regarding the use of spatial data, data formats, data models, application issues and best practices.