Directional Surveying

When we’re drilling with MWD, we often forget that we’re drilling toward Magnetic North or Magnetic South and not to True Geographic North. Do you know that True Geographic North is hundreds of miles away from Magnetic North and that Operators typically (eventually, after declination correction), refer their wells to True Magnetic North (or, in some cases, UTM)? This means that unless the right correction has been applied, the well may not be where people think it is.

The declination correction factor depends upon where you are on the Earth, and the Magnetic Pole positions change with time (currently the North Pole is in North Eastern Canada and the South Pole is on the edge of Antarctica).

IDEAS personnel specialise in Directional Surveying problem-solving. For example, with respect to the North Sea Platform below, we found that none of the wells were located, after re-surveying and re-calculation, where people thought they were.

This was a result of in-built / endemic / systematic error on the part of the Operator and lack of knowledge on the part of the Operator’s drilling personnel. The result was that wells which should have produced oil produced water instead; faults were crossed that shouldn’t have been crossed and certain wells watered-out prematurely.

The cost to an Operator is not getting their surveys right can run into, literally, billions of dollars.