DartFusion

Features

- o 20ft Bed Boundary detection – deepest in the industry
- o 48 azimuthal resistivity curves
- o Proprietary real-time bedding structural inversion and visualization
- o Oliden ArtFusion incorporated in the same collar
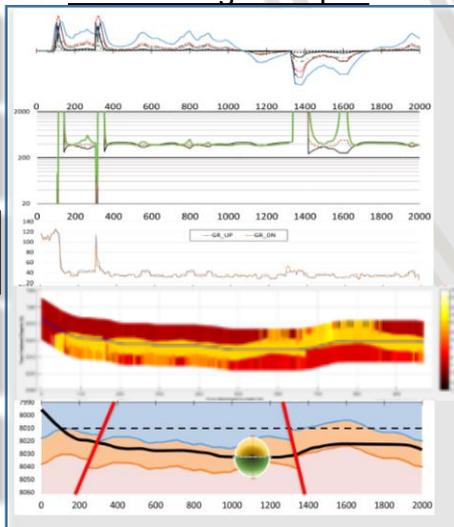
Applications

- • **Advanced Well Placement**
  - o Tracking the roof of the reservoir to maximize drainage per foot drilled.
  - o Deep reading (20ft) bed boundary detection provides early warning of lithology and geologic structure changes, allowing proactive adjustment of wellbore trajectory to stay in sweet spot.
  - o Avoid sidetracking and eliminate need for pilot well.
  - o Visualization of distant subsurface structures using Oliden proprietary surface software.

- • **Accurate Formation Evaluation**
  - o In addition to the accurate formation evaluation capabilities of ArtFusion, the DartFusion has even enhanced capabilities in dealing with anisotropy.

Gamma Ray and conventional LWD resistivity measurements alone do not provide sufficient information to allow certain geosteering decisions to be made.

Only deep reading azimuthal resistivity can map bed boundaries in real-time, even with complex downhole environmental effects present.

The azimuthal resistivity curves in the example are inverted by the Oliden surface software to provide a graphical visualization of subsurface structures in real-time. Both the distance to boundaries and boundary formation resistivity is shown.

In doing so, trajectory decision making is aided and maximized well production is the outcome.

Geosteering example:

- *48 Azimuthal resistivity curves*
- *20 Conventional resistivity curves*
- *Azimuthal Gamma Ray*
- *Actual Software Inversion in RT*
- *Subsurface layer model*