Repso1 Uses Real-Time Log Data and New Workflow to Accurately Calculate Well Depth

GeoFrame software helps correct depth errors via seismic interpretation and velocity modeling tools.

**Challenge**
Drill a new exploration well without the help of any nearby wells to determine actual depth.

**Solution**
Use GeoFrame* software technology as follows:

- GeoFrame 4.4 integrated reservoir characterization system—to interpret real-time streaming data for correct marker depths
- GeoFrame InDepth measurements and domain conversion tool—to create a depth-stretching model for correcting interpretation and seismic data errors.

**Results**
Revised the target depth measurements upward to an accurate, shallower depth of penetration; enabled faster decision-making through real-time log data; optimized interpretation process resulting in time savings.

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**This workflow integrated the real-time data into the interpretation project and improved our process. This process saved us time and increased the value of real-time log data for us.**

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**Ensure correct marker depths**
Repso1 YPF SA was planning to drill a new exploration well in a U.S. location where no adjacent wells were available to reference for the purpose of depth calculation. Initial depth measurements in the seismic volume for the exploration area were based on seismic reflectors, rather than velocities, and therefore Repso1 engineers lacked confidence in the drilling target depths.

**Build an InDepth model**
The Repso1 exploration team and Schlumberger Information Solutions (SIS) worked together on depth-correction efforts to obtain true measurements while drilling in this unknown area, making revisions to the velocity model as real-time log data became available.

**Data setup**
The data setup consisted of a depth seismic cube with interpretation grids of key surface markers (tops). The grids were the initial input into a depth-stretching GeoFrame InDepth model. The real-time streaming data capability enabled well trajectory and LWD logs data to be directly loaded and integrated into the project.

**Workflow**
The project team determined the depth of the surface top as the data was coming into the geological and geophysical interpretation canvases of GeoFrame software. They used this data to correct the depth grid of the surface and used the output as the true target depth grid.

The target depth grid was then incorporated into the program’s InDepth model. As the well continued to be drilled and penetrated another key surface where a marker was picked, the procedure was repeated for the next surface grid to continue refining the model.

**Revised target depths**
As a result of this project, more accurate target depths were calculated upward to a shallower depth of penetration. The total depth of the well was revised as the team calculated successive target surface depths throughout the drilling project.

The interpretation process was greatly improved by integrating real-time, streaming data into the GeoFrame application, which made interpretation more efficient and decision making a lot faster.
**Case Study:** Advanced GeoFrame software capabilities generate true target depth grid

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