

## Geophysical Seismic Data Considerations during Mergers and Acquisitions

Geophysical data is often not part of major discussions during a merger or acquisition process. There may be the expectation that it will be easily dealt with 'at a later time'.

Proprietary and partner data can be handled in a straight forward manner and although it requires the right steps be followed when dealing with the data, and can be time consuming, the process is well documented.

Licensed data is not so straight forward. In recent years there has been a strong effort to write licensing agreements in a strong and meaningful manner. The contract, as written is binding. However, the exploration industry is progressive and evolving and new situations come up all the time.

Oil and gas producers are searching for plays that are economic and repeatable. The current technology allows for a few surface wells to be drilled to 'prove' the play and then many follow-up wells to be drilled from 'pads' to 'exploit' the area. Exploitation is often considered the responsibility of the geologists and engineers who do not always feel they need to further rely on seismic. So, a company may say they have 100 locations but only expect to drill from 10 – 20 surface locations. However, there is a reasonable expectation that horizontal drilling and bottom-hole locations are just as reliant on seismic as surface locations.

What this means is that well locations (in most cases) can be considered a derivative interpretation based on seismic and that if the rights to use the licensed seismic are withdrawn then the well location cannot be drilled based on the interpretation of that seismic.

- If 3D seismic was licensed, in the area of chosen well locations, it is not unreasonable to assume that the interpretation of the seismic (a derivative) was used to assist in choosing those well locations – else why spend the money on seismic?
- If 3D seismic has been licensed in the area, the well site location is usually chosen based on the best processed bin location.
- Wells with seismic coverage are often templated to predict how a well drilled over similar seismic might respond.
- Seismic may be used less if there is extensive previous well and geological control in the area so an analysis of each well location may be required.

Most Master License Agreements or contracts to license seismic data clearly specify and define the data included in the contract. I have not seen an Agreement that clearly specifies 'well locations' but the APEGA Guide for Ethical Use of Geophysical Data clearly states: "Whatever is not granted by a license or agreement is prohibited."

There are provisions in most Agreements for the licensed seismic data to 'change hands'. Should the provisions in the specific contract not be agreeable to the Licensee and the other party involved in the transaction then the licensed seismic data would need to be returned to the Licensor. These are some (but not necessarily all) of the steps that would need to be taken to remove the seismic data and provide assurance to the Licensor that their data has been handled correctly:

- Physical seismic data would need to be removed from warehouses, office locations and processors offices – at the cost of the Licensee.
- All virtual data would need to be removed from online data repositories in-house and at archive service providers – including all backup and redundant copies (often located at separate locations for both the oil company as well as the archive company).
- Internal seismic tracking databases would need to be updated showing that the data did exist but has since been removed due to contractual requirements. 3D outlines may be kept for reference but no source/receiver location data.
- Newly processed versions of the seismic would need to be removed from processors archives.
- All processed versions and calculations would need to be removed from geophysical, geological and integrated workstation software ie, Seisware, Kingdom, Petra, Landmark, Decisions Space, Petrel, Geographix etc. and the interpretations recalculated without that data – as well as all backups.
- Industry and proprietary wells in those projects may have been tied to the seismic and would need to be reloaded back to original values.
- All interpretation maps, digital and physical, need to be removed and destroyed.
- All presentation information must have all visual and written references to the seismic removed – annual reports etc will need to be negotiated as the references are not easily removed.
- No interpretation projects should go to the purchasing company in-tact.
- The Licensor may request that an audit be done (at the Licensee's expense) to insure the data has been handled correctly.

As the exploration industry evolves, Agreements and contracts must take into consideration the changes in technology and be written to be as inclusive as possible.