Geological models are used to identify the amount of crude oil and natural gas in an underground location, know which recovery mechanisms to implement and how to optimize them, and predict reservoir recovery factors over time. Import and visualization of data from multiple sources and disciplines is very important for geological modeling. However, the consistency of geospatial data is too often overlooked during data exchange processes. For example, it is unfortunately frequent to see geologic models that either use no or incorrect Coordinate Reference Systems (CRS). It is also common to encounter unit inconsistencies throughout projects, leading to potentially dramatic consequences for the validity of models for reserves estimation and field development planning. Ensuring integrity

To help eliminate such issues and ensure geodetic integrity, JewelSuite software applies the International Association of Oil & Gas Producers (IOGP) Geospatial Integrity of Geoscience Software (GIGS) guidelines. All geospatial data are imported at the correct location, using consistent units, thanks to the implementing of several quality checks throughout all the data import, creation and export processes. This means you can be sure that all your geospatial data is always correctly imported and that all units are consistent throughout all the workflows—from data import to well planning.

Case and point

During a recent data audit, we helped one NOC realize that many of their existing models were in fact wrongly positioned. Inconsistencies were immediately flagged and corrected by JewelSuite. If left undetected, these inconsistencies may have resulted in several costly outcomes. If geological objects (such as faults or horizons) were incorrectly positioned, they might not truly be located where they were modeled. Well plans based on inaccurate models could result in not hitting expected targets. Inaccurate distance – and therefore volume – calculation may also result in over- or under-estimation of reserves. These consequences jeopardize your drilling performance, increase drilling risks and may even lead to an increase in nonproductive time (NPT).

Advancing subsurface knowledge

Ensuring geodetic integrity is one of many features that sets the JewelSuite Subsurface Modeling application apart. JewelSuite software delivers subsurface intelligence and insight through a portfolio of applications focused on optimizing field development to drive greater production.

Advanced capabilities

- Geospatial Integrity of Geoscience Applications (GIGS) compliant
- Built-in CRS library and support for custom CRS import in multiple formats
- Wide range of available display units that can be changed on the fly

Delivering value

- Maintain geospatial integrity during data transfer and manipulation
- Improve coordinates and units manipulations
- Eliminate data positioning errors

For more information: bhge.com

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