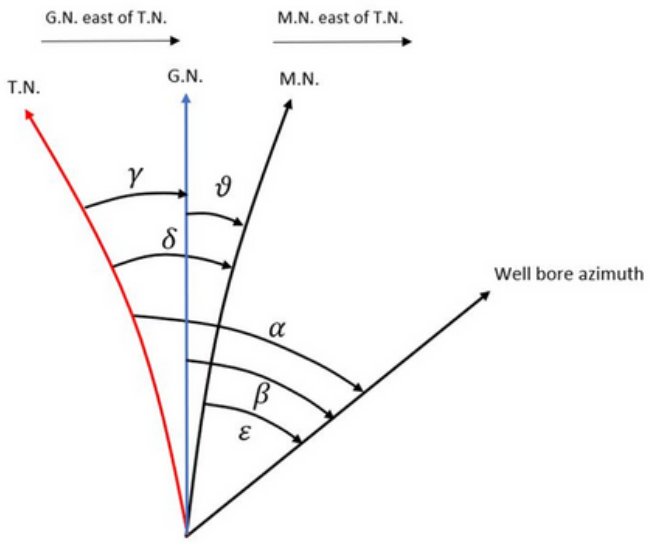
Geomatic Solution

WELLBORE POSITIONING & TRAJECTORY QC

When designing and drilling a wellbore it is imperative to understand the HSSE, environmental and economic risks that potential errors in the geo-spatial positioning data may introduce.

WELLBORE DATA INTEGRITY

- In-house tools and matured workflows for wellbore data QA/QC
- Identify and resolve geo-spatial concerns in wellbore datasets
- Ensure angular and linear corrections are accurately represented in wellbore path computations
- Account for key factors such as grid convergence, magnetic declination, and scale factors (point & line)



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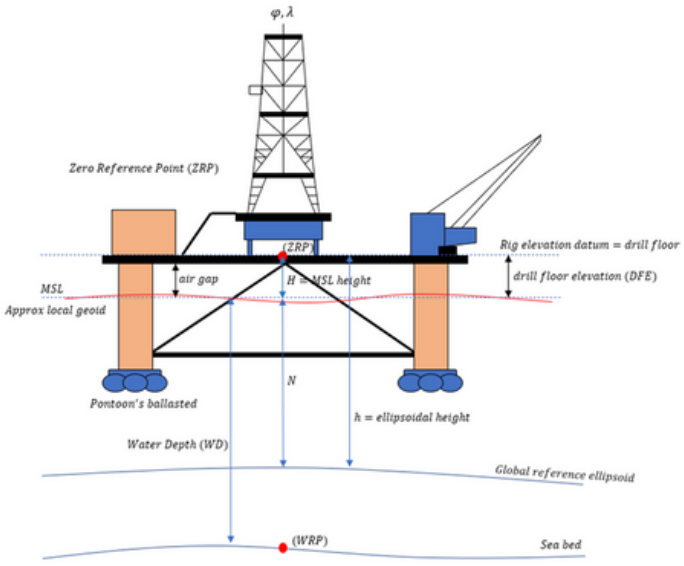
Precise positioning is essential to ensure accurate wellbore locations from top hole to bottom hole. Any misalignment in seismic or survey data can create costly risks and operational challenges. With our proven expertise in geodetic and geomatic engineering, we safeguard the integrity of your wellbore data. Before drilling begins, we establish a clear audit trail of proposed well locations, ensuring confidence at every stage — from data acquisition through to rig move



- Horizontal and vertical CRS are critical to wellbore accuracy.
- Mis-ties between seismic and wellbore survey data occur due to positioning errors.
- Geodetic/geomatic expertise ensures all datums are validated and correct.
- Top hole well header position comes from seismic 2D/3D data volumes.
- Seismic errors propagate directly to well header coordinates.
- Audit trail prior to spudding covers:
    - Data acquisition
    - Data loading and integration
    - Geo-hazard survey
    - Rig move

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Every change to well header coordinates is carefully tracked and documented. Early trajectory accuracy is critical, as the first 30% of the wellbore is where positioning matters most to avoid costly collisions. Our QC processes include generating cones of uncertainty, giving you confidence in wellbore integrity and safe operations.

GEOSPATIAL QC FOR WELLBORE PATH ACCURACY

- Surface and trajectory verification checks (legacy and new well data) must undergo strict QA/QC.
- Verification ensures accurate estimates of bottom hole location and the wellbore path from surface to target.
- Wellbore data is routinely merged into seismic 3D volumes.
- Geo-spatial QC addresses horizontal and vertical mis-ties and supports anti-collision modelling.
- Use of industry-standard exchange formats streamlines QA/QC workflows and reduces processing time.
- All data is encoded to the P7/17 format in line with IOGP guidance.