

# Error Model Maintenance Group Meeting

ISCWSA #57

Stavanger – 9<sup>th</sup> March 2023



# Agenda

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- Rev5 Implementation Status
- Dynamic Geomagnetic Terms
- Contributors to Error Model Development
- Continuous Survey Models
- Handling of Surface Location
- Misalignment & XCL
- Combiner Surveys
- Relative Error Correlation

# Rev5 Implementation

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- Progressing slowly
- One major service co. has implemented in s/w but not rolled out.
- Major software application has rev 5.0 available to users.
- Wide ranging discussion about revision tracking, update of models
- Request to show rev4 v rev5 results on test wells

# Handling Location Based Geomag Terms

- Some geomag model providers can provide location based term magnitudes. <sup>4</sup>
- Greater resolution than fixed DEC and DBH terms in generic models.
- Need a toolcode name to identify use of these values
- Decided on adding \_L suffix to geomag model identifier.
- i.e. MWD + SRGM\_L instead of SRGM

# Error Model Contributors

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- Benny Poedjono organised a group to identify technical contributions to error model.
- Met again and documented their thoughts.
- Brief discussion with wider ISCWSA committee.
  - Agreed that we should recognise and honour significant contributors for their work
  - Scope should be wider than just error model
  - Tie in with ISCWSA achievement awards that were previously given
  - Page on website
  - No actions yet.

# Continuous Survey Magnetic Models

- Increasing use of continuous survey data.
- Extended error model framework to cover continuous rotating, six-sensor surveys.
- Circulated SLB/SuperiorQC proposed WtFn for comment.

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# Continuous Survey Tools

- Consider rotating, 6-axis surveys whilst drilling
- Proposal from SLB/SuperiorQC to add weighting functions to model framework
- Some clarifications and tidying to be done
  - Use of Bxy
  - Use of toolface
  - AMXY-PS and EDDY have same weighting function
  - Different form of scalefactor and attenuation terms

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# Continuous Survey Tools

- Consider rotating, 6-axis surveys whilst drilling
- Proposal from SLB/SuperiorQC to add weighting functions to model framework
- Circulated for comment
- Some clarifications and tidying to be done
  - Define equation for  $B_{xy}$
  - Use of toolface – tool design parameter
  - AMXY-PS and EDDY have same weighting function
  - Different form of scalefactor and attenuation terms

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# Continuous Survey Tools

- Desire a response from two service co. developing tools
- Change to depth terms – drillstring in compression
- Operators considering analysis of data supporting error model
- Practical issues – survey interval, static / continuous combined surveys, reaming

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# Surface Location

- Intended to publish a document describing current common practice 10
- Borrowing heavily from RP-78 material
- Some discussion about numerical values, changing references
- Vertical surface uncertainty
- No action needed if RP-78 moves to balloting soon.

# XCL & Misalignments

- Jerry Codling has continued to investigate survey misalignment
- Rev5 changed top-hole propagation but not terms deeper in well
- Analysis indicates some changes to deep terms and modified values
- Intend to keep on back burner for now

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# Online Meetings

- Discussion of standardised way of handling combined surveys
- Explanation of rev5 handling of relative correlation of geo-magnetic terms and mathematics of handling these.

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