



Minutes of the 23rd  
Meeting of the



**Industry Steering  
Committee on  
Wellbore Survey  
Accuracy**

and

**SPE Wellbore  
Positioning  
Technical Session**

Dubai, UAE  
March 22nd 2006

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\* Chair

\*\* Minutes

1. Welcome

Steve Mullin (outgoing Secretary) welcomed everyone to the Royal Meridien Beach Resort and Spa venue.

Steve then gave an update on the SPE Applied Technology Workshop (ATW) that had been proposed at the 21st meeting (Oslo, May 2004). SPE has formed an organising committee, including several members of the SPE Wellbore Technical Section, and is due to hold its third meeting in April. The ATW is titled "Multidisciplinary Well Positioning: The Value of Connecting Geoscientists and Engineers", and is scheduled to take place on 16-19 October 2006 in Sainte-Maxime, France.

2. Geodesy and mapping

Angus Jamieson started the meeting with a presentation on geodesy and mapping that had been part of the "Survey Awareness" day put on by the Technical Section the day before, and which had been well attended.

3. Error model maintenance sub-committee report

A working session of the sub-committee had taken place on the previous day. The chairman, Steve Grindrod, presented what had been discussed.



23rd meeting\  
Grindrod1.ppt

Steve summarised as follows:

- Will rename: *ISCWSA Error Model Management Sub-Committee* as it gives a truer representation of the committee's purpose instead of 'maintenance' sub-committee.
- The Existing MWD model has been designated Revision 0 and a full set of error parameters and test data will be issued.
- The updated MWD model with the gyro misalignment terms will be issued as Rev.1 Other magnetic tools e.g. EMS will also be developed.
- The Gyro model needs a number of clarifications and further implementation details. Once resolved a full set of error parameters and test data will be issued.
- The aim is to have one integrated error model for Magnetic and Gyro surveys.
- ISCWSA.org Website is up and running.

Harry Wilson commented that the sub-committee had been intentionally established as a small expert group, empowered to evaluate proposals for changes to the model. He was concerned that attendance at the sub-committee meetings had grown beyond the established group, and that this might be slowing the productivity of the group. Steve acknowledged the need to greater productivity, and said that membership and time given over to discussion would both be optimised to ensure faster progress.

#### 4. BHA sag

Following on from their presentations at the previous two meetings, Regis Studer of Total and Ludovic Macresy of DrillScan, presented their most recent work on the subject of correcting inclination and azimuth measurements for the effect of BHA misalignments.

Total's presentation introduced different possible methodologies of integration of a BHA sag residual error into the current MWD error model. The sag residual error proposed by Total is a direct result from an extensive BHA sag study performed with a modern 3D BHA model jointly developed by DrillScan and Total. To make good use of a scientifically derived sag error it is suggested that misalignment terms of the current MWD error model be revisited to have these based on a true error model rather than estimated/guess values.



23rd meeting\  
Macresy\_Studer.ppt

Much debate followed. Angus Jamieson said that his own work supported Total's finding that the build up rate was important, but also that the elasticity of the rock might be a significant variable, and one not normally accounted for. Harry Wilson agreed on the point made about the error terms, saying that, within his own company, the ISCWSA model had displaced existing BHA sag related terms that were more aligned with Total's thinking. It was agreed that this was an obvious area of interest to the Error Model Management Sub-Committee.

#### 5. Well Path Data Transfer Standard

John Turvill (Paradigm) provided an update on the work that POSC is doing to align the WITSML Wellpath Object with various requirements including the UKOOA P7 and national reporting standards of countries such as the UK, USA and Norway. John also discussed the need for better handling of planned well trajectories by WITSML, and the potential need for a new WITSML object for the ISCWSA error model terms. After some discussion regarding the inclusion of error model information, it was generally thought difficult to include anything other than a model name.



23rd meeting\  
Turvill1.ppt

It was agreed that input from the Technical Section was required to help POSC in their task. The following members volunteered to form a working group, with John as lead:

- Bill Calhoun (Chevron)
- Angus Jamieson (Tech21)
- Dave McRobbie (Sperry Sun)
- Stein Harvardstein (Statoil, volunteered by Torgeir Torkildsen)

The group will report progress to the Section at the next meeting.

6. Error model Verification and Survey QC working group

Roger Ekseth (Gyrodatta) updated the Section on the progress of the group. The group will write one or two papers on the subject, which will be offered for presentation at Industry conferences. Two abstracts have been prepared; one as a fallback to the other, or possibly the second paper acting as a follow up to the first.



23rd meeting\  
Ekseth1.ppt

A major objective of the papers is to stress that the ISCWSA model predictions are invalid for real data, unless those data are quality controlled to ensure consistency with the model assumptions.

7. Collision monitoring

Harry Wilson (INTEQ) said that the ISCWSA's work on error modelling, and more recently Survey QC and error model validation should allow the generation of valid position uncertainty estimates. It followed that the next area for the Technical Section's focus was probably the correct application of these data to collision monitoring.



23rd meeting\  
Wilson1.ppt

Angus Jamieson presented a "Radius Factor" calculation which supported the points made in Harry's presentation about the limitations of the commonly used Separation Factor criterion.

The following volunteered to join Harry on a collision avoidance work group:

- Andy Brooks INTEQ
- Bill Calhoun, Chevron
- Phil Dickson, Paradigm (volunteered by John Turvill)
- Angus Jamieson, Tech21
- Dave McRobbie, Sperry Sun
- Benny Poedjono, Schlumberger
- Regis Studer, Total

It was agreed that the work group would present its preliminary report at the next meeting of the Technical Section. At that time, it should be possible to determine whether the work warranted publication as a technical paper.

8. Next meeting

It was agreed that the next Section meeting would be held to coincide with SPE ATCE 2006 in San Antonio USA. A tentative date of Thu 28 September was chosen, i.e. the day after the ATCE.

9. Board of directors

Chairman Angus Jamieson informed the Section that the following planned changes to the Section's board of directors, which had been discussed and decided at earlier meetings, took effect from this meeting.

- Harry Wilson replaces Steve Mullin as Secretary
- Steve Mullin replaces Chris Chia as Membership Chairman
- Steve Grindrod replaces Bill Allan as Web Master
- Robert Wylie takes on the previously empty position of Treasurer.

Angus thanked Bill and Chris for their contribution.

10. Any other business

Harry Wilson questioned the continued use of "ISCWSA" in conjunction with the SPE Wellbore Positioning Technical Section. Several members supported the continued use of the ISCWSA name since it is well established and recognised in the Industry, especially with respect to the error model work.

John Turvill thought it beneficial to retain the ISCWSA identity in case the association with SPE proved too restrictive and it became necessary to return to being an independent organisation.