



Survey QAQC Activity Report

Phil Harbidge

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Phil Harbidge - Independent - Kuala Lumpur

23 years Wellbore Positioning

Well Placement, CA, Risk Assessment, Survey QAQC & Optimization

ISCWSA Webmaster and Survey QAQC Sub-committee Chair,

Drilling Data Quality and Uncertainty Description Sub-Committee

Work : **EXPRO :** **Technical Sales Well Construction**
Intercept, Relief Well, P&A, Wellplacement, Survey Management,
 Advanced Survey Corrections, Software Setup,
 Database Audits, Training and more

Worked :

Sperry-Sun, Baker Hughes INTEQ and Schlumberger : DD Service Companies
Marine Surveyor and Civil Engineer and the Planetary Space Science Research Institute





Agenda: Wed 18th October 1-3pm room : San Antonio

- 25 minutes edit **Gyro document**
- 25 minutes, Mike Calkins “**Survey Uncertainty Quantification in R**”
- 25 minutes edit the **MWD document**
- 20 minutes Chad – EM Validation Process “**Are you using the correct EOU?**”
- 5 minutes to plan / **agree on actions** for the next online meetings
- Hybrid meetings TEAMS – need conference speaker and mic for ISCWSA in person meetings
- Share the working documents to the QAQC SC, TEAMS file / folder for remotely editing and sharing
- 29 In Person
- 1 Online Participants
- 6 weekly 1.5 hours TEAMS sessions to finish MWD, Gyro, Depth and DSR chapters



Largest Attendance to date

Mahmoud Elgizawy – K&M SLB

Mike Calkins – Three Sigma Well Design

Erik Blake Icefield Tools Corp.

Timothy Paton SQC

Josh Alrbright SQC

Chad Hanak SQC

Ryan KirbySQC

Nicholas Zachman K&M SLB

Josh Albright SQC

Brett VanSteenwyk Uni of Washington

Joel Dunn SQC

Ryan GuntarSQC

Mallore SchurrSQC

Ayush R Srivastava XOM

Onyemelem Jegbefume SLB

Francisco Huitron SLB

Roger WatsonTDT

Inge Edvardsen BH

Andreas Hueper BH

Tyler Longean RoundLAB

Georgy Rassadkin Gunnar
Energyservices

Maria French HAL

Kevin McClard Winsurv3D

Ben Hawkinson

Andrew Pare H&P

Rustum Rakhmangulov SLB

TEAMS - Online

Harald Bolt Depth Solutions

NEW Recruits

Matt Weber Shell

Nasikul Islam Al Driller



Activity

Compile the API RP-78 word documents into a single document for publishing on the ISCWSA.net website

- e-book chapter documents :
 - MWD - Chad 22 pages long 80% completed
 - Gyro – Ben 19 pages long 80% completed
 - DSR – not produced, use a sanitised version of the API document or use the minimum data requirements document
 - Depth – Harald 39 pages long edited 13th Oct 2023 – Finished – Final Review by QAQC SC before sending for Manual publishing
- Request from 5 service companies and USA + International QAQC example documents for MWD, Gyro and Drilling Survey Records for inclusion into the public access QAQC E-book
- SLB / GD Mahmoud // SDI Ben, Laura // BH? // HAL?? // WFD??



Activity II

- 1a. **Add introductions to each chapter**
- Use existing intros content in API document, condense/re-word for eBook DRAFT version Phil and Gary made a while ago :
- *“The intention is for this document to form an operationally focused guidance document to help users achieve minimum industry recommended practice requirements.*
- *This is a non commercial document, which has been written in response to industry needs and has been authored by members of the Industry Steering Committee on Wellbore Survey Accuracy – Quality Control and Quality Assurance Sub-Committee and is a public access document. Please contact ISCWSA Education Committee Chair Mahmoud ElGizawy for suggested changes or additions to this document. “*



Activity II continued

- **State the intended audience :**
 - a. *Survey sensor and calibration facility manufacturers*
 - b. *Survey data service providers and data users*
 - c. *Oil, gas and water operating companies*
 - d. *Government authority employees*
 - e. *MORE??*
- “
- **1b. Assess the "must" statements in the documentation (see attached)**
 - "Must" statements not conducive for educational material for general audience, so change out the “Must” and “Shall” statements to “should” and “may”
- **1c. Turn DSR document into e-Book content (check list)**



Activity III

API RP-78 docs update?

ISCWSA QAQC SC docs were submitted to the API team any further action?

Jonathan & New API RP-78 lead (Insert Name & e-mail address)



Further Work

- QAQC Parameters Survey Related to New WPTS Error Model (s)
 - FAC – EM SC
 - Some of the gross errors captured, not capturing all
 - Validation at different levels Accuracy of Corrections as per claimed accuracy for EM used
 - SuperiorQC – Chad Hanak QAQC Software testing project
 - Three Sigma – Mike Calkins Chi SQ Test & Relative Instrument Performance model tests
 - Total Energies - Hans Dreisig Tie-On logic & more
 - Planned CA – EM & QAQC Sub-committee mega meeting in 2024



Drilling Data Quality and Uncertainty Description Subcommittee Activity Report

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SPE Affiliated “DDQU” - (DSATS - DUPTS - WPTS Subcommittees)

- Standardize the Industry
 - Drilling Data Quality and Uncertainty Description – Four SPE publications:
- Published [SPE-208754-MS](#) Peer Reviewed
- Analysis of the Sources of Uncertainty in Geopressure Estimation While Drilling, SPE-214962 (in preparation) 2023
- SPE-217668-MS, The Role Of Semantic Networks In Mitigating Risk During Data Exchange In Multi-disciplinary Well Construction
- SPE-208754-MS A Framework to Capture the Relationships in Drilling Data and the Propagation of Uncertainty, Galveston, Texas, (USA)
- Publish use cases [DSABOK](#) & SPE Paper use cases worked up into Semantic Graph and Data Lake etc.
- github <https://github.com/SPE-DDQUD/DDQUD/tree/main/Meetings>



Thanks to

Manufacturer & Calibration Experts: BenchTree, Scientific Drilling, HAL, SLB, BH, Weatherford, JAE

Operator Experts: Shell, Chevron, Oxy, ConocoPhillips, BP, Total, Devon Energy, ExxonMobil

Service Company Experts: BH, HAL, Depth Solutions, K&M SLB, Weatherford, Scientific Drilling, Mostar Drilling, SuperiorQC, Independent Consultants, Winsurv3D, AI Driller, Three Sigma Well Design, EOG Resources, PathControl, Washington Uni, Gunnar Energy Services, H&P, TDT, EXPRO



Questions?