ISCWSA QAQC Subcommittee

Phil Harbidge

48th General Meeting
Sept 27th, 2018
Dallas, USA

Speaker Bio

- Phil HARBIDGE
- General Manager ASIA and MIDDLE EAST
- PathControl, Kuala Lumpur, MALAYSIA
- BSc. Geology and Applied Geology, MSc. Petroleum Geochemistry
- 18 years Active Industry Experience in Wellbore Positioning
- Wellplacement, CA, Risk Assessment and Well QAQC Optimisation
- SPE ISCWSA Webmaster and QAQC Sub-committee

QAQC Meeting Agenda

- 13:00 – 13:15 Introductions and status overview
  - Split into tasks
  - Time line to delivery
  - Team member diversity
- 13:15 – 14:30 Project #1 work session in 2 or 3 teams
- 14:30 – 14:45 coffee break
- 14:45 – 16:30 Project #2 work session
- 16:30 – 16:45 Summary and Wrap-up

QAQC Subcommittee Objectives

Project #1

- Check list document
  - format, name and unit with an example of data for **each field** that could fully QA/QC a wellbore's position
- Capture industry examples Operators and Service Companies
- Increase Ability to verify data and upgrade data at a later date
  - Data redundancy
  - Azimuth, Inclination and MD recalculation enhanced modelling, CA, WP, Reservoir Description, Infill Drilling
  - Safety or Cost Incident investigation
  - Tool fleet data - EM validation
  - Much, much more

Project #1

- Review group checklist and include operator lists, P7 project
- other industry sources welcome
- Deliver check list draft before ISCWSA#49

QAQC Checklist

Geodetic, Reference, MWD and Gyro Survey QAQC Data Checklist

Geodetic and Reference Data

- Rig / Platform / Facility name:
- Field name:
- Well name: wellbore name?
- Well location (Latitude & Longitude)
- Geodetic Datum name:
- Coordinate reference system name:
- Mapzone
- Wellhead depth??
- Drilling Units: ft / m / Other
- Magnetic model name: IGRF/ BGGM / HDGM / IFR1 / IFR2
- Magnetic model calculation date: DD:MM:YYYY
- Gravity Reference Model name: GARM / Other
- Grid Convergence value: (deg 2 decimal places)
- Magnetic Declination Reference: (Dec 2 decimal places)
- Gravity total reference: (GTot, units)
- Total magnetic field reference: (BTot units)
- Magnetic Dip angle reference: (Dip deg 2 decimal places)
- Scale Factor applied: Y/N
- Scale Factor value: (value 8-10 decimal places)
- Offshore: Y/N
- Deep Water: Y/N
- Semi Submersible Rig / Platform: Y/N

Project #2 API RP78 QAQC Documents

API RP78 - Sections

- Anti-Collision – Steve Sawaryn
- Database – Jordan Meyer
- Directional Surveys Records – Jonathan Lightfoot
- Maps, Plots, Graphics & Reports – William Allen
- Operations/Executions – Ed Dew
- Planning/Engineering – Pete Clark
- Planning/Engineering to Operations/Executions Handover – Tin French
- Position Uncertainty Models – Will Tank
- Purpose – Lisa Grant
- QA/QC – Roger Goobie
- Software – William Allen
- Surface Location – Bert Kampes
- Survey Mathematics – Pete Clark
- Survey Program – Lisa Grant
- Terms & Definitions – Son Pham

Project #2 API RP78 QAQC Document Work

API RP78 - Process

- Section completion in Technical Section
  - Review progress
  - Review content headers
- Integrate sections using content headers / summary
  - Reduction to summary
  - Content framework / Table of Content
- Gap identification & reallocation
  - Review & revise section content
- Document template
- Section content reduction, creating fit for purpose document
  - Remove educational content where practical
    - Donate to ISCWSA Education sub-committee
  - Detailed procedural information repository
    - RP78 Annex
    - API Bulletin – linked to RP78
    - Offers? Where do we put the stuff from the cutting room floor?
- Technical authorship / cohesive style / style guide

Project #2

- API RP78 **MWD**, **Gyro** and **Depth Documents**
- Three Teams :
    - Chad Hanak
    - Ben Hawkinson
    - Mahmoud El Gizawy
- Produce 3 page version of the API documents prior to ISCWSA#49

Project #2

- API RP78 **MWD**, **Gyro** and **Depth Documents**

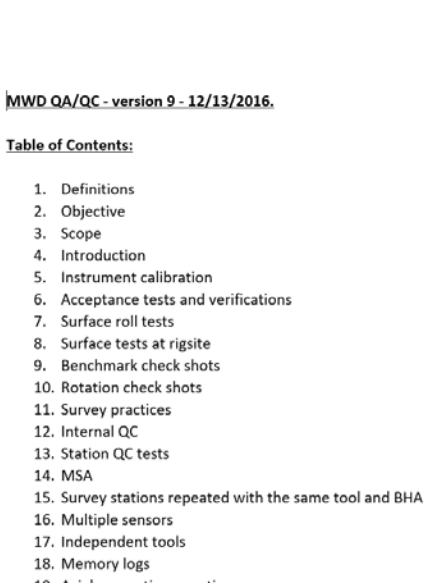
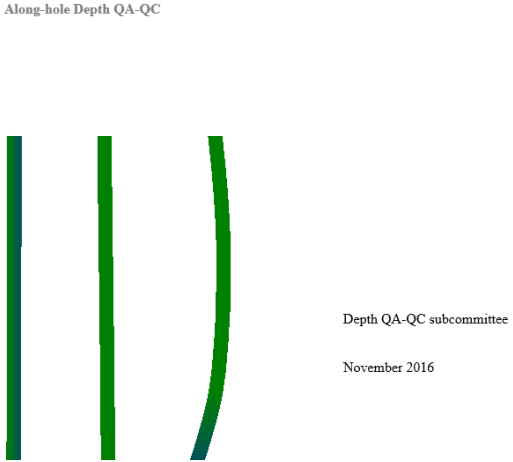

MWD QA/QC - version 9 - 12/13/2016.

Table of Contents:

1. Definitions
2. Objective
3. Scope
4. Introduction
5. Instrument calibration
6. Acceptance tests and verifications
7. Surface roll tests
8. Surface tests at rigsite
9. Benchmark check shots
10. Rotation check shots
11. Survey practices
12. Internal QC
13. Station QC tests
14. MSA
15. Survey stations repeated with the same tool and BHA
16. Multiple sensors
17. Independent tools
18. Memory logs



Questions / Feedback?