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Technical Competency Assessment for Drilling & Completions personnel



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Business drivers:

- A CV may not tell the full story and is not an assurance for technical competency
- There is no formal and systematic technical competency assessment process in place in most companies
- Large number of experienced staff have left the industry
- Hiring incompetent staff may turn out very costly and may have catastrophic consequences

Technical Competency Assessment for Drilling & Completions personnel



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Protrust has developed a web-based competency assessment system designed to:

- Technical screening of applicants before hiring (mature hires)
- Competency Assessment of existing staff for the purpose of identifying competency gaps, developing training programs and allocating the right people to critical positions
- Technical ranking of staff during downsizing processes. This could be an additional measure if all other measures are equal.



The COMPASS test:

- 12 modules are currently available
- Quiz based questionnaires with multiple choice questions and True/False statements
- Questions are developed by industry experts and focused on what should have been learned through experience – not at school
- Time limit per quiz - no time to Google the answers
- Can be done online remotely



The COMPASS ONLINE Modules:

- Module 1: Acronyms
- Module 2: Drilling General
- Module 3: Well Control
- Module 4: Fluids
- Module 5: Cement
- Module 6: Barriers & Well Integrity
- Module 7: Completions
- Module 8: ERD
- Module 9: HPHT
- Module 10: Deep Water
- Module 11: H2S
- Module 12: HSE



Process for new hires:

- The client request the top applicants to complete the COMPASS test. Modules should be selected based on the role.
- The applicants complete the test online and forward the Competency Assessment report to the client (cost of the test could be reimbursed to the applicant)
- The client calls the top candidates for F2F interview (and re-test if desired)



Process for existing employees:

- The employee completes the COMPASS test online and forward the Competency Assessment report to management (cost of the test should be reimbursed to the employee)
- Management may use this to:
 - Identify competency gaps
 - Assign staff to projects that fit the competency profile
 - Develop individual training programs
 - Relocate or terminate staff

Examples – Drilling General



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4. What parameters contributes to the ECD?
- Mud weight plus the pressure loss from TD of string to surface
 - Mud weight plus total system pressure loss
 - Mud weight plus the bit pressure loss
 - Mud weight plus the bit's jet impact force
6. What are the most important fann reading for controlling ECD?
- 60 - 600 RPM
 - 30 - 60 RPM
 - 3 - 6 RPM
 - 300 - 600 RPM
10. A bit has an IADC code of 4-4-5, describe the bit
- A diamond bit with 4" gauge, 4 blades and 5 nozzles
 - A PDC bit with 4" gauge, 4 blades and 5 nozzles
 - A TCI bit with sealed bearings
 - A Milled tooth bit with open bearings
22. How can you reduce the presence of angular cavings caused by shear failure of the wellbore?
- Improve mud rheology
 - Balance mud activity with formation activity
 - Improve mud inhibition
 - Increase the mud weight

Examples – Drilling General



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45. What kind of tool is this?



- Overshot
- Wash-over shoe
- Reverse circulation junk basket
- Core barrel

49. What type of equipment is this?



- Diverter
- Rotating Control Device
- Annular preventer
- Riser connector

Examples – HPHT



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1. What is understood by 'wellbore breathing' or 'ballooning'?
- Mudloss into- and flowback from faults
 - Casing balloons due to ECD effects
 - Incorrect interpretation of flowback on connections
 - Mudloss into- and flowback from micro fractures
9. What is understood by 'finger printing' connections?
- Determining flow back behavior through DP during connections
 - Determining flow back behavior to active when pumps are shut off
 - Evaluation of connection procedures
 - Determining optimum connection timing
11. What negative effect may a mud cooler have?
- Reducing mud viscosity
 - Reducing mud weight
 - Reducing wellbore integrity
 - Increased overall well cost
17. Increasing connection gas is always a signal of increasing pore pressure
- False
 - True

Examples – ERD



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1. What parameters are the most important for good hole cleaning?
- High end rheology and ROP
 - Fluid type and pipe rotation
 - High end rheology, flow rate and pipe rotation
 - Low end rheology, flow rate and pipe rotation
5. What is SAG correction?
- Adding special chemicals to the drilling fluid to prevent barite SAG
 - A survey correction due to misalignment of the survey sensor
 - A mud weight correction due to barite SAG
 - A survey correction from Grid to True North
17. Jars have the same effect in vertical and horizontal wellbores
- False
 - True
20. Helical buckling is three dimensional
- True
 - False
24. YP has no impact on hole cleaning or ECD
- True
 - False

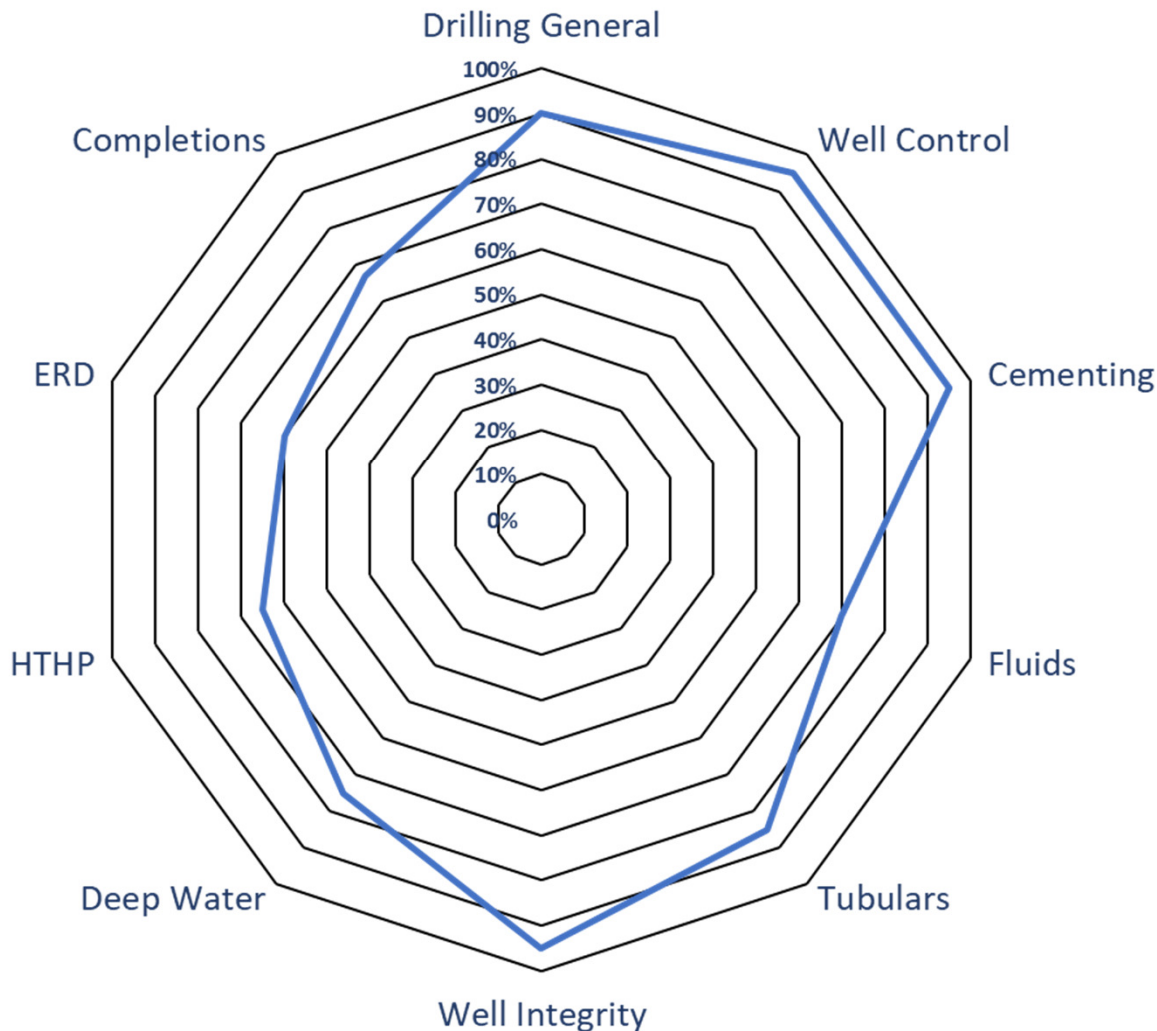
COMPASS Competency Profile



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Competency Profile Example



Interpretation of the results:

- < 60% Demonstrates incompetence – significant training required
- 60 – 80%: Large gaps in knowledge – can contribute under qualified supervision
- 80 – 90%: Gaps in knowledge – can deliver low risk tasks
- > 90%: Qualified to deliver complex tasks
- > 95%: Qualified to review and supervise



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For more information contact us on

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Thank You!

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