



EGR Sample Depth Verification

Hybrid Mud Logging Case History

Issue Summary

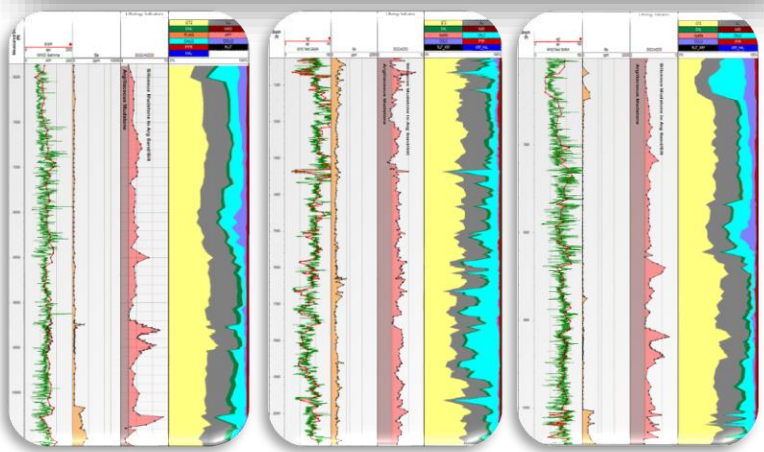
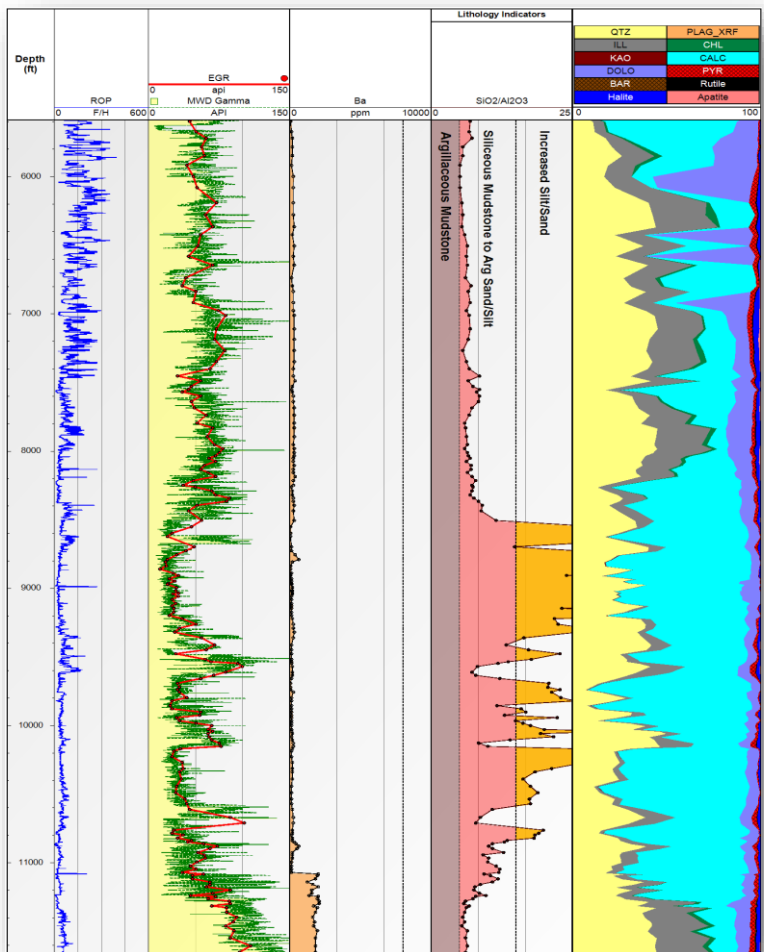
More than one operator in unconventional plays have recognized the benefit of elemental mud logging but have had concerns about the samples being on-depth and chemostratigraphic data being erroneous.

Issue Solution

On all Hybrid Mud Logging jobs DWL has strict data quality controls. One of these being the creation of an Elemental Gamma Ray (EGR) curve. We can show that in multiple wells, the EGR from cuttings is a near-perfect match to the MWD-GR, proving that our cuttings are on-depth and that all other elemental data can be fully trusted.

On occasions where the EGR and MWD-GR do not match, major hole cleaning problems will be the cause.

Differences are quickly recognized and mitigated in **realtime**.





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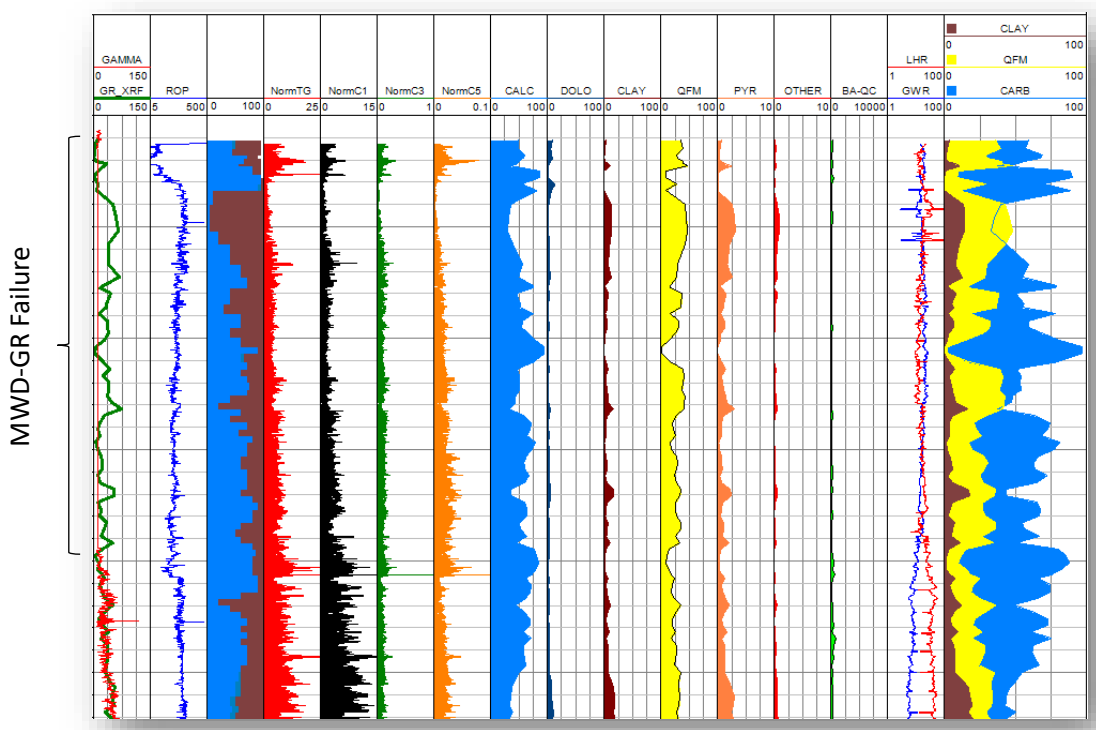
EGR Confidence Delivers Cost Savings

While running the Hybrid Mud Logging service and having grown confident in the EGR results, one unconventional operator used the EGR curve to successfully complete a planned hole section after an MWD-GR tool failure.

While geosteering, the MWD-GR tool failed 750 feet from the planned section TD. The operator could have been faced with three 'traditional' options:

- Trip out of hole to change the tool – costing extra time and money
- Drill ahead blind and possibly exit the zone, losing that footage for production
- Call TD short and lose the extra footage for production

With Hybrid Mud Logging on the job, a more attractive option was open - Chemosteer for the final 750 feet, thus avoiding the extra time and cost of a trip and the possibility of losing a good section of hole.



Contact DWL for more information

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