



Decommissioning and Restoration – Fostering Excellence through Regulations, Innovation, and Sustainable Practices

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Dual Layer Cement Evaluation: Case Study on Casing Collapse Environment

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Background of Casing Collapse Environment

Casing Collapse Definition:-

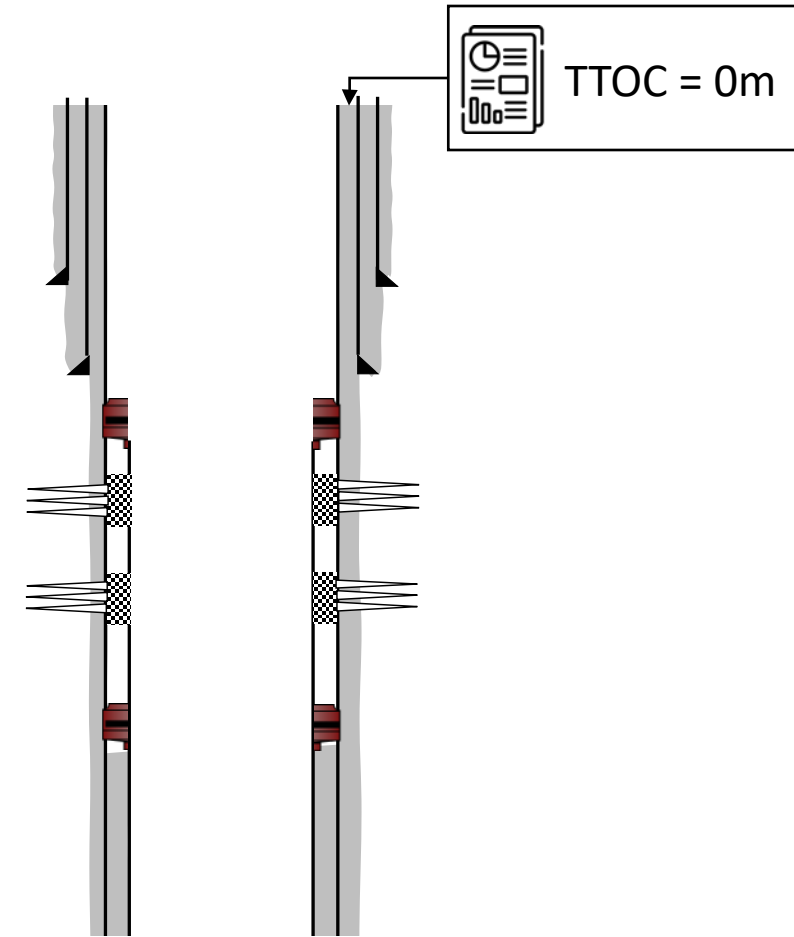
- ❑ Phenomena where the structural casing integrity is compromised due to excessive stress applied on the body of the casing from surrounding environment.

Possible Cause:-

- Corrosion & Corrosive Environment
- Excessive Pressure
- Geological Shift
- Cementing Issue
- Mechanical Damage

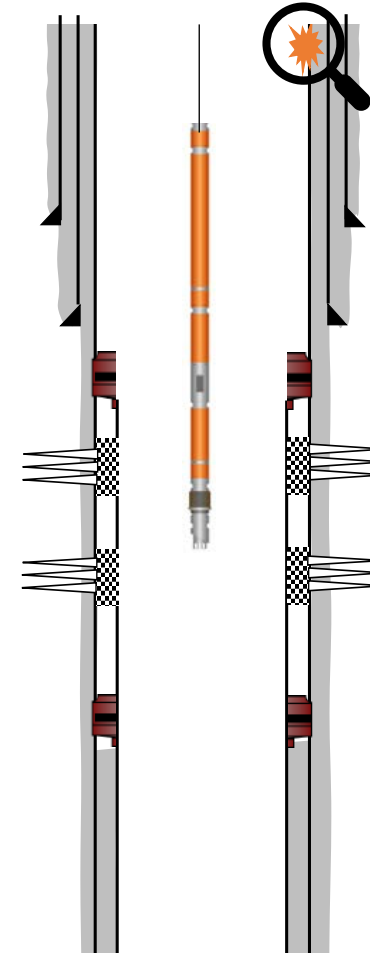
Background of Casing Collapse Environment

- From the legacy data, the only cementing record available is from Drilling & Completion phase and no CBL available for this well.
- Drilling report also reported the cement was up to surface.

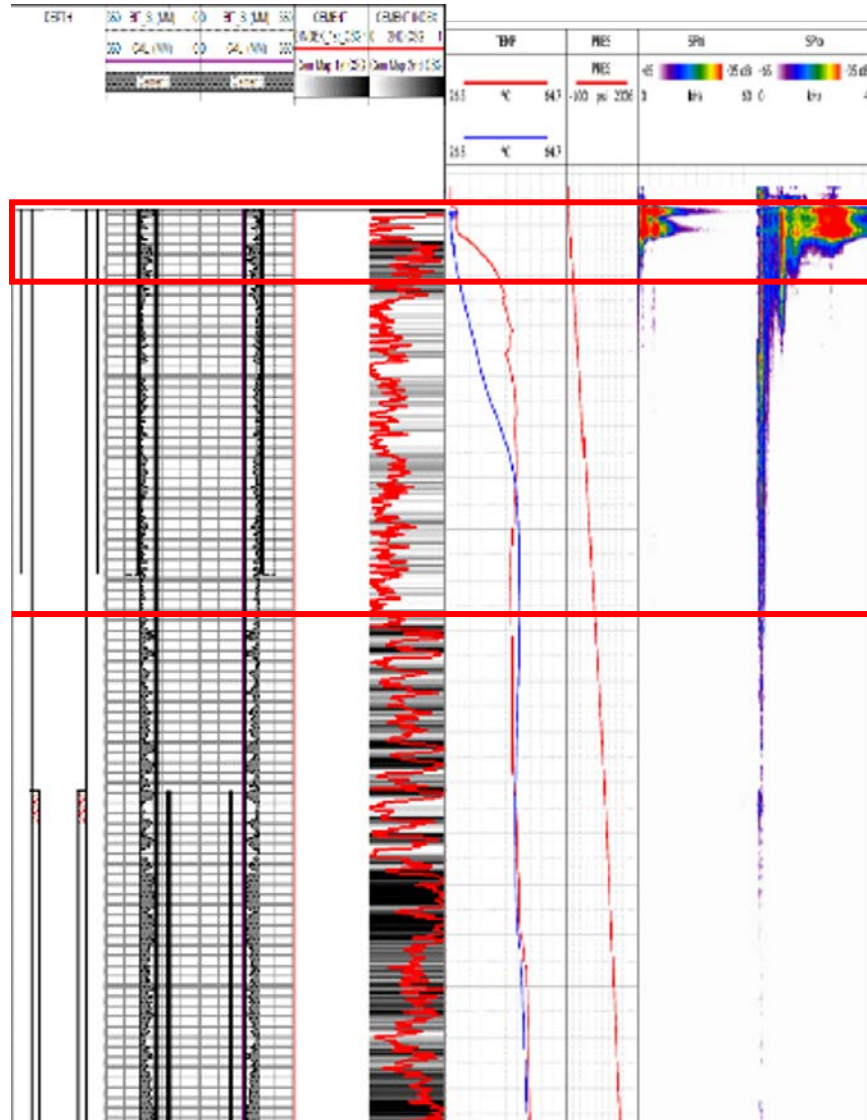


The Approach

- ❑ Factors that caused the casing to collapse were investigated.
- ❑ Acquiring the cement data is a key as that will eliminate other factors if the hypothesis is proven.
- ❑ With the complexity of the situation, Thru Tubing Cement Evaluation (TTCE) was implemented to investigate 2 layers of casing simultaneously.
- ❑ By this approach, the main objective which is cement condition and secondary objective for top of cement can be determined.



Cement Evaluation



Localize noise & temperature anomaly indicates fluid movement showing a potential punctured based on the data logged captured and analyzed.

Interpreted top of cement for 13-3/8 casing deeper than theoretical top of cement which recorded to surface.



Conclusion

- TTCE capable of evaluating dual layer of cement via slickline.
- Cement condition and top of cement easily acquired despite the condition of the well.
- Acquired cement data able to close the gap by filling up the missing component during the investigation.
- This confirmed the absence of cement as a potential factor as described as above.



Thank You

We would now like to invite questions

