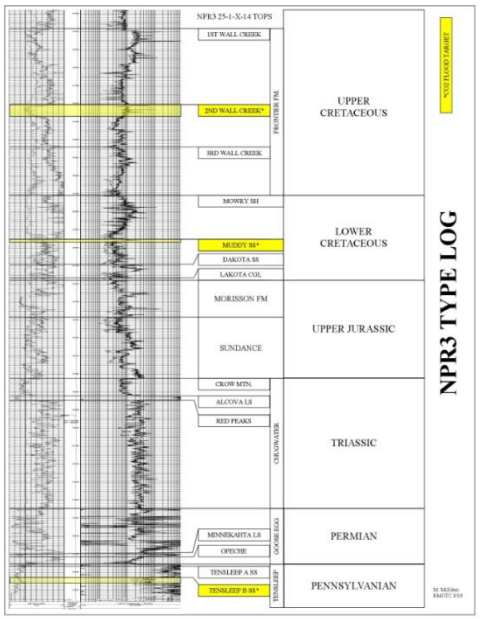
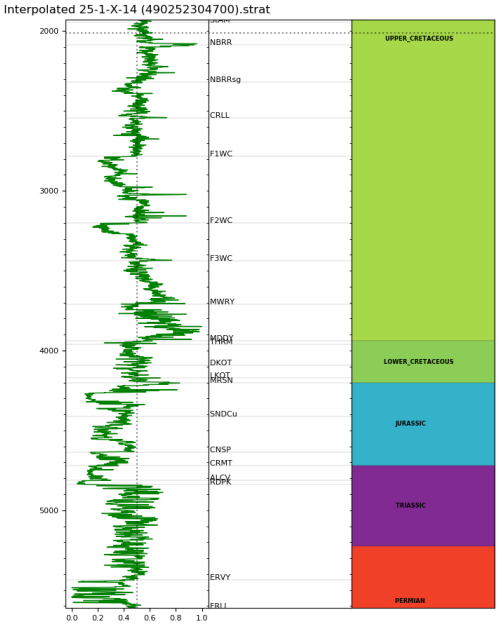
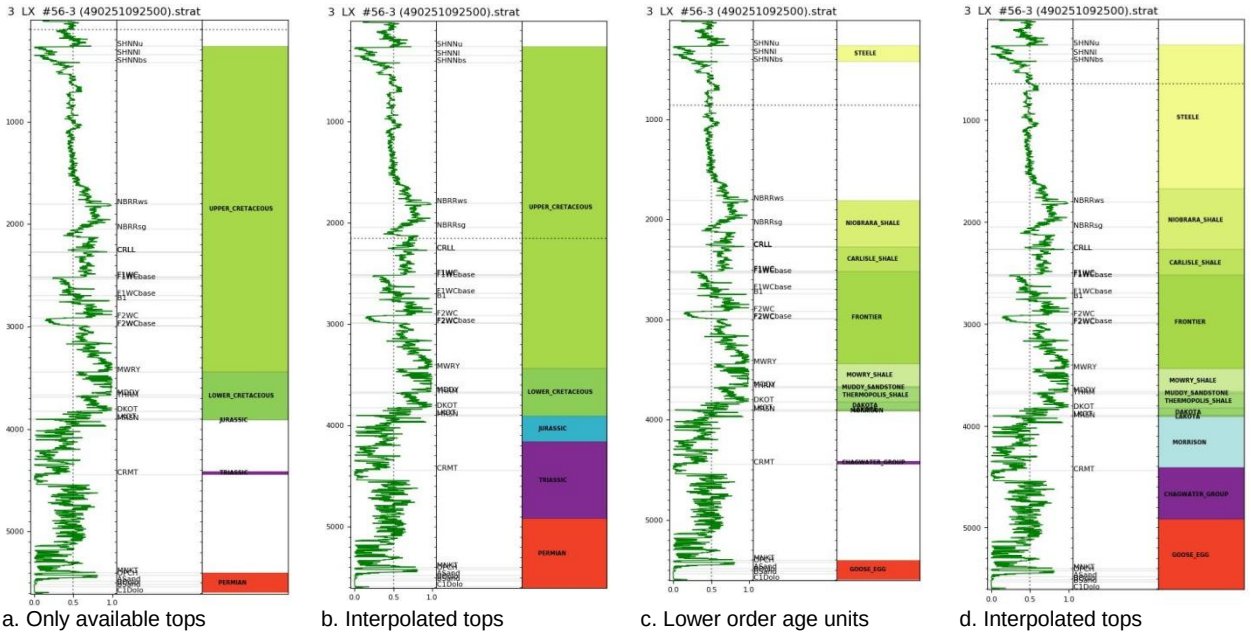


a. Reference well



b. Created geochronological column

Figure 6. Teapot Dome dataset: Reference and recreated geochronological columns.



a. Only available tops b. Interpolated tops c. Lower order age units d. Interpolated tops

Figure 7. Teapot Dome Dataset: Comparison of geological age calculation with and without interpolation of missing tops. Age units: periods (a,b) and formations (c,d).

Conclusions

The purpose of this tool is to reduce the amount of interpreter's work when it is required to add geologic time to a large number of wells, for example in a sequence stratigraphic workflow. As input data, it uses a set of LAS files (VShale logs), all tops and comparison age tables created by an interpreter to add geological age information to all strat files for a selected zone.

The result of automatic addition of geological time to stratigraphic columns is comparable with that created by interpreters. This method is trying to be conservative in interpolation, but we could exclude all gaps by interpolation over tops.

This software and method is useful when it is necessary to interpret big data from oilfields with hundreds and thousands wells. It provides good standard quality of processing for old data and possibility to try more interpretation options in a short time. In any case, this method provides essential reduction of manual interpretation work and makes it feasible to create stratigraphic sections for large fields in a short time.

Acknowledgements

I would like to thank Petro-Explorers for help and support when doing this work. Blackfoot dataset courtesy of CREWES. Teapot Dome dataset courtesy of RMOTC and the U.S. Department of Energy.

References

Black, B.J., Anderson, T.C., 2007. The RMOTC Data Management Project: An Update on a Long-Term Project of Modernizing the U.S. Department of Energy, Teapot Dome Oilfield Database.

Dufour, J., Squires, J., Goodway, W., Edmunds, A., and Shook, I., 2002. Integrated geological and geophysical interpretation case study, and Lam´e rock parameter extractions using AVO analysis on the Blackfoot 3C-3D seismic data, southern Alberta, Canada. GEOPHYSICS, VOL. 67, NO. 1 (JANUARY–FEBRUARY 2002).

George, L., Cardinal, D., and Winter, G. 2017. 2014 Wyoming Stratigraphic Nomenclature Chart. Search and Discovery Article #4202.

International Chronostratigraphic Chart, v 2019/05. International Commission on Stratigraphy.

Margrave, G.F., Lawton, D.C., Stewart, R.R., Miller, S., Yang, G., Simin, V., Potter, C., Zhang, Q., and Todorov, T. 1997. The Blackfoot 3C-3D seismic survey: A case study. CREWES Research Report — Volume 9 (1997).

Stratigraphic Correlation Chart, Core Laboratories, Calgary.

Table of Formations of Alberta, AGAT Laboratories