

## ***Interactive comment on “Upper Jurassic carbonate buildups in the Miechów Trough, Southern Poland – insights from seismic data interpretation” by Łukasz Słonka and Piotr Krzywiec***

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This is an intriguing and thought-provoking paper in the sense that it deals with an “evergreen” subject for those of us who work in the petroleum industry, i.e. the seismic identification of reservoir-grade carbonate build-ups. The comments below should help to produce a final version:

1) On figure 2, the analogue areas mentioned should be annotated and a few more relevant examples should be added, “closer to home”, i.e. in Austria, Czech Republic

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and Poland. Adámek, J., 2005. The Jurassic floor of the Bohemian Massif in Moravia—geology and paleogeography. *Bulletin of Geosciences* 80(4), pp.291-305. Zimmer W., Wessely G. (1996): Exploration results in thrust and subthrust complexes in the Alps and below the Vienna Basin in Austria. In: Wessely G., Liebl W. (eds) *Oil and gas in Alpidic Thrustbelts and Basins of Central and Eastern Europe*. EAGE Special Publication 5, Geological Society, London, 81–107. Wessely G. (2006): *Geologie von Niederösterreich*. Geologische Bundesanstalt, Wien. Mysliwiec, Michal, Zenon Borys, Beata Bosak, Bogusław Liszka, Kazimierz Madej, Andrzej Maksym, Krystyna Oleszkiewicz, Małgorzata Pietrusiak, Bożena Plezia, Grzegorz Staryszak, Grazyna Swietnicka, Czesława Zielinska, Krystyna Zychowicz, Piotr Gliniak, Radosław Florek, Jarosław Zacharski, Andrzej Urbaniec, Adam Gorka, Piotr Karnkowski, and Paweł H. Karnkowski, 2006, Hydrocarbon resources of the Polish Carpathian Fore-deep: Reservoirs, traps, and selected hydrocarbon fields, in J. Golonka and F. J. Picha, eds., *The Carpathians and their foreland: Geology and hydrocarbon resources: AAPG Memoir* 84, p. 351 – 393.

2) I would certainly include the reference to this paper and also point the position of the Polish Upper Jurassic reefs in a global context, such as reef types and reef builders: Wolfgang Kiessling, Erik Flügel and Jan Golonka (1999) *Paleoreef Maps: Evaluation of a Comprehensive Database on Phanerozoic Reefs*. *AAPG Bulletin*, 83, 1552–1587.

3) Frankly, on some of these seismic sections, the detection limit for the interpretation is a challenge. It would be good to provide some close-ups on some of the features, e.g. on Figure 9, the singular carbonate build-up. . . I wonder whether some other seismic attribute displays, such as inst. frequency or interval velocity, may be more helpful to show the presence and outline of these build-ups in a more convincing manner? Any sensitivity work on the potential use of velocity pull-up, i.e. could one expect to see one at all, or all these carbonates have pretty much the same velocity, i.e. variations less than, say, 5-10%? Any analogue studies in this regard? How about those stunning Miocene examples from the Far East, Natuna, etc.? I am sure that some of those reefs

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could provide some analogues.

4) Figure 16 is an interesting attempt to compare “apples and oranges”, but I would not do it. Regardless of the order of magnitude difference in scales, the outcrop photos are just not that convincing to see the difference between the massive and bedded facies. I suggest to drop this figure.

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Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2019-178>, 2019.