

Interactive comment on “Brief communication: Organochlorine pesticides in an archived firn core from Law Dome, East Antarctica” by M. Bigot et al.

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Response to comments from Reviewer 1

The authors would like to thank the anonymous reviewer for their very constructive comments.

- Site-specific information has been added from p2, line 26 to p3, line 2. “Law Dome is a small independent icecap located in Wilkes Land, East Antarctica and exposed to a maritime climate (Morgan et al., 1997). The DSS site is located near Law Dome

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summit, approximately 100 km from the coast and at 1370 m elevation (Morgan et al., 1997). This site was selected for its favourable bedrock topography and sufficiently low surface temperatures (mean annual average of -21.8°C) which preclude summer melt (Morgan et al., 1997). The DSS site is characterised by a relatively high annual snow accumulation rate of 0.68 metres (water equivalent) (Roberts et al., 2015) facilitating the preservation of very clear seasonal cycles in glaciochemical species. This provided a means of accurate dating with monthly resolution in the upper portions of the core (van Ommen et al., 2004; Plummer et al., 2012; Roberts et al., 2015).”

- Thank you for the clarification regarding Law Dome not being part of the “East Antarctic Ice Shelf”. All references to the East Antarctic Ice Shelf have been removed from the manuscript.

- Reviewer wrote: “p.5, line 3-4. “Both samples, however, also contained traces of our storage and handling contamination markers, PBDEs, indicating that sampling and/or storage conditions of the archived firn cores introduced organic contamination.” I would like to see some more information/ideas around this aspect. For instance, is the type of plastic bags used important?” We have further expanded on this point firstly on p5, lines 14-16 “These contaminants could have been introduced through various means such as the operator’s personal clothing, storage in plastic bags, and the use of contaminated coring tools and inappropriate cleaning methods.” Then on p7, line 28-29 “In particular, plastics should be avoided at all times as a general QA/QC measure for sampling and analysis of such compounds.”

- Reviewer wrote: “polar regions” should not be capitalized as now is done through the manuscript.” In the case of this manuscript, we purposely used capital letters for “Polar Regions” to distinguish “polar” from its other meanings in chemistry.

Please find latest manuscript draft in attachment.

Please also note the supplement to this comment:

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<http://www.the-cryosphere-discuss.net/tc-2016-178/tc-2016-178-AC1-supplement.pdf>

Interactive comment on The Cryosphere Discuss., doi:10.5194/tc-2016-178, 2016.