

## ***Interactive comment on “Temporal evolution of main ambient PM<sub>2.5</sub> sources in Santiago, Chile, from 1998 to 2012” by Francisco Barraza et al.***

### **Anonymous Referee #2**

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“Temporal evolution of main ambient PM<sub>2.5</sub> sources in Santiago Chile, from 1998 to 2012” General: The project seems to be carefully thought out. The analytical methodology (PMF 5.0 and Unmix 6.0) seems appropriate; however, a separate detailed sampling and QA/QC section is needed. Language and spellings need to be improved. Concentrations should be expressed in 3 significant figures throughout the text and in the figures and tables. The author should compare the data with other studies in urban areas. As such I recommend that it be published with major revision:

- 1) Page 3: “ $\mu\text{g}/\text{m}^3$ ” should be “ $\mu\text{g}/\text{m}^3$ ” - be consistent throughout the text, figures, and tables.
- 2) Page 3: “24-hour” or “24 hours” or “24 h” – be consistent with one of them.
- 3) Page 3: No mention for the sampling and analysis for PM<sub>2.5</sub>? How PM<sub>2.5</sub> samples

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were obtained? Which type of filter was used? Were the filters weighed in the clean room? Which analytical balance was used? Any QA/QC?

4) Page 3: A detailed QA/QC section for XRF analysis should be included. How often were the “QC” samples run? (What % age?). No estimates of recovery. What is the limit of quantitation? What is the uncertainty? Any blank correction? Precision and accuracy?

5) Page 4: Did the authors find selenium?

6) Page 4: Did the authors do the PMF analysis for the missing data? How was this handled?

7) Page 5: The contribution of Pb from industrial emissions cannot be ruled out. Motor vehicle is not the only source of Pb.

8) Page 7: “artefact” should be “artifact”

9) Page 8: “Gramsch et al. (2013)”. Missing in the reference section.

10) Page 8 Lines 10 – 12: Did the private cars use diesel as a fuel? Primary source of BC are emissions from diesel engines, cook stoves, wood burning and forest fires.

11) Page 12: “Boisier, J.P., . . . . .Mu?????oz, F.” should be corrected.

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