Interactive comment on "Groundwater flow processes and mixing in active volcanic systems: the case of Guadalajara (Mexico)" *by* A. Hernández-Antonio et al.

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General comments: the paper presents an interesting point of view on groundwater hydrogeochemisty from the volcanic caldera toward the west to Guadalajara. Complementary hydrogeological details are scarce. They are needed to support what is presented and concluded. Also water chemical data are treated with statistical tools of quite common nature. This is a good approach but the detail relative to groundwater flow are lost or poorly developed. So, the transfer of hydrochemical characteristics along the flow paths is not presented and exploited.

Specific comments: geothermal conditions are no clearly shown as a 18O shift to heavier values, which are expectable when there is a mixing of recent recharge with thermally affected water containing evolved chemical characteristics. The values of SiO_2 are not those expectable from a hot chemically active acid volcanic rock environment. 3H content is what is expectable from an unconfined system recharged from the surface taking into account the mixing produced by a spring or a long screened pumped well. This is not addressed. It seems that the groundwater equivalent water depth is relatively small. This is also not addressed.

Technical comments: in tables say that pH has no units. Make clear if what is given is SiO_2 or Si; both are used with close figures. TDS is as STD in the tables. The two cross sections of figure 8 are shown in figure 2 and not in figure 1; they seem too simplistic; some added hydrogeological information will be welcome.

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