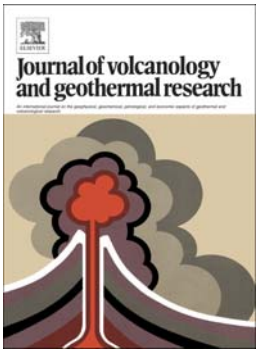

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PII: S0377-0273(16)30320-1
DOI: doi: 10.1016/j.jvolgeores.2016.11.008
Reference: VOLGEO 5961

To appear in: *Journal of Volcanology and Geothermal Research*

Received date: 7 September 2016
Revised date: 11 November 2016
Accepted date: 11 November 2016

Please cite this article as: Awaleh, Mohamed Osman, Boschetti, Tiziano, Soubaneh, Youssouf Djibril, Baudron, Paul, Kawalieh, Ali Dirir, Dabar, Omar Assowe, Ahmed, Moussa Mahdi, Ahmed, Samaleh Idriss, Daoud, Mohamed Ahmed, Egueh, Nima Moussa, Geochemical study of the Sakalol–Harralol geothermal field (Republic of Djibouti): Evidences of a low enthalpy (regional?) aquifer between graben and rift settings, *Journal of Volcanology and Geothermal Research* (2016), doi: 10.1016/j.jvolgeores.2016.11.008

Geochemical study of the Sakalol – Harralol geothermal field (Republic of Djibouti): evidences of a low enthalpy (regional?) aquifer between graben and rift settings

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Abstract

Eighty-six sodium bicarbonate to sodium chloride hot springs and four water wells in the Tadjoura Region of Djibouti were investigated for major, minor (B, Br, F, Sr, Li) chemistry and isotope composition of water molecule and dissolved components ($^{87}Sr/Sr^{86}$, $^{11}B/^{10}B$, $^{13}C/^{12}C$ and ^{14}C of DIC, $^{34}S/^{32}S$ and $^{18}O/^{16}O$ of sulfate). The deep saline Na-Cl reservoir at 143°C shows affinity with the shallow geothermal water from the "active" Asal rift. Asal water is a diluted and recycled seawater component with the major cation composition obliterated by equilibration with Stratoid basalt. Locally, the deep reservoir is differentiated in term of recharge, re-equilibration with rocks