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## Petrography and Tectonic Setting of Dykes in the Granitoid Intrusive, South to East-Qorveh (Kurdistan Province), Iran

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The studied area is located in the south to east of the Qorveh city (Kurdistan Province) in the Sanandaj-Sirjan zone. Based on field observations, the dykes are mafic to dioritic in composition, and followed by granitic dykes with low abundances (Fig. 1) and they have intruded in the granitoid rocks (Torkian 2011). The most abundance dykes are diorites (monzodioritic and quartz-monzodioritic rocks). The dioritic rocks consist of plagioclase ( $An_{54.87-45.95}$ ), pyroxene ( $Wo_{32.92-50.77}$   $En_{36.28-40.55}$   $Fs_{8.67-27.89}$ ), hornblende and sometimes K-feldspar and quartz. The mafic rocks include plagioclase ( $An_{66.28-58.72}$ ), clinopyroxene, orthopyroxene and hornblende which based on mineralogy and geochemical classification are divided to two groups: gabbroic and gabbro-noritic rocks. Apatite, titanite, zircon and opaque minerals are their accessory

The enrichment in LILE and Pb suggest the crustal contamination (Arslan and Aslan 2006). The tectonic setting discrimination diagrams reveal all of rocks belong to volcanic arc related to an active continental margin setting.

### References

- Torkian A, Khalili M, Sepahi AA, 2008. "Petrology and geochemistry of the I-type calc-alkaline Qorveh Granitoid Complex, Sanandaj-Sirjan zone, western Iran". *Neues Jahrbuch Fur Mineralogie-Abhandlungen* 185(2), 131-142.
- Torkian A, 2011. "The Parishan Pluton in Qorveh Area, an Example for Magma Mingling process, Southeastern Sanandaj, Iran", In: Srivastava, R.K (Eds.), *Dyke Swarms: Keys for Geodynamic Interpretation*, Springer-Verlag, Berlin, Heidelberg, 331-342.

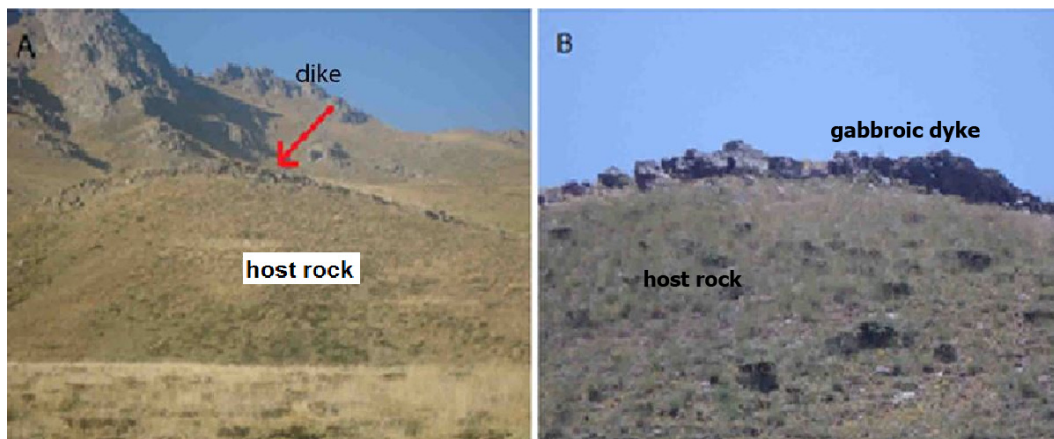


Fig. 1 Dioritic (A) and gabbroic (B) dykes in the Qorveh area.

minerals in both of group. Microscopic studies and microprobe analyses data show amphiboles and biotites are Mg-hornblende and annite, in composition, respectively. The mafic rocks have tholeiitic affinity, but dioritic dykes belong to the MK- calc-alkaline series. Spider diagrams imply enrichment in LILE (such as Cs, Rb, U & Pb), depletion in HFSE (Nb and Ba) and high LILE/HFSE ratio.

Torkian A, Furman T, 2015. "The significance of mafic microgranular enclaves in the petrogenesis of the Qorveh Granitoid Complex, N-Sanandaj-Sirjan Zone, Iran". *Neues Jahrbuch Fur Mineralogie-Abhandlungen (Journal of Mineralogy and Geochemistry)* 192(2), 117-133.

Arslan M, and Aslan Z, 2006. "Mineralogy, petrography and whole-rock geochemistry of the Tertiary granitic intrusions in the Eastern Pontides, Turkey". *Journal of Asian Earth Sciences* 27, 177-193.

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