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Petrography and Geochemistry of the Javaherdasht basalts (east of Guilan Province): The investigation of the role of crystal fractionation and crustal contamination in the magmatic evolution

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Abstract: The Javaherdasht Basalts show compositional range from olivine basalts to quartz basaltic andesites. Petrographic studies indicate that the differentiation of clinopyroxene and olivine minerals has main role for lithologic variety of the basalts.The corosion golf, crenated margins and lack of the same colour in the clinopyroxene phenochrysts margins with matrix Pyroxene grains express a nonequilibrium and are petrographic features for crustal contamination of the basalts.The positive correlation CaO,CaO/Al_2O_3 and Cr with $Mg^{\#}$ and CaO/Al_2O_3 with Sc and the negative correlation Al_2O_3 with $Mg^{\#}$ are geochemical characters for the differentiation of clinopyroxene and olivine in the magmatic evolution of the area.The high ratios of Ba/Zr and Pb/Nd and low ratio of Ce/Pb and positive correlation of SiO_2 and Rb with $^{87}Sr/^{86}Sr$ and negative correlation of Nd-Sr isotopes display the contamination of these basalts with continental crust.

Keywords: *basalts, Geochemistry, Crustal contamination, Nd-Sr isotopes, Javaherdasht, Guilan.*