

easily possible to predict variations of arsenic concentration in local water resources using lithological, hydrological, and geochemical information.

VIII. CONCLUSION

Hydrochemical variables of water resources in Pangi area were evaluated in order to enhance an understanding of the most significant processes which impact the hydrochemical variations. Major conclusions of this study are drawn as follows:

- 1- Weathering of ophiolites is the most effective process on quality of water resources in the area due to this process, arsenic present in hydrothermal veins can be released to water resources.
- 2- Good correlation between arsenic, SO_4^{2-} , and Na^+ is related to sulfidic mineralization of pillow lavas and basic dykes in studied ophiolites.
- 3- Direct relationship between pH and arsenic concentration in water resources shows that arsenic is more stable in oxidation and alkaline conditions, and arsenic sulfides are mostly as HAsO_4^{2-} .
- 4- Regarding to results, arsenic concentration is increased along water flow. Concentrations are especially increased where ophiolites are crossed by streams, as the highest concentration of arsenic in Golbou reaches 12 times greater than the permissible level. Arsenic concentration is low in Mahdi Abad aqueduct because it's far from ophiolites.
- 5- Average concentration of arsenic in local water resources (86 ppb) is higher than the standard values.
- 6- The lowest arsenic concentration observed in Roud-E-Shour area (before contact with ophiolites). However, it's alternatively increased along water flow and after crossing ophiolitic formations.

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