Accepted Manuscript

Assessment of brittleness and empirical correlations between physical and mechanical parameters of the Asmari limestone in Khersan 2 dam site, in southwest of Iran

Gholam Reza Lashkaripour, Ahmad Rastegarnia, Mohammad Ghafoori

PII:	S1464-343X(17)30419-3
DOI:	10.1016/j.jafrearsci.2017.11.003
Reference:	AES 3044
To appear in:	*Journal of African Earth Sciences*
Received Date:	07 June 2017
Revised Date:	07 November 2017
Accepted Date:	08 November 2017

Please cite this article as: Gholam Reza Lashkaripour, Ahmad Rastegarnia, Mohammad Ghafoori, Assessment of brittleness and empirical correlations between physical and mechanical parameters of the Asmari limestone in Khersan 2 dam site, in southwest of Iran, *Journal of African Earth Sciences* (2017), doi: 10.1016/j.jafrearsci.2017.11.003

- Brittleness and geomechanical parameters of the Asmari formation from the Khersan 2 dam site were investigated.
- There was appropriate linear and nonlinear relationships between static and dynamic parameters in dry and saturated conditions.
- The correlation of the static and dynamic parameters with porosity was greater in dry conditions than saturated conditions.
- Multiple linear analyses indicated that brittleness index had a significant correlation ($R^2 = 0.90$) with UCS, V_p and the tensile strength.
- Estimation of brittleness index based on V_p had higher accuracy than that based on tensile strength and UCS.
- The correlation of brittleness index with B1, B2 and B3 concepts reveals that the best correlation of brittleness index was related to the B3 concept.
- Also, the correlation of the brittleness index with V_p, B1, B2 and B3 parameters was greater in dry conditions than saturated conditions.