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CERTIFICATION

On 10 May 2021, the laboratory of Petrology and Economic Geology of the Technical University of Crete, received two zeolite samples coded D1 and D2 from AVGI LDT- Thracean Zeolite Co. We were asked to determine the mineralogical composition both qualitatively and quantitatively. The mineralogical composition was determined with X-ray diffraction analysis. Quantitative analysis was achieved by means of Rietveld refinement method, using random powder samples applying the side loading technique. The method applies stepwise fitting of the experimental XRD trace and presents the percentages of the various minerals and the error. The relative error in determination of zeolite content does notexceed 3.3%.

The mineralogical composition of the samples is shown below:

Sample	Clinoptilolite	Mordenite	Smectite	Quartz	Opal-CT	K-feldspar	Plagioclase	Mica
D1	**79.8**	- -	- -	traces	14.2	2.3	1.3	2.4
D2	**82.8**	- -	- -	traces	10.7	1.9	2.9	1.7

Based on the obtained results I certify that:

1. Sample D1 contains 79.8 % zeolite (clinoptilolite). Major impurity is opal-CT and trace impurities are K-feldspar, mica, plagioclase feldspar and quartz.
2. Sample D2 contains 82.8 % zeolite (clinoptilolite). Again, major impurity is opal-CT and trace impurities are K-feldspar, mica, plagioclase feldspar and quartz.

Sincerely

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