be reduced. Illustrations are presented to show that existing thresholds can be reduced by m0.5 by accepting these criteria. (c) By employing more than one imperfect criterion, analyses can result in statistical probabilities (rather than certainty) that an event in question falls into an earthquake or explosion category.

A very brief and oversimplified summary of the results and conclusions of this assessment is that the global system of stations produces proven detection, location and identification of underground nuclear explosions down to yields of about 60 kilotons in hardrock in most of the northern hemisphere: the threshold is 10-20 kilotons for certain test sites only, and this lower threshold cannot be reached on a global basis with this ensemble of stations. We complete the study by making a number of recommendations, which, with very little financial commitment, will provide some basic data required to define existing capabilities better and that may significantly improve them.

The problems of evasion are not treated in great depth in this analysis. In principle, a potential violator of a Comprehensive Test Ban could attempt either to reduce the size of the seismic signals from a clandestine explosion of a given yield by suitable choice and artificial modification, if necessary, of the variables of the emplacement medium, or attempt to simulate an earthquake-like seismic signal by multiple firing techniques, or depend on major simultaneous natural earthquake signals to obscure the artificial event, or events, of interest. The advantages and disadvantages, limits of feasibility, etc., in these different techniques are not analysed in this document, which treats all explosion yields in terms of their hardrock equivalents.

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However, we accept sole responsibility for the interpretations we have placed on the data in the UN returns, and for the scientific contents and judgements contained in the paper.

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