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Pira Consulting – Logistics, Distribution and Operations

CERTIFICATE OF TEST

Test reference 12D19-0022 (proposal reference 113220) Page 1 of 11

Date 02 March 2012

Client Contrec Manufacturing (UK) Ltd

Contact Craig Naylor

Background Contrec Manufacturing (UK) Ltd ('Contrec') distributes electronic

display instruments containing primary lithium battery packs, manufactured in Australia. These are distributed globally, both within equipment and as spare packs. Contrec wishes to have the battery fully tested against section 38.3 of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria (MTC), in order to transport the battery by road or air.

ObjectiveTo test a battery pack against the requirements of chapter 38.3 of

the Recommendations on the Transport of Dangerous Goods,

Manual of Tests and Criteria (MTC).

Scope The Contrec battery pack is defined as a small primary battery.

The applicable tests defined in chapter 38.3 of the MTC are T1 (altitude), T2 (thermal), T3 (vibration), T4 (shock) and T5 (external

short circuit).

Test samples A set of 8 batteries were submitted for test, 4 in undischarged

state and 4 in fully discharged state, as described in Table 1 below. Photographs showing the batteries and test undertaken

are presented in Appendix A.

Date of receipt 19 January 2012

Dates of test 25 January 2012 to 26 February 2012

Pre-test conditioning None required

Test conditions 23°C, 50% rh except where stated otherwise