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POINT BRIEF

Subject: WATERWALL TESTING 'MAXI-BIN' DEMONSTRATION IN MADRID

- **Place:** 'La Marañosa' MoD test facility, Madrid.
- **Dates:** Thu 18 Oct 07 (preparation) and Fri 19 Oct 07 (live firing test).
- **Time:** 0930-1430 hrs on both days.

- **Attendance:**
 - Army EOD School
 - Guardia Civil
 - National Police
 - La Marañosa test facility personnel
 - Cintec
 - CIAC

- **Background.** This demo took place as a result of ongoing work between CIAC and the CID (Army EOD School) in Madrid. The opportunity was taken to invite the national police and Guardia Civil. The CID is producing a full written report on the test, including photos and high speed camera video. Known details:

- **Test Conduct.** The test was split into 2 identical detonations:
 - **Detonation 1:** With Waterwall mitigation.
 - **Detonation 2:** Without Waterwall.

- **Sensors and Targets.** The test range was fitted with a semi-circle of wooden witness screens approx 10m from the charge. In addition, eight life-size wooden dummies and various foil overpressure sensors were placed at various distances up to 10m from the charge.

- **Charges.** Two identical charges were used for the tests. Both were initiated using detcord, electric detonators and cable:
 - **Explosive.** 5kg military plastic explosive (exact composition unknown, but it is understood that the in-service PE is relatively powerful (i.e. more powerful than the UK's PE4).
 - **Container.** Each 5kg charge was placed in a round, stainless steel pressure cooker:
 - **Material thickness:** 2mm approx.
 - **Diameter:** 300mm approx ---
 - **Height:** 300mm approx.

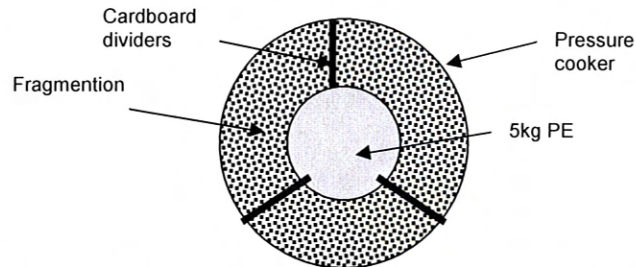
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Charge Diagram (plan view):



-- Three separate fragmentation 'compartments' were packed with nuts and bolts approx 15mm diameter x 100mm long suspended in a filling of sand to ensure even distribution. Each compartment contained a different mix of sand and fragmentation (full details should be in the EOD report).

- **Results** (these are subjective and will be more accurately described in the official report):

	Blast Overpressure	Fragmentation	Flash
Detonation 1 (with Waterwall)	3 witness screens blown over in line with seams of Maxi Bin.	Approx 10 hits on witness screens. No dummies hit.	Completely eliminated, resulting in a puff of black smoke.
Detonation 2 (without Waterwall)	1 or 2 witness screens blown over, but dummies at all distances were ripped apart and thrown up to 25m away.	Approx 30 hits on screens. Various dummies showed signs of impact, including damage to body armour.	Considerable orange fireball. Would have set fire to material in close proximity. Can be clearly seen on video.

- In addition to the table above it is worth noting that the CID (which had 'commissioned' the test) was very positive about the results obtained with Waterwall. They considered that the test proved Waterwall's ability to provide considerable mitigation of the explosive effects.
- The CID Colonel concluded by saying that his report "...would, of course, be positive."
- **Photography.** Permission was sought by CIAC to take photos of of the test, but this was denied on the grounds of security.

Point Brief ends.