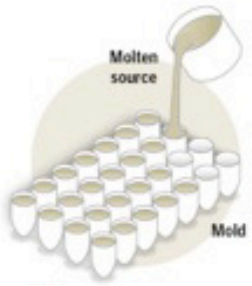
Compositional Analysis of Bullet Lead (CABL)

Bullet-Lead Analysis: No Longer A Smoking Gun

Testing the chemical composition of bullets was thought to be a way to match bullets to their source, allowing the FBI to link bullets to suspects, much as it uses blood type to link evidence to an individual. Accepted as evidence for 30 years in criminal cases, bullet-lead analysis led to many convictions. However, scientific studies starting in 2001 have shown that FBI courtroom testimony about bullet lead is flawed:



Background: How bullets are made

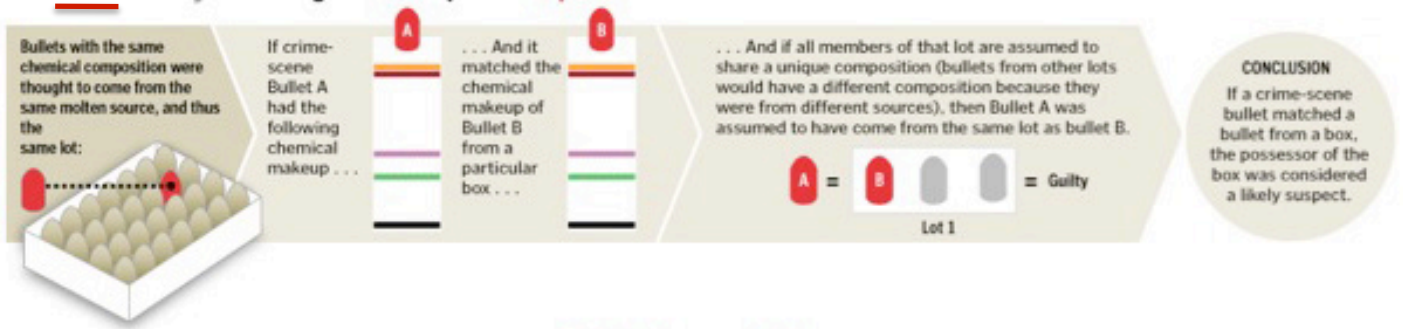
Lead alloy is melted from leftover car batteries. The liquid is poured into a mold. All bullets poured from the same batch of molten lead are considered to be from the same "lot." Studies estimate that as many as 35 million bullets can come from a single source.

Two assumptions were made about this process, leading to the theory that a single bullet's characteristics would be representative of all other bullets in the lot:

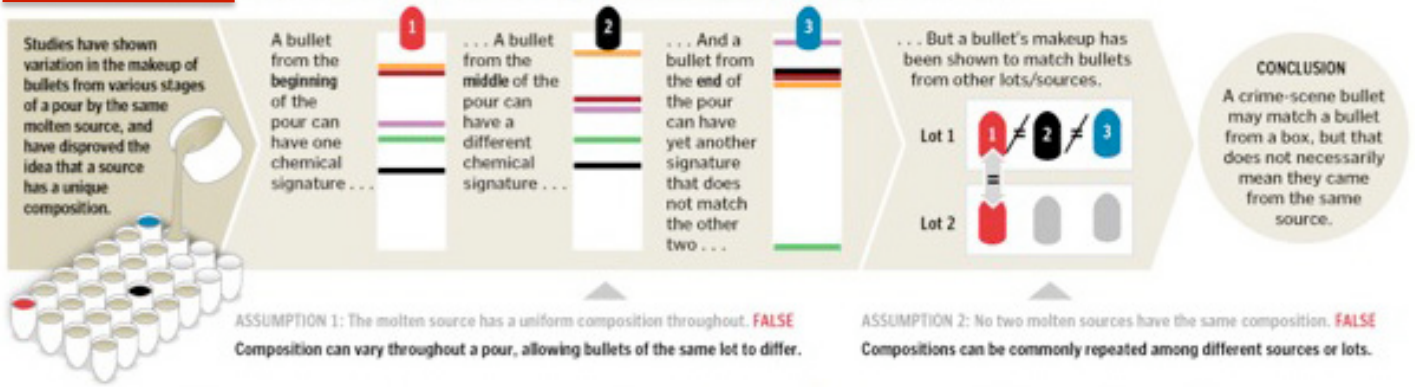
ASSUMPTION 1: The molten source has a uniform composition throughout.

ASSUMPTION 2: No two molten sources have the same composition.

The Old Theory: Matching Bullet Composition Equals Shared Source



Current Science: Matching Bullet Composition Does Not Necessarily Prove Shared Source



SOURCE: National Academy of Sciences report, FBI documents, research of former FBI metallurgist William Tobin | By Laura Stanton The Washington Post - November 17, 2007