# EJECTIONS AND EXPLOSIONS:
# THE CONNECTION CONFIRMED

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In this brief research note I report on my measurement of the velocity of ejected matter from the North Tower during the Tower's destruction. Others have carried out similar research, but I feel there are two good reasons for this project.

- One of the strongest arguments against NIST's "puffs of dust" hypothesis—the hypothesis that visible ejections were caused by dust blown from windows by pancaking floors or descending debris—is the consistency of the speeds found through measurements of these ejections. As Kevin Ryan has argued, if air pressure were the cause of the ejections, the velocity of the ejections should vary greatly depending on location, stage of collapse, and so on. Measuring the velocity of ejections at different locations is, therefore, crucial. Consistent velocities will indicate explosive charges. (Kevin Ryan's article can be found at:

  http://www.journalof911studies.com/volume/2007/Ryan_HVBD.pdf )

- Previous studies have often focused on ejections that stand out from the general destruction of the tower. Typically, these ejections occur ahead of the destruction front and appear to be mistimed explosions. I have chosen an ejection that was an integrated part of the general wave of destruction to see if the velocity matches those previously measured.

I have chosen a well known video clip of the destruction of the North Tower, which gives an especially clear view of the downward progress of destruction along the northwest corner.

As of the time of writing (November 27, 2008), the clip can be viewed here:

http://video.aol.com/video-detail/911-north-tower-northwest-corner-view/2936085065

Subsequent steps in the research process were as follows:

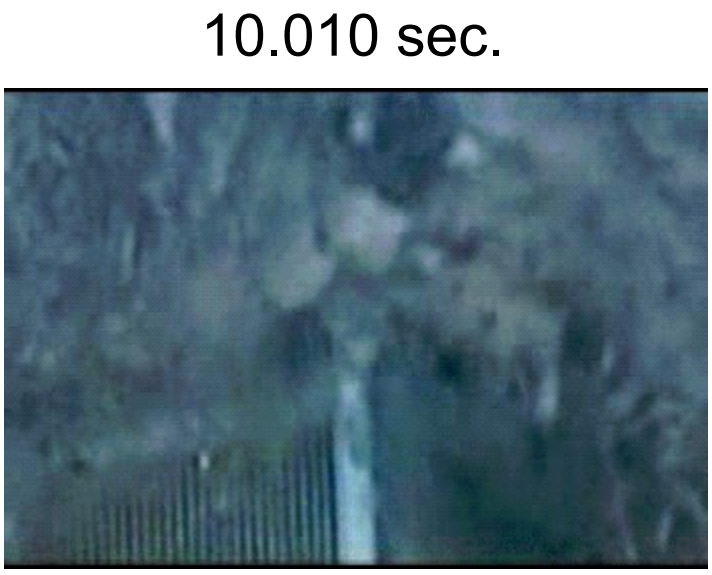
1. After downloading the video clip, I split the sequence into 33 millisecond frames using VirtualDub. Magnification was set at 200%.
2. I then chose an ejection that could be viewed all the way from its first appearance to full extension and that had minimal foreshortening. The relevant sequence stretches from frame 300 (10.010 seconds into the clip) to frame 311 (10.377 seconds). See the images below.
3. I measured the full extent of the ejection as found in frame 311 using Screen Calipers and found it to be 180 pixels.

4. I found that 180 pixels represented approximately 17 perimeter columns at the closest point on the Tower.
5. I estimated the distance in feet represented by 17 perimeter columns by multiplying 3 feet, 4 inches, the distance from the center of one perimeter column to the center of the adjacent column (FEMA, *World Trade Center Building Performance Study*, 2-2), by the number of columns at issue (17). This gives us a distance of (3.3 x 17 = ) 56.1 feet.
6. The time required for the ejection to go from zero to full extension is (10.377 – 10.010 =) 0.367 seconds.
7. Therefore, the ejection velocity is (56.1 / 0.367 =) 152.9 feet per second. This represents 104.3 miles per hour.
8. This figure is undoubtedly a bit low since I have not tried to take into account the minor but obvious foreshortening in the visible ejection.
9. My results are close to those achieved by previous researchers who have examined ejections earlier in the North Tower's collapse as well as ejections early in the South Tower's collapse. (In addition to Kevin Ryan's article, referred to above, see David Chandler's research. For example:

http://www.youtube.com/watch?v=N_UeLXfI37s )

Conclusion:

My research confirms that of previous researchers, and it is therefore likely that the ejections that occurred during the Tower collapses were caused by explosions.



10.077 sec.

10.143 sec.

10.210 sec.

10.277 sec.

10.377 sec.

Ejection: 180 Pixels

# 17 Columns: 180 Pixels