## Scientific Critique of Judy Wood's Paper "The Star Wars Beam Weapon"

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#### A. Introduction

This paper critiques the work and thesis of Judy Wood and Morgan Reynolds suggesting that a "Star Wars" beam weapon was used in the destruction of the World Trade Center towers (referred to herein as the "WR thesis" or "WR paper"). The WR thesis is presented in a web-based paper entitled "The Star Wars Beam Weapon", which can be found here. The central claim of the WR thesis is that the phenomena observed during the destruction of the World Trade Center Towers 1 and 2 are only consistent with the use of some type of directed energy weapon, either originating from outer space or reflected from outer space (thus, it is referred to herein as a "space beam weapon"). The main arguments in the WR thesis are examined in this paper and a case is made that the WR thesis and its supporting paper contain several scientific flaws, including, the use of corrupted data, ignoring data that contradicts its claims, not considering more reasonable explanations for observed effects, and, in the case of the Kingdome demolition, incorrectly comparing data.

# B. Reliance on Corrupted Data

One of the key points of the WR thesis is that the collapses of the Twin Towers should have produced ground shaking sufficient to cause a Richter scale spike larger than the spike generated by the demolition of the Kingdome in Seattle. Even assuming the WR paper is valid in all other respects, the WR thesis is based in part on faulty data, which invalidates a major part of the thesis, as will be demonstrated below.

The WR paper relies exclusively on seismic data readings obtained from the Lamont-Dougherty station at Columbia University taken during the collapses of the Twin Towers. However, the WR paper readily admits several times that this seismic data has been corrupted in some way. To quote from page 1: "It is almost as if the data from 9/11 have attenuated, that peak movements have been reduced by some kind of filtering process. Does this difference reflect real data, that is, differences in real phenomena accurately recorded? Or have the data been filtered asymmetrically or differently? Or have the data been completely manufactured? We do not know, but for the sake of the analysis we use the Richter values reported. Could they have been lower than reported? Yes." It goes on later in the paper to state "Although these data seem to be corrupted by unknown filters..." and continues the analysis based on admittedly corrupted data.

Ignoring basic, fundamental tenets of scientific reasoning and analysis, the WR paper forges ahead with a "scientific" analysis that is based on admittedly corrupted and untrustworthy seismic data. The WR paper acknowledges it is using faulty (**even possibly manufactured**) data, yet presses ahead with the comparison to the Kingdome and asserts that space beams caused the destruction despite this fundamental flaw. All sections of the WR paper that rely in any way whatsoever on this admittedly corrupted data have no scientific value because reliable data is the foundation of any sound scientific analysis.

Perhaps uncorrupted data would show that the collapses actually caused more ground shaking than a 2.3 Richter scale reading. In fact, in the passage from the WR paper quoted above, the authors take the position that the original seismic data has been filtered in order to "attenuate" or "reduce" the size of the peaks. If that were the case, the entire argument that the bathtub was not able to withstand an earthquake larger than a 2.3 Richter scale would fail because the bathtub did, in fact, survive a ground shaking that caused a Richter scale peak larger than 2.3. Furthermore, the WR paper's statement that "The apparent fact that the Richter reading peaked at 2.3 and the disturbance lasted only 8 seconds indicates an extraordinary high-energy weapon was used top-down to preserve the bathtub and surrounding structures" is nonsense from a scientific standpoint (notwithstanding the logical fallacy) because it is based on corrupted data. Has the WR paper established as fact that the Richter reading peaked at 2.3? No. Has the WR paper established as fact that the disturbance only lasted 8 seconds? No. Why? Because the data are corrupt by its own admissions. We will never know how much ground shaking the bathtub actually withstood until reliable data are produced, and the WR thesis is pure conjecture until then.

So much of the WR thesis hinges on the size of the seismic spike that occurred during the collapses of the Twin Towers that the use of accurate, reliable seismic data is crucial to the veracity of the WR thesis. Consider the following hypothetical situation: A pharmaceutical company, HypoMed, has just completed human trials of one of its new drugs. HypoMed's scientists have authored a study to present to the Food and Drug Administration showing that the new drug is safe for use in humans, hoping to have the FDA approve the drug for public sale. In HypoMed's own study, its scientists state that some of the data from the human trials are corrupt, and some data may even have been manufactured. Assuming ethical people inside the FDA are responsible for reading the scientific studies submitted and approving drugs, HypoMed's new drug clearly has no chance of being approved. The WR thesis is no different than the scientific study supporting the new drug in this hypothetical situation. It has no scientific credibility behind it, and it should not be approved by anyone because it does not support its major points with reliable scientific data.

# C. Gravitational Potential Energy Comparison

In addition to being based on admittedly corrupt seismic data, the WR paper's comparison of the WTC collapses to the Kingdome demolition also contains a red herring. In Section V of the WR paper, the total gravitational potential energy ("GPE") of the WTC towers is compared to the total GPE of the Kingdome. This comparison is made in order to attempt to extrapolate an expected seismic signal, or Richter scale reading, for the collapse of the Twin Towers. As a preliminary matter, the expected seismic signal calculated in the WR paper is demonstrably false. More importantly, though, it is unsurprising that the actual seismic signal offered by the WR paper, as will be demonstrated below. The Richter reading is an indication of the energy magnitude for an earthquake, but not an indication of the total GPE of a building for a building implosion.

The WR paper calculates the total GPE of one WTC Tower to be 30 times the total GPE of the Kingdome (although these calculations are not provided in the text of the paper, which means it is extremely difficult, if not impossible, for the reader to verify their accuracy). It then uses this difference in total GPE to try and prove that the Richter scale reading for the collapse of one WTC Tower should have been larger than the Richter scale reading observed during the Kingdome demolition. Specifically, the WR paper offers an expected Richter scale reading for the collapses of the Twin Towers of 3.8, which is based on a Richter scale reading for the Kingdome demolition of 2.3. However, in the case of an earthquake, if the total amount of energy released during the earthquake is increased by a factor of approximately 32, the Richter scale reading will only increase by 1 whole number. (See HowStuffWorks.com earthquake article here; See also United States Geological Survey analysis here) For example, an earthquake with a Richter scale reading of 5 will have release 32 times the amount of energy as an earthquake with a Richter scale reading of 4. The WR paper inexplicably associates an energy level increase of 30 (which is less than 32) with a Richter scale increase of 1.5 (which is more than 1). The details of these "expected" seismic signal calculations need to be clearly shown and this discrepancy needs to be explained. Based on data available for seismic waves generated by earthquakes, one would expect an energy increase of 30 times would increase the Richter scale reading by less than 1 whole number.

Even assuming the "expected" seismic signal was correctly calculated in the WR paper, it is thoroughly unsurprising that the actual seismic signal produced by the Twin Towers collapse differed from it because the destruction of the Twin Towers exhibited vastly different characteristics than the destruction of the Kingdome. At the outset it is important to note that no one disputes the fact that the demolition of the Kingdome was different than the destruction observed during the collapses of the Twin Towers. The WR paper even admits as much on page 2 by stating "the Kingdome demolition contrasts sharply with the destruction of the Twin Towers." The comparison of the GPEs in the WR paper is offered to disprove the idea that a conventional explosive driven controlled demolition was used to bring down the Twin Towers. However, even if we assume that both collapses were the result of a controlled demolition using explosives, it does not automatically follow that the seismic signals of the collapses are able to be compared in any meaningful way.

While it is true that Richter scale readings are used by seismologists to estimate the amount of energy released by an earthquake, the same methodology cannot be used after a building collapse or implosion to determine the total GPE that was originally in the building. By the same token, the total amount of GPE in a building cannot be used to calculate an expected seismic signal for a building collapse or implosion because, in the case of an earthquake, all of the energy originates within the earth itself and is transferred through the earth in the form of seismic waves. The seismic waves travel through different rock strata and earth topography and are detected at receiving stations. The properties of the earth that the seismic waves travel through are generally well known and allow seismologists to accurately determine the location and, more important to this discussion, the magnitude of seismic signal of the event based on readings from the different receiving stations that detect the signals, after adjustments are made based on the known properties of the earth. Thus, the amount of energy released by the earthquake can be determined based on the magnitude or amplitude of

the seismic signal.

The WR paper appears to be analogizing the energy released by an earthquake with the total GPE available to a building before it collapses. This is an incorrect analogy because, as demonstrated below, only a percentage of the total GPE forms seismic waves because during a building collapse or implosion, the available GPE can be dissipated in several different ways which do not involve transferring energy through the earth in the form of seismic waves. In other words, during a building collapse or implosion, not all of the total available GPE is transferred through the earth as seismic waves; only a percentage of the total GPE becomes energetic seismic waves. The rest of the GPE is dissipated, most notably, during deformation of the building and its structural components, during the formation of rubble and dust, and due to air resistance as the rubble falls through the air. Furthermore, the percentage of the GPE dissipated through these other mechanisms would be expected to differ between two collapses that exhibit different characteristics and, as stated previously, no one disputes that the collapse of the Kingdome differed significantly from the collapses of the Twin Towers. Thus it should be expected that the percentage of the total GPE available to the Twin Towers that was converted into seismic energy differed from the percentage of the total GPE available to the Kingdome that was converted into seismic energy.

Therefore, a meaningful comparison of the magnitude of the seismic signals generated by two different building demolitions necessarily takes into account only the amount of the total GPE that was converted into seismic waves. If it is not taken into account, a reason should be given as to why the assumption that the same percentage of the total GPE was dissipated in both cases during deformation of the building and the formation of rubble and dust. Although it has not explicitly stated its assumptions, it would appear that, in performing the calculations in question for the comparison of the Kingdome and WTC Tower collapses, the WR paper has assumed that the same percentage of the total GPE available in each case was transferred into the earth in the form of seismic waves. However, no reason is given as to why this assumption is an accurate representation of reality. In fact, there is no reason that can possibly be given to have the reader of the WR paper to accept the assumption that the same percentage of the total GPE formed seismic waves in both cases. The Twin Towers were demolished from the top down, blowing vast amounts of dust and debris out and away from the building during the collapse and pulverizing much of the concrete and other materials into very fine dust. Some large sections of debris lodged themselves in nearby structures and never even reached the ground. The Kingdome collapsed into its own footprint, with relatively less pulverized concrete generated during the demolition. It is clear, therefore, that the characteristics of the WTC demolitions were vastly different from the demolition of the Kingdome.

So, the reader of the WR paper has learned what the reader already knew, namely that the characteristics of the WTC demolitions were different from the characteristics of the demolition of the Kingdome. This fact is clearly apparent from a simple viewing of the myriad available videos of both events. That the actual seismic signals for the collapses of the Twin Towers are not what would be expected using the WR paper's calculations based on the collapse of the Kingdome is unsurprising. The difference between the WR paper's expected seismic signal and the actual seismic signal simply means that during the collapse of the Twin

Towers, a smaller percentage of the total available GPE went into the earth in the form of seismic waves than occurred during the Kingdome collapse. The WR thesis attributes this difference to the use of space beams to vaporize the building, including some of the steel. However, this ignores the alternative reasonable explanation that the GPE of the Twin Towers was dissipated in other ways, such as during building deformation, rubble and dust formation, and due to air resistance during free fall. The WR paper has not even attempted to demonstrate why this alternative explanation for the GPE dissipation is unreasonable or unexpected. In sum, the WR paper should show in detail all of its calculations and assumptions before the simple GPE comparison can be considered scientifically valid.

Furthermore, the WR paper ignores another reasonable alternative explanation for the reduced seismic signal experienced during the collapses of the Twin Towers, the evidence for which comes directly from readily available, credible information regarding the demolition of the Kingdome and does not involved the use of exotic weaponry. This information is from the company responsible for the Kingdome demolition: Controlled Demolition, Inc. ("CDI"). One section of CDI's website is devoted to describing some of their more prominent demolition projects and detailing the challenges that were overcome. In CDI's <u>description of the Kingdome demolition</u>, they state as follows:

The greatest technical challenge of the Kingdome Project was to control vibration generated by the fall of 125,000 tons of concrete debris onto a reclaimed section of Seattle whose water table was just a few feet below grade. This vibration-sensitive geotechnical strata lay under critical Seattle infrastructure as well as adjacent historic, commercial and residential structures as close as 95' away. ...

The free-fall felling of the 25,000 ton concrete dome alone would have created over 9 billion foot-pounds of energy, sufficient to do widespread damage given soil conditions in the area. To control vibration, CDI designed a program that would detonate small explosives charges to soften the roof structure so it would crush on impact (consuming energy) rather than letting it fall to grade intact. The implosion program divided explosives detonations into two (2) distinct but integrated phases, creating a sequential collapse to spread out the impact of debris at grade.

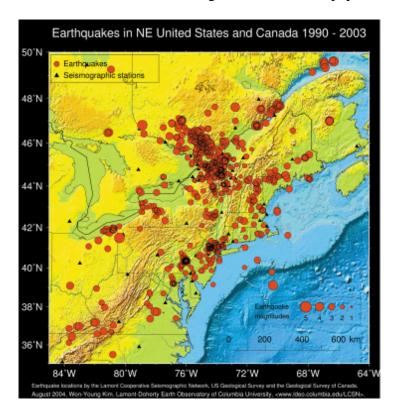
(emphasis added) The implication of the foregoing passage from CDI is that, first and foremost, ground vibration can be controlled using explosives alone. This directly contradicts the central thesis of the WR paper, which is that using a space beam would be the only method capable of dissipating the GPE and, thus, controlling the ground shaking caused by the collapse of the Twin Towers. Second and more broadly, it indicates that ground vibration is something that controlled demolition companies take into consideration on a case-by-case basis when demolishing a building. Third, the broadest implication of this and other passages from CDI's website is that demolition companies think of creative ways to solve problems presented in each project which are case-specific and take into account the particulars of the surrounding area in designing a demolition plan. If CDI, or any other demolition company competent to handle the task, was hypothetically given the project of bringing down the Twin

Towers using controlled demolition, they doubtless would take into account the ground shaking that may be caused and think of creative ways to control it using explosives.

## D. The WR Paper Fatally Contradicts Its Own Arguments

Even assuming the seismic data upon which the WR thesis relies is valid, the supporting paper still suffers from another fundamental scientific flaw: it presents data that directly contradicts its own arguments. Specifically, in Section III, the WR paper asserts that the "bathtub was not built to withstand such colossal impact, we may be assured, because New York is not an active seismic zone (see Figure 20)". It should be noted that although it refers to Figure 20, it must be referring to Figure 19 for this statement to make sense. The WR paper also states in Section IV: "New York is not located in a major earthquake zone (see Figure 19 below), so designers would not anticipate designing and building with the likelihood of surviving major earthquakes." These statements fail in three respects.

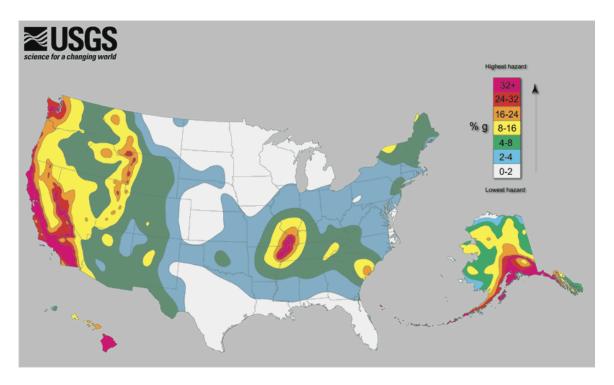
First, Figure 19, which the WR paper uses to support its proposition that New York City is not an active seismic zone, actually depicts many filled in circles in the lower right-hand corner of New York. Figure 19 of the WR paper is reproduced below:



Based on the legend for Figure 19, this would indicate that, in fact, New York City is in an active seismic zone. Because the WR paper's own Figure 19 admits that New York City is in an active seismic zone, it has given no support for the argument or assumption referred to above that engineers "would not anticipate designing and building" the bathtub to withstand an earthquake.

Second, the WR paper admits that an earthquake of magnitude 2.4 Richter scale hit NYC in January of 2001. The contrast between the contention that NYC is not an active seismic zone and the acknowledgement of an earthquake actually occurring in NYC could not be more apparent. Especially when combined with an accurate interpretation of Figure 19, this acknowledgement in the WR paper demonstrates that it cannot stand up to scientific scrutiny because it clearly contradicts its own argument in a very important way. If NYC is, in fact, an active seismic zone, then we have every reason to believe that the engineers designed it to withstand major earthquakes. And, if it was designed to withstand major earthquakes, it is reasonable to believe that the bathtub would survive the ground shaking caused by the collapses of the Twin Towers.

Third, additional credible data is available that indicates NYC is located in an active seismic zone. A search of the <u>Advanced National Seismic System</u> catalog of earthquakes from 1970 to 2005, inside an area between 38N and 43N Latitude, and between 71W and 76W Longitude (an area that runs from just south of New Jersey north to the middle of New York state, and from just west of New Jersey east to Rhode Island) reveals that at least 21 earthquakes having a magnitude greater than 3.0 occurred in that area during those 34 years. The following <u>Seismic Hazard Map</u> from the United States Geological Survey confirms that NYC is located in an active seismic zone:



This figure graphically demonstrates that the area of Manhattan is at an elevated risk of seismic activity as compared to the surrounding area. The foregoing data directly contradict the assertion in the WR paper that New York City is not in an active seismic region, and assumption that engineers would not have designed the bathtub to withstand an earthquake.

### E. Proof of Damage to the Bathtub

Thus far, the WR paper has used corrupted data and inaccurately interpreted its own data. However, the WR thesis fails in a still another way: it has not provided any data that would indicate that the bathtub was not damaged during the destruction of the World Trade Center towers. The WR paper's main sources of data to support the contention that the bathtub was not damaged are in <a href="Section III">Section III</a>, and consist of a few quotes from the New York Times, and a Spike TV documentary, along with several pictures of the WTC site. However, none of the data presented support this contention.

The WR paper cites two news sources as evidence that the bathtub was not damaged. It first quotes the New York Times as saying "To the relief of the engineers, there is no evidence that the 70-foot-deep retaining wall around the basements has been damaged or breached, although the collapse of the towers left one section perilously unsupported." It later quotes the NY Times as saying "Considering the devastation near the trade center, and the fact that the tunnels were only five feet below the road surface in some places, complete tunnel collapses were not as extensive as some engineers had feared." It also quotes a Spike TV documentary, where one worker reportedly said "You know, it was amazing, it didn't really damage [that much] ... if they had fallen over sideways, could you imagine the damage to Lower Manhattan?" These are the only news reports the WR paper cites in support of its assertion that the bathtub was not damaged, hardly a comprehensive review of the historical record.

Even if the foregoing quotes constituted the universe of available news coverage regarding damage to the bathtub, they do not support the contention that the bathtub was not damaged. For example, the New York Times quotes actually indicate that there was, in fact, damage to the bathtub. In the first quote, leaving one section "perilously unsupported" surely qualifies as significant damage. It apparently doesn't qualify as damage according to the WR thesis because it wasn't a breach. However, a wall breach is not the only damage that could possibly occur. The second New York Times quote merely states that tunnel collapse was "not as extensive as some engineers had feared." Notice that the engineers did not say "there was no damage to the tunnels." In fact, if there had been absolutely no tunnel collapse, the story probably would have said exactly that. On the contrary, this story seems to indicate that there had been at least some instances of complete tunnel collapse because it was "not as extensive" as feared. The Spike TV citation is even worse, as it does not even mention the bathtub. The potential damage caused by a building falling over sideways is more likely a reference to damage to surrounding buildings, not damage to the bathtub.

More importantly, the WR paper's citation of only two news sources (only one of which even arguably supports its position) ignores many other reports that the bathtub was heavily damaged during the WTC demolition. For example, a news article titled "Half of WTC 'Bathtub' Basement Damaged By Twin Towers' Fall" (available <a href="here">here</a>) dated October 8, 2001 states:

Visual surveys indicate roughly 50% of the seven-level basement structure of the World Trade Center is now rubble as a result of the impact of the collapse of the twin 110-story towers. Outside the tower footprints, the section of greatest concern within the so-called 1,000 x 500-ft bathtub is along its south

side. There, a 200 x 30-ft hole from 40 to 70 ft deep sits between the tub's perimeter slurry wall and the remains of Two WTC. "A significant part of the south tower fell in and collapsed everything," says Joel L. Volterra, an engineer with Mueser Rutledge Consulting Engineers, the city's local engineer on the bathtub. Engineers are busy drawing up emergency tieback, bracing and shoring schemes so that contractors can start mobilizing tieback rigs this week or next to anchor the south perimeter of the 70-ft-deep slurry wall. Roughly 40% of the bathtub's reinforced concrete diaphragm slabs and steel columns are in "pretty good shape," says George J. Tamaro, the Mueser Rutledge engineer leading the foundation repair team.

This report is supported by an article available <u>here</u> about the WTC cleanup effort. It states:

Additionally, the ground zero crew had to address the underground bathtub's stability. The force of the collapse destroyed much of the underground support structure that held the bathtub walls in place, risking a massive underground collapse. To maintain the basement's relative stability, the clean-up engineers had to reconfigure the tieback system that originally held the walls in place until they could construct a permanent support structure. This involved drilling into the ground and running new tieback cables between the walls and surrounding bedrock.

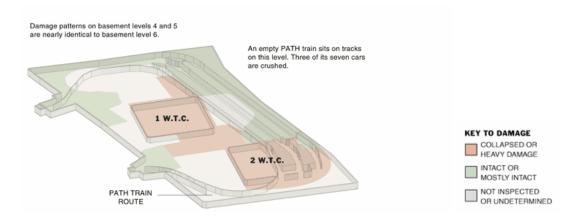
Another article from NY1 News titled "Workers Rush To Repair Huge Hole In WTC 'Bathtub'" (available here) adds, "Crews at the World Trade Center site are rushing to fix a 90-foot-wide hole in the retaining wall that keeps out ground water." Still another article here about the reconstruction effort for the train system notes "The 16-ft, 6-in.-dia tunnels were flooded for 40 days." An article by the American Society of Safety Engineers available here observes that, during the cleanup effort at Ground Zero, "cracks were discovered in the [bathtub] slurry wall that indicated potential wall failure and a subsequent flooding event under Ground Zero. A massive crack that appeared along Liberty Street indicated a pending failure of the slurry wall." Finally, an article available here quotes a lead engineer on the bathtub repair project as saying "The World Trade Center 'bathtub,' which keeps out the Hudson River, suffered so much damage on Sept. 11 that a new wall will have to be added before permanent rebuilding can occur." There are still more articles from other sources that document the damage caused to the bathtub during the collapses of the Twin Towers, but the foregoing is a sufficient representative sample of the available news articles on the subject. Thus, news articles that document damage to the bathtub clearly exist which are much more detailed, numerous and relevant than the single New York Times source cited in the WR paper. The WR thesis fails to acknowledge this readily available data that directly contradicts it. Before the WR thesis can be taken seriously, it has to acknowledge and account for this voluminous, relevant, and mutually supporting data.

The remaining data cited in the WR paper to support the assertion that the bathtub was not damaged consist solely of visual evidence in the form of pictures. At the outset, it is important to note that in order for the WR paper to prove that there was no damage to the bathtub using visual evidence alone (as it has already been demonstrated that no eyewitness

proof has been offered), it would have to provide a veritable photo essay that documents the entire bathtub wall. Here, the WR paper has done no such thing. In fact, it has only provided a dozen or so photographs, very few of which actually depict any portion of the bathtub structure, and asks the reader to accept the unsupported contention that the bathtub was not damaged.

Not only is the amount of visual data presented in the WR paper woefully inadequate, but the visual data itself also does little, if anything, to support her conclusions about the bathtub. For example, some of the comments within the WR paper regarding photographs of the rebuilt PATH train stations express surprise that the tracks and stations were rebuilt in almost the exact same place as the original tracks and stations. However, an article available <a href="here">here</a> quotes one of the engineers working on the reconstruction project as saying "The most expeditious plan meant reconstructing the track 'exactly as it was upon completion in 1918, with the same alignment."

The WR paper also presents the following graphic representation of the bathtub area damage produced by the New York Times:



The caption to this figure in the WR paper states: "Four of the seven PATH train cars under WTC were not damaged." Of course, the text above and to the right of the figure states: "Three of its seven cars were **crushed**." (emphasis added) Notwithstanding the fact that the WR paper has tried to spin the evidence presented to support its position, the statement by the New York Times that cars were "crushed" directly contradicts earlier statements in the WR paper about the state of the PATH trains and stations, and reinforces this paper's interpretation of the second New York Times quotation in the WR paper regarding the extent of complete tunnel collapse discussed previously.

The WR paper goes on to state that "We are not entirely confident that the NYT sketch is an accurate picture of the damage pattern in the bathtub." This statement is troubling in two ways. First, the reader is not told why it is not an accurate picture. Second, the New York Times was quoted earlier in the WR paper in ways that allegedly supported its assertion that there was no damage to the bathtub, thereby implying that the New York Times was a credible source of information in those instances. Why, then, is the New York Times all of a sudden not a credible source when they present information that contradicts the WR thesis?

Again, no reason is given and the reader is asked to simply accept the WR paper's unsupported credibility judgment in each case.

As has been clearly demonstrated above, the WR paper has not supported in any measurable scientific way its assertion that the bathtub was not damaged on September 11, 2001. The data provided is inadequate in both number and relevance, and the WR thesis ignores other available data that contradict its position. This is yet another example of how the WR paper cannot stand up to any sort of scientific scrutiny.

### F. The Toasted Cars

Another data set presented in the WR paper to prove that space beams were used is contained in <u>Section VIII</u>, which is an entire page filled with pictures of burnt cars. As we have seen, under the WR thesis, every anomaly points to the use of space beam weapons, and the toasted cars are no different. However, a more reasonable hypothesis exists for every single aspect of the toasted cars depicted in the WR paper.

The WR paper also finds the presence of toasted cars near FDR Drive particularly indicative of space beam usage. Judy Wood stated during a discussion of the WR paper on Jim Fetzer's radio show "Non-Random Thoughts" (audio archive available <a href="here">here</a>) that she believes the closely spaced buildings around the WTC formed a kind of canyon which allowed the space beams to reflect off the buildings and somehow end up burning the cars on a bridge seven blocks away from the WTC complex. The problems with this idea are quite obvious. If these space beams were powerful enough and carefully designed to vaporize steel and concrete, how is it possible for these beams to destroy the Twin Towers and then reflect off of neighboring buildings which are also made of steel and concrete without destroying them? Indeed, if surrounding buildings were able to reflect these energy beams, why then did the Twin Towers not reflect these same beams? Furthermore, if these space beams did somehow reflect off of the neighboring buildings and reach the cars on the bridge, why was the bridge, which also contained steel and concrete, not damaged or destroyed? These are very important questions that must be answered before the WR thesis is given any scientific credence.

Of course, there is a perfectly reasonable alternative hypothesis that explains the toasted cars present on FDR Drive: they were towed away from Ground Zero and deposited there as a part of the clean-up and rescue effort. News reports confirm that tow trucks were operating in the days after 9/11 to haul damaged vehicles away from the disaster area. For example, one article from The Philadelphia Inquirer dated September 13, 2001 and entitled "Workers removing debris - and bodies" states, "Mangled or burned vehicles littered the disaster scene. ... Cars mangled by the explosion were towed away to make room for recovery efforts. At the corner of Duane Street and Broadway, about eight blocks from the World Trade Center, a car burned beyond recognition was stacked on top of a flattened Cadillac Seville. Next to that steel sandwich were a bent Port Authority Police van and charred police, fire and emergency vehicles." Also, Governor Pataki was quoted on Larry King Live on September 11, 2001 (transcript available here) as saying "We have national guard heavy equipment, wreckers and tow trucks and others trying to help out with police and fire who are going through the rubble and trying to just find as many people that we can save and rescue and help those who need our help as possible." Firehouse.com quoted Tom McDonald, Assistant Commissioner of Fleet and Technical Services for the FDNY regarding Ground Zero on 9/11: "It was not until late in the evening of September 11 that McDonald was able to get eight to 10 tow trucks and drivers into the area to start moving equipment out." On September 12, 2001, CourtTV News reported here that "Abandoned and damaged cars were being towed away. Cars parked closest to the trade center were crushed." The Hampton Union, in a news article covering a local Towing Association trade show in May, 2002, lamented that the Staten Island Garage, which one Best of Show at the previous year's show, was unable to attend this year because, "They've been at ground zero since last September." A reporter for the Chicago Sun Times stated that on September 20, 2006, "Tow truck drivers zip down quiet streets in the dead of night, carting ash- covered, badly crumpled patrol cars."

An American Public Works Association article, available <a href="here">here</a> and cited in the WR paper, proclaims that approximately "1,400 vehicles were recovered" from the disaster area and "carefully stockpiled in a separate area near the edge of the" Fresh Kills Landfill, which is located in Staten Island. The same APWA article also states that all of the materials that were transferred to Fresh Kills (which presumably includes the vehicles) went through temporary transport stations located at Pier 25 and Pier 6. FDR Drive, coincidentally, runs right past Pier 6. It is logical to assume, therefore, that the cars depicted near FDR Drive in Wood's pictures were towed there near the temporary transport station at Pier 6 before being taken to Fresh Kills.

Moreover, an examination of the pictures of toasted cars on FDR Drive shows that several aspects of the cars along the side of the road that suggest they were towed and deposited there. The following are three examples:







First, notice that the cars are all facing different directions relative to the roadway. This indicates that they were not driving in the same direction, nor were they caught in traffic when the destruction occurred. Second, the cars are off to the side of the road and at an angle relative to the roadway. This is also indicative of tow trucks dropping them off. Third, notice the significant amount of WTC dust still on top of the cars and the apparent lack of WTC dust on the ground around the cars. This suggests that they were taken from near Ground Zero and deposited in a new location. All of the evidence indicates that the cars depicted above were towed away from Ground Zero as part of the recovery and clean-up effort and deposited near FDR Drive and the temporary transport station located at Pier 6 before being taken to Fresh Kills.

The WR paper dismisses the towing hypothesis out of hand by simply stating "there is no evidence that this was done." The plethora of news articles cited above clearly contradicts this bald assertion. The WR paper goes on to state that "it makes no sense to load up wrecks, transport them, only to dump them in a busy thoroughfare for storage." On the contrary, it makes perfect sense to clear the streets of damaged cars quickly so rescue and transport vehicles are able to access Ground Zero. Also, the cars were not dumped "in a busy thoroughfare"; they were placed on the side of the roadway, out of the way of traffic. Still more hollow argument is offered by the WR paper: "If vehicles were truly moved from the WTC to FDR Drive, we wonder why WTC steel beams were not stacked up on FDR drive, as well, if it was such a good storage area." First, we don't know for sure that the steel beams were not stacked up somewhere near the temporary transport stations located at Pier 6 or Pier 25; we just do not have any pictures of them. Second, once the streets were clear of the toasted cars and the large transport trucks had access to Ground Zero, the first order of business was to remove the debris from the crime scene. It is reasonable to believe that the steel beams were given a higher priority than the toasted cars for being transferred to Fresh Kills. Third, it appears that FDR Drive was already filled up with toasted cars (which logically would have been the first pieces of wreckage removed from Ground Zero in order to clear the streets), so the steel beams were probably stacked elsewhere. Stacking the steel beams next to the toasted cars on FDR Drive would have impeded the flow of traffic, thus it would make more sense to stack them elsewhere if the clean up crew was not able to transfer them directly onto the transport vessels at Pier 6 and Pier 25. The WR paper's short dismissal of the towing hypothesis is hopelessly inadequate and fails to explain away the volume of supporting data referenced above.

### **G.** The Mysterious Holes

The WR paper also presents visual evidence which seems to indicate that the rooftops of nearby buildings have unexplained holes in them. One example of such a photo is here:



The WR paper argues that the only reasonable explanation for the existence of these holes that they were created by errant space beams. However, there is a perfectly reasonable alternative hypothesis not even considered by the WR thesis, and one that fits perfectly with an objective look at what happened during the buildings' collapses. As can be seen in all of the available videos of the collapses, large sections of debris from each building were being thrown out and away from the buildings during their demolition. These large sections, falling from hundreds or even a thousand feet above ground, could have hit the rooftop of this particular building with considerable velocity and punctured the holes seen. The same could be true for the other pictures provided in the WR paper that are similar to the picture above. This hypothesis cannot be proven with scientific certainty, of course, but it is simply presented to make the point that space beams are not the only, nor the most reasonable, explanation available for the holes in the rooftops.

#### H. Conclusion

It has been shown above that the WR thesis and its supporting paper contain several flaws, including the use of corrupted data, ignoring data that contradicts its claims, not considering simpler and more reasonable explanations for observed effects, and, in the case of the Kingdome seismic signal and GPE, incorrectly comparing data. The seismic data supporting the WR thesis is admittedly corrupt, which invalidates major parts of its central claim. Moreover, reliable data exist that contradict the idea that the bathtub was not damaged during the collapse of the Twin Towers. The comparison of the total GPE of the WTC

Towers to the total GPE of the Kingdome is scientifically uninteresting because each event was vastly different from the other and because it has been shown that conventional explosives can be used to reduce ground shaking caused during a controlled demolition. Finally, the holes in the rooftops of the buildings and the pictures of the toasted cars can both be explained by more reasonable alternative hypotheses that account for all of the available data. The presence of these fundamental scientific flaws indicates that the WR thesis is not a scientifically sound hypothesis regarding the collapses of the Twin Towers.