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Urban Search and Rescue at the World Trade Center: Up Close and Personal

By Jeff Stamper

The Attack on America on September 11, 2001 leaves many memories, both positive and negative. These are the experiences of St. Louis District's own Jeff Stamper, Gary Lee, Vick James and Dave Mueller. This is their story.

On the day of the attack, I was on annual leave planning to seal my driveway. I heard the news on the radio and thought it was for a new Bruce Willis movie, then a "War of the Worlds" revisit by an up and coming Orson Wells want-to-be, but it proved to be real. I turned on the television in time to see the second plane crash into the South Tower of the WTC complex. The numerous networks covering the events served to engrave the reality into my mind and dispel any doubt. I soon felt a duty to respond as an Urban Search and Rescue Structures Specialist. I also felt a duty to seal my driveway, which I did after a little more channel surfing.

As I anticipated, the Corps of Engineers Structures Specialists were called upon to serve. Of the Corps' cadre, 15 were to leave for New York on Sept 13 and stay for an unspecified amount of time to perform an unspecified mission. We trusted that the details of the mission would develop while we were in route. Prior to leaving, much preparation of

oneself, family, supplies and equipment is required. The hardest of these is family preparation. This discussion started as soon as I entered the Structures Specialist program and it occasionally resurfaces when disasters occur. They know that these types of duties will come up and that I have been trained to respond to them; however, there is some risk that nobody wants to discuss. My family deserves a badge of courage for their acceptance of the calling I felt and their overall support.

Transporting 15 individuals when airlines are shut down is a difficult task especially when 5 are from St. Louis, 3 from Jacksonville, Florida, 2 from Wilmington N.C., 4 from Detroit, and one on TDY in Washington D.C. The last two groups drove to New York. The first three groups flew on the G-1, the MVD plane, with an itinerary as follows: Sept 13 at 1000hr (CST) depart St. Louis for Jacksonville with 5 passengers, 1330hrs depart Jacksonville for Wilmington with 8 passengers,

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Tom Nierderhoffer discuss the situation with the Secretary of the Army



COL Morrow Speaks out for patriotism!

You don't have to look too far any more to see an American flag. Looking out my office window right now I can see seven flags flying from various locations around the city. There's a big one that looks rather old and worn that is hanging out of a window across the street at the firehouse. The new jail being built has three flags that I can see, one at each corner of the unfinished building with a fourth flag probably at the one corner I can't see. I can see several flags in the distance waving in the stiff autumn breeze and I can see one flying proudly atop the police building. Better make that eight flags, a pickup truck just went by with Old Glory proudly flying from a wooden pole attached to the rear bumper.

I can't remember when I have seen such a display of patriotism. My wife tells me that there were flags and yellow ribbons galore during Desert Storm, but since I was in Desert Storm I didn't see them. I remember coming home and seeing flags and people waving them, it made me feel good. Seeing the all the flags and red, white and blue ribbons now makes me feel good. Showing our flag is a visible display of our unity and strengthens our resolve. By waving



COL Michael R. Morrow, Commander

Old Glory we affirm our support for our country and our elected leadership.

The wave of patriotism flowing across the nation has extended into a recognition and appreciation of the heroics of policemen and firemen. As children from across America prepare to celebrate Halloween, the most sought after costumes are those of policemen and firemen. We, too, have our own heroes who volunteered to go to New York to aid in the recovery operation; and these heroes are receiving similar recognition. Major Bigelow mentioned to me that a child from his neighborhood asked if he could use the Major's Corps of Engineers hardhat for his Halloween costume, because he saw one on TV

being worn by a rescuer.

You and I have very important jobs to do here in the St. Louis District in support of our country. The Corps of Engineers continues to serve with pride, dedication and determination as we did since the birth of our Nation.

God bless America. Essayons!

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St. Louis District®

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COL Morrow gave his opening remarks.



Everyone gathered amidst the red, white and blue CFC balloons



KICKOFF!



Susen McBeth, B.S. of PARAQUAD was our guest speaker.



COL Morrow samples one of the Chilies.



MAJ Bigelow and COL Morrow discuss his findings.



Evacuating the RAY Building

Roger Hayes

The recent events in New York City and our nation's capital have brought the topic of building evacuation out of the kitchen cabinet and placed it on one of the front burners. It's also safe to assume that our next fire drill will be performed a little more seriously than in years past.

Each floor in the RAY Building is divided into eight sectors, one for each stairwell. Each sector has a "sector controller," who is responsible for the evacuation of his or her section of the building. Our fourth floor sector controllers are Dave Kreighbaum, Ron Jones, Kathy Hatfield, Francis Walton, Rich Andersen, Rachel Garren, Mike Ricketts, and Angela Sanders. On the third floor are Tom Murrell, John Helfrich, and John Zacher.

Each sector also has "searchers," who ensure that everyone knows about the evacuation and that they get out, and "stairwell monitors," who make sure the traffic in stairwells is safe enough to permit passage. Since the upper

floors have farther to go, we let them go first. A short wait before beginning will result in everyone leaving without having to negotiate jammed stairwells, which will get everyone out faster. Anyone who has attempted to get across the Poplar Street Bridge or other busy interstate sections during rush hour should appreciate this.

Please follow the instructions of our searchers and stairwell monitors. They are following sound principles that have proven to be effective in facilitating safe and fast evacuations.



Each year we conduct a fire drill in conjunction with National Fire Prevention Week. Since we

moved to the RAY Building in the early 90s, we have evacuated all ten floors, with between 2,500 and 3,000 occupants, in about ten minutes. Not a bad record. Several behind-the-scenes policies and activities help make this happen.

When fire alarms are activated, the following events occur automatically and are controlled by computer—one with a back-up.

- Elevators stop what they're doing and return to the first floor where they will be used by firemen to evacuate those individuals who for one reason or another are unable to negotiate the stairs (more on this later). Even if they were available, elevators are not safe to use during a fire until it's been determined that the fire will not threaten the supply of electricity.

- Powerful fans are activated in the stairwells. You've probably noticed the wind-like sensation during past evacuation events. They provide a constant supply of fresh, outside air in each stairwell so that we can get out of the building without inhaling smoke, which is the most dangerous threat during a fire.





• Doors on three of the corner stairwells unlock. Although it's contrary to the way some of us leave the building, it's important to use assigned stairwells. This reduces overuse of interior stairwells, and allows everyone to get out faster.



Once outside, employees are asked to move away from the building to make room for emergency vehicles and to give firemen room to maneuver. Assembly points have been established at the plaza across the street from the Savvis Center, with an alternate assembly area in the park north of City Hall, between 14th, Market, and Tucker. Attempts will be made at the assembly area to ensure that all personnel are accounted for. This will be easier if everyone has a "battle buddy," someone who can help you get out, and account for you if for some reason you can't make it to the assembly area.



Although we've never required handicapped employees to leave the building during a drill, plans are in place to do so. When firemen arrive—they're only 30 seconds away; across the street—they will make a determination of where the fire is, what kind it is, and how fast it's spreading. They will then use the bank of elevators farthest from the fire to evacuate our handicapped co-workers. Those individuals who, for one reason or another, are unable to use stairs are asked to assemble in the lounge area near the central bank of elevators. The floor warden and possibly a few helpers will be there to coordinate evacuation, if necessary, with firemen. They will already know you're there; that information is sent to the command center on the first floor.



Here's where it gets confusing. During fire drills, some stairwells evacuate to the basement and will lead employees to the rear (south) of the building. Other stairwells

lead people to the front (north) side. Our building will be evacuated for other events as well, however, such as a bomb threat, explosion or gas leak, earthquake, and some other natural disasters. In some of these instances, not too many folks would want to spend time under Interstate 40. For these evacuation types, guards will direct everyone to the front of the building.

If you have questions or concerns, or wish to become involved in evacuation procedures, please see your sector controller. See you during the next evacuation event.



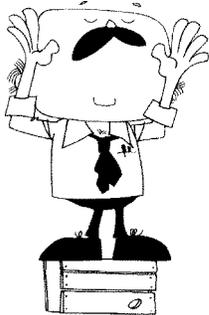
The entire Corps of Engineers will be putting American flags on their hard hats. HQUSACE liked Stan Zurweller's suggestion and the good folks on the Dredge Potter just happened to have a designed they liked!

Congratulations Stan!!

Contact Gary Groenemann from our Safety Office if you have trouble finding a suitable decal.



Around the District



Mark Twain Lake Park Ranger
elected AMI Treasurer

Park Ranger Chris Coe was elected treasurer for the Association of Missouri Interpreters at their recent annual conference held August 27-29, 2001 at Springfield, Missouri. The Association is a professional, non-profit organization established to assist and support the work of individuals and groups engaged in interpretation. Those involved in interpretation are naturalists, tour guides, historians, environmental educators, and zoo staff. Interpreters work in nature centers, historic sites, parks, museums, schools, and zoos in Missouri. Membership is open to any person or group with an interest in promoting the interpretation of Missouri's natural, cultural and historical resources.



On the morning of October 3, 2001 MJC Contractors out of St. Jacob, IL demolished the old administration building at Carlyle Lake. The old building served the Carlyle Lake Staff for the past 40 years. Staff moved into the new administration building in mid September, providing more efficient operations and future energy reductions and meets federal accessibility standards for the public.



The Hispanic Employment Council selected Mr. Dennis Stephens as their recipient of the 2000 Community Award. His outstanding and untiring commitment to helping to meet the needs of the people of Mexico reflects great credit upon himself, the Harvest of Love Ministry, and the U.S. Army Corps of Engineers.

Congratulations Dennis!



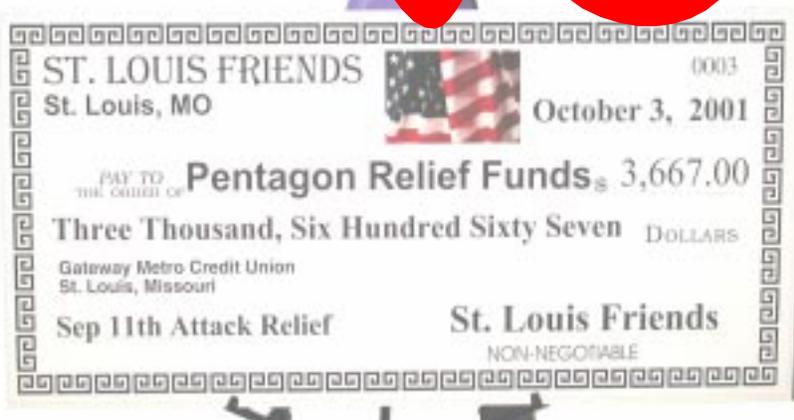
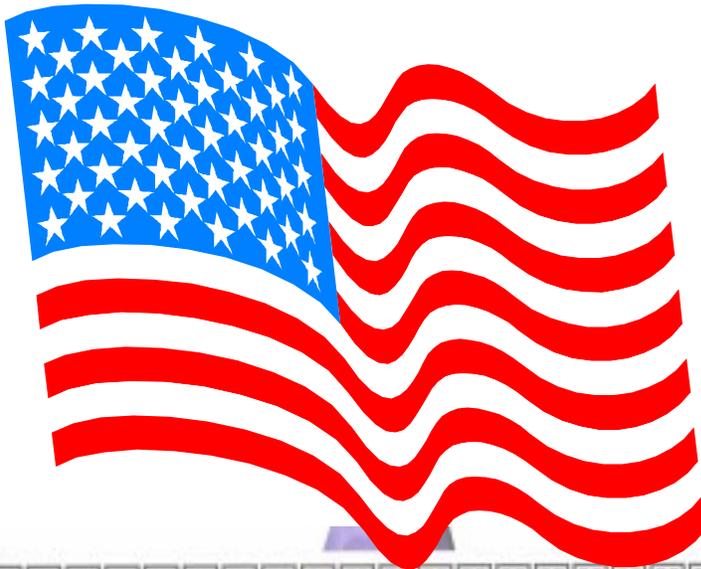
St. Louis Friends gathered on October 3rd to present checks totalling \$11,000! This will benefit the victims of the September 11th Attack on America



Ms. Mary Segneri
Special Events Coordinator
American Red Cross, St. Louis Area Chapter



Major Thomas Bowers
Division Secretary of the
Salvation Army, reveals
his agency's appreciation



Commander Edwin J. Burdick
Executive Officer
Navy Recruiting District,
St. Louis



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1515hrs depart Wilmington with 10 passengers for Trenton, N.J., and finally arrive in Trenton at 1700 hrs. Trenton was chosen because it was far enough away from New York City to avoid air space restrictions and other unknown problems associated with a major disaster.

As we traveled, we tried to gain more knowledge of our mission and points of contact so we could get into action ASAP. We were not too successful. It became apparent that we were deployed for a mission that had not yet unfolded and we were to use our streetwise skills to find our eventual destination. Once on the ground in Trenton, the cell phones were overworked as we made numerous calls to any leads we had. We also had to arrange for our rental cars to be delivered to the Trenton airport. They would have done us little good in the beginning because we didn't know where to report. In typical fashion, disasters have a tendency to cut-off any and all communications and any information is generally void of details. After this first roadblock, we found our bearings, points of contact, reporting area, and the "answer man" - Capt. David Wong of the Philadelphia District. He was most helpful and deserves many thanks. All the speak of heroes, needs to include Capt. Wong. Thanks again, David.

Our reporting location was Camp Kilmer, a National Guard Facility in Edison, New Jersey. Trenton airport workers gave us helpful directions that lead us to Camp Kilmer where we were in-processed by people from the Philadelphia District. New York District was a "victim" district and therefore did not coordinate the response. We eventually made it to a

long awaited nearby hotel. The next morning, Sept 14, started with a briefing at Camp Kilmer, a hording of equipment and supplies (including donuts), and a task to inspect roads and bridges in Manhattan. Gary Lee and I were to inspect the roads and bridges. To get to Manhattan, we drove to Caven's point, New York District's Marine Operational center,

conduct or coordinate a bridge inspection. The inspections would have to wait. Gary and I would come back to Caven's Point tomorrow.

September 15 proved to be a better day to be ferried across the Hudson, but we would find that different roadblocks awaited us this day. Gary and I were still set on tracking down the bridges and roads



for ferry transportation across the Hudson River. At Caven's point, we were delayed in crossing the Hudson because President Bush was at Ground Zero causing all transportation to shut down - our second roadblock. While we waited, we watched the New York skyline smolder with the Statue of Liberty in the foreground and fighter jets creating an aerial fortress for Mr. Bush. We listened to stories from September 11th eyewitnesses and the claim of one individual that he still sees the twin towers in the New York skyline. At about 2100 hours, the harbor reopened, but it was too late to

that had to be inspected. Other Structures Specialists were expectant of other meaningful duties. The boat ride across the Hudson took us by the Statue of Liberty. She looked defiant, as she must have on September 11, 2001. She remains symbolic of freedom just as she did during the attack and will during the aftermath. We must have taken 20 photos of her. After the photo opportunity, we approached the North Cove of Manhattan, which is almost directly west of Ground Zero. Buildings blocked our view of the activities around the World Trade Center complex, but they could not block the



smoke, nor could they block the hollow feeling that we all felt as we docked. We walked along the outskirts of the war-torn area to an Emergency office where we expected to learn more about the bridge and road inspections. As we found out, such tasks have to be assigned by a New York City Official, which we did not have. We asked city officials, fire officials, FEMA officials and others for who might place such a request. All efforts were for naught and we never did inspect the works. This third roadblock ironically started as a road inspection, but ended in a roadblock. We can only hope that other engineers fulfilled the request. Something constructive did come during the day; Tom Niedernhofer was able to get us our identification cards from FEMA that allowed passage into ground zero and other secured areas. Tom used his streetwise ability well.

Later on Sept 15, we traveled by Corps' boat to Pier 90, the Corps of Engineers nerve center for Emer-

gency Support Functions. Here, we expected specific missions related to USAR, but there was none - our fourth roadblock. Gary and I were tasked to go next door to Pier 92, the City's emergency response nerve center, to make a Corps presence. We were to market the Corps USAR capabilities to whoever would listen. We worked our way through security with our FEMA-provided cards, our expired Urban Search and Rescue I.D.'s, and our emergency garb. Shortly inside the door, we were corralled by the New York State Emergency Management Officer and a Mayor's office representative. In a hasty but serious tone, they told us of their need to have the Corps investigate the WTC slurry wall and the sea walls that, in part, keep the Hudson River at bay and out of Lower Manhattan. Gary and I thought we now have a mission and an important one at that. We controlled our eagerness as we gathered the specifics, obtained the name of a City POC, exchanged phone numbers, and

agreed to a coordination meeting the following day. Then along came roadblock #5, the vice president of the Battery Park Port Authority. He introduced himself and added the fact that the City's building department has engineers already aware of the slurry wall issue and that they can work the problem. Nevertheless, we held on to the fact that we were accepted and our phone numbers were distributed and that we were willing to attend the next day's meeting concerning the slurry wall. [Well, the next day came and went with no call for Corps involvement.] Gary and I marveled at the nerve center, grabbed a drink, and tried to digest what just happened to us. We loitered around the nerve center at Pier 92 trying to show the presence of the Corps and develop a new strategy to find meaningful work. We piddled around long enough for Mayor Giuliani and his entourage to walk through. "Maybe he could give us a job", I thought as we left Pier 92.

On September 17, some of us landed a job at 1010 Command Post, which had search and rescue responsibility for the south central area of the WTC complex. The name 1010 ("ten-ten") was derived from a combination of effort from Engine House #10 and Ladder Company #10. For many of us, this was the first opportunity to get to ground zero. We walked through security barricades with our FEMA red badges opening the doors and searched for the location of the 1010 Command Post. The Post was well hidden and thus deserving of the word "Search" in Urban Search and Rescue. We stumbled upon it. We were mistakenly looking for a large tent with a big sign in front deserved of a Command Post. We found it to be a small area on Liberty Street cordoned





off with yellow caution tape and furnished with no more than a plywood table and 5-gallon buckets for chairs. This would be home for the next three to four days. We would learn that the makeshift appearance of Post 1010 did not justly represent the importance of the work or the intensity of its execution. We were briefed that 1010's primary focus was search and rescue within the remains of building 4. The building had partially collapsed due to portions of the south tower falling on it. The east side of building 4 was being searched by a NYPD search and rescue team that was intent on finding their brethren. Bldg #4 was also a suspect location of the blackbox from the second airplane. Thus, search was conducted for victims, survivors, and a blackbox [that is actually orange]. General search methods consisted of about 8 hours of heavy machinery scraping and clawing away at the pile that was building #4 followed by a quiet period for technical search teams. Technical search refers to the use of call-and-listening techniques, mini cameras, and dogs to search for victims. Any indications of victims resulted in a focused search effort to expose the area with hand tools. After the victim indication was nullified or the victim recovered, the excavators, outfitted with grapples (claws), would resume tearing away at the pile and the process repeated. The excavator's actions with their grapples reminded me of the claws of Raptor dinosaurs in the movie Jurassic Park. Similar to the raptors, the claws could grab and hold and the excavators would work as a team to extract rubble and tear it into manageable pieces.

After a day at ground zero, we subdivided into day and night shifts. Dave Mueller, Vick James and I were on the night shift at Command Post 1010. We would call ourselves the "F-troop". The darkness on the

nightshift put a new perspective on the site. Banks of lights were used at night to light local areas of work. The shadows cast over the piles reflected the horror of it all. Darkness also veiled the end of rubble piles making the devastation seem endless. Daylight reassured us the rubble was with end.

The work seemed as if it happened during one long night divided by a little sleep and subway rides to and from Ground Zero. The subway rides forced us to mix with the locals. They had many questions. They were cordial and helpful. New York citizens were heroes as they directed the F-Troop to the correct subway trains on a routine basis. The subway aside, the work continued. The highlights of the tasks at 1010 command and other duties included:

1. Identification of falling debris hazards from a 30+ story building that housed the Green Tarp Restaurant. We suggested that a canopy be built to protect people as they routinely mulled about on the sidewalk below.
2. Consultation on road pavement settlement in the vicinity of a 300-ton crane. Underground utilities, saturated ground from firefighting, equipment vibration, and equipment impact possibly led to settlement in the area. The crane was slightly relocated to avoid the hazard and the road was filled in and plated with steel to maintain truck access for debris removal operations.
3. Consultation on debris removal equipment operating over elevated concrete slabs. The equipment was thought to be cracking concrete slabs. Slab collapse could result in equipment and operator falling into basement levels below. We recommended and the contractor agreed that the operation should be

halted and alternate means of debris removal planned. We actually entered the first basement level to verify the slab conditions. The basement level was intact, but the equipment cracked most of the concrete slabs. We also saw pieces of steel from the South Tower had punctured through the concrete ceiling slab.

4. Assisted Corps surveyors in monitored remaining portions of the south tower and debris missiles embedded high up in adjacent buildings. These hazards had to be monitored to ensure safe rescue operations in the vicinity. The surveyors were to signal when the hazards moved an unacceptable amount.

5. Identification of further collapse of a building canopy under which onlookers had gathered. We warned the onlookers of the hazard. They were very receptive. As they moved away, one said, "You don't have to tell me twice, thanks". I thought I heard them say, "Go F-Troop", maybe not.

6. Gary Lee and I assessed the suitability of using the Staten Island Ferry to transport National Guard troops and vehicles to Governor's Island. This involved a ride on the Staten Island Ferry from Manhattan to Governor's Island. Governor's Island is mostly unused nowadays and is controlled by the Coast Guard. Their facilities were thought to be able to support incoming National Guard units. A potential weak link in the plan was the fit of the Staten Island Ferry into the island's slip and its overall suitability. Gary and I discovered a few problems and recommended actions. We felt we added some value, but it was all for nothing because the island's housing facilities were found to be unfit for



occupancy. Gary and I wondered why this wasn't communicated prior to the trip. On a positive note, we were had a nice Ferry ride and learned a bit more about the locale. Also, Gary grabbed some free grub on the Ferry. (Perhaps Gary could be F-Troop material, too.)

7. Our team on the day shift assisted the NYPD and SWAT teams by evaluating their safety as they searched for human remains and crime evidence. As pieces of the South Tower were pulled off building #4 the rescuers searched newly exposed voids and their safety was of concern.

8. The day shift assessed the safety of crane loads considering weight, center of gravity, and overall stability of the debris to be lifted. The



cranes were large enough for the weights, but much of the steel was twisted together adding more resistance than the weight alone. These situations can be very dangerous for crane and require patience and care to mitigate.

9. The day shift was also host to dignitaries and the media including the Secretary of the Army, General Flowers, and the aura of the crew from "60 Minutes". No dignitary dared meet the slugs on the night shift, which I gladly accepted. Go "F-Troop".

10. One very interesting side

duty was to use a high-resolution camera to search the pile that was once building #4. The camera was mounted atop firehouse #10 and was used to visually scan for human remains. The resolution on the camera was quite clear and enabled you to focus on small areas for a comprehensive search. This was a very safe way to search.

11. One Structures Specialist accompanied California FEMA Task Force #1 in searching basement areas that had not collapsed or had partially collapsed. Basement areas contained parking areas, stores, banks, and other retail and commercial-use facilities. No victims were located.

12. On a brighter side, at dinner one night, Matthew Broderick and Sarah Jessica Parker were volunteering as servers at a makeshift restaurant called "The Green Tarp". They looked as exhausted as everybody else. Matthew said, "Go Cardinals", when I told him I was from St. Louis. As a show of support, local chefs emptied their freezers and prepared some of the meals. The food was excellent at the Green Tarp Restaurant. Mealtime also provided the opportunity to laugh and share stories. F-Troop never missed a meal. Go "F-Troop".

The most memorable part of the experience was the constant smoldering of the rubble piles that were once the Twin Towers. The fires were deep within the piles making firefighting efforts fruitless. The heat from the fire made the piles impossible to search, but the piles had few, if any, survival voids to search. The steel debris was so hot that it reportedly melted rescuers rubber boots. The tops of the debris pile rose above street level about 50 feet. Most of the tower debris fell into the basement and sub-basements. The tower debris

crushed most of the basement floors below. Some basement areas remained somewhat intact creating survivable voids. These were searched to no avail. I talked with a search team that walked through these darkened basements, around the parked cars, and in stairwells, but they found no indications of victims.

The overall experience of this disaster response is mixed. On one hand, we as Urban Search and Rescue Structures Specialist were not fully utilized. The City of New York has so many resources that it probably could perform all search, rescue, recovery, and debris removal operations by itself. And it seemed intent on doing so. On the other hand, we were immersed in brotherhood and a unified desire to save people. Firefighters were unable to leave ground zero in hopes of rescuing one of their kind or others; NYPD operated similarly and provided site security; The FBI was unified in their search for the blackboxes; City and Private resources were working in concert to identify, monitor, and mitigate hazards; and citizens were united together in prayer, hope, and cause. Finally, I am grateful to all the teammates and for their hard work. The team from St. Louis consisted of Vick James, Gary Lee, Dave Mueller, Tom Niedernhofer, and Jeff Stamper. I am proud of my St. Louis teammates for their skillful response to the disaster and the courage to volunteer.

