

State of California
Department of Forestry
& Fire Protection



SERIOUS ACCIDENT INVESTIGATION REPORT
MARYSVILLE FIREWORKS DISPLAY
JULY 4, 2004

SECTION I. INVESTIGATION TEAM PROCESS

Shortly after 10:00 P.M. on the night of July 4th, 2004, CDF/Marysville Fire Department Battalion Chief (BC) Joe Hernandez contacted by radio the California Department of Forestry and Fire Protection (CDF), Nevada/Yuba/Placer Unit Emergency Command Center (ECC). BC Hernandez had just arrived at the scene of the Marysville Fireworks Display accident. BC Hernandez placed a request that CDF Arson Bomb Investigator (ABI) Phil Porto be dispatched to the scene. This request was processed through the CDF, Butte Unit ECC at 10:28 P.M. on July 4, 2004. At that time, ABI Porto was contacted while on duty at the annual Lake Oroville Fireworks Show and requested to respond to the City of Marysville on a report of injuries at a fireworks display.

While en-route, ABI Porto contacted CDF Supervisory Arson Bomb Investigator (SABI) Greg Smith and informed him of the assignment. ABI Porto was then contacted via phone by State Fire Marshal (SFM) Duty Chief Mike Richwine who informed ABI Porto that Deputy State Fire Marshal (DSFM) Tony Guevara was also responding to assist ABI Porto in the investigation.

Shortly after 11:00 P.M. ABI Porto arrived at the accident scene. ABI Porto was given the assignment as the "Lead Investigator." ABI Porto received briefings from Marysville Police Department officers at the scene and BC Joe Hernandez. ABI Porto provided instructions that the fireworks show would not continue and that the injury site and pyrotechnic display sites were to be secured in place. ABI Porto began with the initial investigation of the injury site.

At 12:10 A.M. on July 5th, 2004, DSFM Guevara arrived. ABI Porto instructed DSFM Guevara to investigate all aspects of the pyrotechnic show launch site. This specifically included the launch site on Gazebo Island. DSFM Guevara conducted an on-site examination of the launch site on Gazebo Island.

The injury site was processed until finished on July 5th, 2004 by ABI Porto. DSFM Guevara contacted ABI Porto and advised that DSFM Guevara was taking into custody the remaining unexploded pyrotechnic shells and all racks, tubes, and equipment used in the pyrotechnic show on Gazebo Island.

On, July 5th, 2004, ABI Porto again conferred with SABI Smith and informed him of ABI Porto's initial findings. At this time, CDF management agreed to call for further assistance from the Federal Department of Justice, Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE).

On, Tuesday July 6, 2004, a meeting was held at the Marysville Fire Department Training Room. For the next thirty-one consecutive days this served as the office

for the investigation team looking into the circumstances surrounding the explosion and injuries at Ellis Lake. This room was for the sole use of the investigation team and off limits to all fire personnel. In the meeting on July 6th, SABI Smith confirmed that ABI Porto would continue as the Lead Investigator for the accident investigation.

In the meeting SABI Smith and ABI Porto conducted the planning of the continuing investigation. Discussed were the use of specialized equipment for mapping and the possible use of the California Highway Patrol (CHP), Multidisciplinary Accident Investigation Team, (MAIT). ABI PORTO asked for and received CDF ABI Ken Davidson for assistance in this investigation. The CDF/SFM provided DSFM Tony Guevara, and DSFM Mark Yepez, to assist in the continuing investigation.

On, July 6, 2004, contact was made with the local newspapers, radio and television stations covering the Ellis Lake incident advising them of the establishment of a telephone hot-line for all calls regarding the accident at Ellis Lake. The phone calls coming into this hot-line were monitored every few hours by all investigative personnel. Names and phone numbers were logged in on a master list for contact and interviews.

ABI Porto met with Detective Mark Cummings of the Marysville Police Department and advised him that ABI Porto would be the contact person between the two agencies. Detective Cummings informed ABI Porto that they had interviewed several people who provided video tapes which the police department was in the process of copying. Marysville Police were utilized to conduct interviews at specific locations such as O'Hara's Bar. Marysville Police Department provided assistance, including providing interview rooms, background information, and local criminal record information.

On the afternoon of July 6, 2004 the team of DSFM Guevara, DSFM Yepez and ABI Porto assembled in Marysville. ABI Porto instructed them on the circumstances surrounding the case and the need to interview every person named in Marysville Police reports, people calling into Marysville Police to state that they saw what happened, and those people turning in video tapes they took the night of July 4, 2004 at Ellis Lake. ABI Davidson traveled to Hayfork to interview Boom Boom Productions, Inc. owner Fred May and other employees. DSFM Tony Guevara was assigned to provide all of the licensing information necessary for the pyrotechnic company and pyrotechnic operator. The team was to work around important scheduled events, court subpoenas, and work a minimum of 12 hours per day.

The objectives were determined to be the location and interviewing of all individuals with information about any fireworks activity for the night of the accident. The breakdown was in the following priority and personnel assignments:

- Interviews with seriously injured victims and family members, ABI Porto
- Review the injury site, ABI Porto
- Review the launch site, DSFM Guevara
- Review the railroad site and area behind O'Hara's Bar and Quik-Stop,
DSFM Yopez
- Interview Boom Boom Inc., Productions Managers in Hayfork, ABI
Davidson
- Interview Pyrotechnic Operator and crew, T. Guevara, DSFM Yopez
- Interview witnesses to the explosion and any illegal fireworks activity on
the east side of Ellis Lake, Investigation Team
- Contact with Hospital and other agencies, ABI Porto
- Compiling information, ABI Davidson, ABI Porto

Each morning interviews were typed up and submitted for review; new interviews were either assigned by priority or taken from a general list of names which had either been developed from other interviews, came to the investigation team from the police department, or came in through the telephone hot-line. Several witnesses walked into the Marysville Fire Department with information pertinent to the investigation team and were interviewed. ABI Porto reviewed the reports, placed them into the main body of the incident report, and scheduled further interviews with identified witnesses.

On, July 7, 2004, a meeting was held with a representative of BATFE, headed by Agent Steve Carman. Agent Carman was briefed on the situation. During the meeting it was agreed to share all collected documentation, including interviews, transcripts, video tapes, evidence logs, photos, maps and pertinent information. BATFE would also provide laboratory testing of evidence items collected.

On, July 7, 2004, the CHP MAIT team arrived headed by Sergeant Robert Snook. ABI Porto accompanied the team to Ellis Lake and pointed to the locations where measurements were needed. MAIT conducted laser measurements of Ellis Lake, Gazebo Island and other pertinent reference sites to the east and northeast of Ellis Lake.

On, July 8, 2004, evidence was signed for and taken into the custody of the Bureau of Alcohol, Tobacco, Firearms, and Explosives for laboratory analysis. BATFE conducted preliminary laboratory analysis of the evidence collected from the Ellis Lake show pyrotechnic inventory and the injury site. The preliminary examination was conducted on September 3, 2004.

From July 8, 2004 to August 3, 2004, the investigation team conducted almost daily interviews and site information gathering. ABI Porto and ABI Davidson were responsible for the organizing and analysis of the information gathered. On August 6, 2004, a rough draft of initial findings of the investigation were submitted by ABI Porto to SABI Greg Smith for his review. Still outstanding from the report were several interviews and laboratory analysis of the evidence.

The initial laboratory analysis was forwarded to ABI Porto about September 3, 2004. Interviews and write-up continued until March 30, 2005. Additional interviewing and documentation was identified. A secondary laboratory report was forwarded to CDF/ABI Porto on March 11, 2005.

Additional Investigation Pending

Still pending in the investigative process is the need to conduct testing of the remaining pyrotechnic devices taken into evidence at the Gazebo Island launch site. This process will include representatives of all interested parties and conducted under specific guidelines. Documentation of those test results will be added to this report at a later date as an amendment.

SECTION II. OVERVIEW OF ACCIDENT

Regulatory Background

California Health and Safety Code (H&S) section 12550 and 12551 designates the State Fire Marshal to enforce and administer the adoption of such regulations for fireworks as may be necessary for the protection of life and property. Such regulations shall include provisions for granting licenses and permits required for presentation of public fireworks displays and the investigation, examination, and licensing of pyrotechnic operators of all classes.

H&S code section 12580 states that the State Fire Marshal may issue and renew licenses for the manufacture, import, sale, and use of all fireworks and pyrotechnic devices in the state of California. Anyone who desires to import, sell, or use fireworks, shall first make written application for a license to the State Fire Marshal on forms provided by him (H&S 12581).

H&S code sections 12640-12644 provide that a permit be obtained from the State Fire Marshal, or that a public agency having local jurisdiction may require a permit to be obtained for discharging of dangerous fireworks at any place including public displays. A licensee shall first make written application for a permit to the chief of the fire department or the chief fire prevention officer of the city or county, or whichever issuing authority that is designated by the governing body of the city or county. In the event there is no such officer or person appointed within the area, application shall be made to the State Fire Marshal. Applications shall be made in writing at least 10 days prior to the proposed act. The issuing authority shall not accept an application for a permit from anyone who does not present a valid license.

H&S code section 12645 provides that the officer whom the application for permit is made shall undertake an investigation and submit a report of his findings and his recommendation concerning the issuance of the permit, together with his reasons therefore, to the governing body of the city or county. The applicant for a permit to conduct a public display shall file a certificate evidencing the possession of a valid public display license with the officer making the investigation. H&S code section 12646 states that the governing body may grant or deny the permit, subject to such reasonable conditions, if any, as it shall prescribe. H&S code section 12647 allows for the governing body to delegate the power to grant or deny the permit to the issuing authority to whom the application is made.

H&S code section 12648 states that the officer to whom the application for a permit for a public display of fireworks is made shall make an investigation to determine whether such a display as proposed will be of such character or so

located that it may be hazardous to property or dangerous to any person. He shall, in the exercise of reasonable discretion, recommend granting or denying the permit, subject to such conditions as he may prescribe.

Title 19 of the California Code of Regulations (CCR), section 982 provides that among other things, an applicant for a permit under H&S code section 12640 (fireworks public display) shall submit to the authority having jurisdiction information about the date, time and location of the public display. This information shall include the size and number of fireworks to be discharged including the number of set pieces, shells, and other items. Shells shall be designated by diameter specifying single, multiple break or salute. Also to be submitted is a diagram of the grounds on which the display is to be held showing the point at which the fireworks are to be discharged, the location of all buildings, roads, and other means of transportation, the lines behind which the audience will be restrained, the location of all nearby trees, telegraph or telephone lines, or other overhead obstructions.

Title 19 CCR, section 991 provides that all areas where fireworks, pyrotechnic compositions or devices are used, stored or discharged, shall be free from any condition which increases, or may cause an increase of, the hazard or menace of fire or explosion to a greater degree than customarily recognized as normal by persons in the public service.

Title 19 CCR, section 991.2 states that the employer or permittee shall be responsible for instructing his or her personnel who handle fireworks, pyrotechnic compositions or devices in any capacity, in the hazards of and safety procedures relating to fireworks, pyrotechnic compositions or devices as contained in that chapter.

Title 19 CCR, section 991.5 prohibits intoxicating liquids, narcotics and controlled substances from within the area of the firing site and that they shall not be used by any person handling fireworks or special effects at any time during transportation, set-up, firing or removal.

Title 19 CCR, section 992.4 states that pyrotechnics shall not be fired unless the area involved with the firing is in the continuously unobstructed full view of the pyrotechnic operator or his/her assistant at the time of firing.

Accident Events

On July 4th, 2004, the City of Marysville hosted an annual public fireworks display. This event has taken place for more than 30 years with annual crowds of about fifteen thousand spectators. For 2004, an anonymous donor gave an additional \$10,000 to increase the fireworks display to more than double its historic size. As in past years, the fireworks display was produced by Boom Boom Productions, Inc., a State licensed wholesaler and public display producer. The pyrotechnical operator, also licensed by the State, had worked the display for several years.

A CDF Battalion Chief, acting in his capacity as Fire Marshal for the City of Marysville Fire Department, approved a permit for the public display after a conference with the licensed pyrotechnics operator. No legal requirement for an on-site inspection exists, and, as in recent years, no on-site inspection was performed.

The licensed pyrotechnical operator set up the display over three days, July 2nd through 4th. The show was setup on two islands in Ellis Lake as in years past. This year, some of the array (including additional amounts) were setup on Gazebo Island to shoot the length of Ellis Lake, and also across the lake to the east.

The display began at or near 9:45 pm. Witnesses on the east shore noticed some shells coming from Gazebo Island exploding directly overhead and behind them, as well as some shells exploding lower than normal. Shells coming from Gazebo Island were also observed landing in the lake before exploding. About fifteen minutes into the display, one shell landed in a group of spectators and exploded on or near a fourteen year old girl (Victim #1), severing her right leg. This shell was observed by numerous witnesses as coming from Gazebo Island. Another fourteen year old girl (Victim #2), seated to the left of Victim #1, sustained severe burns to her right side, from her face to her ankle. Nineteen others were injured.

The Marysville Police Department, who ran public safety for the event, called for emergency medical assistance and stopped the display. Victim #1 was transported by ambulance to Rideout Memorial Hospital in Marysville. Victim #2 was transported by ambulance to Rideout Memorial Hospital. Several other injured persons received care at hospitals for burns and other injuries.

SECTION III. SUMMARY OF EVENTS

The July 4th, 2004 Marysville fireworks display was officially hosted by the City of Marysville and jointly sponsored by the Pepsi Cola Bottling Company of Yuba City, and the Appeal Democrat newspaper. Boom Boom Productions, Inc., a licensed producer of pyrotechnic displays was hired to produce the display. Reports indicate that the plan for this show began as the standard presentation of a \$10,000 size show similar to past years. Additional money was donated to allow for the display to increase to more than double the past size for this location. The show was located at Ellis Lake within the city limits of Marysville.

Ellis Lake is 30 acres in size with a surrounding public park, both are owned and maintained by the City of Marysville. There are two islands within Ellis Lake, Gazebo Island, which is about ½ acre in size and Fountain Island, which is less than ¼ acre in size and located near the southern end of the lake. Both islands are used for the production of the public fireworks display.

Gazebo Island is located near the western shore about two thirds the distance from the southern end. The island is accessed by way of a short cement and stone bridge from the western shore. A cement walkway skirts the edge of the island. Several mature trees are present on the island near the northern end and near the mid section where a wooden gazebo is located. The distance from the eastern edge of the island to the eastern shore of Ellis Lake is the narrowest distance on the lake. The distance from the east edge of the island to the accident site is 310’.

On May 19, 2004, two Office of the State Fire Marshal (SFM) “Fireworks Licenses” were issued by the SFM office to Boom Boom Productions, Inc. These licenses were for a “general” public display and wholesaler. The approving officer was Deputy State Fire Marshal Pat Sanchez. This process included checking proof of insurance and payment of fees along with a check of incident reports if a history of problems was known to exist. There were no known problems on file with SFM concerning Boom Boom Productions, Inc. and no review of the file took place.

On May 26, 2004, Rachel Wolter, Administrative Manager for Boom Boom Productions, Inc. submitted a “Pre-Display Report” to the SFM office. This document listed the public display license number as 1026. The Marysville Appeal-Democrat was listed as the sponsor of the display to take place on July 4, 2004 at about 9:30 P.M. William King (Lic. # 2236-02) is listed as the Pyrotechnic Operator and supervisor of the display. Boom Boom Productions, Inc. is listed as the supplier and wholesaler of the display material. The particulars included 300 shells of 2” in diameter and 1856 shells of 3” diameter fireworks. In addition, 44 Bombardments and 36 Roman Candles were included.

On May 26, 2004, Wolter submitted a Boom Boom Productions, Inc. "Application For Public Fireworks Display Permit" to BC Hernandez of the CDF/Maryville Fire Department. This permit application lists the sponsoring organization as "The Appeal Democrat/Pepsi." This document is signed as "granted" by BC Hernandez, "Fire Chief" on May 30, 2004. This approval followed a meeting between BC Hernandez and licensed pyrotechnic operator William King to discuss the planned display and conditions for the permit approval.

According to William King, about one week before the show (June 28), the production was picked up and transported to Smith Ranch. King stated that on July 1st, 2004 the fireworks show was transported from Smith Ranch to the Marysville Fire Department where the semi-trailer was stored in the parking lot.

According to King, on July 2nd, 2004, he and his crew unloaded 32 mortar racks and dropped them off on Fountain Island at Ellis Lake. King stated that by the night of July 3rd, 2004, all the racks were set up and security was hired to secure the launch site. Cory Weldon, a member of the Boom Boom Productions, Inc. crew, stated that on July 3rd he helped set up racks on Gazebo Island. He said that they set up 150 racks which were angled towards the water one to two inches. Two other members of the set-up crew also stated that the tubes were angled one to two inches off vertical. Two other members of the crew stated the tubes were angled ½ to ¾ inch towards the water.

William King said that he arrived at the display site at about 7:00 A.M. on the morning of July 4th, 2004. According to King, the rest of his crew arrived at the display site about 8:30-9:00 A.M. King stated that while the crew was loading the show, he observed that one of the shells needed repair to the lift charge. He said that he instructed the crew to let him know if there were any damaged shells so that he could make sure to correct it. King admitted in a later statement that the normal amount of fireworks set off on Gazebo Island was around 780-800 shells. He stated that this year, 1500 shells were to be set off from Gazebo Island as a result of an increase in the display size from 780 to 1820 total items.

King admitted that the increased size of the show "posed more of a challenge" during the setup. He did not believe it to be a problem. He stated that he "set it up pretty much the same as we usually do." King said that "I was the one that set this up." Considering the room for the additional fireworks, King stated, "I felt like I had the room to set up what we're going to set up." King said that the tubes were loaded by 4:00-5:00 P.M.

William King stated that the show was due to start at 9:45 P.M. A starting time of 9:45 P.M. is consistent with witness statements. King said that he and Alysen

Hurt were responsible for spotting during the show and that he was going back and forth.

Between 9:45 P.M. and 10:00 P.M. one witness located in the All Seasons Baseball stadium to the north of Ellis Lake stated that he observed a mortar shell launched from Gazebo Island go into the lake without detonating. This same witness also noticed a large sized firework come from the east side of the Dairy Queen and land near the “pipe” or northeast corner of Ellis Lake.

A number of witnesses stated that between 9:45 P.M. and 10:00 P.M., they observed mortar shells fired from Gazebo Island land in the lake prior to detonation and/or what they described as low bursts. Many of these observations were in the area of the accident site but included landings in other areas of the lake as well. Many of these same witnesses located at the accident site indicated that the mortar shells being launched from Gazebo Island were detonating directly overhead and/or behind them. A number of witnesses stated that they observed ash fallout from the mortar bursts land on them and in the area of the accident site.

Witness information and physical evidence indicates that at about 9:58 P.M. to 10:02 P.M. a mortar shell launched from the northeast side of Gazebo Island flew in a path towards the accident site and detonated at or near ground level. This flight path was observed by a number of witnesses at the accident site as well as from observers in other locations around the lake including the witness at the baseball stadium.

This detonation at the accident site resulted in the injury of twenty-one individuals including a fourteen year-old female (Victim #1) who sustained the loss of a portion of her right leg and other serious injuries. Another fourteen year-old female (Victim #2) was sitting to the left of Victim #1 and sustained serious burns to her face and right side.

SECTION IV. SEQUENCE OF EVENTS

(In this sequence of events, the names of minors have been deleted and assigned identifiers. These include “Victim #1” for the 14 year old female victim who suffered the loss of a portion of her right leg and other injuries and “Victim #2” for the 14 year old female who suffered burns and other injuries. At the time of the accident, Victim #2 was sitting to the left of Victim #1.)

A 4th of July fireworks public display has taken place in the City of Marysville for over 30 years. In 1995 the display moved from the Riverfront Park to Ellis Lake. Ellis Lake, in the City of Marysville, has been the location of the annual Marysville 4th of July public fireworks display for nine years.

Ellis Lake is 30 acres in size with a surrounding public park, both are owned and maintained by the City of Marysville. There are two islands within Ellis Lake, Gazebo Island, which is about ½ acre in size and Fountain Island, which is less than ¼ acre in size and located near the southern end of the lake. Both islands are used for the production of the public fireworks display.

Gazebo Island is located near the western shore about two thirds of the distance from the southern end. The island is accessed by way of a short cement and stone bridge from the western shore. A cement walkway skirts the edge of the island. Several mature trees are present on the island near the northern end and near the mid section where a wooden gazebo is located. The distance from the eastern edge of the island to the eastern shore of Ellis Lake is the narrowest distance on the lake, about 300’.

On November 1, 1997, the City of Marysville contracted with the California Department of Forestry and Fire Protection (CDF) to staff and administer its fire department. At that time, existing employees from the Marysville Fire Department transitioned to CDF as state employees. This included then Fire Chief, John Ellis, who was transitioned into the position of CDF Battalion Chief (BC) in charge of the Marysville Fire Department. As he had done previous to the transition to CDF administration, BC Ellis continued to perform the duties of Fire Marshal for the City of Marysville, which included review and approval of permits for public display of fireworks for the City of Marysville.

According to BC John Ellis, it was his practice to conduct an on-site inspection of the fireworks set-up every year at about noon to 1:00 P.M. on July 4th. In addition, BC Ellis stated that it was his practice to position fire department personnel around the area of Ellis Lake during the fireworks show so that they could advise him if there were any problems and also to facilitate responses to emergency calls. BC Ellis stated that each year he maintained radio communications with the

pyrotechnic operator, Al Mazerolle. BC Ellis stated that Mazerolle was a fire department employee so he did not put any other fire department personnel on the islands themselves.

BC Ellis stated that during the years he conducted the inspections, pyrotechnic operator Mazerolle had William King on his crew. King was also a reserve firefighter for the Marysville Fire Department. BC Ellis described the normal setup on Gazebo Island as having the mortar tubes set up to fire north and south with no more than a couple of racks “if that” towards the east. The center of the island was setup with mostly stationary display fireworks.

Reports indicate that during the July 4th, 1999 public fireworks display at Ellis Lake a defective pyrotechnic mortar shell exploded in a mortar tube on the ground and resulted in injuries to a volunteer on the pyrotechnic team. The display in 1999 was produced by Boom Boom Productions, Inc. and cost \$10,000.

In July of 2001, Boom Boom Productions Inc. applied for permits to conduct the July 4th, public pyrotechnic display in the City of Marysville. According to reports, this permit was processed for the City of Marysville by BC Ellis. BC Ellis indicated that he performed an onsite setup inspection around 1:00 P.M. on July 4th, 2001. During the public fireworks display at Ellis Lake in 2001, five persons were treated for minor burns due to fireworks discharging from the display into the crowd. The report of accident indicates that a number of “Roman Candle” type fireworks were attached to a flag pole. Two of the “Roman Candles” fell over and discharged balls into the crowd. This display was also a \$10,000 display. BC Ellis states that he did not recall the “Roman Candles” being present at the time of his inspection.

In October of 2001, BC Ellis transferred to another assignment within CDF out of the Marysville area. Beginning in March of 2002, CDF/Marysville Fire Department BC Joseph Hernandez took over the responsibilities the Marysville Fire Department Fire Chief/Fire Marshal. BC Hernandez transferred into the area from an assignment with CDF in Shasta County. BC Hernandez had no previous experience in fireworks permitting and had limited general fire prevention training. Both BC Ellis and BC Hernandez stated that due to the gap in the transition, they did not have an opportunity to meet and transfer information face to face.

BC Hernandez stated that he approved the fireworks permit for 2002. According to his statement he did not conduct an onsite inspection that year and was off duty prior to and on the 4th of July. BC Hernandez stated that he did not instruct anyone else to conduct an onsite inspection and was not aware of any requirement to conduct one. BC Hernandez said that there was no onsite inspection in 2002.

According to BC Hernandez, in 2003 he signed the permit for the 4th of July fireworks display but did not conduct an onsite inspection. He stated that on July 4th, he was on a fire assignment out of the local area. He stated that he did not instruct anyone to do an onsite inspection and no one from the fire department conducted an onsite inspection.

Boom Boom Productions Inc. has produced pyrotechnic fireworks displays for the “All Seasons” baseball stadium, which is home to a minor league baseball team. The stadium is located directly north of Ellis Lake. In the past, these fireworks displays were launched from East Ellis Lake, which is located east of the baseball field and northeast of Ellis Lake. Fireworks were launched when someone scored during a game. In 2003, due to debris falling on neighborhood lawns, the launch location was shifted to the actual baseball stadium.

According to the City of Marysville, the City was made aware of an increase in the size of the planned July 4th, 2004 fireworks display at Ellis Lake by January 28, 2004. Reports indicate that this show began as the standard presentation of a \$10,000 size show similar to past years. Additional money was donated to allow for the show to increase in size as much as double the past size for this location.

In 2004, prior to the 4th of July, a meeting was held between CDF/Marysville Fire Department BC Hernandez and Boom Boom Productions, Inc. representative William King. This meeting concerned the baseball stadium fireworks show and debris that was reported to be falling upon the spectators. The resolution at that time was to move the fireworks shoots to the field of the stadium and to use ground based pyrotechnics. According to BC Hernandez’ statement, permits for the 4th of July, Ellis Lake show came up during the discussions about the baseball stadium problem.

On May 19, 2004, two California State Fire Marshal (SFM) “Fireworks Licenses” were issued by the SFM office to Boom Boom Productions, Inc. These licenses were for a “general” public display and wholesaler. The approving officer was Deputy State Fire Marshal Pat Sanchez. This process includes checking proof of insurance and payment of fees along with a check of incident reports if a history of problems is known to exist. No problems were known to exist and no check was conducted.

According to permit information and advertisements, the July 4, 2004 fireworks display in Marysville was officially hosted by the City of Marysville and jointly sponsored by the Pepsi Cola Bottling Company of Yuba City, and the Appeal Democrat newspaper. Boom Boom Productions Incorporated, a licensed producer of pyrotechnic displays, contracted with Freedom Communications (parent company of the Appeal Democrat newspaper) to produce the display. Information

from the City of Marysville indicates that while the City was a partial financial sponsor for the 2001, 2002, and 2003 displays, it was not a sponsor of the 2004 display and no contract existed between the City and Boom Boom Productions Inc. The City of Marysville allowed the use of Ellis Lake for the display and provided extra police officers for crowd and traffic control for the event.

On May 26, 2004, Rachel Wolter, Administrative Manager for Boom Boom Productions, Inc. submitted a "Pre-Display Report" to the SFM office. This document listed the public display license as No. 1026. The Marysville Appeal-Democrat was listed as the sponsor of the display to take place on July 4, 2004 at about 9:30 P.M. William King (Lic. # 2236-02) is listed as the Pyrotechnic Operator and supervisor of the display. (King has worked the Ellis Lake show since the year 2000) Boom Boom Productions, Inc. is listed as the supplier and wholesaler who supplied the display material. The particulars included 300 shells of 2" in diameter and 1856 shells of 3" diameter fireworks. In addition, 44 Bombardments and 36 Roman Candles were included.

On May 26, 2004, Wolter also submitted a Boom Boom Productions, Inc. "Application For Public Fireworks Display Permit" to BC Hernandez of the CDF/Maryville Fire Department. This permit application lists the sponsoring organization as "The Appeal Democrat/Pepsi." The location of the display is listed as "Ellis Lake", Marysville, California. The fireworks listed included 1820 3" shells, 6-150 shot bombardments, 10-300 shot bombardments, 24 ½" Roman Candles, 2-100 shot bombardments, 6-300 shot fan cakes, 12 2" Roman Candles, 10-50 shot 2" boxed finale, and 6-36 shot 2" boxed finale. The application is signed by Rachel Wolter.

This document is signed as "granted" by BC Hernandez, "Fire Chief" on May 30, 2004. (On June 21, 2004, an identical "Application For Public Fireworks Display Permit" was signed by BC Hernandez, "Chief", with a handwritten notation which says "faxed 6/22/04." This was later determined to have occurred because the first approval did not reach Boom Boom Productions, Inc. and BC Hernandez could not find a copy of it.)

In a FAX document dated June 16, 2004, (stamped June 17, 2004) on Boom Boom Production, Inc. letterhead, from Rachel Wolter, and attention to Chief Joe Hernandez, Wolter requested to know the status of the "attached permit" and stated that Boom Boom Productions, Inc. would be transporting the product to their satellite bunker within 10 business days and that they were required by the Department of Transportation to have the permit for transportation purposes. According to documentation, BC Hernandez sent a FAX in reply on June 22, 2004 and stated that the permit was "granted."

According to William King, about one week before the show (June 28), the production was picked up and transported to Smith Ranch. King stated that on July 1, 2004 the fireworks show was transported from Smith Ranch to the Marysville Fire Department where the semi-trailer was stored in the parking lot.

According to King, on July 2, 2004, he and his crew unloaded 32 mortar racks and dropped them off at Fountain Island in Ellis Lake. King stated that by the night of July 3, 2004, all the racks were set up and security was hired to secure the shoot site. Cory Weldon, a member of the Boom Boom Productions, Inc. crew, stated that on July 3rd he helped set up racks on Gazebo Island. He said that they set up 150 racks which were angled towards the water one to two inches.

David Hughes, a licensed pyrotechnic operator for Boom Boom Productions, Inc. stopped by the display site on July 3rd. Hughes stated that he used to be the pyrotechnic operator for the Lake Ellis show up until three years ago. Hughes said that in the past he would set up the show to shoot the length of the lake. He said that the racks would “absolutely not” be set up on a north-south axis (with tubes pointing east or west). Hughes stated that he noticed that there were new racks being used and that he knew the cost and size of the show had doubled. Hughes said that he noticed only a few racks set up and that they were in the normal direction.

Hughes stated in an interview that the “Wizard shells” are used by all the pyrotechnic operators working for Boom Boom Productions, Inc. Hughes admitted that he had shot the show in Lake Wildwood on the 4th of July, 2004 and that “some shells did not get the lift they should have.”

James McKee, a member of the Boom Boom Productions, Inc. crew, stated that on July 3rd and July 4th, he set up racks on Gazebo Island. He indicated that the racks were set up one to two inches off vertical. McKee stated that William King was the person who designates where each item goes. A diagram provided by McKee is consistent with other crew members’ descriptions and shows the racks laid out in a crescent shape from the southern tip of Gazebo Island and along the eastern shore of the island towards the northern tip.

Alysen Hurt, a member of the pyrotechnics crew for five years, was checking the mortar racks Saturday evening, July 3rd. She stated that the angles of the mortars were between one to two inches off vertical towards the water.

William King said that he arrived at the display site at about 7:00 A.M. on the morning of July 4, 2004. At 8:00 A.M. on July 4th BC Hernandez reported at the Marysville Fire Department for the beginning of his work shift which runs from Sunday morning to Wednesday or Thursday morning on alternate weeks. BC

Hernandez stated that he conducted routine orientation and shift planning in the morning. He stated that he responded to two calls prior to 3:00 P.M. At 3:00 P.M. he responded to a vegetation fire in the Loma Rica area.

According to William King the rest of his crew arrived at the display site about 8:30-9:00 A.M. King stated that while the crew was loading the show, he observed that one of the shells needed repair to the lift charge. He said that he instructed the crew to let him know if there were any damaged shells so that he could make sure to correct it. King admitted in a later statement that the normal amount of fireworks set off on Gazebo Island was around 780-800. He stated that this year, 1500 fireworks were to be set off from Gazebo Island as a result of an increase in the display size from 780 to 1820 total items.

By early morning on the 4th of July, members of the public began to arrive in the Ellis Lake area for the days activities.

King admitted that the increased size of the show “posed more of a challenge” during the setup. He did not believe it to be a problem. He stated that he “set it up pretty much the same as we usually do.” King said that “I was the one that set this up.” Considering the room for the additional fireworks, King stated, “I felt like I had the room to set up what we’re going to set up.” King said that the tubes were loaded by 4:00-5:00 P.M.

Michael Weatherford, a first year member of the pyrotechnic crew, said that this was the first time he had assisted William King in a fireworks display. He stated that he loaded the racks on July 4th which had been previously set up on July 3rd. Weatherford stated that the angle of the tubes on the east end of Gazebo Island were pointing no more than $\frac{3}{4}$ of an inch off vertical towards the east shore of Ellis Lake.

Oscar Marin is a member of the pyrotechnic crew and also a volunteer firefighter with Marysville Fire Department and a seasonal firefighter for CDF. Marin said that on July 4th his duty was to load shells on Gazebo Island. He described how the shells were seated and the configuration of the racks holding the mortar tubes. He stated that the racks were positioned in a crescent shape on the east side of Gazebo Island, all the way around towards the north side. He said the racks were lined up three racks deep. He believes there were a total of about forty racks with twenty mortar tubes per rack. Marin stated that there were a mixture of salutes and colored shells. The racks were positioned so that the tubes were pointed upward. He stated that the tubes were canted no more than $\frac{1}{2}$ ” off vertical towards the lake.

At about 6:15 P.M. BC Hernandez returned to his residence from the vegetation fire in Loma Rica, had dinner and cleaned up. He then returned to the Marysville fire station.

Alysen Hurt was a member of the pyrotechnic crew and William King's girlfriend. She stated that on July 4th she was in charge of getting food and drink for the show which she set up on Gazebo Island. She indicated that she had one ice chest full of Coors Light beer, stashed under a shelter on Gazebo Island that was for when the show over. Hurt stated that William King gave her the money to buy the food and drink.

William King stated that the show was due to start at 9:45 P.M. A starting time of 9:45 P.M. is consistent with witness statements. King said that he and Alysen Hurt were responsible for spotting during the show and that he was going back and forth.

BC Hernandez stated that when the fireworks show started at Ellis Lake he was in the rear parking lot of the Marysville fire station and was watching the activities. The fire station is located about one block southeast of Ellis Lake. BC Hernandez noticed a large volume of fireworks going off in a number of directions, most of it being ground based. BC Hernandez said that he saw aerial fireworks a long distance to the west. He also saw some to the east near another park.

According to James Kraus, on the evening of the 4th of July, 2004, he was a spectator at the All Seasons stadium in Marysville watching the game. He stated that the game ended at 9:44 P.M. and the Star Spangled Banner was played once again before the lights were turned out so that everyone could view the fireworks display at Ellis Lake. He said that within seconds of the lights going off the fireworks display began.

Shortly after the fireworks display began, BC Hernandez and units of the Marysville fire department responded to a vegetation fire near the railroad tracks behind the Dollar Tree store, just to the northeast of Ellis Lake. This is also the site from where witnesses had observed illegal fireworks coming from. No cause was determined for this vegetation fire. BC Hernandez remained at this location until he responded to the Ellis Lake accident scene. BC Hernandez stated that about one minute after he arrived at the vegetation fire, he heard over the radio a dispatch for an injury at the lake. While he was at this vegetation fire scene, BC Hernandez observed fireworks going off to the south and east as well as the west. He described these as being Roman Candles, bottle rockets, and safe and sane type fireworks.

James Kraus said that about five minutes into the show he saw a mortar go off to the south that he did not believe detonated. He said that this mortar came from one of the islands in Ellis Lake and described it as a bright light that lifted above tree level when it suddenly turned to the east. Kraus recalled seeing the shell travel horizontally, and then dive towards the tree line on the east side of the lake. He was not sure where it landed. Just prior to 10:00 P.M. he noticed another large firework coming from the east over the Dairy Queen towards the southwest, crossing Highway 70, and then dove into the tree line along Ellis Lake near the "pipe". The "pipe" is a reference to a conduit which enters the lake near the northeast corner of Lake Ellis and is normally under water. He said that this firework was similar to the ones being shot by the commercial show except it came from the levee behind Dairy Queen. Kraus said that the display ended at 10:01 P.M. and he left.

William King stated in an interview, that about ten minutes into the fireworks show he observed one shell that seemed like it wasn't quite as high as some.

Kari Woodruff, a private citizen, was located five feet south of the location of Victim #1 when fireworks began. She had arrived at that location between 8:30 and 9:00 P.M. with her husband and three children. Woodruff stated that she observed a couple of shots that did not go up as high as the rest. She said she heard a loud sound and felt the heat from an explosion. Woodruff said that after the explosion she saw a girl and heard her say, "My leg." According to the listing on her cell phone, at 10:00:45 P.M. Kari Woodruff dialed 9-1-1 to report the accident.

At 10:01 P.M. Marysville Police officer Christian Sachs responded to a report of an explosion at 12th and "B" streets. He stated that officer Hauck was requesting assistance for an explosion with injuries at that location.

Christy Lee, a private citizen, was sitting ten feet behind Victim #1 at the time of the fireworks display. He states that she observed four fireworks go up and then one of them turned and landed in the crowd. Lee was taking video at the time showing fireworks coming from Gazebo Island. She stated that she did not see any illegal fireworks being set off.

Nicole Donn, a private citizen, stated that she was located twenty feet behind Victim #1 at the time of the fireworks display. She said that ashes were falling on them. She saw one of the fireworks "blow to soon", one blow in the water and one come directly towards them from the "Gazebo area." Donn stated that she observed an orange tail trailing the shell that came towards them.

Jose Flores, private citizen, was sitting near Victim #1 at the time of the fireworks show. He stated that he could not see any other fireworks in the area. Flores said that, "When the firework exploded the fireworks went up and then fell and then it exploded, it hit the ground that's when it exploded on the girls leg, it came from the place where they were working the fireworks. This one didn't go all the way up, it went from where they were launching it went straight to them there was some arc in it. I saw about three or four go up..."

Michael Weatherford stated that he assisted William King with the operation of the show on Gazebo Island. Weatherford says that during the fireworks show he was on Gazebo Island and observed various bottle rockets going off in the air. He said that there was nothing bigger going off. He then explained that there was nothing the size of the three-inch shells they were firing.

Michael Hall, private citizen, was directly behind Victim #1 at the time of the fireworks show. Hall stated that prior to the accident he observed shells breaking directly above him. He said ashes were falling into the water, and a few of the rounds were lower than some although none hit the ground except the one that hit the girl. He thought this took place about 15 minutes into the show. Hall stated that the shells came from Gazebo Island. When asked about illegal fireworks in the area, Hall said that he had seen bottle rockets going off behind O'Hara's Bar which is located across Highway 70 and to the east of the accident site.

Michael Potter, private citizen, stated that he was outside his residence on the north side of Ellis Lake during the fireworks show. Potter said that he observed two to four shells that were set off that went into the water twenty feet out from the east shore and in the vicinity of the crowds that were at 14th and B streets. He also saw two low bursts take place about 30 feet in the air in the vicinity of the crowd on the east shore. Potter stated that he saw one fired from Gazebo Island into the crowd on the east shore and explode. When asked about illegal fireworks, Potter stated that he observed bottle rockets in the area behind O'Hara's Bar and the Quik Stop market.

Craig Leri, private citizen, lives on the west side of Ellis Lake, across from Gazebo Island. During the fireworks display he was sitting on his deck facing east towards Gazebo Island. He states that he observed a shell drop into the water near the peninsula that exploded under water in an orange flash. Then he saw a cluster of three or four shells that went up into the air and detonated. One shell traveled in an arching motion about sixty feet in the air above the lake, and towards the general area where the accident occurred. He states that he then heard a loud explosion in the same vicinity.

Alan King, cousin of William King had been hired to provide security on Gazebo Island on July 3rd and 4th. He stated that the setup of the tubes were positioned a few degrees towards the east. When asked about where the shells were bursting, he described them as just north of due east of the island. Alan King did not observe any low bursts.

Amanda Magnuson, private citizen, was located 8-10 feet directly behind Victim #1 during the fireworks show. She stated that she saw something trailing sparks coming towards her from Gazebo Island where the fireworks were being fired. Magnuson said that the shell exploded to the left and in front of where she was sitting. She had also observed ash falling on her before this occurred.

Shari Afato, private citizen, was sitting in her car in the left turn lane from B Street onto 12th street, facing southbound. She saw an object coming across Ellis Lake from the direction of Gazebo Island towards her. This object was trailing a sparkling trail and was bright. She said that the firework was about halfway across the lake when she first saw it and about level with her when it began to drop into the crowd. She observed a whitish-yellow color at that time. She was sure it did not come from the direction of the levee.

Michael Lee, private citizen, was located 30 yards to the north of Victim #1 during the fireworks display. He states that he observed a “dud” shell which landed about 20 yards south of him on the sidewalk and exploded. He saw a second shell explode and another shell land in the water and explode about 20 feet from shore. He said that about 8-10 minutes later he saw a shell land in the crowd. He was sure the shell came from Gazebo Island.

Phillip Robinson, private citizen, stated that he was located a few feet in front of where Victim #1 was injured during the fireworks show. He stated that he saw the projectile approximately 15 feet above him coming from the direction of the large island.

Cory Watson, private citizen, stated that he was sitting about three feet behind Victim #1 during the fireworks show. He said that he saw a streak in the sky prior to the explosion which he believed to be from one of the fireworks from the large island.

Carol Dodds, private citizen, stated that she was sitting on the west side of Ellis Lake during the fireworks show. Dodds said that she observed a firework launch and go into the lake. She said that just a few minutes later she saw a firework traveling low from the island towards the east bank. She could not see the impact due to the trees being in her way.

Zehpherin-Lashelle Poe, private citizen, was about one half block south of the accident site and across B street at the time of the fireworks show. She was filming the show with a video camera. Poe said that last year she was on the west shore of Ellis Lake with a group of friends when she saw a shell land near a group of her friends and detonate with lots of white color. Poe said that the shell came towards her in an arching manner towards where she was standing. That was why she was standing across B Street this year.

Ian Reimers, private citizen, was watching the display with Michael Lee during the fireworks show. He states that he saw a shell land near the edge of the water and then another that landed in the water and exploded. He states that a few minutes later he saw a shell land in the crowd. Reimers said they all came from Gazebo Island. He did see illegal fireworks east of the levee and described them as bottle rockets and bigger rockets but nothing as big as the show.

Oscar Marin, at the time of the fireworks display was working with William King on Gazebo Island loading shells. He did not take part in the actual shooting of the shells. Marin observed illegal fireworks along the east shore of the lake and two shells from the show that burst low above the water. He did not observe any fireworks go into the crowd.

Charles Sexton, private citizen, stated that he was located 25 feet east of Victim #1 during the fireworks display. He said that he observed shells launched from Gazebo Island explode directly over him and in the air behind him. He saw ash and debris falling from the fireworks onto the crowd. Sexton observed bottle rockets near the Union 76 station on B Street and at the vicinity of 12th and B Street.

Samantha Higgins, private citizen, was located five feet to the south of Victim #1 during the fireworks show. She states that as the show progressed the shells firing from Gazebo Island started breaking lower and lower overhead. As they got lower and lower, they also started breaking directly over her head and some even went off in the air behind her. Higgins saw illegal fireworks northeast of the Union 76 station on B Street which she described as bottle rockets and not as large as the public display fireworks.

Sheri McCutcheon, private citizen, was located about 75 feet north of Victim #1 during the fireworks show. She states that about one minute after the show started a firework fell into the water about 30 feet directly across from her. She stated that she moved further east and a moment later another firework hit the tree they were under, showering sparks on them. McCutcheon stated that the shells came from Gazebo Island and that she believed they came from the northern portion of Gazebo Island. She observed illegal fireworks east of the levee that were similar

but did not go as high or make as loud a noise. Her daughter Carey McCutcheon, who was with her, observed a shell going in the direction of the crowd about five feet off the water, describing it as a red ball with smoke trailing out the back.

Kevin Byrne, private citizen, was located on the east side of Ellis Lake, just south of 12th street during the fireworks. Byrne stated that he thought it was odd that the shells were being shot at a ten to fifteen degree angle and were exploding to his right and above him between an eleven and twelve o'clock position. He said that he could hear the sound of the shells lifting off, he could see them leave the racks, and he saw one shell falling with a fuse burning. He stated that maybe one to two seconds after watching the shell fall through the trees, it exploded fifty feet to his side and behind him on the grass area. He walked to the area where it exploded and saw a paramedic treating two girls. Byrne said that he heard an announcement over the public address system or radio that someone threw an illegal firework into the crowd. Byrne gave a police officer a statement that the fireworks were being shot at a slight angle towards the crowd as opposed to straight up over the island from where they were shooting.

Michael Houser, private citizen, was located at All Seasons stadium when the fireworks show took place. He was facing east on B Street. He states that about ten minutes into the fireworks show he saw a firework explode. As its embers were coming down he saw another shell coming down with an orange burning ember trailing it. He watched it come down until the baseball stadium fence blocked his view. He stated it was in the area where the accident occurred. He said that all the shells he saw were being fired from the general area of Gazebo Island.

James McKee stated that while he was setting off fireworks on Gazebo Island from the mortar racks facing east, he observed two shells burst low and not go all the way up into the sky. McKee said that when he removed the match cover, which covers the fuse, he might have changed the angle of a shell. McKee said that while he was getting ready to shoot another shell, he was told to stop by a Marysville police department volunteer. He ended up stopping at the end of the third rack of mortars. McKee stated that no racks were down when they stopped the show. He said that William King told them to start tearing the racks down. McKee admitted that he took the feet off two of the racks. McKee stated that he was positive that none of the racks had been knocked down or damaged by the fireworks.

Alysen Hurt stated that during the setting off of the fireworks on Gazebo Island she observed a shell break low when it came out of the tube, detonate and hit James McKee. (William King stated that at one point during the show he heard a loud boom and "I yelled out, everybody all right?") She said she felt the shells

were operating normally but there seemed to be more fallout this year. Hurt said that racks and tubes were all new and that after the show had been stopped, the front row of racks and mortars were torn down. She stated that at some point they stopped taking the racks down. Hurt stated that she thought it was odd that even though there had been an accident the crew started breaking down the mortars.

Marvin Wilson, fireworks vendor, was located across B Street, working at the Phantom Fireworks stand at the time of the fireworks display. He stated that he heard an explosion which he estimated to be the equivalent to six M-80 devices. He bases this on his experience of handling explosives in the army in Korea. Wilson said that this explosion did not sound anything like the shells being fired as part of the fireworks show at the lake. He said the explosion happened at the same time as the accident. When asked where the firework came from, Wilson said that he thought it was either tossed from a car or from the back of a truck but he did not see it come from a vehicle. He observed that it was not traveling at the same speed as the shells being fired from the island. He described it as floating and not coming down fast. He felt it came from the direction of the railroad tracks. Wilson said that when he saw the object out of the corner of his eyes, it was at the top of the trees, coming from the east, maybe thirty feet high. He said it was burning red and orange and was the shape of a circle about four inches around. Wilson said that he saw the object go into the trees and then he lost it. About three seconds later, he heard an explosion. Wilson said that he could not make out the shape of the object "because my eyes aint that good."

Victim #1 was located near the east side of Ellis Lake, near the intersection of B Street and 12th street during the fireworks display. She was seated in a lawn chair on the grass with her family and girlfriends. Victim #1 stated that she was looking straight up into the air and saw red coming closer and closer and then it hit her. She did not have time to move. She said that she smelled fireworks, a nasty smell. Victim #1, who had been facing to the west, said that the red object came towards her from her front. Victim #1 described the red object as moving around a lot. Victim #1 said that after it hit her, she attempted to stand to get help and realized that her "leg was gone." Victim #1 stated that her uncle carried her towards the street.

Victim #2, girlfriend of Victim #1, was sitting just to the south of Victim #1 during the fireworks display. She stated that the fireworks were going off directly overhead. She said that she had been to these shows before and never had the fireworks burst overhead. She stated that she thought the show was sloppier than in years past, not coordinated with the music. She was about to ask Victim #1 if she thought the same thing when she saw a bright light. She did not hear the sound. Victim #2 said she attempted to stand and could not. Victim #2 said that

she knew the firework had come from the front because she had seen the light come down.

Based upon witness statements and dispatch reports, the accident occurred about 9:58 P.M. – 10:00 P.M., about 13-15 minutes after the display had begun.

BC Hernandez, hearing traffic on his radio of a serious accident at Ellis Lake responded to that location. Upon his arrival he observed the accident scene and began to coordinate with law enforcement. BC Hernandez stated that after the transportation of the injured, he placed a radio request through CDF Grass Valley dispatch for CDF Arson Bomb Investigator (ABI) Phil Porto to be dispatched to the scene.

ABI Porto was dispatched at 10:28 hours and responded directly to the scene from Oroville Dam. ABI Porto arrived at the scene shortly after 11:00 P.M. Also dispatched to the scene was SFM Deputy State Fire Marshal (DSFM) Tony Guevara. ABI Porto was designated as the primary investigator.

Upon his arrival at the scene, ABI Porto contacted Marysville Police Sergeant Mike Stout and BC Hernandez. Sgt. Stout provided ABI Porto with a briefing on the events of the accident. ABI Porto advised Sgt. Stout that all activity on the pyrotechnics launch site should stop and that only live shells could be removed.

According to ABI Porto, during this briefing, Sgt. Stout received a radio call asking if the fireworks show could re-start. ABI Porto advised him that it could not start again and reiterated that both launch sites must be secured until ABI Guevara arrived to assist in documenting the scene.

ABI Porto observed the accident site flagged off by yellow barrier tape. The area was lit up by headlights from a police department patrol vehicle. ABI Porto was requested by Sgt. Stout to assume the lead role in the explosion investigation. ABI Porto entered the flagged area to conduct his scene examination. ABI Porto states that while at that location he “looked toward the west, across the lake” and said he could see Gazebo Island where the racks of mortar tubes were lined up. ABI Porto said that there was sufficient light to see that the mortar racks were lined up on a north-south axis. He estimated the distance as about 100 yards.

ABI Porto made initial observations of the injury site which included a three foot by 14 inch area of the grass on the east shore. ABI Porto describes this area as north of the walkway and slightly southeast of a small tree which is about 4-6 inches in diameter. This injury area appeared to ABI Porto to be covered with what he believed to be blood. Near the center of this area, he observed an area with a much deeper colored red which he measured to be 10-14” in diameter.

ABI Porto returned to his vehicle to get a pair of protective gloves. While there, Sgt. Stout approached him and asked him if it was alright for the fireworks personnel to take down the racks and equipment on the island. ABI Porto said that he turned and observed on Gazebo Island that several racks, situated just south of the light post on the island had been laid down. He stated that these racks were in the middle of the row closest to the waters edge. ABI Porto then told Sgt. Stout that the crew was to cease any and all tearing down of equipment with the exception of the removal of live rounds from the tubes. Sgt. Stout then advised ABI Porto that the information had been relayed to the crew. ABI Porto observed that the only racks that had been dismantled were several racks that had been set up to point to the east.

During the examination of this area, ABI Porto observed, documented and collected four items of evidence which he observed to be curved, sooted, smooth, multi-layered cardboard material. He determined these items to be consistent with what he knew to be a portion of a spherical pyrotechnic mortar shell. ABI Porto observed that these four items appeared to have blood on them. Each item was the size of a quarter or more and all were found within 4-6 inches of each other. One of these pieces of cardboard was recovered deeper in the grass and appeared to have been forced into its resting site by a blast pressure rather than being stepped on. ABI Porto found no evidence associated with these items to indicate to him that they had been there prior to July 4th.

Based on his experience, ABI Porto determined that this material was not consistent with materials he knew to be used for construction of an M-80, M-100, or M-1000 type firework.

At 12:10 A.M. DSFM Tony Guevara arrived at the scene and met with ABI Porto. ABI Porto instructed DSFM Guevara to conduct an investigation of the shoot site on Gazebo Island. ABI Porto continued his investigation of the injury site.

Based on the dispersal pattern of evidence collected during review of the accident scene along with witness statements, ABI Porto observed that the explosion site was located at the area of blood soaked grass. He determined that this area showed no signs of a crater, curvature in the ground or burns to the grass. This suggested to him that the explosion may have taken place above the ground or the force of the explosion was blocked from causing a crater to the ground. Evidence of the injury to Victim #1 and evidence that she was sitting up in a lawn chair at the time of that injury, with her right leg crossed over her left, is consistent with an explosion taking place on or above her right leg. Powder burns and injuries to the right side of the face of Victim #2, who was sitting to the left of Victim #1, were consistent with an explosion above the ground to her right.

DSFM Guevara went to Gazebo Island and conducted an interview with William King. At about 1:30 A.M., on July 5, 2004 he began an inspection of the Gazebo Island fireworks rack set-up. DSFM Guevara observed that the mortars that were located closest to the east and northeast bank of Gazebo Island had been disassembled and were lying on their sides. The remaining mortar racks had been left as they were installed. DSFM Guevara determined that all of the pyrotechnic devices which had been loaded in the mortars had been removed and packed in their original DOT shipping boxes. DSFM Guevara observed that all the remaining mortars and racks appeared to be in new and good condition. He put the total count at 830 mortar tubes and a total of 83 wooden mortar racks. He determined that the racks were constructed in accordance with Title 19 California Code of Regulations, Article 15, Section 1002.

According to ABI Porto, between 3:00 A.M. and 5:00 A.M. on July 5th, he received from Marysville Police Officer Shawn Scott evidence items 35 and 36. Officer Scott told ABI Porto that these items were received from a nurse who was present during the initial surgery conducted on Victim #1. The items were reportedly taken from Victim #1' leg during the surgery and the items appeared to be cardboard. (About one week after receiving these items into evidence, ABI Porto examined the items and found that they appeared to be consistent with cardboard material found at the site of the explosion.)

At 3:25 A.M. on July 5th, DSFM Guevara advised ABI Porto that he was taking into custody the remaining unexploded shells and numerous racks containing mortar tubes. DSFM Guevara stated that the tubes appeared to be new or in new condition. These items were stored under lock and key, in the rental truck they came in, at the Marysville fire station. DSFM Guevara supervised the dismantling of these items and their packing in the van. At 7:30 A.M. the truck was taken to the Marysville Fire Department for storage.

According to Earl Miller, private citizen, on the day after the accident, July 5th, 2004, he was out walking around Ellis Lake for exercise. Miller states that at about 11:45 A.M. he had reached the northeast corner of the lake and found the remains of a pyrotechnic shell lying on the walkway. He described it as being "cracked and there was some silver powder with a little, 14 to 15 strands of similar looking silver." Miller said that he contacted a man working on the island taking down the fireworks display and showed the remains to him. According to Miller, the two of them then walked to the area of the accident and recovered additional remains that looked like they were from an exploding item. He described the items as looking like a shell and that two of the pieces were 1.5" by 1.5" in size and light brown in color. Miller said that the other man took the items with him.

Dave Hughes states that he was busy helping take down the fireworks display on Fountain Island when he was approached by a man. Hughes states that the man had a pyrotechnic shell in his hand and gave it to him. Hughes says that the two of them then walked back to where the man recovered the item, which he said, was near the northeast corner of the lake. Hughes states that when they got to the location on the sidewalk, he observed two spots of powder residue which appeared to him to have been created when the item hit and bounced. Hughes stated that the shell appeared to him to be not the same as those used in the Boom Boom Productions, Inc. pyrotechnics show. He thought the shell looked raggedy and the quality was not consistent with the heavy paper they normally use. He also stated that the shell appeared to be a 2 inch shell rather than a 3 inch shell.

Hughes stated that after he looked the location over where the shell had been recovered, he walked south on the sidewalk. He said that about midway down the east side of the lake he noticed several pieces of what he thought to be “flutter” lying next to the sidewalk. Hughes described the two pieces as being “fluff off of a mortar round.” Hughes stated that he gave the mortar shell and the two pieces of “fluff” to Barry Renn, the supervisor for Boom Boom Productions, Inc.

On the morning of July 6, 2004, ABI Ken Davidson traveled to Hayfork, California to conduct interviews with members of Boom Boom Productions, Inc. During an interview with Fred May, ABI Davidson was told by May that the shells fired at the Maryville July 4th, 2004 show came from Boom Boom Productions, Inc. May stated that Wizard International in China manufacture the shells used by Boom Boom Productions, Inc. ABI Davidson later determined that May has an ownership role in Wizard International.

ABI Davidson was told by May that the shells used in the July 4th, 2004 Marysville show were received by Boom Boom Productions, Inc. in two batches. One in February or March of 2004 and the other in June of 2004. Some of the shells used in the show were manufactured in 2003 and the rest in 2004.

On July 6, 2004, ABI Porto returned to the explosion site and conducted additional searches for evidence. During the combined searches of July 4th, 5th, and 6th, conducted by ABI Porto, 28 items of evidence were identified, documented and collected. These included additional human remains, cardboard from pyrotechnic shells, and debris.

During a contact with Dave Hughes on July 6, 2004, at the Marysville Fire Department, ABI Porto was advised of the mortar shell and “fluff” recovered at Ellis Lake on July 5th. Dave Hughes also provided the names of three individuals who possibly may have information concerning illegal fireworks that had taken place behind O’Hara’s Bar on B Street. Later that day, ABI Porto received a box

from Barry Renn reported to contain the unexploded mortar shell and “fluff” collected by Dave Hughes. This was taken into custody by ABI Porto as evidence item #28. ABI Porto visually examined the shell and determined it to be consistent with a pyrotechnic shell typically used in fireworks displays. He estimated the diameter to be 2.5-3 inches in size.

On the morning of July 7th, ABI Porto walked from the Marysville fire station at 9th street and B Street to a point directly behind O’Hara’s bar. The purpose of that walk was to familiarize himself with the area and to determine if there were any fireworks of any type remaining in the area. ABI Porto observed, in various locations, the remains of small quantities of safe and sane fireworks. He did not find any remains of any type of illegal fireworks in the area.

On July 7, 2004 the California Highway Patrol Multidisciplinary Accident Investigation Team (MAIT) was requested by ABI Porto to conduct laser measurements of the accident scene and provide precise measurements. The team arrived that same day and conducted their measurements.

The measurements taken by MAIT determined that the distance from the pyrotechnic racks on Gazebo Island to the accident site was 310’. The distance from the accident site to the area in front of Dairy Queen was measured to be 700’. The distance from the accident site to the railway track located behind the Dollar Store was measured as 1040’. The distance from the railroad tracks between 12th street and 14th street measured 643’. The distance from the railroad trestle site to the accident site was measured as 488’.

During interviews with Dave Hughes, he stated that as a rule of thumb a mortar shell will travel 100’ vertically for every inch of diameter. In an interview with Fred May, past owner and current Show Designer for Boom Boom Productions, Inc., he stated that a 3” mortar shell can travel between 300’ and 350’ high. He then stated that he had no idea as he could not measure it.

Mathematical calculations conducted during the investigation showed that an object which is normally lifted from 300’ to 350’ vertical height would travel 317’ to 380’ horizontal distance when the launch tube was set at 74 degrees from horizontal. 74 degrees being consistent with the measured setting of mortar tubes from Gazebo Island as measured in photographs and observed on site by DSFM Guevara. This is consistent with the 310’ distance from the launch site on Gazebo Island and the accident site.

These calculations and distances also indicate that an object launched from other locations behind the structures to the east of the accident site would have been too far for the object to have traveled to the accident site.

About 7:00 P.M. on July 7th, ABI Porto conducted an investigation of a small vegetation fire which was reported to have occurred on the evening of July 4th. This fire was less than two feet in diameter and located behind the Quik-Stop mart at 12th and B Street. During his investigation of this vegetation fire he located an expended safe and sane ground bloom flower firework and determined it to have been the cause of the fire.

On July 8, 2004, all the evidence collected from the accident scene, including the unexploded shell found by the lake on July 5th, and specific items collected from victim Victim #1 and Victim #2 were submitted to BATFE for laboratory examination. Also submitted were samples of the 3” mortar shells that were present at the July 4th, 2004 Marysville show.

On July 10, 2004, DSFM Marc Yepez conducted a search of the area along the railroad tracks from 12th street to the area around 14th street and B Street. He searched the top of the levee area as well as the east and west sides of the levee area for any indications of legal or illegal fireworks. During his search, DSFM Yepez found scattered remains of safe and sane fireworks and some small sized illegal fireworks. He did not find any evidence of mortar size fireworks having been used in the area.

On July 14, 2004, ABI Porto met with Liability Claims Representative Shawn Millar. Mr. Millar works for Gregory B. Bragg & Associates, Inc., a risk management firm employed by the City of Marysville. The two met on Gazebo Island. Millar brought with him photographs he had taken between 7:00 A.M. and 8:00 A.M. on July 5, 2004. The photos depicted a mortar rack on the southern end of Gazebo Island, which was still staked and standing. The photos show the rack to be facing east along the east side of the island. One photo shows a rack set-up on a slope of the grass. Using a protractor directly on the photograph, ABI Porto measured the angle of the tube using the base plate as a reference. The base plate appeared to be level in the photo and the measured tube angle measured to be 74 degrees from horizontal. This angle is in excess of the 1-2” off-set spoken of by several members of the set-up crew.

In a report dated September 3, 2004, by BATFE Forensic Chemist Stephanie Ross the following laboratory results were provided after reviewing the evidence submitted by ABI Porto from the Marysville accident site.

Review of evidence item 11 (left sandal from accident site believed to belong to Victim #1), item 16 (cardboard shell fragment from accident site), and item 24 (articles of clothing worn by Victim #1 on the night of July 4th, 2004) resulted in the detection of titanium and aluminum residue. These residues were determined

to be consistent with those originating from an aerial shell similar to item 28 (aerial shell found near the northeast corner of Ellis Lake on July 5th, 2004) and item 31 (3 inch Titanium Salute” aerial shell manufactured in China for Wizard Fireworks and taken from the remaining shells left after the Marysville show was stopped).

Residue shaken from item 25 (clothing from accident site) and item 26 (clothing from accident site) were visually checked and found to be consistent with the particulate residue for items 11 and 24.

In a report dated March 11, 2005, by BATFE Forensic Chemist Thomas Hopen the following laboratory results were provided after reviewing evidence items 1 (cardboard shell fragment recovered from accident site), 2 (cardboard shell fragment recovered from the accident site), 3 (cardboard shell fragment recovered from the accident site), 8 (cardboard shell fragment recovered from the accident site), 16 (cardboard shell fragment recovered from the accident site), 17,18,19,20 (cardboard shell fragments and bark like material recovered from the accident site), 23 (cardboard shell fragment recovered from the accident site), 28 (shell remains received from B. Renn, David Hughes and Earl Miller, recovered from northeast corner of lakeshore) and 31 (3 inch Titanium Salute” aerial shell manufactured in China for Wizard Fireworks and taken from the remaining shells left after the Marysville show was stopped).

The cardboard shell fragments in items 1,2,3,8,16,23,17,18,19,20, and 28 have the same physical characteristics and paper composition as the known (multi-layered) mortar shell provided in item 31. It was noted that the string found in item 28 has different physical characteristics than the string in item 31. No examination was conducted on the piece of bark contained with items 17,18,19 and 20.

SECTION V. FINDINGS

Pre display

On May 19, 2004, Boom Boom Productions, Inc. as required by law, obtained two licenses for fireworks from the Office of the State Fire Marshal; one for general public display and one to be a wholesaler.

Boom Boom Productions, Inc. has produced fireworks shows for the Marysville 4th, of July public display for over five years. During the show in 1999 a mortar shell detonated in the tube and resulted in an injury to a volunteer pyrotechnic team member. During the 2001 show, two “Roman Candle” type fireworks in the show discharged balls into the crowd, resulting in five persons being treated for minor burns. Boom Boom Productions, Inc. has also had incidents of debris falling on neighborhood lawns and on spectators at fireworks displays they produced at the local baseball stadium.

Prior to July of 2004, William King, a pyrotechnical operator for Boom Boom Productions, Inc.’s Marysville production, as required by law, obtained a pyrotechnical operators license from the Office of the State Fire Marshal.

As required by law, on May 26, 2004, Boom Boom Productions Inc. submitted a “Pre-Display Report” to the Office of the State Fire Marshal.

As required by law, on May 26, 2004, Boom Boom Productions Inc. submitted a “Application For Public Fireworks Display Permit.” In accordance with health and Safety Code regulations, the application was submitted to the Fire Marshal for the City of Marysville.

The position of “Fire Marshal” for the City of Marysville is a portion of the duties assigned to the Chief of the Marysville Fire Department. The Chief’s position is filled by a CDF Battalion Chief through a Schedule A contract agreement with the City of Marysville.

The Marysville Fire Marshal met with licensed pyrotechnic operator William King at the fire department and conducted a review of the permit conditions prior to its approval on May 30, 2004. The permit lists the sponsors of the fireworks as Marysville Pepsi Cola Bottling Company and the Appeal Democrat. The fireworks were to be held at Ellis Lake.

The applicant for the permit, Boom Boom Productions, Inc. as required by law (Title 19 CCR 982) submitted a diagram of the grounds on which the display was to be held. This diagram did not clearly show the specific point where the

fireworks would be discharged, the location of buildings, location of trees, or lines behind which the audience was to be restrained as required by law.

In 2004, based on increased funding from an anonymous donor, the sponsors, the applicant for the permit, Boom Boom Productions, Inc. increased the size of the fireworks display from the historic \$10,000 display to a display more than twice the size of the previous years' displays. This was made known and discussed at the pre-permit meeting between the licensed pyrotechnic operator and the Fire Marshall for the City of Marysville.

About one week prior to the display, the production was loaded and transported to Smith Ranch, a staging area near Marysville.

On July 1, 2004, the fireworks show was loaded in a semi-trailer and stored in the Marysville Fire Department parking lot.

On July 2, 2004, the semi-trailer was driven to Ellis Lake where the licensed pyrotechnical operator William King supervised the unloading of 32 mortar racks at Fountain Island.

On July 3, 2004, King completed the setup of the display, unloading and setting up approximately 150 racks on Gazebo Island. The racks ranged from the southern tip of the island, along the portion of the east side of the island to the northern end of the island. Members of the crew believed the racks were set at an angle of one to two inches off vertical toward the water.

By evening July 3, 2004, the display was completely setup and security was on-site to secure the shoot site.

The licensed pyrotechnical operator, William King was onsite on July 4, 2004 from 7:00 A.M. on.

The public began arriving at the Ellis Island site on the morning of July 4, 2004.

CDF BC Joseph Hernandez who approved the fireworks permit for the July 4, 2004 display, was off shift on July 3rd, and began his shift at 8:00 A.M. on July 4, 2004. BC Hernandez performed routine orientation and shift planning in the morning of July 4, 2004 at the Marysville fire station.

At about 3:00 P.M., BC Hernandez responded to a vegetation fire in the Loma Rica area. He returned about 6:15 P.M., ate dinner at his residence and returned to the Marysville fire station about 7:00 P.M.

DISPLAY AND ACCIDENT

At about 9:44 P.M., at the conclusion of the baseball game at All Seasons stadium, north of Ellis Lake, the Star Spangled Banner was played just prior to the beginning of the fireworks display.

The display began at about 9:45 P.M.

From his location at the Marysville fire station, BC Hernandez observed illegal fireworks displays in a number of directions while the permitted display was going on. These all appeared to be distant from the display site.

After the display began, BC Hernandez responded to a vegetation fire near the railroad tracks behind the Dollar Tree Store north east of Ellis Lake.

Between 9:45 P.M. and 10:00 P.M., several witnesses observed fireworks coming from the direction of Gazebo Island and land in the water near the eastern shore of the Lake, near a large group of spectators. During that same period of time, a number of witnesses around the lake and located at the accident site observed what they described as low bursts of fireworks over the crowd on the eastern shore coming from Gazebo Island. Fireworks coming from Gazebo Island were observed detonating overhead of the crowd on the eastern shore with debris fallout taking place on the crowd.

One spectator, located near the north end of Ellis Lake, shortly before 10:00 P.M. observed a large firework come from the east over the Dairy Queen and land near the “pipe” at the northeastern end of the lake.

Prior to the accident, at least one member of the pyrotechnics crew observed a low burst of shells launched from Gazebo Island. William King stated that he observed one shell that did not get as high as the others. At least one member of the crew observed that there were no other large shells being launched in the area of the size of the display. Numerous witnesses observed only smaller fireworks being used in the nearby area of the display.

Approximately fifteen minutes into the permitted display, a mortar shell landed in a crowd of spectators on the eastern shore of the lake. The mortar shell exploded on or near a minor girl, Victim #1, severing her right lower leg. The mortar shell also caused burn injuries to another minor girl, Victim #2, who was sitting to the left of Victim #1. This mortar shell was observed by more than eighteen witnesses to have come from Gazebo Island.

At approximately 10:01 P.M., Marysville Police Officer Christian Sachs responded to a report of an explosion at 12th and “B” Streets.

Witness accounts indicate that the fireworks display continued for a time after the accident until the lead police officer at the scene stopped the fireworks show sometime after 10:00 P.M.

BC Hernandez heard dispatch traffic describing the accident and responded to the accident site and began coordinating with law enforcement.

Victim #1 was transported by ambulance to a local hospital. Victim #2 was also transported to a local hospital.

POST DISPLAY

BC Hernandez placed a radio request through CDF’s Grass Valley EEC for CDF Arson-Bomb Investigator (ABI) Phil Porto who was working at Oroville Dam, in Butte County.

At 10:28 P.M., ABI Porto was dispatched and arrived at the accident scene shortly after 11:00 P.M.

SFM Deputy Fire Marshall Tony Guevara was also dispatched to the scene and arrived shortly after midnight. ABI Porto was designated as the primary investigator.

Upon his arrival at the scene, ABI Porto made contact with Marysville Police Sargeant Mike Stout and BC Hernandez. Sgt. Stout gave ABI Porto a briefing on the accident.

ABI Porto advised Sgt. Stout that all activity at the launch site should stop. The operator could remove all live shells from the mortar tubes.

Sgt. Stout received a radio call asking if the display could restart. ABI Porto advised Sgt. Stout that the display could not start again. Hearing hammers at the launch site, ABI Porto also reiterated that all activity at the launch site should cease, and the site should be secured until ABI Porto and Deputy Chief Guevara could document the scene.

ABI Porto assumed the lead role in the investigation at the request of Sgt. Stout. He entered an area flagged with yellow barrier tape, identified as the accident site.

From the site, he could look across the lake and see the mortar tubes lined up north to south and along the east shore of Gazebo Island.

ABI Porto initially observed a three foot by fourteen inch area of grass that appeared to be covered in blood. Near the center of this area was a deeper red colored area about ten-fourteen inches in diameter. This area was north of the walkway and slightly southeast of a small tree.

ABI Porto put on protective gloves and documented four items of evidence which were curved, sooted, smooth, multi-layered cardboard material which he determined to be consistent with a spherical pyrotechnic mortar shell. These items appeared to have blood on them. All were found within about 4-6 inches of one another and one appeared to have been forced into the ground by blast pressure.

No evidence suggested the four pieces of evidence had been onsite prior to July 4, 2004.

ABI Porto determined that the pieces of cardboard were not consistent with a M-80, M-100, or M-1000 type firework.

During his examination of the accident site, ABI Porto observed the racks on Gazebo Island being dismantled. He again directed Sgt. Stout to inform the pyrotechnic crew to cease any and all tearing down of equipment.

Deputy Fire Marshal Tony Guevara arrived at the accident site at 12:10 A.M. on July 5th, and met with ABI Porto. ABI Porto advised Deputy Fire Marshall Guevara to conduct an investigation of the shoot site on Gazebo Island while ABI Porto continued his investigation of the accident site.

Based upon the dispersal pattern of evidence collected along with witness statements, ABI Porto determined that the explosion site was located at the area of blood soaked grass. Because no crater, curvature in the ground, or burns to the grass were evident, ABI Porto determined that the explosion might have occurred above ground.

ABI Porto determined that the injuries to Victim #1 and evidence that she was sitting in a lawn chair with her right leg crossed over her left leg were consistent with an explosion taking place on or above her right leg.

ABI Porto also determined that powder burns to Victim #2's face and right leg are also consistent with an explosion above ground to her right.

DSFM Guevara conducted an interview with William King, the pyrotechnical operator, on Gazebo Island at 1:30 A.M. on July 5, 2004. DSFM Guevara noted that the mortar racks located closest to the east and northeast bank of the island had been disassembled and were lying on their sides.

The mortars had been removed and were packed in their original DOT shipping boxes. All the remaining mortars and racks appeared to be in new or good condition. He counted 830 mortar tubes and a total of 83 mortar racks. He determined that the racks were constructed in accordance with applicable state regulations.

Between 3:00 A.M. and 5:00 A.M. on July 5, 2004, ABI Porto received evidence items 35 and 36 from Police Officer Shawn Scott. These items were received by the police officer from a nurse who stated they were taken from Victim #1's leg during surgery. The items appeared to be cardboard.

ABI Porto later examined these items and determined them to be consistent with the cardboard material found at the accident scene.

At 3:25 A.M. July 5, 2004, DSFM Guevara advised ABI Porto that he was taking the remaining unexploded shells and numerous racks containing mortar tubes into custody. DSFM Guevara supervised the dismantling and loading of these items into the rental truck. Initially, these items were stored under lock and key in the rental truck in the Marysville fire station.

On July 5, 2004, Earl Miller, a private citizen found the remains of a pyrotechnic shell lying on the walkway at the northeast corner of the lake. He described the shell as cracked, with some silver powder and 14-15 strands of similar looking silver.

Miller contacted David Hughes, an employee of Boom Boom Productions Inc. who was dismantling equipment at the south end of the lake and informed Hughes of the remains. The two then walked back to where Miller found the remains and recovered them. Miller said the other man took the pieces with him.

David Hughes, an employee of Boom Boom Productions, Inc., was helping to dismantle the fireworks array on July 5, 2004 when a man approached him and handed him a pyrotechnic shell. They both walked back to the place where the shell had been found and Hughes observed two spots of powder residue where Hughes stated he thought the shell had exploded and bounced. Hughes also opined that the shell looked raggedy and its quality was not consistent with the heavy paper used by Boom Boom Productions, Inc., in its shells. He also thought the shell appeared to be a two inch shell, not a three inch shell.

Hughes then walked south on the walkway and observed several pieces of what he called “flutter” or fluff off a mortar round. Hughes stated that he gave the mortar shell and the two pieces of fluff to Barry Renn, the supervisor for Boom Boom Productions, Inc.

On July 6, 2004, CDF/ABI Ken Davidson traveled to Hayfork, CA to interview members of Boom Boom Productions, Inc. Fred May, the owner of Boom Boom Productions, told ABI Davidson that the shells fired at the July 4th, 2004 Marysville show came from Boom Boom Productions, Inc. May stated that the shells were manufactured by Wizard International in China. ABI Davidson later determined that Ken May had an ownership interest in Wizard International.

May told ABI Davidson that the shells used in the Marysville July 4th, 2004 show were received by Boom Boom in two batches. One was received in February or March 2004, the other in June 2004. Some of the shells used were manufactured in 2003 and some in 2004.

On July 6, 2004, ABI Porto returned to the accident site and searched for additional evidence. In the searches conducted July 4, 5, and 6, 2004, ABI Porto collected 28 pieces of evidence which included human remains, cardboard from pyrotechnic shells and debris.

On July 6, 2004, ABI Porto was told about the recovered mortar shell and fluff. Later the same day, ABI Porto received a box from Barry Renn which Barry Renn said contained the unexploded mortar and fluff. This is taken into custody by ABI Porto and identified as evidence item #28.

ABI Porto examined the shell and determined it to be consistent with a 2.5 to 3 inch pyrotechnic shell of the type used in fireworks displays.

On July 6, 2004, David Hughes also told ABI Porto about three witnesses who might have information about illegal fireworks that were reported to have come from behind O’Hara’s Bar on B Street.

On July 7, 2004, ABI Porto investigated the site behind O’Hara’s Bar. He found remains of safe and sane fireworks in several locations, but no evidence of illegal fireworks in the area.

On July 7, 2004, ABI Porto requested the California Highway Patrol Multidisciplinary Accident Investigation Team (MAIT) to conduct laser measurements of the accident scene to provide exact measurements. This was done on July 7, 2004.

The MAIT measurements indicated that the distance from the pyrotechnic racks on Gazebo Island to the accident site was 310 feet. The distance from the accident site to the area in front of Dairy Queen was measured at 700 feet. The distance from the accident site to the railway track behind the Dollar Store was measured at 1040 feet. The distance from the railroad tracks to between 12th Street and 14th Street measured 643 feet. The distance between the railroad trestle and the accident site was measured at 488 feet.

David Hughes told ABI Porto that , as a rule of thumb, a mortar shell will travel 100 feet vertically for every inch of diameter. In his interview, Fred May told ABI Davidson, that a mortar shell can travel between 300 feet and 350 feet high. He then stated that he had no real idea as he could not measure this.

During the investigation, ABI Porto reviewed mathematical calculations which demonstrated that an object which is normally lifted from 300 feet to 350 feet in vertical height would travel 317 feet to 380 feet horizontally when the launch tube was set at a 74 degree angle from horizontal. ABI Porto measured the angle of mortar tubes on Gazebo Island by measuring the angle of the tubes in a photograph with a protractor. That angle was determined to be 74 degrees. This is consistent with the measured distance of 310 feet from Gazebo Island to the accident site.

These calculations also confirm that an object launched from behind the structures east of the accident site, O'Hara's Bar and the Railroad tracks behind the Dollar Store, could not have traveled to the accident site as these sites were located too far away.

On July 7, 2004 at about 7:00 P.M., ABI Porto investigated a small vegetation fire which was reported to have occurred the evening of July 4, 2004. He found the fire site, located behind the Quick-Stop Mart at 12th and B streets, to be less than two feet in diameter. ABI Porto recovered a safe and sane ground bloom firework which he determined to be the cause of the vegetation fire.

On July 8, 2004, all evidence items collected from the accident scene and environs, including the unexploded shell, as well as samples from the 3 inch mortar shells used in the fireworks display, were submitted to BATFE for laboratory examination.

On July 14, 2004 ABI Porto met with Liability Claims Representative Shawn Millar, who works for Gregory B. Bragg & Associates, Inc., a risk management firm employed by the City of Marysville. Meeting on Gazebo Island, ABI Porto and Shawn Millar examined photographs taken of the mortar racks by Shawn Millar on July 5, 2004. The photographs depict a mortar rack on Gazebo Island

facing east along the east side of the island. Using a protractor directly on the photograph, ABI Porto measured the angle of the mortar tube, using the base plate as a reference. The angle measured 74 degrees from horizontal, in excess of the one to two degrees off vertical claimed by several members of Boom Boom's set up crew.

On September 3, 2004, BATFE Forensic Chemist Stephanie Ross provided laboratory results from a review of the evidence submitted by ABI Porto from the Marysville accident site.

The review of a sandal from the accident site, believed to belong to Victim #1 (evidence item #11), cardboard shell fragments from the accident site (evidence item # 16), and articles of clothing worn by Victim #1 on the night of July 4, 2004 (evidence item #24), showed titanium and aluminum residue. These residues were determined to be consistent with those originating from an aerial shell similar to the shell found near the northeast corner of Lake Ellis on July 5, 2004 (evidence item #31) and a 3 inch Titanium Salute aerial shell manufactured in China for Wizard International and taken from the remaining shells from the Marysville fireworks display. Residue tested from clothing at the accident site (evidence items #25 and #26) were visually checked and found to be consistent with the particulate residue for the sandal (evidence item #11 and the clothing worn by Victim #1 on July 4, 2004 (evidence item #24).

In a report dated March 11, 2005, by BATFE Forensic Chemist Thomas Hopen the following laboratory results were provided after reviewing evidence items 1 (cardboard shell fragment recovered from accident site), 2 (cardboard shell fragment recovered from the accident site), 3 (cardboard shell fragment recovered from the accident site), 8 (cardboard shell fragment recovered from the accident site), 16 (cardboard shell fragment recovered from the accident site), 17,18,19,20 (cardboard shell fragments and bark like material recovered from the accident site), 23 (cardboard shell fragment recovered from the accident site), 28 (shell remains received from B. Renn, David Hughes and Earl Miller, recovered from northeast corner of lakeshore) and 31 (3 inch Titanium Salute" aerial shell manufactured in China for Wizard Fireworks and taken from the remaining shells left after the Marysville show was stopped).

The cardboard shell fragments in items 1,2,3,8,16,23,17,18,19,20, and 28 have the same physical characteristics and paper composition as the known (multi-layered) mortar shell provided in item 31. It was noted that the string found in item 28 has different physical characteristics than the string in item 31. No examination was conducted on the piece of bark contained with items 17,18,19 and 20.

SECTION VI. CAUSAL FACTORS

1. The July 4th, 2004 public fireworks display at Ellis Lake in Marysville, California doubled in size from previous years and plans. This increased volume of pyrotechnic charges required a larger area for dispersal of the launching racks and tubes. This was the first year that this size of a display was produced at the Ellis Lake site. Gazebo Island, one of two island launch sites used, has limited level terrain on which to disperse this added volume of launch racks. The resulting setup placed racks and tubes mounted so that tubes located on the northeast side of the island launched their pyrotechnic charges at a trajectory across the narrow axis of Ellis Lake towards the east shore and the site of the injuries.

This is supported by numerous witness statements and visual documentation that the launch tubes were mounted with a 1-2'+ offset to the east and information in this report which shows that the display was doubled in size without any documented changes in the launch site map and diagrams required by state law.

2. Between 9:45 P.M. and 10:00 P.M. several pyrotechnic charges that were launched towards the eastern shore of Ellis Lake from the northeast edge of Gazebo Island detonated directly overhead and behind the audience at the injury site causing fireworks debris to fall on the area prior to the injuries. Several charges failed to detonate before reaching the water near or on the eastern shore of Ellis Lake prior to the injury. A number of charges burst directly overhead and/or behind the persons located at the injury site prior to the injury. Additionally, some witnesses reported seeing shells burst low above the lake. This is documented by witness statements and by at least one of the members of the crew.

The members of the pyrotechnics crew, under the direction of licensed pyrotechnics technician William King failed to recognize these indicators of unsafe operating conditions, and/or faulty shells, allowing shells to burst near and above the eastern shore of Ellis Lake during these early shots and/or failed to correct these conditions. This resulted in the continued launching of devices in the direction of the public.

3. One charge launched from Gazebo Island at about 10:00 P.M failed to detonate in the sky and traveled in a low trajectory, landing on the eastern shore and on or near a fourteen year old girl. The shell exploded on or near her right leg, severed her lower leg, burned the fourteen year old adjacent to her, and injured nineteen individuals located in that area.

SECTION VII. CONTRIBUTORY FACTORS

1. The site map submitted by the permit applicants to the permitting authority was incomplete and did not reflect the increased size of the display. Nor did the site map accurately show the actual array of the fireworks on Fountain or Gazebo Islands or the area of barriers for audience safety as required by law.
2. The application did not contain an accurate and detailed inventory of proposed aerial mortars.
3. No onsite inspection of the display prior to use was required by law or the permitting authority. None was conducted.
4. No specific training in fireworks safety or fireworks permit approval is required by law for the permitting authority. The official responsible for reviewing and permitting the fireworks display permit did not have specific training to recognize and evaluate the safety of the proposed permitted public display of fireworks.
5. Law enforcement personnel at the scene prior to the accident, who also had no specific training to recognize and evaluate fireworks safety issues, failed to recognize the hazards to the public and take action to either correct the hazards or remove the public from the hazard area.
6. There was no official designation of anyone to monitor the fireworks display, resulting in a failure by public safety agencies to correct the hazards prior to the accident.
7. The display operator failed to use a dedicated “spotter” whose only responsibility was to track the actual trajectory of the shells fired and to correct for potential safety issues.
8. During the 2001-2002 years fireworks displays, the duties of Marysville Fire Marshal transitioned from BC John Ellis to BC Joe Hernandez with a gap of several months between. No exchange of information concerning the fireworks permitting process took place between the two. During the previous year the licensed pyrotechnic operator for the Marysville show changed from Al Mazerolle to William King. These transitions contributed to a basic change in the common practices for permitting and inspecting the shows that followed.

SECTION VIII. SITE CONDITIONS

Ellis Lake is situated in the center of Marysville. Ellis Lake is a long, narrow lake approximately 30 acres in size. The lake's length is north south, and narrow width is east west. The angle of the shoreline from the waters edge varies in angle from 45 degrees to as much as 70 degree angle. It is made of river rock set in cement and extends roughly five to ten feet above the waterline where it meets a cement foot path about 3 feet in width. The path circumnavigates the lake by a distance of about 1.25 miles. There is a park bench and light pole roughly every 150 feet. From the outside edge of the walking path grass ranges from as little as 10 to 15 feet to as much as 50 feet in width around the lake. Deciduous and evergreen trees are planted throughout the surrounding lake area.

Adjacent to the intersection of 12th St and B St. (Highway 70) the land surrounding the lake gently curves further out into the lake increasing the sloping grassy area by about 25 to 30 more feet. A cement walkway extending from the designated crosswalk over B St. and arching south to the cement walkway around the lake. On the east side of Ellis Lake where 12th St. "T's" into it, there is a crosswalk signal pole, light pole and signal control box just off the B St. curb. Also, within this area are large deciduous trees. The trees are roughly 50 feet in height and were planted in varying distances of some five to ten feet from the edge of B St.

Directly north of the cement pathway from the crosswalk is an open expanse of grass about 30 feet or more in diameter. This is the location where the majority of the injured parties were located during the Fireworks Show. To the west northwest is a smaller more recently planted tree. This tree was used in measuring distances to evidence found at the injury site. The smaller tree is separated from a light pole and park bench, located at the edge of the pathway, by another smaller grassy area.

The lake contains two islands. Fountain Island is $\frac{1}{4}$ acre in size situated on the south end of the lake. Access to the Fountain Island is by boat only. Gazebo Island, named for the Gazebo on it is a $\frac{1}{2}$ acre piece of land located about half way between the north and south end. Access to the lake is from the western shore by way of a cement foot bridge. A cement pathway extends from the bridge leading up to the wooden gazebo located in the middle of the island. To the south and near the end of the island is a large, metal flagpole. The island is identical to the shoreline of the lake in that there is cemented river rock edge water up to a cement walkway surrounding the island, with light poles and park benches interspersed along the pathway, then grass leading up to the gazebo. Gazebo Island has several trees located to the south and west of Gazebo Island. To the north of the gazebo is

an open area of grass with several large trees further to the northwest part of the island.

The annual fireworks show was composed primarily of numerous racks of pyrotechnic mortar tubes, reinforced and anchored to the ground. These racks were located within the grassy area north and northeast of the gazebo and directly south around the flag pole.

On, July 4, 2004, Ellis Lake held boat races most of the afternoon. The two islands were closed off to the public, having been used for setup of the Fireworks display by the Pyrotechnic crew, in preparation for the July 4th Annual Fireworks Show. The islands were transformed into the launch sites for the pyrotechnic display racks and mortar shells.

It had been widely advertised in the newspaper and on local radio that fireworks of any type would be prohibited on or around the immediate city property surrounding Ellis Lake.

Spectators for the boat races and evening pyrotechnic show began arriving in the early afternoon. No exact head count has ever been taken for these annual events; however it has been estimated that the crowd for the fireworks show was estimated to be around 15,000 people. The spectators covered the area around Ellis Lake and extended into the adjacent parking lots, businesses, sidewalks, all around the lake.

The Marysville Police Department utilized their volunteers as well as officer's from neighboring police agencies to monitoring the lake and city for crowd control and to respond to calls. Fire personnel were pre-positioned on duty in strategic locations around the city, in fire apparatus in order to quickly respond without having to directly drive through the overflow of people around Ellis Lake.

A baseball game at All-Season stadium located to the north of Ellis Lake was played and ended just before 9:45 PM. The Public Address system, set up to announce the boat races played the National Anthem, and the Fireworks Show commenced.

