4-2010

Research Strategies Award Essay: The Boston Molasses Disaster

Samantha Geib, 2012
Illinois Wesleyan University

Samantha Geib

Research Strategies Award Essay

This essay will illustrate the research adventure I embarked on in order to complete the final ten-page paper for my Theory and Writing of History Seminar. The paper topic was twofold; we were instructed to locate primary sources and to use them to reconstruct a past event as accurately as possible while at the same time using our particular topic as a test case to demonstrate the difficulty in doing so, taking special note of the relationship between evidence and historical truth. Well aware of the difficulty of this assignment, I began the search for a topic as soon as possible. After reviewing several websites and articles, I stumbled upon a rather obscure event in history known to some as the Boston Molasses Disaster. Though I had found an original topic to research, I only had one newspaper article to begin with, and so I began the search to vastly expand by bibliography.

Our class began the project with a two-day informational meeting led by Meg Miner, our university archivist and special collections librarian. From the sessions, I learned valuable tips on the following: how to search a topic using a variety of keywords, how to locate articles using EBSCO and the America: History & Life databases, and most importantly, and how to retrieve materials through ILLiad. The first materials that I gathered were scholarly articles from the above-mentioned databases, made available by the "Get This" button. The next set of materials I obtained were secondary sources—several books and a DVD—which I retrieved via I-Share services. After receiving the only book dedicated entirely to my topic, I intensely studied its bibliography as a way to track down more of the primary sources that I desperately needed.

My search for primary sources was in fact the most valuable part of the entire assignment because it required me to branch away from conventional book and electronic sources. The bibliography that I had been reviewing led me to a variety of newspaper articles which I was able to locate using the Center for Research Libraries (CRL) and to receive using ILLiad. One of the articles

came simply as a scanned copy but the rest were sent on microfilm—a completely foreign format to me; however, with the assistance of Meg Miner, I was able find information that would lay the groundwork for my analysis. The bibliography also led me to the transcripts from the civil lawsuit that subsequently followed the Boston Molasses Disaster. Using the WorldCat search engine, I was able to locate the materials; unfortunately, what I came to find was a collection of volumes that was housed in Massachusetts containing over 25,000 pages of transcript from the hearings. At that point there was simply not enough time to pinpoint what pieces of information would be useful for my paper; however, as I continued my search on WorldCat, I discovered that someone had been hired at the time to oversee the trials and had written a conclusion based on the hearings. Due to copyright restrictions, I did not think that I would be able to get a copy of the 75-pagebook he had written, but after submitting a request and working with Tony Heaton at ILLiad who was able to track down the book, I had a full copy available to me within a few days.

The last source that I explored in my research quest was the AHA Guide to Historical Literature. Though quite intimidating, these large books provided very useful information about articles that I was able to retrieve, once again, using ILLiad, and to incorporate into the final pages of my paper.

As I look back now on all the work that went into this paper, I feel as though I have a far greater understanding of the research process. I would like to leave the following advice to future researchers: begin early so you have ample time to retrieve and evaluate sources, study the bibliography of secondary sources as a way to obtain information about potential primary sources, and do not be afraid to ask for help. My success on this assignment can be attributed not only to the diversity of my sources but to the guidance and resourcefulness of Ames personnel.

Samantha Geib

Theory and Writing of History

The Boston Molasses Disaster

There are moments in history that are consistently recalled and commemorated as a result of their importance, but what happens when some of the most remarkable are forgotten altogether, and how can we effectively reconstruct these events in a manner that does justice to their significance? I was astounded when I stumbled upon the newspaper articles about the Boston Molasses Disaster and could hardly believe that I had never heard of it before. It came as news to me that on January 15, 1919, a molasses storage tank in the North End of Boston burst open and sent a wave of this sticky substance into town, destroying buildings and homes and killing those in its path. At first glance at the title of the disaster, I found it rather comical, but after extensive researching, I would find that it was much more than a funny name; it was a terrifying and fatal experience not only for the 21 people that it killed but also for the 150 that it left mentally and physically broken. In this paper I will chart the event, paying close attention to *why* the disaster occurred and taking notice of the civil lawsuit that subsequently followed. I would also like to take note of the "news frenzy" that erupted at the time of the bizarre occurrence, analyzing the difference in facts provided by periodicals at the time and the resulting error and loss of truth that arose in the haste to deliver news to the public. I will argue that while the disaster resulted in a high cost of damage and life, it also proved beneficial in that it paved the way for future safety regulations concerning engineering protocol in industry.

I would like to begin with some background information about the tank itself, which Steven Puleo provides wonderfully in his book *Dark Tide: The Great Molasses Flood of 1919* and article "Death by Molasses." From its initial stages of construction, one knew that the

holding tank was destined for trouble. In order to fully comprehend the reasoning behind the poorly constructed tank, it is important to understand the circumstances under which it was built. The person who United States Industrial Alcohol put in charge of the oversight of the construction of the tank was their very own treasurer Arthur P. Jell. At the time, Jell was suffering personal embarrassment at the expense of the project due to the fact that his bosses had instructed him to have the tank built more than a year ago and yet it still remained incomplete.[1] With only the cement foundation finished, Jell had to hurry to get the tank completed and ready to receive 700,000 gallons of molasses from a steamer coming from Cuba in just three short days.[2] If he should fail, the company would have to either "find another USIA location to accept the delivery or even dump the product at sea," costing them both time and money, which Jell simply could not have tainting his reputation.[3] Correspondingly, a failure on the project would jeopardize the promotion he had been longing for and would essentially "doom his future with the company."[4] With that said, the construction job was done with certain haste. Jell did not concern himself with the technicalities that accompany the engineering of a massive storage tank, and when the tank did not leak after a so-called "stress test" (we would learn later through court testimony that the test consisted of merely filling the tank with six inches of water), USIA deemed it ready for use.[5] Jell got what he wanted; the five-story tank, 242 feet in circumference, 90 feet wide, with the ability to hold 2.3 million gallons of molasses was completed and conveniently located just hundreds of feet from both the harbor and the railway on Boston's North End Commercial Street, which was a bustling business district right in the middle of a densely populated Italian community.[6]

Unfortunately, from the onset of its establishment, the tank appeared to have very obvious structural problems. Witnesses would later testify in court to the poor condition of the tank. For instance, Philip Lydon stated under oath,

> We could feel it, the vibration, bulging in and out…There was always a big leak, too, near the junction of the second and third plates…molasses ran down the side of the tank, enough for the children in the neighborhood to be there every day to get a dose of it. They would be here from early morning till late at night.[7]

Others including Frances Brown, Isaac Gonzalez, and Charles Chaffrey would reiterate this statement, noting the overall lack of concern of USIA and the shoddy job performed by the Hammond Iron Works construction crew. William Foster revealed one of the company's quick-fix remedies in the following testimony:

> The tank kept leaking right up to the time of the collapse, but you could not notice it so much at the last, because they repainted the tank…it was kind of a dark reddish brown and you couldn't see the molasses as clearly.[8]

USIA also ignored the anxieties of a particularly concerned employee, Isaac Gonzalez, who repeatedly complained about the leaks and the scale-flakes raining down from the tank's inside walls.[9] Gonzalez was simply brushed aside, his "paranoia" met by the company's halfhearted attempts to remedy the tank, which consisted of a paint job and three instances where they brought in caulkers.[10] As Lynda Morgenroth notes, USIA was far more concerned with the profits they were making by creating much-needed munitions for World War I than they were with repairing a leaky tank in Boston.[11]

I would like to take a moment here to acknowledge the main author on this subject, Steven Puleo, who seems to have written the only full account of the disaster. In almost every other secondary source I used for this research paper, Puleo is cited in the bibliography or

acknowledgements; I, myself, must rely on him to fill in the blanks for the primary sources that I could not get my hands on. While I am grateful to him for having created his wonderfully informative book, *Dark Tide*, it makes me nervous that he seems to be the only person who is fully educated on the catastrophe; with no one else extensively educated on the subject, who is checking over Mr. Puleo's work? How can we trust that his interpretation of the facts is true and correct? After all, he says himself in his "Bibliographic Essay,"

> I used the primary sources…to form the heart of the book's narrative, weaving in my knowledge of the event or the time period gleaned from other sources…In some cases, I have built the dramatic narrative and drawn conclusions based on a combination of primary and secondary sources.[12]

This is where we as readers have to have faith in our historians and their abilities. I can only hope that the desire to convey the absolute truth overcame the desire to distort the facts to enhance his "dramatic narrative." I have faith in his expertise, as he seems extensively educated on the subject, but I am still skeptical about relying on him as a main source for my paper, as no one else has endeavored to research the subject and thus no one else would feel comfortable enough to put his work under scrutiny. Given also that he consulted over 25,000 pages of transcript from the hearings—a very daunting task—I doubt that many would repeat or even begin to criticize this great undertaking. With that said, there is essentially no way of knowing if all the facts in his book are accurate and true, but for the purposes of writing about this somewhat obscure topic, I am going to assume that they are mostly valid.

On January 15, 1919 just before 12:40 p.m., the molasses tank burst open, swallowing everything in its path. The wave, traveling at approximately 35 miles per hour, stretched 15 feet high and 160 feet wide and engulfed everything in the surrounding two blocks with 2.3 million gallons of molasses.[13] An eyewitness would testify later in court,

> I was looking from the window and I just—I come right on to the tank and I noticed it ripped right up gave way at the bottom; it ripped right up from the bottom and the molasses came right up, pushed the molasses towards me as I came around the curve.[14]

Other eyewitnesses would describe the first wave from the tank as being "high enough to shut out the light, or 15 to 20 feet high, or high as a man, or like a big black ball."[15] In his recent article, "A Sticky Tragedy," Chuck Lyons notes of the violent effects of the barreling steel parts. "Rivets popping from the tank scourged the neighbourhood like machine gun bullets," Lyons writes "and a small boat was found slammed through a wooden fence like an artillery shell."[16] The *New York Times* described the incident in these words: "Wagons, carts, and motor trucks were overturned. A number of horses were killed. The street was strewn with debris intermixed with molasses and all traffic was stopped."[17] The *Boston Post* referred to the molasses as a "black, reeking mass" that ensnared 100 men, women, and children, and crushed buildings, teams, automobiles, and street cars.[18] Similarly, the *Boston Evening Globe* indicated that the buildings most severely damaged by the disaster were the elevated L structure, the Clougherty house, the freight house of the Bay State Street Railways, the quarters of the Fireboat Engine company, the headhouse of North End Park, and the buildings of the Public Works department (most notably the firehouse and freight shed).[19] Martin Clougherty (a resident of the Clougherty household) reflected back on the incident as follows:

> I was in bed on the third floor of my house when I heard a deep rumble…When I awoke, it was in several feet of molasses—it didn't dawn on me immediately that it was molasses. I thought I was overboard…I looked for my mother…It was as if my house had been split in two when it hit the elevated structure—me in one side, others in the other. I looked for an hour and someone told me my mother was dead.[20]

People soon rushed to the scene to assist injured victims and to help clean up the fantastic mess. Rescue teams including the Boston policemen and firefighters, nurses from the nearby

Haymarket Square Relief Station, and over 100 sailors from Nantucket "worked to save those trapped in the horrible ooze."[21] Puleo quotes a *Boston Post* article that describes the situation:

> The sight that greeted the first of the rescuers on the scene is almost indescribable in words. Molasses, waist deep, covered the street and swirled and bubbled about the wreckage. Here and there struggled a form—whether it was animal or human being was impossible to tell. Only an upheaval, a thrashing about in the sticky mass, showed where any life was. Horses died like so many flies on sticky fly paper. The more they struggled, the deeper in the mess they were ensnared. Human beings—men and women—suffered likewise.[22]

It was really a very horrific sight to see, and the sheer thought that this common household product could result in so much destruction under the right (or wrong) circumstances was quite disturbing in itself. Colonel Hugh Ogden (who would serve as auditor over the civil court case) succinctly expressed this very idea when he wrote in his final report that "The scene was unparalleled in the severity of the damage inflicted to person and property from the escape of liquid from any container in a great city."[23] The physical toll the disaster took on people was visible in the form of broken bones, bruising, lacerations, pneumonia, and shock, not to mention death and permanent injury.[24] At first, cleanup crews attempted to remove the hardening molasses by means of chisels and saws, but when that didn't work, they flushed the streets with briny water.[25] The search for the bodies of missing persons continued until May 12, 1919 when the 20th victim of the flood was found.[26]

As you can see, many of the observations of the event came from newspapers the day after the failure of the holding tank. A closer look at the papers will show the difference in facts that they provide. Could the pressure to relay news to the public as quickly as possible have led these writers to brush over certain details or make assumptions that they might not have been qualified to make? For instance, some of the papers that I looked at dated January 16, 1919 had

differing death tolls. The *Boston Evening Globe* counted twelve in their List of Dead at North Grove Street Morgue and at the scene of the accident, as did the *New York Times*, but the *Boston Post* stated that only eleven were dead. Each of these numbers would prove to be pretty far off from the total number (twenty-one), which minimally shows the truth that can be lost in any "news frenzy" that erupts after a disaster. Still, this is not the strongest argument because the numbers provided were either the same or very close, and we do not expect newspaper reporters to have full details right after the event.

I think a better argument can be found in the array of reasonings given for the flood, which demonstrates the general confusion at the time. To illustrate, the *Boston Evening Globe* showed two sides of the debate, explaining that the public's experts concluded that it was not caused by any explosion, while the ex-building commissioner as well as a chemist employed in the Building Department decided that the event had to be attributed to an explosion because molasses (being so slow-moving) could not cause that kind of damage on its own; they also argued that other molasses tanks had exploded before.[27] On the other hand, the *Boston Post* made it quite clear under their front page headline that an internal explosion was the cause; chemists believed that since the molasses tank was fitted with a heating apparatus that was connected to a boiler, a mixture of air and gasoline could have generated, which would have been explosive.[28] Strangely enough, the *New York Times* failed to give a clear reason at all, only once using the word "explosion," but otherwise avoiding definite conclusions altogether.[29] The communication of either false conclusions or a mixture of possibilities illustrates the great state of confusion at the time; people genuinely did not know what happened or why. This also exposes the unreliability of newspapers as credible sources. In an effort to transfer the news to the people as quickly as possible, assumptions are made and truth can easily be displaced; this is

particularly visible in the *Boston Post* article that fully attributed the incident to an explosion, which we would later discover officially after the trial to be utterly false. It is instances like these in which the public must assess their own ultimate objective; they must decide between immediacy and truth. Would we rather have a quick story with *roughly* accurate details straightaway, or would we be willing to wait for what might be an extended period of time until all the questions pertaining to the event are answered and a full report can be given? Unfortunately, we live in a society that wants its news and wants it fast, so I think it is safe to say that most of us would be willing to sacrifice at least parts of the truth, if not the entire truth, for merely a *sliver* of an accurate story.

Additionally, taking a look at another perspective of the "news frenzy," one can see the inevitable panic that proceeds from horrific events such as these. For example, in an article of the *Boston Evening Globe* following the event, one writer took note of steam that was escaping from the crevices of where the Bay State freight house stood before the flood, expressing concern that were molasses to have gotten down into the crevices, it might have drowned out any fires but it also could very well create more explosions due to its flammability.[30] In an article printed a few weeks later, it was reported that one North End business man "presented a resolution regarding the recent molasses tank disaster in the North End." He proposed that "members of the Columbus Club dwelling in the North End [should] protest against allowing great gas tanks to remain in a densely settled district."[31] With that said, the people of Boston were put into a state of panic after the failure of the holding tank; and as a result, they anticipated other potential dangers. One can only imagine the great amount of fear they felt, especially considering their newly-inspired anxieties about gas holding tanks failing. (Contemporary

sources referred to "gas," which was most likely natural gas.) After all, if a molasses storage tank could do that much damage, how much could a tank full of gas potentially do?

As with all considerable mishaps, someone had to take responsibility, and it was a classic case of the "blame game." The initial court proceedings proved insufficient to the people, as Chief Justice of Municipal Court Wilfred Bolster stated that the public was largely to blame for the incident. Bolster proclaimed, "A public which, with one eye on its tax rate, provides itself with an administrative equipment 50 percent qualified, has no right to complain that it does not get a 100 percent product…it must expect breakdowns in its machinery."[32] He went on to say that "the only assignable crime involved is manslaughter, through negligence."[33] Regarding the criminal lawsuit that was filed, the Suffolk County Grand Jury returned no bill against the United States Industrial Alcohol Company with no indictments because they were unable to decide who should be deemed liable.[34]

After this unsatisfying court experience, the victims and their families took their 119 separate legal claims against USIA to the Superior Court where they were consolidated into one legal proceeding.[35] It is important to note that that presiding court official was not a judge but an auditor; it was the task of Colonel Hugh Ogden to evaluate "arguments, evidence, and testimony to decide whether the case should proceed to full trial."[36] The main argument of the defense was that the failure of the tank was caused by a bomb planted by anarchists while the plaintiffs sought out retribution for a shoddy, quick construction job. The defense's main argument initially appeared to have substance, as there had been countless bombings by anarchist groups in the area around the time of the flood, but, as Hugh W. Ogden points out in his official report,

> No bomb or high explosive and no traces of a bomb or high explosive were discovered at or near the scene of the accident….No anarchist or other evilly

> disposed person was seen at or near the tank upon the day of the accident. No evidence was offered to connect the statements of fact set out in the offer of proof….[37]

The most significant evidence used against the defendants was the testimony of their newly-appointed assistant treasurer and vice president, Arthur P. Jell, who testified that he had had no technical or engineering training whatsoever, that he had neither submitted the plans for the tank to any architect or engineer nor had he had them examined, that he had not ensured that the material received was what had been ordered, and that he had not had the tank inspected or properly tested after its construction because he had considered it an "unnecessary expense."[38] In the end, Ogden found USIA liable and ordered them to pay an estimated $300,000 in damages; however, the plaintiffs were still not pleased with the damage awards and insisted on a jury trial whereupon USIA immediately agreed to a private settlement, paying a total of approximately $628,000.[39]

In the end, justice was served; not only did the victims and their families get the money they deserved for their pain and suffering, but the rest of society learned a valuable lesson as well. The event served as a major factor in changing the engineering protocol. As Puleo affirms, after the ordeal, "the Boston Building Department began requiring that all calculations of engineers and architects be filed with their plans and that stamped drawings be signed, a practice that became standard across the country."[40] This new attention to safety also demanded extensive testing of apparatuses and a follow-up construction program to ensure that things were operating smoothly.[41] In the years after the extensive civil lawsuit that followed the disaster, the United States Bureau of Labor Statistics would reiterate these new expectations in the field of safety in the following bulletin:

> The day is here when the qualifications for an inspector demand not only intelligent persons, not only those well equipped with industrial training, not only the specialist in industry, but the men and women, to some extent at least, who have a high appreciation of the importance of the work they are doing.[42]

This description of an ideal inspector is a far cry from Jell, the unqualified (in terms of technical or engineering training) financial administrator who rushed construction on the Commercial Street molasses storage tank to save time, money, and face.

In summation, I have done my best to reconstruct the events of the Boston Molasses Disaster of January 15, 1919. I realize that there are drawbacks to researching a somewhat obscure topic in such a short period of time, but I believe I used the primary and secondary sources that I had to the best of my ability, uncovering as much truth as possible. My writing is flawed in that it is not based on the 25,000 pages of trial transcript, which is key in understanding this topic, and because I relied a lot on newspapers, which distort truth in themselves. Nevertheless, my objective was to convey to you as the reader the reasons for the failure of the molasses storage tank, the effects it had on the people and buildings of the surrounding area upon failing, and the valuable lessons learned from the mistakes made in the construction of the tank that were then applied and used to improve future engineering protocol, which I believe I have done successfully. Referring back to the question I posed at the beginning of the paper, there is no correct way to reconstruct history; the best we can do is to properly attend to the facts we do have and to trust ourselves and others to uphold what should be a moral obligation to promote truth.

[1]Stephen Puleo, *Dark Tide: The Great Boston Molasses Flood of 1919* (Boston, Massachusetts: Beacon Press, 2003), 10.

[2]Ibid.

[3]Ibid., 12.

[4]Ibid., 15.

[5]Steve Puleo, "Death by Molasses," *American History* 35, no. 6 (2001): 63-64. *America: History & Life,* EBSCO*host* http://search.ebscohost.comproxy.iwu.edu/login.aspx?direct=true&db=ahl&AN=A000504280.01&site=ehost-live&scope=site (accessed October 29, 2009).

[6]*Modern Marvels: Engineering Disaster 14,* DVD, Documentary. A&E Television Networks (2004).

[7]Puleo, *Dark Tide,* 188-189.

[8]Ibid.

[9]Ibid., 191.

[10] Hugh W. Ogden, Dudley H. Dorr, and Stephen Puleo, *Commonwealth of Massachusetts, Superior Court, Suffolk Ss, No. ...: ... V. United States Industrial Alcohol Company or U.S. Industrial Alcohol Company: Auditor's Report* (Boston, Massachusetts: Massachusetts Superior Court, 1920), 36-37.

[11]Lynda Morgenroth, *Boston Firsts: 40 Feats of Innovation and Invention That Happened First in Boston and Helped Make America Great* (Boston: Beacon Press, 2006), 38.

[12]Puleo, *Dark Tide,* 243.

[13]Puleo, "Death by Molasses," 60.

[14] Ogden, *Commonwealth of Massachusetts,* 20.

[15]Ibid.

[16]Chuck Lyons, "A Sticky Tragedy," *History Today* 59, no. 1 (2009): 40-42. *America: History & Life,* EBSCO*host* http://search.ebscohost.comproxy.iwu.edu/login.aspx?direct=true&db=ahl&AN=A800068196.01&site=ehost-live&scope=site (accessed October 29, 2009).

[17]"12 Killed When Tank of Molasses Explodes: Hugh Sheets of Steel, Hurled Through Air, Destroy Structures on Boston Waterfront," *New York Times (1857-Current file),* January 16, 1919, http://www.proquest.com (accessed October 30, 2009).

[18]"Huge Molasses Tank Explodes in North End; 11 Dead, 50 Hurt: Giant Wave of 2,300,00 Gallons of Molasses, 50 Feet High, Sweeps Everything Before It—100 Men, Women and Children Caught in Sticky Stream—Buildings, Vehicles and L Structure Crushes," *Boston Post,* January 16, 1919.

[19]"Cause of Tank Disaster in Doubt: Some Say Collapse and Others An Explosion," *Boston Evening Globe,* January 16, 1919, microfilm, Reel 697, 071.4461 B657bod.

[20]Puleo, "Death by Molasses," 62.

[21]Ibid.

[22]Ibid, 61.

[23]Ogden, *Commonwealth of Massachusetts,* 23.

[24]Puelo, *Dark Tide,* 126-127.

[25]Ibid., 132.

[26]Ibid., 148. I would like to note here, as Puleo describes in his book, that this is referring to the 20th person found dead as a direct effect of the flood. The official list of deceased would include 21 persons, the 21st being a man by the name of Stephen Clougherty (the brother of Martin Clougherty and the man whose mother died) who was mentally retarded. The flood caused his physical and mental health to decline even further, leaving him constantly subject to paranoia and hallucinations until he contracted tuberculosis and eventually passed away in his room at the Boston State Hospital for the insane. His death was attributed to the molasses flood.

[27]"Cause of Tank Disaster in Doubt."

[28]"Huge Molasses Tank Explodes."

[29]"12 Killed When Tank of Molasses Explodes."

[30]"Cause of Tank Disaster in Doubt."

[31]"Kick Against North End Big Gas Tanks," *Boston Globe,* February 3, 1919, microfilm, Reel 698, 071.4461 B657bod.

[32]"Public Is Blamed for Tank Disaster," *Boston Daily Globe,* February 8, 1919, microfilm, Reel 698, 071.4461 B657bod.

[33]Ibid.

[34]"No Bill Returned in Tank Disaster: Grand Jury is Unable to Fix Responsibility," *Boston Globe,* February 13, 1919, microfilm, Reel 698, 071.4461 B657bod.

[35]Puleo, *Dark Tide,* 164.

[36]Morgenroth, *Boston Firsts,* 37.

[37]Ogden, *Commonwealth of Massachusetts,* 16.

[38]Puleo, *Dark Tide,* 200-203.

[39]Ibid., 229-231.

[40]*Modern Marvels: Engineering Disaster 14*

[41]Ibid.

[42]Bulletin of the United States Bureau of Labor Statistics, *Inspection and safety in Massachusetts,* J.P. Meade, Vol 429 (Washington, D.C., 1927).

Bibliography

Primary Sources

"12 Killed When Tank of Molasses Explodes: Hugh [sic] Sheets of Steel, Hurled Through Air, Destroy Structures on Boston Waterfront.," *New York Times (1857-Current file)*, January 16, 1919. http://www.proquest.com (accessed October 29, 2009).

"Cause of Tank Disaster in Doubt: Some Say Collapse and Others An Explosion," *Boston Evening Globe*, January 16, 1919, microfilm, Reel 697, 071.4461 B657bod.

"Huge Molasses Tank Explodes In North End; 11 Dead, 50 Hurt: Giant Wave of 2,300,000 Gallons of Molasses, 50 Feet High, Sweeps Everything Before It—100 Men, Women, and Children Caught in Sticky Stream—Buildings, Vehicles and L Structure Crushed," *Boston Post*, January 16, 1919.

"Kick Against North End Big Gas Tanks," *Boston Globe*, February 3, 1919, microfilm, Reel 698, 071.4461 B657bod.

"No Bill Returned in Tank Disaster: Grand Jury is Unable to Fix Responsibility," *Boston Globe*, February 13, 1919, microfilm, Reel 698, 071.4461 B657bod.

Ogden, Hugh W., Dudley H. Dorr, and Stephen Puleo. *Commonwealth of Massachusetts Superior Court, Suffolk ss, no. ... : ... v. United States Industrial Alcohol Company or U.S. Industrial Alcohol Company : Auditor's report.* Boston, Massachusetts: Massachusetts Superior Court, 1920.

"Public Is Blamed for Tank Disaster," *Boston Daily Globe*, February 8, 1919, microfilm, Reel 698, 071.4461 B657bod.

Secondary Sources

Bulletin of the United States Bureau of Labor Statistics. *Inspection and safety in Massachusetts*, J.P. Meade, Vol 429. Washington, D.C.: Government Printing Office, 1927.

Lyons, Chuck. "A Sticky Tragedy." *History Today* 59, no. 1 (2009): 40-42. EBSCO*host* http://search.ebscohost.comproxy.iwu.edu/login.aspx?direct=true&db=ahl&AN=A8000 68196.01&site=ehost-live&scope=site (accessed October 29, 2009).

Modern Marvels: Engineering Disaster 14, DVD, Documentary. A&E Television Networks, 2004.

Morgenroth, Lynda. *Boston Firsts: 40 Feats of Innovation and Invention That Happened First in Boston and Helped Make America Great*. Boston, Massachusetts: Beacon Press, 2006.

Puleo, Stephen. *Dark Tide: The Great Boston Molasses Flood of 1919.* Boston, Massachusetts: Beacon Press, 2003.

Puleo, Steve. “Death by Molasses.” *America: History & Life* 35, no. 6 (2001): 60-64, 66. EBSCO*host* http://search.ebscohost.comproxy.iwu.edu/login.aspx?direct=true&db=ahl&AN=A000504280.01&site=ehost-live&scope=site (accessed October 29, 2009).