

## Primary Sources

“1. VIEW TO SOUTHWEST OF ALDEN STREET FACADE OF ORIGINAL BUILDING

(RIGHT) AND c1944-1950 POST-U.S. RADIUM ADDITION (LEFT) - United States Radium Corporation, Paint Application Building, 422 Alden Street, Orange, Essex County, NJ,” Library of Congress.

<http://www.loc.gov/pictures/resource/hhh.nj1644.photos.384841p/>. (accessed January 28, 2014)

This is a picture of the U.S. Radium factory from the southeast where clock dials would be painted with radium paint.

“7. DETAIL INTERIOR VIEW TO SOUTHWEST OF REAR ORIGINAL SECOND FLOOR, WITH PASSAGEWAY LEADING TO c1944-1950 POST-U.S. RADIUM ADDITION -

United States Radium Corporation, Paint Application Building, 422 Alden Street, Orange, Essex County, NJ,” Library of Congress.

<http://www.loc.gov/pictures/resource/hhh.nj1644.photos.384847p/> (accessed January 28, 2014).

This is a picture of the second floor interior of the U.S. Radium factory.

Bellows, Alan. “Undark and the Radium Girls,” Signs of the Times.

<http://www.sott.net/article/260209-Undark-and-the-Radium-Girls> (accessed January 24, 2014).

This article provided an excerpt from a report written about the radium factory written by Harvard physiology professor Cecil Drinker. It also had a picture of a U.S. Radium advertisement for Undark paint. There is also a picture of a severe case of “Radium Jaw” in 1924. The article also provided information on the U.S. Radium Corporation and the

actions they took to hide the dangers of radium from the public. Additionally, it gave insight on Grace Fryer, one of the Radium Girls who contracted diseases from the poor factory conditions.

Blum, Deborah. "The Radium Girls," Wired. <http://www.wired.com/wiredscience/2011/03/the-radium-girls/>. (accessed January 29, 2014).

This website contained a picture of an advertisement from a newspaper promoting a radium watch. It helped show how widely radium was used before it was general knowledge that the substance was dangerous.

Campbell, Colleen. "Florence Kelley's Crusade," <http://www.lib.niu.edu/1998/ihy980457.html> (accessed January 24, 2014).

This is a picture of Florence Kelley, President of the Consumers League. After the trial, Kelly led the investigation on other radium dial plants.

Curie, Marie. "Radium and the New Concepts in Chemistry." Lecture, Nobel Lecture. December 11, 1911.

This is a lecture Curie gave, talking about her discovery of radium. This was a good primary source as it goes in depth in the process she went through to make the scientific break through.

Curie, Sklodowska. "Radium and Radioactivity," AIP.

<http://www.aip.org/history/curie/article.htm> (accessed January 28, 2014).

This is an article from *Century Magazine* from January 1904. It provides a firsthand idea of how the Curie's discovered radium and how radioactivity was discovered. It does in depth about the process in which radium was discovered and isolated.

This is a lecture Marie Curie gave about discovering Radium as a new element.

Froman, Nanny. "Marie and Pierre Curie and the Discovery of Polonium and Radium,"

Nobelprize.org. [http://www.nobelprize.org/nobel\\_prizes/themes/physics/curie/](http://www.nobelprize.org/nobel_prizes/themes/physics/curie/)

(accessed January 29, 2014).

This is a picture of Pierre Curie, husband of Marie Curie and one of the people who helped discover radium.

Glassmire, Charles. "The Radium Trials," Tales from the Nuclear Age.

<http://talesfromthenuclearage.wordpress.com/2010/09/28/the-radium-trials/> (accessed January 21, 2014).

This website included excerpts from editorial written by Walter Lippmann regarding the Radium Girls trial. It also provided insight on the course of the trial and the outcomes of the lawsuit.

"Grace Fryer," Find a Grave.

<http://www.findagrave.com/cgibin/fg.cgi?page=gr&GRid=94090188> (accessed January 24, 2014)

This is a picture of Grace Fryer, one of the "Radium Girls," who sued U.S. Radium.

There is also an image of her grave stone.

Harnisch, Harry. "The Daily Mirror," Los Angeles Times.

<http://latimesblogs.latimes.com/thedailymirror/2009/04/page/19/> (accessed January 24, 2014)

This is a clip of a newspaper mentioning the death of Mrs. Edna Hussman, one of the five "Radium Girls."

"Hugh Smith Cumming (1869-1948)" Smithsonian Institution Archives.

[http://siarchives.si.edu/collections/siris\\_arc\\_296591](http://siarchives.si.edu/collections/siris_arc_296591) (accessed January 24, 2014).

This is a portrait of U.S. Surgeon General, Hugh Smith Cumming of the U.S Public Health Service.

“INTERIOR VIEW TO NORTHEAST - United States Radium Corporation, Radium Crystallization Laboratory, 428 Alden Street, Orange, Essex County, NJ,” Library of Congress. <http://www.loc.gov/pictures/item/nj1645.photos.384850p/resource/>. (accessed January 28, 2014).

This is a picture of the interior view to the northeast of the U.S. Radium factory.

“Katherine R. Shaub,” Find a Grave.

<http://www.findagrave.com/cgi-bin/fg.cgi?page=gr&GRid=88188588> (accessed January 24, 2014)

This is a portrait of Katherine R. Shaub, one of the radium girls.

Kovarik, Bill and Mark Neuzil. “Radium Girls,” Environmental history timeline.

<http://66.147.244.135/~enviror4/people/radiumgirls/> (accessed January 21, 2014).

This website provided pictures of Alice Hamilton, Walter Lippmann the radium factory in Orange, New Jersey. It also contained quotes from major historic players in the “Radium Girls” trial. The article also included many detailed facts about the girls, the Consumers League, the media coverage, and the trial.

“Marie Curie,” Nobel Prize. [http://www.nobelprize.org/educational/nobelprize\\_info/curie-edu.html](http://www.nobelprize.org/educational/nobelprize_info/curie-edu.html). This website provided a picture of Marie Curie. It also provided a picture of radium glowing green.

Mergel, Maria. “Radium Girls,” Toxipedia.

<http://www.toxipedia.org/display/toxipedia/radium+girls>. (accessed January 29, 2014).

This website provided a quote from the workers' bosses. It also had information on the historical impact the Radium Girls had.

"The Nobel Prize in Chemistry 1911," Nobelprize.org.

[http://www.nobelprize.org/nobel\\_prizes/chemistry/laureates/1911/](http://www.nobelprize.org/nobel_prizes/chemistry/laureates/1911/) (accessed January 28, 2014).

This is a portrait of Marie Curie.

"Photo Gallery," Nobel Prize.

[http://www.nobelprize.org/nobel\\_prizes/physics/laureates/1903/marie-curie-photo.html?print=1](http://www.nobelprize.org/nobel_prizes/physics/laureates/1903/marie-curie-photo.html?print=1). (accessed January 29, 2014).

This is a picture of Marie Curie and Pierre Curie in the "hangar" where they made their discovery.

"Public Employees Occupational Safety and Health Act." State of New Jersey Department of Labor and Workforce Development.

[http://lwd.dol.state.nj.us/labor/lssc/laws/peosha\\_law.html#12231](http://lwd.dol.state.nj.us/labor/lssc/laws/peosha_law.html#12231). (accessed April 14, 2014).

This act provided statutes and rules from the state of New Jersey regarding safety laws in the workplace. It included rules on safety standards and inspections which were incorporated into the website.

Quigly, Anne. "After Glow – 90 Years Ago Workers At The Waterbury Clock Company Began Dying after Painting Radium On Clock Dials," Waterbury Observer.

<http://www.waterburyobserver.org/node/586> (accessed January 24, 2014)

This is a picture of an advertisement for radium dial watches.

“U.S. Radium Then and Now, “ CarlWillis.wordpress.com.

<http://carlwillis.wordpress.com/2012/05/14/u-s-radium-then-and-now/> (accessed January 29, 2014)

This is a picture of the remains of the U.S. Radium factory.

“VIEW TO EAST OF CRYSTALLIZATION LABORATORY (CENTER LEFT FOREGROUND), PAINT APPLICATION BUILDING (CENTER BACKGROUND), AND c1944-1950 c1944-1950 POST-U.S. RADIUM ADDITION ADDITIONS TO EACH BUILDING (RIGHT FOREGROUND AND BACKGROUND) - United States Radium Corporation, 422-432 Alden Street, Orange, Essex County, NJ,” Library of Congress. <http://www.loc.gov/pictures/resource/hhh.nj1643.photos.384840p/>. (accessed January 28, 2014)

This is a picture of the U.S. Radium factory from the east.

“VIEW TO NORTHEAST OF c1944-1950 c1944-1950 POST-U.S. RADIUM ADDITION ADDITIONS TO PAINT APPLICATION BUILDING (RIGHT) AND CRYSTALLIZATION LABORATORY (LEFT) - United States Radium Corporation, 422-432 Alden Street, Orange, Essex County, NJ,” Library of Congress. <http://www.loc.gov/pictures/resource/hhh.nj1643.photos.384839p/> (accessed January 28, 2014).

This is a picture of the U.S Radium factory from the northeast.

## **Secondary Sources**

“88 – RA – Radium,” lispme.de. [http://www.lispme.de/pse/88\\_Ra\\_en.html](http://www.lispme.de/pse/88_Ra_en.html). (accessed January 29, 2014).

This website provided pictures of radium and a picture of radium glowing in the dark.

ACS. [https://www.store.acs.org/eweb/ACSTemplatePage.aspx?site=ACS\\_Store&WebCode=storeItemDetail&parentKey=864d1b67-5666-477b-ac95-bbf7cda42450](https://www.store.acs.org/eweb/ACSTemplatePage.aspx?site=ACS_Store&WebCode=storeItemDetail&parentKey=864d1b67-5666-477b-ac95-bbf7cda42450). (accessed January 29, 2014).

This is a picture of radium on the Periodic Table.

Clark, Claudia. *Radium girls, Women and Industrial Health Reform: 1910-1935*. University of North Carolina Press, 1997.

This is a book about the Radium Girls. It provided us with detailed information regarding the factory and its conditions. It also discussed the women and the effects of the radium poisoning that they experienced.

Crezo, Adrienne. "9 Ways People Used Radium Before We Understood the Risks," Mental\_floss. <http://mentalfloss.com/article/12732/9-ways-people-used-radium-we-understood-risks>. (accessed January 28, 2014).

This article provided insight on how people used the dangerous element, radium, when they were unaware of the dangers of it. It helped show how much radium was used in everyday products before the dangers of radioactivity was common knowledge.

"The Element Radium," Jefferson Lab. <http://education.jlab.org/itselemental/ele088.html>. (accessed January 29, 2014).

This website provided scientific information about radium. It also gave historical facts and its discovery in 1898 by Marie Curie and Pierre Curie.

Gershwin, George. *Rhapsody in Blue*. Paul Whiteman and his Concert Orchestra conducted by Paul Whiteman, recorded 1924.

This is a song composed during the same time period as the Radium Girls.

Lendman, Stephen. "Fukushima Meltdown Confirmed.," Cyrano's Journal Today.

<http://www.cjournal.info/2011/04/13/fukushima-meltdown-confirmed/> (accessed January 21, 2014).

This is a picture of a radioactivity sign, showing the dangers of it. It is used as a link in the website.

"Marie Curie. biography," Bio. <http://www.biography.com/people/marie-curie-9263538>. (accessed January 29, 2014).

This is a short documentary featured on the website about Marie Curie, one of the discoverers of radium. It discusses Marie Curie's life and her many accomplishments as a woman in science during the 1900s such as winning two Nobel Prizes in different categories.

Orci, Taylor. "How We Realized Putting Radium in Everything Was Not the Answer," The Atlantic. <http://www.theatlantic.com/health/archive/2013/03/how-we-realized-putting-radium-in-everything-was-not-the-answer/273780/> (accessed January 25, 2014).

This article provided us with information on how Radium was used before people realized the radioactivity was lethal. It also gave insight on the powers radium was believed to have. It also talked about the "Radium Girls" and the lawsuit against U.S Radium.

"Radium," Periodic Table. <http://www.rsc.org/periodic-table/element/88/radium>. (accessed January 28, 2014).

This website gave scientific background on radium. It helped give a better understanding of what radium actually is.



“Radium” Radiation Protection.

<http://www.epa.gov/radiation/radionuclides/radium.html#discovered> (accessed January 29, 2014).

This website provide information on the discovery of radium. It also talks about the effects of radium on the body and the health issues it could cause. It helped show some of the things the Radium Girls experienced.

“Radium Dial Painters – What Happened to Them?” Rerowland.com.

[http://www.rerowland.com/dial\\_painters.htm](http://www.rerowland.com/dial_painters.htm). (accessed January 29, 2014).

This article gave information on the element radium and its dangers. It also provided insight on what actually happened to the Radium Girls and how it could have been prevented.

“The Radium Girls,” esuhistoryprof.com. [http://www.esuhistoryprof.com/radium\\_girls.htm](http://www.esuhistoryprof.com/radium_girls.htm). (accessed January 29, 2014).

This website was used to gain an overall understanding of the situation. It also gave a detailed sequence of events.

“Radium (Ra)” EPSD.

[http://www.eastpennsd.org/teacherpages/dhertzog/\\_pending/Radium.html](http://www.eastpennsd.org/teacherpages/dhertzog/_pending/Radium.html). (accessed January 29, 2014).

This website provided a picture of a radium clock. It also gave information on radium’s dangers and information about its discovery by Marie Curie and her husband, Pierre Curie.

“Radium Sets First Safety Laws in the Workplace,” SeegerWeiss LLP.

<http://www.seegerweiss.com/law-practices/toxic-exposure/Indoor-Toxins/Radon-Exposure/Safety-Laws-in-the-Workplace/>

This website provided information on the impact the “Radium Girls” had on society. It talked about how the health issues the girls procured helped to create laws in the workplace that were instilled and still used today to prevent injuries and illnesses and ensure employees’ health.

*Timeline JS.* Timeline JS. <http://timeline.knightlab.com>

This is a website that provided the code to make an interactive timeline. It was used to summarize the events pertaining to the Radium Girls.