

Connecting Element Names with the Names of U.S. Towns

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Abstract: A survey of U.S. geographical locations reveals that many elements have been used to name towns. The origin and chemical significance of the naming is reported.

It is well-known that some U.S. towns have unusual names. Notables might include: Santa Claus, Ind., Rabbit Hash, Ky., Okay, Okla., George, Wash., and Sandwich, Ill. Chemical terms, too, are perhaps surprisingly well represented with many towns named after minerals, elements, or various chemical concepts. A few examples are shown in Table 1 (1).

Alloy, W. Va.	Crystal, N.D.	Ozone, Ark.
Acid, Mo.	Electron, Wash.	Potash, Ala.
Alkali, Nev.	Ether, N.C.	Phosphate, Tenn.
Alum, Tex.	Faraday, W. Va.	Pyrites, N.Y.
Calcite, Mich.	Gasoline, Tex.	Silica, Minn.
Cyanide, Mont.	Ion, Ia.	Sugar, Colo.
Carbonate, S.D.	Kelvin, N.D.	Water, Mo.
Graphite, N.Y.	Nitrate, Mont.	Zirconia, N.C.

Table 1. Some U.S. towns with chemical names

The names of common metals, such as silver, gold, and copper, have also been used in various forms to name hundreds of towns from coast to coast. Thousands more geographical locations (lakes, creeks, rivers, valleys, bays, etc.) include elements in their names (e.g. Iodine Creek, Idaho, Aluminum Pond, N.Y., Uranium Peak, Colo., Mercury Lake, Miss.). While many towns obviously derive their name from regional mineral or metal deposits, others have been named for non-mineralogical reasons.

We present here a list of U.S. towns having names based on the chemical elements (1-3). While the focus is on towns with single word element names such as Carbon and Gold, rather than Carbon Hill or Gold Valley, a few of the latter type have been included due to their interesting chemical or mineral history. Some of these towns are now deserted and no longer the thriving mining towns of yesteryear, but many can still be found on a U.S. road atlas although they may not be listed in the index. Information for some towns is scarce, but references to online sources have been provided where available.

Teachers may find the list below a convenient starting point for student projects to further investigate these and other similarly named areas in their region. Many other sources are available for students to research towns or other areas with chemical names. A quick scan of a standard U.S. road Atlas index (Rand McNally, 2005) revealed the towns of Saline, Mich., Nitro, W.Va., Limestone, Ala., Bauxite, Ark., Galena, Ill., and Gypsum, Kans. Local museums and historical societies, often accessible online, could provide additional information. The U.S. Board on Geographic Names site (1) has an extensive and searchable database for finding locations by name. For example, an online search produced some 2,000 locations with "gold" in their names. Interesting student projects might include locating towns (and other areas) in a school's county, state or region with chemical names, determining which names reflect local geological resources, describing the chemistry behind the mineralogical extraction and refinement, and to explain the economic and environmental impact on the town or region.

Antimony, Utah. Settled in 1873 by cattlemen, the town was first called Coyote. In 1880, the mineral stibnite (Sb_2S_3) was discovered and its antimony was used to make bullets and



Fig 1. Sign on mercantile building in Antimony, located about an hour from Bryce Canyon, Zions Canyon, the Grand Canyon, Capitol Reef, Arches, Monument Valley, Canyonlands, and Lake Powell (photo: Lynn Sessions)

arrowheads. Mines opened, and by 1916 more than 200 settlers discovered and its antimony was used to make bullets and arrowheads. Mines opened, and by 1916 more than 200 settlers were employed in mining and smelting operations. The name was changed to Antimony in 1920. Located in northern Garfield County, 40 miles north of Bryce Canyon, it was once the home of outlaw Butch Cassidy. Today, Antimony (Figure 1) is a quiet ranching and vacation community (4).

Arsenic Tubs, Arizona. Located on the San Carlos Apache Reservation in Graham County. Arsenic Tubs is named for the mineral hot springs containing “varying amounts of arsenic, barium, cadmium, fluoride, copper, iron, zinc, mercury and several other beneficial minerals” and the naturally occurring “tubs” in the local rocks (5).

Barium Springs, North Carolina. Located about 40 miles north of Charlotte, the first settlers to explore the area in 1775 discovered several mineral springs, the largest containing barium salts. At first it was known as Poison Springs, since cattle refused to drink the water. The water was first analyzed in the late 1890's and found to contain “17 Troy grains (~1.1 grams) per United States gallon of barium sulphate and chloride, phosphoric acid, and iron” and a company formed to market what was believed to be “healthy” water from the barium spring. The company called itself “The Great Human Repair Shop” and shipped its Barium Rock Water throughout America and across the Atlantic, and continued to do so until the end of World War I (6). The campus of the Barium Springs Children’s Home (Figure 2) encompasses almost all of the current town.



Fig 2. Sign for Barium Springs Children's Home which offers a safe and nurturing family life for children in need of care (photo: Nicole Miller)

Boron, California. The town of Boron (Figure 3) can be traced to the discovery of borax deposits in 1872 in California’s Death Valley. The Pacific Coast Borax company (renamed U. S. Borax) used teams of twenty mules to haul wagon loads of borax through the remote desert. The region supplies nearly half the world’s demand for refined borates. The name Boron was adopted in 1940. The 2000 movie Erin Brockovich was filmed in Boron (7).

Bromide, Oklahoma. A gathering place for early Native American tribes due to its “healing waters,” the area was discovered by Judge W. H. Jackson in the early 1900s and initially named after his daughter. Renamed Bromide (Figure 4) in 1906, it soon became a prosperous health resort. Bath-houses and swimming pools filled with mineral waters attracted tourists up until 1930 when the town de



Fig 3. Welcome sign to Boron (photo: Randy Smith, Boron Chamber of Commerce)

clined. Today, Bromide is home to about a hundred residents. The mineral springs are now closed to the public and are on private property (8).



Fig 4. New water tower in Bromide (photo: Wayne Mitchell)



Fig 5. Sign leading to Calcium (photo: Mark White)

Calcium, New York. A small, unincorporated hamlet in Jefferson County with a current population of around 3,000 (Figure 5). However the town was not always called Calcium

Formerly known as Sanford's Corner, residents' mail was often sent by mistake to Stanfordville, N.Y. In the early 1900s, Madison Cooper, apparently irked by many personal postal misdirections, petitioned successfully to change the town's name. Being involved in cold storage and refrigeration which, at the time, used calcium chloride, Cooper chose to rename the town Calcium not only to reflect the chemical used in his profession, but in hopes of solving his lost mail problem since no other U.S. town had that name (9).

Carbon, Wyoming. One of a dozen or so towns named Carbon which are located mostly in the coal-rich Midwest



Fig 6. Water tower in Carbon, Ill (photo: Theodore Gray)

U.S. Carbon, Wy., grew to a population of about 3,000 residents, with a state bank, newspaper and seven active mines (10). Today, little remains from this old mining town other than a cemetery and foundations. The town of Carbon, Tx., was first settled in 1881. It had a gin, a lumberyard, a school, a bank, several churches, a Masonic lodge, and 600 residents by 1904. The Carbon Herald was the local newspaper. A population of around 200 was reported in 2000 (11). Carbon, Ill., has a prominent pink water tower (Figure 6).

Chloride, Arizona. Located in the far northeast of the state within the Cerbat Mountain Range, it was named after the silver chloride found among the minerals in the region's hills (Figure 7). Mining began in the 1860s and at one point the town boasted over 75 mines. As of 2005, Chloride had about 150 residents. The Chloride Post Office has been in operation since 1893, making it the oldest continually operated post office in Arizona (12). There is also a Chloride, New Mexico, which is largely uninhabited (13).

Cobalt, Idaho. Named for the rich deposits of cobalt in the mountain region west of Salmon, 135 miles northeast of Boise, where a variety of metals were extracted. Mining began in the late 1890s and continued intermittently until



Fig 7. Remains of Chloride Cemetery (photo: Daniel Ter-Nedden)

1982. The primary cobalt ore was cobaltite (CoAsS) and the Blackbird cobalt and copper mine was located on one of the largest cobalt deposits in North America. Little of these communities remain now and several are ghost towns. In the 1990s government public health assessment of the area warned of heavy metal water contamination as a result of mining operations (14).

Copper, California. Sixty miles southeast of Sacramento lies the old copper mining town officially called Copperopolis. But it's known to the locals as simply "Copper." While searching for gold and silver in Calaveras Country in the 1860s, Hiram Hughes discovered a reddish colored ore known locally as "iron rust." After assaying, he found the mineral contained copper with a value of \$120 per ton. During the Civil War, the ore was taken to Stockton and shipped by river to San Francisco where it was loaded onto sailing ships and taken around Cape Horn to the smelters in Boston, New York, and Philadelphia. The copper was used to make bullets for the Union Army. Over 30 million kilograms of copper was mined between 1861 and 1946 (15).

Fluorine, Nevada. An old mining town in Nye County which had its own post office in 1908 (1).

Gold, Texas. Founded in 1869 by the families of two German brothers, Jacob and Peter Gold, who both died of cholera shortly after arriving in U.S. in the 1850s (16).

Gold Hill, Colorado. Rich in gold and tellurium, Gold Hill (Figure 8) boasted over 1,500 residents in the mid-1800s.



Today, several hundred residents live in the town that still has no traffic lights or paved streets (17).

Fig 8. Sign leading to Gold Hill (photo: Joe Smyth)

Iron, Minnesota. A town in northeastern St. Louis County in an area known as “The Iron Range,” and part of series of small iron mining towns of the past (Figure 9). Today, the low grade silicate iron ore taconite is mined in the region (18).



Fig 9. The Iron Post Office is one of the few remaining buildings with Iron on it (photo: James R. Fischer)

Krypton, Kentucky. A small village tucked away in mountainous Perry County, which possibly led to its name since krypton means “hidden.” No doubt Clark Kent would consider it an appropriate warning that only a few miles away lies the town of Hazard, Kentucky (19).

Lead, South Dakota. The town was officially founded in 1876 after the discovery of gold. It is the site of the Homestake Mine, the largest, deepest and most productive gold mine in the Western Hemisphere before closing in 2001. Locals actually pronounce the town as “leed” (20).

Leadville, Colorado. A silver mining boomtown (Figure 10). In 1874, gold miners observed that a heavy sand was slowing their attempts to recover the gold. The sand contained cerussite (PbCO_3) with a high silver content. Following the mineral to its source, the miners discovery of new



Fig 10. With an elevation of around 2 miles, Leadville is the highest city in the U.S. (photo: Josh Gray)

silver-lead deposits set off the Colorado Silver Boom in 1877. Since many other towns had “silver” in their names, Leadville was adopted. Within a few years, it became one of the world’s largest silver towns with a population of more

than 40,000 (21).

Lithium, Missouri. Named after lithium carbonate which was discovered in local spring water. Founded in 1882, this Perry County village has a total area of just 4983 m² (1.2 acres) making it the municipality with the smallest land area (Figure 11). There was no population remaining according to a 2000 census (22).



Fig 11. Sign pointing to Lithium (photo: Valerie Holifield)

Manganese, Minnesota. Old mining village in Crow Wing County, near the iron mines of the Cuyuna Iron Range (23).

Mercury, Nevada. From 1951- 1962, Mercury was a town in the Nevada atomic testing site where hundreds of test explosions were conducted. Anecdotal evidence suggests Mercury was named as a result of an unknown miner who worked in the Calico Hills mining mercury-bearing ore in the 1850s. The route he traveled was called Mercury Road and the surrounding area became known as Mercury (24). Originally created to house military personal, the population grew to the point where Mercury had its own post office, movie theater, and bowling alley. Demonstrators occasionally visited Mercury in the 1960s to protest war and nuclear



Fig 12. Women Strike for Peace march, July 15, 1962, Mercury (photo: Harvey Richards)

weapons (Figure 12). When the McDermitt mine in Humboldt County opened in 1975, Nevada became the nation's leading producer of mercury. Today, Mercury is home to military and government personnel.

Neon, Kentucky. Neon was originally established in 1913 as a trading center to serve the nearby coal towns. Though the origin of its naming is obscure, its Greek meaning ("new one") would certainly be appropriate for a new town. Neon merged with the town of Fleming in 1978 to form Fleming-Neon (Figure 13), located in northeast Letcher county, near the Virginia border (25).



Fig 13. Aside from the Elementary School, a bank and post office remain in Neon. (Photo courtesy of Fleming-Neon Elementary School).

Nickel, Texas. Located 12 miles northeast of Gonzales, Nickel - sometimes spelled Nickle - is a ghost town today, but still can be found on the most maps. The last population figures were from 1948 with 25 people listed on the census (26).

Platinum, Alaska. Located on the Bering Sea coast, the town was established shortly after traces of platinum were discovered by an Eskimo named Walter Smith in 1926 (Figure 14). Between 1927 and 1934, several small placer mines operated on creeks in the area. Some 85 kilograms of platinum were mined over that period, with a value of about \$1,700 per kilogram. A big strike occurred in 1936, which

brought a stampede of prospectors searching for "white gold." By 1975, over 15,000 kilograms of platinum had been mined at the site. Although mining ceased in 1990, it has been estimated that platinum reserves of another 15,000 kilograms remain. The population was 41 at the 2000 census (27).



Fig 14. The radio station in Platinum in the 1950s (photo: Anchorage Museum of History and Art)

Radium, Colorado. Radium is a small, rural community in southwest Colorado, a region where carnotite [$K_2(UO_2)_2(VO_4)_2 \cdot 3H_2O$] was mined in the early 20th century as a source of radium, a decay product of all uranium ores. Tennessee born Samuel Lind studied the extraction and refinement of radium from carnotite while working for the U.S.



Fig 15. Signpost to Radium, Minn. (Photo: Andy Filer)

Bureau of Mines in their Denver labs in the early 1900s. Lind, who was given a half gram of radium to study, was unaware of its danger at the time and regularly handled the material with his fingers. His skin was burned so badly that his fingerprints were removed, but he apparently suffered no long-term illness from the effects of handling the radium, and died from drowning at the age of 86 (28). Several other U.S. towns are also named Radium, although the origin of their names is less documented. In Radium, Kans., the Kansas Radon Program at Kansas State University took advantage of the unique name and began a state-wide campaign there to promote radon testing throughout the state in 2005. Almost all of the 26 tested structures in Radium (90% of the buildings) were involved, and levels of radon were found to be within the range expected for Stafford County, indicating a moderate risk of elevated radon levels (29). Radium, Minn., (Figure 15) remains a small community.

Radium Springs, Georgia. Known as the location of one of the "Seven Natural Wonders of Georgia," and home to the largest natural spring in the state. Some 265,000 liters per minute of Radium Springs' deep-blue waters empty into the Flint River. Originally called Skywater by the Creek Indians and later Blue Springs by early Albany residents, it became known as Radium Springs when developer Baron Collier tested the water and found traces of radium, thought to be a healing substance at that time. The water temperature is 20 °C year round (30).

Silver, South Carolina. The community was named for John S. Silver, a railroad investor (31). It is known for its abundance of Carolina Bays - mysterious elliptical ground depressions which are concentrated along the Atlantic seaboard - rather than any mineral connection (Figure 16). The town is little more than a crossroads today, with around 140 residents (32). The town's most famous resident was 1950s tennis champion, Althea Gibson (33).



Fig 16. Signpost to Silver (photo: Mary Blanding)

Sodium, Wyoming. Named after nearby Soda Lake. Sodium was an early railroad station near the town of Natrona, just west of Casper, in Natrona County. Natrona clearly derived its name from natron, the naturally occurring mixture of hydrated sodium carbonate, sodium bicarbonate along with small quantities of sodium chloride and sodium sulfate. Wyoming, however, is known as a commercial source of trona ($\text{Na}_3\text{HCO}_3\text{CO}_3 \cdot 2\text{H}_2\text{O}$) which was discovered near the Green River in 1938, and has the largest deposit in the world (34).

Sulphur, Louisiana. In 1867, geologist Eugene W. Hilgard surveyed the state's oil and mineral resources and found high levels of sulfur from soil borings west of Lake Charles next to the Texas border. Three years later, the Calcasieu Sulphur Mining Company was formed. In addition to the discovery of sulfur deposits, the construction of the Louisiana Western Railroad in the 1870s led to the creation of the city of Sulphur (Figure 17). Digging shafts to the sulfur buried beneath



Fig 17. An appropriate yellow sign for the Sulphur High School band (photo: Michael Hunter)

several hundred feet of “muck and treacherous quicksand filled with hydrogen sulfide” proved difficult and dangerous throughout the 1870s and 1880s, and many miners were killed. After German chemist Hermann Frasch revolutionized the sulfur mining process in 1894, the valuable resource

was safely extracted by pumping superheated water down into the sulfur, melting it and pumping it to the surface (35).

Telluride, Colorado. In 1875, prospector John Fallon registered the Sheridan Mine with the Silverton County Clerk, a claim that proved to be rich in zinc, lead, copper, iron, silver and gold. The town of Columbia was established in 1880. But because of possible confusion with another mining camp, Columbia, Calif., the name was changed to Telluride (Figure 18). This name was probably derived from tellurium,



Fig 18. The Telluride Film Festival, first held in 1974, is held over the Labor Day weekend each year. (Photo courtesy of Telluride Film Festival)

which is often associated with rich mineral deposits of gold and some silver, although the element was never actually found in the Telluride mountains. Another more colorful theory suggests that the town was named for the famous send-off “To-hell-u-ride!” given to hopeful prospectors heading out to seek their fortune (36).

Tellurium, Colorado. The mining town of Tellurium was started in the mid-1870s but was a ghost town by 1880. During its heyday, an expensive mill was built and an elaborate town site was laid out. There is not much left today aside from a few crumbling cabins (37).

Tungsten, Nevada. Small mining town in the Humboldt River Basin the northern part of the state, which was rich in tungsten (38). While searching for silver ore in 1914, Emil Stank discovered scheelite (CaWO_4) in the brownish-white sands. During World War I, tungsten became a sought after metal and in 1917 Stank began mining operations. By 1958, when the mining operations closed, the town had produced over 3 million tons of ore. At its peak, Tungsten was the second largest town in Pershing County with a post office, elementary school, community hall, and library (39).

Vanadium, New Mexico. A small mining town in southwest Grant County, in the foothills of the Pinos Altos Mountains. Silver, lead, copper, and zinc were mined there. Named after the mineral vanadinite, $\text{Pb}_5(\text{VO}_4)_3\text{Cl}$, found in the region (40). According to some sources (e.g. 41) Marie and Pierre Curie visited the region in the 1880s to buy tailings from the Vanadium mill site west of Telluride along the banks of the San Miguel River. The Curies were supposedly

offered fresh samples and discovered radium in the ore. This popular story, and various versions, can also be found on many web sites but are false. Marie did not meet Pierre until 1894 and the two were married the following year. Her first trip outside Poland was to Paris for her studies in 1891 while her first of two trips to the U.S. was in 1921 (42) when President Harding, on behalf of the women of America, presented her with one gram of radium in recognition of her service to science (43).

Zinc, Arkansas. Located near the eastern border of Boone County, the area prospered from the late 1800s until approximately the early 1920s due to the presence of significant mineral deposits. The principal ore was silicate of zinc. Supposedly, the area produced the best grade of slab zinc that could be smelted from virgin ore (44). According to the 2000 census, the town's population was 76.

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