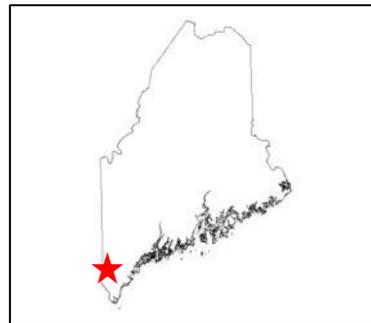


Geologic Site of the Month
December, 2001

Thar's Silver in Them Thar Hills
Maine's Silver Rush - 1878 to 1882



43° 27' 35.29" N, 70° 50' 28.52" W

Text by
Woodrow B. Thompson
Maine Geological Survey



Introduction

Maine's mining history spans an interval from pre-Civil War time to the present. Beginning in 1836, C.T. Jackson, Maine's first state geologist, was contracted by the state of Maine to perform a mineral resources survey of the state (Hineline, 1988). In his third and final annual report, Jackson concluded that Maine had a wealth of mineral resources and could become self-sufficient in the production of peat, lime, roofing slate, granite, and certain metals. When Jackson's final report was written in 1839, mining on a small scale was already established. Granite was the primary resource produced during this period.

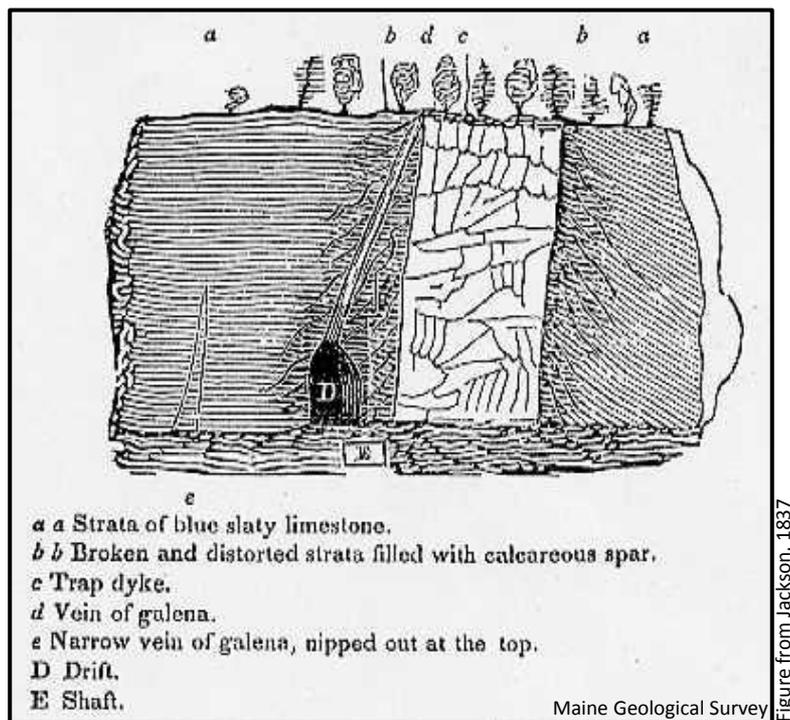


Figure from Jackson, 1837

Figure 1. Lubec lead mine.



Maine Mining History

The reason for granite's prominence was that most of the quarries were located near the coast, readily accessible by navigable rivers, bays, and inlets, which kept the cost of shipping the granite along the Atlantic Coast less than that of other building stones. Other non-metallic resources mined in Maine through the mid-1800's were limestone from the Thomaston area; slate, north of Bangor; and feldspar in the Topsham area. The limestone was used both for agriculture and the manufacture of wall plaster. The slate was used for roofing tiles, and the feldspar was used as an ingredient in china and other ceramic materials. Metal mines operating at this time were few. The most prominent of these were: the Newfield Iron Works, which produced bog iron; lead mines near Lubec, (Figure 1; Figure 2); and iron ore at the Katahdin Iron Works.

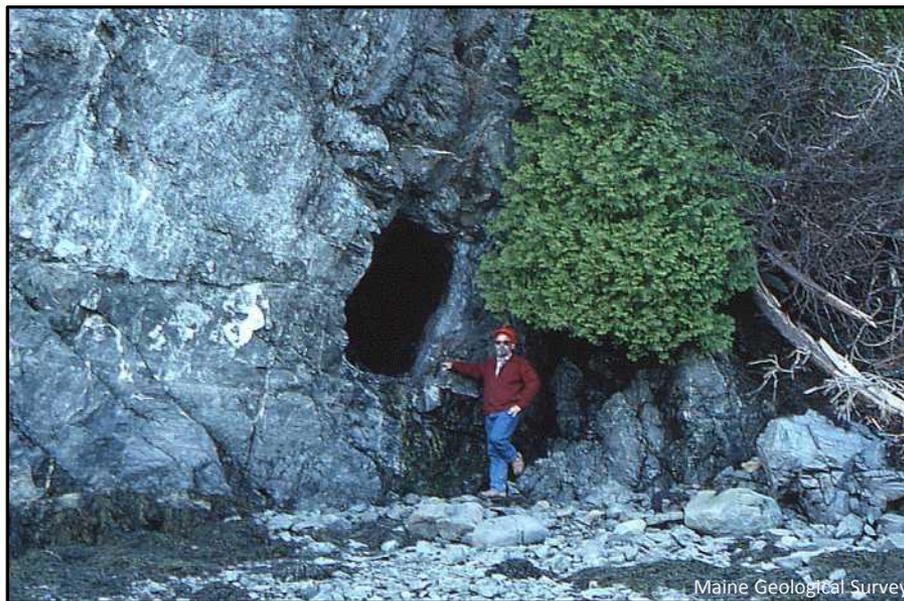


Figure 2. Lubec lead mine today.



Boom Time

We have all heard and read about the California Gold Rush of 1848, where thousands of would be "miners" packed up and headed west to find their fortunes. A few found riches, but the majority barely eked out a living and headed back east with empty pockets and shattered dreams. Some believe it was these people (Perkins, 1941) who started Maine's own "Rush," albeit for silver and at a much smaller scale than the western "Gold Rush." The "miners" returning from the West found a similarity between the metal-bearing rocks of Maine and the ore deposits of the western states. This gave them renewed hope that they still might find the "mother lode" in Maine. So they began their exploration.

The first "discovery" of silver [ore](#) occurred at Sullivan, Maine in 1877 (King, 2000a). The primary silver-bearing ore which occurs in Maine is [galena](#) (Figure 3). Overall the galena ores in Maine were not particularly rich. That is they had a low percentage of silver relative to the total volume of waste rock, or [gangue](#).



Boom Time

A high concentration, or "rich," ore would be one where the percentage of silver in the rock would be around 5% by weight or 1500 ounces of silver per ton (2000 pounds) of galena. An [assay](#) is done on a representative sample from the mine to deduce these values.



Figure 3. Galena and sphalerite, Lubec lead mine, Lubec, Maine.

Boom Time

These values are presented to potential investors to sell stock (Figure 4) and raise capital for the mining venture. So you can see that a high value would bring in investors and money, and a mediocre number would mean no money. So speculation and false assay claims became the norm. When the owners/miners blasted into an [orebody](#), they would find a sample which appeared to have the most galena, and therefore a higher concentration of silver. Then they would get this sample assayed and present these erroneously high silver concentration values to their potential investors as being representative of the whole orebody - which was not the case.

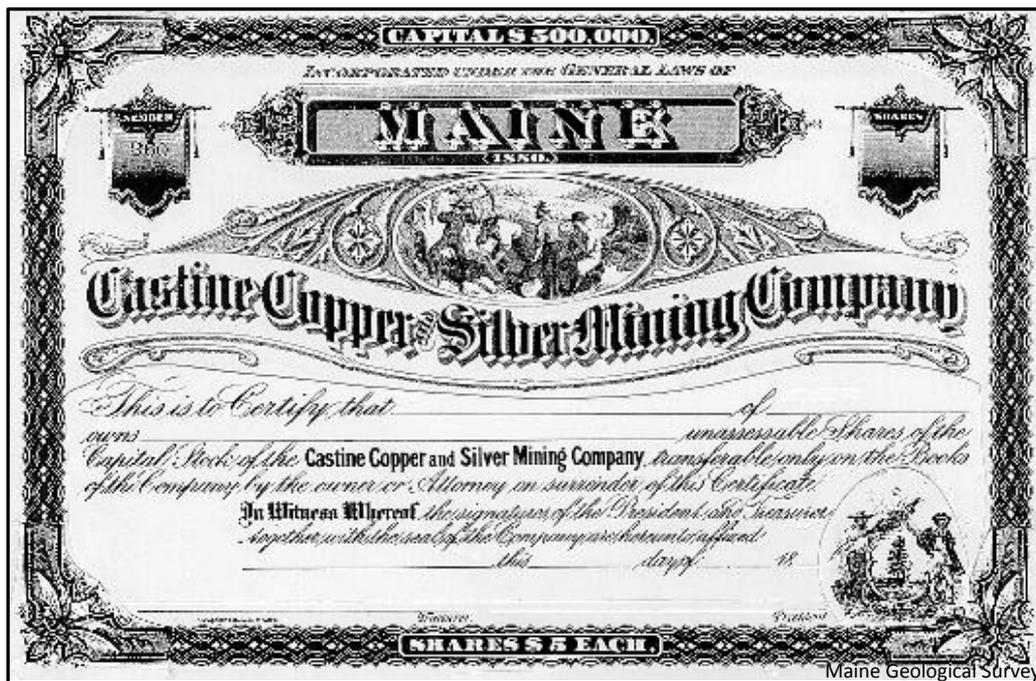


Figure from Maine Geological Survey

Figure 4. Stock certificate from the Castine Copper and Silver Mining Company.

Boom Time

These exaggerated claims thus led to the Maine "Silver Rush," that lasted from 1878 to 1882. Another item that helped fuel this "Rush" was the publication of the weekly Maine Mining Journal, first issued on January 2, 1880 in Bangor, Maine (King, 2000a) (Figure 5). Most articles were pro-mining and tended to exaggerate the potential of the prospects, although there were also many informative articles concerning the day to day operations of the Maine mines.

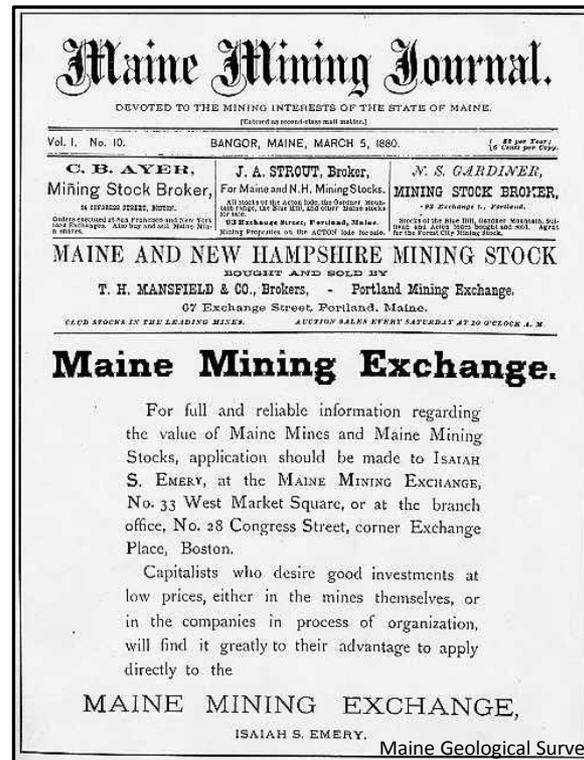


Figure 5. Front page of the *Maine Mining Journal*.



Mining Operations in 1880

The following is a very brief synopsis of some of the steps taken to get a mine operational in 1880. Once geologists explored the state and discovered potential [veins](#) of ore, mining operations could then commence. First of all, vertical shafts were sunk along these veins. This was accomplished by drilling holes into the rock and then setting off an explosive charge. Both hand rock drills (Figure 6) and steam drills were used in drilling the holes for the explosives. The explosives used were undergoing a change during this period.

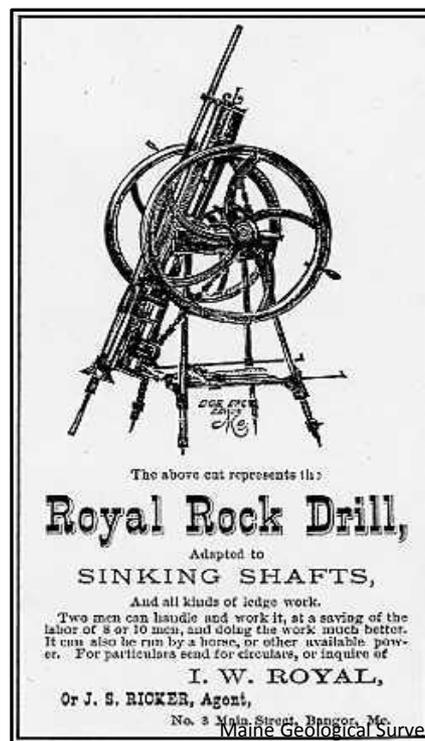


Figure 6. Advertisement from the *Maine Mining Journal* (December 9, 1881).



Mining Operations in 1880

For many years black powder, like that used in cannons, was used to set off the charge, but black powder was hard to store, especially in the ever-changing climate of Maine. A "new" explosive became available - nitroglycerine, which was less expensive, easier and safer to store, and the blast it created could be better controlled (Figure 7). Once the blasts occurred, the miners would then manually clear out the waste rock and continue blasting until they reached the vein they wanted to mine. They would sink this vertical shaft to the desired depth, and then begin excavating horizontal shafts, or [drifts](#), directly into and along the vein. They would then follow the vein as best they could by this method, until the vein petered out.

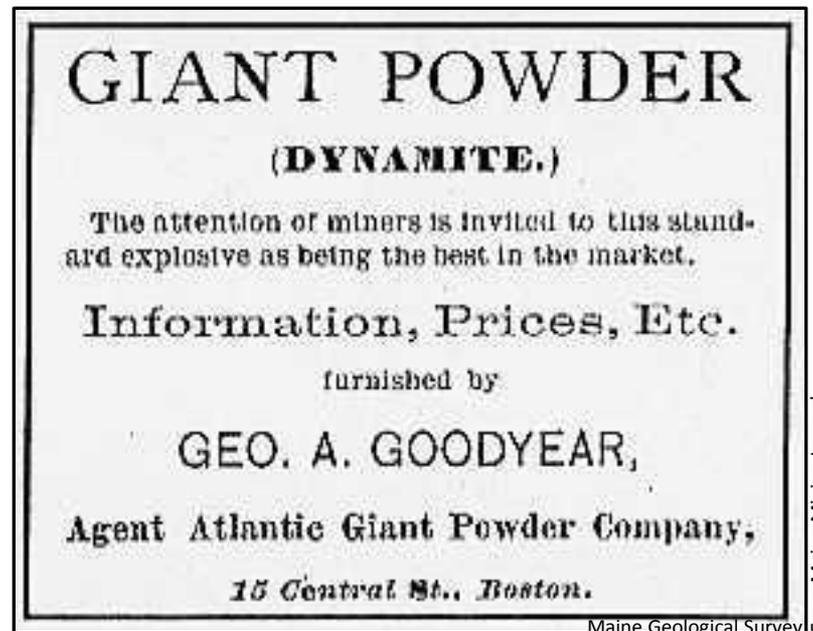


Figure 7. Advertisement from the *Maine Mining Journal* (June 4, 1880).

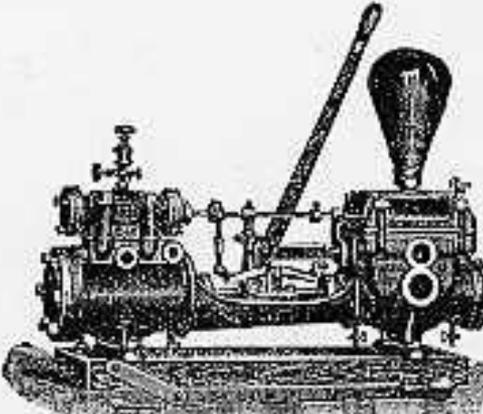


Mining Operations in 1880

A problem in Maine was once the shafts were drilled down, water began to seep into the shafts. To alleviate this problem, steam water pumps were used to pump out the water (Figure 8). Due to mishandling of explosives, potential cave-ins, poor air quality, and extreme weather conditions in the winter, digging these shafts was a dangerous business. They did it anyway, in the hope of future riches.

KNOWLES' PATENT STEAM PUMPS.

THE STANDARD.



Boiler-Feed Pump. (No. 3.)

We would respectfully call the attention of miners and others to the Pumps made by us for draining shafts of any depth; also for working in any position where the work is hard or continuous and the water impure or gritty.

We make a specialty of Pumps for such work, either vertical or horizontal, piston, plunger or Cornish patterns.

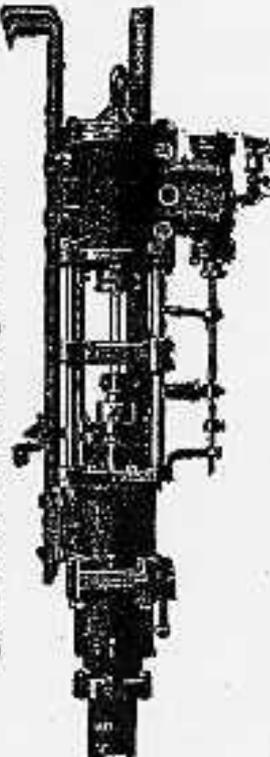
Also, Steam Pumps for all other purposes known to the trade.

ADDRESS,

KNOWLES STEAM PUMP WORKS,
44 Washington Street,
BOSTON.

88 Liberty Street
NEW YORK.

SEND FOR ILLUSTRATED CATALOGUE;



Vertical Sinking Pump.

Maine Geological Survey

From Maine Mining Journal

Figure 8. Advertisement from the *Maine Mining Journal* (June 4, 1880).



Acton Silver Mines

An excellent blueprint of what took place in Maine during this silver boom and bust is exemplified by the Acton Silver Mines, in Acton, Maine. What transpired at Acton was reproduced at hundreds of other potential mine sites in Maine. The Acton lode was discovered in 1878 by a Mr. Wiggins of Farmington, New Hampshire (King, 2000b). There were a total of 12 mines in operation during the peak of the boom between 1878 and 1892. Some of these mines were: Acton (later called Acton Consolidated), Boston Acton, El Dorado, and Portland Acton (Figure 9). Lebanon, the next town south, had 3 active mines along the same vein.

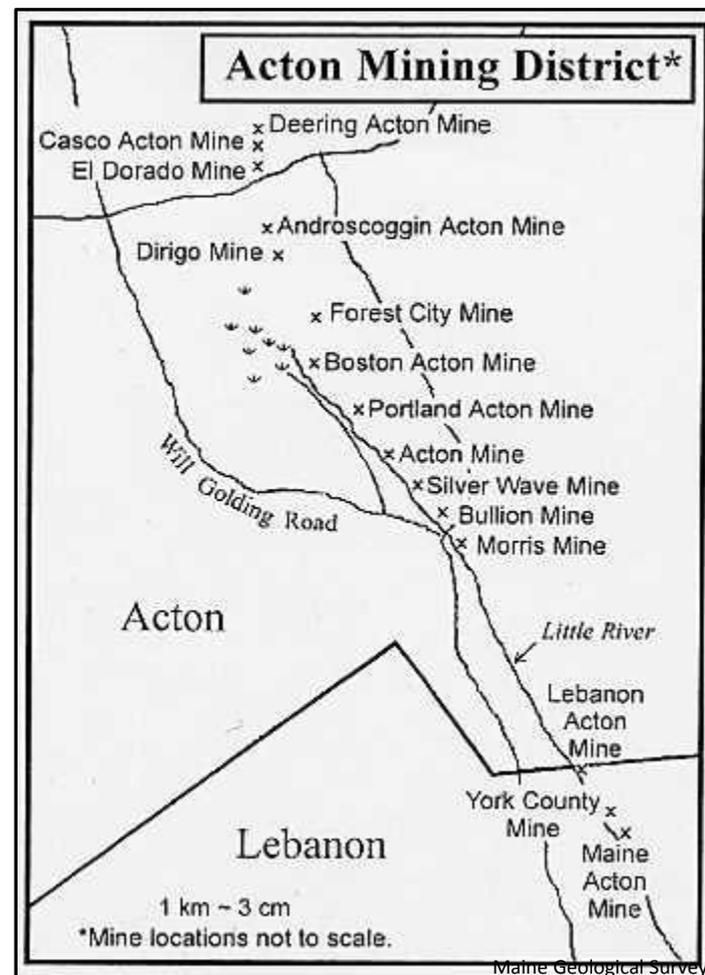


Figure 9. Map of the Acton Mining District.



Acton Silver Mines

In 1880, it was estimated that there were 550 men working in the Acton mining district (King, 2000b). If this was truly the case you would have more than 36 people per mine, many more than were needed or who could actually be working the prospect. A more realistic number would have about 200 men working along the [lodes](#) each day.

The Acton district never made the same inflated claims on their assays as those of other mines in Maine. So the reports and historic data of these mines is more realistic in nature and gives a more accurate assessment of the operation.

As you can see from the map (Figure 9), the mines were crowded upon one another. Each mine was on a lot 600 by 600 feet, and operations at one mine would interfere with those of an adjoining operation. Also many of these mines, being speculative in nature, were sunk into veins of unknown value, an important fact that finally led to the demise of the silver boom. As with most mines, there was a frantic early push of activity to demonstrate to stock holders that "something" was being done and the mine was a good investment. They would do this by getting the shafts drilled as quickly as possible, even into veins of unknown quality. Whereas mines far away out west could report progress to their investors in the East on an irregular basis, the Acton mines didn't have this luxury, because investors from Portland could actually visit the site, conveniently done round-trip on horseback in a day (King, 2000b). As stated, it didn't always matter if ore was discovered immediately, so long as there was activity.



Acton Silver Mines

As time went on, a group of mine owners from the Acton, Boston Acton, Forest City, and Portland-Acton mining companies realized that they weren't making any money and that they were duplicating many activities. They figured that if they consolidated their companies, they would be able to cut costs and make the mines a more viable investment opportunity. So in April, 1880 they merged their companies into the Acton Consolidated Mine (King, 2000b). Most of the reports from the Maine Mining Journal for the remainder of 1880 showed that the mines were "progressing" and they had "great confidence" in future development. But in early October, 1880, a report came out saying all activity in the Acton Mining District had stopped, except for the Acton Consolidated. But only two weeks later a report came out stating that the Acton Consolidated mine had suspended operations due to "lack of necessary funds to prosecute further the work of development." What occurred was that some stockholders, realizing that the operation would not become economically viable, unloaded their stock and took the money, leaving inadequate funds to continue operations. Many attempts at reorganization occurred over the next year, and in January, 1882 the Acton Consolidated was dissolved. The Acton Mining District was never again operational.



Acton Silver Mines

The rise and subsequent failure of the Acton Mining District from 1878 to 1882, was played out at mines all over Maine. As stated above, several factors led to the demise of this mining "boom." Of course the bottom line for all of these ventures was economics, and whether the mines could produce enough silver to turn a profit. And in the end, they couldn't. All of these mines were wildcat and speculative in nature, though they knew from initial exploration and assays that at the very least, these mining sites had the potential for profitability. As they began operations, they saw that the ore bodies were not as rich as originally thought. Then in order to keep money coming in, some owners presented assay data from high-graded samples, which showed erroneously high values, not representative of the actual orebody. Many of the glowing newspaper reports in the Maine Mining Journal in those days reported that the ore veins were "widening with depth." This was said so often that it was practically regarded as a geologically rational state of affairs! Also, the Maine mines had no nearby smelting and refining works available, which would have added tremendous transportation expense to the venture. This, along with the low quality of the orebodies and the lack of return of the investors money, sealed the fate of the "Silver Boom."



Definitions

Assay - A chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.

Drift - A horizontal underground opening that follows along the length of a vein or rock formation as opposed to a crosscut which crosses the rock formation.

Galena - A sulphide mineral of lead: PbS . It is one of the most important sources of silver.

Gangue - The worthless minerals in an ore deposit.

Lode - A mineral deposit in solid rock.

Ore - The naturally occurring material from which minerals of economic value can be extracted.

Orebody - A natural concentration of valuable material that can be extracted and sold at a profit.

Vein - A fissure, fault, crack in a rock filled by minerals that have migrated upwards from some deep source.



References and Additional Information

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