Mineral Resources in the American Civil War

USGS
science for a changing world

Virginia Department of Mines, Minerals and Energy
For each state or territory

- Write-ups for individual strategic resources
- Map
- Photos/Illustrations
Strategic Mineral Resources of Virginia During the American Civil War

Iron
Iron ore and pig iron from the Chilhowie area were sent down the James River to the Tredegar Iron Works in Richmond, the South’s principal manufacturer of arms and rails.

Coal
Semitropical coal from the Valley of Virginia likely provided fuel for the Confederacy’s first ironclad warship. Bituminous coal from Midlothian stoked the iron furnaces of Tredegar.

Niter
The caves of western Virginia supplied niter for manufacturing gunpowder.

Salt
The brines at Saltville furnished salt for preserving foodstuffs and tanning leather.

Lead
Lead from Austinville and Fisher provided bullets for the Confederate army.
For each mineral resource

- Assemble data
- Create narrative
  - Importance of the resource
  - Geologic origin
  - Mining history/Production figures
  - Resource usage during the war
  - Post-war legacy
Strategic materials

- Iron
- Coal
- Lead
- Niter
- Copper
- Salt
Salt

- Necessary for preserving meat
- Imports: 12,000,000 bushels annually
- Domestic Sources: Saline springs, seawater
  - Kanawha
  - Goose Creek
  - Louisiana
  - Atlantic Coast/Gulf Coast
  - Saltville
Salt

Price per bushel
- 80¢ in 1861
- $3.75 in 1862
- $30.00 in 1863
Iron

- Sidearms
- Tools
- Artillery
- Railroads
- Ships
U. S. Ketchum 3 lb. Hand Grenade

William F. Ketchum of Buffalo, New York patented the Ketchum hand grenade on August 20, 1861. They were made in 1, 2, 3 and 5 pound sizes. When thrown, the fin kept the grenade pointed down so that the plunger would strike the ground. Upon impact, the plunger would hit a percussion cap causing a spark to explode the powder chamber. The United States purchased over 90,000 Ketchum hand grenades, which were used primarily in siege operations from Vicksburg, Mississippi to Petersburg, Virginia.
Tools
WANTED!

HORSES AND MULES
FOR THE UNITED STATES SERVICE.

Any person having horses and mules to sell will find a market by calling at
on the day of 1862.

J. H. Aurentz & Co.
Artillery
Steam Engines
Railroads
Maj. & Q. M.

No. 4 in Case C(1)

No. 143. POST QUARTERMASTER'S OFFICE,

ABINGDON, VA., March 29, 1865.

Supt. of RICHMOND & DANVILLE RAILROAD will
furnish transportation for (1) one
Seat,
from BURKESVILLE to RICHMOND:

E. C. D.

Maj. & Q. M.
Steam Engines

Ships
Ironclad Warships
Photo # NH 56663  Ironclads off Cairo, Illinois, 1863
Photo # NH 61902   USS Atlanta on the James River, Virginia, 1864-65
Iron Manufacturing
American Iron Furnaces in 1840

- Pennsylvania 213
- New York 186
- Ohio 72
- Massachusetts 48
- Virginia 42
Strategic Mineral Resources of
Virginia
During the American Civil War

Iron
Iron ore and pig iron from the
Clifton Forge area were sent
down the James River to the
Tradesman Iron Works in Richmond,
the South’s principal manufacturer
of arms and rails.

Coal
Seminanthrotic coal from the Valley
of Virginia likely provided fuel for the
Confederacy’s first ironclad warship.
Bituminous coal from Midlothian
stoked the iron furnaces of Tradesman.

Niter
The caves of western Virginia supplied
niter for manufacturing gunpowder.

Salt
The brines at Saltville furnished salt for
preserving foodstuffs and tanning leather.

Lead
Lead from Austinville and Paler provided
bullets for the Confederate army.
High density and low melting point make lead ideal for bullets

150,000,000 bullets used by the Confederacy

Wythe/Austinville mines produced 3,300,000 pounds of lead during the war
SHOT FACTORY.
Moses Austin, & Co.

Respectfully inform the Public, That in consequence of receiving their Lead now by water from Lynchburg, they are enabled to lower the price of their Lead and Shot—They have now upon hand, a large assortment of sheet and bar Lead, and Shot of all sizes, which they will sell at 41s. per cwt. (of 112 lbs.) or 40l. per ton for ready money.

WANTED, a likely active BOY from 14 to 16 years of age, for which a reasonable price will be given in cash, by applying to Mr. Collins at the above Factory.

Richmond, August 30, 1791.
NEW RIFLE-MUSKET BALL. Caliber .58

Weight, Ball 500 grains.
Weight, Powder 60 grains.
Copper

- High conductivity makes copper ideal for telegraph wire
- 20,389 miles of wire strung during the war
American Telegraph Company.

Terms and conditions on which messages are received by this Company for transmission.

The parties are advised that, in order to guard against collision in the transmission of messages, every message of importance ought to be repeated by being sent back from the station at which it is to be received to the station from which it is originally sent. Half the usual price for transmission will be charged for repeating the message, and while this Company will not be responsible for errors of any description, it will not be responsible for mistakes or delays in the transmission or delivery of repeated messages beyond five hundred times that amount after sending the message, nor will it be responsible for accidents or delays in the transmission of important messages from whatever cause they may arise, nor for the delays arising from interruptions in the working of its telegraphs, but for any mistake or omission of any other Company over whose lines a message is to be sent or for the place of destination. All messages will hereafter be received by this Company for transmission subject to the above conditions.

J. Kendall, Agent.
345 Broadway, N.Y.

Received at Raleigh, April 15th, 1861, 1.30 P.M.

By telegraph from Washington to T. W. Ellis

War Department, April 15th.

Call made on you to-night to mail for two (2) regiments of military for immediate service.

Simon Cameron

Secretary of War.
The Soldiers' Bullet Proof Vest

Has been repeatedly and thoroughly tested with Pistol Bullets at 10 paces, Rifle Bullets at 40 rods, by many Army Officers, and is approved and worn by them.

It is simple, light, and is a true economy of life — it will save thousands. It will also double the value and power of the soldier; and every man in an army is entitled to its protection. Nos. 1, 2, and 3 express the sizes of men, and No. 2 fits nearly all.

Price for Privates' Vest, $5. Officers' Vest, $7. They will be sent to any address, wholesale or retail.

Sold by MESSRS. ELLIOTT, No. 231 Broadway, New York, and by all Military Stores. Agents wanted.
Submarines
Iron coffins
Rebel Torpedo Boat.
Taken from the bottom of the New Basin, N.O.

A - Apparatus for working Propeller.
B - Entering Port.
C - Pilot House.
D - Cradle for Torpedo.
E - Fastening for Browline.
F - Bulkhead with opening in centre.
G - Shaft of Propeller.

Steering Apparatus.