

MINERAL EXTRACTION: GOLD!

The mineral deposits along the southeast front of the Appalachian Mountains is called the Southern Appalachian gold district. It was formed when molten rock intruded out of a north-south fault, extending from what is now Maryland to Alabama, and spread to the east. The iron oxides later dug into by Spotswood's miners, cooled on the leading edge of this eruption. Other minerals moved more slowly and eventually cooled in a narrow strip that in geologic parlance has come to be called the gold-pyrite belt.

Iron came out of area mines during much of the eighteenth century, but this activity faded by the 1790s. When mining recommenced during the nineteenth century, the new activity centered around gold. The first recorded gold mine in Virginia is considered to be Spotsylvania's Whitehall Mine, operating as early as 1806. The first persons to find gold, however, were probably the farmers working in the lowlands near creeks and streams. Soil formed over millions of years included some of the gold released when the quartz in which it was embedded broke down. After a heavy rain, these gold particles become visible, and their discovery led to a local gold rush of sorts.

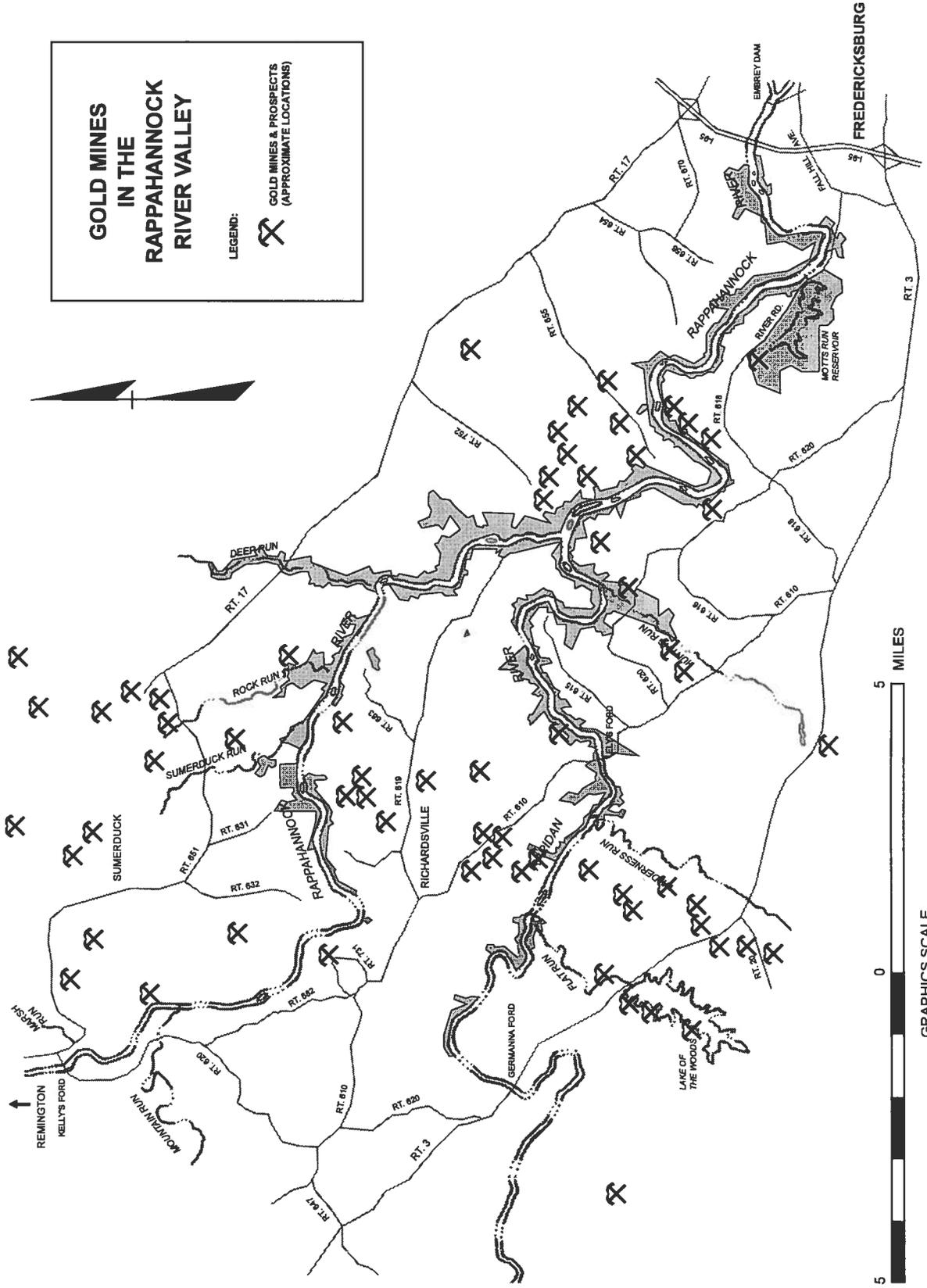
Panning along a creekbed, or placer mining, was the most readily accomplished extraction method, especially by individuals. Rocker boxes were constructed to help separate the gold particles from sand quartz, but placer mining is an extremely crude operation. Deposits washed once will often yield additional gold if washed again. A more ambitious extraction effort entailed use of picks and shovels to follow the quartz veins up the hillsides. The mined quartz could then be crushed to a powdery consistency and treated with mercury (called quicksilver) to extract the gold through amalgamation. Crushing stones required additional machinery, though, such as stamp mills (a pile driving arrangement) for larger rocks and what was called a Chilean mill (mill stone arrangement) for smaller ones. These machines could be steam driven, water powered, or even horsepowered if the mine operation was a poor one.

Sinking shafts into the bedrock was an evolution that required a considerable capital investment for equipment and workers. The United States Mine in Spotsylvania County, for example, was owned and operated by the well-financed United States Mining Company. This operation commenced as early as 1835 and included multiple shafts (the Virginia Division of Mineral Resources eventually located 15 caved-in pits). Other features included a mill (erected in 1865), various types of equipment to crush the quartz and separate the gold, and pumps to keep water out of the shafts.

Despite the intense work required, gold extraction proved to be profitable in Virginia and annual production between 1840 and 1849 averaged 3,000 troy ounces. The following map shows the approximate locations of gold mines in the Rappahannock

**GOLD MINES
IN THE
RAPPAHANNOCK
RIVER VALLEY**

LEGEND:
 **GOLD MINES & PROSPECTS
(APPROXIMATE LOCATIONS)**



GRAPHICS SCALE

valley. The pattern also reveals the north-south orientation of the gold pyrite deposits. Local newspaper accounts sometimes refer to the thousands of prospectors and miners in the area, but these legions quickly disappeared after the California strikes in 1849. Virginia mining declined as the experienced miners headed west where gold was more plentiful and more readily extracted from the earth. In 1849, U.S. mints received \$129,382 in Virginia gold. In comparison, the mints received \$5.5 million in gold from California. During the decade 1850-1859, gold production in Virginia declined to an annual average of 1,700 troy ounces.

In time, some of the Virginians who participated in the California gold rush drifted back home. Virginia gold mining also increased slightly toward the end of the 1850s as interest in Piedmont gold was renewed by the vast quantities of gold coming out of the West. The Civil War interrupted further efforts, however, and post-war production remained low from a scarcity of capital as well as a dearth of trained miners. Mining in various parts of the West maintained a strong pull and was usually more productive than extracting gold from Virginia quartz. In addition to having to mine and crush quartz, the sulfurous deposits of the gold-pyrite belt often precluded entrapment of the gold by mercury. Production reached a consistent level from 1870 to 1910 but never attained pre-war levels.

Still, gold extraction continued locally after World War One. Work proceeded at the United States Mine in Spotsylvania County, for instance, and at several mines in Orange County. Placer mining also remained attractive in areas such as the confluence of Wilderness Run and the Rapidan River. While some private individuals still tramp area streams in search of this noble metal, no commercial production has been reported in Virginia since 1947.

Today, the result of this gold mining activity is seen in trenches that extend up hillsides, from the stream bottoms to the upland plateau, evidence of the quartz veins that miners followed in search of the mother lode. On the hilltops can be found the open pits and piles of debris, while flattened areas adjacent to streams suggest where the mills were located to operate the required machinery. The Virginia Division of Mineral Resources has located and mapped many mines, but there is physical evidence of much more activity in the Rappahannock valley related to the long ago search for gold.

Selected Bibliography

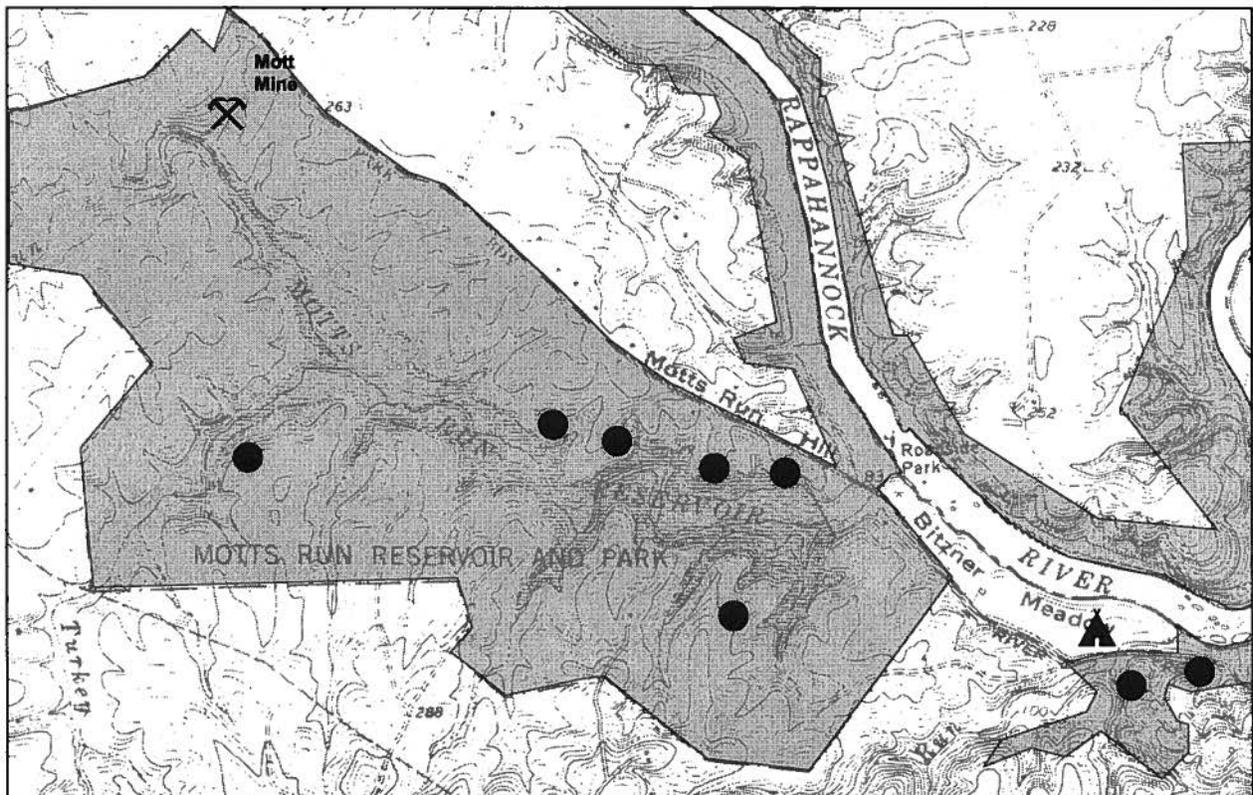
- ▶ Sweet, Palmer C. *Gold in Virginia*. Charlottesville: Virginia Division of Mineral Resources, Publication 9, 1980.
- ▶ Sweet, Palmer C. and David Trimble. *Virginia Gold - Resource Data*. Charlottesville: Virginia Division of Mineral Resources, Publication 45, 1983.



The tell-tale signs of gold mining in the Rappahannock valley include areas where miners dug into quartz veins, following them from placer deposits along waterways. If the prospect looked promising, shafts may have been sunk on the hilltops. The trenches shown here are located north of Mott's Run Reservoir.

Mott Mine and Environs - The Virginia Division of Mineral Resources has plotted the Mott Mine near the northwest edge of the Mott's Run Reservoir, in Spotsylvania County. This property is now owned by the City of Fredericksburg. Gold was extracted from this mine before the Civil War, but it was apparently not reopened after 1865. The visible remnants include caved-in pits and dumps.

While this mine is the one shown on the state maps, there is much evidence of additional mining efforts in the Mott's Run area. Hillside trenches (depicted on the map by large dots) are located at various points around the reservoir as well as near Golin Run and River Road. Interspersed among these mining remnants are encampment sites. Logically, one would expect these campsites to have been occupied by Confederate troops during the winter of 1863-64, but they could also have been related to this earlier mining activity.



Map 18. Mott Mine and Environs.

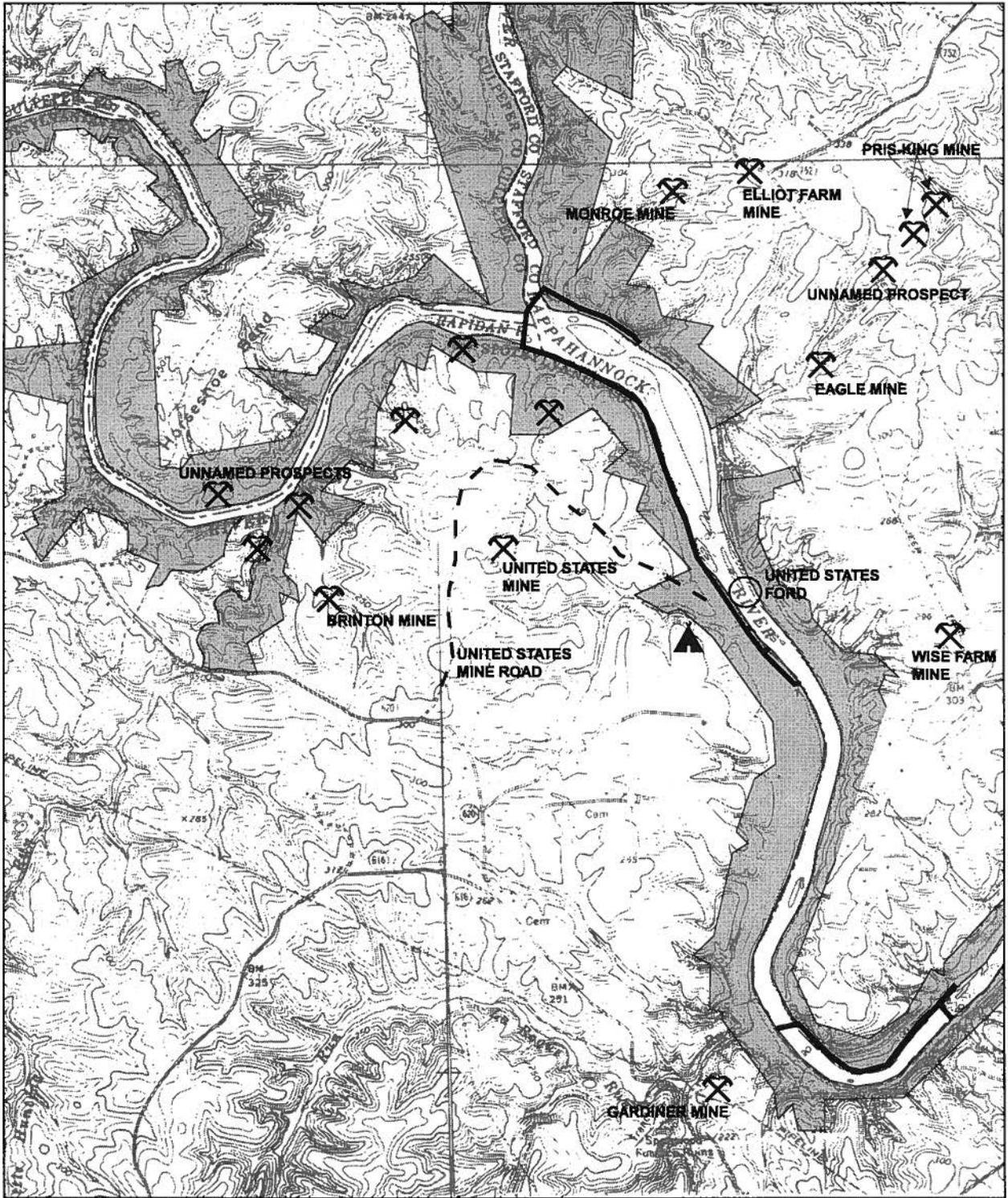
United States Mine and Environs - One of the most extensive mining operations in Spotsylvania County was the United States Mine (sometimes called the Welford Mine). The United States Mining Company discovered gold-bearing quartz veins in the early 1830s and established their mine shortly thereafter. While the Virginia Division of Mineral Resources shows a single site on their maps, they in fact located fifteen caved-in pits and their related dumps. Some of these features are located within the City of Fredericksburg's riparian holdings. Also on city property is a significant portion of the U.S. Mine Ford Road, including flagstone bridge abutments where this road crossed a portion of the Rappahannock navigation system. Also of interest are the well-preserved Civil War entrenchments that once guarded the United States Ford and its approach road.

As an aside, Matthew Fontaine Maury was promoted to lieutenant in the United States Navy in 1836, but did not receive any corresponding orders to sea duty. With time available ashore, Lt. Maury agreed to serve as the temporary superintendent of the United States Mine. With the acumen of the true scientist that he was, Maury carefully studied the gold extraction process and sought to improve the entire operation.

The Civil War interrupted gold mining at the U.S. Mine, as it did at every other mine in the area. In 1865, however, the U.S. Mining Company quickly resumed operations. Miners reopened and deepened the shafts while other workers erected a mill to grind the gold-bearing quartz and separate the gold through amalgamation.

In addition to the many mining pits, this area includes numerous hillside trenches coming up from the waterways. In the Horseshoe Bend area of Culpeper County, for example, is an elaborate series of cuts that extend uphill from the Rapidan River. Field research, identified at least six different veins in this area. These cuts, which are within the City of Fredericksburg's riparian holdings, are very deep, but the hilltop is on private property and was not investigated to determine if a shaft was ever sunk. There are no mines shown in this area on W.A. Jackson's 1836 map of the Virginia Mining District. The Virginia Division of Mineral Resources has also not identified any mining in this part of Culpeper County. Of additional interest, though, is a road trace to the east of the mining cuts that leads down to the vicinity of Todd's Ford.

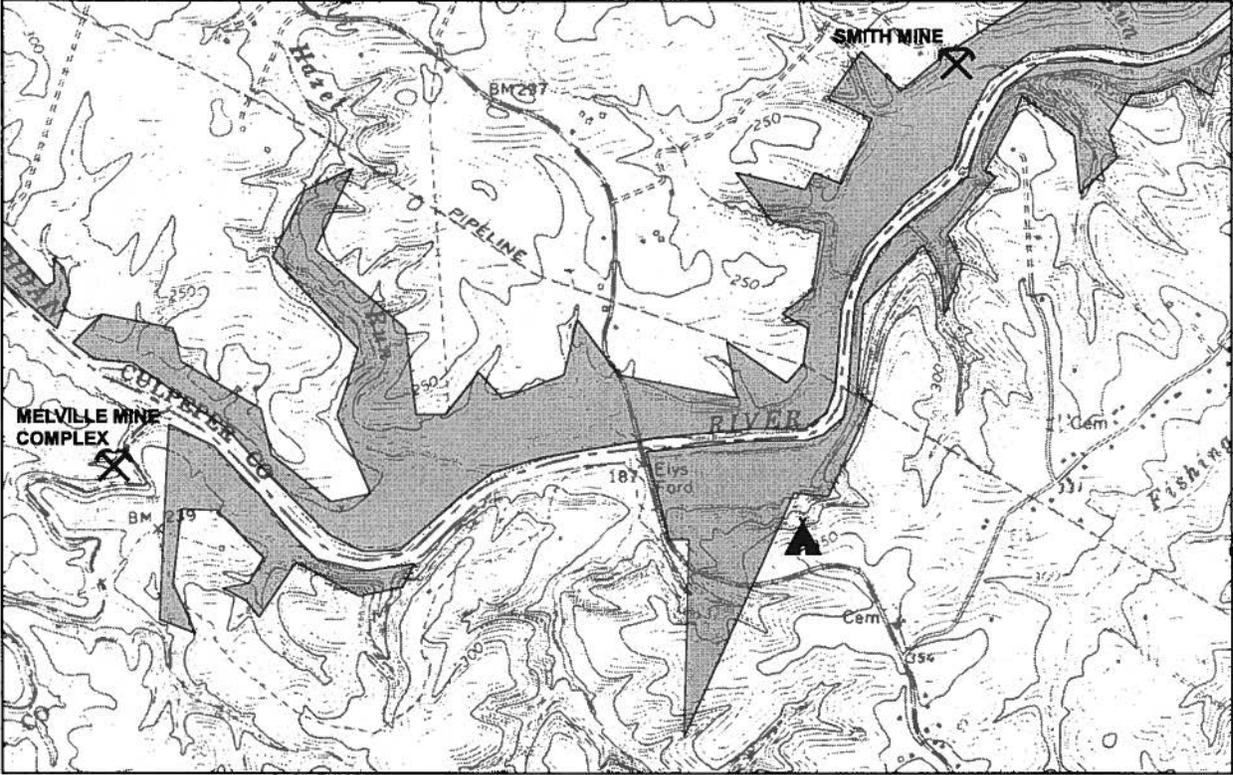
Along Hunting Run, in Spotsylvania County, are also numerous mining cuts as well as an unidentified mine shaft on a hilltop overlooking the Rapidan, on the east side of Hunting Run. The cuts along Hunting Run are on property the city once owned but has since deeded to Spotsylvania County. They are very likely related to the Brinton Prospect previously mapped by the Virginia Division of Mineral Resources.



Map 19. United States Mine and Environs.

Ely's Ford area - Mining activity is evident both upstream as well as down from Ely's Ford. A hillside cut that represents the Smith Mine, in Culpeper County, for example, may be partially within Fredericksburg's riparian holdings. Downstream of the Smith Mine, below Middle Run (still in Culpeper County), are numerous hillside trenches where long ago miners followed quartz veins up from the river. In the midst of these mining trenches, above an unnamed run, is a flat area carved out of the hillside. Deed records identify this feature, which may have been related to the mining operations, as part of the "Garnett Harding Mill Tract."

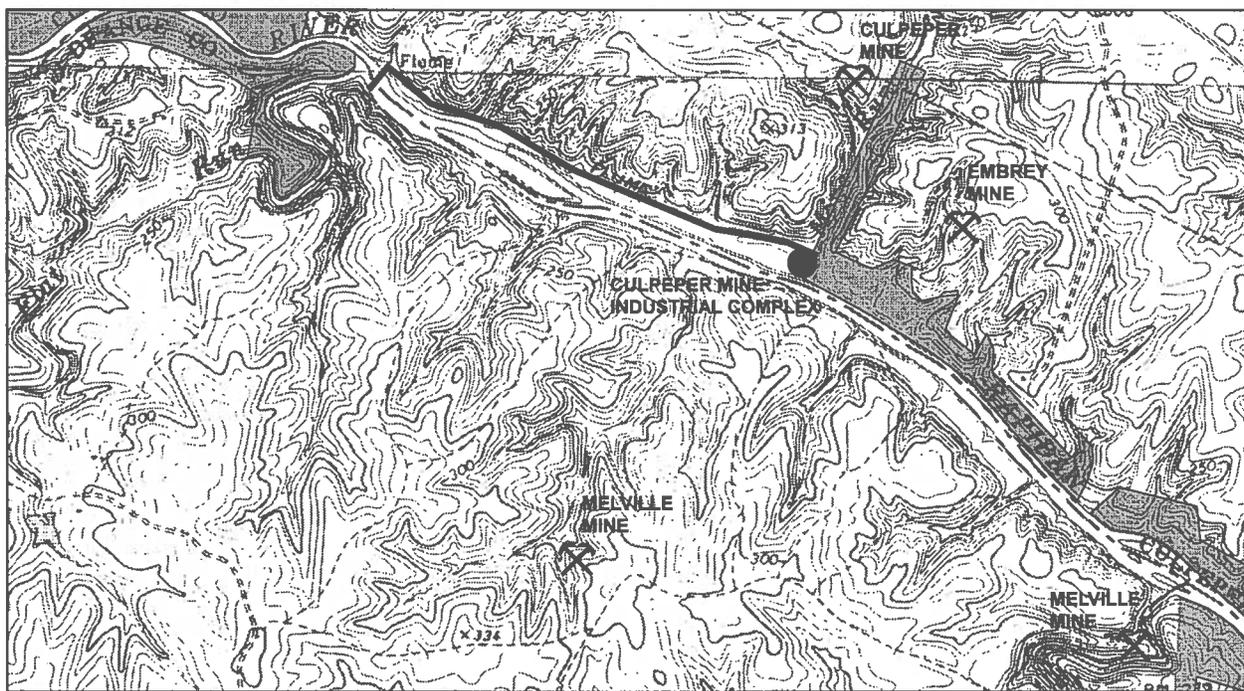
Extensive placer mining took place where Wilderness Run enters the Rapidan, but the most impressive evidence of gold mining in this area is just west of the city's holdings. At the first bend in Wilderness Run, just south of where it enters the Rapidan, is a complex that includes a stone foundation, road traces, a sluiceway, and a chimney that stands close to four stories high. Nathaniel Michler's 1867 map of the Wilderness battlefield labels this site as a portion of the "Melville Mine." It should be noted that there is another elaborate complex approximately one mile to the west that also carries the name Melville.



Map 20. Ely's Ford area.

Culpeper Mine Industrial Complex - The Culpeper Gold Mine, located along a tributary of Mine Run, in Culpeper County, likely opened in 1834 when the Culpeper Mining Company was chartered. The shear zone that made this area so lucrative is probably the same as that of the nearby Embrey Mine and the Melville Mine (across the river in Orange County). Although this mine remained operational until 1905, its peak period of activity occurred prior to the Civil War. The federal census shows 31 workers and 7 miners working the Culpeper Mine in 1850.

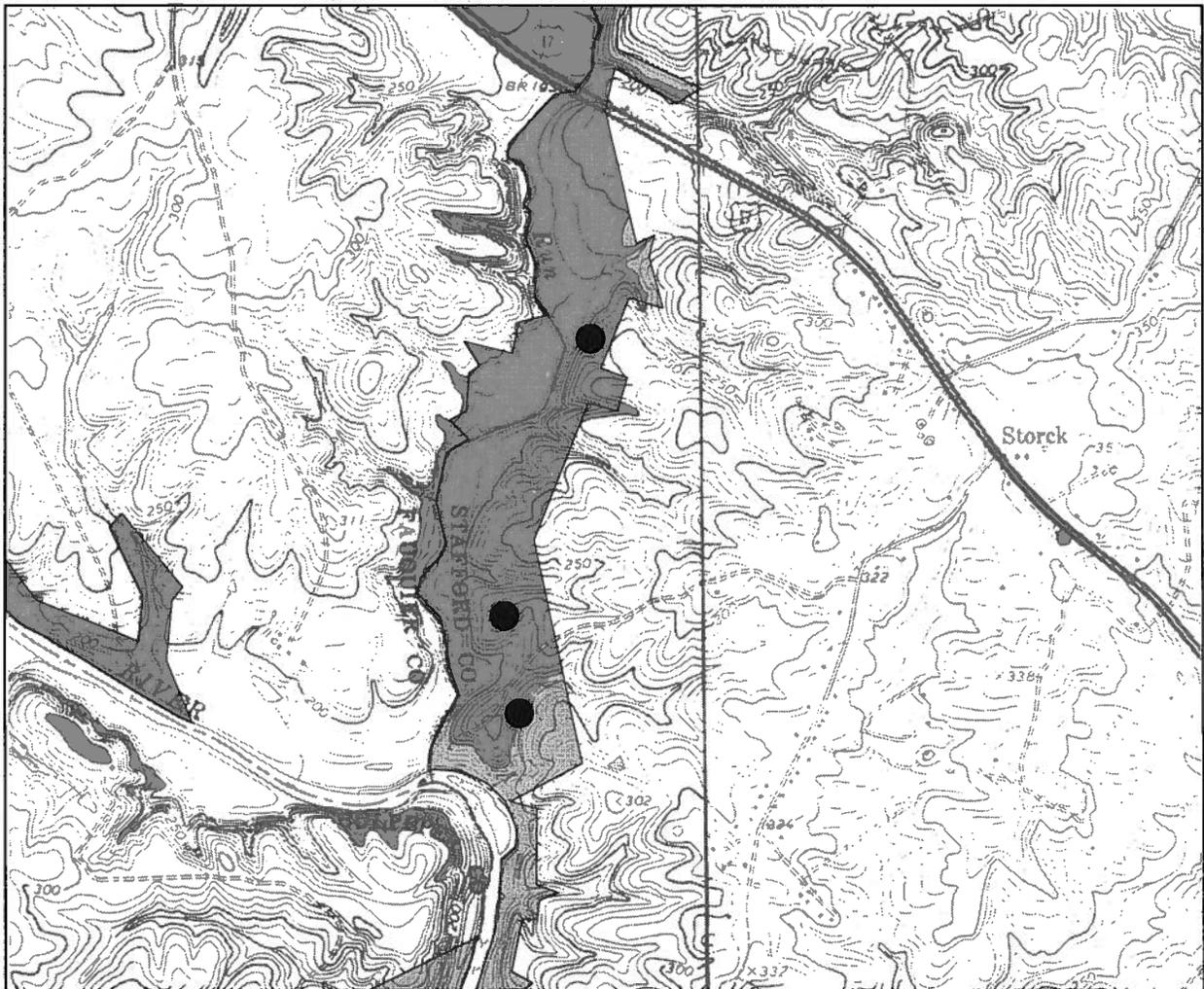
The visible remnants of this extensive mining operation include caved in pits and dumps. There is also a mill race along the Culpeper side of the Rapidan that extends approximately 5,400 feet from the area just below Flat Run to the mill's industrial functions near Mine Run (labeled "flume" on USGS topo maps). The portion of this operation on the City of Fredericksburg's riparian property is limited to the mill sites along the Rapidan River and Mine Run where the stamping and amalgamating mills were located, as well as a blacksmith shop, a sawmill, and a powder magazine. Unfortunately, any visual remnants of these resources have been obliterated. Archaeological investigations are needed to learn anything more from this site.



Map 21. Culpeper Mine Industrial Complex.

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Deep Run - The Virginia Division of Mineral Resources does not show any mines near Deep Run. Instead, the identified mines occur along a rough north-south axis west of Goldvein, in Fauquier County, and in a cluster below the confluence, in Stafford County. Similarly, W.A. Jackson's 1836 Map of the Mining District of Virginia does not show any mining activity in this area. Still, there is evidence of some mining efforts along Deep Run. These remnants consist of hillside trenches along this waterway between Route 17 and the Rappahannock River.



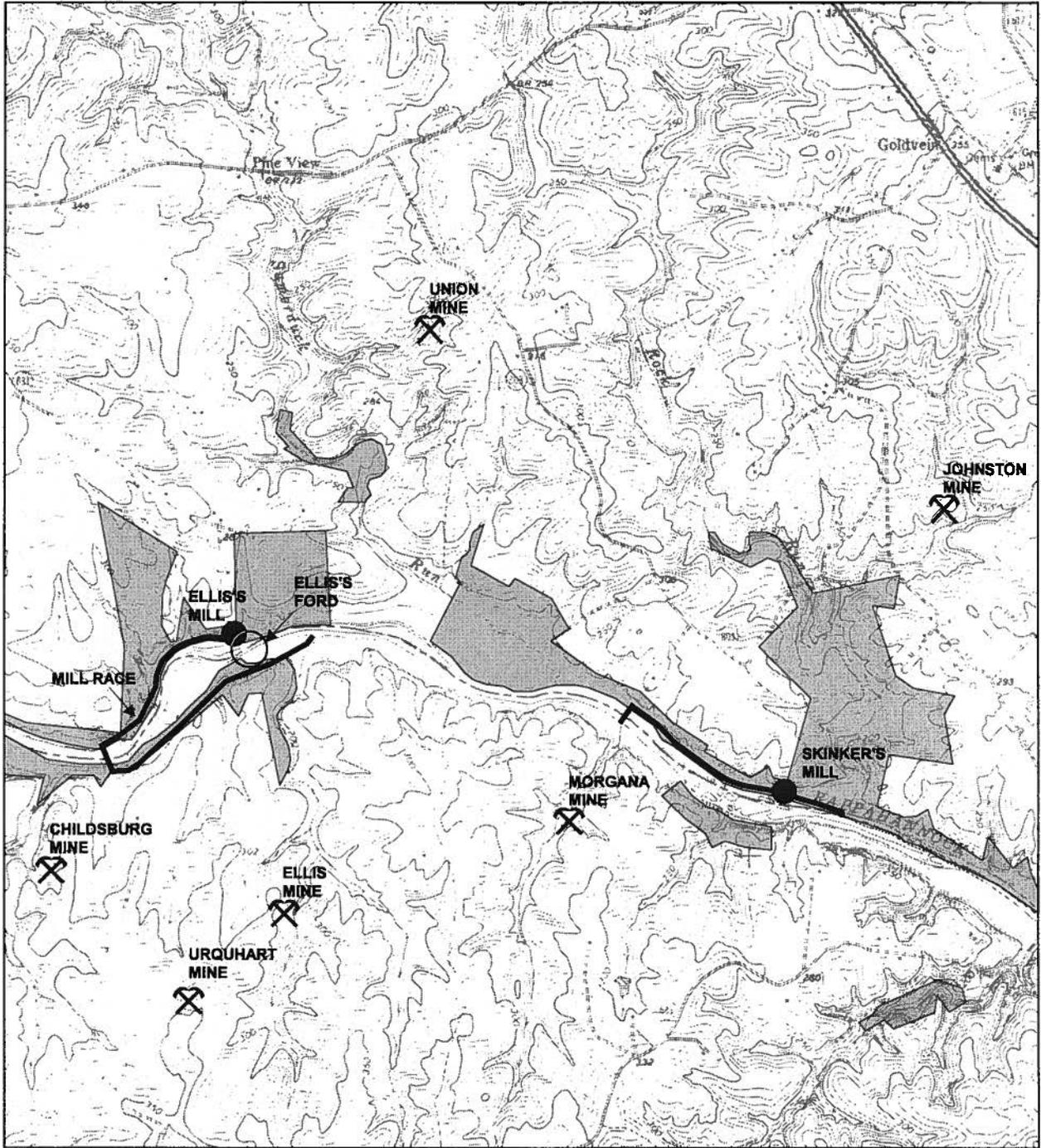
Map 22. - Deep Run Prospects.

Ellis's Ford area - In the Ellis's Ford area are several prominent mines - including the Childsburg, Ellis, and Urquhart Mines in Culpeper County and the Union Mine in Fauquier County. None of these mines is remotely near the City of Fredericksburg's riparian property, although the city does own the Ellis's Ford area, through which some of the extracted gold evidently passed. A New York soldier whose unit occupied this crossing in the summer of 1863 described this area in his memoirs.

Ellis's Ford is in the center of the gold region of Virginia, and many works still remained which were formerly used in obtaining that mineral. Mr. Ellis... was in his younger days extensively engaged in that business and made wealth by it... On the south bank of the river was an indenture in the soil which he said marked the site of a former canal used by him in forwarding products from the gold mines, and from his plantation, to the navigable waters of the Rappahannock.

*Collins, George K.
Memoirs of the 149th Regiment.
New York Volunteer Infantry.
Syracuse, 1891. pp. 176-177*

The "indenture in the soil" is a portion of the Rappahannock Navigation Canal in Culpeper, which remains evident today (Ellis's Mill itself was in Fauquier County). Also of interest on the Culpeper side is a flattened and excavated hilltop situated above the Rappahannock Canal. This area could have been related to mining activity that occurred after the Civil War (deed records show ownership, at one time, by the Powhatan Mining Company). On the other hand, it could be a site related to the old Barnett house. The 1817 "Plan and Profile of a Survey and Level of the Rappahannock River," shows several structures on the river opposite "Barnett's Mill and Ford" and labels them as "Barnett's house" (the name Ellis does not appear until a map drawn in 1848). The scale of the 1817 map, however, makes a definitive identification of this site difficult from that document alone.



Map 23. Ellis's Ford area.