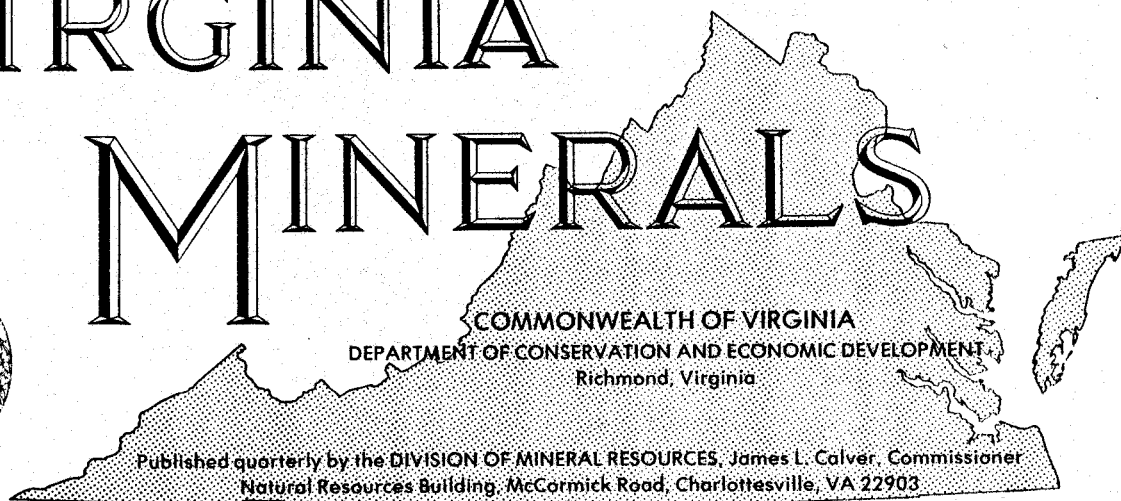


# VIRGINIA

# MINERALS



Vol. 21

February 1975

No. 1

## ROAD LOG TO SOME ABANDONED GOLD MINES OF THE GOLD-PYRITE BELT, NORTHEASTERN VIRGINIA

Palmer C. Sweet

This road log was prepared so that some of the sites of abandoned gold mines and prospects west of Fredericksburg, Virginia in the northeastern part of the gold-pyrite belt can be more easily observed. Distances and cumulative mileages between mines and prospects that are close to the road and easy to see were used. Brief discussions of features observable at each stop as well as a brief history of the mines are included. Also, the route passes through portions of the Fredericksburg and Spotsylvania National Military Park; battlefield features and displays are in the area.

The user of this road log should keep in mind that automobile odometers vary in accuracy. The Culpeper, Fauquier, Orange, Spotsylvania, and Stafford county road maps of the Virginia Department of Highways, and the U. S. Geological Survey 7.5-minute-series topographic maps are recommended for use with this road log. The county road maps are available for 10 cents each plus 4 percent sales tax from the

Information Office, Virginia Department of Highways, 1221 East Broad Street, Richmond, Virginia 23219. The following detailed topographic maps cover this area: Chancellorsville, Germanna Bridge, Midland, Mine Run, Richardsville, Salem Church, and Storck; they are available from the Virginia Division of Mineral Resources, Box 3667, Charlottesville, Virginia 22903 for 75 cents each plus 4 percent sales tax for Virginia residents. The route of the road log (Figure 1) shows U. S. and State Highways and those State Roads traveled or needed for reference at intersections, communities, and some of the streams and rivers. It is suggested that the spring and fall months are best for following the road log because of better visibility due to the lack of foliage. *Permission should always be obtained before entering private property, as failure to do so violates trespass laws and is punishable under law.* Extreme care should be taken as the old pits and shafts can be dangerous.

<i>Cumulative Mileage</i>	<i>Distance</i>	<i>Explanation</i>
0.00	0.00	Begin road log at Wilderness Corner, Virginia, at the intersection of State Highway 3 and State Road 613 at Lee's Wilderness Store.
1.00	1.00	Cross over Wilderness Run.
1.10	0.10	Junction of State Highways 3 and 20; turn left on State Highway 20.

<i>Cumulative Mileage</i>	<i>Distance</i>	<i>Explanation</i>
1.90	0.80	A prospect is located just off the north side of the road. Pit is presently refuse-filled; rim dump is covered with pine needles and contains broken pieces of quartz and mica schist. Continue west on State Highway 20.
2.85	0.95	Wilderness Battlefield exhibit shelter.
6.00	3.15	Intersection of State Highway 20 and State Road 611 at Locust Grove; continue west on State Highway 20.
8.15	2.15	Cross over Mine Run.
9.50	1.35	Intersection of State Highway 20 and State Road 692; turn left on State Road 692.
10.05	0.55	<b>STOP 1. Grasty tract.</b> —Located just southwest of the road are remains of an old assay-office laboratory and several water-filled and numerous caved pits and shafts. Pits are as much as 35 feet in diameter and 15 feet deep; dumps of quartz are very large. Earliest work at this tract was by the first incorporated gold mining company in Virginia, the Virginia Mining Company of New York, in 1831-1834. The large brick chimney (roasting stack) erected in 1832 is still standing (Figure 2). This stack was used to roast the pyrite found in the quartz veins in schist and granite in order to recover the gold from the sulphide ore. White to iron oxide stained quartz and pyrite can still be found in the dump. The Chancellorsville-Freehold Gold Mining Company of London, England, operated at the site from 1852 to 1857. The Piedmont Mining and Metallurgical Corporation of Philadelphia operated the mine from 1907 to 1910. After World War I, some local development and exploration work was done. Around 1957, the Lucky Hundred Mineral and Mining Corporation attempted some small scale placer mining along the adjacent creek and a branch of Mine Run across the road on the Dickey tract (Figure 3).

**Dickey tract.**—The Gold Run Mining Company opened a shaft on this tract, just northeast of the road, before World War I. A beaver pond is now present where the branch of Mine Run has been blocked (Figure 4). A piece of machinery remains on the edge of the pond; this was used by the Lucky Hundred Mineral and Mining Corporation in 1957 during placer prospecting. The area is now covered with a thick mat of underbrush.



Figure 2. Brick roasting stack at the Grasty mine tract, Orange County.



Figure 3. Washer at the Grasty mine tract in 1957.

<i>Cumulative Mileage</i>	<i>Distance</i>	<i>Explanation</i>
		<b>Old Tinder tract.</b> —This tract, located just southwest of the Grasty tract, was worked by the Chicago-Virginia Gold Mining Company, 1879-1881, and the American Gold Mining Company of Chicago, 1881-1893. Several large caved pits and shafts are present in this area with the largest being approximately 30 feet in diameter and about 15 feet deep. All three of these tracts composing the Grasty mines are owned by Allyce E. Fisher, Mineral, Virginia; permission must be obtained from Mrs. Fisher before entering the property.
10.60	0.55	Turn around and return to State Highway 20; turn right on State Highway 20.
19.00	8.40	Intersection of State Highways 20 and 3; turn left on State Highway 3.
19.55	0.55	Intersection of State Highway 3 and State Road 667; the remains of several old gold mines are off State Road 667.
		<b>Wilderness mine.</b> —This mine was reportedly operated prior to 1911, at which time the Wilderness Mining and Milling Company began operation of the mine. Some work was done on the shaft in 1923, about 12 years after the mill had burned. Today, a large dump area is present with quartz and dark-gray schist, both containing pyrite crystals. Concrete foundations which supported mill equipment and a small, roofless block house that housed a pump utilized to remove water from the shaft are still standing (Sweet, 1971, p. 30). An old water-filled shaft and another open shaft, both concrete lined, are partly covered with a concrete top.
		<b>Vaocluse mine.</b> —This was originally a placer mine opened in 1832; several years later shafts were sunk and lode gold mining began. Around 1840 a large plant was in operation at the mine. The mine was purchased in 1933-34 by Henry Ford, who removed the plant equipment to his museum in Dearborn, Michigan. Today there are several house-size caved pits and shafts, an old mill area consisting of concrete foundations, and scattered pieces of metal and numerous pits throughout the woods (Sweet, 1971, p. 26).
		<b>Melville (Rapidan) mine.</b> —Prior to 1885 gold was discovered at this mine; no early production records are available. In the early 1920's, a brick roasting stack and a cyaniding operation were set up to recover gold from the sulphide ores. The Rapidan Gold Corporation developed a 125- and a 240-foot shaft in 1934. The property was abandoned in 1938. Rotting timbers and a dump containing chlorite schist and quartz with some pyrite are now present around the old main shaft. Concrete foundations of the mill area, several building foundations, and shafts and pits are present throughout the area (Sweet, 1971, p. 29-30).
20.90	1.35	Junction of entrance to Lake of the Woods; continue northwest on State Highway 3.
21.35	0.45	Junction with Rapidan-Stratford Park Road; the remains of an old gold mine are off this road.
		<b>Partridge mine.</b> —Pits and caved shafts are located on both sides of the road. Mining of quartz veins in granite took place in 1921; production figures were not recorded (Dunlop, 1924, p. 13). Presently, there are pieces of broken quartz with iron oxide staining, some specular hematite, and cobbles of decomposed granite lying in the pits and on and around several covered dumps.
23.75	2.40	Entrance to Germanna Community College.
23.95	0.20	Roadside Park-Germanna Memorial Foundation.
24.10	0.15	Cross Germanna Bridge over Rapidan River into Culpeper County.
27.65	3.55	Intersection of State Highway 3 and State Road 647 at Lignum; turn right on State Road 647.
28.60	0.95	Intersection of State Roads 647 and 610 at Jennings Store; bear right on State Road 610.
29.15	0.55	Junction of State Roads 610 and 620; turn left on State Road 620.

<i>Cumulative Mileage</i>	<i>Distance</i>	<i>Explanation</i>
32.05	2.90	Junction of State Roads 620 and 682 at Edwards Shop; continue north on State Road 620.
32.75	0.70	Cross over Mountain Run.
33.50	0.75	Junction of State Roads 620 and 670; continue north on State Road 620.
34.50	1.00	Junction of State Roads 620 and 672; continue north on State Road 620.
34.70	0.20	Junction of State Roads 620 and 674; continue northeast on State Road 620.
34.80	0.10	Cross over Rappahannock River at Kellys Ford into Fauquier County.
35.10	0.30	Intersection of State Roads 620 and 651; turn right on State Road 651.
35.50	0.40	Cross over Marsh Run.
37.10	1.60	Radio tower off right side of road.
37.30	0.20	Junction of State Roads 651 and 637; continue southeast on State Road 651.
39.15	1.85	Junction of State Roads 651 and 632 on left at Summerduck, Virginia; continue southeast on State Road 651.
39.75	0.60	Junction of State Roads 651 and 632 on right; continue southeast on State Road 651.
40.55	0.80	Junction of State Roads 651 and 631 on left; continue east on State Road 651.
40.65	0.10	Junction of State Roads 651 and 631 on right; continue east on State Road 651.
41.60	0.95	Junction of State Roads 651 and 615 at Pine View; continue northeast on State Road 651.
41.65	0.05	Cross over Summerduck Run.
42.05	0.40	Junction of State Roads 651 and 615; continue east on State Road 651.
42.50	0.45	Cross over Rock Run.
42.70	0.20	<b>STOP 2. Liberty mine.</b> —Caved pits and shafts are located off the north side of the road. Operation of this mine began in the 1830's; auriferous pyrite in a quartz vein in schist was mined. Samples of schist containing fairly large crystals of weathered pyrite can still be found in the area. The area just south of the road is now reclaimed, having formerly been a landfill operated by Fauquier County. Several large circular (7 feet in diameter) concrete troughs



Figure 4. Beaver pond at the Dickey tract.



Figure 5. "Hornet balls" near the former plant site of the Liberty mine, Fauquier County.

Cumulative  
Mileage      Distance

Explanation

were recently bulldozed over and are no longer visible. Concrete foundations near the entrance to the former landfill have also been covered over. In the ditch just to the right of the entrance are two large hollow balls, locally called "hornet balls" (Figure 5), that are approximately 7 feet high and 20 feet around. They consist of iron mesh covered with cement and have several concrete ledges inside. They were probably used as a rotating ore crusher affixed to the concrete troughs in some manner. (Before entering the property, written permission *must* be obtained from Woodlands Division of The Chesapeake Corporation of Virginia, West Point, Virginia.) Continue east on State Road 651.

- 43.50      0.80      Intersection of State Road 651 and U. S. Highway 17; turn left on U. S. Highway 17.
- 44.25      0.75      **STOP 3. Little Elliot mine.**—This mine area consists of numerous caved pits and shafts as well as remnants of the old mill area. One large caved shaft (?) of the mine that was probably active in the early 1900's is only about 25 yards northeast from U. S. Highway 17. Today the deepest open pits and caved shafts at the site are 15 to 20 feet. The remains of several walls around the old mill area are still standing. Milky and clear quartz, occurring mostly as veins in greenstone schist, and pyrite can be seen at the site. Several large, deep, trench cuts parallel and in line with numerous caved pits and shafts may be observed. (Before entering the property, written permission *must* be obtained from Woodlands Division of The Chesapeake Corporation of Virginia, West Point, Virginia.) Continue northwest along U. S. Highway 17.
- 44.70      0.45      **STOP 4. Randolph (Sugar) mine.**—This mine was probably active around the time of the War Between the States. An old piece of machinery located on the second level of the mill site has the following stamped on the side:

ELI W. BLAKE  
New Haven, Conn., U.S.A.  
Patented June 15, 1858 &  
April 17, 1860 Extended  
June 14, 1872  
15 x 9 No. 221

As reported from the U. S. Patent Office, this piece of equipment is from a machine used for crushing stone (Figure 6). This machinery and the mill site are located about 100 yards from



Figure 6. Piece of crushing machinery at the plant site of the Randolph mine, Fauquier County.

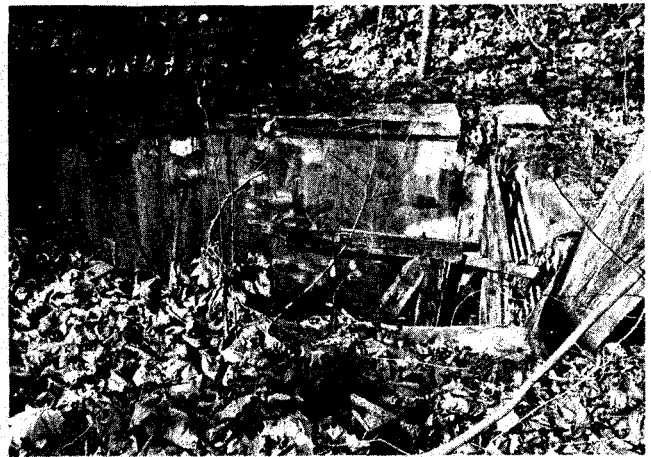


Figure 7. Old mine shaft, Franklin mine, Fauquier County.

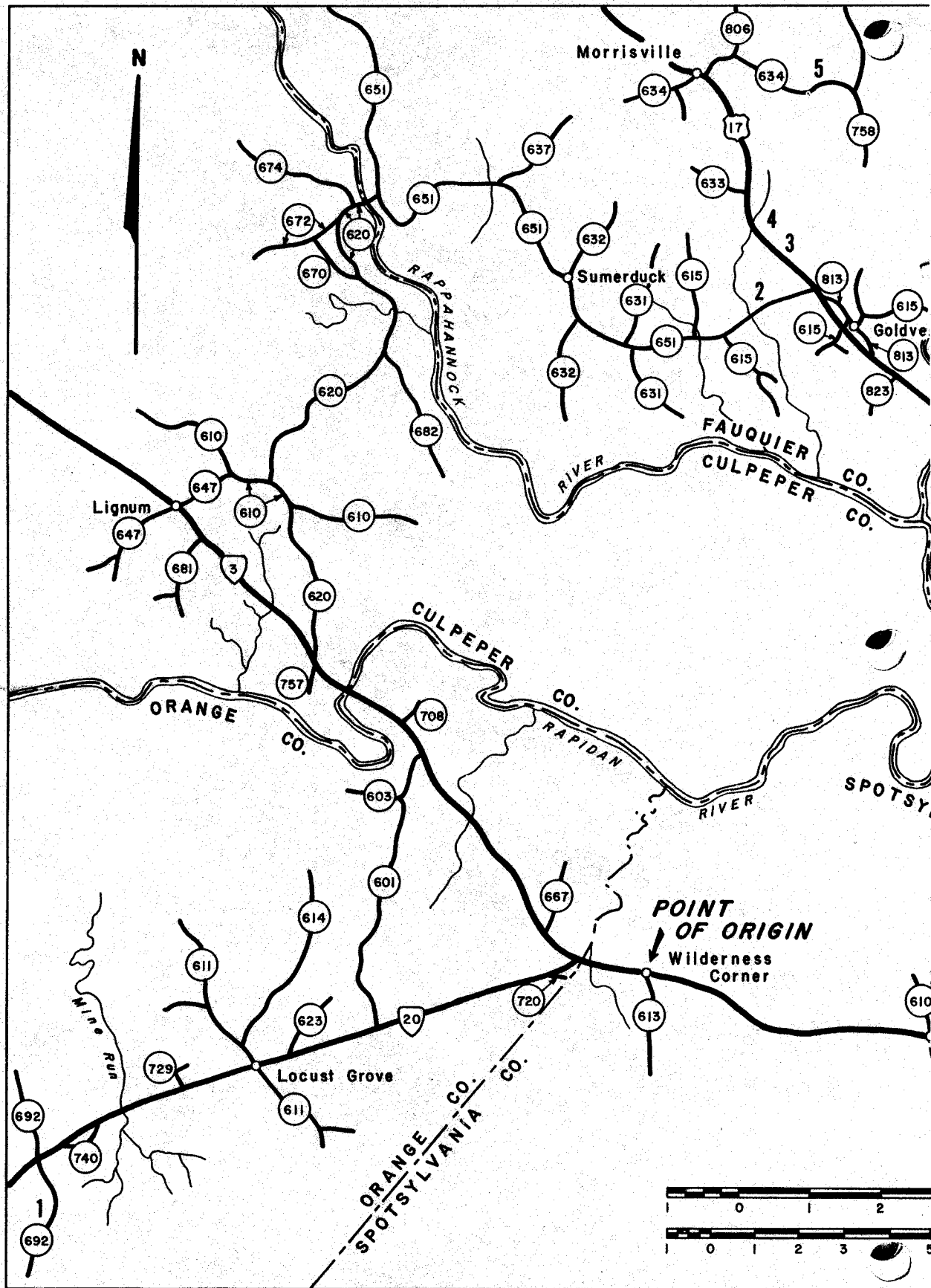


Figure 1. Map of parts of Culpeper, Fauquier, Orange, Spotsylvania, and Stafford counties showing U. S. and Virginia Department of Highways maps.)



<i>Cumulative Mileage</i>	<i>Distance</i>	<i>Explanation</i>
		U. S. Highway 17. The site exhibits 3 distinct levels with a 3-foot rock ledge and a 10-foot drop separating each. Pieces of metal as well as concrete foundations with bolts that supported plant machinery are present; a fairly large, strewn-out dump area is present below the mill. The dump near the top of the mill contains quartz and gray-greenish schist with some pyrite. One of the original shafts was in the now soil-covered area adjacent to the mill. About 180 yards northeast of the mill site is the 25-foot-wide, water-filled (Newman) shaft. (Permission <i>must</i> be obtained from Thomas P. Meehan, Washington, D. C., before entering the property.) Continue north on U. S. Highway 17.
44.75	0.05	Cross over Rock Run.
47.20	2.45	Junction of U. S. Highway 17 and State Road 806 at Morrisville, Virginia; turn right on State Road 806.
47.80	0.60	Junction of State Roads 806 and 634; turn right on State Road 634.
49.10	1.30	<b>Kirk mine.</b> —Caved pits of the old mine are present off both sides of the road. A tunnel was driven under the road to connect shafts on either side of the road. Iron oxide stained milky quartz with no visible metallic mineralization can be seen on the ground. (This land is owned by Interstate Service Corporation, Harrisonburg, Virginia.)
49.35	0.25	<b>STOP 5. Franklin mine.</b> —This mine is located about 450 yards down the road off the north side of State Road 634. The mine was first operated around 1837 and worked intermittently through 1936. In late 1933 the Franklin Mining and Milling Company worked the site. There was some renewed interest in the property in the 1960's, but no commercial production was reported (Sweet, 1971, p. 28). Today, open cuts into the quartz veins in sericite schist are still visible. Numerous caved pits and shafts as well as open cuts and large piles of white quartz are present just southwest of the old plant on the hillside. Concrete foundations, which held crushing equipment and other machinery, and numerous rotting timbers can also be seen. An old partly caved, timbered shaft (Figure 7) and some wooden slides, large water tanks and shaker screens used in the 1960's, several sheds, and a large dump area are on the site (Sweet, 1971, p. 28) (Figure 8). It is reported that several selected samples have been assayed from this dump and indicate as much as 1.06 oz. of gold per ton and 0.32 oz. of silver per ton. (Permission <i>must</i> be obtained from the Interstate Service Corporation, Harrisonburg, Virginia, before entering the property.)
51.50	2.15	Return to U. S. Highway 17; turn left on U. S. Highway 17 to the southeast.
57.85	6.35	Cross over Deep Run into Stafford County.
60.70	2.85	Junction of U. S. Highway 17 and State Road 706; continue southeast on U. S. Highway 17.
61.70	1.00	Junction of U. S. Highway 17 and State Road 752; turn right on State Road 752.
63.10	1.40	Junction of State Roads 752 and 748; continue southwest on State Road 752.
64.50	1.40	Sign for END STATE MAINTENANCE of State Road 752; turn right on gravel road.
64.70	0.20	<b>STOP 6. Monroe mine.</b> —South along the high-tension lines to the top of the hill and then for about 100 yards west into the woods there are numerous caved pits and shafts along the crest and on the south side of the hill. The largest hole is about 30 feet in diameter and 15 feet deep. Dumps around most of the pits contain quartz with some iron oxide staining and some schist and quartzite. This mine was probably worked in the 1860's and intermittently through the early 1900's. (Permission <i>must</i> be obtained from Mrs. M. E. Embrey, Stafford, Virginia, before entering the property.)

END OF ROAD LOG





Figure 8. Remains of equipment used in the 1960's and dump area a: the Franklin mine, Fauquier County.

#### REFERENCES

- Dunlop, J. P., 1924, Gold, silver, copper, lead, and zinc in the eastern states, in *Mineral resources of the United States*: U. S. Geological Survey, p. 7-14.
- Sweet, P. C., 1971, Gold mines and prospects in Virginia: *Virginia Minerals*, vol. 17, p. 25-33.

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### VIRGINIA FIELD CONFERENCE

The sixth annual Virginia Geology Field Conference, led by Emil Onuschak, Jr., and Paul A. Daniels, II, was held in the Richmond area on October 25-26, 1974. The Atlantic Coastal Plain Geological Association participated in the field trip. More than 120 people from several states and the District of Columbia, including geologists, teachers, planners, soil scientists, and industrial representatives, examined rock types and their importance in man's use of the environment. Copies of the 33-page, illustrated guidebook "Environmental Geology and Stratigraphy of the Richmond, Virginia Area," are available for \$1.50 plus 6 cents sales tax (a total of \$1.56) each from Conference Secretary, Box 3667, Charlottesville, Virginia 22903. The 1975 fall trip in the Appalachian Plateaus of southwestern Virginia will be led by Ralph L. Miller and Kenneth J. Englund of the U. S. Geological Survey.

### STAFFORD COUNTY TOPOGRAPHIC MAP

A topographic map of Stafford County at the scale of 1:50,000 or 1 inch equals approximately 0.8 mile is now available. The map is 28 x 37 inches and portrays information on landforms; water features; woodland; and works of man such as roads, railroads, and urban areas. The Quantico Marine Corps Schools and the Fredericksburg and Spotsylvania National Military Park are outlined in color. An index to the larger scale 1:24,000-series topographic maps from which this map was made is available in the map margin. Three grid systems are available for referencing points of interest: latitude and longitude, Universal Transverse Mercator, and Virginia coordinate system. All major roads are identified by route number.

This map was produced by a cooperative program between the Virginia Division of Mineral Resources and the U. S. Geological Survey to make new and useful map products available to the public. It can be purchased from the Division for \$2.00 plus 8 cents sales tax, a total of \$2.08 per map.

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### NEW PUBLICATION

Bulletin 84. STRATIGRAPHY AND COAL BEDS OF UPPER MISSISSIPPIAN AND LOWER PENNSYLVANIAN ROCKS IN SOUTHWESTERN VIRGINIA, by Marshall S. Miller; 211 p., 59 figs., 2 tables, 1974. Price: \$6.00 (plus 4 percent State sales tax).

The stratigraphy and coal beds of Upper Mississippian and Lower Pennsylvanian rocks in Buchanan, Dickenson, Russell, Scott, Tazewell, and Wise Counties in southwestern Virginia were studied primarily by examining cuttings from oil and gas tests and core samples from coal exploration tests. The rocks that were studied range from the base of the Greenbrier Limestone (Upper Mississippian) to the top of the Norton Formation (Lower Pennsylvanian), with detailed work concentrated on the stratigraphic sequence between the Little Stone Gap Member of the Hinton Formation (Mississippian) and the top of the Kennedy coal bed of the Lee and Norton formations (Pennsylvanian).

Separate descriptions of 21 coal beds are given and maps showing thickness and extent of 10 of the most important beds are included.

The Lee Formation unconformably overlies and successively truncates older rock units including the Pocahontas Formation to the northwest, and is composed of three quartz arenite members that tongue out successively from top to bottom into finer textured rocks generally to the southeast. Where the Pocahontas Formation is present, the Mississippian-Pennsylvanian boundary is intertonguing; where the Pocahontas Formation is truncated or absent, the Mississippian-Pennsylvanian boundary is unconformable.

The stratigraphic sequence can be divided into five depositional periods: a northwestward progradational system during which the Greenbrier, Bluefield, and lower Hinton formations were deposited; a southeastward transgression; a northwestward regression resulting in the deposition of the Little Stone Gap Member, the Princeton interval, and Bluestone and Pocahontas formations; onlap of the Lee Formation and erosion of previously deposited lagoonal-deltaic sediments; and a regional offlap, but oscillations of the sea level establishing offlap-onlap tongues of the Lee quartz arenites. Recognition of these periods is essential in evaluating the coal resources. The occurrence of the highly regarded Pocahontas coals can be predicted by recognizing the stratigraphic position of the unconformity at the base of the Lee Formation, whereas the predictability of Lee coals is best made by establishing paleoenvironmental patterns. Of the coals studied, the Pocahontas No. 3 and War Creek coals have the greatest economic potential.

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## THE ENERGY SUPPLY SITUATION<sup>1</sup>

When the first settlers landed on the eastern shore of this continent, they were confronted by a forest that came down to the water's edge. Since wood was the basic fuel for both heating and cooking, they must have been encouraged by the seemingly inexhaustible supply of firewood. This could have been the origin of the

American attitude toward energy resources—namely—our resources of fuel are so huge as to be virtually inexhaustible.

As the population pushed westward into Pennsylvania and western Virginia, coal was discovered. Exposed on hillsides and in stream valleys, coal seemed to be everywhere. Surely, we would never run out of coal.

Then in the mid-1800's, well before the outbreak of the Civil War, oil was discovered in western Pennsylvania. In rapid succession, oil was found in New York, Ohio, and West Virginia. In the early 1900's the search for oil moved to the mid-continent and then southward into Arkansas, Louisiana, and Texas. Oil seemed to be almost everywhere, and, as oil field after oil field was discovered, it appeared that we were superbly endowed with this marvelous substance.

Natural gas poured from the oil wells in such enormous quantities that there was nothing to do but burn it at the well; the night sky was lit by hundreds of oil-well flares. We didn't know what to do with it, so we wasted it. More gas than we will ever consume for a useful purpose was flared in those early days.

The bountiful flow of oil and the unusable over-supply of gas, added to the American conviction already established—we have vast energy resources. First it was wood, then coal, then oil, then natural gas. We were rich, indeed.

But our convictions were based on assumptions, not on facts. We could, and did, cut down the trees faster than they could grow. We were mining coal as fast as we knew how, until the pace was slowed by the arrival of cheaper oil and natural gas. Then oil field after oil field was depleted. Not that all the oil had been recovered. Far from it. But enough had been removed to lower the reservoir pressures, and now the oil would not flow into the wells, and recovery of the remaining oil could cost more than it was worth. We were running out of cheap oil.

Gas fields gradually gave up their reserves, and the search for new gas deposits was pushed. But not as actively as could be desired, since government control of well-head prices was to keep gas in the category of cheap energy, while the cost of finding new gas crept up and up, thus discouraging venture capital.

To make up for the shrinking supplies at home, the oil and natural-gas companies increased imports from abroad. And all the time these critical developments were going on, there were few words of warning, or even caution, heard throughout the land. Our use of energy grew and grew. Our cars got bigger and bigger.

<sup>1</sup> Reprinted from a portion of *Energy Perspectives*, Number 13, August 1974, published and distributed by the Battelle Memorial Institute, Columbus, Ohio 43201.

