

the Complex as containing:

1. Two tracts of land, including one meadow;
2. A large blast furnace and its stack;
3. Wheel and bellows;
4. A large two-story stone dwelling house; with necessary outhouses attached to it, and a fountain pump at the kitchen door;
5. Two convenient store houses;
6. A chopping mill;
7. A stonemith shop;
8. Barns;
9. Stables;
10. Corn house; and
11. Fifteen to twenty houses for the accommodation of workmen, all in good order.

The list of structures or improvements does not include an anticipated charcoal house, casting house, or forge; and therefore, the existence of these buildings at this date must be assumed since, from 1803 to 1811 the Furnace was apparently in blast. The advertisement also mentioned the existence of plenty of wood and young timber sufficient to furnish coal wood for many years and that the ore bank immediately on the spot was inexhaustible. In addition, mention is made of a limestone quarry not more than 200 yards from the Furnace bank. Figure 2 indicates the location of the limestone pit to the southwest of Furnace Stack #2 (existing today); and the ore pits directly west of Stack #2 and indicated in the sale undoubtedly were buried by the construction of U. S. Route 15 in 1960 - 64.

When the Furnace Complex was again sold (in 1841), the Republican Citizen December 24 issue described briefly the Complex as consisting of:

1. Two tracts of land;
2. Stone and log ironworkers' dwelling houses;
3. A superior dwelling house, (author's conjecture, overseer's house);
4. Other farm houses;
5. A large garden and store;
6. Carriage house;
7. Ice house;
8. Merchant mill (grist mill);
9. Saw mill; and
10. Numerous subsidiary buildings.

It is interesting to note that the primary structures associated with blasting of the stack are not mentioned in the 1841 sale notice, and that the rather lengthy enumeration of structures suggests that the importance of the Complex lay in its community structure and not with a "per day" production of iron. It seems reasonable to conjecture that the financial problems beginning in 1811 began to repeat themselves even though the Furnace had undergone significant expansion and modernization in 1831, and that the Furnace was not in blast nor capable of producing pig iron at an efficient cost.

A more accurate description of the Furnace Complex appears in the 1856 conveyance of one-half ownership of Fitzhugh to Kunkel. Its de-

description lists:

1. One tract of land;
2. Six teams of horses and mules;
3. Wagons;
4. Harnesses;
5. Coal (on hand);
6. Fourteen cords of wood (on hand);
7. Ore mine;
8. Furnace Stack #1;
9. Railroad cars;
10. Furnace Tools;
11. Blacksmith and carpenter tools;
12. Wagons, carts and farming tools; and
13. Ore bank mules.

Obviously this description de-emphasizes the community life and structure, and re-emphasizes the make-up of the Furnace Complex. It is important that we note that at this time, railroad cars, as well as ore carts are listed, indicating a marked degree of modernization. However, the modernization is not complete because mules and horses are apparently still used to haul both wood and ore since wagons are listed in addition to the animals.

The absence, in the conveyance, of a description of the limestone and ore pits to the west and southwest of Furnace Stacks #1 and #2 is

important since we can conjecture that limestone was used for the elimination of phosphorus from pig iron in the Furnace; and in 1876, Kunkel took out a patent for such process. However, the financial reward from the patent he was granted was not great; and this lack of success tends to support the supposition that the lime pit was being used for this purpose prior to this date (Singewald 1911: 147).

Further modernization is noted in the Frederick County Tax Assessment Book for 1876 which describes the Furnace Complex (including recent improvements):

1. Dwelling house;
2. Two steam engines;
3. Thirty ore carts;
4. Warehouses;
5. Shop;
6. Store house;
7. The presence of fifty tenant houses; and
8. Three Furnaces (Stacks #1, #2, and #3).

With the addition of the second and third Furnace Stacks, the associated buildings certainly doubled, and the mining of ore was probably accomplished by steam operated shovels and transported by rail cars.

The question that can be raised is whether or not the two steam engines listed in the tax assessment were railroad engines or steam engines to provide air for blast. The increased number of tenant houses over the 1811 public sale description of twenty is important when we compare today this number to the number of conjectured tenants' homes. Preliminary survey of the architectural styles found on either side of Old U. S. Route 15 are markedly different. Today there are four stone and six log story-and-a-half conjectured tenant houses directly adjacent to Old U. S. Route 15, beginning approximately 600 feet south of the Furnace. The absence of approximately ten other structures of the twenty referred to in 1811 could be accounted for if the property south of the existing ten structures were to be studied. We are certain, though, that the 1811 description refers to twenty new "houses for the accommodation of iron workers" and not pre-existing structures. Therefore, in 1811 there were probably forty tenant structures, the majority of them constructed of log and stone combinations and located not only along the historic Frederick-Emmitsburg Road (Old U. S. Route 15), but also to the northwest on the west side of Little Hunting Creek. An 1873 map by Lake shows fifteen houses directly adjacent to Old U. S. 15; fourteen structures to the north and west of the Furnace and Little Hunting Creek; and seventeen structures directly adjacent to Old U. S. 15, approximately one-fourth of a mile north of Furnace Stacks #1 and #2. It is reasonable to conjecture that the original settlement of the tenant homes would have been adjacent to the sluice ponds and collection

basins abutting to the west of the iron master's property (see Planview, Figure 2), and that the fifteen structures built in 1811 were constructed in a community pattern to the south of the Furnace. Intensive architectural study of these structures would substantiate or disprove this statement. To the east, approximately one-tenth of a mile from Furnace Stacks #1 and #2, is a second row of tenant houses (existing today, numbering nine in total), of a markedly different architecture than either the stone or log structures adjacent to Old U. S. 15. These structures were undoubtedly constructed ca. 1841 - 1880.

Thropp's purchase of the Catocin Complex is historically recorded, but a specific description of the contents is unknown except in dollar value and general terms of acreage, a cylindrical iron stack (Stack #3), a large dwelling house (unknown whether it is Auburn the iron master's house), a store, office building, about sixty iron workers' homes, steam shovels, and other machinery. Since Thropp's essential interest was that of salvage and profitable transporting of ore to Everett, Pennsylvania, it is easy to understand that a massive amount of dismantling took place ca. 1903 - 07. What Thropp did not salvage was robbed or "borrowed" by local residents from 1906 until 1930 when the Works Project Administration (WPA) began working at the Furnace Complex. The erosion caused by weather and time during this period is impossible to calculate and is probably of little significance.

According to folklore and personal communications with Catoctin residents, the Furnace Complex included not only the primary and secondary structures for industrial purposes, but also a grist mill for community and tenants use as well as a commercial paint mill plant that mined red and yellow ochre (both by-products of ore beds), particularly Hematite deposits. The economic value of these ochre deposits for other than local use was realized ca. 1841. Unfortunately, during all of the historical research, we were unable to establish factually the existence of the paint mill.

Located to the north side of today's Catoctin Iron Furnace Road which we first located on Macomb's 1861 map and which was totally rebuilt in 1960, is the iron master's house. The house was originally constructed ca. 1775 as a two-story, 36 x 28 foot rectangular stone house. A subsequent addition, ca. 1840-56 enlarged the house to 53 x 30 feet, and a final addition to the rear was built ca. 1870-1910. When the second addition was constructed, the entire house was stuccoed with pencilled joints to resemble a sandstone block structure. Whether or not James Johnson ever lived in the house is unknown. If practices are assumed to be similar to those at the restored iron furnace in Hopewell, Pennsylvania, the iron master would have resided in the structure from the very beginning; therefore, James Johnson would have constructed accommodations elsewhere. His brother, Baker Johnson acquires, in a conveyance and deed from Thomas, 134 acres called "Auburn Tract" upon which a large dwelling house was erected ca. 1802-1806 (see pages 21 and 22 of this report). The will, filed by Baker

Johnson, suggests that the house standing today and known as Auburn, was actually his son's house, and not Colonel Baker Johnson's house. From 1811 to present, Auburn has not been directly related to the Furnace; moreover, its original relationship to the Furnace is questionable because of the lack of historical record uncovered. The associated out-buildings of the 1803 - 06 period are intermingled with the southernmost extension of the Catoctin Furnace Complex. Architectural details and the alteration of the Greek Revival pediment on the iron master's house were probably influenced by said detail on the Auburn structure (see Plate 8A) which clearly suggests Auburn was a major social or cultural force within the Catoctin Furnace community.

Running westward from its intersection with the Frederick-Emmitsburg Road (Old U. S. Route 15 which runs north-south), directly in front of the iron master's house was the Old Charcoal Road (known today as the Catoctin Furnace Road). All Furnace traffic is assumed to have passed over these two major roads. The Old Charcoal Road was probably so named in the 19th Century because it served as the main feeder road for all logging roads on the south side of Catoctin Mountain, and descended the mountain to an elevation equal to the height of Furnace Stack #1.

The WPA conducted an archaeological test program at the Catoctin Iron Furnace Complex directly south and apparently within 300 feet of Furnace Stack #2 (see Plate 5B). The exact amount of disturbance and

destruction is unknown. As Mentzer stated (page 3 of this report), Catoctin Furnace ruins remained in private ownership until 1936 when they were acquired by the Federal Government, at which time the National Park Service stabilized remains of the Catoctin Furnace Complex.

In 1938, the Agriculture Administration photographed the Catoctin Furnace Complex (AHA 5521, 5522, NACB). When these photographs are analyzed in relationship to the Park Service stabilization, a degree of verification can be established as to the correctness of their interpretive work. The thirty-eight aerials, when compared to the 19th Century maps (Lake 1873: 37), prove the existence of the furnace-owned railroad bed running from the furnace to the ore bank (Bond 1858 and Macomb 1861). They also provide detailed information as to the location of race and sluice trenches extending from a northwest location to the Furnace Stack #2 south and just east of the Stack and to the southern extremity of the tenants' community adjacent to Old U. S. 15, finally returning to Little Hunting Creek. However, Lake (1873) and Bond (1858) have drawn the furnace railroad in contrasting routes. Bond has the railroad crossing the Frederick-Emmitsburg Road north of the present Kelly Store Road; passing just to the west of the iron master's house. Bond's map apparently has the railroad following appropriate contours, as the map indicates very steep grades just to the west of the bed. Lake (1873) shows the railroad in a completely different position, passing completely to the west of the race pond (Figure 2) on the lower south slope of the Catoctin Mountain. In this position, the existence of the railroad is impossible

from an engineering viewpoint. Field survey confirms Bond's location and, in our opinion, proves conclusively that Lake incorrectly located the railroad.

PRESENT CONDITIONS OF CATOCTIN FURNACE COMPLEX

Today the ruins lie within the Cunningham Falls State Park on the west side of the old Frederick - Emmitsburg Road (now State Route 806, commonly called Old U. S. Route 15). Standing remains of the iron works include the truncated stone stack of Stack #2 Isabella and its furnace bank. The height of the standing furnace bank reflects in part the immensity of the Deborah Furnace operation, and in part simply the size of the equipment needed to operate the furnace in blast. The elevation of the ground to the west of the stone wall furnace bank is the result of both natural contours and slag fill. Just to the east of the bank wall are four large iron rods imbedded in stone. We interpret these rods as forming the base support for the cylindrical iron stack of Deborah Stack #3. Approximately fifteen feet above ground-level, there are a number of joist pockets in the stone bank wall which undoubtedly were the result of either the engine or hot-air oven structure abutting the stone wall for Furnace #3.

To the southeast of the Deborah Furnace base are the modified structures of the original tenant homes, which consisted of one double log dwelling, one log dwelling covered with asbestos, three log dwellings covered with clapboard, and four stone dwellings of which two are painted. Just to the northeast, approximately one-quarter mile, is another cluster of small wooden buildings of Victorian architecture covered with various forms of asbestos siding.

The remains of race ditches, iron control gates, stone and mortar dams, spillway race, and race pond are all still visible, in part, on the west side of the 1964 U. S. Route 15, just to the south of Little Hunting Creek. Directly on the east side of U. S. 15 are additional remains of race ditches, race pond, a silted ore pit, railroad beds, sluices, and spillways. The race ditch (see Figure 2) that provided water for Stacks #1 and #2 is 140 feet west of the iron master's house; and folklore conjectures that it submerged adjacent to Catoclin Furnace Road into a wooden pipe and emerged approximately 100 to 200 feet south of Stacks #1 and #2. The change in elevation on the north side of Catoclin Furnace Road to the south side provided sufficient water velocity to turn the blast water wheel for both Furnaces.

To the south of the furnace stacks are a series of parallel race ditches and a raised ore cart path (a later railroad bed). Both of these paths were used in transporting limestone from the limestone/ore pits 600 feet south of Furnace Stack #3, and ore or limestone from the

second pit 600 feet farther south. To the east of these races is another depressed area which is conjectured to be a limestone or ore pit. During the fall of 1969 Charles Sandy of the Catoctin State Park undertook a preliminary exploration of the races and sluices between the northern- and southern-most pits. His excavation included removal of a sufficient amount of water in order to determine the bottom or original ground level of this area, and he discovered that the original surface was covered by more than 12 feet of silt. The excavation also uncovered the base to one ore cart and a series of wooden ties with "hand-made nails (spikes)" which were probably associated with the narrow-gauge railroad line from the limestone/ore pits to the furnace. To the south of this excavation, Sandy also uncovered a portion of a buried metal and concrete mechanism interpreted as a pulley eye and base, used in the hauling of mined materials from the bottom of the deep quarry.

Approximately 3,000 feet, or a little more than one-half mile, south of the furnace on the west side of U. S. Route 15 is Auburn and its numerous outbuildings, including a conjectured bath house 18 feet square, a spring house, and two stone retaining walls located on the east side of U. S. Route 15 at the base of the east embankment support for the highway. On the same axis, and slightly to the south adjacent to Old U. S. Route 15, are two 20th Century stone pillars that once formed the gates for the entrance to Auburn. Just to the north of these stone pillars are a series of stone walls and earthen embankments that supported

a large artificial lake located between U. S. Route 15 and Old U. S. Route 15 from ca. 1845 - 1890. The Monocacy Valley Railroad bed just west of Old U. S. 15 is visible today.

To the southwest of the Deborah, approximately 200 feet, is a stone foundation of unknown age. It is conjectured that this foundation supported a log structure similar to the log structure found adjacent to Old U. S. 15 and should be of a mid-19th Century date and is directly related to the Furnace Complex. South of this depression are two additional depressions on the east slope of the limestone pit. Both depressions are suggestive of building foundations. One is composed in part of recent cinderblock and brick.

The iron master's house, standing on the north side of the Furnace Complex, is in extremely poor condition with structurally dangerous areas. The materials used to construct the second addition of the house have been clearly exposed by the weathering away of its stucco covering, showing that it was made of brick as was the third addition to the rear. Both Mr. William Renner and Mr. Clinton Miller, Catoclin Furnace residents, have identified depressions in the ground that are adjacent to the spillway, water control gates, and race ponds to the west of U. S. Route 15 as being the foundations and remains of log structures on the lower slopes of the Catoclin Mountain.

THE SIGNIFICANCE OF THE CATOCTIN IRON FURNACE COMPLEX

HISTORIC

The historical research carried out on the Catoctin Iron Furnace Complex was limited to ascertaining facts dealing with the development, importance, and physical features of the site. A review of additional historic material has been included. Both the written record and photographic record have been researched, correlated, and the results compared with folklore. The combination of these various research efforts, in our opinion, clearly establishes numerous reasons why the Catoctin Iron Furnace Complex possesses historic importance to the people of the State of Maryland. Careful consideration has been given to arrange these historical facts:

1. The Catoctin Furnace was first owned and constructed by Governor Thomas Johnson and the James Johnson Company and may have produced shells for the Revolutionary War.
2. The Furnace was one of the last 18th Century complexes to be constructed in Western Maryland.
3. The Furnace site today contains evidence of the growth and change processes of modernization from ca. 1775 - 1900.
4. The Furnace was in operation from ca. 1775 - 1903, making it one of two furnaces to have operated in the 20th Century.
5. The tenant homes remaining today, constructed of log, stone, and clapboard are important architectural representatives of the Furnace community.
6. The physical remains of the Furnace and its associated structures all relate to the 1859 - 1903 period.

7. The close proximity of the Fitzhugh-Kunkel ore banks, one-quarter mile north of U. S. Route 15, are representative of late 19th Century ore mining activities.
8. The Catoctin Iron Furnace, under the ownership of James Johnson and Company, played a meaningful role and is an example of the economic role that iron furnaces played in the development of Western Maryland.
9. The stabilized state of the Complex is one of the earliest examples of the National Park Service's early commitment to historic site preservation.

ARCHAEOLOGICAL

The salvage archaeological survey was conducted upon the completion of the preliminary historic research phase of this Report and consisted of mechanically removing topsoil in an attempt to develop and record horizontal occupation patterns. In addition, it was hoped that cross-trenching with machinery would contribute information that could be combined in a historical record to create a partial understanding as to the location of structures throughout the Complex. However, salvage archaeology was limited to areas directly west of the "great retaining wall" and northwest of Furnace Stack #2 (see Figure 2) in order to establish the existence of the charcoal house, the Old Charcoal Road, and any unknown archaeological features. The results of this testing conclusively indicate:

1. The charcoal house was either completely destroyed or dismantled when its use was replaced by steam engines during the mid-19th Century; or
2. That it was constructed with deep foundations.

3. The Old Charcoal Road was farther to the north than indicated on Figure 2 and was destroyed in part or totally by the construction of the ca. 1960 Catoctin Furnace Road.
4. The primary archaeological test area between centerline location numbers 567 and 571, west of the "great retaining wall" and just east of the right of way line (Figure 2), contained only one archaeological feature possibly related to the Iron Furnace Complex. This feature is a stone foundation which measures 25 by 20 feet.
5. The secondary area for archaeological test trenching within the right of way was located between centerline numbers 560 and 563, as well as between 573 and 575. Both of these areas of investigation contained physical features that specifically relate to the water control, races, sluices, and dams; as well as the remains of one limestone pit and one conjectured limestone and/or ore pit.

Archaeologically, the Catoctin Iron Furnace Complex is important because specific individual physical units of the Furnace will be destroyed by the dualization to the east of the present road. These units are:

1. Stone foundation to the east of centerline 568
2. Limestone pits between centerline 565 - 567
3. Races and sluices between centerline 561 and 565
4. A limestone or ore pit between centerline 559 - 561
5. Sluices and dams and the race pond between centerline 575 - 580.

It is possible to conjecture that in these great limestone/ore pit depressions there are buried machinery parts relating directly to the Catoctin Iron Furnace Complex of which we are unaware. Therefore, it is important to consider not only the destruction of physical features, but also the possible destruction of potential materials within these physical features.

RECOMMENDATIONS

Before we present our recommendations, we would like to review a number of points that we consider important if the Catoclin Iron Furnace Complex is to be successfully utilized. In order to fully understand the interpretive potential of a stabilized and partially restored complex, we must assume that this process will be accomplished in conjunction with the recreation and education facilities already established at the Cunningham Falls State Park located adjacent and to the northwest of the Furnace Complex.

In the southeast corner of the park, contiguous to U. S. Route 15 there are remains of the Catoclin Furnace race ponds, sluices, as well as a number of depressions that are conjectured to be cellar holes. This area was probably related to the furnace operations which began ca. 1775 until 1876 when the use of steam power for blast was introduced thus altering radically the need for water power to turn water wheels. In our opinion, prior to 1876, Furnace Stacks 1 and 2 were totally dependent upon the sluices and races which originated to the northwest.

If dualization of U. S. Route 15 occurs to the west, between center lines 576 and 581, a number of these historical and archaeological features will be destroyed. This destruction could be minimized, if not eliminated completely, if the dualization on the west side were to cross to the east side of the present U. S. Route 15 and continue northward on the east side of center line 584 before it crossed back to the west side. It is

is our understanding that the sharp bend necessary in the dualization to keep the remains of the water control ruins located within the park is not possible according to standard engineering practices.

One immediate reaction of dualization of U. S. Route 15 to the east is that it will destroy the Catoctin Furnace Complex through vibrations caused by heavy industrial traffic. From our historical and archaeological survey, we feel that the east dualization of U. S. Route 15 does not significantly damage the historical or archaeological potential at the Catoctin Furnace except for the destruction of archaeological features enumerated on page 55 of this report. This dualization destroys less significant structures than those that would be destroyed in the southeast corner of the Cunningham Falls State Park by construction of the road to the west. Certainly the esthetic damage caused by an elevated, four-lane, dual highway to the southeast corner of the park is far more significant than any esthetic damage that could be caused to the Furnace Complex. However, recognizing the responsibility that we must assume by making the recommendation that dualization take place to the east, we must qualify our recommendations to include the following points.

A pedestrian tunnel, located between centerline 576 and 583, will be incorporated into the State Highway Administration's construction plans. This pedestrian tunnel will connect Cunningham Falls State Park to the Catoctin Furnace Complex and will provide for safe and accessible method for connecting the two recreation areas. In addition, we recommend that the tunnel be wide enough for security vehicles to pass through, and that

sufficient fencing and grading be installed as a visual/sound barrier to separate the tunnel and the people using it from the intrusion of automobile traffic on U. S. Route 15. The benefit of linking the Catoctin Furnace Complex to an existing recreational and educational park cannot be questioned. The benefit of this link, in our opinion, far outweighs the destruction or alteration of the limestone/ore pits located to the southwest of the present furnace stack (Figure 2). This statement is made with full realization and understanding that historically it has been accepted that these pits played a major role in the development of Catoctin Furnace ca. 1775 - 1850. Our preliminary research has proven that the construction of the present U. S. 15, ca. 1960, destroyed additional ore pits, sluices, and foundations that were far more important than maintaining the existence of these two pits.

The Fitzhugh-Kunkel ore banks 1-1/4 miles north of the Complex (to the west of U. S. Route 15), provide, in our opinion, a far more useful interpretive area for the public to be exposed to the processes of mining ore and transporting it the Furnace, therefore we find it impossible to endorse the preservation of the two great pits adjacent to U. S. Route 15.

Our research has clearly shown that the area west of the "great wall" contained few, if any, structures directly related to the industrial expansion and contraction of the Furnace Complex between 1775

and 1903. Thus, the damage caused by the dualization east between centerline 570 and 573 will be of minimal effect to the Furnace. Proper planning and landscaping would ensure that the highway will not damage the esthetic value of the site in this area.

Mentzer has suggested that the vibrations caused by traffic on the the east dualization, in close proximity to the stone works of the Complex, will affect the strength and bond characteristics of the "great retaining wall" and Furnace Stack. We are not qualified to answer that statement, and therefore recommend that it be answered by geologists and soil engineers.

If our recommendation for dualization to the east is to be followed, prior to construction, salvage archaeology must be accomplished on the five specific features listed on page 55 which directly relate to the Catoctin Iron Furnace, and on the bath and spring houses at centerline 544 which relate directly to Auburn. Because of various depressions and contour changes as well as unidentified features between centerline 530 and 584, an historic sites archaeologist must be present during the actual earth moving activities in these areas in order for the State of Maryland to maximize the recovery of historically and archaeologically important knowledge relating to the Complex.

Salvage archaeological investigation of the six specific features mentioned, as well as the recovery of materials unknown at this time

will provide the State of Maryland with innumerable interpretive and display materials. Acceptance of the responsibility of salvage operations prior to the construction of dualization of U. S. 15 commits the State of Maryland to establishing a Master Plan for the development of the Catoclin Iron Furnace in conjunction with Cunningham Falls State Park. The broad parameters of this Master Plan should be to include a basic interpretive program with a simple visitor's center on the park grounds for the display of artifacts and historical knowledge uncovered. Accompanying the visitor's Center would be several all-weather walkways functioning as interpretive paths. These paths could be constructed after salvage archaeological research had been carried out not only on the features to be destroyed, but the entire furnace site and would wind through the various operational areas of the Furnace Stack areas. Of course, the Master Plan would include eventual interpretation of the iron master's house and the entire Furnace community adjacent to Old U. S. 15.

Both State and Federal Park systems in other States adjacent to Maryland have considered enlarging their preservation programs towards a goal of preserving our historical and archaeological heritage. The State of Maryland should take this opportunity existing at the Catoclin Furnace Complex to go beyond simple physical preservation of a historical monument, to creating an educational and interpretive center adjacent to a prime recreational facility. The educational potential of the historical, economic, and social attributes and contributions of the

Furnace community to the development and expansion of Western Maryland definitely exists though little is known about it. Upon the completion of sufficient additional historical research, the Catoctin Furnace Complex and Iron Village could be restored as a living example and demonstration of one of Maryland's early industries. Of course, development in this direction would be limited by the features of the Furnace; i.e., shops, sheds, offices, industrial buildings, homes, etc. found by future archival, photographic, and archaeological research.

Let us reiterate that, in our opinion, the presence of the Catoctin Iron Furnace on the grounds of the Cunningham Falls State Park can, and ought to, hold a special place of pride to Marylanders because of its historical and archaeological potential as being representative of Maryland's early western growth. Thus, to construct the east dualization without further salvage archaeology, Maryland will lose forever a portion of her history.

PLATE 1A:

A view, looking west, of Catoctin Furnace Stack #3, with cylindrical stack. To the right of the stack is the elevator which raised the ore to be dumped into the stack. To the left of the stack are the hot-air and engine buildings. The large shed in the foreground is the casting house. In front of the casting house are the Monocacy Valley Railroad tracks dating the picture as having been taken post-1886. On the extreme right is the Catoctin Furnace Stack #2 (Isabella), a charcoal furnace with its furnace bank, bridge, and charcoal shed apparently intact and operable. The fact that Stack #2 sat idle from 1893 to 1899 suggests that the photo was taken pre-1893.

(Photo compliments of Mr. Joseph Durick, Jr., Thurmont, Md.)

PLATE 1B:

A view looking northwest of the Isabella Furnace Stack. The stone furnace bank begins at the left rear and continues to the west of the stack, showing the bridge and charcoal shed directly north of the furnace stack. The large shed attached to the east face of the stack is the casting house. The Furnace Stack appears to be intact though not in operation, and we conjecture the photograph to be ca. 1893 - 1899.

(Photo compliments of the Photo Center, Thurmont, Md.)

PLATE 1a

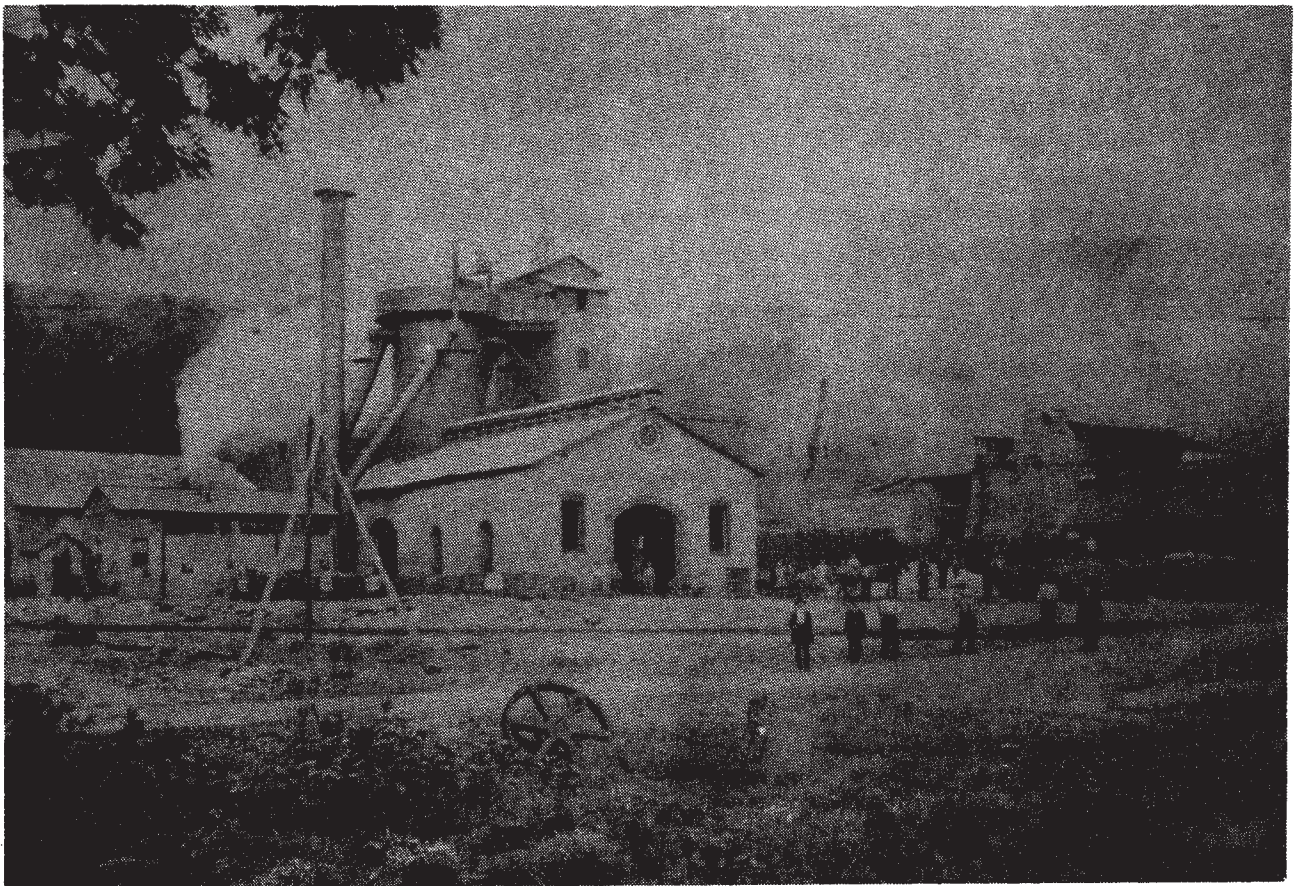


PLATE 1b

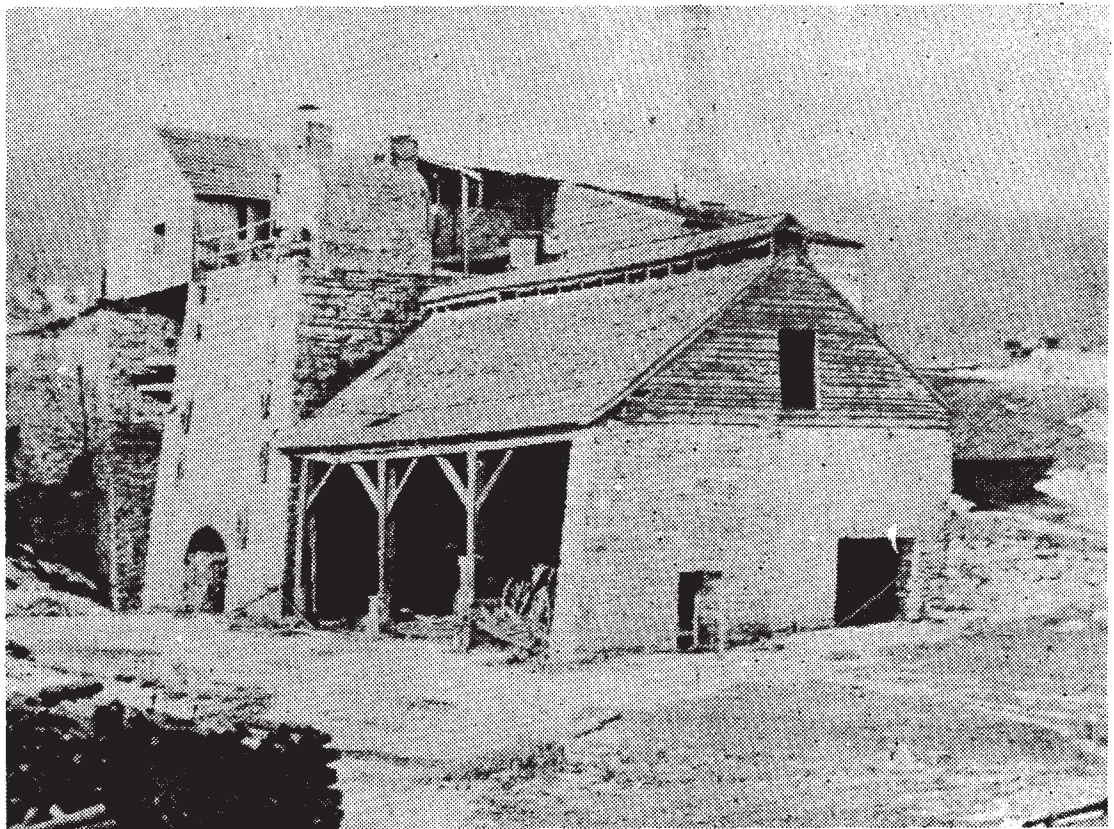


PLATE 2a:

A view, looking northwest, of the Catoctin Furnace Stack #3 and the surrounding area. The shed to the left-hand side of the picture in front of the cylindrical stack housed the steam engine. Note the extension of the shed roof and its support by wooden posts. Just to the right of the steam engine shed is a water tower that appears to be partially dismantled and was probably used by the railroad. Behind the water tower is the large casting house to Stack #3. In the center of the photograph, behind the telephone pole, is the iron master's house with dormers and pediment; to the right of that structure is the company store and offices. A small building in the far right-hand side of the photograph is the remains of a horse stable and blacksmith shop. In the foreground is the road identified as the Old Frederick-Emmitsburg Turnpike. The photograph appears to have been taken ca. 1903-05.

(Photograph compliments of Mr. William Renner, Thurmont, Maryland).

PLATE 2b:

A close-up of the above photograph, looking north, on axis with the Frederick-Emmitsburg Turnpike. The sign on the company store reads "Blue Mountain Iron and Steel Company." The additional telephone poles suggest a post-1910 date for the photograph.

(Photograph compliments of Mr. William Renner, Thurmont, Maryland).

PLATE 2a

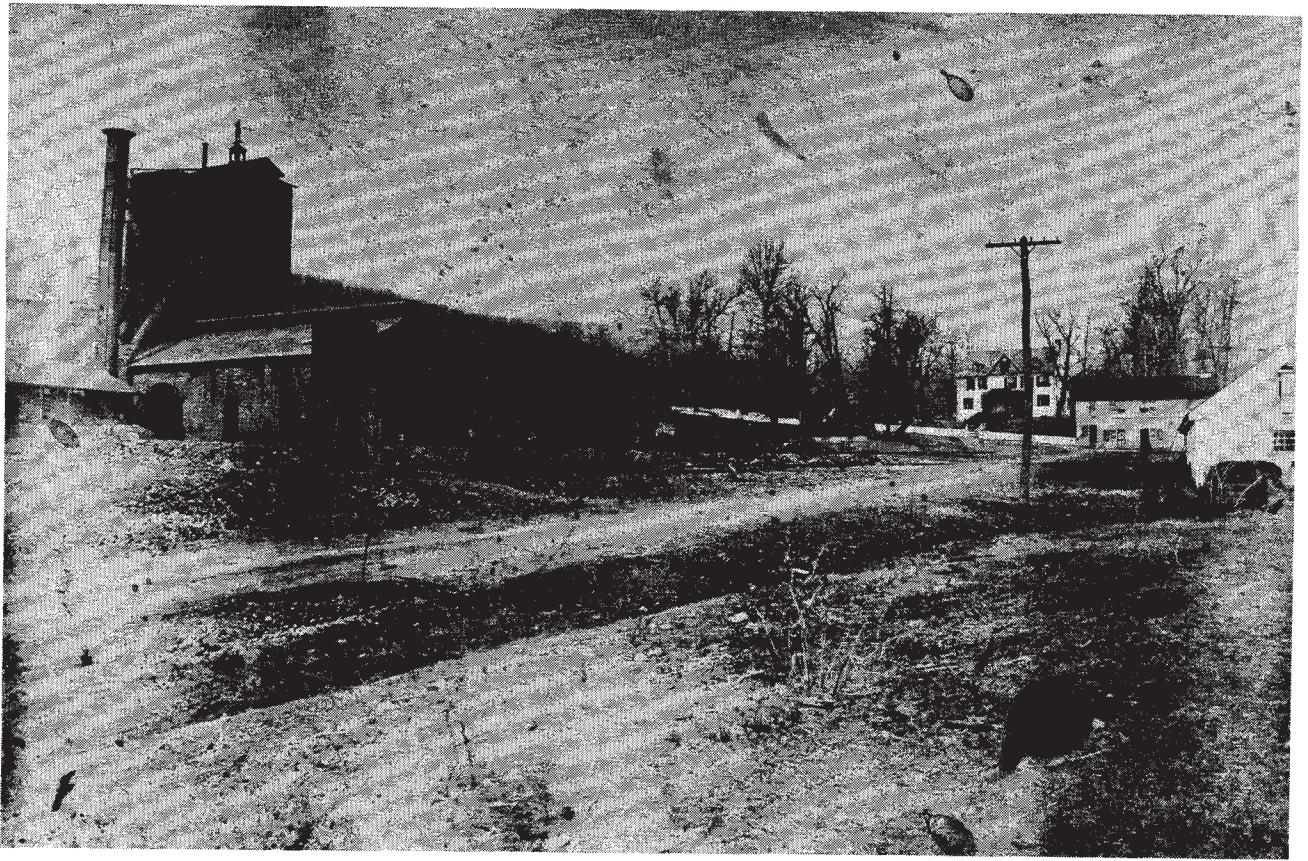


PLATE 2b

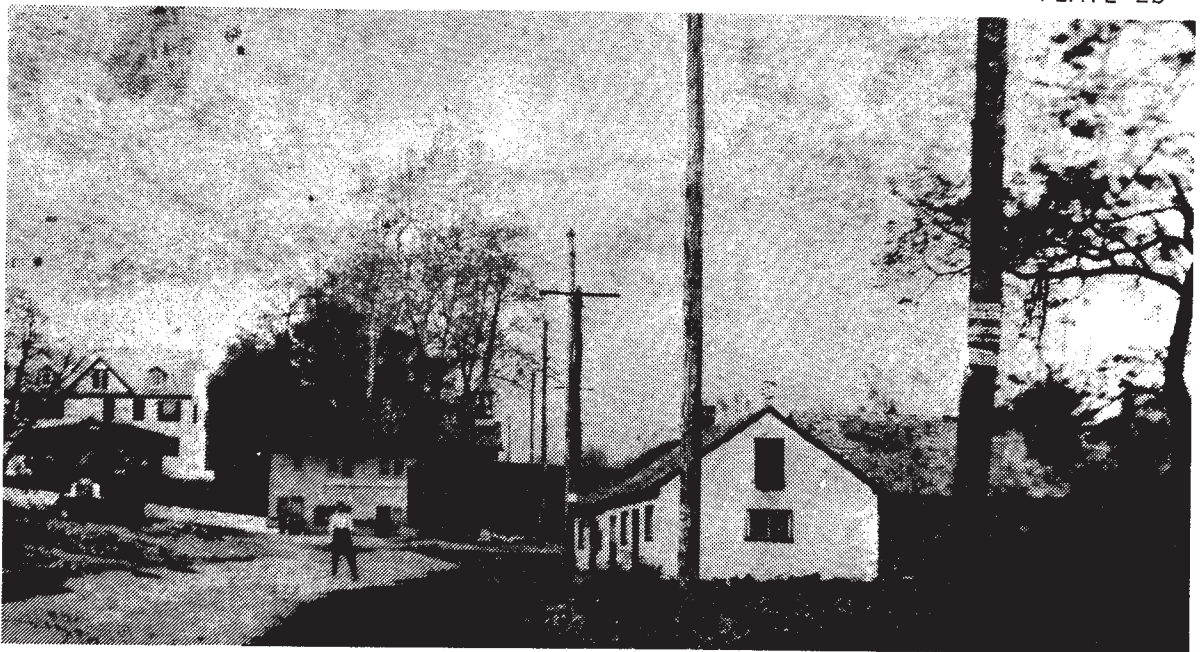


PLATE 3A:

A view, taken from the east side of the Frederick-Emmitsburg Road, looking southwest down the line of the Monocacy Valley Railroad track prior to its electrification. The buildings to the left side of the track in the photograph are unidentifiable. The casting house and the Deborah are clearly visible (top center of the photograph), as is a railroad spur to the north of the Deborah casting house. To the west is a long, gable roofed structure with seven visible windows and an open end conjectured to be the charcoal house for Stacks #1 and #2. To the right side of the photograph a small unidentifiable structure, east of Stack #2's casting house, is visible. Directly behind it is the casting house; and behind the casting house are the dismantled remains of Furnace Stack #2.

(Photograph compliments of the Photo Center, Thurmont, Md.)

PLATE 3B:

A view, looking northwest, of the Deborah Stack being dismantled, ca. 1907. Note the hot-air oven stack and steam ducts being dismantled. The engine house to the east, and the charcoal house to the west of the "great retaining wall" have both been completely removed or destroyed. To the right center of the photograph are a series of horse-drawn carts.

(Photograph compliments of William Renner, Thurmont, Md.)

PLATE 3a



PLATE 3b



PLATE 4A:

The hauling of ore prior to ca. 1850's for the Furnace #1 was accomplished by mule teams pulling ore carts on narrow gauge tracks. The photo is a view of a large ore pit showing the use of mules and ore carts. The location of this ore pit is unknown, but Mr. William Renner of Catoctin Furnace indicates that it is a Catoctin Furnace pit.

PLATE 4B:

A large steam shovel and crew working on the edge of an ore bank cut. The gentle slope of the cut suggests that it is from the Fitzhugh-Kunkel banks 1-1/4 mile from the Furnace and was worked by 100 men. To the right of the steam shovel, is the small steam engine used for hauling ore carts on a narrow gauge railroad. Tax assessment records show steam shovels as having been used as early as 1876 in the Catoctin Furnace Area.

(Photograph compliments of Mr. William C. Ruth, Hagerstown, Md.)

PLATE 4a

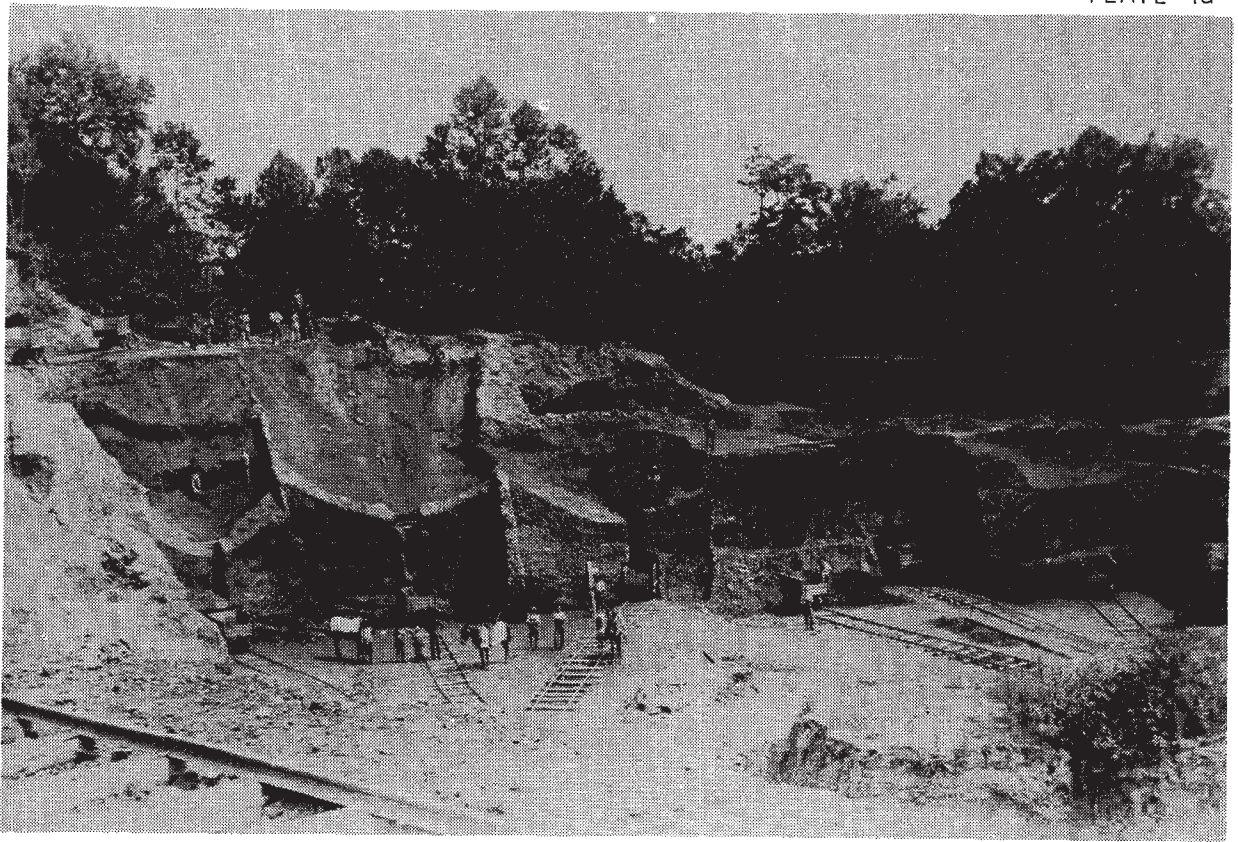


PLATE 4b



PLATE 5A:

A post-1905 view of the dismantled Catoctin Furnace Stack #2, looking northwest. According to local folklore, apparently both casting houses stood until 1924 before being torn down.

(Photograph compliments of the Maryland Room, Enoch Pratt Free Library.)

PLATE 5B:

A view of the Isabella Stack, looking northwest, showing archaeological test trenching accomplished in the 1930's under the WPA work program. The remains of a stone foundation appear on the left edge of the photograph, but unfortunately insufficient evidence is presented to identify it. The Furnace bank appears to be in decay. Directly to the north of the Isabella Stack are the remains of the building that appears in Plate 1B. Evidence of Catoctin Stack #1 does not appear in this photograph.

(Photograph compliments of the Maryland Room, Enoch Pratt Free Library.)

PLATE 5a

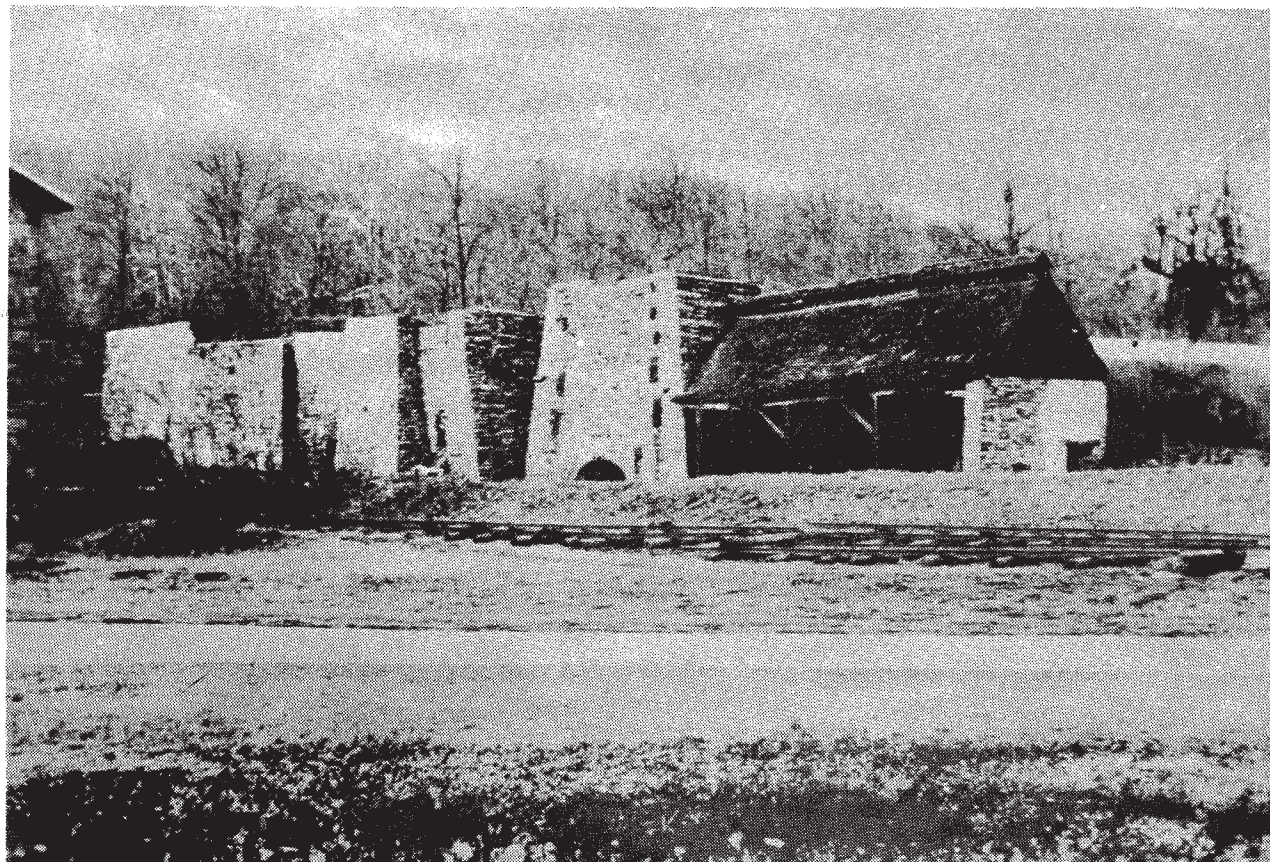


PLATE 5b



PLATE 6A:

A view of the iron master's house taken from a wagon or carriage (note horse's head with harness and blinders in left-hand lower corner). A white picket fence is directly behind the white-washed stone wall encircling the property. In Plates 2A and 2B, the white picket fence does not appear and has been removed. The roof lacks dormers and contains a simple Greek Revival pediment with small half-round window. At a later date the roofline is changed. This photograph is conjectured to have been taken prior to 1880.

(Compliments of the McPherson Family Pamphlet).

PLATE 6B:

A view of the iron master's house looking north from the junction of the Frederick-Emmitsburg and Old Charcoal Roads after the conjectured company store in Plates 2A and 2B has been dismantled. Note the addition of the pediment and dormers which occurred ca. 1890 - 1893. The photo appears to have been taken ca. 1936.

(Photograph Compliments of the Maryland Room, Enoch Pratt Free Library.)

PLATE 6a

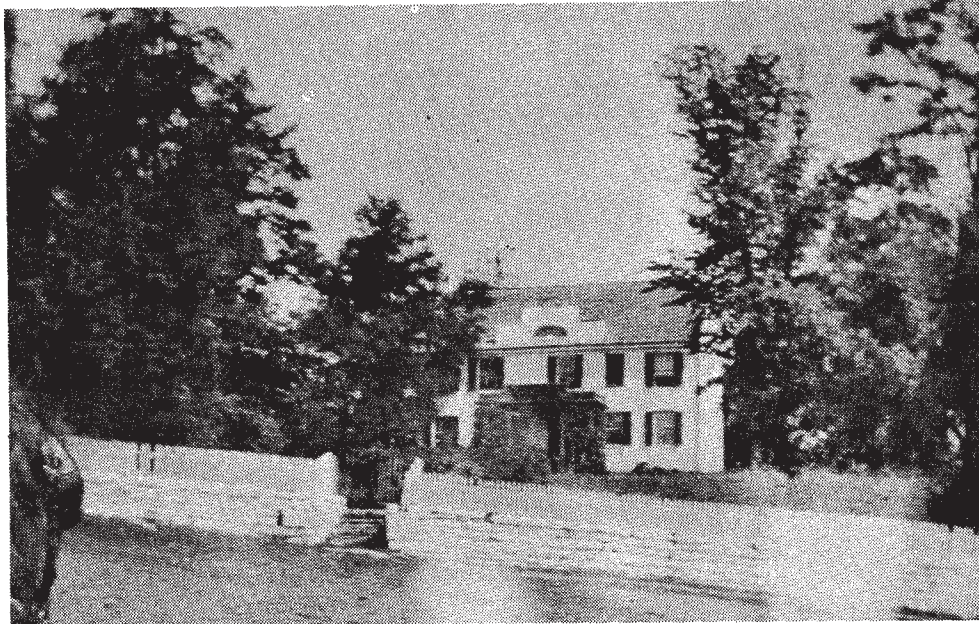


PLATE 6b



PLATE 7A:

A view, looking north, along Old U. S. Route 15 (Frederick-Emmittsburg Road) east side. Note the close-up detail of the southwest corner structure that appears in Planview Figure 2. The photo dates from ca. 1930 - 36.

(Photo compliments of the Library of Congress.)

PLATE 7B:

A view, looking south, taken from the east side of Old U. S. Route 15, showing the log structure on the left covered with clapboard; as well as the structure on the right side of the road.

(Photo compliments of the Library of Congress.)

PLATE 7a



PLATE 7b

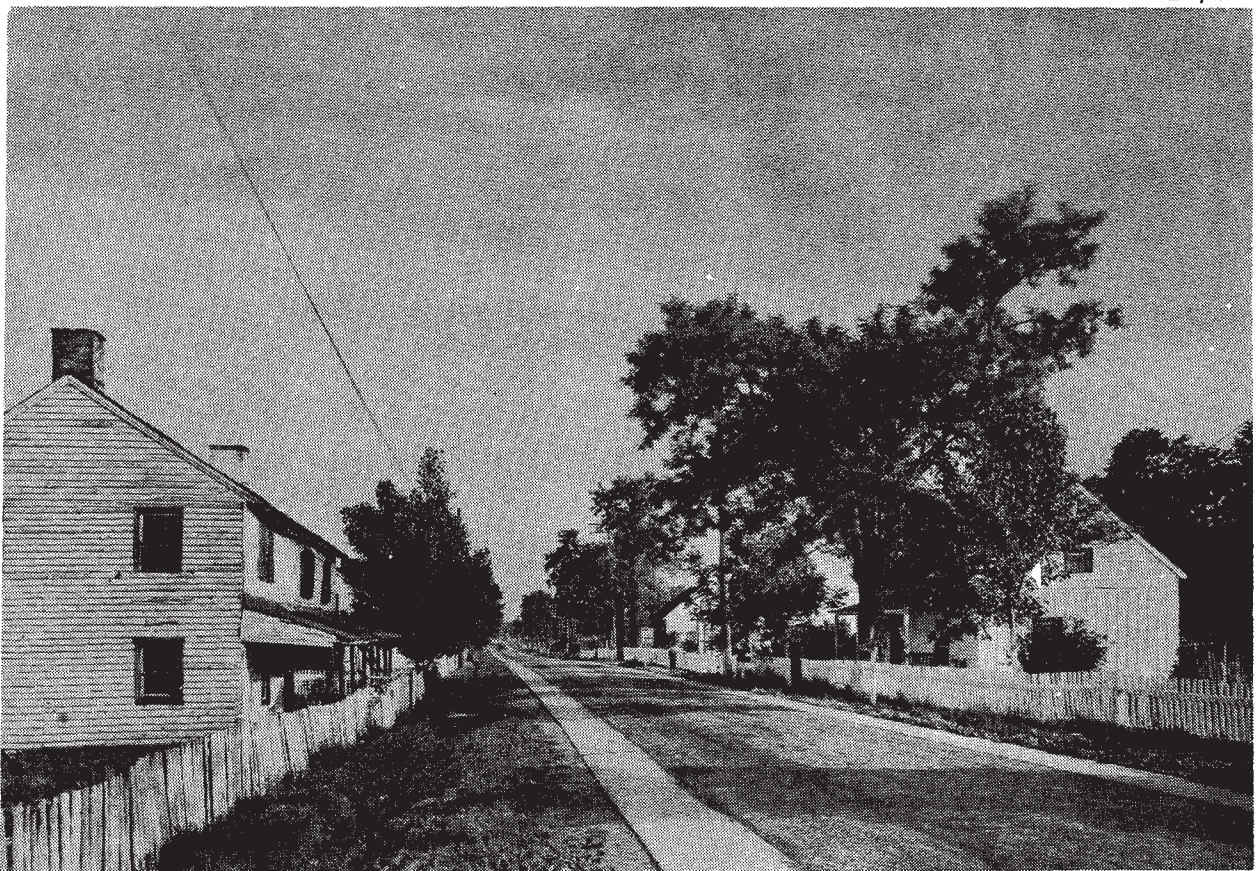


PLATE 8A:

A view of Auburn looking west across the Auburn Pond which was subsequently destroyed with the construction of U. S. Route 15.

PLATE 8B:

A view of the conjectured bath house to Auburn, located within the right of way of present U. S. 15 just east of Auburn today.

(Both photographs from the McPherson Family Pamphlet.)

PLATE 8a



PLATE 8b



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