



Phase II and Phase III Archeological Database and Inventory

Site Number: 18FR328

Site Name: Catoctin Three Ore Mines

Prehistoric

Other name(s): Orr's "Check 12"

Historic

Unknown

Brief Description:

late 18th-19th century ore mines, charcoal road, and raceway head

Site Location and Environmental Data:

Maryland Archeological Research Unit No. 17

SCS soil & sediment code Ma

Latitude 39.5835

Longitude -77.4437

Physiographic province Blue Ridge

Terrestrial site

Underwater site

Elevation m

Site slope

Ethnobotany profile available

Maritime site

Site setting

-Site Setting restricted

-Lat/Long accurate to within 1 sq. mile, user may need to make slight adjustments in mapping to account for sites near state/county lines or streams

Topography

- Floodplain
- Hilltop/bluff
- Interior flat
- Upland flat
- Ridgetop
- Terrace
- Low terrace
- High terrace
- Rockshelter/cave
- Hillslope
- Unknown
- Other

Ownership

- Private
- Federal
- State of MD
- Regional/county/city
- Unknown

Nearest Surface Water

Name (if any) Little Hunting Creek

- | Saltwater | | Freshwater | |
|--|--|--|--------------------------------|
| Ocean <input type="checkbox"/> | Estuary/tidal river <input type="checkbox"/> | Stream/river <input checked="" type="checkbox"/> | Swamp <input type="checkbox"/> |
| Tidewater/marsh <input type="checkbox"/> | Lake or pond <input type="checkbox"/> | Spring <input type="checkbox"/> | |

Minimum distance to water is 0 m

Temporal & Ethnic Contextual Data:

- Paleoindian site
- Archaic site
- Early archaic
- Middle archaic
- Late archaic
- Unknown prehistoric context
- Woodland site
- MD Adena
- Early woodland
- Mid. woodland
- Late woodland

- Contact period site
- ca. 1820 - 1860 Y
- ca. 1630 - 1675
- ca. 1675 - 1720
- ca. 1720 - 1780
- ca. 1780 - 1820 Y
- Unknown historic context
- Unknown context
- ca. 1860 - 1900 Y
- ca. 1900 - 1930
- Post 1930

Ethnic Associations (historic only)

- Native American
- African American
- Anglo-American
- Hispanic
- Asian American
- Unknown Y
- Other

Y=Confirmed, P=Possible

Site Function Contextual Data:

- ### Prehistoric
- Multi-component
 - Village
 - Hamlet
 - Base camp
 - Rockshelter/cave
 - Earthen mound
 - Cairn
 - Burial area
 - Misc. ceremonial
 - Rock art
 - Shell midden
 - STU/lithic scatter
 - Quarry/extraction
 - Fish weir
 - Production area
 - Unknown
 - Other context

- ### Historic
- Urban/Rural? Rural
 - Domestic
 - Homestead
 - Farmstead
 - Mansion
 - Plantation
 - Row/townhome
 - Cellar
 - Privy
 - Industrial
 - Mining-related
 - Quarry-related
 - Mill
 - Black/metalsmith
 - Furnace/forge
 - Other iron ore min
 - Transportation
 - Canal-related
 - Road/railroad
 - Wharf/landing
 - Maritime-related
 - Bridge
 - Ford
 - Educational
 - Commercial
 - Trading post
 - Store
 - Tavern/inn
 - Military
 - Battlefield
 - Fortification
 - Encampment
 - Townsite
 - Religious
 - Church/mtg house
 - Ch support bldg
 - Burial area
 - Cemetery
 - Sepulchre
 - Isolated burial
 - Bldg or foundation
 - Possible Structure
 - Post-in-ground
 - Frame-built
 - Masonry
 - Other structure
 - Slave related
 - Non-domestic agri
 - Recreational
 - Midden/dump
 - Artifact scatter
 - Spring or well
 - Unknown
 - Other context

Interpretive Sampling Data:

Prehistoric context samples
Soil samples taken
Flotation samples taken
Other samples taken

Historic context samples
Soil samples taken N
Flotation samples taken N
Other samples taken iron ore samples



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Diagnostic Artifact Data:

Projectile Point Types		Koens-Crispin	
Clovis	<input type="checkbox"/>	Perkiomen	<input type="checkbox"/>
Hardaway-Dalton	<input type="checkbox"/>	Susquehana	<input type="checkbox"/>
Palmer	<input type="checkbox"/>	Vernon	<input type="checkbox"/>
Kirk (notch)	<input type="checkbox"/>	Piscataway	<input type="checkbox"/>
Kirk (stem)	<input type="checkbox"/>	Calvert	<input type="checkbox"/>
Le Croy	<input type="checkbox"/>	Selby Bay	<input type="checkbox"/>
Morrow Mtn	<input type="checkbox"/>	Jacks Rf (notch)	<input type="checkbox"/>
Guilford	<input type="checkbox"/>	Jacks Rf (pent)	<input type="checkbox"/>
Brewerton	<input type="checkbox"/>	Madison/Potomac	<input type="checkbox"/>
Otter Creek	<input type="checkbox"/>	Levanna	<input type="checkbox"/>

Prehistoric Sherd Types

Marcey Creek	<input type="checkbox"/>	Popes Creek	<input type="checkbox"/>	Shepard	<input type="checkbox"/>	Keyser	<input type="checkbox"/>
Dames Qtr	<input type="checkbox"/>	Coulbourn	<input type="checkbox"/>	Townsend	<input type="checkbox"/>	Yeocomico	<input type="checkbox"/>
Selden Island	<input type="checkbox"/>	Watson	<input type="checkbox"/>	Minguannan	<input type="checkbox"/>	Monongahela	<input type="checkbox"/>
Accokeek	<input type="checkbox"/>	Mockley	<input type="checkbox"/>	Sullivan Cove	<input type="checkbox"/>	Susquehannock	<input type="checkbox"/>
Wolfe Neck	<input type="checkbox"/>	Clemson Island	<input type="checkbox"/>	Shenks Ferry	<input type="checkbox"/>		
Vinette	<input type="checkbox"/>	Page	<input type="checkbox"/>	Moyaone	<input type="checkbox"/>		
				Potomac Cr	<input type="checkbox"/>		

Historic Sherd Types

Earthenware		Ironstone		Staffordshire		Stoneware	
Astbury	<input type="checkbox"/>	Jackfield	<input type="checkbox"/>	Tin Glazed	<input type="checkbox"/>	English Brown	<input type="checkbox"/>
Borderware	<input type="checkbox"/>	Mn Mottled	<input type="checkbox"/>	Whiteware	<input type="checkbox"/>	Eng Dry-bodie	<input type="checkbox"/>
Buckley	<input type="checkbox"/>	North Devon	<input type="checkbox"/>	Porcelain	<input type="checkbox"/>	Nottingham	<input type="checkbox"/>
Creamware	<input type="checkbox"/>	Pearlware	<input type="checkbox"/>			Rhenish	<input type="checkbox"/>
						Wt Salt-glazed	<input type="checkbox"/>

All quantities exact or estimated minimal counts

Other Artifact & Feature Types:

Prehistoric Artifacts		Other fired clay	
Flaked stone	<input type="checkbox"/>	Human remain(s)	<input type="checkbox"/>
Ground stone	<input type="checkbox"/>	Modified faunal	<input type="checkbox"/>
Stone bowls	<input type="checkbox"/>	Unmod faunal	<input type="checkbox"/>
Fire-cracked rock	<input type="checkbox"/>	Oyster shell	<input type="checkbox"/>
Other lithics (all)	<input type="checkbox"/>	Floral material	<input type="checkbox"/>
Ceramics (all)	<input type="checkbox"/>	Uncommon Obj.	<input type="checkbox"/>
Rimsherds	<input type="checkbox"/>	Other	<input type="checkbox"/>

Prehistoric Features

Mound(s)	<input type="checkbox"/>	Storage/trash pit	<input type="checkbox"/>
Midden	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>
Shell midden	<input type="checkbox"/>	Ossuary	<input type="checkbox"/>
Postholes/molds	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
House pattern(s)	<input type="checkbox"/>	Other	<input type="checkbox"/>
Palisade(s)	<input type="checkbox"/>		
Hearth(s)	<input type="checkbox"/>		
Lithic reduc area	<input type="checkbox"/>		

Lithic Material

Jasper	<input type="checkbox"/>	Fer quartzite	<input type="checkbox"/>	Sil sandstone	<input type="checkbox"/>
Chert	<input type="checkbox"/>	Chalcedony	<input type="checkbox"/>	European flint	<input type="checkbox"/>
Rhyolite	<input type="checkbox"/>	Ironstone	<input type="checkbox"/>	Basalt	<input type="checkbox"/>
Quartz	<input type="checkbox"/>	Argilite	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
Quartzite	<input type="checkbox"/>	Steatite	<input type="checkbox"/>	Other	<input type="checkbox"/>
		Sandstone	<input type="checkbox"/>		

Dated features present at site

Historic Artifacts		Tobacco related	
Pottery (all)	13	Activity item(s)	30
Glass (all)	60	Human remain(s)	<input type="checkbox"/>
Architectural	21	Faunal material	<input type="checkbox"/>
Furniture		Misc. kitchen	14
Arms		Floral material	<input type="checkbox"/>
Clothing	3	Misc.	9
Personal items	1	Other	<input checked="" type="checkbox"/> ore tailings

Historic Features

Const feature	<input type="checkbox"/>	Privy/outhouse	<input type="checkbox"/>	Depression/mound	<input type="checkbox"/>	Unknown	<input type="checkbox"/>
Foundation	<input type="checkbox"/>	Well/cistern	<input type="checkbox"/>	Burial(s)	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>
Cellar hole/cellar	<input type="checkbox"/>	Trash pit/dump	<input type="checkbox"/>	Railroad bed	<input checked="" type="checkbox"/>	ore mines	
Hearth/chimney	<input type="checkbox"/>	Sheet midden	<input type="checkbox"/>	Earthworks	<input type="checkbox"/>		
Postholes/molds	<input type="checkbox"/>	Planting feature	<input type="checkbox"/>	Mill raceway	<input checked="" type="checkbox"/>		
Paling ditch/fence	<input type="checkbox"/>	Road/walkway	<input checked="" type="checkbox"/>	Wheel pit	<input type="checkbox"/>		

All quantities exact or estimated minimal counts

Radiocarbon Data:

Sample 1: +/- years BP Reliability Sample 2: +/- years BP Reliability Sample 3: +/- years BP Reliability

Sample 4: +/- years BP Reliability Sample 5: +/- years BP Reliability Sample 6: +/- years BP Reliability

Sample 7: +/- years BP Reliability Sample 8: +/- years BP Reliability Sample 9: +/- years BP Reliability

Additional radiocarbon results available



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External Samples/Data:

Collection curated at MAC

Additional raw data may be available online

Summary Description:

Site 18FR328 consists of four depressed areas located west and northwest of the Catoclin Furnace Historic District, along US Route 15 in Frederick County, Maryland. In addition, a possible historic road trace cuts beneath Route 15 near one of the depressions. The depressions were thought to be filled remnants of historic iron mines that supplied ore to the nearby furnaces. The road remnant was purported by locals to have been the historic "Old Charcoal Road" which was used to deliver processed charcoal to the furnace stacks for use as fuel. The archeological inquiry that took place in this area in the late 1970s was geared towards verifying these speculations.

The site was first examined by archeologists in 1977 during a Phase I survey through the Catoclin Furnace Historic District and environs prior to the dualization of US Route 15. During the Phase I investigations, the depressions and possible road trace were extensively surveyed on foot and important features were noted and mapped. The first depression noted (Feature 1) was roughly circular or oval in shape and approximately 45.72 meters (150 ft) in diameter, but with two box-like projections on the west side and a narrow "gorge" carved out to the east. The east bank of the depression rises about 3.6576 meters (12 ft) above the floor of the depression and the west bank rises some 9.144 meters (30 ft). It was tested in 1977 to determine if it was in-fact an old mine. A backwards L-shaped trench was excavated with a backhoe through the fill in the eastern "gorge" area. Ore-bearing strata within the depression were found to have been cut in a U-shaped pattern to a depth of 4.572 meters (15 feet), thus confirming that the depression was indeed a relict mine. This hole had then been filled in with sand. Thin bands of different colored soil atop this were interpreted as the remains of ore-bearing soils that were dragged out of the mine through the "gorge", which served as the entrance to the mine from what was once a wide mining road (in 1977 it lay beneath the extant road bed of US 15). In the early days of mining, carts or buggies were loaded with ore near the mine fronts and then hauled out via the gorge/entrance to the road beyond. In later periods, ore carts on rails were supposedly used to transport the ore. The two box-like projections on the west end of the depression were interpreted as these mine fronts. The excavations seem to suggest that this mine was in operation earlier in the furnace's history. Massive iron nuggets were encountered at just a little over 2 meters below the surface. This was below the water table and the contention of the excavators was that the mine must have been excavated prior to the advent of steam pumps (to pump out ground water), otherwise the precious ore would not have been left in situ. In general, this mine is far shallower than other mines in the vicinity which are known to have been worked much later.

The second depression (Feature 2) was located south of the first depression and on the opposite side of US Route 15 (the east side). Much of this area was filled when the highway was built, but in areas where the depression could still be discerned, its banks extended as high as 2.44-3 meters (8-10 ft) above the depression floor. The locale was well-documented historically to have been an ore mine. Preliminary interviews with local informants revealed that in the 1920s the abandoned mine was flooded by Lanceolot Jacques, owner and real estate developer of the Catoclin Furnace area at the time. Jacques built an entire complex of lakes from the old mines and raceways at Catoclin, which he called the "deer park". It was a development scheme by Jacques to make a portion of the furnace area profitable as a recreational area. It seems this idea never really took off, but the facilities did provide an ideal environment for raising fish. Beginning in the late 1920s, the ponds developed by Jacques were rented by one George English who began using them to raise goldfish. This profitable fish farming business was expanded and at one time the area from Catoclin Mountain to Lewistown was known as "the Goldfish Capital of the World". This mine was filled from a tailrace that emptied the racepond at 18FR327 (see associated synopsis report for additional historical context) to the north. The water was impounded by a stone barrage built on the mine's south side and a cement dam to the east. In times of flooding, water could spill over this second cement dam into yet another abandoned ore mine. Originally, it seems that the water from the racepond at 18FR327 was transported southeast via the tailrace, but instead of spilling into this abandoned ore mine, it was transported over the narrow gap (where the cement dam was eventually built) via a wooden aqueduct. The water then continued in a raceway south towards the furnace facilities. The pond was filled-in when US 15 was built in the 1960s. No excavations were conducted in this area during Phase I survey as it was historically documented to be a mine, but work in the vicinity was scheduled to take place during Phase II operations.

The third depression (Feature 3) was directly to the east of Feature 2. It was 3-3.66 meters (10-12 ft) deep in an irregular area about 36.576 meters (120 feet) in diameter. It was at one time connected to the ore mine immediately west of it by a narrow passageway (the "gorge"). This entrance was blocked by the cement dam built by Jacques (see above). Oral history indicates that it also served as an ore mine and it was not excavated or examined further. The fourth depression (Feature 4) was quite large and was located well south of the two connected mines. A geologic map from 1911 indicated that this was also an ore pit. This mine was almost completely covered by the original alignment of US 15. Plans were made to explore the area further at the Phase II stage to confirm that it was also an ore mine. Running east-west between this depression and the two connected mines (the two associated with Jacques' "deer park") was an area depicted on SHA maps of the highway area topography as a roughly 12.192 meter (40 ft) flat horizontal zone surrounded by depressions (i.e. the mines previously discussed). Preliminary survey work indicated that this raised area was a kind of "bridge" built of slag fill extending due west; perpendicular to the highway. This was south of where a feature known as the "Old Charcoal Road" was thought to have crossed the right-of-way for the existing lane of US 15. However, interviews with local informants revealed that this location was actually closer to the vicinity in which they remembered the "Old Charcoal Road" intersecting the route. The presumed Old Charcoal Road also appeared to follow a path that would eventually join a local dirt and stone road that was still in use in the 1960s according to Maryland SHA. This feature (Feature 6) was also reserved for further examination during Phase II testing. Feature 5 was a raceway determined to be primarily related to another site (18FR327) and will not be discussed here.

After this initial survey work had been completed, a Phase II research plan was established that involved extensive background research to place the mines in their proper historical context, soil sediment coring to determine the subsurface structure in some of the mine areas, and a series of test trenches to better understand the structure of the mines and road and the way in which they were utilized. A brief overview of the archival and oral history research will be presented first, followed by discussion of the Phase II archeology.

Archival research and discussions with local informants reveal important background information relating to the site. In the year 1774, James, Thomas, Baker, and Roger Johnson constructed the first iron furnace at Catoclin. In 1776, they began producing pig iron under the name of James Johnson and Company. Hematite ore from the Catoclin Mountains provided the raw material for production of the iron while the Catoclin forests provided charcoal for fuel. The Catoclin Furnace company held thousands of acres of the surrounding forest land, which were harvested on a 25-35 year cycle to produce charcoal. A given forest area was essentially clear-cut for live timber, leaving a couple of standing trees for re-seeding. Logs were cut into standardized lengths and drawn down the mountainside on sleds to "hearth stands". An expert called a "collier" cleared a roughly 9 meter level, circular area of all stone and forest debris and then stacked the wood in a special pattern. It was then covered with earth, leaving a smokehole near the top. Hot coals would be dropped into this hole and the slow-burning fire would be tended by the collier around-the-clock for 2-3 weeks until all of the wood was charred. It took approximately 1 cord of cut wood to produce 6 bushels of charcoal. The charcoal was then cooled and hauled to the furnace site on mule-drawn wagons. According to local tradition, the wagons



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travelled to the furnace complex along the Old Charcoal Road and halted at the "Bell-Ringing Tree". A bell was affixed in the upper branches of a tall Sycamore tree and was rung by the collier to summon the charcoal weigher. The charcoal weigher determined the quantity in the collier's load and paid him based on a set rate per bushel. After depositing the fuel in the charcoal house at the furnace, the colliers would return to their hearth stands along the same route, trailing charcoal dust all along the way. This practice would have been a part of the regular rhythm at the factory until 1893, when coal coke completely replaced charcoal as fuel for the furnace stacks.

Charcoal was not the only power source utilized at the furnaces. Water from the local springs and streams provided the energy to power enormous bellows blowing air into the furnace, as well as power for forge hammers, mills, and other machines. A complex system of ponds, races, ditches, dams, and aqueducts ensured that the water wheels were supplied with sufficient "drop" to maintain the power levels needed. It was this system of water channeling that was exploited by Lanceolot Jacques (see above) to flood some of the mines under question at 18FR328. Additional details related to the period of Jacques' "deer park" and the period of use as a goldfish farm are discussed in the synopsis report for 18FR327. One of the most important early products of the furnace is rumored to have been supplies (including munitions) for George Washington's Army. While pig iron continued to be produced at the furnace, other important products were machine parts, foundry rolling mills, iron car/cart wheels, cast-iron stoves, and other materials. During the Civil War, iron from the furnace was used to armor the famous iron-clad ship, the Monitor. Over the course of history a number of additional furnace stacks, support structures, quarries, casting areas, and other structures were constructed in the area. Some structures were demolished and improved facilities were built. One noteworthy addition was the construction of the "Isabella" furnace stack around 1856. The Catoclin Furnace continued to operate until the early 20th century.

Archeological researchers returned to Site 18FR328 in 1979 to conduct Phase II testing. In the vicinity of Feature 1, the original trenches laid out in 1977 were enlarged with a backhoe, revealing undisturbed natural strata on the sides of the ore mine depression. The trench revealed that the mining excavations were dug to approximately 3 meters below the present surface of the depression, where a yellow soil marked the end of a layer of iron ore. Six split rails sharpened and used as stakes were found at this bottom level, along with a large squared beam containing square spikes of iron. An L-shaped trench was also dug at the west end (near the box-like projections of the ore pit – see above) to a depth of 1.524 meters (5 ft). Natural strata consisting of gray clay and brown soil were encountered in the sides, and the loose fill of these strata was found at the base of the excavation unit. A number of shovel test pits were placed between the two box-shaped projections which revealed fill similar to that seen in the upper layer of the 1979 trench. No artifacts were found in the shovel tests, but cinders, typical of furnace tailings, were encountered.

Two backhoe cuts were made into the banks of the Feature 2 depression to confirm what was already documented historically; that it was a mine. Ore deposits were encountered which were relatively undisturbed. Twelve borings were drilled into these iron ore deposits and like the Feature 1 mine, revealed that a significant quantity of ore remained below the water table. This, again, suggests that this was an early mine, utilized at a time when water could not be easily pumped out of diggings via steam power. No excavations were conducted in the Feature 3 mine area as it was well documented historically and was outside the area that would be impacted by highway dualization. The depression at Feature 4 could not be adequately tested due to the steep road embankments (US Route 15 sat directly atop this locale). A trench was cut in the vertical face of the presumed Charcoal Road near the north end of the mine, but no iron ore was seen. A geologist who assisted with the project did, however, note the presence of iron ore nuggets in surface exposures at different levels throughout the depression. Two iron rails were also found, one being very badly twisted, at the juncture of the probable mine wall and the road embankment. Seven borings confirmed that the depression was a deep ore mine that extended below the present water table (suggesting a more recent mine).

Feature 1 was interpreted as a box mine; an exploration for iron ore made from the Feature 2 mine. This mine was dug following the iron ore strata and avoiding sterile zones such as a large "island" of sterile strata noted in one of the Feature 2 trenches. This resulted in a pattern of mine excavation that locals described as being like a "rabbit warren". Feature 3 was presumed to also be a continuation of the Feature 2 mine, probably underneath a wooden aqueduct which locals state once carried water over the gap between the two mines and on to the furnace (see the 18FR327 synopsis report). These mine features revealed clues as to the mining practices at Catoclin during the period prior to the use of steam pumps (first utilized in the latter part of the 19th century). First a squared face was dug (the box-like projections of Feature 1) approximately 12.2-15.25 meters (40-50 ft) wide and half as deep. Digging proceeded forward by throwing non-ore soil to the rear and side, and ore fragments into carts. Ore carts at this period were probably on sleds with furnace tailings used to give a prepared surface for travel. A wide stepped platform was gradually lowered to the base of the retrievable ore body (essentially the water table). The sides of the excavation were shorn-up by the use of squared timbers held in position by perpendicular split-rail stakes like those encountered at the base of the Feature 1 mine. The total face of the mine was kept parallel and on the same plane by alternately digging adjacent box-shaped sections (the two parallel projection on the west side of Feature 1). The vein of iron ore was followed until significant overburden, as in a steeply rising mountain side, was encountered or the vein went too deeply into ground water. Ground water could be kept drained with ditches, but excavation could not proceed as deeply as it later would with steam pumps.

The Feature 4 mine was considered to belong to the later complex of mines including the Big Ore Bank and the Kunkel Mine (18FR330) because of its greater depth and the presence of iron rails. The depth of mine excavation was well below the water table indicating that steam pumps were in use. The iron rails, were thought to be the kind of rails on which ore carts were pushed/pulled to haul the material out of the mine during the later periods at Catoclin. These replaced the wooden sleds that were thought to have been used in earlier periods.

The presence of the Old Charcoal Road at Feature 6 was also confirmed during Phase II work in 1979. This was situated north of the furnaces and paralleled a historic retaining wall. An initial backhoe trench was cut across the road revealing a thick zone of gray slag which covered the north side of a high terrace (henceforth called the upper terrace). A layer of gravel was found just under the surface. Beneath this was a thick band of powdered charcoal over a band of red gravel from furnace tailings. The gravel layers formed a strip some 4.572 meters (15 ft) wide and both the red gravel and upper gravel layers contained ruts about axle distance apart. These features in turn rested on a gray clay fill which resembled the soil resulting from ore washings. A thin zone of green slag intervened between the gray slag mantle and the fill. Several unrefined waste iron pieces, a possible brake handle, and an iron bar came from this green slag zone. A small midden at one end of this trench (the grid west end) extended about 46 cm below the surface in mixed clay soils with the majority of material being of a 20th century domestic nature. A second trench was cut into a terrace located approximately 2.13 meters (7 ft) to the south, below the upper terrace on which the main road was situated. The trench contained 3 charcoal features similar to the band encountered in the first trench. Each was similarly underpinned by soil washing debris. This suggested that a second road was situated below the Old Charcoal Road. A wagon spring was found in one of these features. A third trench was placed next to the initial trench on the edge of the main road terrace. It was excavated almost vertically downslope to a depth of 3.6576 meters (12 ft) to the floor of the feature 4 iron mine. A thick mantle of charcoal draped over the side of the terrace. The gray clay fill proceeded to a light yellow subsoil near the base of the cut. The same type of midden material of recent origin was found along the talus slope of the Old Charcoal Road embankment and at the base where a disturbed mix of clay soils revealed modern milk and scotch whiskey bottles and an electrical insulator pipe. This was probably a surface dump that was redeposited during earth moving activities when US 15 was initially constructed in the 1960s. A 1.524 meter (5 ft) grid was



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placed over the gravel and charcoal areas at the surface of the upper terrace and ten squares were excavated by hand. Two 1.8288 meter (6 ft) wide depressions were discovered in the charcoal layer, which seem to indicate the presence of two "lanes" on the road. In the fills within these ruts (consisting mainly of clay and gray slag) were found several clear 20th century bottle fragments along with machine-cut nails. This indicated that the fill material was a late addition. Other artifacts were also recovered in this area and are included in the counts below. Several shovel test pits were put into this upper terrace following the path of the road which revealed stratigraphy of the road similar to that described above. It was noted that on the west side of US Route 15, some 152 meters (500 ft) up the mountain slope, four roads or trails were found ranging in size from 3 to 3.66 meters (10-12 ft) in width. The trails appeared to converge on a line made by the extension of the charcoal road (i.e. they appeared as if they would meet up with it).

These excavations revealed several details concerning the area of the Old Charcoal Road. It seems that the road embankment (the upper terrace), was built of ore washings for the purpose of conveying charcoal in wagons from the hearth stands on the mountain to the furnace of the original stack at Catoctin, and later to the "Isabella" stack (see above), both located directly to the east. The road was accessed via the network of scattered trails which met up with the road as evidenced west of US 15. The charcoal roads were marked by red furnace gravel mantles put down to support the wagon wheels. The roads and adjacent areas were covered with charcoal dust which came from the emptied wagons as they returned to the mountain hearths. Alternatively, the charcoal could have been intentionally placed as good road bed material. The mountain trails converging on a projection of the Old Charcoal Road probably led into successively smaller trails terminating at the charcoal hearth stands. As the demand for charcoal grew with the expansion of the iron industry, a second terrace was built to the south. This terrace contained two charcoal roads corresponding to the two roads (the two wide depressions) found on the upper terrace; one for coming and one for going. The upper terrace was probably constructed in the latter part of the 18th century, and the lower road in the middle of the 19th century when the construction of the Isabella stack (in 1856-1857) increased demand for fuel. The charcoal roads were probably used in this way until the late 19th century. The last charcoal-fueled furnace blast took place in 1893. An exposed section of road on the upper terrace revealed the use of scattered, hard gray slag on the charcoal road surface. This slag is believed to have come from the third furnace stack built at Catoctin which burned anthracite coke. Modern artifacts were recovered in the fill that washed into the old road ruts.

Artifacts recovered during Phase II work in the vicinity of the Old Charcoal Road include 28 activity items (13 unrefined iron droplets, 1 iron wire piece, 1 flat iron bar, a probable wagon brake handle, 3 pieces of slag, 1 metal piston ring, 1 spark plug, 1 auto-body part, 1 cycle spoke, a wagon spring, 1 wire clothespin, 2 paint can tops, and 1 brass pen sheath), 14 architectural remains (7 machine-cut nails, 1 wrought nail, 2 wire nails, 1 square headed screw, 1 small piece of copper wire, and 1 electrical insulator pipe), 3 clothing objects (1 shoe sole, 1 leather shoe heel, 1 plastic hair barrette), 1 personal item (an aluminum key), 87 kitchen-related artifacts (7 whiteware sherds, 1 transfer-print ware sherd, 2 porcelain sherds, 3 stoneware crock sherds, 57 bottle glass pieces, 2 glass jar fragment, 1 glass lid fragment, 1 metal bottle cap, 1 large can top, 2 metal jar tops, 1 beer can, 1 tin can, and 8 small tin can fragments), and 9 miscellaneous artifacts (2 unidentifiable metal fragments, 4 green painted wood slivers, 2 clay "plugs" and a piece of tin foil). In addition to these remains, lots of evidence of cinders, slag, and general ore tailings were found throughout much of the fill.

Research at 18FR328 revealed information useful in interpreting the process of early mining and charcoal consumption at Catoctin Iron Furnace. Much of the site has been destroyed or altered by the dualization of US Route 15. However some portions remain (Feature 3) and may have additional research potential.

External Reference Codes (Library ID Numbers):

00005963, 00005972, 00005973