NPS Form 10-900
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United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received APR 4 1984
date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Brandywine Powder Mills

and/or common Upper Yards/Hagley Yards

2. Location

street & number Nominal two-mile strip of Brandywine Valley beginning at new bridge and extending upstream including parcels on both sides of the river but excluding lower Louvers district. ___ not for publication

city, town Greenville, Wilmington ___ vicinity of

state Delaware code 10 county New Castle code 003

3. Classification

Category	Ownership	Status	Present Use	
X district	___ public	X occupied	___ agriculture	X museum
___ building(s)	X private	X unoccupied	___ commercial	___ park
___ structure	___ both	X work in progress	X educational	___ private residence
___ site	**Public Acquisition**	**Accessible** admission	___ entertainment	___ religious
___ object	___ in process	X yes: restricted fee	___ government	___ scientific
	NA being considered	___ yes: unrestricted	___ industrial	___ transportation
		___ no	___ military	___ other:

4. Owner of Property

name Eleutherian Mills-Hagley Foundation, Incorporated

street & number P. O. Box 3630

city, town Greenville ___ vicinity of Wilmington state Delaware 19807

5. Location of Legal Description

courthouse, registry of deeds, etc. New Castle County Recorder of Deeds

street & number City/County Building, 800 French Street

city, town Wilmington state Delaware

6. Representation in Existing Surveys

title H.A.B.S. (partial) 1936 N-339 National Register Historic Places has this property been determined eligible? partially X yes ___ no

date 1966 X federal ___ state ___ county ___ local

depository for survey records Library of Congress, National Park Service

city, town Washington state District of Columbia

7. Description

Condition		Check one	Check one
_X_ excellent	___ deteriorated	___ unaltered	_X_ original site
_X_ good	_X_ ruins	___ altered	___ moved date _____
_X_ fair	_X_ unexposed		

Describe the present and original (if known) physical appearance

The Brandywine Powder Mill district of 216 acres is located in the Brandywine River Valley extending about two miles upstream from the Tyler-McConnell Bridge on both sides of the river excluding the lower Louviers/Chicken Alley district. Evolving from scattered late 18th century mill sites and communities into the largest black powder plant in the North American continent, in operation from 1803 to 1921, the district is historically significant. In the approximate century and a half of industrial use, literally hundreds of structures appeared and disappeared from the landscape. Parts, as the Eleutherian Mills Mansion owned by Mrs. Crowninshield, were refurbished after yards closed. There are 46 contributing buildings, 22 recognizable above ground building ruins, many significant other related manmade features as three dams, over a mile of races, bridges, narrow gauge railway, etc. There are only seven non-contributing modern structures. The Museum is aware of over 100 underground building sites including factories, workers' housing, sheds, barns and a mansion.

This nomination includes much of the 185-acre Eleutherian Mills Landmark district of 1966, and the Brandywine Manufacturers' Sunday School Register building of 1970; it also reflects the Foundation's subsequent acquisition of approximately 45 acres containing significant structures and sites, which are an integral part of the historic context.

Building Survey (with roofs)* contributing

S-1. Centennial Gate House and Gates

Stone, one room gate house with peaked slate roof. Joined to pedestrian gate (iron) and large gates of iron reading "1802 du Pont de Nemours 1902." Gates supported by stone columns. Each topped with stack of four 11" cannonballs. Built in 1904, these gates controlled access to the explosives plant.

S-2. Pickerhouse

Stone barrel-roofed "fireproof" building with interior arches supported by cast iron columns. Built ca. 1863 to house the highly flammable picking operation, the building had several subsequent functions including paint house. The original second story wood frame section is missing. Current use is museum store.

*As an arbitrary distinction, complete buildings with roofs intact have been separated from ruins or shells without roofs.

8. Significance

Period	Areas of Significance—Check and justify below				
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion	
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science	
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture	
___ 1600–1699	X architecture	___ education	___ military	___ social/	
___ 1700–1799	___ art	___ engineering	___ music	humanitarian	
X 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	___ theater	
X 1900–	___ communications	X industry	___ politics/government	___ transportation	
		___ invention		___ other (specify)	

Specific dates — **Builder/Architect** —

Statement of Significance (in one paragraph)

The Brandywine Powder Mill district near Wilmington, Delaware, was the site of continuous industrial use from the late 18th century to 1921 and is significant to the industrial and technological history of both the state and the nation. Beginning as a series of self-contained mill communities, it evolved into the largest manufactury of black gun powder on the North American continent. Not only was black powder produced, but at various times, under various parcel owners, there were two gristmills, two sawmills, one iron rolling and slitting mill, a textile mill, farm operation to produce Merino sheep, grain, and maintain drayage animals, machine shops, a blacksmith shop, wheelwright ship, two electric power plants, wood and metal cooperages and a host of other industries both to support the powder industry and to experiment in product diversification. The unique powder mill architecture, designed to channel explosions, (criteria C) is combined with vernacular dwellings, contemporary construction fads (e.g., barrel roofs). From the district emerged inventive successes such as the improved powder press, and failures like Cardon's speedy tanning process. Coupled with the conventional horse and wagon transportation, by the mid-19th century a narrow gauge railroad was introduced. By 1904 several miles of track with hoisting engines and elevators existed on the steep river bank. From early commercial adventures of people like Jacob Broom (see Broom House Nat. Reg. Nom.) to the founding of the Du Pont Company, this district emerged from local importance to national significance. The explosives produced contributed to every American war effort from the War of 1812 through World War I and to peace time projects such as the building of the Erie Canal and opening of the coal fields.

The upper property was the site of an 18th century industrial venture by signer of the Constitution Jacob Broom. He erected a dam, race and both a cotton mill and a sawmill. In 1802 E. I. du Pont purchased 65 acres of Broom's holdings for $6,740. Through an agent, as he was not at that time a citizen, du Pont continued to expand buying parcels along the creek and "inland." These served as sites for worker housing, farms to supply wool for his brother's adventure in textiles, and to support the Company's large collection of draft animals, woods to supply willow for charcoal productions, land for testing powder and sites for family mansions. The initial manufactury was significant in two respects. As powder mills go, it was large,

9. Major Bibliographical References

See continuation sheet

10. Geographical Data

Acreage of nominated property 216

Quadrangle name Wilmington North Quad. Quadrangle scale 1:24000

UTM References

	Zone	Easting	Northing
A	18	451230	4403410
B	18	450540	4402550
C	18	451040	4402550
D	18	450440	4402670
E	18	451040	4403000
F	18	450690	4403240
G	18	450840	4403230
H	18	451040	4403480

see continuation sheet

Verbal boundary description and justification

See continuation sheet

List all states and counties for properties overlapping state or county boundaries

state	Delaware	code	10	county New Castle	code 003
state		code		county	code

11. Form Prepared By

name/title Robert A. Howard

organization Hagley Museum date 12/9/83

street & number Box 3630 telephone (302) 658-2400

city or town Greenville state Delaware

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national X state ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature David R. Sheffield

title date March 30, 1984

For NPS use only

I hereby certify that this property is included in the National Register

Entered in the National Register date 5/3/84

for Keeper of the National Register

Attest: date

Chief of Registration

GPO 894-785

S-3. Henry Clay Factory

Three-story stone building with gable roof. Built 1814-1815, it was enlarged to its present size in ca. 1863. The roof configuration was originally clerestory, giving way to barrel and finally the present gable. At the rear of the building is a bell tower complete with the original mill bell. Current use is for museum exhibits and offices.

S-4. New Century Hydro

Two section reconstructed frame building with metal gable roof. Foundations are original 1900 hydroelectric plant. Building is a 1976 reproduction based on archaeology and original photographs. Current us is hydroelectric generation and museum exhibit.

S-5. Steam Plant

Stone walls, gable 20 year bond roof. In 1885 an old stone house was gutted and enlarged to house a Corliss steam engine and electric generators. A brick boiler house (now gone) was appended to the structure. A 90' steel smokestack (base only remaining) insured no sparks would get into the adjoining powder buildings.

S-6. Motor House/Blower House

Small stone shed-like building with #22 galvanized iron roof. Originally built as a blower house for a nearby late 19th century glaze mill, this building was rebuilt and enlarged in the first World War to accommodate a hoisting engine and drive for a nearby graining mill erected on the site of the previous glaze mill.

S-7. Old Eagle Roll Mills

Three heavy buttressed stone walls, with open front facing the river. Single slope iron roof. Originally built in 1839, these mills were altered to their current appearance in 1886. The lower mill contains its original 8-ton iron roll wheels and has been restored to operational status. The upper mill contains exhibits. This is one of two such exhibits known in the world. The other in England has much reconstructed machinery.

S-8. Old Machine Shop

Stone building of three sections each having a barrel roof. Built in 1858, this building housed the machinery used to manufacture and repair the machinery used in the powder process. The building now houses a restored operative machine shop and black powder related exhibits.

S-9. Wheelwright Shop/Carpenter Shop

Originally built as a two-story building, the top floor has disappeared leaving a one-story stone structure with a gable roof. The roof truss system appears to be original. The building currently houses restrooms, a boiler and room for school program activities. Plans for a restoration of the second floor have been done.

S-10. Blacksmith Shop

Converted from a one-story blacksmith shop to a two-story duplex dwelling after 1921, this building retains the original first floor stonework. Restoration plans are in the research stage. The adjoining iron gates controlled access to the powder yards.

S-11. Gibbons House

Of a bank of several workers' houses, this stuccoed three-story gable-roofed building with frame shed and porch is the only survivor. It has been restored to the late 19th century appearance including furnishings. The first reference to its existence is in the 1840s.

S-12. Barn-Carriage House

Frame structure with front doors for carriage storage and side door for two horse stalls. This is the best preserved frame building in the district. It was built by the Belins in 1857.

S-13. Spring House

Stone walled, shake gable roof, with two doors each leading to a room with a raised brick floor. Historic data regarding building unavailable; however, it is assumed to be mid-19th century.

S-14. Brandywine Manufacturers' Sunday School

Stone building with columned porch and vestry addition. Already separately on the National Historic Register (1970), this 1817 structure served successively as a school for workers' children (taught by the du Pont daughters), a church, an office and a private residence. It has been partially restored and fully furnished as a school.

S-15. Belin House (yellow house)

Built in 1818 for the manager of an unsuccessful tanning operation, this frame structure was latter the home of a succession of Du Pont bookkeepers including three generations of the Belins. The building underwent a Victorianization and changes during its lifetime. Most of the changes were poor quality and were so rotten that the Foundation dismantled them in a recent upgrading.

S-16. Chicken Coop

Wood frame building with shake gable roof. One wall has had garage doors added. Late 19th century photo shows it as chicken coop (with chickens) and surrounded by a picket fence.

S-17. Oil Storage House

Stone building with single slope roof. Mid-19th century construction, it was originally used to store kerosene and lubricating oils. This building is located some distance from structures containing explosives.

S-18. Sulphur Storage House

Stone multi-bay shed with single pitch roof, this building at one time had a wooden addition of equal size adjoining it. This site was in use in the 1830s; however, explosions leave some doubt what fabric dates from which period. Late 19th century photos show this building. Current use is partial sulphur storage exhibit and partial use for storage.

S-19. Press House

Three stone walls, wooden facade, gable roof. From before 1834 (earliest known Hagley Yard survey) this structure was subject of several explosions, one of which killed Alexis I. du Pont in 1857. It has been restored to its late 19th century appearance including a 37,500 lb. powder press.

S-20. Bucket House

Stone shed building with single pitch roof. A building on the site first appears on the 1834 survey. Undoubtedly explosion modified, it retains its late 19th century appearance.

S-21. Composition House

Three heavy stone walls, barrel roof, open front. Composition houses hold the ingredients before they are taken to the wheel mills. Dating is uncertain but assumed to be mid-19th century. Oddly, no identified historic photographs have been found. Roof was restored by Hagley following original curve and using original pockets for the trusses. Facade may have existed.

S-22. Pump House - Sawmill

Stone foundations and some walls. Rest of walls wood frame, iron roof. Sites of Dawes' sawmill, it was converted and modified in the late 19th century to pump water for domestic use and fill a pond which served as a reservoir for the fire lines.

S-23. Graining Mill

Three buttressed stone walls, 20 year bond roof, single slope, wood facade. This building contained several graining machines from before 1834 to 1921. It has been restored to its late 19th century appearance and houses a graining machine.

S-24. Birkenhead Roll Mills

Pair of buttressed wheel mill buildings with single pitch wood roof. A restored waterwheel revolves between these buildings. These buildings were drawn in 1936 by HABS. They were Du Pont's first attempt at incorporating by

S-24. Birkenhead Roll Mills cont'd

wheels rather than by mortar and pestle. Built in ca. 1822-1824, they were so successful that nine other pairs were built on the property and the stamp mills were phased out by 1834.

S-25. Engine House

Stone walls, gable roof. Originally built with a barrel roof (which was lost in an explosion and rebuilt as a gable roof). This building houses a steam engine and boiler which powered a nearby pack house. Original erection date assumed to be ca. 1860, it has been restored with an operating steam engine.

S-26. Press Pump

Square stone walled, barrel roofed building. It is assumed the current building dates from the mid-1890s on earlier foundation due to the fact of a major explosion which leveled the area.

S-27. Rebel Shanty

Stone Walls. Replaced incorrect roof badly deteriorated. Correct barrel roof known and will be replaced when time and funds permit. Legend has it that a Confederate sabotage team was caught and confined in this store house. Since the legend appears in print in the 19th century, it is likely.

S-28. Motor House

Stone walls, single pitch slate roof. Current configuration shows up on ca. 1900 drawing. Building most probably dates after 1895 due to previously mentioned explosion.

S-29. Eagle Dry House

Square peaked roof, stone building, with lean-to-shed. Shed has furnace remains. The 1826 Fairlamb Survey indicates a building on the site. The existing external furnace, the early way of drying powder, would indicate that much of this building is of the early date.

S-30. Worker's House

Stone house, two story, shake gable roof with cooking fireplace. Site use is very early; however, the 1818 explosion destroyed the structure. Subsequent explosions are also assumed to have caused repairs or modifications. Mrs. Crowninshield made building into a guest house of two large rooms. Appearance is correct for early 19th century period.

S-31. Workers' Dormitory

Site use is known to be pre-1818 as the building on the site was destroyed in that explosion. This two-story stone house with a shed added to the back had a roof pitch steep enough to suggest the original structure was reconstituted.

S-32. Bag Wash House

This was occupied by 1826; however, whether this simple stone gabled roof structure has most of the original components is subject to speculation. It was used for washing the bags in which potassium nitrate was shipped.

S-33. Bag Store House

This one-story stone building with a slate gable roof added during the Crowninshield era retains two interesting features. It has iron shutters over the windows and is wood lined. The iron shutters indicate a high concern for fire and indeed bags laden with saltpeter were highly flammable.

S-34. Worker's Duplex

Stucco, slate roofed late 19th century duplex house. No records exist of the building or this structure; however, it appears on early 20th century maps.

S-35. Garage - Yard Office

Frame, German sided, gable roofed building modified and moved to house one modern automobile. Building materials and construction techniques indicate a late 19th century date.

S-36. Old Coal House

Built ca. 1807, this stone building with its tunnels and cylinders for distilling charcoal was modified several times during the 19th century as the technology for making charcoal improved and because of explosion damage. Charcoal distilling houses are extremely rare industrial survivals of a technology invented in the late 18th century.

S-37. Waiting Room

Originally a two story building, this is the survival of a three-building complex. this stone structure originally had a second story. The lower level was a carriage house; the upper level a dorm for stable hands.

S-38. Barn

The barn was originally built in 1802 and expanded in 1844. This large stone barn with wood front and back walls and wood shake roof supported by queenpost trusses has two levels and a two-story appended addition facing the garden. A vehicle shed is also appended. This was one of several large bars connected with the farming operating and maintenance support for the draft animals.

S-39 Lime House

Stone gable roofed building directly behind the barn. Erection date is unknown. The building appears on the 1904 survey map labeled as a "lime house" . . . presumably connected with sanitation and whitewashing.

S-40. First Office

Stone building in two sections, one with peak slate roof, the other with gable slate roof. Built in 1837 as the first office building of the Du Pont Company, it served for over 50 years as the company's nerve center.

S-41. Spring House

Stone building with cast concrete tile roof. No building records exist. However, an early 19th century date is highly likely with the current roof being replaced in the Crowninshield era.

S-42. Eleutherian Mills Mansion

Stucco over stone, three-story mansion. This is the original mansion built for E. I. du Pont beginning in 1802. Five generations of the du Pont family have occupied it, each making some contributions. The building is documented in the book Eleutherian Mills by Maureen Quimby.

S-43. Lammot Exhibit Building

Frame building, gable slate roof, moved to site from the adjoining Dean property. The little Greek revival structure with columns and fan light has been moved at least twice. Legend has it that Lammot du Pont used it as a shop. Other evidence would indicate it was probably his father's shop. The internal evidence indicates an 1830-1840 erection date.

S-44. Soda House

Large stone building with three original gable-roofed sections. Erected in 1888. One of the most important structures on the property, this building stored and processed sodium nitrate for use in soda powder (a Du Pont innovation of 1858). It has been adaptively reused as a historic record managements center and auditorium.

S-45. New Coal House

This building was erected ca. 1888. While appearing to be a one-story gable roof type building, in actuality the lower level is honeycombed with he tunnels and cylinders used to make charcoal. This and the old coal houses are rare survivals of the charcoal distilling process.

S-46. Barn

This one-story clapboard building with one addition, decorative cupola and Dutch doors, is an enigma. It does not appear on the 1904 survey but was firmly in place in 1932 when Harvey Kelland went to work for the Carpenter estate. The inside is lined with "beaded board facing." Later additions of a chimney and large cooking grill are in place.

Building Shells and Ruins contributing

R-1. Big Mary Glaze Mill

Stone walls, stone shed without roof. Built late in the 19th century, this was the site of the largest glaze mill on the property and possibly the largest in North America. It originally contained nine glaze barrels.

R-2. Watsons Glaze

Three heavy stone walls set in the hillside. Originally built as a late 19th century glaze mill, the site suffered from an explosion during the first World War and was rebuilt as a graining mill.

R-3. Rolls 17-18

Pair of roll mills consisting of three heavy walls and a light tin roof. Front is open. The rear is protected by a massive flash wall. Date stone indicates 1856 erection date with an 1885 rebuilding. After 1903 they were designated "Lesmoke" mills as they were used in making a combination black and smokeless powder.

R-4. Rolls 15-16

Like above without massive flash wall. Date stone indicates 1856 building - 1885 rebuilding.

R-5. Rolls 13-14

These mills were built on an earlier site in 1882. Architecture similar to other 19 standing buildings.

R-6. Rolls 9-10

Similar to above roll mills. Date stones indicate 1829 building and 1887 rebuilding. These mills retain the rear flash walls.

R-7. Lady Mill

Single roll mill like above but smaller. No current record of construction date. Internal evidence indicates post-Civil War construction. Sources indicate its function was to produce experimental powders.

R-8. Coal Mill

The site was used in the late 18th century by Dawes, ca. 1818-1823 it was used by Cardon as a tannery. Later it was used as a dust mill. Only foundation outlines and turbine pit remain.

R-9. Bank with Gibbons House

Two stone room outlines with fireplace and stone stairway. Construction dates uncertain. These foundations will be the subject of an archaeology program beginning in 1984 and are highly important to the interpretation of the industrial community.

R-10. Rolls 7-8

Similar to above roll mills. Date stone indicates 1836 building. These mills and nos. 1 and 2 are not rebuilt to the later "undergeared" configuration.

R-11. Rolls 5-6

Similar to above roll mills. Date stones indicate 1826 building - 1890 rebuilding. These mills retain the rear flash wall.

R-12. Rolls 3-4

Similar to above. The upper mill was the site of an early stamp mill. The lower mill was built as a roll mill.

R-13. Glaze Mill

Pre-1834 site. Three heavy stone walls, roof and facade missing. This building always was a glaze mill in which barrels tumbled the powder. Original barrel is on hand for future restoration.

R-14. Dry Table Site

One restored drying table and foundation for nine others. Originally powder was dried in the sun or in the dryhouses. This site was used before 1834 (earliest survey) until the late 19th century.

R-15. Pack House

Three heavy walls set into the hillside are all that remain of the pre-1834 pack house site. There is no known photograph of the building. By 1904 the site was abandoned.

R-16. Sweepings Room

Built into the hillside three heavy retaining walls and foundations remain. The building was a storehouse for powder dust which was recycled throughout the process. Late 19th century photo shows frame building on foundation.

R-17. Hagley Pack House

Foundations only survive of a large three building connected complex. It blew up in 1863, 1873, and in 1915 and was not rebuilt after the last explosion.

R-18. Dust Mill

Although the upper race serviced five mills, the dust mill foundations are the only ones above ground, The site was in use from ca. 1803 until the yards closed.

Intact Manmade Features contributing

M-1. Lower Hagley Dam and Race

Constructed during the War of 1812 to serve the textile mill later designated as Henry Clay Factory, the dam was rebuilt ca. 1900 and is an example of concave concrete construction of the turn of the century with gear-driven race control gates.

M-2. Upper Hagley Dam and Race

The dam was built in the late 18th century and rebuilt and heightened in the 19th century. The race was lengthened and heightened until it powered over 20 mills, elevators and pumps. It currently provides power to full-scale exhibits and the hydroelectric plant.

M-3. Eleutherian Mills Dam and Race

The dam was erected by Du Pont in ca. 1803 and is of timber and stone construction. Although the wood work has been restored, the original configuration has been duplicated. The stone-lined raceway is about 2/3 open and contains three original 19th century water turbines.

M-4. Iron Bridge

Built in 1874 on Civil War vintage piers, this according to HAER is the second oldest iron bridge in Delaware. HAER description: "A narrow-gauge iron bridge, the Brandywine Railroad Bridge was built in two stages. The four stone piers were built in 1863 and the Pratt-type iron truss was completed in 1874. A seldom-used bridge, it has been converted for local vehicular use and it is in excellent condition."

M-5. The Folly

Beginning in 1923, Frank Crowninshield erected his concept of a classical garden on the site of the powder mills and refinery. As part of a nationally famous garden tradition including Longwood, Winterthur, and Hagley's restored garden, this vestige makes an interesting cultural statement. The pools, columns, statues, kettles on pedestals, walkways and synthetic ruins seem to exemplify the taste and values of the era.

Underground Sites

Due to explosion, replacement, deterioration and dismantling a great many structures have disappeared. For example, the keg mill burned in 1896; the lower Hagley press blew up in 1917 and the site was filled in; Hagley house mansion was torn down in the early 1950s; a massive explosion destroyed a large part of the upper property in 1890 and rebuilding did not follow the original design.

As these sites are part of the district's history and contain valuable information recoverable by archaeology, they do contribute. Whether all these contributions are realized in this century or ever is doubtful. However, the owner (Hagley) has a policy of archaeology explorations and subsequent restorations (e.g., the early garden). To ignore the existence of these sites on this nomination would be an oversight. To list all the sites is impossible with the current level of knowledge, as we know of over 100 and this is only a partial accounting.

Buildings non-contributing

N-1. Frizzell's Store

Small gabled roof frame structure with lean-to addition. Built ca. 1968 as a maintenance shed, it was redesigned as a vending operation for young museum visitors. It is stylistically sympathetic to area structures of the late 19th century. It has no historic nor architectural merit.

N-2. Carriage Shed

Designed to emulate the carriage sheds on the property, this 1975 structure has exposed post and beam framing with shiplapped siding and shake roof. It was constructed to house food vending machines (an unsuccessful venture). It is a sympathetic intrusion.

N-3. Race Shed

Shed structure constructed in 1978 to protect workers while cleaning out the trash racks. Loosely patterned after the carriage shed, it has no historical value. It is a sympathetic intrusion.

N-4. Eleutherian Mills Historical Library

Modern research library constructed 1959-1961. Stone and stucco with metal and gravel over tar roofs. Building has no historical significance. Architecture was designed to be tasteful and efficient, making it a sympathetic intrusion.

N-5. Upper Gate House and Gates

Stucco building, iron gates, stucco wall and columns. Built in 1961 to be tasteful control point. It has no historic value.

N-6. Greenhouse

Built in the Crowninshield era and extensively modified in the mid-1970s, this greenhouse serves the Foundation's needs for beginning plantings. It has no historical significance nor architectural merit.

N-7. Maintenance Building

Erection date between 1923-1938. Built as an overflow horse barn, it was later used in conjunction with some questionable activities. The Museum has extensively modified it to serve as a maintenance headquarters. Frame construction, clapboard sides, gable roof with one dormer. It has no historic value nor architectural merit.

N-8. Dog Kennel

Decidedly the worst building on the property, this box-like balloon frame structure was erected to house hunting dogs. The chainlink runs have been dismantled. Being in a semi-concealed location, it is used for storage. It has no redeeming historic or architectural value and is only nominally functional. Its demolition in the foreseeable future is highly likely.

and it boasted the latest in French powder technology. It was therefore capable of producing a significant quantity of powder that was of excellent quality. When the War of 1812 put demands in excess of the capabilities, du Pont bought the next mill site downstream, the Hagley property, from Rumford Dawes. Dawes ran a gristmill, sawmill, and iron rolling and slitting mill. (Some records and the 1797 insurance map are at the Hagley Museum.) The lower Hagley area, site of the Henry Clay Mill, was the site of various textile mill operations from the War of 1812 until the 1880s when the Du Pont Company converted it into a metal keg mill. Du Pont had had varying financial/ownership/lessor associations with the mill until it was converted to company use. The powder mills continued in operation until 1921, when the Du Pont Company closed the powder yards on the Brandywine. Two years later the company offered residences on the property to family members for purchase. In 1923 Francis B. and Louise (du Pont) Crowninshield (a great-granddaughter of E. I. du Pont), began a major renovation of Eleutherian Mills. After her death in 1958, the house became part of the Hagley Museum.

While the site is historically important as the location of the first Du Pont Company mills, which produced half the powder used by the Union during the Civil War, it is of greater significance as documentation of an almost obsolete technology. The Museum has restored in situ, or has in storage awaiting installation in the original buildings, one of three sets of surviving powder mill machinery on the North American continent. From an industry consisting of dozens of plants, it has dwindled to one post-1900 operating plant, one set of machinery mothballed by the Government and the nominated resource. Powder mills by their unique design are suitable only for powder machinery. For safety reasons they are usually dismantled on closing. These buildings unrestored are rare; restored, they are not only nationally significant, but of importance in a worldwide sense. There are three blackpowder museums known in the world of which Hagley is the most complete. It should be noted that the last known operating black powder plant in Europe (Norway) blew up several years ago and was not rebuilt. This is the usual fate of black powder plants, reducing substantially the material survivals. Of vast importance globally only a century ago, the nominated district stands virtually alone in the ability to interpret accurately and realistically, with original buildings on their original locations and with original artifacts. More that this, the district has samplings of workers' and owners' housing to put the technology in a social-cultural context.

The grounds of the district, while beautifully maintained (more so than is historically accurate), do not belie the past as the copius numbers of trees were an integral part of the historic safety campaign. They were deliberately planted to stop flying debris in case of explosion. Hence, discounting the mowed grass, the landscape, virtually void of intrusions, contributes to the site.

Primary Documentation

Eleutherian Mills Historical Library, papers, photos, oral interviews, drawings in variuos accessions (best existing source)

Site Specific Secondary Sources

Hagley Staff. The Hagley Museum Guide (Wilmington, DE, Hagley Museum, 1976).

Quimby, Maureen O. Eleutherian Mills (Wilmington, DE, Hagley Museum, 1977).

Other Secondary Sources (Sampling - not necessarily total site specific)

Carr, William. The du Ponts of Delaware (New York, 1964).

Chamberlain, John. The Enterprising Americans: A Business History of The United States (New York, 1963).

E. I. du Pont de Nemours & Co., Du Pont. The Autobiography of An American Enterprise (New York, 1952).

Dutton, William S. Du Pont, One Hundred and Forty Years (New York: Charles Scribners Sons, 1942).

Van Gelder, Authur Pine and Hugo Schlatter. History of Explosives Industry In America (New York: Columbia University Press, 1927).

Wallace, Anthony Francis Clark. Rockdale (New York: Alfred A. Knopf, Inc., 1978).

UTM Numbers (cont'd)

Zone	Easting	Northing		Zone	Easting	Northing
I 18	450580	4403690	J	18	450240	4403530
K 18	450110	4403590	L	18	450010	4404290
M 18	450400	4404390	N	18	450600	4404040
O 18	450570	4404040	P	18	450570	4403810
Q 18	451100	4403590	R	18	451150	4403420

Boundary synonymous with Eleutherian Mills-Hagley Foundation lands northwest of the Tyler-McConnell Bridge corresponding to the various deeds owned by same and as shown on included large map. All parcels were originally part of the Du Pont Company owned lands comprising the powder yard and adjacent communities and farms.