United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name Enoco Coal Mine

other names/site number Knox County Coal Company / Site Number 20058

2. Location

street & number North side of Grundman Road, 1.5 miles south of Bruceville | NA | not for publication

city or town Bruceville | X | vicinity

state Indiana code IN county Knox code 083 zip code 47516

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this _X_ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property _X_ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national _X_ statewide __local

Signature of certifying official/Title Date

Indiana DNR/Div. of Historic Preservation and Archaeology

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) _____

Signature of the Keeper Date of Action

Enoco Coal Mine
Name of Property

Knox County, IN
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply.)

- [ ] private
- [X] public - Local
- [ ] public - State
- [ ] public - Federal

Category of Property
(Check only **one** box.)

- [X] building(s)
- [ ] district
- [ ] site
- [ ] structure
- [ ] object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
5	1	buildings
0	0	district
1	1	site
0	0	structure
0	0	object
6	2	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION:
extractive facility

Current Functions
(Enter categories from instructions.)

LANDSCAPE: conservation area
WORK IN PROGRESS

7. Description

Architectural Classification
(Enter categories from instructions.)

OTHER: industrial

Materials
(Enter categories from instructions.)

foundation: CONCRETE
walls: BRICK
CONCRETE
roof: CONCRETE
other: SYNTHETICS: vinyl

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

Located in Indiana's coal-rich southwestern pocket, the 148.4 acre Enoco Coal Mine includes five original brick buildings designed to support coal mining and processing on this site. Knox Consolidated Coal Corporation built the facility in 1941 and the mine remained in use until 1962. Underground coal tunnels, evidence of tailing piles, rail beds and other features dot the landscape of this site, offering compelling insight into the day-to-day operations of mid-twentieth century coal mine in the upper Midwest. Starting in 1987, the Indiana DNR has made efforts to mitigate the water impurities generated at the site. These efforts consist of wetland "bioreactors" created here to filter water run-off.

Narrative Description

The Enoco Coal Mine site is located about 1.5 miles south of the town of Bruceville and about 5.5 miles northeast of the city of Vincennes in Knox County, Indiana, and includes approximately 148.4 acres of land owned by the Knox County Parks & Recreation Department. The majority of the site is situated in Washington Township, with a small amount of acreage in adjacent Palmyra Township.

The site lies within the Wabash Lowland physiographic region and is underlain by McLeansboro Group and Carbondale Group bedrock formations comprised of shale, sandstone, limestone, and coal. The site is located in an area of Wisconsin-age loess silt deposits, and the soils of the uplands and creek bottoms adjacent to the site are of the Alford-Sylvan associations which are well drained soils formed in loess. The area is characterized by moderately rolling uplands bisected by natural drains.

The site is in the Smalls Creek watershed which drains to the Wabash River. Smalls Creek flows roughly east to west to its confluence with the Wabash approximately 3 miles north of Vincennes.

Presently, the site consists of the remains of the coal mine including five brick industrial buildings, a post-1962 radio transmitting station with antenna, a waste pile, a building foundation, a covered mineshaft entry, a former railroad bed, subsurface mine tunnels, and wetlands (see maps). The resources are counted as five contributing buildings (original Enoco industrial buildings), one non-contributing building (radio station), one contributing site (coal mine tunnels, waste pile, railroad bed, building foundation, covered mineshaft entry, and other evidence of coal mining), and one non-contributing site (new ponds/wetlands).

Surrounded by farm fields, the site represents a significant example of the bituminous coal mining industry in mid-twentieth century southwestern Indiana. In operation from 1942 to 1962, the Enoco Coal Mine site features five extant industrial buildings constructed in 1941 to support mine operations. Behind the buildings, an open field of approximately 60 acres covers a waste pile from the underground mine. A road follows a former railroad bed, used to service the mine operation, along the waste pile to a wetland project to clean polluted water draining from the site. Currently, the buildings have broken windows and other signs of neglect, but are in sound condition, with some interior features from mine operations intact. To improve the environment, the waste pile has been leveled and covered to form a relatively flat, open field. Along with remnants of the mining operation including a building foundation, former railroad bed and covered mineshaft entry, the site conveys its importance as an example of subsurface coal mining in southwestern Indiana.

The Enoco Coal Mine site, located about 1.5 miles south of Indiana State Road 67 in Bruceville, is situated on the north side of Grundman Road and surrounded by farms. At the entrance to the site from Grundman Road, five extant brick buildings stand along the western edge of an access road that runs through the property (Photos 13 & 15). Erected in 1941, the buildings represent industrial vernacular style typical of that era. The one-story buildings feature concrete lentils above doors, and above and below windows. Most of the windows have steel frames and multiple lights. The roofs of the buildings all show a single gable and feature concrete roof tiles. The interiors of the buildings retain concrete floors and steel beams to support hoists. Several buildings have clerestory windows to give light to large spaces, and large exhaust fans top some of the buildings. The structures were used to support the mine with washrooms, offices, a repair shop and to house cables for a large hoist mechanism. The buildings are in good condition with the roofs intact and minor alterations to window and door openings. Many of the window lights are broken, and many windows are missing and the openings boarded. When the mine was in operation, additional buildings were located to the east of the access road. A concrete pad foundation and a sealed mine entry shaft used by mine workers remain. Behind the buildings stands an open field that was a waste pile formed from the processing of coal from subsurface mining, about 60 acres in size. An access road runs along the eastern edge of this field along a former railroad bed, which served the mining operation. For several years in the recent past, this field was farmed with hay crops. In 2009, the Department of Natural Resources implemented a reclamation project to lower the acidity of water draining from the waste pile into the local watershed. This effort created several ponds located at the northern edge of the property. The access road turns west at the end of the waste pile to allow access to the wetlands, which are situated to the north of the road. A stand of native trees remains near the end of the road. Underground, a maze of subsurface tunnels exists, but is not accessible (Map 2).

Located closest to the entrance of the site at the southernmost edge of the property, sits Building "A" (Photos 1 & 2). It is a one-story brick building used for a maintenance shop. Interior steel beams indicate that it may have housed a small overhead hoist. It has four wide bays on the east and west sides, and three bays on the north and south sides. Six clerestory windows with steel frames and four lights each top the building in a north to south orientation. Tin covers the north and south gables of the clerestory window structure. Roofing is concrete tile, resembling Roman tile in appearance.

Like all of the historic buildings on the site, the walls of Building "A" are bearing walls of red brick laid in common bond, the header course spacing differing from 4-8 courses of stretchers between rows of headers. Also like all of the historic buildings on the site, simple brick detailing articulates the elevations into distinct bays. Rising from the poured concrete foundation, pilaster strips and horizontal spandrel areas stand forward slightly more than one brick width from the recessed brick panel areas that house various openings. Two corbel courses of brick mark the transition from recessed wall panel to horizontal spandrel band at the top of each bay. Gable ends are parapeted. The pilaster strip articulation continues in the gable ends, with a raking band of brick corbelling and raised, raking band of brick along the top edge. Overall, the gable end gives the impression of a pediment divided into three recessed panels by the pilaster strips. The parapet crow-steps to a flat surface at three points along each gable: once at each end of the gable, where the pilaster strips meet and form a buttress-like corner; and toward the center, where the parapet forms a short, chimney-like projection. The coping is band of plain, slightly overhanging concrete units.

The access road runs in front of the east side of building, which shows a wide opening with a door and a window in the second bay and a one-over-one wood frame window in the first bay. Like all of the histori buildings on the site, window and door openings have plain concrete sills and lintels. The door and window in the second bay may have been modified from a single, wide door. On the north side, the building has one door and one window. The south façade shows a one-over-one wood frame window that appears modified, and one small window with two horizontal lights. The west side features one door, a one-over-one wood frame window and two small horizontal windows with two lights each.

Situated to the north of Building "A", Building "B" is the largest building on the site and housed a wash house, warehouse and repair shop (Photos 3-6). It features 48 clerestory windows with steel frames and four lights

each running the length of the building in a north to south orientation. The clerestory level on this building is wider than that of Building "A" and extends fully from gable parapet to gable parapet. The large clerestory level is also expressed on the north and south gable ends, giving the building a basilica-like form. The building has 11 cylindrical metal ventilators of different sizes rising from the roof. The building features fives bays on the north and south facades, and 12 bays on the east and west facades. This structure differs from the others in that the bays on the eastern and western most sides have wide, horizontal window openings.

The east side of the building faces the access road, and features bands of horizontal windows. The first three bays from the south contain horizontal windows with four openings each. The fourth bay contains a window with 12 lights (six over six), and the fifth bay has a window with 12 lights (six over six). The sixth bay contains a door; it also features a window with six lights that differs from the others on this façade. The seventh and eighth bays feature horizontal windows as in Bays 1-3. Finally, Bays 9-12 have horizontal windows with 12 lights each positioned higher on the wall than the windows in the other bays. The ninth bay has been modified and filled in with concrete blocks. The west elevation mirrors the east.

The south facade of Building "B" features a taller central gable with flanking lower half-gables, distantly reminiscent of basilica-plan churches in basic design. Brick pilasters and recessed panels divide the elevation into bays and sections, again creating a broad triangle/pediment divided by pilasters, with flanking half gables having their own raking corbel and parapet. A large opening in the central bay houses a garage door. Two boarded windows (one over one each) exist in the second and fourth bays. Two doors, symmetrically placed, exist in outermost bays. An exterior floodlight fixture, added later, is present on the facade.

North and south elevations are detailed like those of Building "A". The north facade retains a one story, shed-roofed bump out from the central bay that served as an airlock entry to the building (Photo 6). Entry doors into the building exist on the east and west sides of the airlock. In the bays adjacent to the airlock entry are two large windows. Two horizontal, boarded windows exist in the outermost bays of the north facade.

The interior of Building "B" is mostly open space on the south side. At the northern airlock entry, the first several bays of the interior have brick walls creating divisions into smaller spaces, which were likely used as offices. Hooks on the ceiling, used to hang the miners' clothing and equipment, remain. Roof bolts used to support the ceilings of the underground mines were manufactured in this structure. A sidewalk runs along the southern side of the building from the access road and continues to Building "E".

Building "C" sits the farthest northeast of the buildings and due north of the entrance to the site (Photos 11 & 12). The building has three large bays on each side, and lacks either the clerestory or ventilators found on other buildings. Its red brick, common bond walls feature the same recessed panel/pilaster detailing as the other buildings. The south façade has a wide, tall door opening in the central bay. Each of the outer bays features a large window opening with 20 lights and a metal frame. One window is missing, and the other has been filled in with bricks. The west façade is similar to the south, with one window filled with brick and the other missing its glass. Above the door on the exterior is an industrial light fixture. The north façade retains three windows in the same style, placed symmetrically, one in each bay. Each of the outer bays on the east side contains a smaller door and a large window with 20 lights and glass missing. Exterior industrial light fixtures remain above each of the doors. The central bay shows a smaller horizontal opening level with the upper boundary of the adjacent windows. The opening has been partly filled in. Higher on the east side, another small horizontal opening exists with remnants of a window with six lights and an open space. These opening were used to run cables to operate a large hoist, no longer in existence, located just outside the building. When the mine was in operation, the hoist was used to pull the coal from a shaft to the east of Building "C".

The interior of the building features a concrete floor and steel trusses supporting the roof. A large grease pit in the floor exists on the east side of the building. The pit captured oil from cables that run up through the openings on this wall. The cables and the equipment to operate the hoist are no longer present on the site.

From Building "C", the access road curves to the east and then to the north to provide access to the waste pile and the wetlands.

Situated due north of Building "E", Building "D" served as a small shop and as an office (Photos 9 & 10). The structure has four bays on the north and south, and three bays on the east and west. Running the length of the building in an east to west orientation are 12 clerestory windows with six lights each. The south elevation has large door openings in both central bays, and one window each in the outermost bays. The north elevation is similar, but one of the large door openings appears to have been modified to make it even larger. The east façade shows one window each in the outer bays and a wide opening in the central bay with double doors. The west side is similar, but with a smaller door opening in the central bay. Rather than the usual flat crow-step at the ridge line to mask the clerestory, the central bays of the east and west gable end elevations extend high to support the clerestory windows, creating a tall central gable with the usual banded and corbelled brickwork.

Building "E" sits on the southwestern edge of property, due west of Building "B", and is reached by a concrete sidewalk from the access road (Photos 7 & 8). This structure features three bays on the north and south facades, and two bays on the east and west facades. This building lacks a clerestory; instead, two cylindrical metal ventilators extend through the roof. The south side of the structure faces the sidewalk, and features a large opening in the central bay and one window each in the outer bays. The north side features three small horizontal windows, a door opening and a larger (one over one) window. Three openings, about the size of the small windows, are present along the bottom of the building. This may be a later modification to the building. The east and west facades are the same, with one window (one over one), one door, and one small opening at the bottom of the wall under the window. Most of the openings on this building have been boarded shut.

The foundation of a building exists to the east of the access road and due east of Building "B". A concrete pad labeled "Mine Shaft Entry" marks the access point where workers entered the mine. A brick building used to store blasting materials existed at this location. Another building no longer in existence served as a wash plant for the coal (see maps). These two were among four buildings that were demolished in 1987 as part of a reclamation project.

The access road continues north from Building "C" toward the northern edge of the property and runs along the waste pile, located west of the road. The waste pile from the mine, or gob pile, is the material left after separating the valuable part of the coal. Reclamation projects leveled the pile to make it into a relatively flat field, and then covered it with a shallow layer of soil, compost and grass. Trees border the eastern side of the property.

On the northern end of the waste pile, the access road curves to the west. At the end of the road is a small stand of native trees. To the north of the road, the terrain drops off at a sharp grade to the site of a reclamation project completed by the Department of Natural Resources (DNR) in 2009 to lower the acidity of the water draining from the waste pile into local streams (Map 3). The road overlooks the wetlands area which created several small ponds (Photo 14). Native plants including wildflowers and grasses, and trees such as cypress, have been planted to attract wildlife.

Also on the property to the east of the entry road is a small, modern building and a large antenna which support a radio station operation. Constructed after the closure of Enoco Coal Mine, the structure does not contribute to the significance of the site (Photo 15). It is a one story, gabled building with low pitched roof covered in asphalt shingles. Its walls are sheathed in vinyl siding. The east face of the building has a small, offset porch with round columns and gable roof.

Near the Enoco Coal Mine site, but outside the National Register boundary are several sites that supported the mine operations. To the south of Grundman Road is an I-house of Greek Revival style built in 1850 that

housed an office for the mine (see maps). As well, the remains of Enoco Coal Dock, built in 1949, existed along State Road 67 near Bruceville as late as 1997.

The industrial buildings, the waste pile, the former railroad bed and the reclamation project at Enoco Coal Mine site create a view of a largely intact mid-twentieth century subsurface coal mining operation in southwestern Indiana. As well, the site reflects the effects of coal mining operations on the alteration of the landscape and the impact on local watersheds in Indiana. With the land now under the auspices of the Knox County Parks & Recreation Department, the site will continue its evolution to now serve as a recreation area for the public. The integrity of the buildings and the landscape features of the Enoco Coal Mine site preserve the history and convey the story of coal mining, a significant part of the economy in Knox County.

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

(Enter categories from instructions.)

INDUSTRY
ENGINEERING
ARCHITECTURE

Period of Significance

1941-1962

Significant Dates

1941
1962

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

unknown

Period of Significance (justification)

The period of significance begins with the construction of the buildings in 1941. Coal mining and processing began in 1942, and ended on May 4, 1962. Since the end date of the period of significance is within two years of the fifty-year mark as of the time of writing of this application, Criterion Consideration G does not apply. Furthermore, since a specific end date to significant activities is known, it is more sensible to include the entire period rather than arbitrarily terminating it.

Criteria Considerations (explanation, if necessary)

Since the end date of the period of significance is within two years of the fifty year cut off, Consideration G does not apply.

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance and applicable criteria.)

The Enoco Coal Mine is eligible for the National Register of Historic Places under Criterion A for its statewide significance in industry, commerce and engineering associated with the bituminous coal industry in Southwestern Indiana. The Enoco site represents an important example of mineral extraction to meet the increased need for energy production at the onset of World War II. As well, engineering improvements nationwide developed at the site contributed to increased efficiency and safety in coal mining operations. The impact of coal mining to the economy of southwestern Indiana is visible everywhere, in one sense. Coal contributed to the livelihood not just of operators, owners, and miners, but also to merchants and professionals in the region. However, due to the radically changing nature of coal mining in Indiana, very few if any tangible resources remain from the actual extraction process. Many were temporary, unlike this facility. Under Criterion C, the buildings remaining on the site serve as an outstanding example of industrial vernacular architecture of the era. The ongoing reclamation projects on the Enoco site serve as a significant reminder of the impact of coal mining on the landscape of southern Indiana.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Prior to Enoco purchasing the property, the site had a history of coal mining and agriculture. Settled in the early 1800s, Washington Township is known for its fertile agricultural land and rich deposits of coal. During World War I, the area experienced a coal boom with a record 3.8 million tons produced in Knox County in 1918. A deed record dated 1917 shows the Horace Utt family sold land located within the Enoco site boundary to Oliphant Johnson Coal. This company had opened a mine in the area in 1914, but closed within a few years due to a mining accident. In 1942, Knox Consolidated Coal Corporation purchased land from the Horace Utt family, and opened a large scale mining operation, and built the structures standing at the site today. Having mined the coal within its capacity, Knox Consolidated sold to Enoco Colleries, Inc., a subsidiary of Enos Coal Mining Co. in 1948.

Enoco purchased the site with plans for retreat mining, or pulling pillars, a technology which allowed them to extract additional coal reserves. Seeking new opportunities for expansion, George Enos, president of the company, appointed John Stachura as general superintendent to increase efficiency and apply modern mining methods.

Coal mining in Knox County can be divided into three significant periods: 1900-1928; 1929-1968; and 1974 to present. With the beginning of World War II and the subsequent increased demand for energy, coal production increased rapidly in 1939 in Knox County and the United States. Due to the depth of the coal seams, underground mining dominated the coal extraction industry in Knox County. Major coal mining sites during this era were Julian No. 2 and Enoco Collieries, ranked fifth and third in total lifetime production of underground mines in Knox County. At its peak, the Enoco operation produced 6000 tons of coal per day. From an economic standpoint, coal mining played a significant role in the economic development of Knox County, especially near Bicknell, Bruceville and Wheatland in the World War II era. In 1945, annual coal production in Knox County surpassed four million tons.

The coal mined at Enoco is from the Springfield coal member, which is part of the Pennsylvanian system, the Carbondale group and the Petersburg formation. In the Bruceville area, the Springfield coal exceeds six feet in many areas. At Enoco, coal seams are exceptionally thick, ranging from five to over eight feet, and thus contributed to the mine's significant production. The Springfield coal member is comprised of sandstone, sandy shale, shale, coal intermixed with rock, and coal. At Enoco, the seams were irregular in thickness, requiring section equipment for both thick and thin areas.

One of the last major underground mines in Indiana, Enoco experimented with techniques and equipment that resulted in engineering improvements in the mining industry. The site was one of the few in the state to employ continuous mining and roof-bolting equipment.

An important safety concern in underground mines is roof support. The roof at Enoco is very friable shale which required close support at all times. As a result, the use of roof bolting, just introduced in underground mining in the country, was credited with increasing safety and productivity at Enoco. Bolts of various sizes, manufactured on site at Enoco, anchored the shale rather than older methods employing timber and crossbars. To prevent slaking and spalling of the roof upon exposure to the atmosphere, experimental spraying of roof coatings was undertaken. Testing at Enoco included applying various types of material and equipment to find an inexpensive and effective material that could be applied quickly and cheaply, while effectively supporting the roof. Just beginning to be widely introduced in underground coal mines of the nation, the use of roof bolting was credited with major improvements in safety and productivity at Enoco.

To extract coal from the earth in underground mining, cutting and drilling of the seams was followed by explosive charges and shooting to get to the coal. An alternative to conventional blasting and cutting, a "Colmol" was used at Enoco. Eliminating the need for cutting, drilling and shooting, the "Colmol" served as the predecessor to the modern "continuous miner" used in the 21st century. The "Colmol" was an electric-powered device that rode on caterpillar/tank treds and was equipped with two forward-facing horizontal rows of rotary drills. The "Colmol" operator used the scoop and conveyor belt on the device to move coal back behind it to waiting coal cars.

After extraction, the coal was loaded and transported underground using a railroad system with shuttle cars. The coal was transported to a 250-ton bin at the shaft bottom and then delivered to 12-ton skips for hoisting to above ground to the preparation plant.

Underground work crews consist of a loading-machine operator, a cutting-machine operator, a cutting-machine helper, two shuttle-car drivers, two roof-bolters, a shotfirer, two drillers and a section foreman. Three shifts of crews worked around the clock to mine the coal. An underground repair shop facilitated efficient maintenance and repair of equipment. Work crews at Enoco belonged to the bituminous coal operators union. Wages were approximately $1.10 per hour, and the mine employed about 500 hourly union men.

By 1940, use of coal-preparation equipment to remove rock, shale, clay and impurities was widespread. On site, the coal was washed, separated, dried, crushed, sized and blended to ensure uniformity in sizing and quality. Water-clarification systems recovered fine solids from wash water to eliminate stream pollution problems. To ensure a stable water supply, a 17-acre lake was built at the Enoco site.

After processing, the coal was loaded into railroad cars and transported across Grundman Road to a storage area. From here, the coal was transported via railroad to the Enoco Coal Dock near Old Bruceville Road and State Road 67. Most of the coal mined at Enoco was transported and burned for power at a plant in Edwardsport, Indiana, located about 15 miles northeast of the site.

Throughout its history, safety has been a concern at coal mining operations. In addition to safety training, mining companies held rescue and first aid competitions. At times, rescue teams from various coal mines would be called to assist with accidents in the local area. In March 1961, a team from Enoco provided rescue relief in a Terre Haute accident. The team used a Gibbs Unit apparatus consisting of a mouthpiece, goggles, nose clip and saliva blow out trap, to enter the mine. Sometimes, mining crews would encounter a "squeeze", a place where the roof met the floor of the mine.

Enoco was unusual as well for its buildings. Coal mining had evolved from its earlier stages; assets like processing buildings did not need to be permanent improvements. It was probably out of motivations of job safety and perhaps secondly, community goodwill that the company built such state-of-the-art facilities. The load-bearing brick walls, concrete floors, steel trusses and concrete roof tiles would have been considered fireproofing measures. Build-up of combustible gases is always a concern in any place coal is stored or mined; the architects of this facility incorporated abundant ventilation in the form of clerestories and ventilators. Purely aesthetic, however, were the exterior details, executed in brick corbelling, pilaster strips, and recessed panels. The company probably wanted local residents to view their operation as a permanent investment in the community.

With the coal reserves at Enoco mined out in 1962, Enoco closed its operation on May 4, 1962. After World War II, demand decreased; coal reserves at Enoco were small compared to large thick underground reserves in southern Illinois.

Developmental history/additional historic context information (if appropriate)

After its closure, the Enoco property was transferred to Interlake Iron on April 4, 1963, then to the Board of Trustees of Vincennes University on December 4, 1963, and then to the National Association of Holiness Churches on May 12, 1971. On June 15, 1977 the Knox County Parks & Recreation Board purchased the property with hopes to create a recreation area with a lake. Concerns about site pollution played a large role in negotiations of this purchase.

The mining operation at Enoco left behind considerable refuse and significantly altered the local landscape. The coarse-grain refuse left from the coal is referred to as gob, and the fine-grain refuse as tailings or slurry. A gob-pile covering over 60 acres remained at Enoco which caused mine refuse, acidic from sulphur content to reach streams and the local watershed.

Typically, reclamation projects aim to grade the site and make it usable for pasture or farm crops, although sometimes it is only suitable for trees and/or lakes. Stream pollution control is an issue as well. In 1985, the state ordered a reclamation plan for Enoco, funded by a federal extraction tax on coal. The Indiana Department of Natural Resources awarded contracts for engineering studies and design work to halt the acid draining into local streams. From a Knox County Daily News article published in 1986 ("Enoco Cleanup Funded"), the project at Enoco is "one of the biggest projects attempted by the Abandoned Mines Reclamation section of the DNR," according to Tom Thomas, the program's director. The article notes that nine buildings remain on the site, surrounded by gob, and that the Park Board approved demolition of four of the buildings as part of the reclamation project.

The 1987 reclamation project stabilized the site and returned it to agricultural use. The site continued to produce significant acid drainage, however, due to several shallow depressions on the site that allowed water to pond and infiltrate through the soil into the pyrite laden spoils. Subsurface tile drains had been installed to insure that acid drainage would be discharged to a limestone lined channel with the expectation that the acid

drainage would be aerated and neutralized before reaching South Fork Creek, a distance of roughly 4200 feet. The system ultimately failed to treat the acid drainage problem due to the relatively high volume of acid drainage, its extremely low pH (<2.0), and the formation of precipitates on the limestone.

To remedy the situation, the DNR planed the site in 2009 to remove the shallow depressions and installed a wetland treatment system to reduce the net acidity of the drainage and remove soluble metals from the water prior to discharge from the site. The DNR has installed wetland treatment systems at two or three similar sites and reports that the systems are functioning very well. The wetland areas have been planted with locally rare species of native grasses, forbs, and shrubs in hopes that they will spread to surrounding areas and will provide wildlife habitat.

The industrial buildings, the waste pile, the former railroad bed and the reclamation project at Enoco Coal Mine site create a view of a largely intact mid-twentieth century subsurface coal mining operation in Southwestern Indiana. As well, the site reflects the effects of coal mining operations on the alteration of the landscape and the impact on local watersheds in Indiana. With the land now under the auspices of the Knox County Parks & Recreation Department, the site will continue its evolution to now serve as a recreation area for the public. The integrity of the buildings and the landscape features of the Enoco Coal Mine site preserve the history and convey the story of coal mining, a significant part of the economy in Knox County.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

Acid Mine Water Pollution Control No. S802658, Job 7323. Indianapolis: Robert R. Hill & Associates.

Coal Age: Enoco Builds for the Future. New York: McGraw-Hill Publishing Co., Inc., 1953.

Coal: An Indiana Heritage. Terre Haute: Indiana Coal Association.

Contract: Knox County Parks & Recreation Department. Renewal of contract with Newell Brothers to remove gob pile. Knox County, Indiana, August 18, 1977.

Deed Record 204, P. 751. June 15, 1977. Transfer from National Association of Holiness Churches to Knox County Parks Board.

Don Hedstrom. Letter: Knox County Parks & Recreation Department. Option to purchase 147 acres from National Association of Holiness Churches. Knox County, Indiana, January 14, 1977.

Enoco cleanup funded. Knox County Daily News. December 17, 1986.

Enoco Mine site reclamation set. Knox County Daily News. September 23, 1986.

Federal Water Pollution Control Act Amendments of 1972.

Harper, Denver and Eggert, Donald L. Coal Mining in Knox County, Indiana, Special Report 54. Bloomington: Indiana University, Indiana Geological Survey, 1995.

Indiana Historic Sites and Structures Inventory. Knox County Interim Report. Indianapolis: Historic Landmarks Foundation of Indiana, 1997.

Knox County Parks Board Records. 1976.

Knox County Recorder's Office, Deed Record 160, p.390. December 4, 1963. Transfer from Interlake Iron to Board of Trustees of VU.

Knox County Recorder's Office, Deed Record 56, p.445. July 16, 1916. Transfer from Horace Utt to Oliphant-Johnson Coal Company.

Knox County Recorder's Office, Deed Record. May 12, 1971. Transfer from Board of Trustees of VU to National Association of Holiness Churches.

Knox County Recorder's Office, Deed Record. November 24, 1948. Transfer from Knox Consolidated Coal Corporation to Enoco Colleries, Inc.

Knox County Recorder's Office, Deed Record. November 30, 1942. Transfer from Horace & Ernest Utt to Knox Consolidated Coal Corporation.

Old mine getting new life as wetland. Vincennes Sun-Commercial. September 9, 2009.

Specifications for Abandoned Coal Mine Restoration Site 297, Project No. E0008-131. Knox County, Indiana. Department of Natural Resources, Division of Reclamation. 2009

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested)
____previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #_____
____recorded by Historic American Engineering Record #_____
____recorded by Historic American Landscape Survey #_____

Primary location of additional data:

__x__State Historic Preservation Office
____Other State agency
____Federal agency
____Local government
____University
____Other
Name of repository: _____

Historic Resources Survey Number (if assigned): 083-227-20058

10. Geographical Data

Acreage of Property 148.4
(Do not include previously listed resource acreage.)

Enoco Coal Mine
Name of Property

Knox County, IN
County and State

UTM References
(Place additional UTM references on a continuation sheet.)

1	16	463200	4288100	3	16	464710	4286520
	Zone	Easting	Northing		Zone	Easting	Northing
2	16	464370	4286540	4	16	463150	4287240
	Zone	Easting	Northing		Zone	Easting	Northing

Verbal Boundary Description (Describe the boundaries of the property.)

Refer to attached scale map of the site showing the boundary.

Boundary Justification (Explain why the boundaries were selected.)

The boundary includes as much as possible of the five extant buildings, waste piles, mining tunnels, tailing ponds and other evidence of coal mining that is left under one ownership. While other associated buildings and sites remain nearby, they are less directly associated with the operation. The site extending far north of the buildings warrants inclusion because it retains the actual mines (see Enoco Colleries, Inc. map of tunnels).

11. Form Prepared By

name/title Jennifer Holscher
organization Knox County Parks & Recreation date November 15, 2009
street & number 207 E. Shipping Street telephone 323-350-2518
city or town Edwardsport state IN zip code 47528
e-mail

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.

  A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

- **Continuation Sheets**

- **Additional items:** (Check with the SHPO or FPO for any additional items.)

Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: Enoco Coal Mine

City or Vicinity: Bruceville vicinity

County: Knox Co. State: IN

Photographer: Jennifer Holscher

Date Photographed: December 16, 2009

Description of Photograph(s) and number:

East wall of Building A, camera facing west

1 of 15.

Description of Photograph(s) and number:

South wall of building A, camera facing north

2 of 15.

Description of Photograph(s) and number:

East wall of Building B, camera facing northwest

3 of 15.

Description of Photograph(s) and number:

Interior of Building B, camera facing south

4 of 15.

Description of Photograph(s) and number:

North wall of Building B, camera facing south

5 of 15.

Description of Photograph(s) and number:

South wall of Building B, camera facing north

6 of 15.

Description of Photograph(s) and number:

South and east walls of Building E and Building D, camera facing northwest

7 of 15.

Description of Photograph(s) and number:

North wall of Building E, camera facing southwest

8 of 15.

Description of Photograph(s) and number:

Interior, metal trusses, Building D, camera facing southeast

9 of 15.

Description of Photograph(s) and number:

South wall of Building D, camera facing northeast

10 of 15.

Description of Photograph(s) and number:

East and north walls of Building C, camera facing west

11 of 15.

Description of Photograph(s) and number:

South wall of Building C, camera facing north

12 of 15.

Description of Photograph(s) and number:

Entrance to Enoco Coal Mine site, camera facing north

13 of 15.

Description of Photograph(s) and number:

Reclamation project, camera facing northeast

14 of 15.

Description of Photograph(s) and number:

Radio station building in foreground, Building C to center and Building B to left, camera facing northwest

Photographer for this image only: Ray Lind, August, 2010

15 of 15.

Enoco Coal Mine
Name of Property

Knox County, IN
County and State

Property Owner:

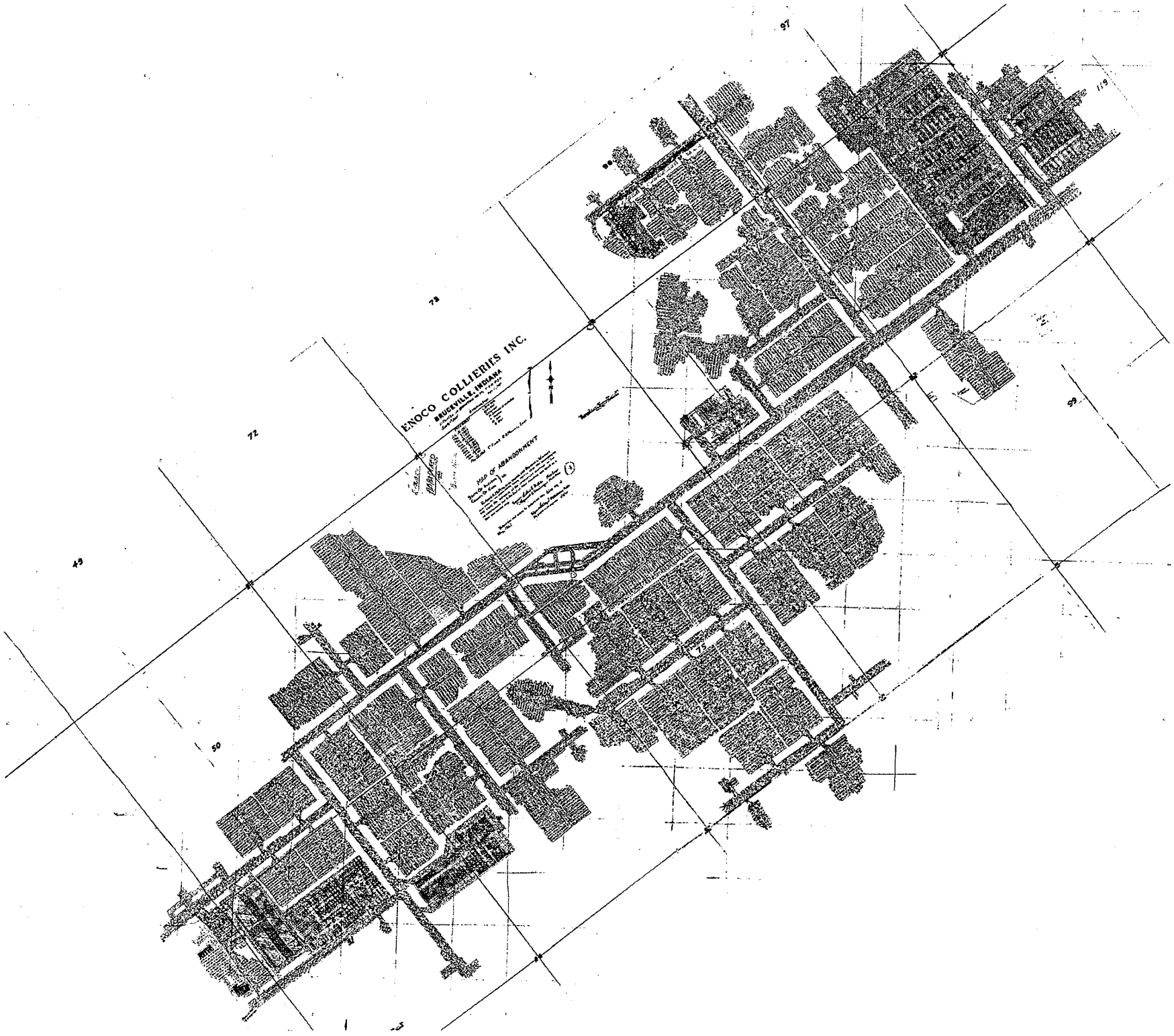
(Complete this item at the request of the SHPO or FPO.)

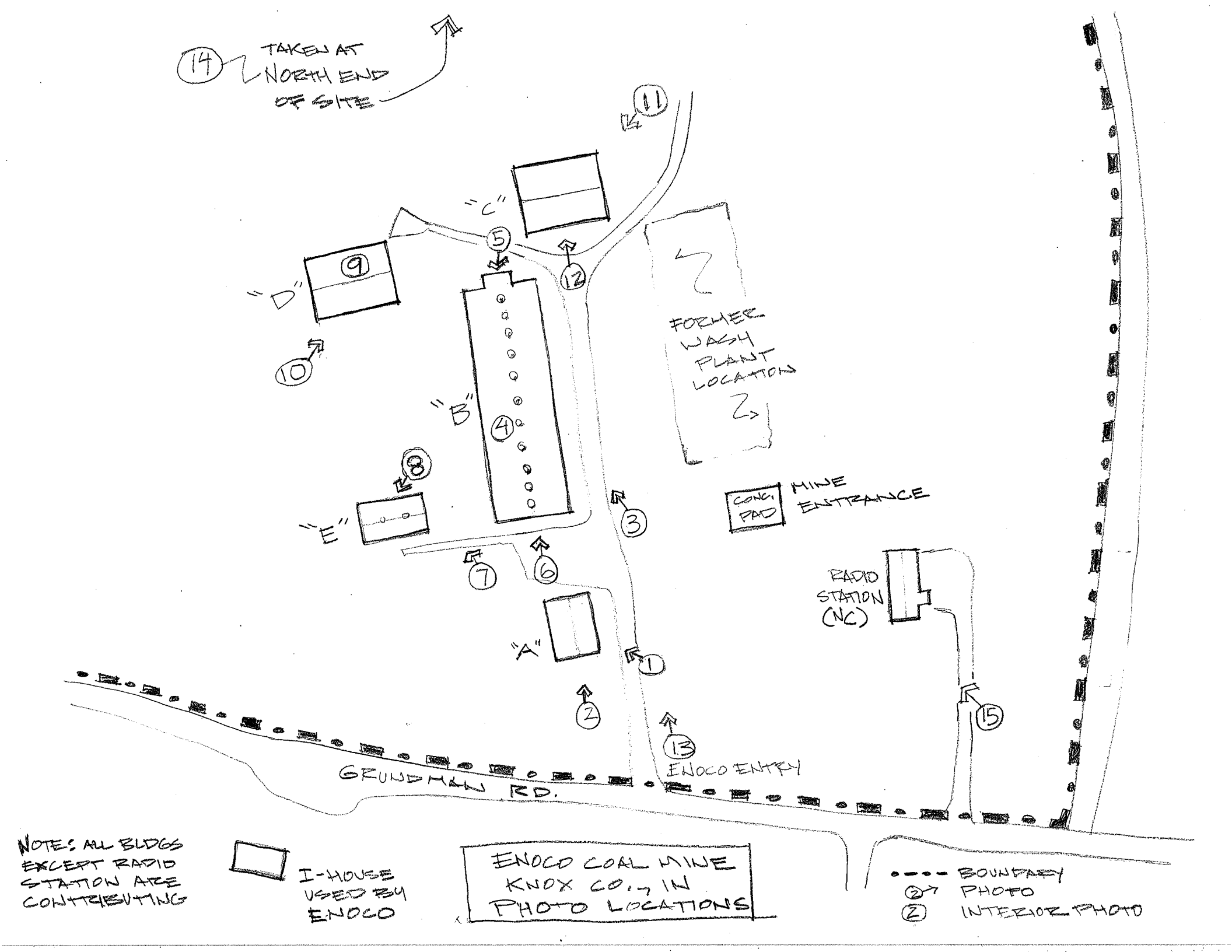
name Knox County Parks & Recreation Department

street & number P.O. Box 1316 telephone 812-882-3416

city or town Vincennes state IN zip code 47591

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).
Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.


ENOCO COLLIERIES INC.
BRUCEVILLE, INDIANA
MAP OF ABANDONMENT


14
TAKEN AT NORTH END OF SITE
11
"C"
5
12
"D"
9
10
"B"
4
FORMER WASH PLANT LOCATION
8
"E"
3
CONC. PAD
MINE ENTRANCE
7
6
RADIO STATION (NC)
"A"
1
2
15
13
ENOCO ENTRY
GRUNDMAN RD.
NOTES: ALL BLDGS EXCEPT RADIO STATION ARE CONTRIBUTING
I-HOUSE USED BY ENOCO
ENOCO COAL MINE
KNOX CO., IN
PHOTO LOCATIONS
BOUNDARY
PHOTO
INTERIOR PHOTO

MSC AERIAL ENOCO

ENOCO SITE

Enoco Coal Mine, Knox Co., IN photo 1

Enoco Coal Mine, Knox Co., IN photo 3

Enoco Coal Mine, Knox Co., IN photo 6

Enoco Coal Mine, Knox Co., IN photo 7

Enoco Coal Mine, Knox Co., IN photo 14

Enoco Coal Mine, Knox Co., IN photo 15