ILLINOIS DEPARTMENT OF NATURAL RESOURCES CULTURAL RESOURCE MANAGEMENT PROGRAM ABANDONED MINED LANDS RECLAMATION CULTURAL RESOURCES EVALUATION

WORDEN COAL COMPANY MINE NO. 1 WORDEN, MADISON COUNTY, ILLINOIS

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prepared by Fever River Research Springfield, Illinois

for

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Locational Information and Survey Conditions

County: Madison Quadrangle: Worden (1991)

Project Type/Title: Phase II archaeological survey of the Worden Coal Company Mine No. 1 Site.

Responsible Federal/State Agencies: IDNR (Abandoned Mined Lands Reclamation Division)

Legal Location:

NE1/4, NW1/4, SW1/4 and NW1/4, NE1/4, SW1/4 Section 27 Township 6 North, Range 7 West of 3rd P.M. Madison County Illinois

- **UTM:** 4,313,692 North 251,704 East
- **Project Description:** The project consisted of a National Register assessment of the Worden Coal Company Mine No. 1 Site, an abandoned coal mining property that was in operation between 1939 and 1943. The primary purpose of the project was to record and evaluate the standing structures and above-grade foundation remains associated with the mine prior to the commencement of reclamation work on the property. The proposed reclamation will involve the demolition of all hazardous building remains and their burial on site. In addition, a suspected airshaft will be explored and, if found to be open or settled, filled using standard techniques.
- **Topography:** The Worden Coal Company Mine No.1 Site is located on a timbered buff slope bordering the west bank of an unnamed tributary of Cahokia Creek, one mile west of the village of Worden. The site is fairly compact and extends from the creek bank, up a slope to the top of the bluff. Brickyard Hill Road runs along north side of the site. The creek valley in front (east) of the mine site is used for agricultural purposes (row crop). A rural residential subdivision is located immediately west of the site (see Figures 1 through 3).

Soils: Oconee-Cowden-Piasa

Drainage: Unnamed Tributary, Cahokia Creek, Mississippi River

Land Use/Ground Cover: Timber, grass

Survey Limitations: Although several mine-related structures do remain fully or partially intact at the site, the majority of the buildings and structures at the site were demolished long ago. In the six decades since the mine's abandonment, some foundation remains have become obscured by detritus and other debris, making difficult to see their full extent (if

at all) and interpret them. Abandoned mine maps and Sanborn insurance maps often aid in deciphering mine surface remains, but neither of these sources address Worden Coal Company Mine No. 1—presumably on account of the mine's small size, short period of operation, and rural location.

Archaeological and Historical Information

Historical Plats/Atlases/Source: The first coal mine in the Worden area was opened during the winter of 1876-1877 by the Worden Coal Company.¹ This shaft was followed by another sunk by the Wabash Coal Mining Company in 1881, and by the McDonald Mine, which also opened in 1881. Twenty years later, the Kerens-Donnewald Company opened a large shipping mine in town that was connected to the railroad. Referred to locally as the "KD Mine,"² this operation employed roughly 200 men and produced 2,000 tons of coal per day at its peak (see Figure 4). Many of the miners lived in company-owned housing built adjacent to the mine. Called "Green Town" (from the color of paint used on the houses), this community consisted of perhaps twenty-five dwellings. The KD Mine closed in 1925 (Village of Worden[?] 1977:10-11).

Worden Coal Company Mine No. 1 was the last coal mine to operate in the immediate vicinity of Worden. Mine No. 1 was a shaft mine and fell within that class of operation known as a "local mine." Generally small producers, local mines had their coal moved to market by truck—or wagon, in an earlier era—and serviced the area immediately around them (Shipping mines, in contrast, shipped their coal by rail on a regional or national scale). Mine No. 1 was opened in 1939 by a partnership comprised of Patrick Scanlan, Scanlan's five sons (Driscol, Wendell, Gleason, Lowal, and Edward), William Sullivan, and Francis Koch. Most, if not all, of these men had had prior experience in coal mining. This was especially true of Pat Scanlan, who had started mining at age 8 in Tennessee and had gone on to work in mines in Kentucky, West Virginia, and Ohio before being hired on as superintendent at the KD Mine in 1920. Due to the prominent roles of Pat Scanlan and his sons in the Worden Coal Company, local residents referred to the company's one mine as the "Scanlan Mine." Work on the mine started in April 1939 and continued into the following year. The shaft measured 12'x9' and eventually extended 185' below the surface. Coal was hit on Christmas day 1939, and the first load was brought to the surface in February 1940. The coal extracted came from seam No. 6, which was 6' to 6'-6" thick in the Worden area and called "white ash coal" by some locals (Village of Worden 1977:11; Worden Family Seekers 2002:16)

The Worden Coal Company was a comparably small operation, even by the standards of a local mine. During the first year it was reported on by the Illinois Department of Mines and Minerals (1939-1940), the mine had produced only 983 tons of coal, nearly a third of which had been consumed on site as fuel during the course of operations. This figure represented only a partial year of production, but, even so, production remained quite modest over the years that followed. The company reported 2,560 tons in 1940-1941 and

¹ This company bears no relation to the organization of the same name that developed the mine site documented in this report.

² This mine officially was designated as Kernes-Donnewald Mine No. 10 (Worden family Seekers 2002:15).

2,007 tons the year following. These statistics is a reflection both of the small workforce employed, the short period of time the mine was open each year, and the limited machinery. Between 1940 and 1942, the mine was open an average of 75 days per year and employed five to seven individuals, several of whom were working on the surface. All of the coal was excavated by machine, but only one machine was in use. Motive power underground was provided by a single mule (DMM 1940:164-165, 1941:152-153, 1942:136-137). Characteristic of a local mine, coal was hauled by truck from the mine and distributed to customers in the surrounding area. Historic photographs taken of the mine during the period it was in operation are attached as Figures 5 and 6.

The last year the Worden Coal Company was reported on in the *Annual Coal Report* was in 1942, which suggests that it closed at some point the following year. Local histories indicate that the mine remained open until 1943 or 1944. Interestingly, one of these sources asserts that the primary reason the mine finally closed wasn't a lack of business, but rather a shortage of manpower resulting from World War II (Village of Worden[?] 1977:11; Worden Family Seekers 2002:16). After the abandonment of the mine, the site was used for agricultural purposes and several livestock sheds were constructed amongst and within the building remains.

Previously Reported Sites: None.

- **Previous Surveys:** No previous archaeological surveys are known to have covered the Worden Coal Company Mine No. 1 Site.
- Regional Archaeologist Contacted: No regional archaeologist was contacted.
- **Investigation Techniques**: A pedestrian survey was conducted over the entire area over which the mine's surface complex extended. All aboveground structural remains were documented through photographs (35mm color film) and scaled line drawings. Documentary research was conducted at the Worden Public Library, which has several local-history publications with photographs and short histories of Mine No. 1. The Lovejoy Library at Southern Illinois University (Edwardsville) was visited to obtain production data and specifications on the mine (as detailed in the Illinois Department of Mines and Mineral's *Annual Coal Report*). Research also was conducted at the Illinois State Archives and Illinois State Library in Springfield, in order to assess the presence of any historic maps that might illustrate the surface complex at the mine.

Time Expended: 8 man-hours (in field)

Sites/Features Found: The locations of features documented during the field survey are identified on a site plan attached as Figure 8. Photographs and drawings also have been included.

<u>Feature 1</u> represents the ruins of a boiler house that was built back against the bluff slope. This building formerly housed one or more coal-fired boilers that generated the steam used to power a hoist engine and other equipment and possibly used to heat the other buildings at the site. We do not know what the boiler house looked like originally. The only historic image that shows the building only provides a glimpse of a tall smokestack to the rear of the tipple (reference Figure 5). Two sections of the boiler house are still standing. One of these is a brick boiler chamber measuring 9'x25' on the exterior and 6'x22' on the interior. The chamber has 1'-6"-thick walls laid with four-courses of hard-pressed brick. The boiler machinery itself has been removed, possibly as scrap after the abandonment of the site. Running along the north side of the boiler chamber is an aisle that measures 9'-0"x32'-6" on the interior. The retaining wall of this aisle serves as a retaining wall for the cut bank behind it. The retaining wall is constructed with an odd assortment of irregularly sized and finished concrete blocks. The west end of the aisle extends past the west end of the boiler chamber and can be accessed through a doorway on this end (see Figures 9 through 11, 13).

<u>Feature 2</u> represents the remains of a large concrete cistern located on the rise above the boiler house. This structure was used to hold water, large amounts of which were required by the boiler in the adjoining building. The cistern measures 6'-10"x8'-10" on the surface and has a roof that is set nearly flush with the ground. The walls, floor, and roof of the structure are all poured concrete. On the interior, the cistern measures 6'-0"x8'-8" and has a 7'-0" depth. A 1'-10"-square scuttle on the roof, which can be covered with a vented cap, provides access to the interior. There are two small concrete cradles, or footings, with threaded bolts (serving as tie-downs) on top of the cistern that may have formerly held a pump or some other mechanism. A 2" pipe extends out of the south side of the cistern; it is unclear whether this pipe was the means by which water was drawn from, or into, the cistern (see Figures 12 and 13).

<u>Feature 3</u> is the hoist engine house. The only remains of this building that are visible above ground are two adjoining concrete pads. Both pads measure approximately 8'-square. Sitting on one of the slabs, however, is the actual hoist engine that was used to raise/lower men and material into/out of the mine. The engine was manufactured by the American Hoist and Derrick Company of St. Paul Minnesota and was steam-powered (the steam being supplied from the boiler house). A standard feature at any shaft mine, the hoist engine is equipped with a large spool on which the cable connected to the mine cage was reeled in and out. The cable would have run from to the engine house to a pulley mechanism at the top of the tipple and from there to the cage. One of the historic photographs taken of the mine when it was in operation shows a front-gabled (frame?) building located directly west of the tipple that may represent the hoist engine house. A large fuel-oil tank is leaning against hoist engine. The tank is stamped with a label that says: "Underwriter's Laboratories, Inc. / INSPECTED / INSIDE STORAGE TANK / FOR OIL BURNERS / METAL NO. 14 U.S. GUAGE" (see Figure 14).

<u>Feature 4</u> is the remains of the tipple and an adjoining coal bin. Historic photographs depict the tipple as heavy-frame construction and comparatively small. They suggest the tipple was 25' to 30' tall and had a chute extending out from its east side. This chute may have been used to dump gob hauled out from the mine. The photographs also show a structure immediately to the north of the tipple that appears to be a coal bin. Raised on posts, the suspected bin is of frame construction (being cribbed with vertical studs and

horizontal planking) and covered with a roof. Although difficult to tell from the photograph, the base of the structure appears to have been built like a hopper, so trucks could pull beneath it and be filled. At larger shipping mines, the tipple and coal bins would have been integrated within a single structure, rather than being detached from one another. Nothing structural remains from the tipple and coal bin other than a lone concrete footing and post holes left behind after the demolition of the superstructures (see Figure 15).

<u>Feature 5</u> is the foundation remains of a small building located between the creek bank and retaining pond. Very little remains of the building, though what is left indicates that it was relatively small (approximately 6' to 7' square), had concrete foundations and possibly brick walls, and had a doorway centered on its east side. It is possible that this small building served as a pump house—a function suggested by its small size, position in relation to the creek, and by the fact that the foundations on the west swing out about 1' as if to allow the entrance of pipe into the building.

<u>Feature 6</u> is a concrete pad on the bluff crest that is believed to cover the airshaft for the mine. The pad is 4" thick and measures 7'-6" square. A lone concrete footing, whose function is unknown, is located approximately 30' southeast of the airshaft. The footing measures $2'-4"x3'-\frac{1}{2}"$ and had two threaded bolts on its top surface that presumably served as tie-downs originally (see Figure 15).

<u>Landscape Features</u>: There are several landscape features associated with the mine. One of these is a retaining pond, which was used to store water pumped out of the mine. The pond is located due south of the mine building complex and occupies a surface area approximately one-half acre in size (80'x250'). It was created by building an earthen dam across the mouth of a ravine (see Figure 16).

Another landscape feature documented is the terrace that served as the access point and loading area for trucks hauling coal from the mine. This terrace is located between the tipple (Feature 4) and the creek. The historic photographs of the mine (one taken during the initial construction and another after it was operation) indicate that the ground surface in this area had a considerable slope originally, and that it was subsequently leveled (probably with gob from the mine) so that trucks could have access to the mine site. The later of the two photograph shows a truck parked on the terrace in front of the tipple and coal bin.

Cultural Material: None collected

Collection Technique: The field investigation was aimed at the documentation of building remains, rather than the collection of artifacts.

Curated at: Notes and drawings are curated at Fever River Research, Springfield.

Area Surveyed (acres and square meters): approximately 17 acres (68,796 square meters)

RESULTS OF INVESTIGATIONS AND RECOMMENDATIONS

- Phase I archaeological reconnaissance has located no archaeological material [in this portion of the site]; project clearance is recommended.
- Phase I archaeological reconnaissance has located archaeological materials; site(s) does(do) not meet requirements for National Register eligibility; project clearance is recommended.
- Phase I archaeological reconnaissance has located archaeological materials; site(s) may meet requirements for National Register eligibility; further testing is recommended.
- Phase II archaeological investigation has indicated that site(s) does(do) not meet requirements for National Register eligibility; project clearance is recommended.
- Phase II archaeological investigation has indicated that site(s) meet requirements for National Register eligibility; formal report is pending and a determination of eligibility is recommended.
- Comments: The National Register evaluation of the Worden Mine Company Mine No. 1 determined that the property is not significant, lacks integrity and therefore is not eligible for listing on the National Register of Historic Places. However, similar to previous abandoned mined land studies conducted by the Illinois Department of Natural Resources, the site investigations provide some useful information. Small, short-term, local mines such as this one represent one variety of coal mines in operation within the State of Illinois during the mid-twentieth century. Mines of this type often are poorly represented in the documentary record due to their relatively small size, short duration, and less substantial construction compared to larger shipping mines. Although the buildings at Mine No. 1 have deteriorated significantly since the site was abandoned, and have been re-used for agricultural purposes, the study has documented the mine's general site structure (functional layout and activity areas). Archival research yielded a series of historic photographs of the mine taken during the period it was in operation. The history of the mine's development does provide an interesting and illuminating sideline to Illinois coal mining: the story of a group of unemployed but experienced miners successfully starting their own mine to service a niche market during a period when the coal industry was in decline, forcing the closure of much larger and better-financed mines than theirs.

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Survey Date: 20 December 2002

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Figure 1. United States Geological Survey (USGS) topographic map showing the location of the Worden Coal Company Mine No. 1 Site (USGS, Worden quadrangle, 1991).



Figure 2. Panoramic view showing the general setting of the Worden Coal Company Mine No. 1 Site. The site is located to the right of the view, on the west side of an unnamed tributary of Cahokia Creek, whose tree-lined banks are shown in the center. Brickyard Road, which appears in the foreground, runs along the north side of the site and is the point from which the mine was accessed historically. Agricultural fields extend along the east (left) side of the creek (FRR December 2002).



Figure 3. The main part of the site is located in a wooded area at the base of the bluff bordering the west side of an unnamed tributary of Cahokia Creek. After the mine's abandonment, the site was utilized for agricultural purposes and a number of livestock sheds were built amongst the ruins of the mine buildings. (BOTTOM) A portion of the site extends onto the bluff crest, which presently is occupied by a residence and associated yard (FRR December 2002).



Figure 4. Undated photograph of the Kerens-Donnewald Company's mine in Worden. Known locally as the "KD" Mine, this operation was the largest coal mine developed in Worden and remained in operation from 1901 to 1925. In contrast to Mine No. 1, the KD Mine was a shipping mine and transported its coal by railroad. Moving from left to right, the photograph shows the boiler house, hoist engine house, an unidentified building, and tipple (Village of Worden[?] 1977:10).





Figure 5. (LEFT) Photograph of the Worden Coal Company Mine No. 1 (or "Scanlon Mine" as it was known locally), showing the tipple (to left) and adjacent coal bin. This photograph probably was taken in 1939 or 1940 while the mine was under construction; note the construction debris in the foreground (Village of Worden[?] 1977:11). (RIGHT) A later photograph of the tipple, taken when the mine was in operation. The smoke billowing from the smokehouse in the background is coming from the boiler house (Worden family Seekers 2002:16)



Figure 6. Photograph of the mine taken at the base of the tipple. The truck pictured in this image was registered to Lowel Scanlon, one of the mine's owners. Characteristic of a local mine, the coal extracted was transported by truck directly from the mine to local customers. The chute shown here extends off the tipple and probably was used to dump gob and/or coal into an awaiting truck. The raised cribbed structure to the right is believed to be a coal bin. The front-gabled building in the background is suspected to be the hoist engine house (Village of Worden[?] 1997:11).



Figure 7. United State Geological Survey topographic map showing the location of the Worden Coal Company Mine No. 1 Site in 1954 (USGS Edwardsville Quadrangle 1954).



Figure 8. Site plan of the Worden Coal Company Mine No. 1 Site, showing Fever River Research survey limits and features identified.



Figure 9. (TOP) View of the boiler house remains (Feature 1), looking north. The building is constructed against the bank of bluff. (BOTTOM) Interior view of the boiler house, showing the aisle that runs along the north side of the boiler chamber, the brick wall of which appears on the right (FRR December 2002).



Figure 10. (TOP) The north of the boiler house serves as retaining wall and is laid with an odd assortment of chipped and smooth concrete block fragments. It is unclear whether this was done out of economy or for esthetics (or a mixture of both). (BOTTOM) View looking down the length of the boiler chamber. The boiler has been removed (FRR December 2002).



Figure 11. (TOP) Detail of the brickwork on the boiler chamber walls. The walls are four courses thick. (BOTTOM) View of the vent, or clean-out portal, on the north side of the boiler chamber (FRR December 2002).



Figure 12. (TOP) View of the large concrete cistern (Feature 2) located directly adjacent to the boiler house, looking west. (BOTTOM) An opening in the roof of the cistern allows access to the interior. Note the footing, or pipe cradle (?), to the left of the opening (FRR December 2002).



Figure 13. Field drawings illustrating Features 1 and 2, showing them at the level of the boiler house (TOP) and at the level of the cistern (BOTTOM). The arrows on the roofs in the lower figure indicate roof pitch.



Figure 14. Two views of the steam-powered hoist engine that remains at its original location at the mine. The American Hoist and Derrick Company was the manufacturer. The engine originally was sheltered within a building (Feature 3, the hoist engine house), which has been torn down to its foundations (FRR December 2002).



Figure 15. (TOP) Photograph of the tipple (Feature 4) location at the mine site. Other than the concrete footing shown here and post holes, nothing remains of the tipple structure. (BOTTOM) View of the concrete pad (Feature 5) that is suspected to cover the airshaft for the mine. The pad is located on top of the bluff, above the main building complex (FRR December 2002).



Figure 16. View of the dry retaining pond at the mine site. The pond, now empty, was formed by building an earthen dam across the head of a ravine (FRR December 2002).