

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 Milford Mine Historic District

other names/site number Ida Mae Mine, Ida May Mine, 21CW0282

2. Location

street & number 1 mile southwest of jct. of MN Highway 6 and County Road 30

not for publication

city or town Wolford Township

vicinity

state Minnesota code MN county Crow Wing code 035 zip code 56441

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,
I hereby certify that this ___ 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 ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide ___ local

Signature of certifying official/Title Date

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

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5. Classification

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

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

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

<input type="checkbox"/>	private
<input checked="" type="checkbox"/>	public - Local
<input type="checkbox"/>	public - State
<input type="checkbox"/>	public - Federal

<input type="checkbox"/>	building(s)
<input checked="" type="checkbox"/>	district
<input type="checkbox"/>	site
<input type="checkbox"/>	structure
<input type="checkbox"/>	object

<u>Contributing</u>	<u>Noncontributing</u>	
		buildings
		district
1	2	site
1		structure
		object
2	2	Total

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

Number of contributing resources previously listed in the National Register

N/A

N/A

6. Function or Use

Historic Functions
 (Enter categories from instructions.)

Current Functions
 (Enter categories from instructions.)

EXTRACTION/extractive facility

DOMESTIC/institutional housing

TRANSPORTATION/rail-related

TRANSPORTATION/road-related

LANDSCAPE/forest

LANDSCAPE/park (work in progress)

7. Description

Architectural Classification
 (Enter categories from instructions.)

Materials
 (Enter categories from instructions.)

N/A

foundation: N/A

walls: N/A

roof: N/A

other: N/A

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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

The Milford Mine Historic District is located on the Cuyuna iron range within Wolford Township, Crow Wing County, Minnesota, and to the southwest of the intersection of Minnesota Highway 6 and County Road 30. The district encompasses approximately 180 acres owned by Crow Wing County and located within the boundaries of the proposed Milford Mine Memorial Park (Map 1). Contained within these acres are the remains of the Milford Mine (1912-1932), which was the site of Minnesota's worst iron ore mining accident on February 5, 1924, in which 41 miners perished. The district encompasses archaeological site 21CW0282, which includes the ruins of industrial and residential buildings, mine entries, tailings piles, borrow pits, roadways, and other features associated with the operation of the mine. The site also contains evidence for the onsite residences of mine workers together with related subsurface archaeological features including trash pits and privies. Together, these industrial and domestic resources provide significant archaeological evidence not only for mining technology on Minnesota's Cuyuna Range, but also the nature of daily life at an early twentieth-century mine site. The boundaries of the Milford Mine Historic District also encompass the railroad beds of the main line and spur tracks that serviced the mine. Archaeological site 21CW0282 and the system of railroad grades are identified as contributing resources to the district. Two previously identified precontact archaeological sites (21CW0280 and 21CW0281) located within the boundaries of the district are considered noncontributing resources. According to a 1939 aerial photograph, and historical photographs of the mine property, the upland occupied by the central mine complex was largely devoid of trees during the mine's period of operation, although the surrounding rolling landscape was wooded and interspersed with lakes, wetlands, and tamarack swamps (Photographs 1-2). Since the closure of the mine in 1932, the rural and isolated setting of the site has contributed to its excellent preservation. While secondary tree growth has encroached on the clearing that formerly encompassed the mine site (Photograph 3), and the super-structures and mining equipment have been removed, the district retains excellent integrity of location, design, setting, feeling, and association.

Narrative Description

The Milford Mine Archaeological District (Map 2) is comprised of two contributing resources – one archaeological site and one structure. Two non-contributing archaeological sites (21CW0280 and 21CW0281) are also encompassed by the boundaries of the district.

21CW0282 - MILFORD MINE (SITE)

Site 21CW0282 consists of the archaeological remains of the Milford Mine complex (Maps 3-4). Exploratory drilling began at this site in 1912 (Aulie 1994:22). The first shaft was sunk and underground development began in 1917/18 (Aulie 1994:23, 155). The majority of the buildings of the mine complex were constructed on an upland located to the west of Foley Lake (also known as Foley's Pond). This landform is surrounded by wetlands and low-lying ground, with the exception of a neck of land to the southwest along which the road from the nearby town of Manganese approached the mine. The mine's main shaft was located at the northern point of this landform and to the north of the mine's railroad spur track. The road through the mine site passed over the tracks just to the west of the main shaft and continued northeast toward the community of Wolford. As the mine was developed, it spread east and northeast from the main shaft (see Map 3).

Today, the upland where the main mining complex once stood is covered by secondary tree growth (see Photograph 3). Since the mine's closure and dismantling, the site has remained undeveloped and undisturbed. The land formerly held by the mine is now owned by Crow Wing County. In 2008, Soils Consulting conducted a Phase I archaeological survey of the parcel at the request of the County. Within the mine complex, Soils Consulting documented visible surface features and artifact scatters (Hohman-Caine and Goltz 2008). In 2009, Two Pines Resource Group (Two Pines) conducted a cultural resources survey in anticipation of the development of the proposed Milford Mine Memorial Park (Terrell and Ladwig 2009). In conjunction with this fieldwork, Two Pines gathered sufficient information to identify the boundaries of the site and to evaluate its archaeological integrity. As the mine buildings had been removed, and the shafts filled with debris and fenced, the evaluation

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focused on documenting features that were visible on the surface. The 2009 archaeological fieldwork at the Milford Mine site (21CW0282) consisted of the clearing of vegetation from foundations, and the mapping and photographing of exposed foundations and machinery pads; surface features such as tailings piles, rail grades, roads, and shaft locations; and depressions and other features associated with the occupation of the mine site. Subsurface testing was limited to the probing of depressions to assess function and to test for the presence of intact archaeological deposits. As the mine had a limited period of occupation and was not subsequently reopened or developed, all of the documented features date to the mine's period of significance.

The horizontal boundaries of site 21CW0282 encompass all of the known archaeological features associated with the mine site, the full extent of the underground mine as documented at the time of the investigation into the 1924 disaster, and associated tailings piles, borrow pits, and roadways (see Maps 3-4). Within the central portion of site 21CW0282, the general soil profile consists of 25 to 30 cm of a dark brown (10YR 3/3), silty loam flecked with slag over a clay subsoil containing glacial till. Features, like privies, were excavated into this clay subsoil. The depth of probed features varied, but features with cultural deposits were documented to depths of 2.5 ft. (75 cm) and greater beneath the present ground surface. Standing water was present within deep cellar depressions and a shallow water table was encountered while probing other depressions, particularly within the southeast portion of the mine complex.

The Milford Mine site is divided into industrial and residential districts. The industrial complex is situated at the north end of the upland occupied by the mine. Buildings within the northern portion of the complex are connected by a series of trenches that indicate where steam and water lines were once buried, although the pipes have since been salvaged. The residential district is located to the south of the industrial complex and to the east and west of the main street that runs through the center of the site (see Photograph 1; Map 4). The small, one- or two-room homes aligned in rows to either side of this roadway were occupied by the families of mine workers. At the south end of the landform, farthest from the mine shaft, cellarholes indicate the presence of larger homes. A separate boarding house for single miners was located farther to the west and separated from the remainder of the mining complex by a wetland (see Map 4).

The key archaeological features of site 21CW0282 that have been identified to date are described below (see Map 4). Historical images and aerial photographs indicate the presence of additional buildings that do not have remains presently visible on the surface. Due to the excellent integrity of this site, it is anticipated that additional subsurface features that have yet to be identified are also contained within the boundaries of the district.

Mine Shafts

At the time of the 1924 disaster, the Milford Mine had a single shaft. This shaft was located to the north of the mine spur grade (see Map 4). The Headframe (or Shaft House) and support buildings have been removed (Photograph 4). The mine opening, which is covered with a steel grate, is located within a clump of trees. An approximately 36-by-42.6-ft. (11-by-13-m) area around the opening is fenced (Photograph 5).

As a mine developed, it was customary to add additional entrances. At the time of the disaster, it was recorded that a second mine shaft was planned (Aulie 1994:161). Another shaft is present on the property within a clump of trees located approximately 500 ft. to the east of the original entrance (Photograph 6; see Map 4). This entrance is fenced as well.

Tailings Piles

Three large piles of tailings (waste rock) are encompassed by the 21CW0282 site boundary (see Maps 3 and 4). These piles are located to the northwest, east, and southeast of the main mine entrance. Photographs taken at the time of the disaster document trestles supporting tramways leading from the headframe to the waste piles to the northwest and southeast of the mine (see Photograph 2). The easternmost tailing pile may be related to the second mine shaft.

Caved Ground

The caving method of mining ore results in caved ground on the surface above the mine. Most of the caved ground resulting from the removal of ore from Milford Mine is now encompassed by the northwest arm of Milford Lake, but a portion of caved ground is visible on the surface to the north of the east tailings pile (see Maps 3 and

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4). This slumped ground is encountered between the main shaft and the secondary shaft. A signpost dating to the mine's period of operation warns: "DANGER CAVED GROUND KEEP OUT" (Photograph 7).

Berm/Dam

An earthen berm is located along the north edge of the caved ground (see Maps 3 and 4). According to the 1925 report of Reginald Nowell, Crow Wing County Mine Inspector, when the reconditioned Milford Mine reopened in November of 1924, "a small dam" was built "between the swamp and the mine" to block the waters (Aulie 1994:154). It is unclear at this time if this berm is the dam mentioned, but it is located along the southern edge of the former swamp (now part of Milford Lake).

Building Remains: Industrial Complex

The following structural remains within the industrial district were documented during the 2009 archaeological survey.

Building 1 (Machine Shop/Blacksmith Shop) – This building is located approximately 65 ft. (20 m) to the east of the main mine shaft (see Map 4). The foundation of this rectangular, east-west oriented building measures 60 ft. 8 in. (18.5 m) by 24 ft. 7 in. (7.5 m) (Map 5). The foundation is poured concrete and measures 14 in. wide. A raised 8-in.-wide lip atop this foundation indicates the width of the building's exterior walls. The west third (20 ft.) of the building has a dirt floor. A large door was centered on the north wall of the west section of the building, as indicated by an 8 ft. 8 in.-long segment of steel rail set into the north foundation. Based on comparison with buildings at contemporary mine sites, the half of the building with the earth floor was likely used as the blacksmith shop. The east two-thirds of the building have a poured-concrete floor. Joist scars (2.5 in. wide) in this portion of the building are spaced 2 ft. on center and indicate the presence of a raised wood floor. Raised poured-concrete platforms with threaded bolts for mounting machinery are located along the south and west edges of this room. A single electrical ground located adjacent to the three southern machinery mounts suggests that they supported a single piece of equipment. The western mount has fire brick along its west edge, indicating a heat source. Two electrical grounds are located adjacent to a 2 ft. 5 in. square opening in the floor in the northwest corner of this room. Based on the presence of the machinery bases, this foundation appears to be that of the shops building where mining equipment was maintained and repaired. No photographs of this building have been located, although it appears on the 1939 aerial photograph.

Building 2 (Hoist House) – The Hoist House of the Milford Mine is located atop a rise to the south of the main mine entrance and the mine's spur track (see Map 4). This building housed the hoist that raised and lowered the "cage" that transported miners and the "skip" that carried the mined ore. The building also housed the engine that powered the hoist, as well as air compressors, dynamos, and other equipment. According to historical photographs, this hip-roofed building featured two ventilation stacks (Photograph 8).

Projecting from the center of the north foundation of this building is the 18 ft. (5.5 m)-by-24 ft. (7.3 m) foundation of the hoisting room (Map 6). An opening in the floor housed the hoist drum, which was supported on reinforced concrete foundations (Photograph 9). The floor to the west of the drum has a crawl space beneath it for utilities. The floor above this crawl space and surrounding the hoist is reinforced with lengths of rail like that used in the mine for tramming ore. The main, east-west oriented, portion of the Hoist House measures approximately 9.2 m (30 ft.) by 18.6 m (61 ft.). The interior of the building has a concrete floor poured within a 12-in.- to 14-in.-wide poured-concrete foundation. The exterior of the foundation of the Hoist House is painted red, while yellow overpaint along the upper edge of the foundation suggests the upper portion of the building was painted yellow.

Within the building, east-west and north-south 2.5-ft.-wide channels within the floor, through which steam pipes and other conduit ran, divide the interior space (see Map 6). While the floor space within the north-central and southwest portions of the building is devoid of features, the northwest and southeast corners of the building contain a series of pipe fittings and electrical conduit. The dominant features within the interior of the building are two raised, 6 ft.-square, "U" shaped stone and mortar machinery mounts in the northeast quarter of the building (Photograph 10). These bases, together with the smaller rectangular machinery mounts to the north of each "U," supported two air compressors. Another machinery mount is located to the west of the compressors, while two smaller raised footings are present in the south-central portion of the building.

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Exterior to the Hoist House, two poured-concrete supports for a tank are located adjacent to the west wall of the building. To the southeast of the building, a rectangular concrete and stone feature reinforced with mine rail is present. This 2.5 ft.-wide by 11 ft. 8 in.-long feature bears yellow paint on its south face. Pipes and guy wire anchors were also documented in the area immediately surrounding the Hoist House.

Building 3 (Boiler House) – The Boiler House was located down slope and to the west of the Hoist House (see Map 4). Boilers housed in this building generated steam to power the hoist, compressors, and other equipment in the Hoist House, and it most likely provided heat for the Dry House as well. At present, the location of the Boiler House is largely inundated, but visible machinery mounts, foundation segments, brick scatters, and imbedded vertical cast iron pipes indicate that structural remains of the building are preserved. Stamped firebricks noted within the remains of the Boiler House bore the marks of the Laclede-Christy Clay Products Company of St. Louis, Missouri, and the Edwards Brick Company of Columbia, Missouri. In historical photographs, the distinctive feature of this gable-roofed building is its cast iron stacks (see Photograph 8).

Building 4 (Water Tower) – The water tower of the Milford Mine site is located due south of the Hoist House and to the west of the Dry House (see Photograph 8; see Map 4). The location of the former water tower is indicated by the presence of four poured-concrete piers that supported the tower's legs (Map 7). The piers mark the four corners of a square and are spaced approximately 12 ft. (3.6 m) apart. These piers average 2.5 ft. (76 cm) on a side, have a beveled upper edge, and each is set with a 1-in.-diameter steel bar inset 10.5 inches from the sides and offset toward the corner most proximate to the center of the square (Photograph 11). A depression in the center of the square formed by the piers indicates the location of the central pipe and frost box. Trenches for water pipes run from this central depression north to the Hoist House and east toward the Dry House (see Map 4).

Building 5 (Dry House) – The Dry House, or Change House, is the building in which the miners changed their clothes and showered. The Milford Dry House was located at the north end of the main street (see Map 4; see Photograph 1). This north-south oriented building was constructed atop a concrete pad measuring 30 ft. (9.1 m) by 60 ft. (18.3 m) (Map 8). Portions of the foundation of this building still bear red paint. An earthen berm is located 8.5 ft. (2.6 m) to the north of the north wall of the building. This 3-ft. (0.9-m) wide berm parallels the north face of the building and then turns southward to the northeast corner of the building. The salient feature of the foundation of the Dry House is the ceramic pipe fittings in the floor of the building. Three evenly-spaced drains along the south wall of the building, together with a raised concrete lip and surface scatters of starburst patterned privacy glass indicate that the showers were located at this end of the building. The interior surfaces in this area were painted yellow. Additional 8-in.-wide pipe fittings are located along the west and north walls. A series of evenly spaced 6-in.-wide pipe fittings in the west half of the building likely mark the location of a trough-style wash basin. Open floor space in the east half of the building would have been occupied by ceiling hooks for drying the miners' work clothes and lockers for their civilian clothes. Benches may have also been provided in this area (White 1915:14). After the Milford Mine disaster, the lockers of the victims were padlocked and placed under guard until the body was recovered and families could claim clothes and personal effects (*Duluth Herald*, February 7, 1924; Aulie 1994:63). The distinguishing features of this building in historical photographs are its ventilation stacks that facilitated the circulation of air through the building (see Photograph 1).

Building 6 (Unknown) – The poured-concrete pad of this building is located 8 ft. (2.4 m) to the west of the dry house foundation and approximately 15 ft. (4.5 m) farther to the north (see Map 4). This east-west oriented building measures approximately 40 ft. (12.2 m) by 18 ft. (5.5 m). Other than a hollow for a pipe in the southwest corner of the building, the only distinguishing feature of this foundation is a gutter that runs along the north side of the building. This open gutter, which is molded into the concrete pad, starts 9 in. from the northeast corner of the building where a threaded 2.25" pipe emerges from the ground. The gutter is only 5 in. wide at the east end, but increases in width as it heads westward and is 8 in. wide at its western terminus. Historical images indicate that this gable-roofed building was a post-in-ground construction with corrugated metal siding and at least two, double-wide hinged doors along the south façade (see Photograph 8). The function of this building is unknown, but its size and form, as well as its proximity to the water tower, suggest that it may be the pump house.

Building 7 (Unknown) – This building is located to the southwest of the Dry House and is separated from Building 6 by the road through the mine site (see Map 4). The walls of this former building are indicated by the presence of an earthen berm that is 28 ft. (13.7 m) from east to west and 16 ft. (4.9 m) from north to south, although the east-west building length as documented on the 1939 aerial appears to be approximately 60 ft. This building's function is unknown, but its proximity to the road through the site as well as the Dry House suggests that it may be the garage for miner's cars mentioned in historical accounts (Aulie 1994:81-82).

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Building 8 (Unknown) – This building is represented by an 8 ft. (2.4 m)-by-16 ft. (4.8 m), north-south oriented, poured-concrete foundation (see Map 4; Photograph 12). This foundation is located to the east of the main street and at the southern terminus of the utility trenches. A 13.5-by-18 in. inset at the northwest corner of the foundation is associated with the end of the utility trench. A series of nine ½-in.-diameter threaded bolts are present around the outer edge of the upper surface of the foundation. Four bolts are evenly spaced along the east edge, three are evenly spaced along the west edge and one is located at the center of both the north and south edges. Within the east half of the foundation is a 31.5 in. (80 cm)-wide-by-14 ft. 10 in. (4.55 m)-long opening that is presently 2 ft. (65 cm) deep. No photographs of this building have been located, although it appears on the 1939 aerial photograph. The function of this building is unclear, although its connection to the utility trench system suggests that it was part of the mine site's infrastructure.

Building 9 (Unknown) – A shallow, 8 ft. (2.4 m)-by-16 ft. (4.8 m), east-west oriented depression is located to the north of the main mine shaft (see Map 4). Coal and iron ore fragments were present on the surface in the vicinity of this feature. The function of this feature is unknown, but historical photographs indicate the presence of outbuildings in this portion of the site.

Building Remains: Residential Complex

The residential portion of the mine, or the "location" was located to the south of the industrial complex. The rows of shanties that lined the east and west sides of the main street were set on grade and lacked cellars (see Photograph 1). During the archaeological investigations, no indications of the presence of these miner's homes were visible on the surface; however, at the south end of the residential district, a series of depressions and cellarholes indicate the former location of more substantial residences. These buildings were serviced by a lane that headed east from the main road (see Map 4).

Building 10 (Unknown) – The location of this former building is indicated by a water-filled, rectilinear cellarhole that measures approximately 13 ft. (4 m) from north to south and 11 ft. (3.4 m) from east to west (see Map 4; Photograph 13). About 8 ft. (2.5 m) to the north of the northern edge of the cellarhole is an earthen berm that likely indicates the location of the north wall of the building. The discernible length of this berm is 22 ft. (6.7 m). A large circular patch of iris grows 20 ft. (6 m) to the east of the cellarhole. Based on the location of this building, its size, and the associated iris patch, this building is assumed to be a residence. No photographs of this building have been located, although it appears on the 1939 aerial photograph.

Building 11 (Unknown) – This building is represented by a shallow, square depression measuring 11.5 ft. (3.5 m) from east to west and 10 ft. (3 m) from north to south (see Map 4). The function of this building is unclear, but its size and its location to the rear (south) of Building 9 suggest that it was a garage or another type of outbuilding. No photographs of this building have been located, although it appears on the 1939 aerial photograph.

Building 12 (Unknown) – This former building is indicated by a shallow, square depression measuring 11 ft. (3.4 m) from east to west and 10.5 ft. (3.2 m) from north to south (see Map 4). The function of this building is unclear, but its location and the presence of a privy feature down slope from and to the rear (south) of the building suggest that it was a residence. No photographs of this building have been located, although it appears on the 1939 aerial photograph.

Building 13 (Unknown) – A square cellarhole measuring 13 ft. (4 m) from north to south and 12 ft. (3.7 m) from east to west marks the location of this former building (see Map 4). The function of this building is unclear, but its location and the presence of a privy feature down slope from and to the rear (south) of the building suggest that it was a residence. No photographs of this building have been located, although it appears on the 1939 aerial photograph.

Building Remains: Boarding House

Building 14 (Boarding House for Single Men) – This large building, which is separated from the main mine complex by a wetland, is likely the rooming house for single men (*The Deerwood Enterprise*, February 8, 1924) (see Map 4). The size of this building, two single bedspring assemblies observed on the surface near this building, and the presence of an associated privy feature support this conclusion. The presence of the exterior walls of this former north-south oriented building are indicated by an earthen berm measuring 22 ft. (6.7 m) wide by 68 ft. (20.7 m) long. A cellarhole is present within the interior of the north end of this building. Other features

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include a 3.5-in.-diameter pipe projecting 38 in. from the ground along the north wall of the building's interior, and a guy wire tie down projecting 13 in. from the ground and located to the east of the foundation. According to the 1920 census, the boarding house was occupied by the six members of the Ramey family, a female servant that kept the boarding house, and nine male boarders that worked in the mine. No photographs of this building have been located, although it appears on the 1939 aerial photograph.

Storage Facility

A probable storage facility was documented to the northwest of the boarding house (see Map 4). This feature consisted of a central, level clearing off of which two rectangular cuts were excavated into the surrounding embankment. Tin pails and barrels are present on the surface in the vicinity of these features. The smaller of the two cuts is excavated into the slope to the south and measures approximately 4 m (13.5 ft.) by 4 m (13.5 ft.). The rear (south) elevation of the cut is approximately 1.3 m (4.25 ft.) high. The larger cut is cut into the slope to the west and measures approximately 7 m (23 ft.) long from east to west and 5 m (16.5 ft.) wide from north to south. The rear (west) elevation of the cut is approximately 10 ft. (3.5 m) high. An oil can was noted on the surface within this feature. Within the level clearing between these two features is a water-filled, circular depression measuring 3.5 m (11.5 ft.) across. Fragments of coal are present on the surface around this depression. The function of this collection of features is unclear, but their general arrangement suggests a collection of storage cellars, while the excavation of features into embankments is consistent with cold storage.

Depressions

During the reconnaissance survey performed by Two Pines in 2009, 17 surface depressions were documented in addition to the structural ruins and features previously described. These depressions mark the locations of in-filled, subsurface features such as privies and trash pits. Based on their size, location, and soil profile as documented by a 1 in. diameter probe, seven (A-G) depressions are probable privy features (see Map 4), while the other documented depressions (H-Q) are identified as cultural features of indeterminate function pending further investigation.

Surface Trash Piles

Evidence of surface trash piles within the Milford Mine Historic District is limited, although a concentration of surface trash was documented between Buildings 10 and 11. Other, infrequent artifacts (Photograph 14) were noted during the walkover and, if pertinent to assessing a building's function, are noted in the description of the building in this nomination.

Borrow Pits

Two irregularly shaped borrow pits are located within the boundaries of site 21CW0282 (see Maps 3 and 4). The northern pit is located adjacent to the mine spur grade, and the material from this pit was apparently used to fill the wetlands during the construction of the grade. The southern pit is located adjacent to the road to Manganese, and the material from this pit was apparently used in the construction of the roadbed.

Roads to Wolford and Manganese

Two abandoned roadways are present within the boundaries of the Milford Mine Historic District. These roadways connected the mine site to the neighboring communities of Wolford and Manganese. The routes of both roadways are discernible on the ground and, like the rail grades within the district, use cut-and-fill construction techniques to traverse the rolling uplands and wet lowlands of the area.

The road to Wolford approaches the district from the northeast (see Map 3). After crossing the main line rail grade, the road turns westward around the west end of what is now Milford Lake before heading south again. The road comes into the mine site just to the north of the main shaft and to the east of a large tailings pile. Just to the south of the main line rail grade, though, a former road remnant is present that cuts southward through a landform on the same trajectory as the roadway to the north of the tracks (see Map 4). The road remnant, which ends at the lakeshore, is a relic of the original road to Wolford that led directly to the mine site. After the 1924 disaster, the lake expanded northwesterly into a slough that resulted from the hydraulic removal of surface material during the recovery efforts. This alteration of the landscape, together with the presence of caved ground over the mine,

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necessitated the creation a new roadway that went west around the end of the slough. Both roadways are evident on the 1939 aerial photograph of the area.

The road to Manganese enters the district from the west. The road parallels the main line and mine spur grades before diverging to pass around the south end of a wetland (see Maps 3 and 4). As the road approaches the mine site, it climbs up a slight slope before turning northward to become the "main street" through the Milford location. At the north end of the location, the road turns northwest and descends the landform to an at-grade crossing of the mine spur track. To the north of the spur, the road joins with the road to Wolford near the mine shaft.

RAILROAD GRADES (STRUCTURE)

A ¾-mile-long segment of Minneapolis St. Paul and Sault Ste. Marie Railway Company (Soo Line) railroad grade within the boundaries of the Milford Mine Historic District and its associated spur tracks are identified as contributing elements to the district (see Maps 3 and 4).

Soo Line Grade and Trestle

Railroad construction in the north Cuyuna Range was initially undertaken by the Cuyuna Iron Range Railway Company, which was formed in 1908 (Walker 1979:252-253). In 1910, the Minneapolis St. Paul and Sault Ste. Marie Railway Company (Soo Line) purchased the completed Cuyuna line (Schmidt et al.:2007:E116; Walker 1979:253; Welton 1992b:36). The rail line to Milford Mine was part of a loop constructed in 1913 that commenced approximately 1 mile west of Iron Hub and looped northward around the north end of Rabbit Lake. It serviced Milford Mine, the community of Manganese, and mines at Trommald (Welton 1992b:24-25). On the day of the Milford Mine Disaster, Annie (Minerich) Tomac walked this rail grade from Manganese to the mine to check on her husband, Mike Tomac, who was killed in the cave-in (Aulie 1994:48). This line went out of service between 1930 and 1937 (Welton 1992b:24).

Within the Milford Mine Historic District boundary, the Soo Line main line grade exhibits typical cut-and-fill construction techniques consisting of cuts through uplands and the use of the fill removed from those cuts and introduced material to build up the grade through lowlands and wet areas. As the rail grade enters the district from the west, it is a built-up, elevated grade. Ties are still present in places, but the rails have been removed. Approximately 500 ft. from the west edge of the district, an approximately 700-ft.-long trestle carried the line over an inlet of Island Lake (see Map 3). While this trestle is no longer extant, the footings of some of the trestle's bents are still visible (Photograph 15). Continuing east from the trestle, the next 2,000 feet of the rail grade was built-up with fill as the line traversed the wetlands that now form the north shore of Milford Lake (Photograph 16). Soil borings conducted along this section of the grade in 2008 documented seven to thirteen feet of peat, which is consistent with documented Cuyuna Line construction techniques in which "across the big swamps, the muck or peat was borrowed along the embankment and made into the embankment" (Welton 1992a:35). Near the east edge of the district, the railroad grade cuts through an upland and then crosses a small segment of built-up grade before exiting the district boundary (Photograph 17). While the height and width of the subgrade varies depending on the topography, the bed is generally 15-20 ft. wide, with the width at the top of the deepest cut near the east edge of the district being approximately 50 ft. Within the boundaries of the district, the entire length of the grade can be discerned and its overall integrity within the district is good.

Mine Spur Grade

Near the west boundary of the district, the spur track that serviced the mine diverges from the main line (see Maps 3 and 4). The entire length of the spur grade is visible although its tracks and ties have been removed. Like the main line, the spur uses cut-and-fill construction techniques. As the spur approaches the mine entrance it cuts through three uplands, and fill was used to build up the grade through the intervening wetlands. At and to the east of the mine entrance, the grade is elevated, and during the mine's period of operation, this segment would have been lined with ore cars (Photograph 18). An earthen berm is present at the east end of the grade that served as a bumper for the spur or perhaps as reinforcement for another form of bumper since removed. The integrity of the mine spur grade is good.

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Post-Disaster Spur Grade

Near the east boundary of the district, another spur track departs from the main line and heads southwest to the lakeshore (see Map 3). This spur track was constructed in 1924 immediately following the Milford Mine disaster. According to *The Duluth Herald* of February 8, 1924: "Special tracks have been laid by the Soo Line right up to the lakeshore to facilitate shipment and removal of the pumps and the delivery of the pipes" for dewatering the mine. They laying of this track was undertaken by a rail crew from Mahanomen under the direction of Superintendent T. Slaughter and roadmaster James Branley (*Crosby Courier*, February 15, 1924).

Near its junction with the main line, this spur is built up, but the majority of the spur consists of a trench cut through an upland. The bed of the spur is approximately 12 ft. wide, with a total width of 35 ft. at the top of the cut (Photograph 19). The west end of the spur, which juts into the lake toward the location of the mine collapse, is constructed on fill (Photograph 20). The entire length of the spur grade is visible, although tracks and ties have been removed. In places, the base of the grade is rutted and wet, but this is a direct result of it having been constructed as a temporary spur in the midst of winter. The overall integrity of the post-disaster spur grade is good.

NON-CONTRIBUTING RESOURCES

Two additional archaeological sites (21CW0280 and 21CW0281) have been previously identified within the boundaries of the Milford Mine Historic District (Hohman-Caine and Goltz 2008) (see Map 2). Site 21CW0280 was identified as a precontact site consisting of a fire-cracked rock scatter and two shallow pit features. Site 21CW0281 contained a single spoon, other metal, and a quartz flake. As neither of these sites are directly associated with the Milford Mine or its period of significance, they are considered non-contributing resources to the district.

INTEGRITY

The Milford Mine Historic District is a collection of archaeological features associated with the operation of the mine (21CW0282), together with the non-archaeological features of the grades of the railroad main line and spur tracks that serviced the mine. Since the closure of the mine in 1932, the rural and isolated setting of the site has contributed to the excellent preservation of the mine features, including the arrangement of the mine buildings and their identifying characteristics, as well as undisturbed subsurface archaeological features including trash pits and privies. While the exact function of many of the features cannot be determined through the limited, above-ground archaeological investigations that have occurred to date, the site preserves for researchers significant evidence for mining technology and daily life on the Cuyuna Range.

While secondary tree growth has enclosed the site, and the super-structures and mining equipment have been removed, no subsurface impacts have occurred within the site area. The key aspects of the mine, including several associated with the disaster of February 5, 1924, are still present and recognizable. The only modern intrusion within the boundaries of the district is a cleared transmission corridor. This corridor enters the west edge of the district just to the north of the main line railroad grade and then turns almost immediately to the southeast where it parallels a segment of the road to Manganese before continuing southeast beyond the district boundary. This corridor is not visible from the central portion of the mine site and it has not disturbed the railroad grade, the roadbed, or any other contributing elements within the district.

The primary threat to the integrity of the site is the development of the Milford Mine Memorial Park, which will necessitate the creation of roadways, paths, and parking areas. This work, however, is to take place in consultation with the Minnesota State Historic Preservation Office in order to minimize impacts to this significant resource, while at the same time interpreting this important event for the public. Presently, the Milford Mine Historic District retains excellent integrity of location, design (the layout and arrangement of the mine features), setting, feeling, and association. Based on the guidelines for identifying, evaluating, and registering historic mine properties, the Milford Mine Historic District has excellent integrity (Noble and Spude 1992:21).

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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.)

- 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.
- 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

LABOR

ARCHAEOLOGY/Historic – Non-Aboriginal

Period of Significance

AD 1912-1932

Significant Dates

1924

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

Euro-American

Architect/Builder

N/A

Period of Significance (justification)

The period of significance for the Milford Mine Historic District extends from 1912 to 1932. This 20-year period commences with exploratory drilling on the mine site in 1912 and ends with the closure of the mine in 1932 (Aulie 1994:22, 154; Minnesota Historical Records Survey Project 1940:117). An important date within this period is the date of the Milford Mine Disaster: February 5, 1924.

Criteria Considerations (explanation, if necessary)

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

The Milford Mine Historic District is a collection of archaeological features associated with the operation of the mine and the onsite residences of the mine workers (21CW0282), together with the non-archaeological feature of the grade of the railroad main line and the associated spur tracks that serviced the mine. As the site of Minnesota's worst iron ore-mining accident on February 5, 1924 in which 41 miners perished, the Milford Mine Historic District qualifies for listing on the National Register under Criterion A in the areas of Industry and Labor for its association with this significant event in Minnesota history. In addition, the archaeological features of the site not only provide significant evidence for mining technology on the Cuyuna Range, but they also have the ability to answer important research questions regarding the daily lives of the workers including aspects of sanitation, hygiene, health, meal choice, consumer choice, and religious practices, as well as broader topics of class, ethnicity, and gender. Furthermore, the remains of the Milford Mine serve to document the development and demise of the iron ore industry on the Cuyuna Range. The Milford Mine Historic District therefore also meets Criterion D for inclusion on the National Register as it contains information important to our understanding of this period in Minnesota history.

The Milford Mine Historic District is primarily evaluated within the Minnesota Statewide historical context of Minnesota's Iron Ore Industry (1880s-1945). The Period of Significance begins with initial exploratory drilling on the mine site in 1912 and extends through the closure of the mine in 1932.

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

Milford Mine Disaster (Criterion A)

On the afternoon of February 5, 1924, between 2:30 and 3:45 P.M., the Milford Mine was the site of the worst mining disaster in Minnesota history. Forty-one miners were killed by what was described in the mine's daily labor and operating report as a "rush of sand and water" that flooded the mine (Aulie 1994:35). Seven miners were able to climb the ladder of the shaft and escape the onslaught of water and mud that eventually filled the mine to within 35 ft. of the mine's collar (Minnesota Department of Labor and Industry [MDLI] – Report 1924:2). At the time of the disaster, the Milford Mine had drifts on levels between 125 and 200 ft. below the surface, but only the 135-ft. and 200-ft. levels connected to the mine's single entrance shaft (Pearl 1924; *Crosby Courier*, March 28, 1924). Six of the seven survivors were working in proximity to one another on the 175-foot level when one of them noticed water rising in a ladder way connecting to the 200-ft. level below (Aulie 1994:156). These men climbed a raise to the 135-ft. level and ran along that level 300 ft. to the main shaft where they climbed ladders to the surface (Aulie 1994:156). Emil Kainu, who was operating the pump near the base of the shaft, was the only miner to escape from the 200-ft. level (*Duluth Herald*, February 7, 1924).

While there was no hope of saving those trapped below, around the clock operations began almost immediately to dewater the mine and recover the bodies. On February 6, two electric pumps that had been rushed to the site from mines at Riverton and Trommald began to pump water out of neighboring Foley Lake and adjoining wetlands (*Duluth Herald*, February 7, 1924). This water was directed through 12-inch pipes into Island Lake, which is located to the north of the mine site and drains into the Mississippi River (*Duluth Herald*, February 7, 1924; *Crosby Courier*, February 15, 1924). Some of these pumps, including a large 4,500 gallon per minute pump from the Sagamore Mine at Riverton, were put into use "on the lake," the ice being of sufficient thickness to support them (*Duluth Herald*, February 7, 1924 and February 8, 1924; *Crosby Courier*, February 15, 1924). A third pump shipped by Oliver Mining of the Mesabi Range arrived on February 7 to be used for pumping out the main shaft (*Duluth Herald*, February 7, 1924). To facilitate the dewatering efforts, a channel was blasted between Foley Lake and an unnamed lake to its south (see Map 3) (Pearl 1924; *Crosby Courier*, February 15, 1924). Modern Milford Lake encompasses these two joined lakes and a slough to the northwest of Foley Lake, which was expanded by the disaster, subsequent pumping, and the eventual abandonment of the mine (see Map 1). By the end of March, the lakes had been nearly completely drained, and the mine's shaft had been pumped out to 159 ft. (*Crosby Courier*, March 28, 1924). Seven weeks after the disaster, gangs of miners working to clear the 135-ft. level found the bodies of two miners (*Crosby Courier*, March 28, 1924). The bodies of the remaining 39 victims were found sporadically over the following months with the third body being recovered at the 175-ft. level on April 17, and the

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last body being discovered nearly nine months after the disaster on November 4 at the 200-ft. level (Aulie 1994:63).

Subsequent to the disaster, a committee was appointed by then-Minnesota Governor J. A. O. Preus to investigate the cause of the disaster. The records of this committee, including testimony by miners and their families, together with the committee's final report are on file at the Minnesota Historical Society (MDLI 1924). Of particular concern were rumors that the mine had encroached on ore deposits on the property to the east by mining under Foley Lake. Maps of the mine works created for the committee indicate that the two new drifts being worked on the 165-ft. and 200-ft. levels and their associated rooms were within the Milford Mine property line (Pearl 1924). Rather, it was the muskeg swamp, or pool, about 1,000 ft. to the east of the mine's shaft and between the mine and Foley Lake that collapsed into the mine works (MDLI - Report 1924:3; *Duluth Herald*, February 7, 1924). However, as both the level of this swamp and Foley Lake dropped a matter of two to four ft. at the time of the disaster, the committee concluded that these water bodies were interconnected and that the pressure of Foley Lake contributed to the collapse (*Duluth Herald*, February 7, 1924; MDLI - Report 1924:3). Specifically, the closest room to the lake (Contract 13) after being mined out was blasted down (collapsed) on Friday, February 1, but had "hung up" (did not fully collapse) (see MAP 3). The remaining arch of rock over this room eventually gave way on the afternoon of Tuesday, February 5 and, as it settled, an opening broke through to the surface (MDLI - Report 1924:3). When the lake was drained after the disaster, between 8 and 18 ft. of muskeg was documented over the hole that caved into Contract 13 (MDLI - Summary of Testimony 1924:8). According to the 1925 report of Crow Wing County Mine Inspector, Reginald Nowell, when the reconditioned Milford Mine reopened in November of 1924, the swamp over the mine was kept drained by "a double stage Cameron pump and two electric pumps" (Aulie 1994:154). Furthermore, "a small dam" was built "between the swamp and the mine" to block the waters (Aulie 1994:154). The investigation found that the disaster was an accident that could not have been predicted by conditions either within the mine or on the surface (MDLI - Report 1924:4). Based on these findings, the mine owners and its employees were absolved of any blame for the tragedy. The commission recommended that in the future all swamps in close proximity to underground iron mines be sounded prior to mining operations as they may contain deep and treacherous pockets of mud and water as exemplified by the Milford Mine disaster (MDLI - Report 1924:9).

Preserved within the Milford Mine Historic District are several features directly associated with the mine disaster including the mine entrance, the post-disaster spur grade, and the slough that resulted from the collapse and subsequent pumping. Other preserved features evoke the events of February 5, 1924, such as the rail grade that Annie Tomac walked from Manganese to the mine to find that her husband had died in the cave-in (Aulie 1994:48) and the foundations of the Dry House where the lockers of the victims were padlocked and placed under guard until their bodies were recovered (*Duluth Herald*, February 7, 1924; Aulie 1994:63). The association, therefore, of the Milford Mine Historic District with the event of February 5, 1924, is excellent.

ARCHAEOLOGICAL SITE 21CW0282 (CRITERION D)

Archaeological investigations within the boundaries of the Milford Mine Historic District, although limited in scope, have revealed intact features associated with the operation of the mine and the lives of the miners that resided onsite (21CW0282). These investigations consisted of mapping and photographing the foundations and machinery mounts of the mine buildings; surface features such as tailings piles, rail grades, roads, and shaft locations; and depressions and features associated with the residential occupation of the mine site, as well as subsurface testing limited to the probing of depressions to assess function and to test for the presence of intact archaeological deposits. During these investigations, remains of all of the key elements of an operating mine were identified. In addition, intact privy and trash pit features containing cultural deposits associated with the residences occupied by the miners and their families were identified. The archaeological investigations have also indicated the potential for the site to contain extensive intact deposits beyond those sampled.

As a Cuyuna Range mine site in operation for only 20 years without subsequent reuse or development, the excellent preservation of the archaeological features of the Milford Mine serves to document the layout, design, and technology of an ore mine on the Cuyuna Range. The domestic features compliment the industrial remains and provide data that can answer important research questions about the daily life (sanitation, hygiene, health, meal choice, consumer choice, religious practices, etc.) of the workers employed at the mine as well as broader topics of class, ethnicity, and gender.

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Developmental history/additional historic context information (if appropriate)

The Cuyuna Range

Minnesota has three iron ore-bearing regions – or “ranges” – the Vermillion, Mesabi, and Cuyuna. The quality of ore on each of these ranges varies considerably as did the technologies historically used to extract their products. The earliest range to be developed was the Vermillion in 1882, which was followed shortly thereafter by the Mesabi in 1890. Although the presence of iron deposits in the Cuyuna Range was suspected in the late nineteenth century, it was not until the early twentieth century that sufficient demand and technological advances led to the development of this relatively small, marshy, inland range.

The Cuyuna Range is situated in Crow Wing County between the communities of Brainerd and Aitkin. The Cuyuna Range is further subdivided into the South Range – an ore formation stretching northeast from Brainerd towards Deerwood; and the North Range – made up of a significant formation from Riverton on the west to Cuyuna on the east, as well as a smaller deposit to the north near the communities of Manganese and Wolford (Walker 1979:251). While prospecting began on the Cuyuna in 1903, several early attempts to open mineshafts failed when they flooded (Walker 1979:249-252). It was not until 1907 that efforts began on a shaft that later would become the Kennedy Mine. In 1908, the Kennedy Mine produced the first marketable ore of the Cuyuna Range (Walker 1979:252). During World War I, demand for the range’s manganese-rich ore spurred the development of the Cuyuna Range, with peak production on the range occurring in 1918. In that year, 27 mines produced 2,478,923 tons of ore (Walker 1979:255). The undoing of the Cuyuna was the Great Depression and a corresponding decrease in demand for manganese ore. The result was the closure of many of the mines of the Cuyuna Range during the early 1930s.

Mining development was closely linked to the development of railroads, which brought supplies, including coal, to the mines and hauled the extracted ore to cities along Lake Superior from whence the ore was shipped. The Northern Pacific came first to the Cuyuna Range with a line paralleling the South Range from Deerwood to Brainerd (Walker 1979:254). In order to provide access to the North Range, including the Kennedy Mine, which was initially serviced by wagons and sleds traveling overland, the Cuyuna Iron Range Railway Company (Cuyuna) was formed in 1908 (Walker 1979:252-253). The Cuyuna railroad began at a junction with the existing Soo Line at Lawler and from there extended westward through Aitkin to Crosby. A series of loops and stub lines connected the communities of Deerwood, Cuyuna, Crosby, Ironton, and Riverton (Schmidt et al.:2007:E116; Walker 1979:253). In 1910, the Minneapolis St. Paul and Sault Ste. Marie Railway Company (Soo Line) purchased the completed Cuyuna line (Schmidt et al.:2007:E116; Walker 1979:253). In 1911, the first ore from the Cuyuna Range reached Lake Superior (Walker 1979:254).

While companies using Midwestern and Eastern capital operated the mines, the mining labor force was made up largely of European immigrants. Townsites platted by corporate and private interests were scattered across the ranges, and much of the range population resided in these relatively urban settings. Within these communities, fraternal, labor, and ethnic halls and churches provided an important social network for the mining communities. Mine companies built offices, hospitals, clubhouses, shops and other facilities throughout the ranges in order to attract and maintain their work force. Using property taxes collected from the mining companies, the towns of the ranges built impressive public buildings and service facilities.

Underground mining on the Cuyuna used the same process employed in most underground mining of soft ores in Minnesota. Once exploratory drilling had identified the location and depth of the ore body, a vertical shaft was excavated of sufficient depth to access the ore. The headframe, which was constructed over the mine entrance, supported the hoist that raised and lowered the “cage” that transported miners and the “skip” that carried the mined ore. Connected to the shaft were “drifts,” or horizontal passageways, that led away from the shaft and into the ore body. Miners were lowered in the cage or used ladders in the shaft to reach the drift entrance. Mining took place in “rooms,” or excavation areas, off of the drift. Miners, who worked in pairs or “gangs,” were assigned to these rooms, and, because of this, the rooms were also referred to as “contracts.” Once the ore within a room had been mined out, the timbers supporting the room were blasted, and the room collapsed. Blasting down of rooms, which occurred at the end of shifts, kept the overburden close to the ore body and made it possible for miners to safely remove the ore on the next level below (Minnesota Department of Labor and Industry [MDLI] – Report 1924:1). Rooms that “hung up,” or did not fully collapse and fill in, were dangerous because they could

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eventually collapse unexpectedly and injure miners (MDLI – Classification of Testimony 1924:5). After blasts, observations were made of the ground surface above the mine for potential problems (MLDI – Classification of Testimony 1924:9). While caved rooms would occasionally break through to the surface as the earth settled, these events were not of particular concern unless they created hazards for the miners below (MLDI – Classification of Testimony 1924:9).

Milford Mine

The Milford Mine is located in the northernmost portion of the Cuyuna Range. The mine property was owned by George H. Crosby's Whitmarsh Mining Company. Exploratory drilling began in 1912 and continued through 1917 (Aulie 1994:22). In 1918, the first shaft was sunk, and underground development began (MDLI – Report 1924:1). During the underground development period, which continued through 1920, 26,038 tons of ore were removed from the mine and stockpiled, although some ore was shipped as early as 1917 (MDLI – Report 1924:1; Aulie 1994:23). The Cuyuna-Minneapolis Iron Company, through a lease agreement with Whitmarsh, performed this initial work and they employed about 50 men (Aulie 1994:23; Dunbar 1919). During this period of development, the mine was known as the Ida Mae or Ida May (Aulie 1994:20; Weed 1922:945; *Duluth Herald*, February 7, 1924; Minnesota Historical Records Survey Project 1940:114).

In 1921, the Whitmarsh Mining Company cancelled the lease of the Cuyuna-Minneapolis Iron Company and took over the mine site, which was by then completely outfitted for mining in with a complete hoist, compressors, and electric motor generators installed (Aulie 1994:20, 23). Whitmarsh dewatered the mine and opened it in 1922 as the Milford (named for Crosby's hometown of Milford, Connecticut) (Aulie 1994:21, 23). A "location" of approximately 12 shacks for miner's families was built along a single street to the immediate south of the mine complex (*The Deerwood Enterprise*, February 8, 1924). To the west, and separated by a wetland from the main mine complex, was a large rooming house for single men (*The Deerwood Enterprise*, February 8, 1924). In 1924, the mine employed about 115 men (*Duluth Herald*, February 7, 1924). During the first full year of mining in 1923, the mine yielded 76,301 tons of ore (MDLI – Report 1924:1). During the winter of 1923-24 prior to the Milford Mine disaster, the mine stockpiled an additional 40,000 tons of ore (MDLI – Report 1924:1). The mine was closed for a period following the disaster of February 5, 1924, but reopened in November of that year. After the disaster, the mine was operated by Crosby's Amherst Mining Company (Minnesota Historical Records Survey Project [MHRSP] 1940:70). The mine continued in operation until 1932, when it was closed due to a lack of demand (Aulie 1994:154; MHRSP 1940:117). Total production for the mine between 1918 and 1932 was 1,266,172 tons (MHRSP 1940:117).

CONCLUSION

The Milford Mine Historic District encompasses all of the known archaeological features associated with the mine site, the full extent of the underground mine, as well as associated railroad grades, tailings piles, roadways, and borrow pits. Many of these features are directly associated with the significant event of the Milford Mine Disaster of February 5, 1924 (Criterion A). In addition to documenting this significant event, the well-preserved industrial and domestic archaeological features of the site can provide important information about the Cuyuna Range iron ore industry and the daily lives of those who worked in the mine (Criterion D).

9. Major Bibliographical References

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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:

State Historic Preservation Office
 Other State agency
 Federal agency
 Local government (Crow Wing County)
 University
 Other
Name of repository: Minnesota Historical Society
Cuyuna Iron Range Heritage Network

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property 180
(Do not include previously listed resource acreage.)

UTM References

(Place additional UTM references on a continuation sheet.)

1	<u>15</u> Zone	<u>424900</u> Easting	<u>5154300</u> Northing	3	<u>15</u> Zone	<u>426118</u> Easting	<u>5154089</u> Northing
2	<u>15</u> Zone	<u>425710</u> Easting	<u>5154300</u> Northing	4	<u>15</u> Zone	<u>425700</u> Easting	<u>5153470</u> Northing

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

The boundary of the Milford Mine Historic District is shown as a solid line on the accompanying USGS map as well as on the accompanying map entitled "Boundary" (Map 1).

Boundary Justification (Explain why the boundaries were selected.)

The boundary of the Milford Mine Historic District is drawn to encompass the entire property historically held by the owners of the mine (SW ¼ of Sect. 23, T 47N R 29W). An extension to the east encompasses a railroad spur constructed in direct response to the 1924 disaster together with the adjacent portion of the railroad main line. The boundary encompasses all of the known archaeological features associated with the mine site, the full extent of the underground mine, as well as associated railroad grades, tailing piles, roadways, and borrow pits.

11. Form Prepared By

name/title Michelle M. Terrell, Principal Archaeologist and Historian
organization Two Pines Resource Group, LLC date August 6, 2010
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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. **Images were printed on HP Premium Photo Plus Paper using HP Vivera Inks.**

Name of Property: **Milford Mine Historic District**

City or Vicinity: **Wolford Township**

County: **Crow Wing** State: **Minnesota**

Description of Photograph(s) and number:

Main Street of Milford Mine Complex, view to north (0001)

Photographer: **A. F. Raymond, Minnesota Historical Society, Negative No. 806-A**

Date Photographed: **1924**

1 of 20.

Overview of Milford Mine Complex, view to southwest (0002)

Photographer: ***Pioneer Press*, February 7, 1924**

Date Photographed: **1924**

2 of 20.

Main Street of Milford Mine Complex, view to north (0003)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 5, 2009**

3 of 20.

Milford Mine Historic District
Name of Property

Crow Wing, Minnesota
County and State

Milford Mine Headframe with the Boiler House in the Background, view to southwest (0004)

Photographer: **St. Paul Daily News, Minnesota Historical Society, Negative No. 78591**

Date Photographed: **1924**

4 of 20.

Clump of Trees Marking the Location of the Milford Mine's Main Shaft Entrance, view to west (0005)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 2, 2009**

5 of 20.

Clump of Trees Marking the Location of the Second Mine Shaft Entrance, view to east (0006)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 3, 2009**

6 of 20.

"DANGER CAVED GROUND KEEP OUT," view to north (0007)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 3, 2009**

7 of 20.

Milford Mine, view to north (0008)

Photographer: **Courtesy of the Cuyuna Iron Range Heritage Network, Crosby, MN**

Date Photographed: **undated**

8 of 20.

Opening for Hoist Drum within the Hoist House (Building 2), view to south (0009)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 4, 2009**

9 of 20.

Milford Mine Historic District
Name of Property

Crow Wing, Minnesota
County and State

Machinery Mount for Air Compressor within the Hoist House (Building 2), view to south (0010)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 4, 2009**

10 of 20.

Northwest Pier of the Water Tower (Building 4), (0011)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 5, 2009**

11 of 20.

Foundation of Building 8, view to northeast (0012)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 4, 2009**

12 of 20.

Cellarhole of Building 10, view to south (0013)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 4, 2009**

13 of 20.

Diesel Can on Surface Near Junction of Soo Line Grade and the Mine Spur Grade (0014)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 2, 2009**

14 of 20.

Remains of the Soo Line Trestle, view to east (0015)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 2, 2009**

15 of 20.

Milford Mine Historic District
Name of Property

Crow Wing, Minnesota
County and State

Soo Line Grade along North Edge of Milford Lake, view to west (0016)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 1, 2009**

16 of 20.

Soo Line Grade, view to west (0017)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 1, 2009**

17 of 20.

Miners at Milford with the Mine's Spur Grade in the Background (0018)

Photographer: **Courtesy of the Cuyuna Iron Range Heritage Network, Crosby, MN**

Date Photographed: **undated**

18 of 20.

Post-Disaster Spur Grade, view to northeast (0019)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 1, 2009**

19 of 20.

Terminus of the Post-Disaster Spur Grade at Milford Lake, view to west (0020)

Photographer: **Michelle Terrell, Two Pines Resource Group, LLC**

Date Photographed: **June 5, 2009**

20 of 20.

Property Owner:

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

name _____
street & number _____ telephone _____
city or town _____ state _____ zip code _____

Milford Mine Historic District
Name of Property

Crow Wing, Minnesota
County and State

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.