NPS Form 10-900

SG-1945 OMB No. 1024-0018

United States Department of the Interior
National Park Service

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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 Big Brutus

Other names/site number KHRI #021-495; 1850B Bucyrus-Erie Electric Coal Mining Shovel

Name of related Multiple Property Listing N/A

2. Location

Street & number 6509 NW 60th St ☐ not for publication

City or town West Mineral ☐ vicinity

State Kansas Code KS County Cherokee Code 021 Zip code 66782

3. State/Federal Agency Certification

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

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

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

___ national x statewide ___ local Applicable National Register Criteria: x A ___ B x C ___ D

Patrick Zollner 11-21-17

Signature of certifying official/Title Patrick Zollner, Deputy SHPO Date

Kansas State Historical Society

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:

x 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:)

for Signature of the Keeper 1-5-18 Date of Action

Big Brutus
Name of Property

Cherokee County, Kansas
County and State

5. Classification

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

x	private
	public - Local
	public - State
	public - Federal

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

	building(s)
	district
	site
	structure
X	object

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

Contributing	Noncontributing	
-	3	buildings
1	-	sites
-	-	structures
1	6	objects
2	**9**	**Total**

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions.)

EXTRACTIVE / Extractive Facility

Current Functions
(Enter categories from instructions.)

RECREATION/CULTURE: Museum (object)

7. Description

Architectural Classification
(Enter categories from instructions.)

NO STYLE

Materials
(Enter categories from instructions.)

foundation: n/a
walls: METAL
roof: METAL
other:

Narrative Description

Summary

Big Brutus is the nickname of the Bucyrus-Erie model 1850B electric coal mining shovel. Built in 1962 for the Pittsburg & Midway Coal Mining (P&M), the shovel was the second largest of its type ever built and today is the largest remaining electric shovel in the world. Built of 100% American iron and steel, Brutus is 160 feet tall, weighs 11 million pounds, and has a 90-cubic yard bucket. Located in West Mineral, Cherokee County, Kansas, Brutus represents both the apex and the demise of the coal mining industry of Southeastern Kansas. He operated for 11 years and was decommissioned on April 25, 1974. Brutus sat rusting and abandoned in situ for another 11 years, until he was donated to the non-profit group, Big Brutus Incorporated. The group restored Brutus and he began his life as museum on July 13, 1985. Because Brutus worked the land on which he sits, the 16 acres comprising the museum are included within the boundaries of this nomination. Although the museum collection includes several other examples of mining equipment, only Brutus and the site are considered part of this nomination. A list of the additional objects (all non-contributing) is at the end of this section.

Elaboration

Figure 1: Big Brutus in 2012, showing an excavator and bulldozer for scale (Larry Raulston).

1. Physical Setting

The Bucyrus-Erie 1850 B Coal mining shovel known as Brutus is in the northwest corner of Cherokee County, Kansas, within the city limits of the city of West Mineral. Brutus rests firmly on bedrock, slightly below ground level, in a self-dug 20' deep and 120' wide circular clearing on the eastern side of 16 acres of land that the Pittsburg and Midway Coal Mining Company had originally set aside as the site for the shovel's dismantling.

The 16-acre site is now a well-maintained park and is the home of the Big Brutus Visitor Center and Museum, a maintenance building, an events shelter, an antique 3 cubic yard Page Dragline, numerous strip mining and deep mining machines, and other mining artifacts. Strategically planted maple trees line the west side of the property, as well as either side of the 100-yard path which leads visitors from the Visitor's Center to the shovel itself.

The south and eastern sides of the 16-acre property are flanked by the remains of the very last strip mining efforts of Brutus, including a now water filled, 0.75-mile long pit from which he emerged on the last day of his operation (*Figures 2 & 3*). This area is small part of the 14,500 acres of formerly mined land comprising the Kansas Mined Land Wildlife Area, which is owned and managed by the Kansas Department of Wildlife, Parks and Tourism.

The north side of the 16-acre property is defined by the abandoned remains of the Missouri, Kansas and Texas (MKT) railroad track right away. This is the very railroad that once serviced the many coal mines which dotted the area immediately surrounding West Mineral, including the Pittsburg & Midway Coal mines number 15 and 18. The west side of the property is flanked by a Cherokee County rural road named NW 60th street.

Figure 2: 2015 Aerial image showing Big Brutus (and the museum boundary) within the landscape and in relation to the original town of West Mineral (Google Earth).

2. The 1850B Shovel "Brutus" Today

The 1850B, "Brutus" now sits in a resting pose, as it would have looked in its operating years during a shift change or maintenance period (*Figure 1*). Accomplishing this look was a major task because prior to its donation to the non-profit Big Brutus Incorporated, P&M was in the process of systematically removing reusable parts. During P&M's initial scrapping efforts, the hoist wire ropes, which lifted and lowered the shovel's bucket, were cut with a torch to facilitate removal of the machine's crowd motors. This resulted in hundreds of feet of wire rope and the bail of the shovel's bucket lying on the ground in front of the machine.

As part of the contract to donate the 1850B to Big Brutus Inc., P&M agreed to contract to have the machine painted to its original look. With a combination of P&M material donations and many hours of volunteer help, wire rope anchors were built and installed at the top of the boom. These held the now shortened wire hoist ropes. The extremely heavy steel bucket bail was also hoisted back into its original position (*Figure 4*). Wooden beams, similar to railroad ties, were used to create a cribbing system to support the bail. Then the wire hoist ropes were rethreaded through the bail and pulled back into the newly installed anchors and secured. The wooden cribbing was then removed. This extremely difficult and dangerous action restored external Brutus's natural repose look.

The bail and wire hoist rope project was a major project confronting the volunteers, but there were many others. Another large project was the lining of the hand rails on all walkways with heavy gauge wire cattle panels for safety purposes (*Figure 5*). Walkways, in which panels were installed, included those on both sides leading to the top of the boom. This was done to allow visitors to include a boom climb in their tour of the shovel. This

Figure 3: 2015 Aerial, showing the extent of the nominated site (Google Earth). Red line indicates nominated boundary.

feature was a major drawing card for adventurous visitors during the years it was allowed. However, the boom walk was later closed for insurance purposes and not because of any safety incidents. These and multiple other projects involving hundreds of local volunteers and thousands of hours of work were completed before the official dedication on July 13, 1985.

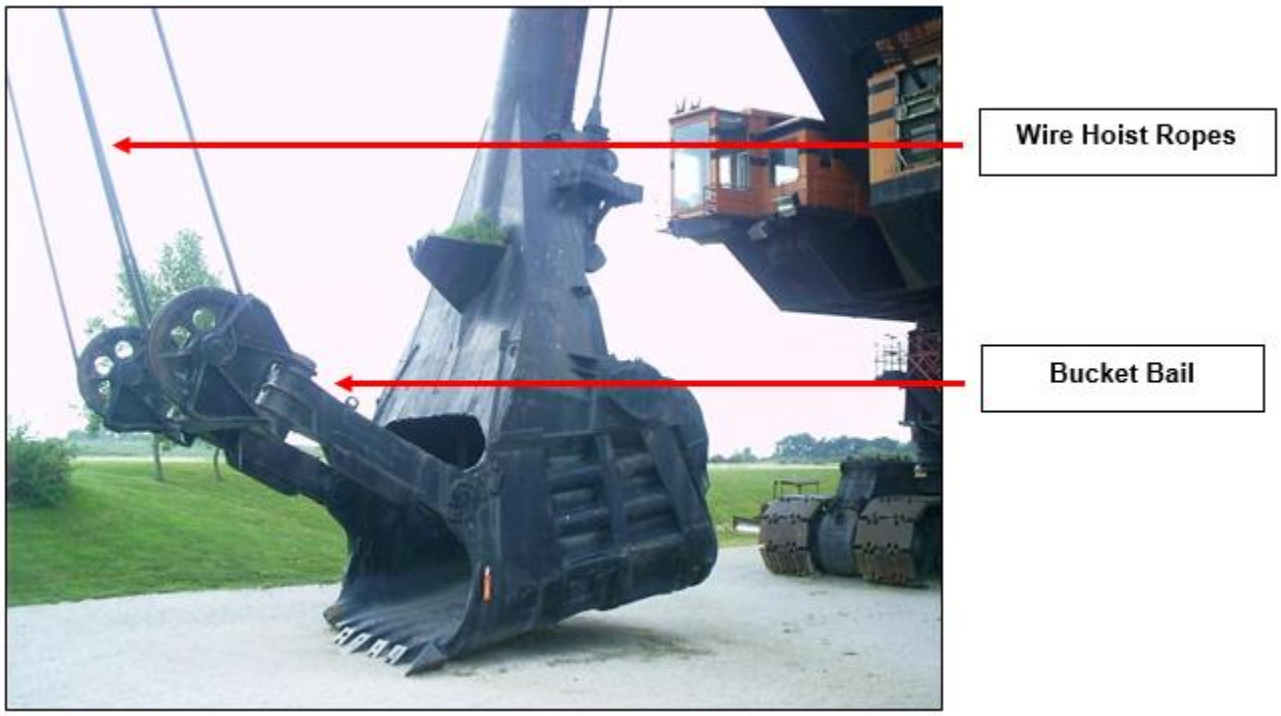

Figure 4: Bucket and hoist ropes today.

Figure 5: Walkways today.

3. Major Components of the 1850B

- Upper Deck/Main House

The main house of Brutus is enclosed by heavy sheet metal with a curved roof. The inside dimensions of the main house are: width 57', length 79'-6", height 30'. Projecting from the front right side of the main house is the observation/lunchroom with three windows and an entrance door, an exit door beside the window to a walkway, and a door to the operator's cab. The observation/lunchroom measures 9'-5" wide and 14' long. The operator's cab is directly in front of the observation/lunchroom. This is where the machine's main operator sat, with a clear view of the stripping operation. The entire structure of the main house was sometimes referred to as the revolving frame, machinery deck, or upper deck. The upper deck has two steel "A" frames that support a 150' boom, a round dipper stick, and a 90 cubic yard bucket (*Figure 6*).

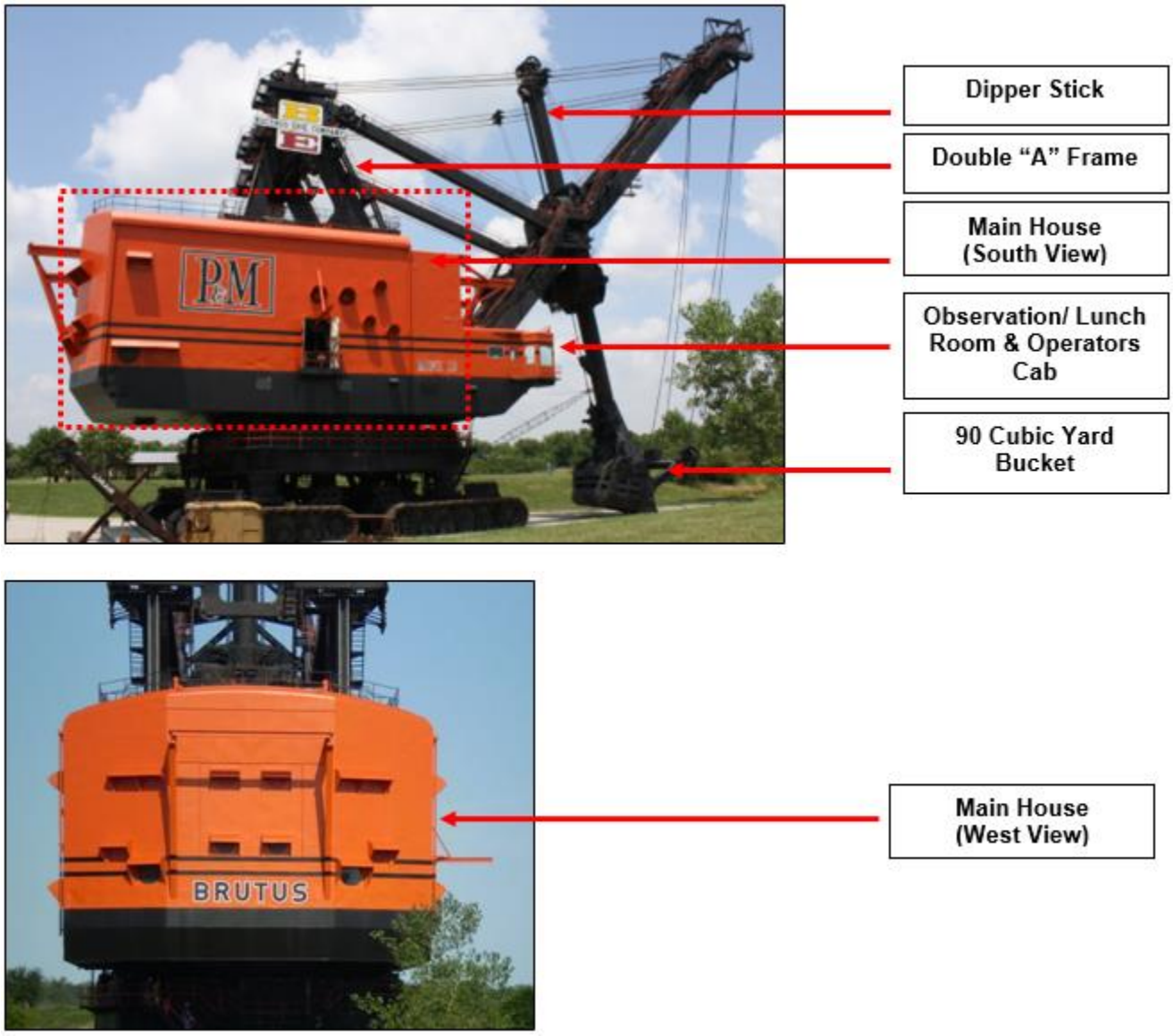

Figure 6: Diagram of Upper Deck/Main House

- Lower Deck

The lower or stationary deck was built with very heavy gauge, several inches thick steel. This was required to support and withstand the intense stresses generated by the digging process. Housed inside the chambers of the lower deck were the hydraulic pumps and tank system. This system powered the four hydraulic levelling jacks on each corner of the lower deck, as well as the large hydraulic cylinders that steered the crawlers that were directly below them, and which supported the entire machine. Also housed inside the lower deck were the electric transformers used in powering the crawler motors, auxiliary lighting, automatic greasing systems, and electric control systems (*Figure 7*).

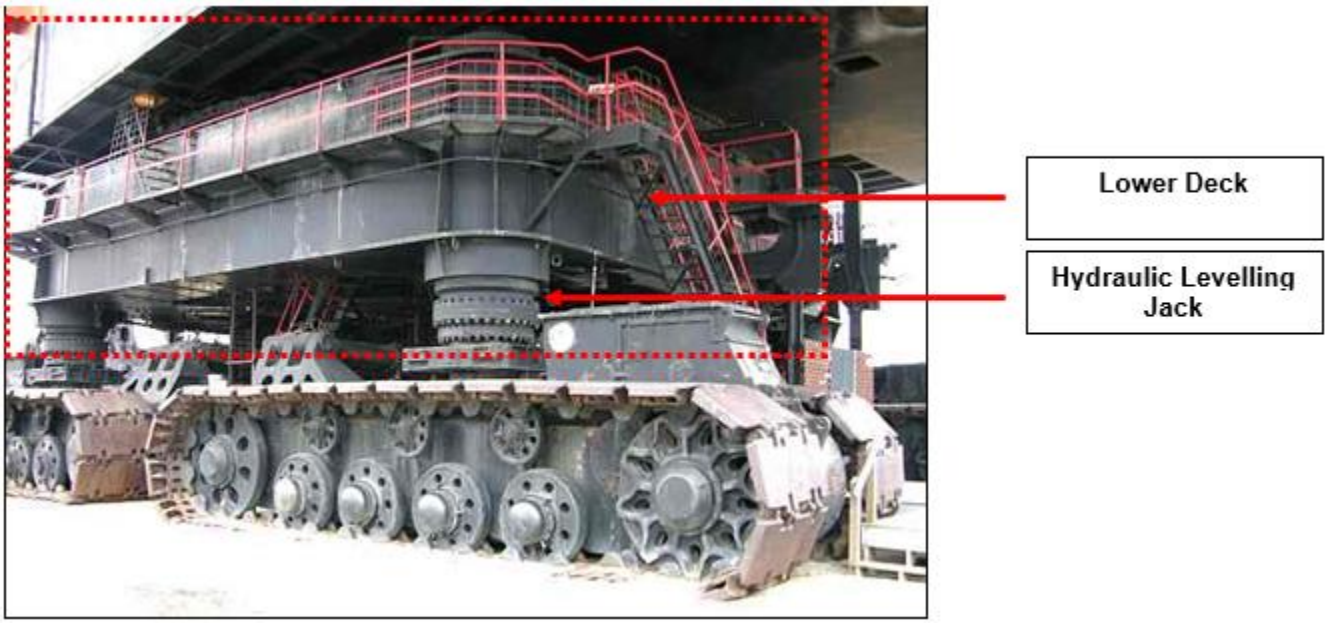

Figure 7: Diagram of lower deck and hydraulics.

- Crawlers

Four sets of crawlers and motors supported and moved Brutus in its digging operation. Each crawler had two sets of individual steel pads aligned in a belt. Each pad weighs one ton. Large hydraulic cylinders steered the crawlers. Two cylinders controlled the front crawlers, and two cylinders controlled the back crawlers. The front and back systems were independent of each other. These systems were operated by the Groundman, whose job it was to move the machine forward or backward. The outside width of the crawlers is 34’-4”. The front-to-back distance of the crawlers is 75’-8”. And the height of each crawler is 7’-5”. There is a seven-foot separation between the fronts of the back crawlers and the backs of the front crawlers (*Figure 8*).

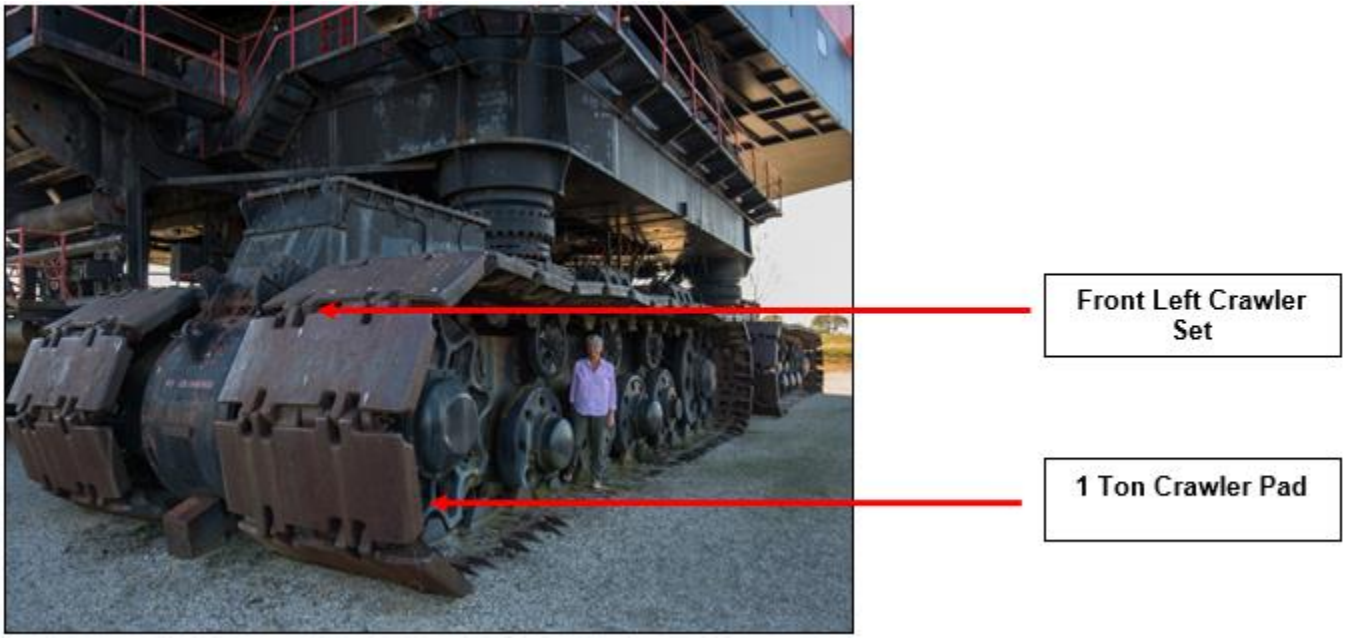

Figure 8: Diagram of crawlers, showing person for scale.

- Circular Rail System

Between the upper and lower decks is the system that allows the upper deck to revolve. It can be likened to a huge roller bearing. There are upper circular rails attached to the upper deck and lower circular rails attached to the lower deck. In between these rails are the rollers, aka “dollies,” that carry the entire weight of the upper deck. Each individual roller has its own grease injector and was automatically greased (*Figure 9*).

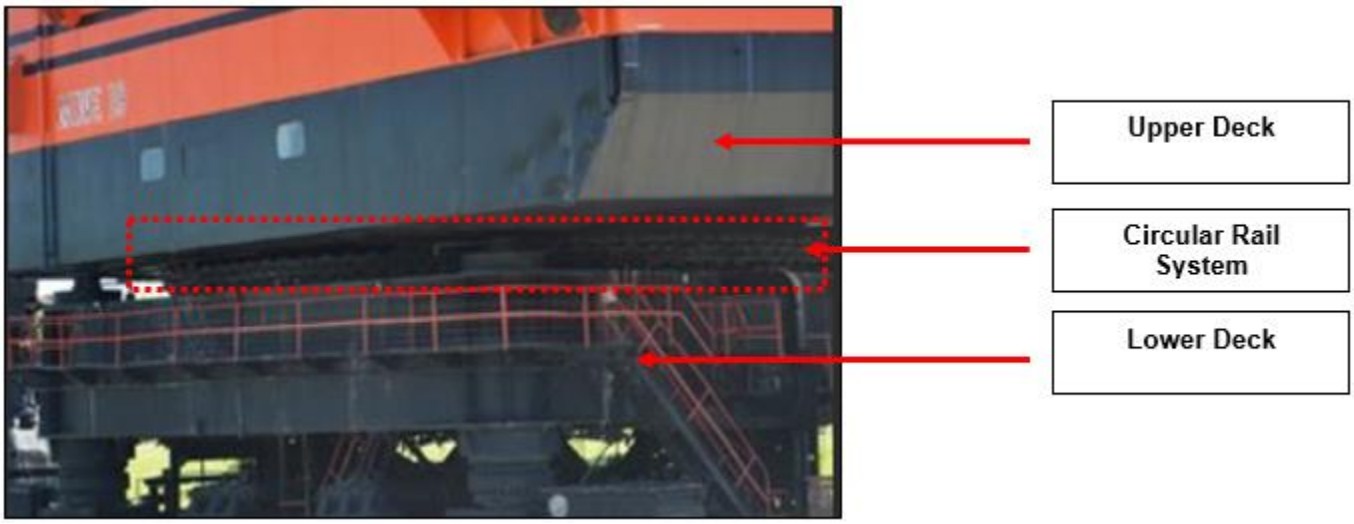

Figure 9: Diagram of circular rail system.

- Elevator

Normal access to the upper deck was provided by an elevator that travelled inside the central barrel of machine and was attached to the lower deck and extended up into the upper revolving frame. The inside of the center barrel was large enough for a four-person, 1000-pound capacity elevator. When power was off for various reasons, access would be from trap doors, located on either side of the revolving upper deck, which lead to walkways located around the stationary lower frame (*Figure 10*).

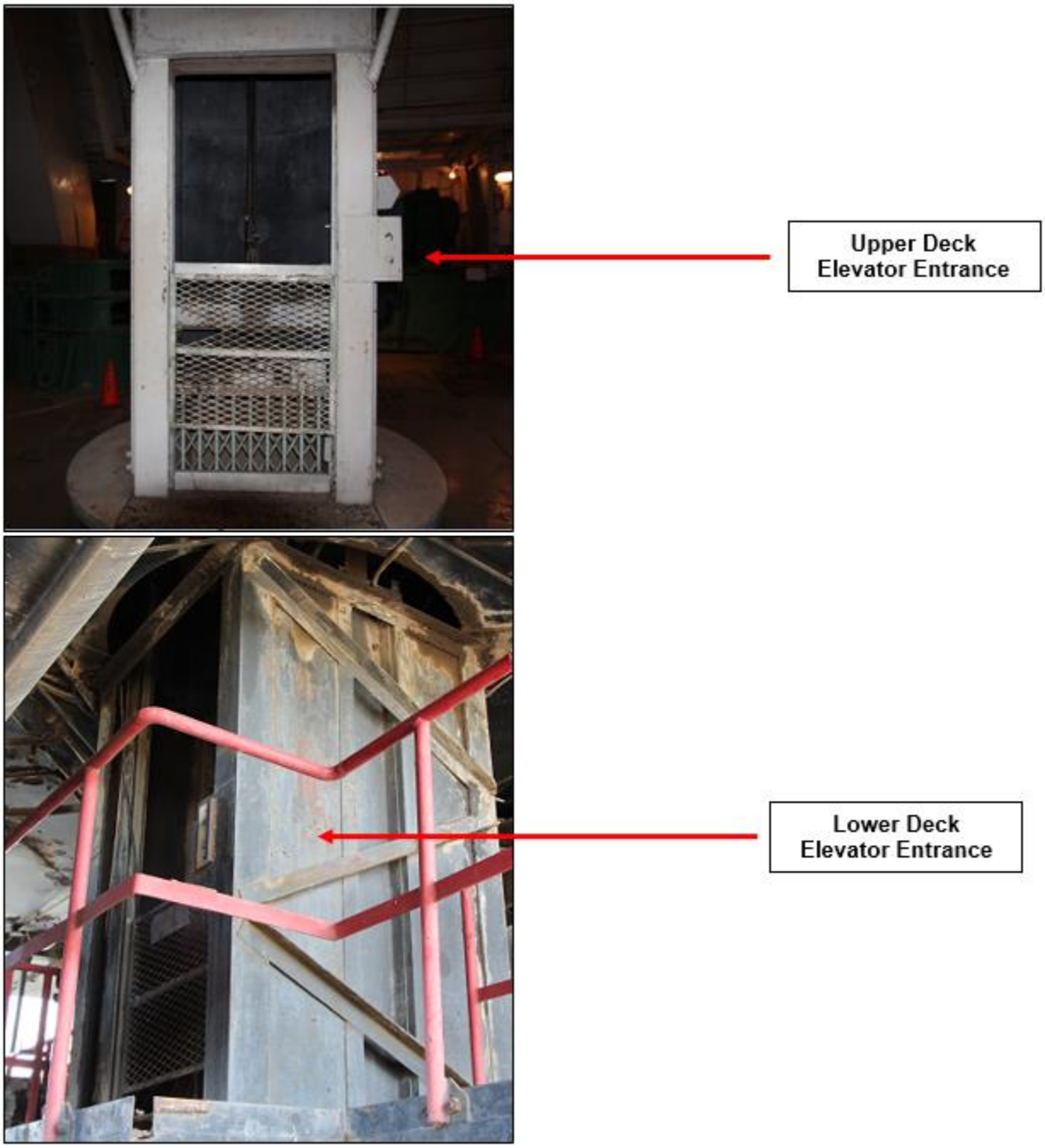

Figure 10: Diagrams of elevators.

- Dual Control System

There are dual control stations at the front and back of the lower deck (*Figure 11*). The Groundman used these control stations to steer and move the machine, to level the machine when needed, and to wind or unwind power cables from the front or back electrical reels as necessary.
Note: Vandals have stolen most of the levers from the front control station.

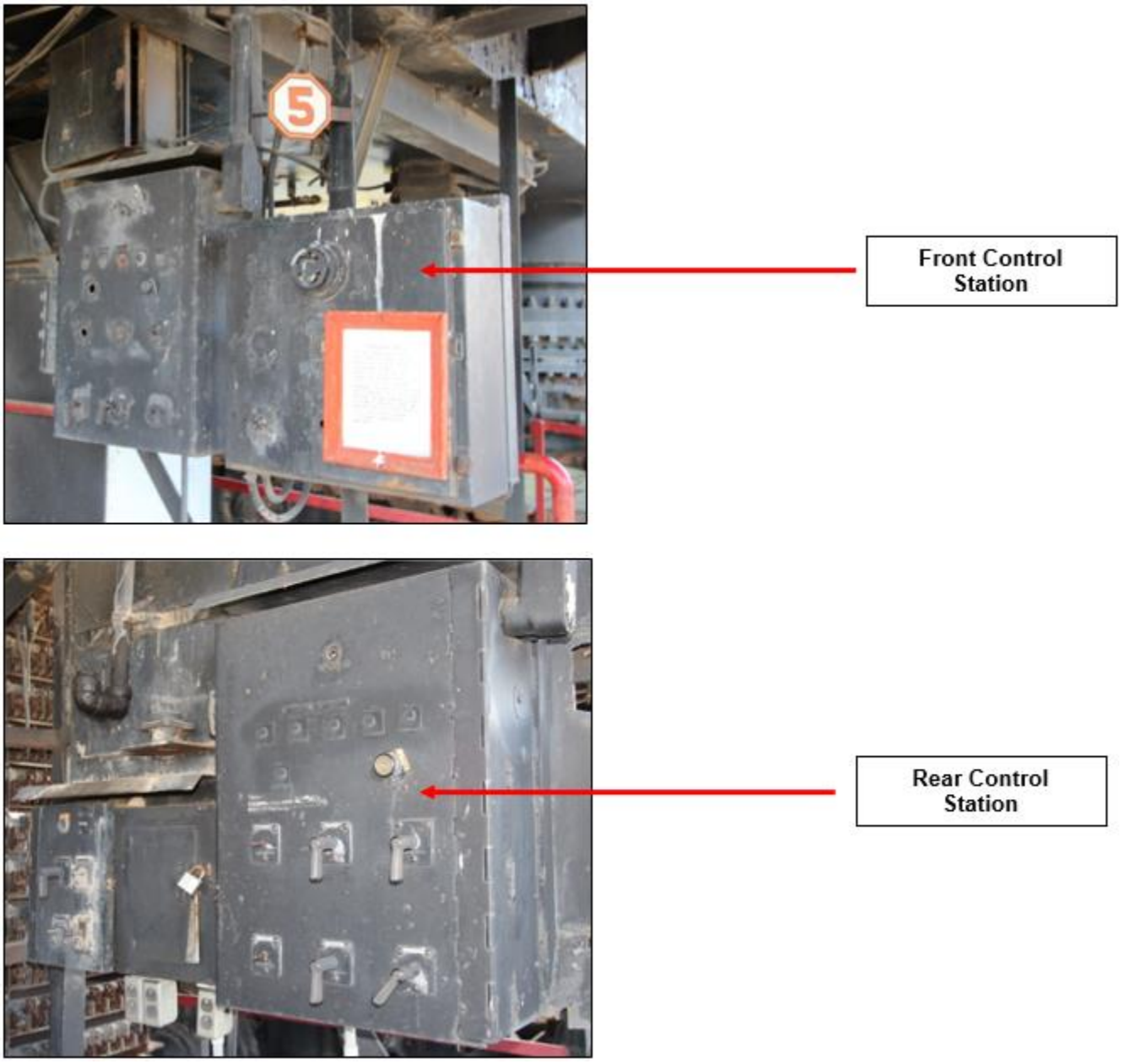

Figure 11: Diagram of Dual Control System

Missing Components

Outwardly Brutus looks much as it did when in its working days. Inwardly its heart is missing. The motors, generators, control panels, fans, and some transformers that provided the muscle for the gears to do their work are gone. The following clarifies the missing component parts:

- **Exhaust and Cooling Fans**

Exhaust fans in the back and on the side of the machine, which remove heat from inside the main house, have been removed. Two exhaust fans located under the generator sets were also removed. All hoist, crowd, and swing motors had ducted cooling fans attached and were removed along with the exhaust motors (*Figure 12*).
Note: After the first year of operation (1963), P&M had intake filter fans installed on the upper deck main house of the machine. The fans' purpose was to remove dust from the intake air, as dust, bugs, and other materials sucked in by the exhaust fans and caused balance and other problems in the motors and generators. All of the filter fans remain.

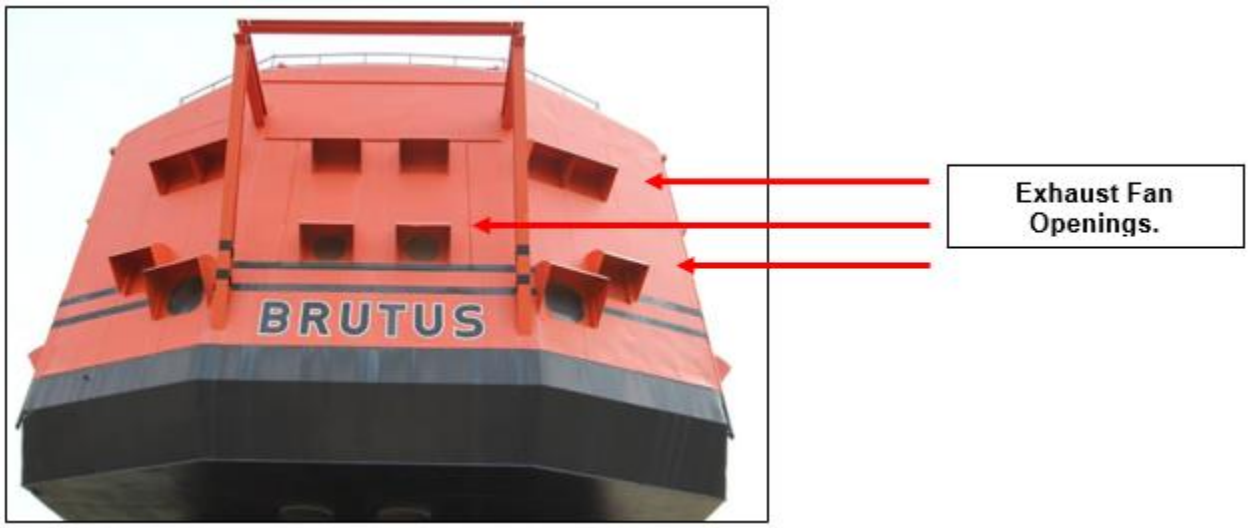

Figure 12: Diagram of exhaust fan openings

- **Air Compressors**

A large air compressor, which provided air for the air brakes and for the automatic greasing systems, was removed. A companion air compressor on the lower deck was also removed.

- **Dipper Trip Motor**

A dipper trip motor located on the bucket to actuate the bucket latch bar was removed.

- **Hoists**

Two auxiliary hoists, one on each side of the machine, used to pick up heavy pieces and transport them to the main hoist in the center, were removed. A small hoist located on the right side of the machine used to lift grease barrels and other objects from the ground to the upper deck was removed.
Note: The main hoist used to pick up the heavy parts and transport them in or out of the machine remains.

- **Power Cable Reel**

A power cable reel that was on the backend of the machine was removed (*Figure 13*). It was identical to the one on the front of the machine that remains. Each of these reels held 1500' of power cable. The power cable was rated for 7200v and was three-phase. The three copper conductors in the cable were 600 mcm in size. In addition there were two 2/0 copper ground wires and a copper monitor wire inside. The conductor wires had a braided copper grounding shield over the insulation.

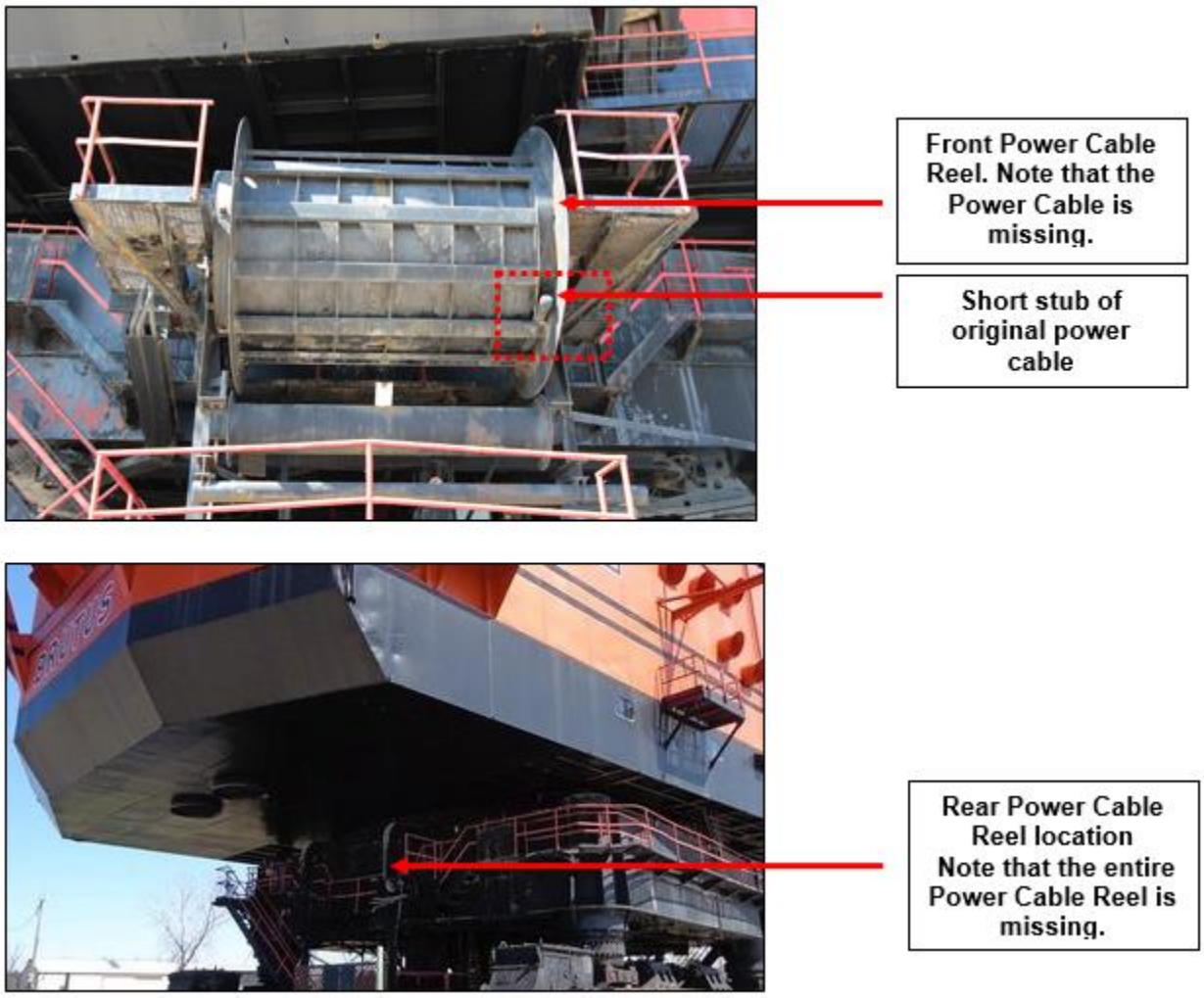

Figure 13: Diagram of missing power cable and reel

- **Power Cables**

The large power cables (essentially the 1850Bs power chord) were removed. A short sample piece of the cable is displayed inside the Big Brutus Visitor Center & Museum (*Figure 14*).

- **Deck Winch**

A deck winch that pulled in the hoist wire rope was removed. An identical winch located under the crowd machinery remains in place because it was covered in grease and not worth the trouble to clean it up. This was fortunate for the volunteers who did clean it up and then used it to lift the wire hoist cable anchors, the bucket bail, and the wire hoist cables back in place as previously noted.

- **Crawler Motors**

The original crawler motors on Brutus were 250hp, three-phase, 480v wound rotor motors made by GE. These were replaced in 1972 with 300hp, 480v wound rotor motors by GE. All were removed (*Figure 15*).

- **Transformers**

Inside the lower deck were three-phase transformers that reduced the voltage from 7200v to 480v for the crawler motors and other 480v motors such as the air compressor, welding machines, elevator motor, and the hydraulic pump motors for the jacks and steering cylinders. All were removed along with a 480v/240/120v lighting transformer (*Figure 16*).

Figure 14: Sample of the power cable

Figure 15: Diagram showing location of crawler motors

Figure 16: Diagram of transformer room

Figure 17: Author demonstrating the approximate height of motor generators within the main house

- **Ballast**

Ballast consisting of 35lb slugs of pig iron was used to offset the weight of the boom and bucket and to keep the machine balanced as it removed massive amounts of overburden from the coal seams. Initially 1,000 tons of ballast was used, but after a few days of operation it was determined that 1,000 tons was inadequate, so an additional 200 tons were added. All 1,200 tons of ballast was removed and sold for scrap by Big Brutus Inc. This sale was authorized by the Big Brutus Board to raise money to help get the restoration project started. The manufacturer, Bucyrus-Erie, was contacted before the sale to get their opinion about the safety of the removal of the ballast. They determined that there would be no detrimental effects on the machine since it was no longer to be used for mining purposes.

- **Motor Generator (MG) Sets**

Two motor generator sets were located in the main house upper deck at the back of the machine. These started independently with the rearmost being started first since it drove the exciter generator. When the first MG set was up to speed—1,800rpm—and synchronized, the second MG set was started and synchronized. The synchronous GE motors were rated 3500hp each, 7200v three-phase. These, along with the generators they drove (described below), are gone. Only the bases that supported them remain (*Figures 17&18*).

Figure 18: Diagram showing location of motor generator sets

The rear synchronous motor drove six generators and an exciter. The front synchronous motor drove seven generators. The 13 generators drove the 13 motors that drove the motions of the 1850B as it operated. There were eight hoist motors (GE MD 620), three swing motors (GE MDV622), and two crowd motors (GE MD 618). The hoist and crowd motions were configured in motor generator loops. The hoist motion had four loops. There were two motors and two generators in each loop; they were configured MGMG. The crowd motion had one loop MGMG. The swing motions were independent: one generator for each motor.

There was an amplidyne set that furnished a varying DC voltage to the synchronous motor fields depending on the load they were driving to keep the motors in synchronization. This set is gone, but its control panel remains.

The generator fields were fed by a varying DC voltage, depending on the load demand, from silicon controlled rectifier panels that used three-phase AC and converted it to varying DC voltage for the generator fields. All three motions used this system and all panels associated with them are gone.

- **Central Wire Hoist Rope Cable**

The large central wire hoist rope cable reel in the center of the upper deck main house is still intact (*Figure 19*); however, most of the cable was lost from the reel when the cable was cut to enable the removal of the shovel's crowd motors. The missing cable from the reel now lines either side of the walkway from the Visitor's Center leading to the shovel.

- **Central Wire Hoist Rope Cable Reel Motors**

The motors used to power the central cable reel have been removed.

- **Crowd Motors**

The crowd motors, which powered the system that enabled the shovel's Operator to dig in close to the wall of the strip pit, have been removed.

Integrity

Overall, Big Brutus retains good integrity. He remains within the landscape where he worked between 1963 and 1974. Tied to the location is his setting. Surrounding the museum now hosting the machine, the landscape retains the evidence of the years of strip mining in the region. The Kansas Department of Wildlife, Parks & Tourism has reclaimed hundreds of acres, turning the former mines into ponds and establishing the 14,500-acre Mined Land Wildlife Area. The design, workmanship, and materials of Big Brutus are also interrelated. In its current state, Brutus is inoperable due to the loss of a majority—not the entirety—of its powertrain. Further, the interior architecture of the upper deck house is intact and continues to show where the various generators and motors were located; thus, the historic design is discernible by what remains. Besides the removal of components, no alterations have been done to Big Brutus: no bulkheads, no interior partitions, no new openings. The historic design and workmanship are clearly evident due to the lack of alterations. All of these work together to enhance the machine's ability to communicate its industrial associations and enhance the feeling of historicity. The Big Brutus Board of Directors greatly desires to someday restore the inside of the 1850B to its original look with real or replicated components. This would further enhance the visitor' ability to see how the machine looked and functioned in its working years.

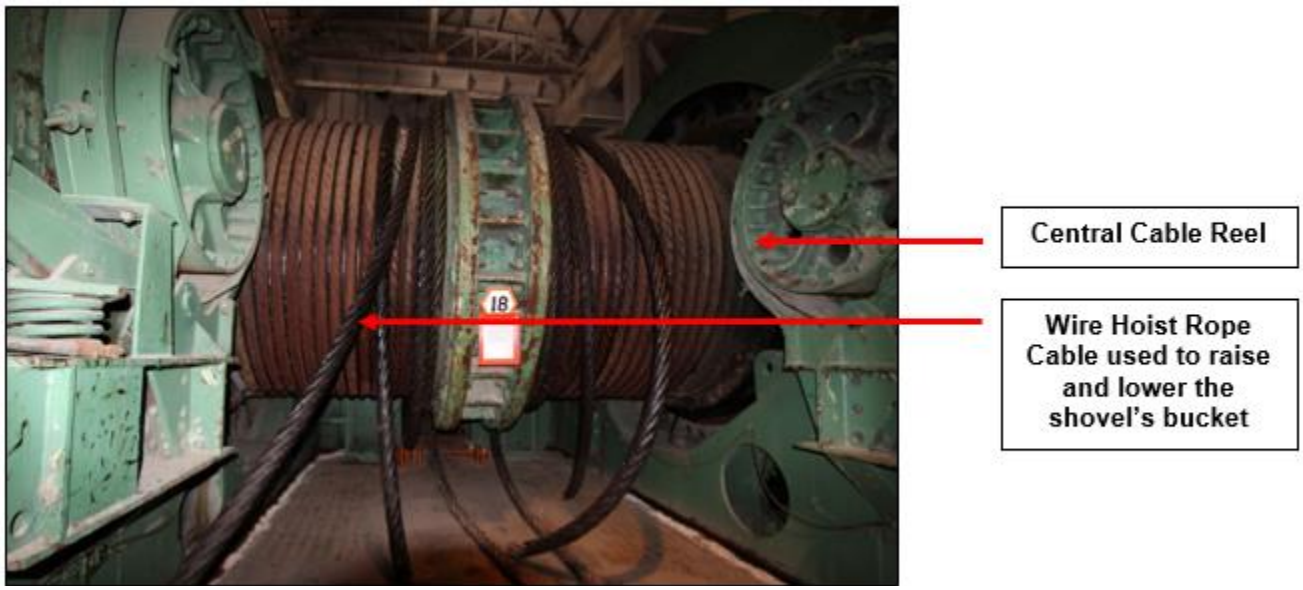

Figure 19: Diagram of central wire hoist rope cable

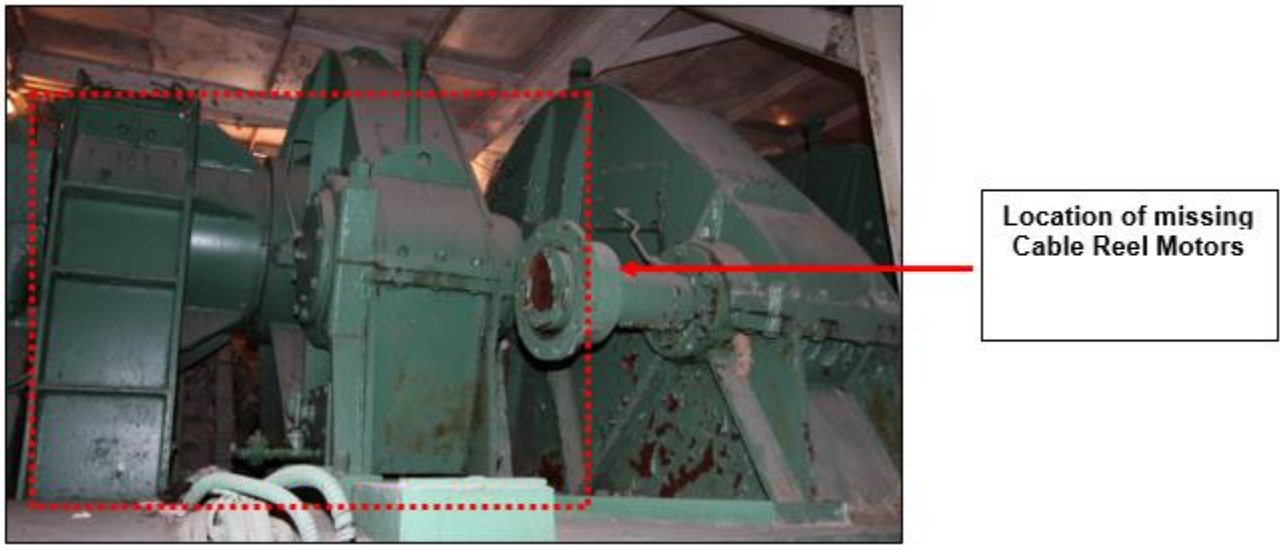

Figure 20: Diagram showing location of cable reel motors

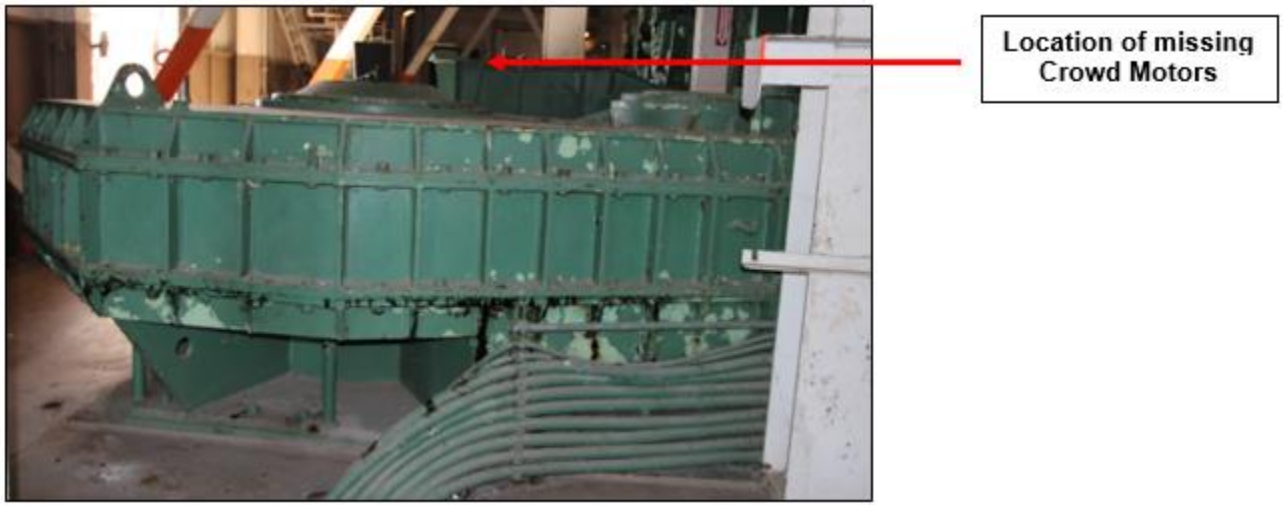

Figure 21: Diagram showing location of missing crowd motors

Non-Contributing Resources

The following is a brief description of the larger resources within the 16-acre museum as of January 2018. The National Register office requested these be called out as non-contributing resources as they are within the nominated boundary. None of the objects or buildings are directly historically associated with Big Brutus or the immediate landscape, as all have been moved to the site from the Southeast Kansas coal region. Because this is a museum, the mining equipment helps to tell the story of the industry in Southeast Kansas; the buildings support the function and mission of the museum, which was created around Brutus.

Non-contributing Objects (all diesel-powered; dimensions are approximated)

Page Dragline Model 222 (1920)
- 46’ L x 28’ W (cab)
- 100’ boom
- 3 cu. yd bucket

KW Dart Coal Haul Truck (1941)
- 40 ton

Caterpillar D4 Bulldozer (1947)
- 7’-7” H (top of cab) x 12’-10” L
- 8’-0” W (with blade)

Payhauler Dump Truck (1950s)
- 25 ton

Lorain Tracked Excavator (ca. 1954)
- 20’ H x 28’ L x 9’-9” W
- 3/4 cu. yd. bucket

Caterpillar Road Grader (1956)
- 27’ L x 11’ H x 8’ W

Other equipment at the site that is too small to be counted in the resource numbers:

- Small Dragline (Diesel)
- Small Austin Western Shovel (Gasoline)
- 45 cu. yd. bucket from a 5561 Marion shovel
- 3 Pull Type Road Graders (old)
- Squirrel Cage Ventilating Fan from last deep mine in Cherokee Co.
- Large Ingersoll-Rand Air Comp.
- Hoist Machinery from Kruger deep mine N. of Cherokee
- 2 old prospect churn drills
- Under cutting machine from Kruger Mine
- Large trip hammer from Mine 19
- Fire Alarm Bell from West Mineral
- Numerous items in museum building, including "Little Giant" working electric model of a Marion Shovel Model built in the 1930's

Non-contributing Buildings (dimensions are approximated)

Visitor Center (ca. 1990s)

At the west end of the nominated parcel is a one-story rectangular building with side-gable roof. The building is oriented north-to-south and measures approximately 100’ (north-south) by 30’ (east-west). The roof of the building’s north half (which contains the majority of the interior exhibits) is raised slightly above the south half and contains a clerestory at the center of the roof. The south portion, which contains bathrooms, meeting rooms, and offices, has double entry doors on the east (to access museum grounds) and west (from gravel parking lot); the east and west walls of the south half are inset to allow for the roof to extend to cover the doors. The building is covered in wood clapboard (south) and vertical wood boards (north) and the roof is metal.

Event Shelter (ca. 1985)

Toward the north end of the property is an open-air shelter for large events. The structure measures approximately 60’ x 60’ and is made of two rectangular, gable-roof shelters combined together; the roofs are oriented east-west and are covered in corrugated metal. The roof is supported by wooden Y braces; the floor is concrete.

Maintenance Garage (ca. 1985)

To the east of the event shelter is a rectangular pre-manufactured metal building. The side-gabled structure measures approximately 60’ (east-west) x 30’ (north-south). The Page Dragline is located to the northeast of this building.

8. Statement of Significance

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

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

Criteria Considerations
(Mark "x" in all the boxes that apply.)
Property is:

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

Areas of Significance
ENGINEERING
INDUSTRY

Period of Significance
1962-1974

Significant Dates

Significant Person
(Complete only if Criterion B is marked above.)
N/A

Cultural Affiliation
N/A

Architect/Builder
Bucyrus-Erie

Period of Significance (justification)
Big Brutus' period of significance spans the years of its use as a coal-mining shovel, from its construction in 1962 to 1974 when it was abandoned. This period also encompasses the last era of large-scale coal mining in southeast Kansas, ending over 100 years of the industry's impact in the region.

Criteria Considerations (justification)
N/A

Narrative Statement of Significance

Summary

The physical and cultural landscape of Southeast Kansas was significantly impacted by the coal mining industry. Almost from the first years of settlement, mining became one of Cherokee County's staple industries. As technology improved and demand for the resource changed, industry adapted from deep-shaft mining, which was labor intensive to strip-mining, which relied more heavily on machinery. During the last era of coal mining in the region, 1960 to 1974, strip mining was accomplished on a scale not seen before in the state. Built between 1962 & 1963 and weighing 5,500 tons, the Bucyrus-Erie 1850B, known as Big Brutus, uncovered over 900,000 tons of coal in each of the 11 years he worked. His demise in 1974, ushered in by changes to environmental laws, effectively ended the coal mining industry in Kansas. As a significant reminder of the impact of coal mining in the region, Big Brutus is nominated to the National Register under Criterion A. As one of the largest electric coal shovels ever assembled, Brutus is also nominated under Criterion C.

Elaboration

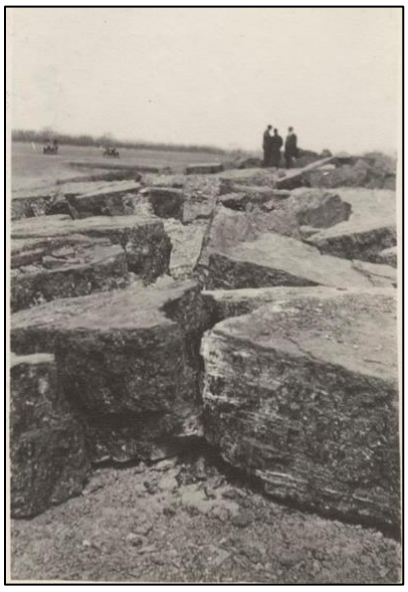

Figure 22: Coalfields near Pittsburg, Kansas, between 1900 & 1920 (*Kansas Memory*)

The coal mining history of Southeast Kansas (SEK) can be divided into four distinct eras: the first or early era in which the coal seams were discovered and initial attempts to mine it began; the second era, in which entrepreneurs began to form coal mining companies and the formal use of sophisticated machines specifically designed for coal mining purposes became prevalent; the third era, in which deep shaft mining companies began to decline and were superseded by larger coal mining companies, such as the Pittsburg & Midway Coal Mining Company (P&M); and the fourth and final era, in which the SEK coal mining industry reached its final apex and then collapsed into its final demise.

First Era of Coal Mining in Southeast Kansas (1860-1880)

The first era of coal mining corresponds with the establishment and early years of Cherokee County. The Kansas territorial legislature created the first iteration of the county's boundaries in 1855; however, not until 1867 were the current county boundaries established by the state legislature. In 1855 the county, which contained part of what is now Crawford County to the north, was within the boundaries of the Cherokee Neutral Lands. As Kansas historian William Cutler noted in 1883, this area "remained the property of the Cherokees until 1866, when, on account of the encroachments upon them of white people many of whom had settled upon the land, they became desirous of selling it."[1] At the time of the Cherokee lands' sale in August 1866, over 5,000 individuals had settled there, primarily due to the availability of agricultural land.[2]

Coal outcroppings were prevalent within the landscape when the earliest settlers arrived in the mid-1850s.[3] Outcroppings are where seams of coal, through the forces of time and nature, became exposed at the surface of the land (*Figure 22*). Early mining efforts of this coal only required pick axes, hand shovels and horse-drawn

[1] Frank Blackmar, *Kansas: A Cyclopedia of State History* Vol. I (Chicago: Standard Publishing Co., 1912), 318 & William Cutler, "Cherokee County," *History of the State of Kansas* (Chicago: A.T. Andreas, 1883), n.p. [transcription on-line] available from Kansas Collection Books http://www.kancoll.org/books/cutler/cherokee/cherokee-co-p1.html (accessed 12/14/2016).

[2] Cutler, "Cherokee County," n.p; William E. Powell, "European Settlement in the Cherokee-Crawford Coal Field of Southeastern Kansas," *Kansas Historical Quarterly* 41 (Summer 1975): 151. Paragraph adapted from Kathy Boccia & Amanda Loughlin, "Soffietti-Boccia Grocery Store," National Register nomination (2016): 7.

[3] Powell, "European Settlement," 151.

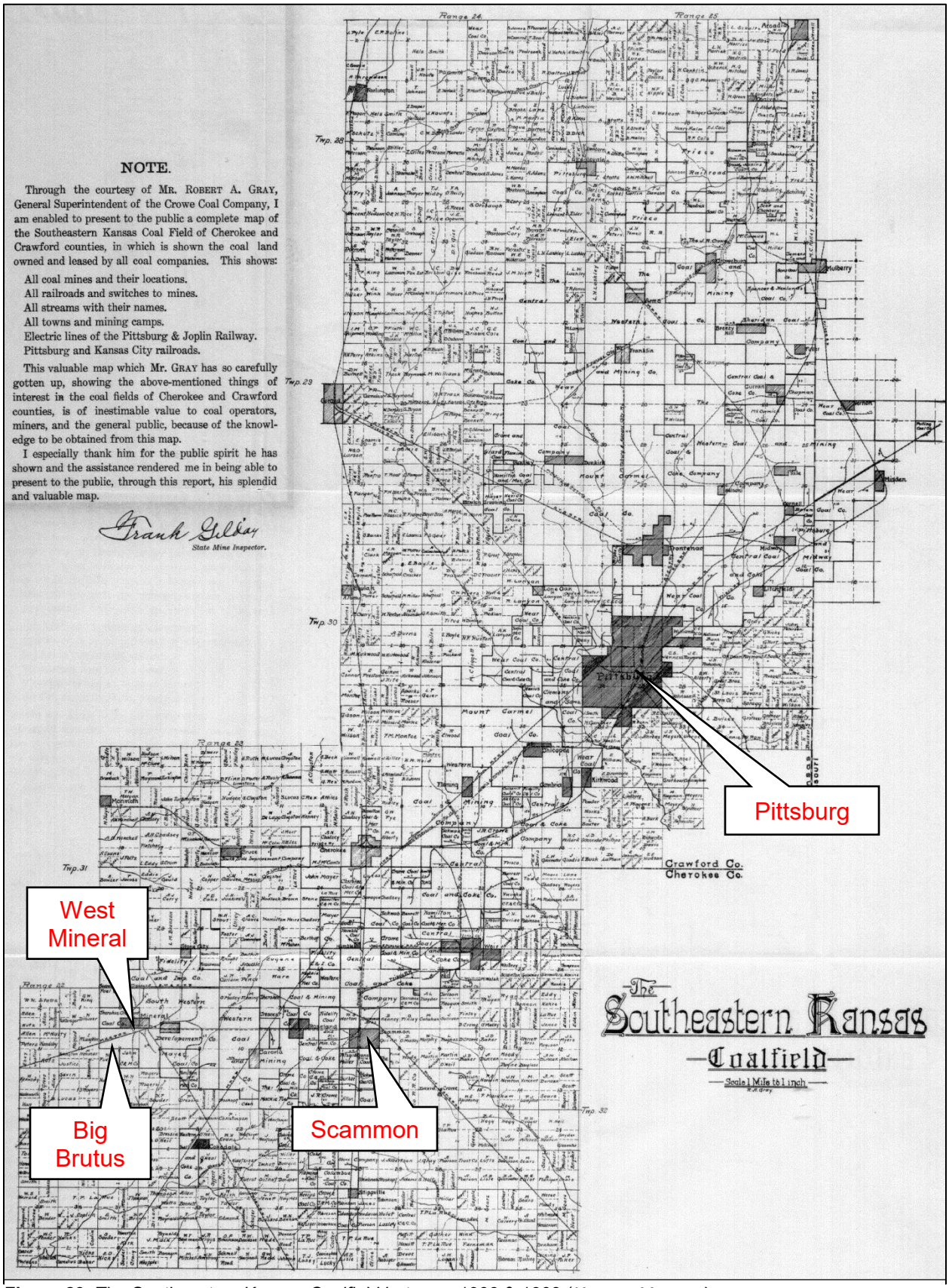

Figure 23: The Southeastern Kansas Coalfield between 1906 & 1908 (*Kansas Memory)*

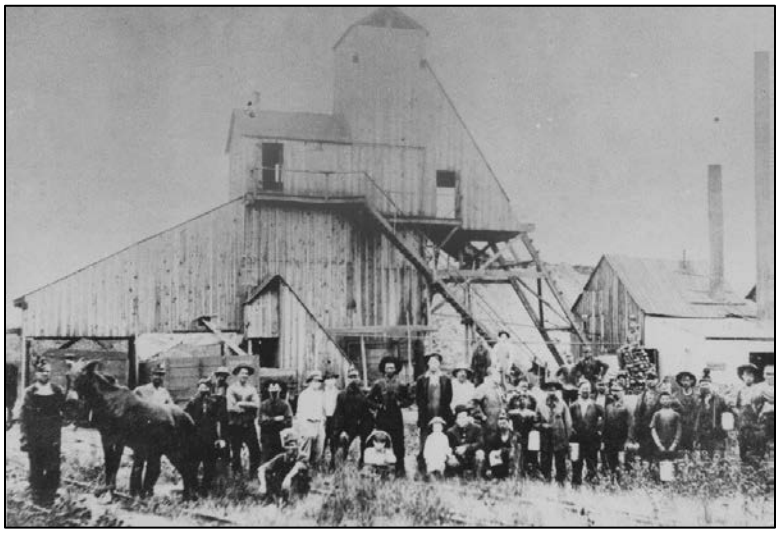

Figure 24: Typical shaft mine in the Cherokee-Crawford coalfield during the second era of coal mining (*Kansas Memory*)

transportation of the coal to local markets of destination, namely Fort Scott, Kansas and Carthage, Missouri. These mining efforts were a combination of both surface and very shallow (slant) deep mining efforts and were not generally sophisticated or formalized.[4]

Although early methods of commercial strip mining were prevalent with the earliest pioneers, the first underground shaft mine was constructed in 1874, which significantly impacted the region.[5] Geography professor William Powell explains, "The completion of this form of underground mine signaled the beginning of an important phase of coal mining in Cherokee county and adjacent Crawford county. In the following years, other shaft mines were opened in the coal-bearing areas of the two counties." [6] With the increase of commercial coal operations came the increase of population to the region.

The county's settlement patterns were directly associated with the coal mining. Two types of settlements occurred as a result of the coal industry: those established and owned by companies and those independently settled.[7] Those settlements owned by companies were often named for the owners (e.g., Scammonville, now known as Scammon) while independent settlements tended to be named "for natural features or characteristics."[8] One of these latter settlements was Mineral City, located in Ross Township in north-central Cherokee County, today known as West Mineral (*Figure 23*).[9] Between 1870 and 1880 the county's population more than doubled from 11,038 to 21,905.[10]

Second Era of Coal Mining in Southeast (1880-1920)

Between 1880 and 1920, more formalized mining efforts came into existence as the industry became more lucrative. To capture and remove the deeper seams of coal effectively, a more organized and financially capitalized effort was needed. Surface mining began to include shovels specifically designed for stripping overburden from the land to expose the coal. Small one- and two-cubic steam-powered shovels began to dig the earliest strip pits. Pittsburg & Midway (P&M) Coal Mining Company, who eventually built and operated the 1850B shovel known as "Brutus," was founded during this era in 1885. P&M would be a leading innovator in using large strip mining shovels throughout the history of SEK coal mining. "Surface mining [known in the vernacular as strip mining] was new in Kansas in 1911, but Charles [Spencer the founder of P&M] envisioned it as the future, so strongly that in 1915 P&M purchased its first steam shovel" the Bucyrus 225, seven-cubic yard bucket (*Figure 25*).[11]

[4] Kenneth F. Crockett, *Kenneth and Helen Spencer of Kansas: Champions of Culture & Commerce in the Sunflower State* (Charleston, South Carolina: The History Press, 2014), 13.

[5] Powell, "European Settlement," 151 & William E. Powell, "Former Mining Communities of the Cherokee-Crawford Coal Field of Southeastern Kansas," *Kansas Historical Quarterly* 38 (Summer 1972): 187-188. Allison states that the first coal shaft mine was opened in 1877.

[6] Powell, "Former Mining Communities," 187.

[7] Ibid., 189.

[8] Ibid., 191-192.

[9] Paragraph adapted from Boccia & Loughlin, "Soffietti-Boccia Grocery Store," 7.

[10] Paragraph adapted from Boccia & Loughlin, "Soffietti-Boccia Grocery Store," 7.

[11] Crockett, *Kenneth and Helen Spencer of Kansas*, 25.

Table 1. Coal averages in Cherokee County for select years between 1884 – 1956[12]

Year	No. tons mined	Est. Value
1884	296,667	$290,000
1889	527,367	$659,869
1900	1,357,631	$1,629,108
1910	1,453,809	$1,046,742
1920 (deep mines)	667,286	Not reported
1920 (strip)	385,443	Not reported
1930 (deep mines)	138,331	Not reported
1930 (strip)	401,559	Not reported
1940 (deep mines)	25,854	Not reported
1940 (strip)	563,594	Not reported
1950 (deep mines)	7,096	Not reported
1950 (strip)	505,035	Not reported
1956 (strip only)	300,853	Not reported

Deep shaft mining also became sophisticated. To recover coal from seams at a greater depth required the use of ventilation systems, elevators, and a rail system in which to move the coal from the underground location where the miners dug it, to the surface. P&M also operated deep shaft mines during this time period. "In 1911, P&M was operating two deep shaft mines in the Midway, Kansas area (Nos. 6 & 7) and one shaft mine (no. 8) in Barton County, Missouri. The three mines produced an annual average of 100,000 tons of coal."[13]

The second era of SEK coal mining was explosive, and the industry expanded greatly. In this era coal production was immense. The *Kansas Inspector of Coal Mines* reported the following in 1910:

There are employed in the coal mines of Kansas about 12,000 miners; this number has been about the same for the last five or six years. They earn an average, in the two largest coal mining counties, of $2.57 per day for the days they work. Nearly all of the miners work eight hours per day. The value of the coal produced in Kansas, if figured at the price consumers pay for it, would bring the value of Kansas coal up to, approximately, $20,000,000 annually."[14]

In Cherokee County alone, 3,190 people were employed in the mining industry in 1910 with 2,357 being miners.[15] The county population in 1890 was 27,770, in 1900 42,694, in 1910 38,162, and in 1920 33,609. Coal industry workers made up anywhere between 10% and 25% of the county's population in this era.

The two decades between 1890 and 1910 saw the largest establishment of settlements within the Cherokee-Crawford coalfield (*Figure 23*).[16] During the peak years of mining, the early 1910s, an estimated 10,000 miners lived in the various settlements scattered throughout the coalfield.[17] County biographer Nathaniel Allison explains the population increase, "The prices of ore had gone up, new mines were being opened and men were needed in large numbers. The influx of mine workers brought others, and so there was a rapid, strong increase, proportionate to the requirements which brought them."[18] The ability to reach deeper coal seams through shaft mining increased the coal output, which naturally led to an increase of mining jobs. These jobs became "an economic magnet to a different ethnic wave" than those who came to the region in the mid-1800s.[19] Greater coal demand from the state and region yielded higher coal prices and increased output. In the township where the

[12] Compiled from *Reports of the State Inspector of Mines,* 1885-1957 [digitized online]; available from *Kansas Memory* http://www.kansasmemory.org/item/210191 (accessed 10/31/2017).

[13] Crockett, *Kenneth and Helen Spencer of Kansas*, 25.

[14] *Report of the Inspector of Coal Mines, State of Kansas, from July 1, 1908, to June 30, 1910* (Topeka: State Printing Office, 1911), 7 [digitized online]; available from *Kansas Memory* http://www.kansasmemory.org/item/210191/page/2150 (accessed 10/31/2017).

[15] Ibid., 43.

[16] Powell, "Former Mining Communities," 190.

[17] Ibid., 193.

[18] Nathaniel Thompson Allison, *History of Cherokee County, Kansas and Representative Citizens* (Chicago: Biographical Publishing Co., 1904), 82 [digitized online]; available from Internet Archive https://archive.org/details/historyofcheroke00alli (accessed 10/30/2017).

[19] Powell, "European Settlement," 151.

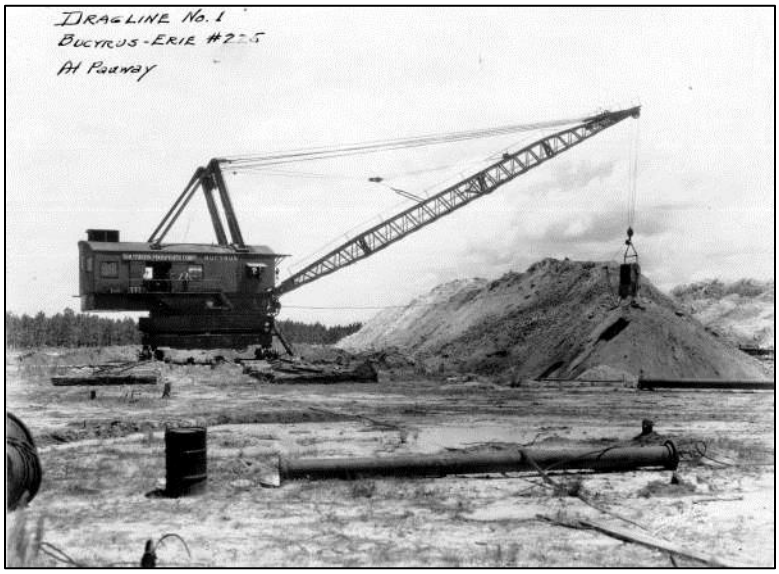

Figure 25: Bucyrus-Erie 225, ca. 1923 (*Florida Memory*)

town of West Mineral is located, the number of mines more than doubled from nine in 1895 to 28 in 1904.[20] In 1900 Cherokee County supplied one-third of the entire state's output.[21]

Despite the industry's success, miners were "hampered by low salaries on which it was difficult to support a large number of dependents. As one example of the low compensation, the average daily salary made by an underground miner in Cherokee or Crawford county in 1916, near the peak of mining in the coalfield, was approximately three dollars."[22] Adding to the low pay, miners living in company towns were often compensated by "scrip" that could only be used at the company's store.[23]

Adding to the low pay, mining accidents and fatalities grew exponentially. During the period of 1884 to 1910, the official *Kansas Inspector of Coal Mines* reported that there were 1,627 fatalities as result of coal mining in the entire state.[24] Considering that at its highest peak in 1905, the SEK mining industry employed 12,109 men, the number of mining fatalities during this time period was staggering. The odds of being killed or involved in an accident while working in an SEK coal mine were very high.

Retired P&M coal miner Carmen Boccia was born and raised in West Mineral, Kansas, and is a current member of the Big Brutus Incorporated Board of Directors. He remembers a story related to him about a coal mining accident at Stone City, Kansas:

> Three-and-a-half miles northeast of Brutus near what was once Stone City, Kansas, an explosion at Mayer Coal Company Mine #9 resulted in the deaths of 26 miners on December 13, 1916. A woman, then in her 80's, recalled that as a girl of eight years old she witnessed the bodies of 11 of these miners that had been brought to the mortuary in West Mineral and were lined up outside the mortuary with their boots and stockings removed and asked her mother why their bodies were black and their feet white. Another girl about the same age attended the joint funeral mass of seven of these miners at the Catholic Church in East Mineral. It has been said that funerals can be life changing as it was for this girl/woman Mary (Jug) Molek who tells of the service and a eulogy at this service that changed her life in her book, *Immigrant Woman* (page 136). Three of the 26 killed were from the same family: a father and two sons. Total compensation to this family for the three deaths was $900. Two other father-son deaths also occurred (in this same incident).[25]

The pace and bounty of the mining efforts came at a high cost to the men working in the industry.

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[20] Allison, *History of Cherokee County,* 114.
[21] Ibid. Paragraph adapted from Boccia & Loughlin, "Soffietti-Boccia Grocery Store," 7.
[22] Powell, "European Settlement," 160. In 2017 this equals just over $66.
[23] Ibid., 161. Paragraph adapted from Boccia & Loughlin, "Soffietti-Boccia Grocery Store," 7.
[24] *Report of the Inspector of Coal Mines,* 9.
[25] Conversation with author, 2017. Mr. Boccia was born in West Mineral and started working for P&M at the age of 14. Eventually, Carmen worked as an electrician on Brutus. His father and mother ran a grocery store in West Mineral that is immigrant grandfather had opened after his health declined from working in the deep shaft mines in the town in the early 1900's. For more information about the Soffietti-Boccia store, see Kathy Boccia & Amanda Loughlin, "Soffietti-Boccia Grocery Store," National Register nomination (2016). The store was listed in the National Register in March 2017.

Third Era of Coal Mining in Southeast Kansas (1920-1960)

The third era of SEK coal mining saw the decline of smaller coal mining operations, as larger companies like P&M began to expand and diversify their operations. It was during this period, too, that deep shaft mining waned while strip mining became more prevalent until strip mining dominated the industry. In 1930 strip mining first out-produced deep shaft mining (*Table 1*).[26] The first decades of this era saw great change both in terms of how coal was extracted and the impact on the region's population. Geography professor Powell notes:

Figure 26: Bucyrus-Erie 320-B, showing how it worked within the landscape (Univ. of Saskatchewan)

> During the late 1920's and 1930's, a series of debilitating factors, acting in combination, caused the steady decline of underground mining in the coal field. The main causative factors were the economic impact of the depression, the rise of mechanized surface mining, competition from oil and gas, labor problems in the coal field (strikes), and competition from Eastern coals.[27]

During this time several mines shut down, causing many of the company towns to dissolve and many miners to lose jobs. Noncompany towns or those company towns located near reliable transportation were able to survive; however, the residents of these towns were especially hard hit.[28] Many moved away, looking for other work.[29] For instance, West Mineral's population "dropped from its 1910 census level of more than one thousand people to a few hundred people…."[30]

Although the population dropped, many mining industry workers who stayed were eventually able to take part in the mechanized surface mining era with companies like P&M. P&M was not as badly affected by the 1929 stock market crash. Then-president Charles Spencer "positioned P&M successfully throughout the mining and energy producing fields,"[31] transitioning the company from deep shaft to strip mining during the Depression. Spencer biographer Ken Crockett explains:

> By changing P&M from deep shaft mining to strip mining, Charles also gave southeast Kansas the opportunity to change and prosper as well; Charles had single-handedly reestablished Cherokee and Crawford counties as the energy center of the Midwest. By 1930, due to shaft mines and slope mines being limited in the depths they could go to remove coal, their numbers had drastically reduced, and southeast Kansas had started to fall into a recession that ultimately could have morphed into a depression.[32]

In the few years leading up to the 1929 stock market crash, P&M had already begun to expand their strip mining efforts, using large machines to do the work that the miners once did. One of the first machines purchased by P&M was the Bucyrus-Erie eight-cubic-yard 320-B (*Figure 26*). Weighing 600 tons, the machine was the largest

[26] Crockett, *Kenneth and Helen Spencer of Kansas*, 27.
[27] Powell, "Former Mining Communities," 197.
[28] Ibid., 198.
[29] Paragraph adapted from Boccia & Loughlin, "Soffietti-Boccia Grocery Store," 8.
[30] Crockett, *Kenneth and Helen Spencer of Kansas*, 28
[31] Ibid., 27.
[32] Ibid.

electric shovel built up to that time period.[33] "The height of the shovel to the top of the steel work on the house is 57 feet. The boom is 90 feet long, the dipper sticks…65 feet long" and could remove up to 65 feet of overburden (the earth covering the coal strata).[34] P&M installed their 320-B at a mine near Midway, Kansas, in 1927. Two years later, the same mine received the Bucyrus-Erie 750-B, a 16-cubic-yard bucket. By 1930 this machine significantly contributed to the 401,559 tons of coal extracted in the county for that year by quickly clearing the overburden from the coal seams to allow the coal to be more easily accessed.

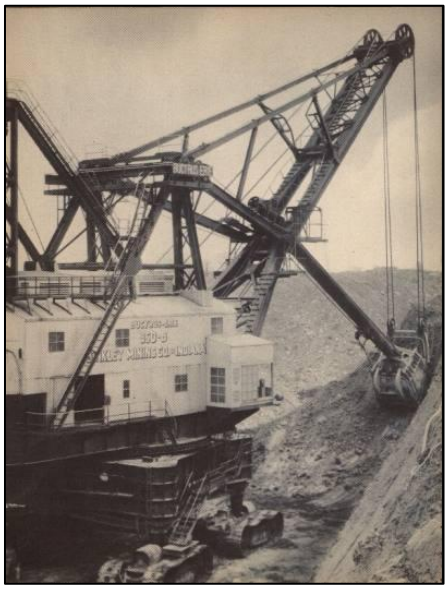


Figure 27: Bucyrus-Erie 950-B in 1938

The Bucyrus-Erie 750-B continued to work at the Midway mine throughout the 1930s. In 1938, however, P&M decided to purchase a new machine for a mine near West Mineral. That year, President Spencer spent $390,761 on the Bucyrus-Erie 950-B—over $6.8 million in 2017 dollars. "This machine could take a railway car of dirt on one bite and place it on top of a ten story building in 40 seconds."[35] Carmen Boccia was only five years old the time the 950-B was installed at Mineral but remembers it well:

> Less than a mile to the east of Brutus his predecessor—a 33 cubic yard 950-B Bucyrus Shovel—was assembled in 1938 and dug its way to the area and assembly site of Brutus over the 1938 to 1963 years and disassembled at the same site that Brutus was assembled and shipped to a mine in Arizona. Much of the coal produced between 1941-1945 was for the WWII effort and the company [P&M] was urged to produce as much as possible. The 950-B when purchased by P&M was then the largest electric shovel in the world.[36]

P&M President Charles Spencer passed away in 1942. His son, Kenneth, inherited the company and continued the innovative legacy that his father and grandfather had passed down to him. Kenneth Spencer was responsible for many achievements during his tenure as P&M's president, including the opening of the Mine 19 Preparation Plant at Hallowell, Kansas, in 1951. Mine 19 would be the eventual home of Brutus. Kenneth Spencer, however, would not live to see this final and finest example of P&M's innovative coal mining history. Kenneth passed away unexpectedly at the age of 58, on February 19, 1960.

Fourth Era Coal Mining in Southeast Kansas (1960-1974)

The passing of P&M President Kenneth Spencer opened this fourth and final era of coal mining in southeast Kansas. This final time periood is the era in which the industry achieved the highest symbol of its apex, namely, Brutus, before it then collapsed into its final demise. By 1960 there were no longer any deep shaft coal mines in southeast Kansas, and P&M and the Mackey-Clemens Coal Mining Companies were the only remaining strip mining companies operating in the area. P&M was by far the larger of these two and was running operations in multiple states throughout the country.

The unexpected death of the Kenneth Spencer caused a leadership vacuum within P&M. In the 49 years of P&M history, the company had only had two presidents: Charles Favor Spencer) and Kenneth Aldred Spencer. Conversely between Kenneth's death in 1960 and the company's 100th anniversary in 1985, six individuals served as president.[37] Historical records indicate that Edwin R. Phelps served as president from March 12, 1960

[33] Crockett, *Kenneth and Helen Spencer of Kansas*, 26.
[34] 320 Bucyrus-Erie Electric Shovel description, H. A. Lewis Fonds, MG 108, II, University of Saskatchewan Archives, available from http://scaa.usask.ca/gallery/kids/machinery/en_display.php?i=3 (accessed 10/31/2017).
[35] Crockett, *Kenneth and Helen Spencer of Kansas*, 27.
[36] Conversation with author, 2017.
[37] Crockett, *Kenneth and Helen Spencer of Kansas*, 155.

to September 30, 1960, a period of only 6.5 months. He was followed by Arnold E. Lamm, who led the organization from October 1, 1960 to June 1, 1969.

The historical facts around who ordered and signed the contract for P&M's largest ever purchase of mining equipment, the Bucyrus-Erie 1850-B, are sketchy. It may have been Kenneth Spencer before his death; Edwin Phelps during his brief tenure; or Arnold E. Lamm, who served during the construction of the shovel and for six years after it began operation. An April 1961 article in the Steamboat Springs, Colorado newspaper, *The Steamboat Pilot* announced:

Figure 28: Brutus in action

> Mr. Lamm announced that orders have been placed for equipment which will almost triple the remaining years of production expected from the company's Mine 19 at Hallowell, Kansas. The program to be carried out at Mine 19 will extend its present estimated 9 remaining years of production to beyond 25 years which will include an expansion of the mine's preparation plant.[38]

While Lamm did not specifically state that P&M had placed an order for the 1850-B, it is safe to assume that the equipment to which Lamm refers is the Bucyrus-Erie 1850B, now known as Brutus. Regardless of whomever it was in P&M that signed the final contract for the shovel's construction, component parts and pieces of it began to arrive, via railroad, at the site which had been prepared for its assembly in 1962. This site was 3.5 miles from Hallowell, Kansas (about 11 miles southwest of Brutus) (*Figure 2*).

Beginning in May 1963, Brutus worked seven days a week, 365 days a year. He only stopped working for shift changes and maintenance activities. He worked right up to his last day in 1974, when he dug his way out of the pit in which he had been operating, cleared a final resting spot for himself, and then was permanently shut down. This leaves a final question, why? What was the ultimate reason Brutus was shut down?

There were many contributing factors surrounding the demise of Brutus, one of these is the cost of operating the shovel versus the profitability of the product being produced. However, the biggest contributing factor to his demise, and ultimately the demise of the entire coal mining industry in Southeast Kansas, were the environmental regulations enacted during the 1960s and early 1970s. The United States Congress passed the Clean Air Act in 1963. The Act was passed to study air pollution in the country and to make recommendations to control it. As a result, in 1970, the Environment Protection Agency (EPA) was established to enforce air quality and other environmental standards.

The standards to be enforced by the EPA included restrictions on the amount of sulphur that could be emitted into the environment via the burning of coal. Unfortunately, the coal in the Weir-Pittsburg Coal Fields of southeast Kansas is a type known as Bituminous. This is a softer type of coal and naturally contains high amounts of sulphur. Power plants, which were the major customers for the coal produced by P&M, and the remaining SEK coal companies, could no longer be used without costly scrubbers being installed to remove the sulphur as the coal was being burned. Anthracite coal, a harder and denser type of coal with lower sulphur content, became the coal of choice for the power industry. Without a customer base to support it, the once mighty coal mining industry of southeast Kansas collapsed. All that now remains are the families, artifacts, and environmental evidence which the industry left behind. Mining camps, tools, equipment, strip pits, and underground spaces void

[38] "Pittsburg and Midway Moving General Offices to Kansas City," *The Steamboat Pilot* (04/27/1961): n.p.

Figure 29: Brutus in action. Unknown date.

of their original content, all stand as evidence to the southeast Kansas coal mining heritage. The most enduring and perhaps the most beloved evidence left behind is Brutus himself.

Bucyrus-Erie 1850-B "Big Brutus"

The components of the shovel were built by Bucyrus-Erie, an excavating equipment manufacturing company, which at the time was based in Milwaukee, Wisconsin. The shovel is made of 100% American iron and steel and was designed by American engineers. Brutus is the only 1850-B ever assembled, and when he began working in 1963, he was exceeded in size only by the Bucyrus-Erie 3850-B, 115-cubic yard shovel owned by the Peabody Coal Company.

As the components of the shovel arrived in Cherokee County, they were unloaded and assembled by a team of workers who worked around the clock for nearly a year to complete the shovel's construction. Onsite assembly started in 1962 and was completed in May 1963. It took 11 months to assemble and weld over 125 railroad cars worth of parts and pieces. The operation to assemble Brutus was surpassed only by the sheer magnitude of his completed size. Brutus became a tourist attraction almost immediately. At first locals and then people from distant cities and states came to stare in amazement at the behemoth being constructed.

By the time his assembly was completed in May of 1963, Brutus stood 160 feet tall, weighed in at 11 million pounds (5,500 tons), and his bucket could remove 90 cubic yards (150 tons) of overburden in single bite. This was an incredible accomplishment, considering that fewer than 75 years earlier, the largest machines being used in the southeast Kansas strip mining operations were only one and two cubic yards at most.

After his assembly Brutus immediately went to work. Brutus's job was to remove overburden consisting of rock, clay, and dirt, which lay upon the multiple seams of coal in the historic Weir-Pittsburg Coal Field of Crawford and Cherokee counties in southeastern Kansas. Brutus dug its way from his assembly location to near West Mineral, Kansas, where he eventually ceased operation, uncovering coal and leaving pilings of overburden in his wake (as seen in *Figures 29 & 30*). The linear distance travelled by Brutus was approximately 11 miles; however, Brutus has many more miles to his credit. This is due to the back and forth method of excavation, digging 120'-wide pits at a time. To uncover one square mile of coal, Brutus traveled 44 miles. Where two seams of coal were uncovered, the distance travelled doubled. If, rather than uncovering coal, Brutus had dug a canal 120' wide and 40' deep in linear direction toward the southwest, in his 11 years of operation, he would have ended up a few miles south of Fort Worth, Texas, a distance of nearly 400 miles.[39]

Most of the coal dug by Brutus consisted of two seams. The top seam is named Fleming and generally ran from 14" to 16" thick and sometimes was quite rocky. The lower seam is named Mineral. It ran from 18" to 22" thick and lay flat compared to the Fleming which at times was somewhat rolling. When both seams were being uncovered Brutus, would uncover the top seam going one direction, while the coal was being loaded out behind

[39] This distance was calculated by Carmen Boccia.

him. At the end of the pit he would turn around and dig the separation, uncovering the Mineral seam. This process was repeated wherever both seams were being mined. The separation ran 10' to 20' thick.

Brutus uncovered coal more quickly than in previous mining eras while also employing the fewest number of men seen in the coal mining eras of SEK. However, the machine required specialized workers who each had a specific role in making sure Brutus functioned properly. Surprisingly, only three men were needed to operate Brutus:

Figure 30: Brutus in action. Unknown date.

1. *The Operator*
   The Operator's job was to operate the machine as efficiently as he could to remove as much overburden as the machine was capable. His normal shift was eight hours of operation and ½ hour lunch. Before swing shifts were introduced in the 1970s, operators and crews worked seven days a week when required.

2. *The Oiler*
   The Oiler's job was monitoring the automatic greasing systems, keeping them functioning properly and grease barrels filled, and checking the mechanical operation for potential problems. At the times that conditions permitted, the oiler operated the shovel during the ½ hour period that the operator was eating lunch.

3. *The Groundman*
   The Groundman's job was to move the machine as digging progressed and to monitor the lower automatic greasing systems. Also, he cleaned the coal face, keeping the smaller pieces of material left by the shovel pushed up to the face of the digging operation, with a rubber tired dozer.

In addition to the three men assigned to operate Brutus full time, there were support crews of welders, electricians, and machinists:

1. *The Welders*
   The Welders' job was to resurface the worn parts on the machine when possible or replace and take them to the shop for repair. They also repaired any stress cracks that appeared on the framework due to the intense strains put on the machine while digging.

2. *The Machinists*
   Machinists worked on or crafted the pieces that required precision fitting and made replacement pieces.

3. *The Electricians*
   The electricians' job was to keep continuous power to the machine and to change the power cables when they were fully extended (1500') to the spare cable. They also changed brushes on the DC generators when the machine was down for lunch or repair jobs and diagnosed the electrical problems, resolving them as quickly as possible.

During his 11 years of operation, Brutus uncovered almost 914,000 tons of coal each year, nearing numbers seen during the peak years of deep shaft mining in the region. After completing his work in 1974, P&M made several attempts to sell Brutus intact to other companies, but these attempts failed. Scrapping it was P&M's final plan for their 1850B. The company systematically removed reusable electrical and mechanical items, including electrical motors, generators, fans, hoists, control panels, transformers, and other items. The intent was to remove any items that could salvaged for reuse and/or sale, and then to sell the remainder of the shovel for scrap.

Rather than scrap the machine however, the West Mineral City Council proposed asking the State of Kansas to obtain the shovel as a historical attraction. The State responded with a letter to the council, explaining that maintaining the shovel would be something that they simply could not afford to do. The *Pittsburg Morning Sun* newspaper reported on our letter and subsequent note from the State. This article caught the attention of the then Director of the Pittsburg, Kansas, Chamber of Commerce, Lou Nell Bath, who contacted the author (a city councilman at the time) to discuss what could be potentially done to acquire the shovel. A "Blue Ribbon Panel" of dignitaries from Crawford and Cherokee County, including business professionals and a member of the Kansas Fish and Wildlife Services, was formed. During the first meeting, it was decided to form a non-profit group called "Big Brutus Inc." It was this group of people who then set about working with the Chevron Corporation to secure Brutus as a museum. Once the group received word from Chevron that they would indeed donate Brutus to our group, we solicited volunteers to help with his restoration. Carmen Boccia, who still worked for P&M, organized a group of P&M employees, as well as former employees, who then set about restoring Brutus to its original look. Lou Nell and Victor Boccia also coordinated volunteer efforts of local citizens and the Kansas National Guard to do the initial cleanup work of the shovel. It was a truly grassroots local effort led by Lou Nell, Carmen Boccia, and Victor Boccia that enabled the museum to come in to existence. After thousands of hours of volunteer labor to ready Brutus for use as a museum, Big Brutus was officially dedicated on July 13, 1985 when then-Kansas Governor John Carlin and an estimated 10,000 people watched as Big Brutus became an official Kansas tourist attraction as one of the largest extant electric coal shovels in the world.

The physical landscape of the Cherokee-Crawford Coalfield retains evidence of the coal mining industry's impact on the region. While compelling, the impact of the industry is bolstered by the existence of the incredible piece of machinery that is Big Brutus, which sits within the very landscape he helped to shape. Brutus is a significant, tangible reminder of the forces that shaped the culture and landscape of Cherokee County, especially in the last era of the region's coal mining. The period of significance for this nomination extends to within 50 years ago at the time of this writing. Because of the impact Brutus had on the region's industry and its representation of the final era of coal mining, Brutus meets Criterion Consideration G as a structure of exceptional importance, gaining significance within the past 50 years.

9. Major Bibliographical References

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

Allison, Nathaniel Thompson. *History of Cherokee County, Kansas and Representative Citizens.* Chicago: Biographical Publishing Co., 1904 [digitized online]; available from Internet Archive https://archive.org/details/historyofcheroke00alli (accessed 10/30/2017).

Blackmar, Frank. *Kansas: A Cyclopedia of State History.* Vol. I. Chicago: Standard Publishing Co., 1912.

Boccia, Kathy & Amanda Loughlin. "Soffietti-Boccia Grocery Store." National Register nomination (2016).

Crockett, Kenneth F. *Kenneth and Helen Spencer of Kansas: Champions of Culture & Commerce in the Sunflower State.* Charleston, South Carolina: The History Press, 2014.

Cutler, William. *History of the State of Kansas.* Chicago: A.T. Andreas, 1883 [transcription on-line] available from Kansas Collection Books http://www.kancoll.org/books/cutler/cherokee/cherokee-co-p1.html (accessed 12/14/2016)

"Pittsburg and Midway Moving General Offices to Kansas City."*The Steamboat Pilot* (04/27/1961): n.p.

Powell, William E. "Former Mining Communities of the Cherokee-Crawford Coal Field of Southeastern Kansas." *Kansas Historical Quarterly* 38 (Summer 1972): 187-199.

Powell, William E. "European Settlement in the Cherokee-Crawford Coal Field of Southeastern Kansas." *Kansas Historical Quarterly* 41 (Summer 1975): 150-165.

Reports of the State Inspector of Mines, 1885-1957 [digitized online]; available from *Kansas Memory* http://www.kansasmemory.org/item/210191 (accessed 10/31/2017).

Previous documentation on file (NPS):

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

Primary location of additional data:

__x__State Historic Preservation Office
____Other State agency
____Federal agency
____Local government
____University
__x__Other
Name of repository: **Big Brutus Visitor's Center**

Historic Resources Survey Number (if assigned): N/A

Big Brutus
Name of Property

Cherokee County, Kansas
County and State

10. Geographical Data

Acreage of Property 16

Provide latitude/longitude coordinates OR UTM coordinates.
(Place additional coordinates on a continuation page.)

Latitude/Longitude Coordinates *See Boundary Map at end of document.
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

A	37.274408 (Latitude:)	-94.940575 (Longitude:)	B	37.274431 (Latitude:)	-94.937179 (Longitude:)
C	37.272492 (Latitude:)	-94.937139 (Longitude:)	D	37.272510 (Latitude:)	-94.940565 (Longitude:)

Verbal Boundary Description (describe the boundaries of the property)
The boundary includes the 16 acres surrounding Big Brutus described as follows: Section 7, Township 32 South, Range 23 East, Beg NW cor SE4, E 1000', S 700', W 1000' to POB, less R/W

Boundary Justification (explain why the boundaries were selected)
The boundary includes the machine, Big Brutus, and a portion of the land in which Brutus worked.

11. Form Prepared By

name/title Victor Boccia with Amanda K. Loughlin (KSHS)
organization Big Brutus Inc. date June 14,2017
street & number 1902 Cudgel Drive telephone 937-681-2221
city or town Miamisburg state Ohio zip code 45342
e-mail VicBOccia@Yahoo.com

Property Owner: (complete this item at the request of the SHPO or FPO)

name Big Brutus Inc.
street & number 6509 NW 60th Street telephone 620-827-6177
city or town West Mineral state Kansas zip code 45342

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 100 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.

Additional Documentation

Submit the following items with the completed form:

Photographs

Submit clear and descriptive photographs. The size of each digital image must be 1600x1200 pixels (minimum), at 300 ppi (pixels per inch) or larger. Key all photographs to a sketch map or aerial map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photograph Log

Name of Property: **Big Brutus**

City or Vicinity: **West Mineral**

County: **Cherokee** State: **Kansas**

Photographer: **Patrick Zollner & Amanda K. Loughlin (KSHS)**

Date Photographed: **August 2017**

Description of Photograph(s) and number, include description of view indicating direction of camera:

01 of 12: View looking SE at port side
02 of 12: View looking NE at starboard side, showing scale of Brutus in comparison to other mining equipment
03 of 12: View looking NW at boom
04 of 12: View of bucket, showing people for scale
05 of 12: View looking east under lower deck
06 of 12: Main house, looking aft (west) at structure
07 of 12: Main house, from near front (east) of house, looking NW at elevator shaft
08 of 12: Main house, looking SE at starboard door to boom
09 of 12: View east of operator's cabin on starboard side of boom
10 of 12: View west from top of boom
11 of 12: View south from top of boom, showing reclaimed pit
12 of 12: View east from pit to east of Brutus, which he dug

Figures

Include GIS maps, figures, scanned images below.

Figure 01: Big Brutus, looking NE, in 2012. Photograph by Larry Raulston. Provided by author.

Figure 02: 2015 Aerial image showing Big Brutus (and the museum boundary) within the landscape and in relation to the original town of West Mineral. Google Earth. Accessed 10/26/2017.

Figure 03: 2015 Aerial, showing the extent of the nominated site. Google Earth. Accessed 10/26/2017.

Figures 04 through 13, 15 through 21: Photographic diagrams created by author. 2017.

Figure 22: Coalfields near Pittsburg, Kansas. Between 1900 & 1920. *Kansas Memory* item 442824. http://www.kansasmemory.org/item/442824 (accessed 11/01/2017).

Figure 23: Gray, Robert A. The Southeastern Kansas Coalfield. Map. Between 1906 & 1908. *Kansas Memory* item 218290. http://www.kansasmemory.org/item/218290 (accessed 10/31/2017).

Figure 24: Shaft Mine 6, Crowe Coal Company, Crawford County, Kansas. 1904. *Kansas Memory* item 215428. http://www.kansasmemory.org/item/215428 (accessed 10/31/2017).

Figure 25: *Southern Phosphate Corporation's Bucyrus-Erie class 225 dragline - Pauway, Florida.* 1923 or 1924. Black & white photoprint, 8 x 10 in. State Archives of Florida, *Florida Memory*. https://www.floridamemory.com/items/show/38816 (accessed 10/31/2017).

Figure 26: Bucyrus-Erie 320B, Truax-Traer Coal Co., Ltd. Estevan, Saskatchewan, Canada. N.d. H. A. Lewis Fonds, MG 108, II, University of Saskatchewan Archives http://scaa.usask.ca/gallery/kids/machinery/en_display.php?i=4 (accessed 10/31/2017).

Figure 27: Bucyrus-Erie 950B Shovel, Binkley Coal, Bobolink Mine, Seelyville, Indiana. 1936. Unknown photographer. Available from http://www.moc-pages.com/moc.php/295083 (accessed 10/31/2017).

Figure 28: Big Brutus in action. Unknown date between 1963 & 1974. Provided by author.

Figure 29: Big Brutus in action. Unknown date between 1963 & 1974. Accessed from Flickr https://c2.staticflickr.com/4/3757/13940613455_e10426c114_b.jpg (accessed 11/01/2017).

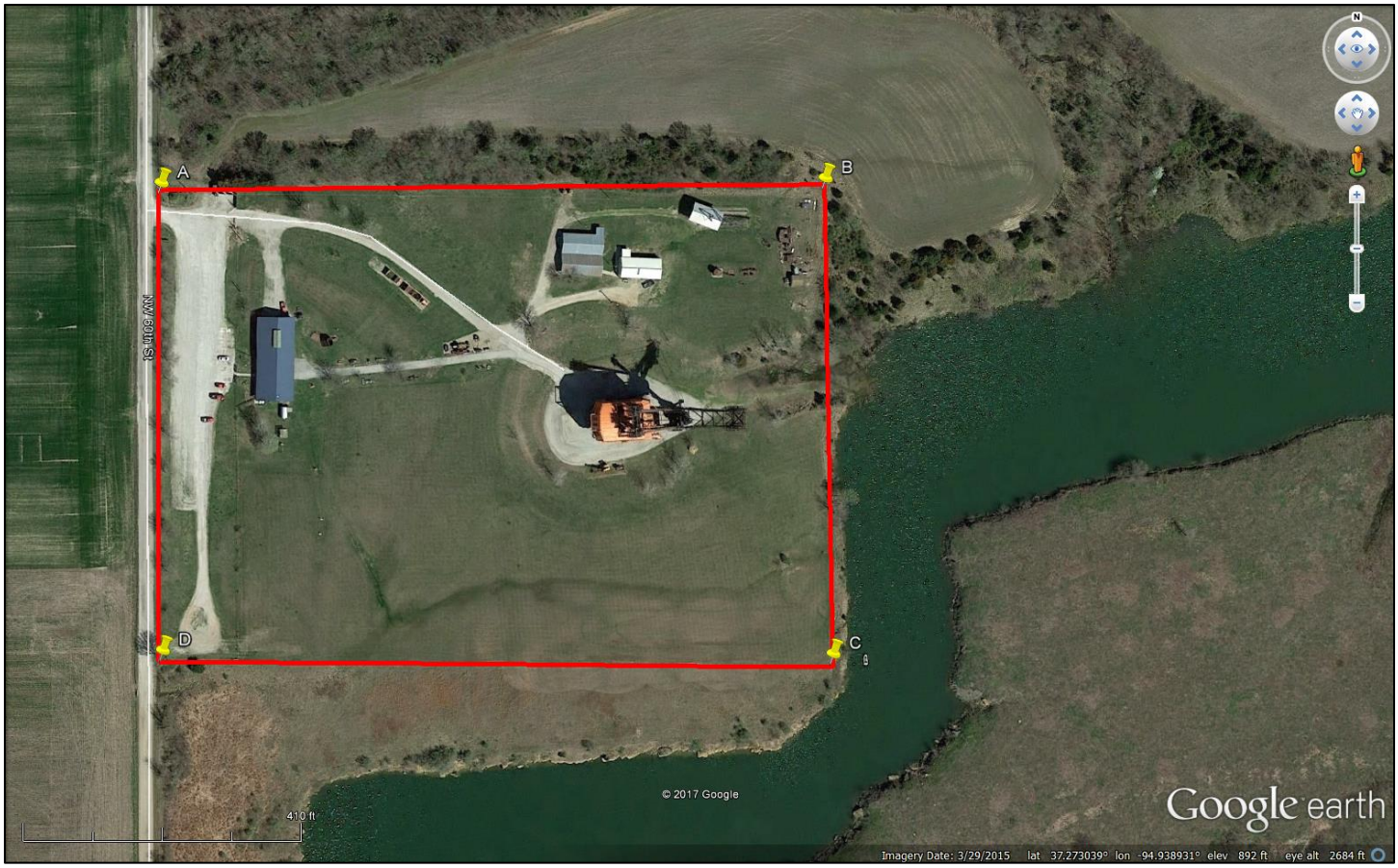
Figure 30: Big Brutus in action. Unknown date between 1963 & 1974. Provided by author.

Table 01: Table showing coal output from selected years. Compiled by Amanda Loughlin, Kansas Historical Society, from *Reports of the State Inspector of Mines,* 1885-1957 [digitized online]; available from *Kansas Memory* http://www.kansasmemory.org/item/210191 (accessed 10/31/2017).

Big Brutus
Name of Property

Cherokee County, Kansas
County and State

Boundary Map.



BUCYRUS-ERIE COMPANY
P&M
BRUTUS

BUCYRUS-ERIE COMPANY
P&M
BRUTUS
MINE 19
LORAIN

BUCYRUS-ERIE COMPAN

PLEASE WATCH YOUR STE

KEEP
OFF
KEEP
OFF

17
EXIT

15
BOOM
BOOM
NO SMO

OPERATOR
14

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action:	Nomination
Property Name:	Big Brutus
Multiple Name:	
State & County:	KANSAS, Cherokee

Date Received:	Date of Pending List:	Date of 16th Day:	Date of 45th Day:	Date of Weekly List:
11/21/2017	12/15/2017	1/2/2018	1/5/2018	1/11/2018

Reference number:	SG100001945
Nominator:	State

Reason For Review:

__ Appeal	__ PDIL	__ Text/Data Issue
__ SHPO Request	__ Landscape	__ Photo
__ Waiver	__ National	__ Map/Boundary
__ Resubmission	__ Mobile Resource	__ Period
__ Other	__ TCP	**X** Less than 50 years
	__ CLG	

__**X**__ Accept _____ Return _____ Reject __**1/5/2018**__ Date

Abstract/Summary Comments:	
Recommendation/ Criteria	

Reviewer Alexis Abernathy Discipline Historian

Telephone (202)354-2236 Date

DOCUMENTATION: see attached comments : No see attached SLR : No

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.

Kansas
Historical Society

NOV 21 2017

6425 SW 6th Avenue
Topeka KS 66615

phone: 785-272-8681
fax: 785-272-8682
kshs.shpo@ks.gov

Sam Brownback, Governor
Jennie Chinn, Executive Director

November 21, 2017

Paul Loether, National Register Chief
National Park Service
National Register of Historic Places
1849 C Street, NW, Mail Stop 7228
Washington, DC 20240

Re: National Register documents for Kansas

Dear Mr. Loether:

Please find enclosed the following National Register documents:

NEW NOMINATIONS from Certified Local Governments (2)

- **William Inge Boyhood Home; Independence, Montgomery County, Kansas** (new nomination)
  - Physical, signed copy of the nomination's first page;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the nomination and letter of support;
  - 1 CD (disk #2) with photographs.

- **Santa Fe Depot; Lawrence, Douglas County, Kansas** (new nomination under "Historic Resources of Lawrence" MPS)
  - Physical, signed copy of the nomination's first page;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the nomination;
  - 1 CD (disk #2) with photographs.

NEW NOMINATIONS from non-CLG communities (4)

- **German Evangelical Church; Westmoreland, Pottawatomie County, Kansas** (new nomination)
  - Physical, signed copy of the nomination's first page;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the nomination;
  - 1 CD (disk #2) with photographs.

- **Pottawatomie County Courthouse & Jail; Westmoreland, Pottawatomie County, Kansas** (new nomination under "Historic County Courthouses of Kansas" MPS)
  - Physical, signed copy of the nomination's first page;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the nomination, PDF with 44 letters of support, and PDF with 4 letters in opposition, including from the county commissioners (owner);
  - 1 CD (disk #2) with photographs.

- **Big Brutus; West Mineral, Cherokee County, Kansas** (new nomination)
  - Physical, signed copy of the nomination's first page;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the nomination and .kmz file;
  - 1 CD (disk #2) with photographs.

- **A.S. Allen Buildings; Great Bend, Barton County, Kansas** (new nomination)
  - Physical, signed copy of the nomination's first page;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the nomination;
  - 1 CD (disk #2) with photographs.

RELOCATION APPROVAL REQUEST (1)

- **Sand Creek Truss Leg Bedstead Bridge; Lenora vicinity, Norton County, Kansas – REDACTED NOMINATION**
  (NRIS #03000365) (additional documentation)
  - Physical, signed copy of the documentation;
  - 1 CD (disk #1) with a PDF of the true and correct copy of the documentation and PDF of REDACTED copy of documentation;
  - 1 CD (disk #2) with photograph.

If you have any questions about these enclosed items, please contact me at ext. 216 or Amanda.Loughlin@ks.gov.

Sincerely,

Amanda K. Loughlin
National Register Coordinator
Kansas State Historic Preservation Office

Enclosures