

## Chapter 3. Existing Condition and Analysis

### Introduction

1 This chapter presents the existing condition  
2 and analysis of integrity for Rush Historic  
3 District cultural landscape. Narrative,  
4 photographs, plans, and illustrative analysis  
5 diagrams describe the study area and  
6 Morning Star Community landscape character  
7 area.

8  
9 This analysis was undertaken to understand  
10 the cultural landscape as a whole, and to  
11 identify and document those qualities that  
12 contribute to its historic character and  
13 significance. Site investigations recorded the  
14 existing condition of the cultural landscape in  
15 April and September 2017.

16  
17 This chapter is organized to present the  
18 existing condition assessment and analysis for  
19 the study area first, followed by more detailed  
20 assessment for the Morning Star Community  
21 landscape character area.

22  
23 The existing condition of the cultural  
24 landscape is evaluated according to the  
25 following criteria.

26  
27 Good – Those features of the landscape that  
28 do not require intervention. Only minor or  
29 routine maintenance is needed at this time.

30  
31 Fair – Some deterioration, decline, or damage  
32 is noticeable; the feature may require  
33 immediate intervention. If intervention is  
34 deferred, the feature will require extensive  
35 attention in a few years.

36  
37 Poor – Deterioration, decline, or damage is  
38 serious; the feature is seriously deteriorated  
39 or damaged or presents a hazardous  
40 condition. Due to the level of deterioration,  
41 damage, or danger the feature requires  
42 extensive and immediate attention.

43  
44 The study area and landscape character  
45 area are evaluated and analyzed according

46 to a series of landscape characteristics that  
47 relate to tangible and intangible aspects of  
48 the cultural landscape. These characteristics  
49 collectively create the historic character  
50 of the study area and aid in understanding  
51 its historic importance. The landscape  
52 characteristics serve as categories under  
53 which individual features are documented  
54 and listed. The existing condition and analysis  
55 is completed according to the following  
56 landscape characteristics.

57  
58 Natural Systems and Features are those  
59 natural aspects that have influenced the  
60 development and physical form of the cultural  
61 landscape.

62  
63 Archeological Sites contain surface or  
64 subsurface remnants related to historic or  
65 prehistoric land use.

66  
67 Land Use is the organization, form, and shape  
68 of the cultural landscape in response to use.

69  
70 Cluster Arrangement and Topography  
71 are the location and organization of  
72 buildings, structures, and features, and the  
73 3-dimensional configuration of the landscape  
74 surface.

75  
76 Circulation are features and materials that  
77 constitute systems of movement including  
78 vehicular and pedestrian routes.

79  
80 Buildings and Structures are 3-dimensional  
81 man-made constructs.

82  
83 Small Scale Features are human-scaled  
84 elements that provide detail and function.

85  
86 Vegetation is indigenous or introduced trees,  
87 shrubs, vines, groundcovers, herbaceous  
88 materials, or natural vegetative cover.

89

## Assessment of Integrity

Integrity is the ability of a cultural landscape to convey its significance. It is assessed to determine if the landscape characteristics that shaped the cultural landscape during the period of significance are present.

Integrity is evaluated according to seven aspects or qualities: location, setting, feeling, design, materials, workmanship, and association.

Rush Historic District retains integrity in six aspects: location, setting, design, materials, workmanship, and association. The study area has diminished integrity of feeling.

### Location and Setting

Location is where the cultural landscape was constructed or where an historic event occurred. Setting is the physical environment of the cultural landscape.

Rush Historic District retains integrity in location and setting. Although only seven standing buildings remain, building ruins and features from the mills, mines, and circulation network retain original locations set on steep wooded hillsides and rocky escarpments above Buffalo River, Rush and Clabber creeks.

### Feeling

Feeling is the cultural landscape's expression of the aesthetic or historic sense of a particular period of time.

The study area has diminished integrity in feeling due to the loss of buildings. Visitors have difficulty visualizing the mining process within the landscape context. Integrity remains in the individual mines where the landscape reflects the active mining period of open portals, cart tracks, mine spoils, and rock fall. Diminished integrity of feeling occurs at the mills and adjacent community, where spatial relationships are diminished.

Historically, Rush Historic District was a working landscape. Ore was extracted from the mines and processed in the mills. Mining operations shaped the landscape with movement of vast quantities of rock and earth, and construction of tramways to move ore to large mill structures for processing. Clear visual relationships between these activities existed historically, with the mills as dominant features in mass and scale. Today mining activities are evident through seven standing buildings, building ruins, ruins, roads, mining resources such as adits (a horizontal or nearly horizontal entrance to an underground mine), spoils piles, and open cuts. Overgrown vegetation obscures many features, making it difficult to visualize and understand how the mining district operated. While the overall change in appearance, i.e., loss of once prominent structures, particularly mills and the tramway, diminishes integrity of feeling, actions such as vegetation management could repair spatial relationships and convey the scale of the cultural landscape. The loss of scale and massing from important mining buildings diminishes affects the feeling of the industrial working landscape.

### Design, Materials, and Workmanship

Design is the combination of elements that create the form, plan, space, structure, and style of a cultural landscape. Materials are the physical elements that were combined or deposited during the particular period of time and in a particular pattern or configuration to form the cultural landscape. Workmanship includes the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Rush Historic District retains integrity of design. Built as a functional, working

## Contributing and Non-Contributing Features

1 landscape, the focus on resource extraction  
 2 created the industrial landscape evident  
 3 today. Mines were sited based on the  
 4 geology and zinc deposits and designed to  
 5 efficiently extract ore. Three different types  
 6 of construction were used for the mines:  
 7 horizontal (room-and-pillar), vertical, and  
 8 open-pit, based on how the vein of ore was  
 9 situated. The design of these mine features is  
 10 extant today.

11  
 12 Mills and support structures, offices, and  
 13 the associated community were designed  
 14 to support the mining industry. Buildings  
 15 were built quickly with inexpensive, locally  
 16 available materials of wood, stone, and  
 17 concrete. The extant buildings contain  
 18 original materials and the design and  
 19 workmanship reflect vernacular building  
 20 styles of the Ozark Highlands. Extant  
 21 buildings depict simple massing and roof  
 22 forms, vertical board construction, dry  
 23 stacked stone walls, pier foundations, metal  
 24 roofing, and front porches.

### 25 Association

26 Association is the direct link between an  
 27 important historic event or person and a  
 28 cultural landscape.  
 29  
 30  
 31 Rush Historic District retains integrity of  
 32 association as being developed as part  
 33 of the Ozark mining industry in the early  
 34 20th century. The development of mines,  
 35 mills, and support structures are evidence  
 36 of the study area's role in supporting the  
 37 war effort associated with World War I,  
 38 and development of the Ozark Highlands in  
 39 general.

40  
 41  
 42  
 43

44 Contributing features are those individual  
 45 elements that remain from the period of  
 46 significance and contribute to the integrity  
 47 of Rush Historic District. Non-contributing  
 48 features are recent additions that were not  
 49 built within the period of significance and do  
 50 not contribute to the integrity of the study  
 51 area.

52

### 53 **Study Area**

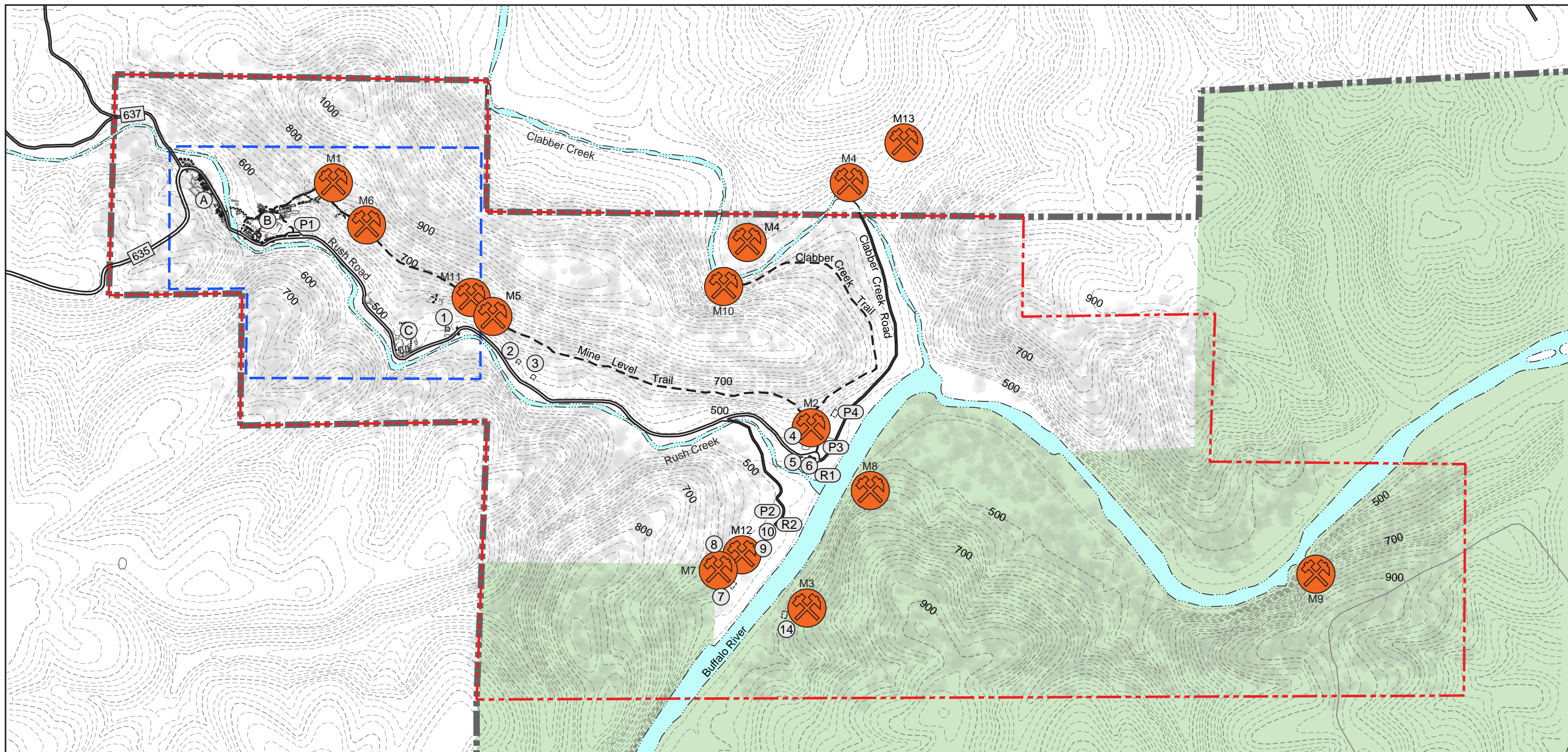
54

#### 55 Contributing Features

56

- 57 • Buffalo River
- 58 • Rush Creek
- 59 • Clabber Creek
- 60 • Boiling Spring
- 61 • Karst Geology
- 62 • Hardwood Forest
- 63 • New Town Site (1915-1920)
- 64 • New Town Building Ruin (c 1915)
- 65 • Keystone Town Site (1904 to 1919)
- 66 • McIntosh Hotel Ruins (1900)
- 67 • McIntosh Livery Ruins (1900)
- 68 • Pop Campbell House Site Ruins (c 1915)
- 69 • George Jones Site (c 1929 to 1939)
- 70 • Boiling Spring Site (c 1915)
- 71 • Cold Springs Hollow Structures (c 1910 to  
72 1920)
- 73 • Mine Manager's House Site (c 1925)
- 74 • Pat McCormick House Site (date  
75 unknown)
- 76 • Hicks Rental Houses Sites (1915)
- 77 • Con Medley House Site (c WWI)
- 78 • William Fernimen Store Site (1906 to  
79 1918)
- 80 • Vicker Springs Houses Sites (c 1900)
- 81 • Messer General Store Site (1910 to 1917)
- 82 • Exeter Town Site (1887-1890s)
- 83 • Cluster Arrangement and Topography
- 84 • Rush Road
- 85 • Clabber Creek Road (date unknown)
- 86 • Campground Road (1915 and earlier)

- 1 • Mine Level Trail (date unknown)
- 2 • Mine Level Trail at Ore Cart
- 3 • McIntosh roadbed and spurs (c 1900 to
- 4 1930S)
- 5 • Driveway
- 6 • Old Road to White Eagle Mine
- 7 • White Eagle Mine Complex
- 8 – White Eagle Mine (M2) (1885 to
- 9 1920S; 1959 to 1962)
- 10 – White Eagle Mill Ruins (1903)
- 11 • Red Cloud Mine Complex
- 12 – Red Cloud Mine (M3) (1887 to 1919)
- 13 – Red Cloud Mill Ruins (1900)
- 14 • McIntosh Mine Complex
- 15 – McIntosh Mine (M5) (1888 to 1919)
- 16 – McIntosh Mill Ruins (1900)
- 17 • Ben Carney Mine (M6) (1894 to 1931)
- 18 • Yellow Rose Mine Complex
- 19 – Yellow Rose Mine (M7) (1899 to
- 20 1901; 1915 to 1919)
- 21 – Yellow Rose Mill Ruins (1915)
- 22 • Lonnie Boy Mine (M8) (1880s; 1916 to
- 23 1930s, early 1960s)
- 24 • Lonnie Boy Pumphouse Ruins (c late
- 25 1920s)
- 26 • Silver Hollow Mine (M9) (1892; 1904 to
- 27 1907; 1915 to 1919)
- 28 • Silver Hollow Mill Site (1903)
- 29 • Monte Cristo Mine (M10) (1900; 1915 to
- 30 1917; 1920s; 1961 to 1962)
- 31 • Monte Cristo Mine Steam Compressor and
- 32 Shed Ruins (c 1890 to 1920)
- 33 • Capps Mine (M11) (1915 to 1935)
- 34 • Edith Mine Complex
- 35 – Edith Mine (M12) (1915 TO 1919)
- 36 – Edith Mill Ruins (1916)
- 37 • Exploratory Diggings
- 38 • Ore Cart
- 39 • Remnant Fencing
- 40 • Stone Retaining Wall at Edith Mine
- 41
- 42 Non Contributing Features
- 43
- 44 • Morning Star Trail parking
- 45 • Morning Star Trail (1988)
- 46 • Clabber Creek Trail (date unknown)
- 47 • Rush Landing (1970s and 1980s)
- 48 • Rush Landing parking
- 49 • New White Eagle Mill parking
- 50 • intermittent stream
- 51 • Rush Campground (1950s to present)
- 52 • Rush Landing Comfort Station
- 53 • Rush Campground parking
- 54 • Rush Landing Shelter
- 55 • Rush Campground Comfort Station
- 56 • New White Eagle Mill Ruins (1958 to
- 57 1961)
- 58 • Rush Landing Shelter Interpretive Panels
- 59 • Information Panel
- 60 • Pole and Cables (1950s)
- 61 • Rush Landing Picnic Table (4)
- 62 • Rush Campground Pay Station
- 63 • Rush Campground Information Panel
- 64 • Rush Campground Picnic Table (12)
- 65 • Rush Campground Fire Ring (12)
- 66 • Rush Campground Lantern Hook (12)
- 67
- 68 **Morning Star Community Landscape**
- 69 **Character Area**
- 70
- 71 **Morning Star Hotel, Mill, and Mine**
- 72 **Community**
- 73
- 74 Contributing Features
- 75
- 76 • Rush Smelter (1886)
- 77 • Rush Blacksmith Shop (1925)
- 78 • Morning Star Hotel Ruins (c 1900)
- 79 • Lyons House Ruins (c 1925)
- 80 • Post Office Ruins (c 1890)
- 81 • Morning Star Livery Barn Ruins (c 1899)
- 82 • Morning Star Mill Pumphouse Ruins
- 83 (1926)
- 84 • Smith House Ruins (c 1899)
- 85 • Chase and Mulholland Store Ruins
- 86 (c 1899)
- 87 • Morning Star Mine Office Ruins (c 1911)
- 88 • Warehouse Ruins (1927)
- 89 • Oil Storage House Ruins (c 1911)
- 90 • Morning Star Mine Complex
- 91 – Morning Star Mine (M1) (1884 to
- 92 1935)



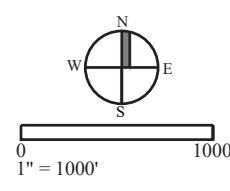
- Mines**
- M1 Morning Star Mine Complex (1884 to 1931)
  - M2 White Eagle Mine Complex (1885 to 1920s; 1959 to 1962)
  - M3 Red Cloud Mine Complex (1887 to 1919)
  - M4 Philadelphia Mine Complex (Mill in study area, Mine is not) (1887 to 1919; 1961 to 1962)
  - M5 McIntosh Mine Complex (1888 to 1919)
  - M6 Ben Carney Mine (1894 to 1931)
  - M7 Yellow Rose Mine Complex (1899 to 1901; 1915 to 1919)
  - M8 Lonnie Boy Mine (1880s; 1916 to 1930s, early 1960s)
  - M9 Silver Hollow Mine (1892; 1904 to 1907; 1915 to 1919)
  - M10 Monte Cristo Mine (1900; 1915 to 1917; 1920s; 1961 to 1962)
  - M11 Capps Mine (1915 to 1935)
  - M12 Edith Mine Complex (1915 to 1919)
  - M13 Leader Mine (Mine is not in study area)

- Component Areas**
- (A) Morning Star Hotel, Mill, and Mine Community
  - (B) House Row
  - (C) Hicks Hotel

- Buildings and Structures**
- (1) Pop Campbell House Site Ruins (c 1915)
  - (2) McIntosh Mill Ruins (1900)
  - (3) McIntosh Hotel Ruins (1900)
  - (4) White Eagle Mill Ruins (1903)
  - (5) Rush Landing Shelter
  - (6) Rush Landing Vault Toilet
  - (7) Yellow Rose Mill (1915)
  - (8) New Town Ruins (c 1915)
  - (9) Edith Mill Ruins (1916)
  - (10) Campground Vault Toilet
  - (11) Red Cloud Mill Ruins (1900)

- Legend**
- Buffalo National River Boundary
  - Lower Buffalo Wilderness
  - Study Area
  - Morning Star Community
  - Landscape Character Area
  - Road
  - Pedestrian Trail
  - Creek / River
  - Mine / Mine Complex

- Parking**
- (P1) Morning Star Trail parking
  - (P2) Rush Campground parking
  - (P3) Rush Landing parking
  - (P4) New White Eagle Mill parking
- Recreation**
- (R1) Rush Landing
  - (R2) Rush Campground



Sources:  
 USGS 2013 - National Geographic Society, Arkansas GIS (<https://gis.arkansas.gov/>), Google Maps 2017, Historic Resource Documentation Morning Star Mines Interpretive Area, Cultural Landscapes Inventory 2012

SEPTEMBER 2018  
 UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUFFALO NATIONAL RIVER  
 ARKANSAS  
 173/141247

TITLE OF PROJECT  
**CULTURAL LANDSCAPE REPORT  
 AND ENVIRONMENTAL ASSESSMENT**  
 TITLE OF DRAWING  
**EXISTING CONDITION - STUDY AREA**  
 NAME OF PARK  
**RUSH HISTORIC DISTRICT**  
 REGION COUNTY STATE  
 MIDWEST MARION ARKANSAS

Illustration 3-1.  
 3-5



1	– Morning Star Mine Spoils Pile (c 1898 to 1931)	47 • Trash Piles
2		48 • Mailbox Shelter
3	– Morning Star Mill Ruins (1898)	49
4	– Morning Star Mill Stone Retaining Wall	50 <u>Non-Contributing Features</u>
5		51
6	– Morning Star Mill Stone Tower Ruins	52 • NPS Fencing
7 •	Tramway Ruins (1898)	53 • NPS Signage
8 •	Barn Ruins (c 1902)	54
9 •	Doctor’s/Maxey House Ruins (c 1916)	55 <b>Hicks Hotel</b>
10 •	Courthouse Site (c 1916)	56
11 •	Hopper House Ruins	57 <u>Contributing Features</u>
12 •	Loading Platform	58
13 •	Morning Star Shaft	59 • Hicks General Store Ruins (1916)
14 •	Stone Retaining Wall at Chase and Mulholland Store	60 • Hicks Hotel (c 1903)
15		61 • Hicks Wall
16 •	Scale Pit	62 • Stone Flower Beds
17 •	Stone Retaining Wall at Tramway	63
18 •	Footbridge Pillar (c 1915)	64
19		65
20	<u>Non Contributing Features</u>	66
21		67
22 •	Morning Star Shelter	68
23 •	Rush Blacksmith Shop Fence	69
24 •	Wood Interpretive Trail Fence	70
25 •	Interpretive Panels	71
26 •	Benches	72
27		73
28	<b>House Row</b>	74
29		75
30	<u>Contributing Features</u>	76
31		77
32 •	Mulholland Building Site (1900 to 1920)	78
33 •	Bundy House (c 1899)	79
34 •	Wash House (1927)	80
35 •	Kastning House (c 1899)	81
36 •	Brantley House Ruins (c 1899)	82
37 •	Gotley House Site (c 1899)	83
38 •	Raby House Ruins (c 1899)	84
39 •	Storekeeper’s House (c 1899)	85
40 •	Taylor-Medley General Store (c 1899)	86
41 •	Store Site	87
42 •	Shed	88
43 •	Root Cellar	89
44 •	Chicken House Ruins	90
45 •	Goose House Ruins	91
46 •	Privy (2)	92



Figure 3-1. The natural setting is characterized by steep hills and valleys, and thick forests of oak and hickory. Rush Road follows the natural drainage of Rush Creek. (Mundus Bishop 2017)



## Study Area

1 The study area includes the broader cultural  
 2 landscape associated with Rush Historic  
 3 District. This includes all of the mines and  
 4 mine complexes, the road and trail system,  
 5 boat launch, campground, and archeological  
 6 sites.

7  
 8 This section evaluates the existing condition  
 9 of the study area’s cultural landscape and  
 10 documents its modifications and changes over  
 11 time. The evaluation is described through the  
 12 following landscape characteristics.

- 13
- 14 • Natural Systems and Features
- 15 • Archeological Sites
- 16 • Land Use
- 17 • Cluster Arrangement and Topography
- 18 • Circulation
- 19 • Buildings and Structures
- 20 • Mines and Mine Complexes
- 21 • Small Scale Features
- 22 • Vegetation

23  
 24 This evaluation and analysis is presented as  
 25 narrative text, complemented by photographs,  
 26 diagrams, and matrices describing the  
 27 existing condition of each landscape  
 28 characteristic.

### 30 Natural Systems and Features

31  
 32 The study area is set in the Buffalo River  
 33 valley of the Ozark Highlands. The natural  
 34 setting is characterized by steep hills and  
 35 valleys. The streams of Rush and Clabber  
 36 creeks and Buffalo River, cut deeply into the  
 37 bedrock, leaving tall vertical bluffs. Rush  
 38 Mountain is a dominant feature. A small fresh  
 39 water spring, Boiling Spring, is located along  
 40 Rush Creek.

41  
 42 The underlying geology of the area was  
 43 cause for the physical development of  
 44 Rush Historic District. The study area is at



Figure 3-2. Rush Historic District is at the intersection of two physiographic regions, the Springfield Plateau and Salem Plateau in the White River Hills. (Rafferty, *The Ozarks: land and life*)

45 the approximate intersection of the two  
 46 physiographic regions: Springfield Plateau  
 47 and the Salem Plateau. The Springfield  
 48 Plateau is underlain by limestone and cherty  
 49 limestone of Mississippian age. The Salem  
 50 Plateau is underlain by rocks of the Cambrian  
 51 and Ordovician age. These rocks are primarily  
 52 limestone, dolomite, and sandstones laid  
 53 down as part of an ancient sea bed. Uplifting  
 54 and erosion over time created the landscape  
 55 of today. Water dissolved carbonate rocks  
 56 (limestones and dolomites) to form caves  
 57 and karst topography, typical of the region.<sup>3.1</sup>  
 58 Pockets of ore such as zinc and lead, formed  
 59 where the rock was broken and brecciated.  
 60 The zinc found at Rush Historic District was  
 61 the highest-grade zinc ore discovered up to  
 62 that time in the United States.<sup>3.2</sup>

63  
 64 Rush Historic District’s climate is  
 65 characterized by long, hot summers and  
 66 relatively short, mild winters. Rainfall  
 67 averages 46 inches annually with the greatest

68  
 69 3.1 Buffalo National River, Climate and Geology. Accessed  
 70 online September 8, 2017 (<https://www.nps.gov/buff/learn/nature/climate-and-geology.htm>).  
 71 3.2 *CLI*, 16.

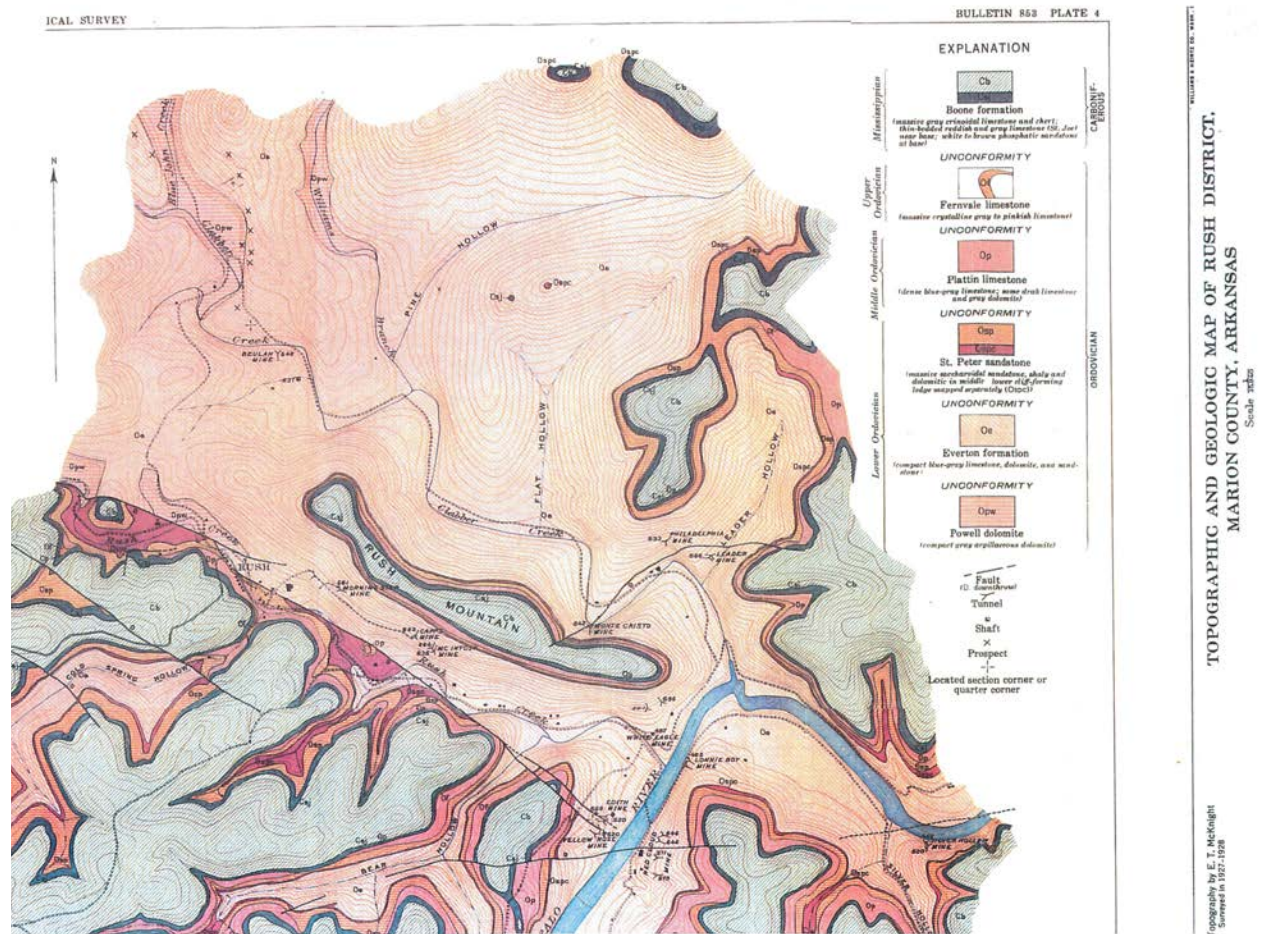


Figure 3-3. Topographical and Geological Map of Rush, showing the surface geology, fault lines, and locations of mines and structures. The mining boom had already begun its decline at the time this map was drawn, 1935. (BUFF Archives)

1 amounts of precipitation in winter and spring.  
 2 Average winter snowfall is 12 inches. Relative  
 3 humidity ranges from moderate to high, and  
 4 the growing season is 200 days annually.  
 5  
 6 Hardwood forest dominates the cultural  
 7 landscape with deciduous trees such as red  
 8 oak, hickory, locust, paw paw, and white  
 9 mulberry as dominant species.  
 10  
 11 The mining industry grew because of these  
 12 natural mineral deposits, and in turn, the  
 13 mining industry impacted the natural  
 14 landscape. Extensive tree-cutting left the  
 15 native hillsides barren. Ore was extracted  
 16 from the mines and waste rock was discarded  
 17 in massive spoils piles strewn across the  
 18 cultural landscape. Waste rock was also  
 19 discarded in tailings piles at mills. Today,  
 20 these spoils and tailings piles have become  
 21 grown over by vegetation and almost appear  
 22 as native hills.

23 Recent testing of water quality in Clabber  
 24 Creek as found cadmium in measurable  
 25 amounts in periphyton in the stream. The  
 26 periphyton appears to be able to take up and  
 27 concentrate the cadmium from the sediment.  
 28 The cadmium is not necessarily in measurable  
 29 quantities in the water column.<sup>3.3</sup>  
 30  
 31 *Assessment of Integrity*  
 32 The natural systems and features of the study  
 33 area were historically altered by the mining  
 34 industry. Since the period of significance  
 35 vegetation has regrown in places and  
 36 rebounded from the industrial practices. The  
 37 natural systems and features retain integrity  
 38 and contribute to the cultural landscape.  
 39  
 40

41 3.3 Jacob R McCauley and Jennifer L. Bouldin. "Cadmium  
 42 Accumulation in Periphyton from an Abandoned Mining  
 43 District in the Buffalo National River, Arkansas," *Bulletin of*  
 44 *Environmental Contaminants and Toxicology* Vol. 96, No. 6,  
 (2016): 757-761.

<b>Matrix 3-6. Natural Systems and Features</b>			
<b>Feature</b>	<b>Description</b>	<b>Condition</b>	<b>Contributing/ Non-Contributing</b>
<b>Buffalo River</b>	East-west river through the study area		Contributing
<b>Rush Creek</b>	Creek forms central spine of Rush Historic District. Creek varies in width and depth of flow. Creek bed is approximately 20 feet wide on average		Contributing
<b>Clabber Creek</b>	Creek located north end of study area; forms drainage of Monte Cristo Mine (M10)		Contributing
<b>Boiling Spring</b>	Natural spring at Rush Creek adjacent to Rush Road.	Good	Contributing
<b>Intermittent Stream</b>	Between Storekeeper's House and Taylor-Medley General Store. Erosion. Culvert under Rush Road		Non-Contributing
<b>Karst Geology</b>	Natural mineral deposits of zinc ore	Good	Contributing
<b>Hardwood Forest</b>	Native vegetation, in historic locations	Good/Fair	Contributing



Figure 3-4. New Town as it appeared c 1916 from the north bank of Rush Creek. The development of New Town was spurred by mining expansion during World War I that led to construction of Edith Mine (M12) and a new mill at Yellow Rose Mine (M7) (uphill on right). Today only a few ruins of New Town are visible above grade. Below grade resources associated with these mine complexes likely exist as they do throughout the study area. (Buffalo National River: Dorthea Shipman Collection)



Figure 3-5. Pop Campbell House Site ruins, looking west, 1985. (S. Rogers, BUFF Archives)

## 1 Archeological Sites

2  
3 This section describes previously documented  
4 prehistoric archeological sites located within  
5 Rush Historic District. These sites represent  
6 earlier prehistoric periods of development  
7 associated with the study area.

8  
9 Below grade and extant historic ruins from  
10 the zinc mining industry of Rush Historic  
11 District are also described in this section.  
12 Below-grade resources from the period of  
13 significance are likely to remain throughout  
14 the study area, but were not investigated.  
15 Ruins are evidence of former buildings,  
16 structures or features visible above grade.  
17 They are associated with the historic mining  
18 landscape.

## 19 Prehistoric Archeological Sites

20  
21 The study area includes prehistoric  
22 archeological sites at the confluence of Rush  
23 Creek and Buffalo River. They are Dirst site  
24 (3MR80), and sites 3MR51, 3MR52, and  
25 3MR157. These multicomponent sites span  
26 from the Dalton period through the Early  
27 Mississippian period. Archeological evidence  
28 suggests the boundaries of the deposits may  
29 be somewhat arbitrary and sites may actually  
30 overlap.<sup>3,4</sup>  
31  
32  
33 Dirst site is a stratified multicomponent site  
34 spanning from the Dalton to Early Archaic  
35 through Early Mississippian periods, occupied  
36 between 3,000 BP and 400 AD. Archeological  
37 finds include two Dalton bifaces, two Graham  
38 Cave side-notched points, and one early  
39 Archaic Rice Lobed point recovered from a  
40 paleosol in Area D. The earliest portions of  
41 the site likely represent a series of temporary  
42 occupations. An Early Woodland component  
43 represents the earliest documentation of the  
44 use of pottery in the Ozark Highlands.<sup>3,5</sup>

46 3.4 Sabo et al. *Archaeological Investigations*, 333.

3.5 Sabo et al., *Archaeological Investigations*, 144.

47 Later occupation of the Dirst site dates to  
48 the Middle Woodland to Early Mississippian  
49 periods. It represents a year-round settlement  
50 inhabited by a sedentary community  
51 that relied on a subsistence economy of  
52 hunting and gathering, and domesticated  
53 plant production. These inhabitants also  
54 participated in trade with more distant  
55 populations of the Mississippian culture. A  
56 variety of domesticated plants were grown  
57 along the banks of Buffalo River including  
58 little barley, maygrass, chenopodium,  
59 sunflower, squash/gourd, and maize.<sup>3,6</sup>

## 60 Historic Archeological Sites and Ruins

61  
62  
63 Remnants of the zinc mining industry and  
64 its associated communities remain today  
65 in original locations as the only vestiges  
66 of previously developed town, mining or  
67 housing sites. Some consist primarily of  
68 below grade features and archeological  
69 deposits with little visible evidence on the  
70 surface. Previously documented sites that  
71 include New Town, Keystone Town, and  
72 McIntosh House ruins are noted in this CLR.  
73 No additional research or field documentation  
74 was provided by the CLR. The extent and  
75 location of these sites and features have not  
76 been thoroughly documented.<sup>3,7</sup>

77  
78 In addition to below grade features, many  
79 traces of Rush Historic District's historical  
80 development exist today as ruins. Above  
81 grade remnants include sites and features  
82 associated with the study area's mine and  
83 mill complexes and the community along  
84 Rush Road. Ruins of non-extant stores, hotels,  
85 offices, residences and other features include  
86 foundations, collapsed brick chimneys, stone  
87 walls and stone work, and fencing.

91 3.6 Sabo et al., *Archaeological Investigations*, 319, 330.

92 3.7 NRHP, 1-26.

1 The condition of the study area’s ruins range	47
2 from fair to poor as most have not been	48
3 stabilized or repaired. For several mines	49
4 and mine complexes, ruins are the last	50
5 vestiges of non-extant features associated	51
6 with zinc mining. An example is the single	52
7 stone foundation that remains at New Town.	53
8 This ruin is the only evidence of what was	54
9 historically a much larger development of	55
10 homes and at least 20 businesses set adjacent	56
11 to Yellow Rose Mine Complex (M7), and Edith	57
12 Mine Complex (M12).	58
13	59
14 <i>Assessment of Integrity</i>	60
15 Many below grade archeological sites and	61
16 features associated with the historic mining	62
17 landscape likely remain throughout the study	63
18 area. Further research and archeological	64
19 investigations are needed to determine	65
20 the extent and location of resources. These	66
21 features retain integrity as buried resources,	67
22 and contribute to the significance of the	68
23 cultural landscape.	69
24	70
25 Many ruins remain from the period of	71
26 significance. They are the last vestiges of	72
27 many mining related structures, features,	73
28 and buildings that are no longer extant. The	74
29 lack of standing buildings and structures	75
30 makes it difficult to discern the study area’s	76
31 historical development, and historic patterns	77
32 and relationships. As extant features, ruins	78
33 assist in preserving the study area’s history	79
34 and development. Although ruins are in	80
35 various conditions, they retain integrity	81
36 and are contributing features to the cultural	82
37 landscape.	83
38	84
39 Prehistoric archeological sites are significant	85
40 resources within the study area. As they	86
41 pre-date the period of significance of	87
42 Rush Historic District, they are considered	88
43 non-contributing features to the cultural	89
44 landscape. These archeological sites have	90
45 not been completely investigated, and others	91
46 may be identified. All likely contain intact,	92

<b>Matrix 3-7. Study Area - Historic Archeological Sites and Ruins</b>				
<b>Feature</b>	<b>Date</b>	<b>Description</b>	<b>Condition</b>	<b>Contributing/ Non-Contributing</b>
<b>New Town Site</b>	1915 to 1920	Archeological deposits in New Town are unverified		Contributing
<b>New Town Building Ruin</b>	c 1915	Coursed, mortared stone foundation. Average 3' high.		Contributing
<b>Keystone Town Site</b>	1904 to 1919	No visible surface remains		Contributing
<b>McIntosh Hotel Ruins</b>	1900	Dry masonry walls; Concrete post; Iron pipes.		Contributing
<b>McIntosh Livery Ruins</b>	1900	Dry staked stone foundation.		Contributing
<b>Pop Campbell House Site Ruins</b>	1900	Rock piers and fallen brick chimney.		Contributing
<b>George Jones Site</b>	c 1929 to 1939	Stone retaining wall; dirt midden; pier falls		Contributing
<b>Boiling Spring Site</b>	c 1915	Rectangular 10'x15'x6' deep cellar depression. Metal trash (bed frame, corrugated roofing); stone scatter/pier falls	Poor	Contributing
<b>Gotley House Site</b>	c 1899	No visible above-grade ruins.		Contributing
<b>Cold Springs Hollow Structures</b>	c 1910 to 1920	No visible above-grade ruins.		Contributing
<b>Mine Manager's House Site</b>	c 1925	No visible above-grade ruins.		Contributing
<b>Pat McCormick House Site</b>	Date unknown	No visible above-grade ruins.		Contributing
<b>Hicks Rental Houses Sites</b>	1915	No visible above-grade ruins.		Contributing
<b>Con Medley House Site</b>	c WWI	No visible above-grade ruins.		Contributing
<b>William Fernimen Store Site</b>	1906 to 1918	No visible above-grade ruins.		Contributing
<b>Vicker Springs Houses Sites</b>	c 1900	No visible above-grade ruins.		Contributing
<b>Messer General Store Site</b>	1910 to 1917	No visible above-grade ruins.		Contributing
<b>Exeter Town Site</b>	1887-1890s	No visible above-grade ruins.		Contributing



Figure 3-6. Mine Level Trail provides recreation, interpretation and access to the mines. The entrance to McIntosh Mine (M5) is on the right. (Mundus Bishop 2017)



Figure 3-7. Buffalo River from Rush Campground. Buffalo National River attracts thousands of visitors every year, and Rush Landing is a popular take-out location for boaters. (Mundus Bishop 2017)



## 1 Land Use

2  
3 The study area is a component of Buffalo  
4 National River (BUFF), administrated by the  
5 National Park Service. Buffalo National River  
6 current land use is a public national park,  
7 established by Public Law 92-237 “for the  
8 purposes of conserving and interpreting an  
9 area containing unique scenic and scientific  
10 features, and preserving as a free-flowing  
11 stream an important segment of the Buffalo  
12 River in Arkansas for the benefit and  
13 enjoyment of present and future generations.”  
14 A portion of the study area is a designated  
15 wilderness area, the Lower Buffalo  
16 Wilderness <sup>3.8</sup>

17  
18 Historically, land use was related to zinc  
19 mining. Land use included mining, resource  
20 extraction, and milling operations. Offices,  
21 hotels, stores, and a post office supported  
22 the mining industry. Residential areas were  
23 nearby, housing miners and families, and  
24 portions of the landscape provided pasture  
25 and gardens.

26  
27 After mining ended, several people continued  
28 to reside in the study area through the 1950s.  
29 Tourism then became the dominant industry  
30 with people visiting the ‘ghost town’ of Rush.  
31 Rush Campground dates to this period,  
32 established by Fred Dirst in the 1950s, and is  
33 in the same location today.

34  
35 *Assessment of Integrity*  
36 Today, the study area’s land use is a national  
37 park with a mandate to protect resources and  
38 provide for visitor enjoyment. A portion of the  
39 study area is a designated wilderness area—  
40 Lower Buffalo Wilderness.

41  
42 Recreation and interpretation are the primary  
43 visitor activities, most related to interactions  
44 with the park’s natural resources. Visitor

45  
46 3.8 P.L. 92-237

47 facilities within the study area include  
48 developed trails, camping, and picnicking.  
49 Boating access is provided to Buffalo River.  
50 Support facilities include a boat launch,  
51 comfort stations, and parking. Interpretive  
52 trails provide access to Morning Star Mill  
53 ruins, mine portals, and other buildings and  
54 features related to the mining industry.

55  
56 The study area is listed in the National  
57 Register of Historic Places (NRHP) . Its  
58 historic land uses related to zinc mining  
59 contribute to its significance. Patterns and  
60 extant features that express the historic land  
61 use remain, although hidden by overgrown  
62 vegetation. Land use patterns and features  
63 include mining, resource extraction, milling  
64 operations, housing, retail, and lodging.

65  
66 Although the land use of the study area has  
67 changed since the period of significance,  
68 evidence of historic patterns and features  
69 remain from the historic land use and  
70 contribute to the significance of the cultural  
71 landscape. Current-day land use, related  
72 to the national park including recreation,  
73 interpretation, and associated facilities, does  
74 not diminish the integrity of the cultural  
75 landscape.

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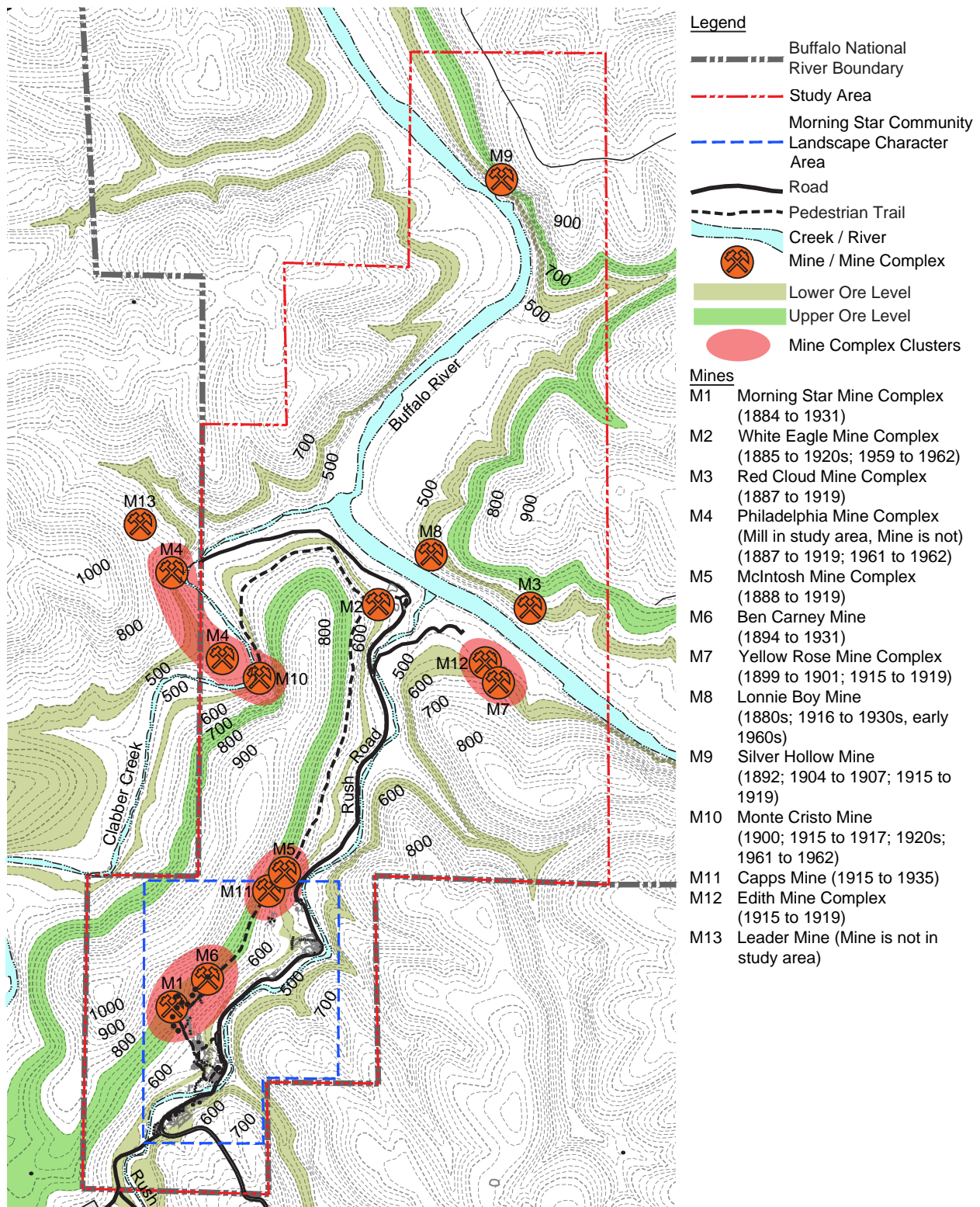
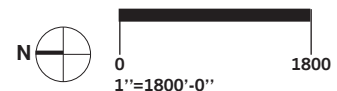


Figure 3-8. The main zinc ore deposit was laid down horizontally, and mines were established at nearly the same elevation at the side of Rush Mountain. Communities were developed around each mining company in small discrete clusters. The mill was central to each community with offices, hotels, stores, and housing organized around the mill.



(Mundus Bishop 2017, USGS 2013 - National Geographic Society, Arkansas GIS, Google Maps 2017, Historic Resource Documentation Morning Star Mines Interpretive Area, Cultural Landscapes Inventory 2012)

## 1 Cluster Arrangement and Topography

2  
 3 The cultural landscape is defined by steep  
 4 forested hillsides and the narrow valleys of  
 5 Buffalo River and Rush and Clabber creeks.  
 6 A 500 foot difference in elevation exists  
 7 between mountain ridgelines and valley  
 8 floors. Exposed rock outcroppings follow  
 9 Buffalo River and Rush Mountain.  
 10  
 11 Buffalo River divides the study area. Morning  
 12 Star Community landscape character area is  
 13 on the west side. Monte Cristo Mine (M10)  
 14 is on the north side of Rush Mountain along  
 15 Clabber Creek. On the river's east side are the  
 16 Red Cloud Mine Complex (M3), Lonnie Boy  
 17 Mine (M8), and Silver Hollow Mine (M9).  
 18  
 19 The development patterns of the zinc  
 20 mining industry were intertwined with the  
 21 study area's natural topography. Location  
 22 and organization of land uses, along with  
 23 associated buildings, structures and features,  
 24 were in sync with natural terrain. Each mine  
 25 complex was developed as an individual  
 26 'cluster' with associated structures and  
 27 uses, and was separated from other mines  
 28 and mine complexes and communities by  
 29 topography and vegetation.  
 30  
 31 Most mines were set at the same, or  
 32 consistent elevation: the elevation of the  
 33 zinc deposit. Built features were organized  
 34 to facilitate the zinc mining process and to  
 35 take advantage of topography. Mines were  
 36 set high on hillsides with mills located  
 37 downhill. The study area's naturally steep  
 38 hillsides facilitated the movement of ore from  
 39 each mine to mills by way of a gravity-fed  
 40 tramways.  
 41  
 42 Most mines were drift mines. Some were built  
 43 in the room-and-pillar method in which the  
 44 hillside was excavated horizontally rather  
 45 than vertically. Waste rock was discarded in  
 46 spoils piles at entrance to almost every mine.

47 Spoils piles were huge and altered native  
 48 topography in the vicinity of each mine.  
 49 Today the man-made topography of spoils  
 50 piles remain and are visible features. Most  
 51 have settled and are overgrown by forest  
 52 vegetation.  
 53  
 54 Most mines included an associated mill. In  
 55 addition to the mill building, the complex  
 56 included offices and support structures and  
 57 uses around it or nearby.  
 58  
 59 The relatively flat bottomland of the river  
 60 valleys were developed as communities with  
 61 homes, stores, and lodging including hotels.  
 62 Buildings and structures were built along the  
 63 corridors of Rush and Clabber creeks, and  
 64 at the confluence of Buffalo River with Rush  
 65 Creek. The mines and mine complexes and the  
 66 community were connected by Rush Road, the  
 67 key transportation route.  
 68  
 69 The Rush community and mines and mine  
 70 complexes initially developed as relatively  
 71 discrete clusters. During the height of  
 72 mining (1915 to 1919) the community  
 73 grew into a larger linear development along  
 74 Rush Road and Rush Creek. The mines and  
 75 mine complexes also expanded with little  
 76 distinction between some. Once the boom  
 77 ended, the patterns of development remained,  
 78 even as people moved and structures and  
 79 buildings were removed, damaged, or  
 80 collapsed.  
 81  
 82 *Assessment of Integrity*  
 83 Few modern intrusions have modified the  
 84 cluster arrangement and topography of  
 85 the study area. Vegetation has grown and  
 86 obscured views and relationships between  
 87 features of mines and mine complexes and  
 88 most buildings and structures no longer  
 89 remain. Clusters of buildings, structures,  
 90 and features present during the period of  
 91 significance remain today as clusters of  
 92 primarily ruins and remnants.

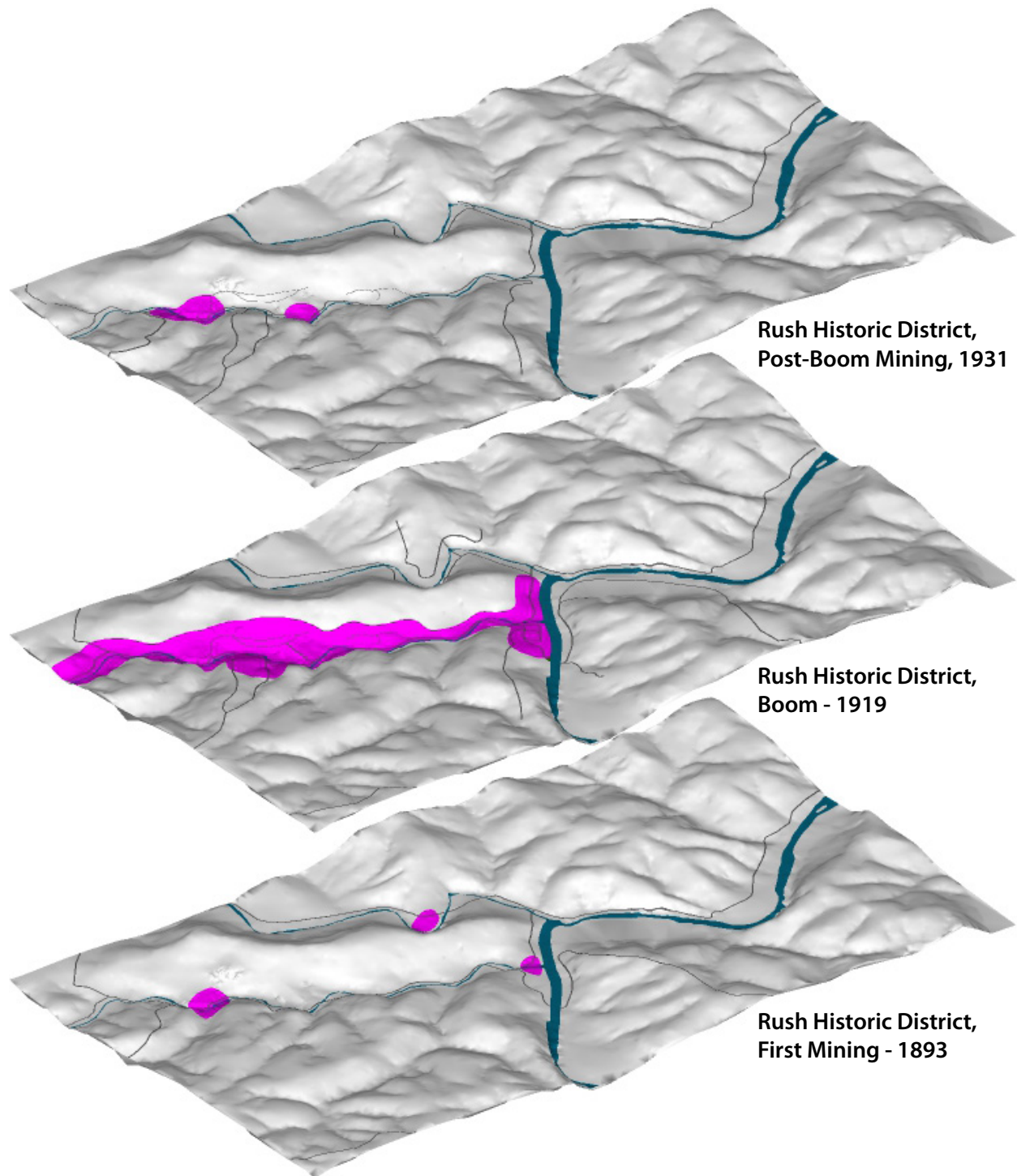


Figure 3-9. Rush land use varied through the periods of landscape development, during the period of significance the entire Rush Creek valley was one connected community. (Mundus Bishop 2018)

1 The loss of historic building fabric diminishes  
2 the integrity of the study area. Modifications  
3 to provide recreation access to Buffalo River  
4 have diminished the setting of White Eagle  
5 Mill ruins, where Rush Landing parking  
6 encroaches on the mill's setting.

7  
8 The study area's natural and man-made  
9 topography has not been altered since the  
10 period of significance. The exception is the  
11 settling of the spoils piles and natural flooding  
12 in the valleys. Due to the presence of ruins  
13 and the opportunity for vegetation clearing to  
14 reveal historic spaces and relationships, the  
15 cluster arrangement and topography retain  
16 integrity. They contribute to the significance  
17 of the cultural landscape.

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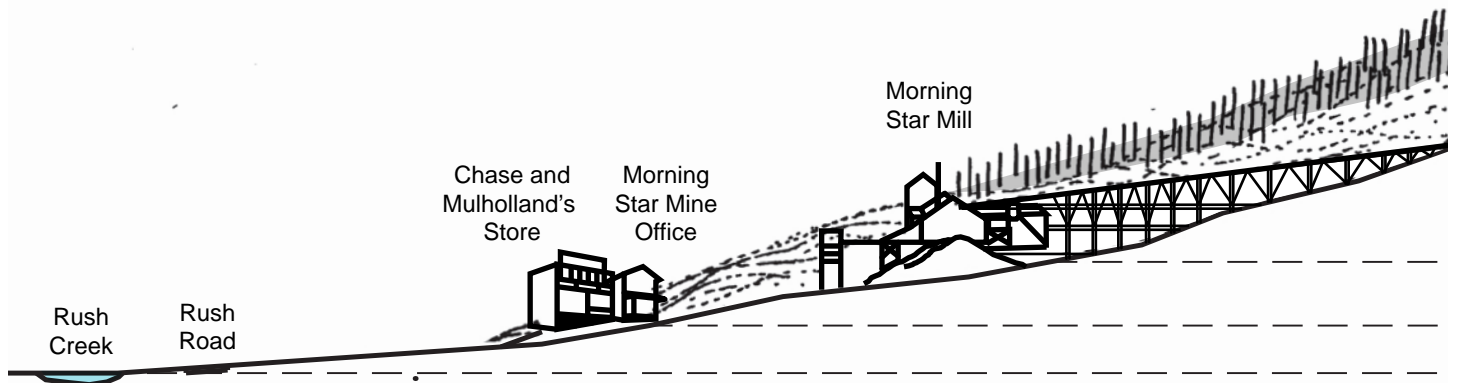


Figure 3-10. Approximate historic cross section at Morning Star Mill Complex (M1). (Mundus Bishop 2017, BUFF Archives)

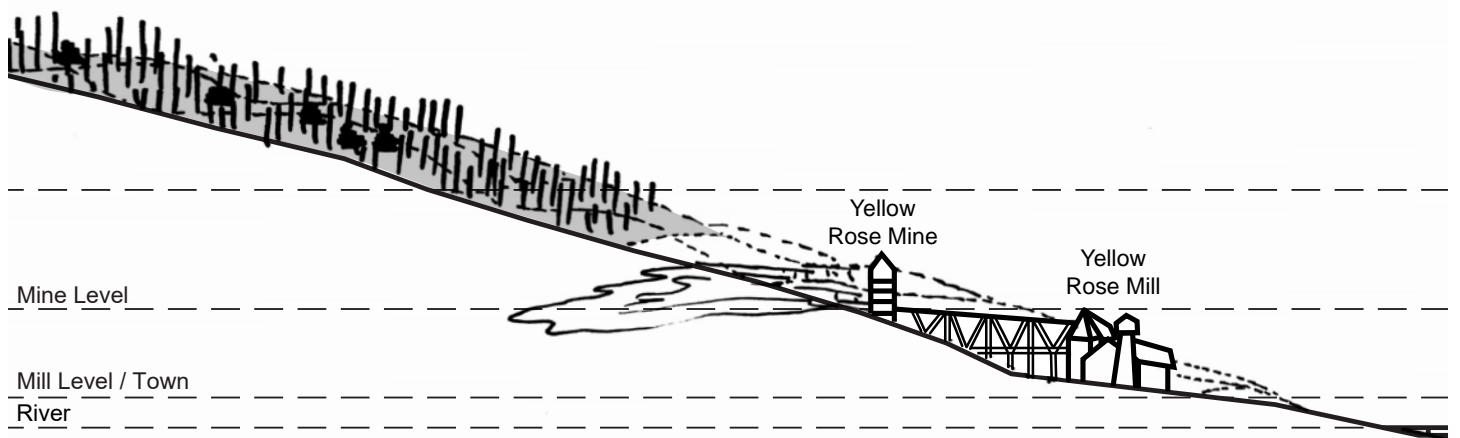
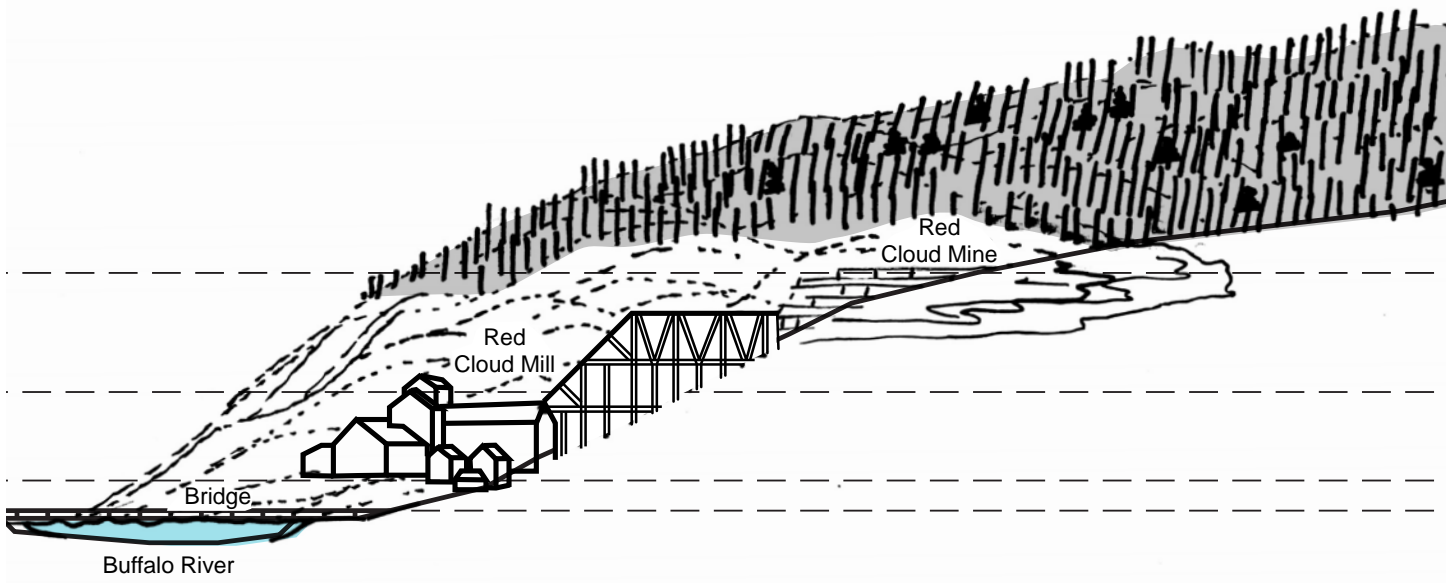
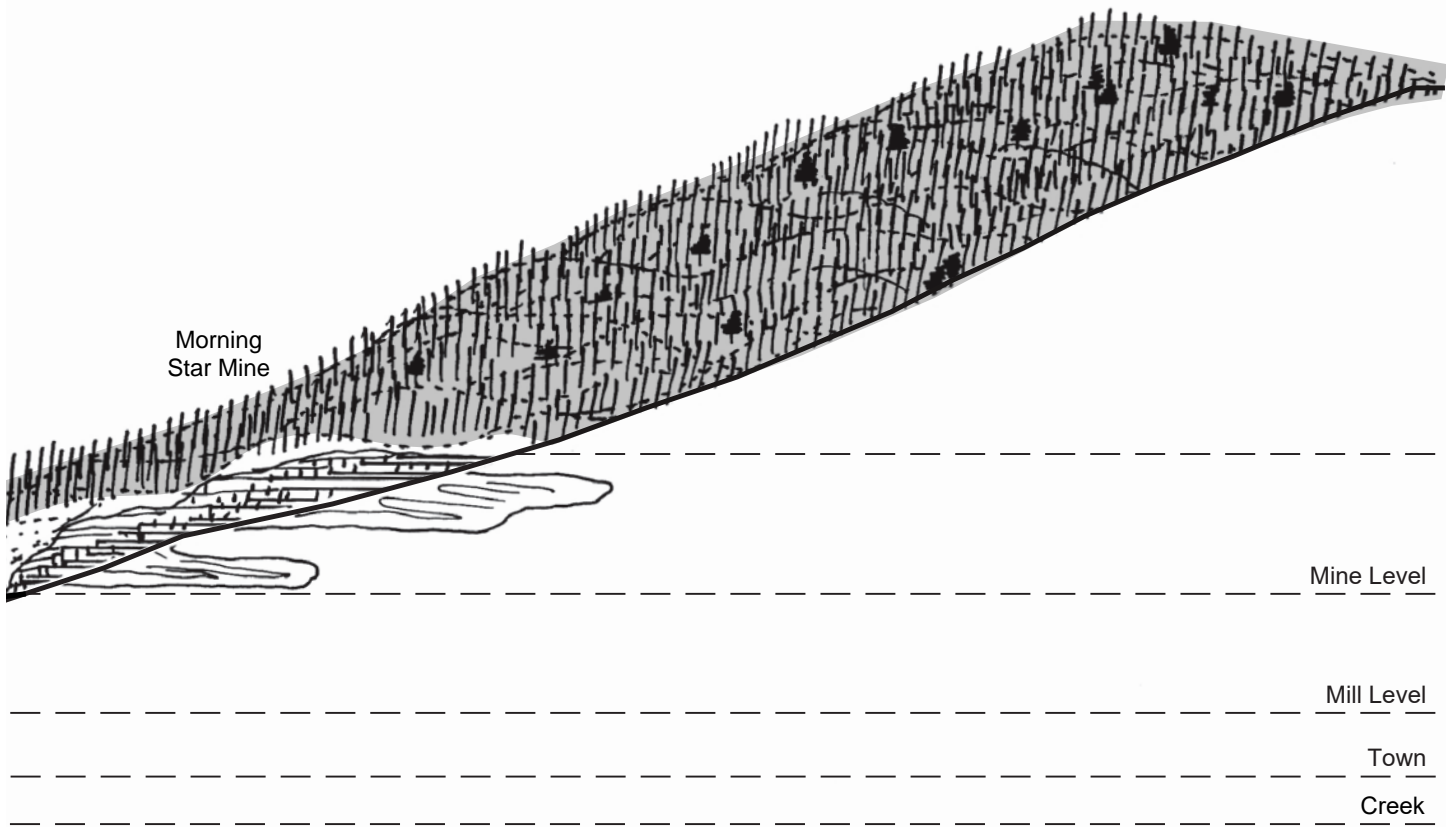


Figure 3-11. Approximate historic cross section, left to right: Yellow Rose Mill Complex (M7), Buffalo River, Red Cloud Mine Complex (M3). (Mundus Bishop 2017, BUFF Archives)



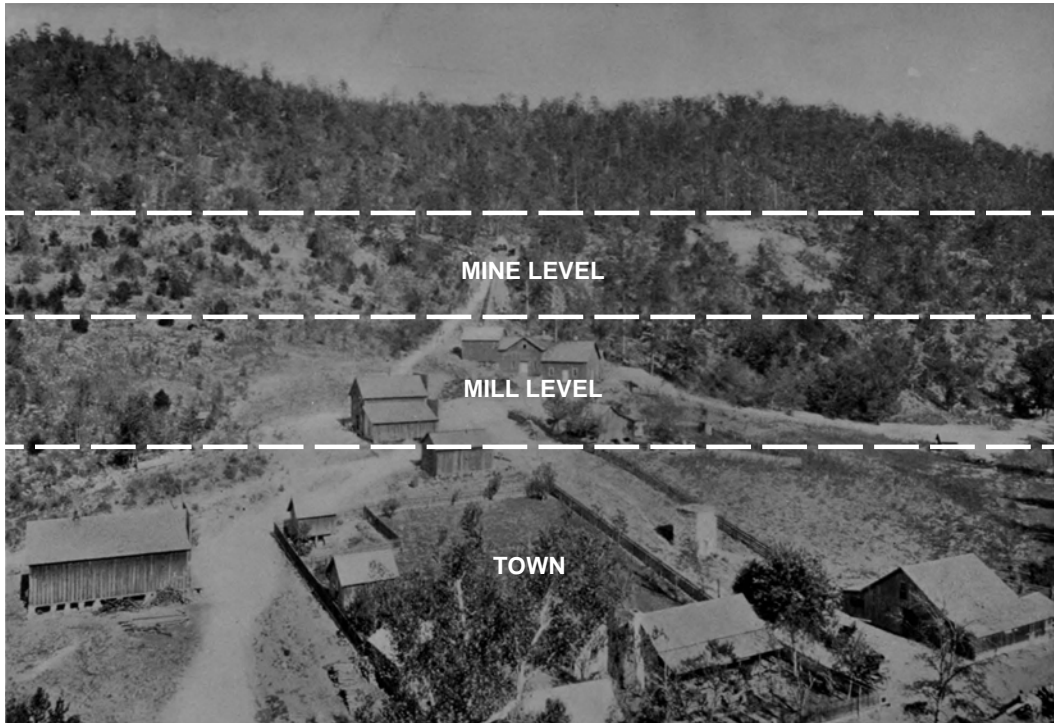


Figure 3-12. Mines were set high on hillsides. Mills were located directly below. Mining communities with support structures such as hotels, stores, and residential buildings were clustered on the valley floor. (BUFF Archives, Mundus Bishop 2017)

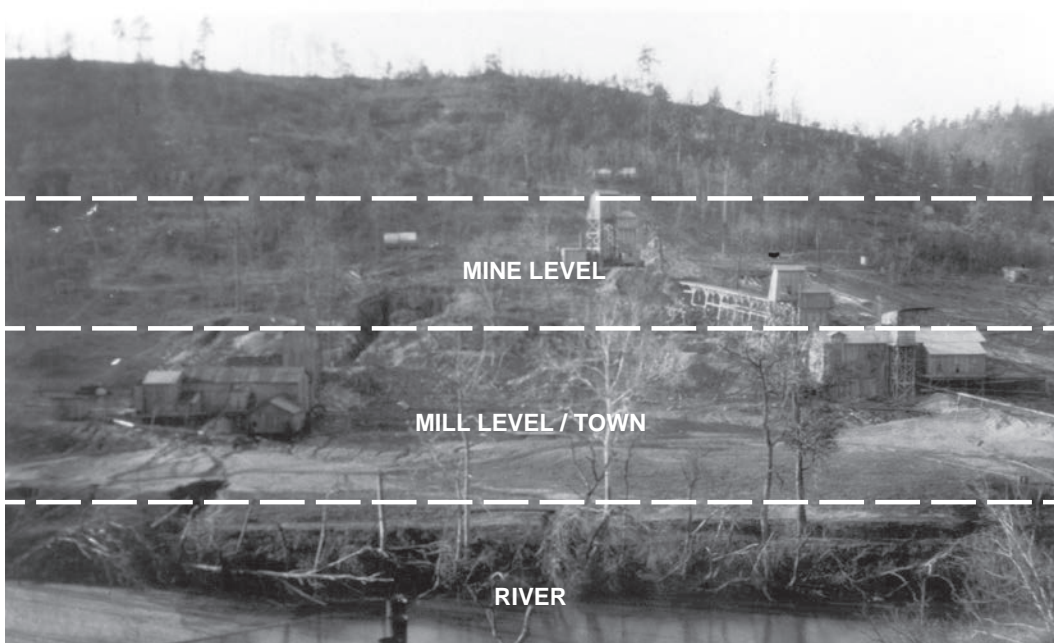


Figure 3-13. New Town, Edith Mill and Yellow Rose Mill. The town was arranged below the mines. (BUFF Archives, Mundus Bishop 2017)