

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: Ute-Ulay Mine and Mill

Other names/site number: 5HN.77

Name of related multiple property listing: The Mining Industry in Colorado; Hinsdale County Metal Mining

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

2. Location

Street & number: County Road 20

City or town: Lake City State: Colorado County: Hinsdale

Not For Publication: Vicinity:

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 __statewide X local

Applicable National Register Criteria: X A __B X C X D

<p>_____</p> <p>Signature of certifying official/Title: Deputy State Historic Preservation Officer Date</p> <p><u>History Colorado Office of Archaeology and Historic Preservation</u> _____</p> <p>State or Federal agency/bureau or Tribal Government</p>

<p>In my opinion, the property ___ meets ___ does not meet the National Register criteria.</p>	
<p>_____</p> <p>Signature of commenting official:</p>	<p>_____</p> <p>Date</p>
<p>_____</p> <p>Title :</p>	<p>_____</p> <p>State or Federal agency/bureau or Tribal Government</p>

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4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain:) _____

Signature of the Keeper

Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property

(Check only **one** box.)

- Building(s)
- District
- Site
- Structure
- Object

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Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>24</u>	<u>0</u>	buildings
<u>1</u>	<u>0</u>	sites
<u>17</u>	<u>0</u>	structures
<u> </u>	<u>0</u>	objects
<u>42</u>	<u>0</u>	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions

(Enter categories from instructions.)

- DOMESTIC/single dwelling
- DOMESTIC/multiple dwelling
- INDUSTRY/manufacturing facility
- INDUSTRY/extractive facility
- INDUSTRY/waterworks
- INDUSTRY/energy facility

Current Functions

(Enter categories from instructions.)

- VACANT/not in use
- RECREATION AND CULTURE/museum (work in progress)

7. Description

Architectural Classification

(Enter categories from instructions.)

NO STYLE

Materials: (enter categories from instructions.)

Principal exterior materials of the property: WOOD – weatherboard, log, shingle; METAL - iron

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Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Ute-Ulay Mine and Mill (5HN.77) is 3.6 miles west of Lake City in Hinsdale County, Colorado, on unsurveyed land that corresponds to Section 31, Township 44 North, Range 4 West and Section 36, Township 44 North, Range 5 West, New Mexico P.M.¹ The district (considered one contributing site in its entirety) is a large complex of silver and lead mine and mill buildings and features, former building locations, mining waste rock, and mill tailings impoundments on the north side of Henson Creek.² It covers 61.9 acres: 21.9 acres of Bureau of Land Management (BLM) land, 10 acres of land owned by Hinsdale County, and 30 acres of private land. Henson Creek passes sinuously in a west to east direction running through the southern boundary of the district. Ute Creek, a perennial drainage with low flow, enters Henson Creek from the northeast and passes through the central portion of the district, though it is mostly obliterated by waste rock from mining. County Road 20 parallels Henson Creek through the district, running on contour about 300'–350' north of the drainage.

The district is situated on a steep southwest-facing slope above Henson Creek with the main mine and milling complex set on manmade leveled areas of waste rock. Elevations range from 9,080' (2,768 m) along Henson Creek to 9,800' (2,987 m) at the top of the upper mining complexes. Vegetation is riparian along Henson Creek with open grassland and spruce/fir forest above. Vegetation is largely lacking where waste rock and tailings have been deposited at places above Henson Creek. Elsewhere, observed plant species include spruce, aspen, willow, common juniper, elderberry, currant, serviceberry, Oregon grape, stinging nettle, strawberry, and grasses. Geologically, the area is comprised of Tertiary-age igneous rock of intra-ash flow andesitic lava (Tweto 1979). Precious metals extruded into cracks in the geologic deposits are associated with a third phase of mineralization associated with the Lake City caldera and were the focus of historic mining efforts. The underground workings used to access the subsurface precious metals are very complex and interconnect with the workings of the Hidden Treasure Mine outside the nomination boundary to the north. The Ute-Ulay-Hidden Treasure vein system is considered to have been the most productive of the mined deposits in the Lake City area and was followed for a distance of 5,000' (Sanford et al. 1991).

¹ The property name is derived from the Ute and Ule mining claims by which the Ute and Ule veins were first identified in 1871. The Ule name has also been spelled Ulay, which is the most common historical spelling, though not the initial spelling; both are phonetic spellings of the name of the Ute leader Ouray. Both the Ute and Ule veins have been worked together as a single property since the 1870s.

² Waste rock is mined parent rock that is disposed of outside of a mine opening that is devoid of valuable minerals or has insufficient quantities of valuable minerals so as to make it uneconomic to process further. Waste rock can also be mineral-bearing rock (ore) of insufficient value to process further. Mill tailings are pulverized mineral-bearing rock (ore) from which most of the valuable minerals have been extracted.

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The Ute and Ule mining claims were first discovered in 1871 by trespassers on the Ute Reservation. Consequently, it was not until after the Brunot Agreement of 1873, when the Utes ceded the San Juan Mountains from their reservation, that the claims were returned to, with investigation of the Ute and Ule veins commencing in 1874. Commercial mining began in 1876, and a concentration mill was constructed in 1882. Mining continued rather steadily through 1903, but the increasing presence of zinc in the ore from the deepest levels of the mine made economic recovery of metals from the ore impossible. Sporadic mining continued into the early 1920s, but profitable mining was not possible until a new mill was completed in 1930 using flotation technology that overcame the problem of high zinc content. Mining resumed profitably into 1943, and there were brief resurgences of mining in 1951-1952 and the middle 1960s. No mining has taken place since 1967, but the mill operated briefly in 1983 and 1984. The community of Henson became established with industrial-scale mining on the property in 1876. Never a full-fledged town, miners constructed small residences where convenient, a post office was established, and a few small businesses provided amenities. Future archaeological work will be needed to identify their specific locations. The population of the community fluctuated with the labor demands of the mine and mill. Company housing and worker-built residences were interspersed above County Road 20, and other worker-built residences were built farther west below County Road 20. The prime period of occupancy of the Henson community was prior to 1904. Thereafter, the population diminished with the reduced and sporadic operation of the mine, and Henson no longer functioned as a community after 1913.

Between County Road 20 and Henson Creek, southeast of Ute Creek, is terraced waste rock on which are numerous buildings and former building locations that represent the mill complex and most recent mining area. Included in this portion of the district is a large, breached concrete dam across Henson Creek and an associated abandoned and mostly collapsed flume.³ Residential buildings and ancillary mine buildings are present along the northern side of County Road 20 on both sides of Ute Creek. Included are elements of the community of Henson. The remains of four mine complexes directly associated with the mill complex along Henson Creek extend 1,400' up the slope northeast of County Road 20 and southeast of Ute Creek. These complexes were interconnected by three surface tramways that are still visible but now in ruins. Additional intensive mining is evident above the recorded mine complexes to the northeast; these were not included in the nomination boundary because they are not clearly connected to the Ute-Ulay Mine. Five mill tailings impoundments, only four of which were utilized, were present on the northern side of Henson Creek in the far western end of the district about 900' upstream of the dam; these were remediated and reclaimed in 2009. Two other mill tailings impoundments were on the northern side of Henson Creek below the current mill and at the southeastern end of the district; these were remediated and reclaimed in 2013 (see below).

³ Only real property, not water rights (per 36 CFR 60), is the subject of this nomination. According to the Colorado Division of Water Resources, no water rights associated with the property are currently active.

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Narrative Description

Documentation

The Ute-Ulay Mine and Mill was initially noted in 1975 by J. R. Baker of the University of Colorado as part of a Historic American Engineering Record (HAER) inventory project. No documentation of the district was carried out at that time, and only a brief description was made; it was subsequently designated 5HN.77. In 1973 and 1974, the adjacent and interrelated town of Henson was identified and subsequently given the number 5HN.83. Again, no accompanying documentation of the district was compiled. Rick Athearn, historian for the BLM, conducted a historic sites inventory in the Gunnison Basin of the Uncompahgre Resource Area in 1978 and more formally recorded the standing architecture of the Ute-Ulay Mine and Mill and the adjacent town of Henson. A subsequent recordation of the Ute-Ulay Mine and Mill was carried out by Julie Clarke (Fike), Rich Fike, and Rick Athearn in 1992. At that time, the area formerly documented by Athearn as Henson was subsumed as part of the Ute-Ulay Mine and Mill site. Because the portion of the town of Henson documented by Athearn in 1978 is so interrelated spatially with the Ute-Ulay Mine and Mill, the inclusion of the part of the town initially recorded as 5HN.83 as part of the Ute-Ulay complex is quite logical. In 2000, archaeological investigations were carried out by the University of Nevada-Reno at Little Rome (5HN.593, NRIS.99001233, listed in the National Register [NRHP] 9/28/1999), a separate, non-contiguous community of Italian laborers on the southern side of Henson Creek who worked at the Ute-Ulay Mine and Mill (Ringhoff 2001). The Ute-Ulay Mine and Mill (not including Little Rome) was completely recorded by Alpine Archaeological Consultants, Inc. (Alpine) (Horn 2001) in anticipation of proposed Abandoned Mine Lands remediation. This included detailed descriptions of standing architecture, identification of industrial components, and identification of archaeological components. Abandoned Mine Lands remediation took place at the district in 2009 and 2013; some of the 2013 work was monitored by Alpine (Prouty and Horn 2013). This work focused on removal and stabilization in place of mill tailings in Tailings Impoundments 1-5 in 2009 and Tailing Impoundments 6 and 7 in 2013. The 2009 work covered and revegetated the five tailings impoundments in the far western portion of the Ute-Ulay complex and removed evidence of a dugout and an associated leveled area and artifact scatter. The 2013 work remediated mill tailings in the southeastern portion of the Ute-Ulay complex. It resulted in the discovery and documentation of a buried, internal tailings retaining wall, buried fence-like tailings retention barriers, and a wood drainage culvert, which were then removed in the course of the remediation. It also resulted in the removal of a small drainage feature. In addition to gathering information on the retaining wall, tailings retention barriers, and drainage features, Building 14, a log building in close proximity to the mill tailings impoundment, was further documented.

Building, structure, and site feature numbering used in this nomination are an adaptation of that used at the time of the complete recording of the property in 2001 (Horn 2001). At the time of the original recording, all buildings, structures, and places where it was certain that a building or structure had once stood, even if deteriorated to the point of being archaeological (a

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site feature), were all given numbers. The actual numbers used at the time of the original recording have been retained and adapted to definitions used for National Register properties for buildings, structures, and site features so that a correlation with the original recording is maintained. Archaeological elements that were not clearly of building or structure origin were given feature numbers when originally recorded, as were the surface tramway (Feature 14) and its associated cable roller (Feature 13); these have also been retained. In one instance (Feature 5), archaeological evidence at the time of the original recording was not conclusive enough to warrant giving the area a structure number, but subsequent historical research has shown that the location was where a building once stood and the feature number has been retained. The adit, mine shaft, prospect pit, and tailings impoundment numbers used in the original recording have also been retained for proper correlation. Discontinuity in the numbering systems is the result of complete removal of some site elements since the 2001 recording.

Contributing Resources

Contributing resources are described in this section beginning with the primary mine complex that includes the mill, progresses westward along both sides of County Road 20 where the majority of standing buildings are present, and then extends up the steep slope to the northeast where the upper mining elements exist. All of the buildings, structures, and site features that are present on the property are considered contributing resources; no non-contributing resources are present. Table 1 is a summary of the buildings, structures, and site features on the property, their date of construction, and their property type association. Included in the table and described in detail below are 24 standing buildings with specialized mining, milling, and industrial purposes and residential functions; 17 structures that include roads, surface ore-transport tramway facilities, industrial and domestic water supply facilities, including a dam and flume; a mine headframe; and a mill tailings disposal pipeline; and 39 site features that include mine adits, mine shafts, mine prospect pits, residential and industrial building and structure ruins, outhouse locations, and a refuse dump. In addition to the primary features of the site included in the table, the site includes cribbed log and timber retaining walls, secondary roads, pathways, utility lines supported by poles, waste rock piles emanating from mine openings, leveled areas and manmade terraces, iron rod anchors, and a fuel tank. Alterations to the greater site and landscape are noted following the resource descriptions. All of the resources present in the district contribute to the significance of the property; nothing present in the district is out of period or detracts from it. That is, although the district was an ever evolving mine and mill complex that grew and changed as mining progressed, with buildings and elements being installed, removed, and abandoned as processes and technologies changed, and the residential community of Henson emerged and was abandoned, all of the elements comprising the district are from the 1876-1903 and 1930-1967 periods of significance. Taken together, all of these elements form a historic mining landscape (the contributing site) that is virtually unaltered except by natural deterioration (see p. 53 for a description of alterations to the landscape).

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Table 1. Buildings, Structures, & Site Features with Corresponding Dates, Property Types

Buildings			
Number	Description	Date	Property Type Association
1	Mining Shops and Storage	1926/1951	Hard Rock Mine
2	Storage Shed	1950s	Hard Rock Mine
3	Outhouse	1950s	Hard Rock Mine
4	Shed	ca. 1930	Hard Rock Mine
5	Ore Bin/Tipple	ca. 1930	Hard Rock Mine/Ore Concentration Mill
6	Mill	1930	Ore Concentration Mill
7	Garage	ca. 1950	Hard Rock Mine/Ore Concentration Mill
8	Assay Office	ca. 1880	Hard Rock Mine/Ore Concentration Mill
9	Office	ca. 1880	Hard Rock Mine/Ore Concentration Mill
10	Diesel Engine House	1951	Hard Rock Mine/Ore Concentration Mill
13	Shed	ca. 1926	Hard Rock Mine/Ore Concentration Mill
14	Log Cabin	ca. 1880	Mine Settlement and Residence
15	Residence	1890s	Mine Settlement and Residence
16	Boarding House	1880s	Mine Settlement and Residence
17	Log Cabin Residence	1880s	Mine Settlement and Residence
18	Log Cabin Residence	1880s	Mine Settlement and Residence
19	Outhouse	1880s	Mine Settlement and Residence
25	Hoist House	1951	Hard Rock Mine
26	Ore Tipple and Tram House	1890s	Hard Rock Mine
28	Log Dugout	1890s	Hard Rock Mine
29	Ore Tipple and Tram House	1880s	Hard Rock Mine
35	Gauging Station	ca. 1926	Hard Rock Mine/Ore Concentration Mill
37	Storage Building	1880s	Hard Rock Mine/Ore Concentration Mill
38	Residence	1890s	Mine Settlement and Residence
Structures			
Number	Description	Date	Property Type Association
Co. Rd. 20	County Road 20	1876	Hard Rock Mine
Road 1	Upper Mill Access Road	1877/1926	Hard Rock Mine/Ore Concentration Mill
Road 2	Lower Mill Access Road	1877/1926	Hard Rock Mine/Ore Concentration Mill
Road 3	Upper Mine Complexes Road	1877	Hard Rock Mine
Feature 1	Dam	1926	Hard Rock Mine/Ore Concentration Mill
Feature 2	Flume	1926	Hard Rock Mine/Ore Concentration Mill
12	Water Tank	ca. 1926	Hard Rock Mine/Ore Concentration Mill
Feature 3	Concrete Piers	1926	Hard Rock Mine/Ore Concentration Mill
Feature 9	Cistern	ca. 1926	Mine Settlement and Residence
Feature 11	Water Line Access Box	ca. 1926	Mine Settlement and Residence
22	Water Tank	ca. 1926	Mine Settlement and Residence
24	Mine Shaft headframe	ca. 1951	Hard Rock Mine
P1	Mill Tailings Disposal Pipeline	ca. 1930	Ore Concentration Mill
Feature 13	Tramway Cable Roller	1890s	Hard Rock Mine
Feature 14	Inclined Tramway	1880s	Hard Rock Mine
T1	Tramway	1880s	Hard Rock Mine
T2	Tramway	1880s	Hard Rock Mine
Site Features			
Number	Description	Date	Property Type Association
Feature 10	Leveled Area	ca. 1926	Mine Settlement and Residence
11	Old Mill and Power Plant	Ca. 1880	Ore Concentration Mill
20	Building Ruins	1880s-1900s	Mine Settlement and Residence
21	Building Ruins	1880s-1900s	Mine Settlement and Residence
23	Building Ruins	1880s-1900s	Mine Settlement and Residence

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27	Boiler House Ruins	1890s	Hard Rock Mine
30	Ore Bin Remnants	1880s	Hard Rock Mine
32	Building Ruins	1880s-1890s	Mine Settlement and Residence
33	Building Ruins	1880s-1890s	Mine Settlement and Residence
34	Building Ruins	1880s-1900s	Mine Settlement and Residence
Feature 5	Building Ruins	1880s-1900s	Mine Settlement and Residence
Feature 6	Outhouse Hole	1880s-1900s	Mine Settlement and Residence
Feature 7	Outhouse Hole	1880s-1900s	Mine Settlement and Residence
Feature 8	Outhouse Hole	1880s-1900s	Mine Settlement and Residence
Feature 12	Building Ruins	1880s-1890s	Mine Settlement and Residence
Feature 16	Building Ruins	1880s-1890s	Mine Settlement and Residence
Feature 17	Outhouse Hole	1880s-1890s	Mine Settlement and Residence
Dump 1	Dump	1880s-1900s	Mine Settlement and Residence
Adit 1	Mining Adit	1877/1926	Hard Rock Mine
Adit 2	Mining Adit	1880s	Hard Rock Mine
Adit 3	Mining Adit	1880s	Hard Rock Mine
Adit 4	Mining Adit	1876	Hard Rock Mine
Adit 5	Mining Adit	1877	Hard Rock Mine
Adit 6	Mining Adit	1880s	Hard Rock Mine
Mine Shaft 1	Mine Shaft	1880s-1890s	Hard Rock Mine
PP 1-15	Prospect Pits	1870s-1880s	Hard Rock Mine

Note that in addition to the 64 photos documenting the district for this nomination, there are 115 concurrent supplementary photos and corresponding photo log on file with the History Colorado Office of Archaeology and Historic Preservation.

Primary Mine Complex and Henson Community

The primary and most recent mine complex (post-1926) and the residential community of Henson (1880s-1900s) are on both sides of County Road 20, which passes generally east to west through the district. Below the county road, it includes the interconnected mining shops and storage building and an open shed east of the mine portal (Adit 1; known as the No. 5 Tunnel in 1926), an ore dump shed, ore bin/tipple and crushing/conveying building, and outhouse between the portal and the mill, and the mill, garage, diesel engine house, concrete dam, gauging station, flume, water tank, concrete piers, and sheet metal shed from post-1926 mining. It also includes the remains of the earlier mining era from ca. 1880 to the early 1900s including the former mill and power plant, assay office, business office, and log cabin; surrounding the original mill remnants are reclaimed tailings impoundments that are now stabilized and covered with waste rock. Two dirt roads (Roads 1 and 2) pass through the lower mine complex and provide access to all of the buildings and former mining and milling elements. Farther west are former residential building remains, outhouse locations, and a dump from the community of Henson. Above the county road are several standing residences, a boarding house, storage building, an outhouse, and several former residential building remains and outhouse locations that served both company operations and as the upper part of the Henson community. Also above the county road are a mine adit, mine shaft headframe and hoist house, a cistern, water tank, water line access box, and the lower portion of the tramway from the mine operations above. Originating at the 1930 mill and running upslope northward and then on contour westward on the

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slopes above is a mill tailings disposal pipeline that leads to five former tailings impoundments that have been reclaimed and revegetated on the far western end of the district.

County Road 20 (Contributing Structure), 1876 (Map Key County Road 20; Photos 1-2 and 45-46; Historic Photos 3 and 5)

County Road 20 passes generally east to west through the Ute-Ulay Mine and Mill complex. It was part of the Lake City and Uncompahgre Toll Road built by a consortium of Lake City merchants over Engineer Pass in 1876 and 1877;⁴ the section of road through the district was completed in late 1876. The first road through Lake City was the Saguache and San Juan Toll Road, which was built in 1874 from Saguache to Animas Forks by way of Cinnamon Pass by Otto Mears. It was as a result of this road that the upper Lake Fork of the Gunnison River area was more readily opened to prospectors and the Ute-Ulay Mine was reoccupied. Enos Hotchkiss discovered the Golden Fleece Mine on the Lake Fork of the Gunnison River in 1874, and the town of Lake City was established in 1875. The road over Engineer Pass was somewhat shorter to Animas Forks than the Saguache and San Juan Toll Road, but probably no easier to travel. Today County Road 20 is a regularly maintained, modern, unpaved, cut-and-fill⁵ road that ranges from 14'–20' wide for the 3,920' (0.75 miles) that it passes through the district. It is unknown when it was incorporated into the county road system, but was probably improved to its current condition with the advent of increased automobile traffic and the resurgence of mining at the Ute-Ulay Mine and Mill in the late 1920s and early 1930s.

Alterations

County Road 20 no longer has the appearance of a wagon road, but has been upgraded through the years and is currently a well-maintained dirt road. Although it does not retain the appearance that it had during the early operation of the mine, it certainly appears as it did during the last phases of mining at the complex during the 1930s to 1960s, as indicated by Historic Photos 3, 6, and 7 taken in 1942. The interpretive sign on the edge of the road was installed in the early 2000s by the BLM after site recordation was done nearby at Little Rome (Ringhoff 2001).

⁴ The Lake City and Uncompahgre Toll Road Company was incorporated in May 1876 by Alba R. Thompson, Frank C. Garbutt, J. J. Abbott, Jr., Henry D. Ruggles, and James W. Cline with capital stock of \$40,000. The first nine miles of the road past the Ute-Ulay Mine were completed during the fall of 1876. The road was completed to Mineral City on the upper Uncompahgre River in 1877 (*Colorado Springs Gazette*, May 27, 1876:2, November 25, 1876:2; *Colorado Weekly Chieftain*, September 6, 1877:2). Garbutt was in business with Jacob J. and James W. Abbott and Richard W. Woodward in a mining engineering, surveying, and assaying business in Lake City known as Garbutt, Abbot Bros., and Woodward until the summer of 1877, when the business became Abbott, Woodward & Abbott. Ruggles was a grocer in Lake City, and Cline seems to have had mining interests in Mineral City and Ouray. The road was in the hands of Richard W. Woodward in 1879 (*Solid Muldoon*, September 5, 1879:3)

⁵ Cut and fill is the process of constructing a road or canal along the contour of a slope by cutting soil from the uphill side and using it as fill on the downhill side.

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Upper Mill Access Road (Contributing Structure – Road 1), 1877/1926 (Map Key Road 1; Photos 1, 6, and 15; Historic Photo 4)

The main road accessing the existing mill (Road 1) runs on the upper terrace below County Road 20. It originates from the southern side of County Road 20 on the eastern end of the district. It was originally constructed in 1877 by mine manager Henry Finley. After passing Adit 1 and the mine buildings there, it passes above the existing mill (Building 6) and then climbs uphill to rejoin the county road. Gates to restrict access are on both ends of the road. The 1,250'-long dirt road is typically about 10' wide, but widens in the vicinity of the mine buildings.

Alterations

The upper mill access road appears in less than its entirety on a map of the Ute-Ulay Mine and Mill in the 1911 geological report about the Lake City Area (Map 16) (Irving and Bancroft 1911) and the western portion appears in the 1880s historic photograph (Historic Photo 1). It probably gained its current configuration with the reopening of the mine in 1926 and completion of the mill in 1930. The only modification of the road took place in 2013 when about 150' was obliterated where it crossed Tailings Impoundment 7 during reclamation activities; it was reestablished on its original alignment when remediation was completed.

Lower Mill Access Road (Contributing Structure – Road 2), 1877/1926 (Map Key Road 2; Photos 18 and 27)

A 1,050'-long secondary dirt road (Road 2) provides access to the lower portion of the existing mill and other buildings farther west. It was originally constructed in 1877 by mine manager Henry Finley. It originates from the southern side of the upper mill access road (Road 1) and passes along the lower terrace of the mining area below County Road 20. After passing above the old mill (Site Feature 11), it passes below the existing mill (Building 6), bends northward around the office (Building 9), and climbs upslope. The map of the Ute-Ulay Mine and Mill in the 1911 geological report about the Lake City Area (Map 16) (Irving and Bancroft 1911) shows the road rejoining County Road 20. It no longer does and now ends west of Building 9 where it is buried by fill from County Road 20 above. The road in its current configuration is probably the result of reopening the mine in 1926 and completion of the new mill in 1930. The road is typically 8'–10' wide, but is wider below the existing mill.

Alterations

The road appears to have been the primary access through the lower mine and mill complex between 1877 and 1926, but its role changed with reopening of the mine and construction of the new mill between 1926 and 1930. The route passed through mill tailings in Tailings Impoundments 6 and 7, so about 730' of the route was temporarily obliterated during remediation in 2013. Following completion of remediation, the road was reestablished along its original alignment.

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Mining Shops and Storage (Contributing Building 1), 1926/1951 (Map Key 1; Photos 4-5)

The mining shops and storage complex (Building 1) consists of a series of concrete and wood-frame rooms joined linearly, northwest to southeast. It is on the first terrace below County Road 20 and above Henson Creek. The concrete rooms – a blacksmith/machine shop on the northwest and a storage building to the southeast – were constructed first as stand-alone buildings in 1926. In 1951, a wood-frame storage room was constructed to fill the space between the two concrete buildings, and a second wood-frame room, probably used as an office with a shed extension for coal storage, was built on the southeastern side of the concrete storage room.

The northwestern end of Building 1 is the blacksmith/machine shop, constructed in 1926, and was described at that time as being 16' x 32' (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929). In fact, the blacksmith/ machine shop measures 18' x 39' (northwest-southeast axis); it is likely that the size reported in 1926 was an estimate. It has poured concrete walls, a corrugated sheet-metal gable roof, and a poured concrete floor. Vertical boards fill the exposed northwestern gable end. A diagonal-board doorway is toward the northwestern end of the southwestern side with a pair of six-light, fixed, steel-sash windows to the left. A triple set of the same windows is southeast of center, and a single six-light window is on the southeastern end of the southwestern side. A rack made of welded pipe is attached to the southwestern wall. A smoke hole is on the northeastern slope of the roof near the northwestern end. Through the ridge on the northwestern end is a large galvanized stovepipe that vents a blacksmith forge set against the northwestern wall inside. Just southeast of the stovepipe is a gabled wood vent on the ridge. A corrugated sheet metal shed addition is attached to the northwestern end of the concrete room. It measures 6½' x 9', oriented northeast to southwest, has a doorway on the southwestern side, and a northwestern-sloping, corrugated, sheet-metal roof. Inside, the board floor of the addition is rotting on the northwestern and northeastern sides. The walls beneath the corrugated sheet metal siding are evidently rotting, as the addition is settling to the northwest and is becoming detached from the adjacent concrete room.

Also built in 1926 and southeast of the blacksmith/machine shop is a 13' x 14' (northwest-southeast axis) storage room with poured-concrete walls and a corrugated sheet-metal gable roof. It was described as being 14' x 16', in 1926; this was probably a size estimate (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929). A steel I-beam projects southwestward at roof level and probably crosses the width of the building at its center. Two six-light, fixed, steel-sash windows are on the southwestern side. A sheet-metal stovepipe projects through the northeastern slope of the roof near the northwestern end.

The space between the concrete blacksmith/machine shop and the concrete storage room was filled by an 18' x 20' (northwest-southeast axis) wood-frame storage room with a corrugated

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sheet-metal gable roof of the same height as the blacksmith/machine shop. Corrugated sheet metal covers the walls, and composition roll siding fills the southeast-facing gable. The room projects 4' to the southwest beyond the walls of the adjacent concrete rooms, and a boarded-over doorway is on the southeastern side where the wall projects. A six-light, fixed, wood-sash window was present on the northwestern end of the southwestern side, and a four-light, fixed, wood-sash window was on the southeastern end of the northeastern side when recorded in 2001; both have been removed and the space left open.

Attached to the southeastern side of the concrete storage room is a one-story wood-frame room probably used as an office with a corrugated sheet-metal gable roof. It measures 16' x 21½', oriented northwest to southeast, has a concrete foundation, and is covered with corrugated sheet metal on the southeastern and northeastern sides; a stovepipe extends through the northeastern roof slope. Composition roll siding over vertical boards with corrugated sheet metal at the base of the wall is on the southwestern side. A four-light, fixed, wood-sash window is northwest of center on the northeastern side; a galvanized sheet metal pipe projects through the wall just to the northwest. Individual four-light fixed wood-sash and six-light, fixed, wood-sash windows were evenly spaced on the southwestern side when the building was recorded in 2001. All of the lights of the four-light window have been broken out, and only two of the lights of the six-light window remain, though the sashes are still in place. On the southeastern end is a 10' x 10' wood-frame shed extension with a southeastern-sloping corrugated sheet-metal shed roof. The shed extension is built on the northeastern end of the room. It is built on a board sill foundation and has corrugated sheet-metal siding that has been cut with a welding torch, probably indicating construction in the 1950s. A door is on the southwestern side. Coal dust leaking at the base of the walls suggests that it served for coal storage. The door is covered by a 5½' x 6½' (southwest-northeast axis) shed entry with a concrete floor that is open to the southwest. The shed entry also covers a southeast-facing entry into the adjacent room to the northwest.

Alterations

The concrete blacksmith/machine shop room and the concrete storage room appear unmodified since their construction in 1926. The infilled storage room, built in 1951 between the two concrete rooms, is unmodified except for the removal of its two windows sometime after 2001. The possible office and coal shed extension on the southeastern end of the building, also constructed in 1951, is also unmodified except for the breakage of lights from its windows.

Storage Shed (Contributing Building 2), 1950s (Map Key 2; Photos 4-5)

An open storage shed (Building 2) is immediately west of the mining shops and storage complex. It is built on a welded framework of 2½"-diameter iron pipe and measures 12' x 42', oriented northwest to southeast. It has a corrugated sheet-metal gable roof and corrugated sheet-metal on the northeastern side. Within the southeastern portion of the shed is a 5½' x 14' (northwest-southeast axis) concrete machinery mount that is 1½' tall.

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Alterations

The storage shed does not appear to have been modified.

Adit 1 (Contributing Site Feature – Adit 1), 1877/1926 (Map Key Adit 1; Photo 6)

Adit 1 (referred to as the No. 5 Tunnel in 1926) is a mine portal just northwest of Building 2 that measures 5½' wide and 6½' tall. The adit is dug into a southwestern-facing slope in a north-northeast direction (32 degrees) below County Road 20. The interior walls and roof of the adit at the portal are of concrete, and a concrete panel above the opening is marked "1926." A steel grate installed 2' within the adit during the 2013 reclamation work at the district replaced an earlier iron door 10' within the adit opening. Ore car tracks set on wood planks lead from the opening and curve to the northwest, heading toward the ore-receiving shed and tipple about 100' to the west-southwest. An additional ore car rail is on the very edge of the waste rock on the upper level, oriented in a northwest-southeast direction, also heading toward the tipple to the northwest. Electrical wire in conduit and 4½"- and 6"-diameter iron compressed-air pipe enters the adit at ceiling level. The Inspector's Report for the Ute-Ulay Mine in 1926 verifies that the portal was framed in concrete that year (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926).

Alterations

Adit 1 was probably the original mine entry on the Ule vein from 1877 and was later extended to tap the Fifth Level of the Ute vein. It was modified to be the primary mine entrance in 1926, when it was referred to as the No. 5 Tunnel, and has not been modified since that time, except for being covered with a steel grate in 2013.

Outhouse (Contributing Building 3), 1950s (Map Key 3; Photos 7-8)

The outhouse (Building 3) is a 4' x 4½' (northeast-southwest axis) wood-frame building on the edge of the waste rock on the upper leveled area about 75' west-southwest of Adit 1. It has a 4" x 6" post framework covered with 1" x 4" horizontal shiplap siding and a southwestern-sloping shed roof covered with composition roll roofing. A doorway is on the center of the northeastern side, and a four-light fixed wood-sash window is on the center of the southeastern side. It is a one-hole outhouse with a slanting trough on the northwestern wall. A boxed vault below is constructed of 2" x 6" boards.

Alterations

The outhouse does not appear to have been modified.

Shed (Contributing Building 4), ca. 1930 (Map Key 4; Photos 8 and 12)

A 5' x 8' (northwest-southeast axis) wood-frame shed (Building 4) is about 90' west of Adit 1. It has a double door in the center of the southeastern end, a northwest-sloping shed roof covered with composition roll roofing, and is covered with composition roll siding. The building

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is built on a plank bridge and is adjacent to the upper portion of the ore bin/tipple and crushing/conveying building (Building 5). Inside the building is a major electrical switch.

Alterations

The shed does not appear to have been modified.

Ore Bin/Tipple and Crushing/Conveying Building (Contributing Building 5), ca. 1930 (Map Key 5; Photos 8-9)

The octagonal tipple portion of the ore bin/tipple and crushing/conveying building (Building 5) is made of 3" x 8" boards laid flat that are interlocked at the corners and measure 7' on a side. The tipple (Photo 9) is built into waste rock and is exposed only on the southwestern and northwestern sides. Built on top of the ore bin/tipple is an 18' x 18' shed. It is a 2" x 4" board framework covered with corrugated sheet metal and has a northwestern-sloping corrugated sheet-metal roof. The shed is built over a railroad rail grizzly floor above the ore bin/tipple.⁶ Ore car rails from the southeast enter the shed through a wide doorway on the southeastern side. The rails exit the building through double doors on the northwestern side and continue to the west on a covered trestle that extends about 28'. Three trestle bents support the ore car track, each comprised of four 8" x 8" post legs with 8" x 8" caps that support 8" x 8" parallel stringers on which 4' x 6" cross pieces are laid every 2'. Set on each crosspiece are 4" x 6" upright posts that support a southern-sloping corrugated sheet-metal shed roof. Partial horizontal 2" x 6" board walls are contained within the upright post supports, and a floor of 2" x 10" boards supports the ore car rails. The trestle legs are set on 10" x 10" beams. The westernmost set of legs is supported by cribbed beams, whereas the eastern two sets are supported by pyramidal concrete piers.

Between the base of the ore bin/tipple and the mill (Building 6) is the irregularly shaped ore crushing and conveying portion of the building that measures about 30' x 75', oriented northwest to southeast. It is covered with a southwestern-sloping corrugated sheet-metal shed roof and corrugated sheet-metal siding. Angled braces from the building support the overhanging edge of the roof from below. The building is built on a poured concrete foundation. Two double doors are on the southwestern side. Of the four six-over-six, double-hung, wood-sash windows present on the southwestern side in 2001, only the remnant of one remains, the others having been removed and the openings left uncovered. A cut in the slope on the southwestern side provided truck access to a double door. Inside, along the northeastern wall, are several iron ore chutes from the ore bin/tipple on that side, and a stop-blocked ore chute opening from the octagonal ore bin/tipple is on the southeastern end. The room originally contained a jaw crusher and a cone crusher at the base of the octagonal ore bin.⁷ A conveyor belt

⁶ A grizzly is a grate, usually constructed of steel rails with regular spacing between the rails, placed over the top of a chute or ore pass. Rock dumped onto the grizzly allows smaller material to pass through and stops larger material that may block the underlying chute or passageway.

⁷ A cone crusher uses the gyratory action of a cone-shaped mantle on a spindle that crushes and breaks rock fed from above against a concave liner within a housing. Crushed material passes by the cone by gravity to a storage bin or conveyor below.

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is still in place that moved crushed ore to an elevator at the northwestern end of the room that lifted the ore to a small ore bin at the top of the mill.

Alterations

The building has seen some deterioration, but is mostly in good, unaltered condition. Most of the window sashes on the crushing and conveying portion of the building have been removed from their frames and are in storage on site awaiting restoration and reinstallation.

Mill (Contributing Building 6), 1930 (Map Key 6; Photos 8-17; Historic Photos 1, 5, 11)

The large wood-frame concentrating mill (Building 6) was built from 1928 to 1930. The core of the building measures 37' x 96', oriented northeast to southwest, with a 9½' x 37' (southeast-northwest axis) extension on the southwestern end, an 8' x 18' (southwest-northeast axis) projection on the northeastern end of the northwestern side. The mill is built on a poured concrete foundation that steps down the slope to the southwest in five levels (Photo 10). It has a metal-panel shed roof. The exterior is covered with diagonal board siding. Several former window openings on the southeastern side and former window and door openings on the northeastern side are filled with horizontal boards (Photo 10). This was probably done in about 1951 when mine operations resumed after World War II. This was also probably when the exterior was covered with black tarpaper, including the filled openings. In 2013, remediation work at the mill resulted in the removal of most of the extant six-light wood sash windows in various double-hung, side-by-side, and fixed configurations in the mill; they are in storage awaiting reinstallation. Window openings on the southeastern and northeastern sides remain open, those on the northwestern side are covered with plywood panels or mesh covers, and door and window openings on the southwestern side on the ground level are covered with oriented strand board and plywood panels, whereas the upper window openings are uncovered (Photos 10-12).⁸

The eastern corner of the mill is an ore bin that is constructed of 4" x 12" plank framing supported on the outside by regularly spaced 8" x 10" horizontal beams. The walls on the interior of the ore bin are 3" x 12" horizontal boards. An elevator from the crushing room below on the southeastern side services the bin. The elevator is visible on the exterior of the southeastern side as a galvanized sheet metal projection that extends through the floor of the southeastern-projecting room at the top of the mill (Photos 8 and 10). The projecting room is supported from below by 4" x 6" diagonal braces. A doorway is in the center of the northeastern side, adjacent to the ore bin, with a sign adjacent that reads "LKA INTERNATIONAL, INC./GOLDEN WONDER MINING LLC/UTE ULE MINE⁹/MLRB PERMIT NO. M-78-092UG." Above the ore bin on the northeastern side is an uncovered window opening. A gabled

⁸ Oriented strand board is engineered lumber made using resin adhesives and cross-oriented layers of thin wood strips that are compressed into sheets similar to plywood.

⁹ The mine takes its name from the original Ute and Ule mining claims and their associated Ute and Ule veins, which have been worked in concert with each other since 1877 as a combined mine, variably referred to as the Ute-Ule Mine or Ute-Ulay Mine, using two phonetic spellings: Ule and Ulay. For most of the history of the mine, Ulay has been the preferred spelling; hence the preferred name is Ute-Ulay.

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dormer projecting from the shed roof on the southwestern side of the building has three window openings (Photo 11). Below the dormer and above the ground floor shed extension on that end are three evenly spaced window openings; only the lower six-light sash of the northwestern-most window opening is still in place. A fan has been installed in the lower portion of the center window opening; the upper portion is filled with plywood. The shed extension on the southwestern end of the mill is of wood-frame construction with a corrugated sheet-metal roof. It has large double doors on the northwestern and southeastern ends that provided primary access into the addition. On the southwestern side are two standard doorways and one window opening that have been filled with boards.

An abutting 8' x 12' shed (northwest-southeast axis) is on the northeastern end of the southeastern side of the mill. The 8' x 12' shed is built on the northwestern end of the subterranean tipple; it may have served as a tool shed. It has 1" x 12" horizontal-board siding, a southwestern-sloping shed roof, and is open to the southeast. A window opening is on the southeastern end of the southwestern side, and a top-sliding, vertical-board door is on the center of the northeastern side.

All of the equipment is still present inside the mill; it was reportedly last used in 1995 for gold ores from the Golden Wonder Mine.¹⁰ The mill was used for both gold and silver ores. Storage cabinets and an unidentified piece of equipment are in the uppermost level of the mill. Chemicals were stored in the upper portion of the mill, and several chemical feeders are in place that were run by electric motors. The feeders supplied chemicals to the flotation tanks in the middle of the mill. Slightly lower in the mill is a ball mill (Photo 13) that is fed by a conveyor belt from the small ore bin at the eastern corner of the mill. The ball mill has an outlet into a rotary, screw-lift, Dorr classifier (Photo 14) that allowed small crushed ore to pass into Dorr agitator conditioning tanks (Photo 15), but lifts larger pieces of ore back to the ball mill where they were subject to additional crushing. The Dorr agitator conditioner is a wood tank stirred by plows at the bottom of the tank that are attached to a central vertical shaft run by an electric motor. Some waste material was separated in the conditioner and piped off for disposal as tailings, whereas the ore pulp was piped to the flotation tanks. The flotation tanks are two banks of Ruth-type metal flotation machines with six tanks in each bank. The ore pulp was agitated in each tank by paddles at the bottom, run by electric motors. Air was injected, and the froth containing the recovered ore concentrates overflowed into troughs on the front of each tank and flowed into pipes below that lead to a filter tank. Leftover tailings flowed through pipes from the flotation units to large wood storage tanks (Photos 16-17) from where they were pumped outside to former Tailings Impoundment 6 (reclaimed in 2013); in earlier years, the tailings were pumped far upslope and deposited in former Tailings Impoundments 1-5 (reclaimed in 2009) in the far western portion of the district. Canvas-covered rotary filters over wood paddle-like arms that were pneumatically inflated and deflated by compressed air removed the ore concentrate from the filter tanks. As the filter arms entered the ore-concentrate slurry, they used suction to draw slurry onto the canvas and remove water. As the arms rotated above the slurry tanks, they

¹⁰ The Golden Wonder Mine was discovered in 1880 southeast of Lake City. The mine was purchased by Lake City Mines in 1977, which subsequently purchased the Ute-Ulay in order to use its mill to process ore of the Golden Wonder. It is still an active mine.

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were inflated, the canvas was squeezed, and the dewatered ore concentrates scraped off by knives and dropped into a chute that emptied into a rotary drier (Photo 17). The drier is an inclined 1½'-diameter pipe equipped with a propane heater. The concentrate exited the bottom end of the drier as a powder that was either deposited in a 50-gallon drum or onto the floor of the lowest level of the mill where it was ready for shipment to a smelter.

Alterations

The mill is in excellent structural condition, though the exterior has seen some minor deterioration. Filling of some of the door and window openings and covering of the exterior with tarpaper took place in about 1951, within the period of significance. Windows were removed from their openings during remediation work by Environmental Demolition, Inc. in 2013 and are in storage awaiting restoration and reinstallation.

Diesel Engine House (Contributing Building 10), 1951 (Map Key 10; Photos 18-19)

The Diesel Engine House (Building 10) is a 32' x 36' (southwest-northeast axis) building that is built against the southwestern-facing slope so that only about 2' of the upper northeastern wall projects above ground level. It is connected to the lower end of the northwestern side of the mill (Building 6) by a 35'-long, 4'-wide enclosed passageway constructed when the Diesel Engine House was built. The passageway has horizontal-board siding and is covered by a southwestern-sloping, corrugated, sheet-metal shed roof. The wood-frame construction of the Diesel Engine House is covered with corrugated sheet metal siding with a few possibly original corrugated fiberglass panels to provide light inside. It has a shallow corrugated sheet-metal gable roof that is offset to the northeast. A large, sliding, plywood-panel door is on the southeastern end of the southwestern side, and regular doorways are on the northwestern end and northwest of center on the southwestern side. Pipes from the building lead southeastward into a large, riveted iron sheet-metal smokestack that is guy-wired in three directions. Housed within the building is a five-cylinder Buckeye marine engine (Photo 19) built in the 1940s and originally used in a merchant ship. It is directly connected to an Ideal Electric 250-kilowatt alternator that generated enough electricity to power the adjacent mill and other mill buildings.

Alterations

Except for the plywood panels used on the sliding door, the engine house is unmodified.

Garage (Contributing Building 7), ca. 1950 (Map Key 7; Photo 20)

A metal-panel Butler building (pre-fabricated) garage (Building 7) about 90' northwest of the mill (Building 6) measures 24' square and has a shallow gable roof. It is built on a leveled area dug into a southwest-facing slope. It rests on 8" x 8" wood beams that support wood perimeter wall sills; the beam foundation is visible on the southwestern side of the building. Top-sliding, metal-panel, double doors are centered on the southeastern side, and two six-light, fixed, steel-sash windows are evenly spaced on the southwestern side. An identification plate to the right of the door reads "THE BANES COMPANY INC./SALES AND ERECTION/BUTLER/ALBUQUERQUE-EL PASO." The name "BUTLER" is stenciled in black high in the

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gable above the door. An old roadbed leads to the northwestern side of the building where an 8'-diameter, 12'-long fuel tank is set on a wood framework. The tank was probably installed at the same time as the building.

Alterations

The garage has not been modified since it was built.

Assay Office (Contributing Building 8), ca. 1880 (Map Key 8; Photos 21-22; Historic Photo 8)

The one-story wood-frame assay office (Building 8) is about 25' northwest of the mill (Building 6) on a slightly lower bench than the top level of the mill. It measures 18' x 40', oriented southeast to northwest. The company-built building has a gable roof with boxed eaves that formerly was partly covered with composition roll roofing, but was newly covered with corrugated sheet metal in 2016. A brick chimney projects through the ridge northwest of center, and a projecting wood vent is just southwest of the ridge on the southeastern end. Another brick chimney is on the lower part of the northeastern slope near the southeastern end. The exterior of the building is covered with vertical 1" x 10" and 1" x 14" board siding over horizontal boards. The entire building was constructed with cut nails.¹¹ The siding on the northwestern end, a four-over-four double-hung wood-sash window in the center of the northwestern side, and a six-by-six, horizontal-sliding wood-sash window to the right are all historic replacements of the original fabric, perhaps installed as early as the 1890s as demonstrated by their attachment with wire nails; the window openings are presently covered by plastic sheeting. Electrical wiring was also a later historic addition, as demonstrated by insulators and brackets attached to the interior walls, perhaps installed in the 1920s. Elsewhere on the building, the original four-over-four, double-hung, wood-sash windows present in 2001 have been removed and most of the openings are covered by plastic sheeting. One is on the southwestern end of the western side, and four are evenly spaced across the southwestern side with a doorway on the northwestern end and one near the southeastern end.

The building is divided into three rooms. The southeastern and northwestern rooms have 1" x 5" tongue-and-groove flooring, whereas the middle room has a 1" x 3" tongue-and-groove board floor. The northwestern room appears to have served as a laboratory; it is equipped with a sink, shelves, counters, a vent hood, and chemical bottles. An assay furnace and workbenches are in the southeastern room. The furnace is marked "THE DENVER FIRE CLAY CO./DENVER COLO. U.S.A/FURNACE NO. 4510". This was a gas-fired assay furnace still available in 1943.¹² Three Allis-Chalmers electric motors are on a workbench. These have identification plates that read "INDUCTION MOTOR/PEAR – FRAME NO./2 HP 24 HRS 40/3

¹¹ Cut nails, often referred to as square nails, began to be replaced by wire nails in the 1880s. In Colorado, the Colorado Fuel & Iron Company manufactured wire nails in large quantities by 1890 and shipped them throughout Colorado and nearby areas served by the Denver & Rio Grande Railroad (D&RG). Consequently, in Colorado and those adjacent areas served by the D&RG, 1890 is a solid date for the transition of use from cut nails to wire nails.

¹² The Denver Fire Clay Company of Denver, Colorado, was established in 1876 and incorporated in 1880. They were manufacturers and suppliers of scientific and laboratory equipment (Denver Fire Clay Co. 1943:393).

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PM 60 1720 RPM/440 VOLTS 2-8 AMPS/ ALLIS CHALMERS MANUFACTURING/
NORWOOD PLANT NORWOOD OHIO/MADE IN USA PATENT NO. 1631737.”¹³ It is possible that these motors were among those listed as being present on the property in 1929 (*Colorado Bureau of Mines Inspector’s Report*, August 12, 1929).

Alterations

The building is in excellent condition and remarkably unmodified from its construction in the early 1880s (Figure 1). The noted siding and window installations may have been done in the 1890s and are noticeable only because of the use of wire nails. Installation of electrical wiring elements is also a historic modification, probably from the 1920s. Removal of the windows, presumably by Environmental Demolition, Inc. during remediation in 2013, is a temporary measure and they will be reinstalled after they are restored. The covering of the roof with corrugated sheet metal by HistoriCorps in 2016 is an expedient measure necessary to economically put a roof on the building to prevent its deterioration. Although not of original materials, the roof retains its original configuration. Covering of the door and window openings with plastic sheeting in 2013, is an expedient measure to keep moisture from entering the building and will be removed when the doors and windows are reinstalled. Historic Photo 8 shows the building in 2001.

Office (Contributing Building 9), ca. 1880; addition ca. 1880s and 1890s (Map Key 9; Photo 23; Historic Photos 1, 5, 9-10)

A one-story, L-shaped, wood-frame, gabled roof, company-built office building (Building 9) with boxed eaves is about 65’ northwest of the Assay Office and 35’ southwest of the garage. The earliest constructed portion of the building measures 14’ x 24’, oriented southeast to northwest, and is the southeastern wing. A 12’ x 14’ (northeast-southwest axis) room was added to the northwestern end, evidently in the 1880s; in the 1890s, a 12’ x 28’ (northeast-southwest axis) room was added to the southwestern side of the addition, which is now the southwestern wing of the building. The first two rooms of the building were built entirely with cut nails, whereas the additional room was constructed with wire nails. The entire building is covered with vertical board-on-board siding and has 1” x 5” tongue-and-groove board floors. The roof was originally wood shingles, some of which are still in evidence on the southeastern portion. The southwestern wing’s roof was in poor condition, so it was newly sheathed with plywood panels in 2015 and is covered with plastic sheeting. A brick chimney projects through the ridge near the northwestern end of the southeastern wing. A four-over-four, double-hung, wood-sash window on the center of the southeastern side of the southeastern wing was present in 2001, but has been removed and its opening covered with plastic sheeting. A doorway on the center of the southwestern side of the southeastern wing has double-hung window openings to either side. A six-light horizontal sliding wood-sash window present in 2001 near the center of the northeastern side has been removed and its opening covered with plastic sheeting; an opening for the same type window is on the northwestern end of the

¹³ Allis-Chalmers was a machinery manufacturer formed in 1901 by the merger of Fraser & Chalmers, Gates Iron Works, and the Edward P. Allis Company at West Allis, Wisconsin, near Milwaukee (Leffingwell 1996). Patent No. 1,631,737 was issued to Earl R. Knight on June 7, 1927 for a small dynamo electric motor and assigned to the Allis-Chalmers Manufacturing Co.

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northeastern side. Doorways are also present on the northeastern end of the northwestern side and the center of the southeastern side of the southwestern wing. Additional window openings are southeast of center on the southwestern side of the southwestern wing and northeast of center and on the southwestern end of the southeastern side of the southwestern wing. The doorways and most of the window openings have been covered with protective plastic sheeting. Electrical wiring (no longer functional) was added to the building, iron pipe plumbing is evident in the northern corner, and several steam radiators are in and around the building. In the southwestern wing, a long box urinal lined with sheet metal is mounted along the southwestern end of the northwestern wall, and a 1½' x 2', 1½'-tall concrete block is at the center of the northwestern wall.

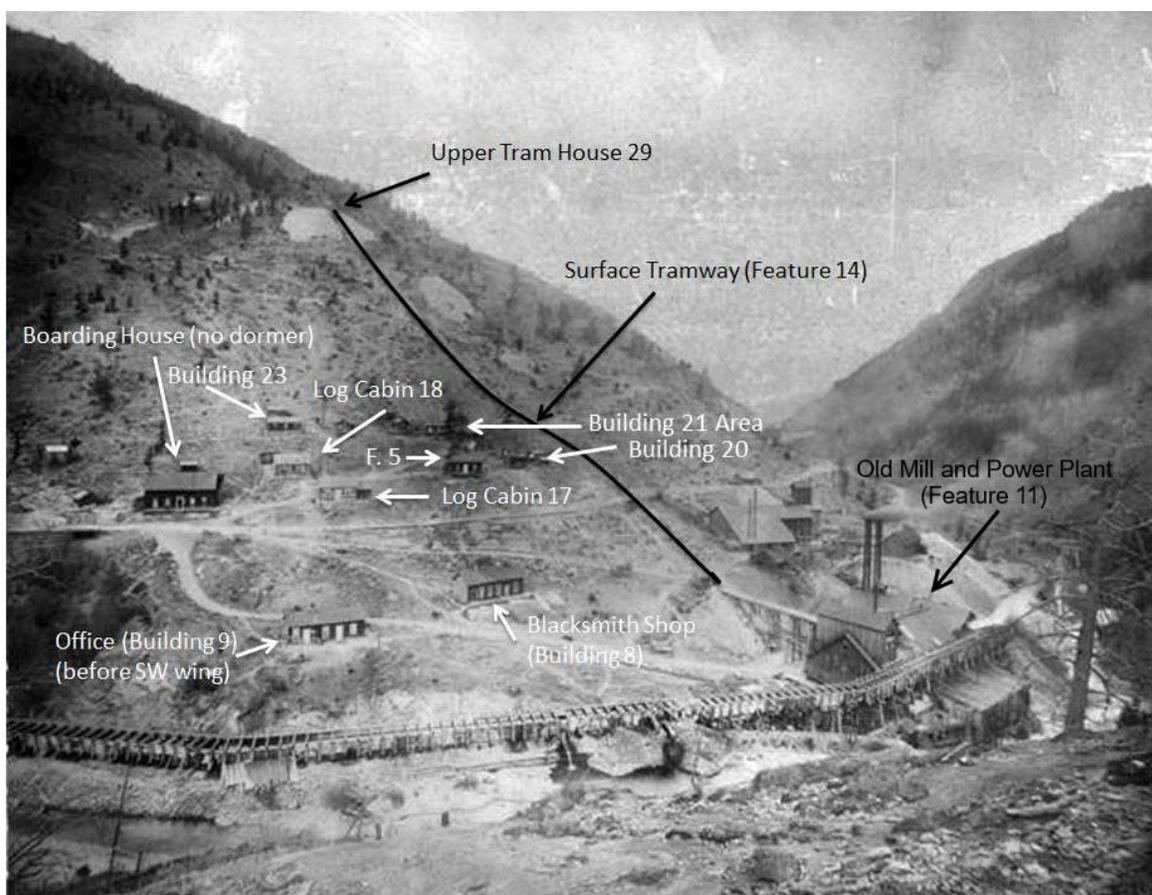


Figure 1. 1880s photograph of the Ute-Ulay Mine and Mill noting elements that have survived to the present day. The mill at the lower right was replaced by the current mill in 1930 with its lowest portion used as a power plant until 1951; portions of the mill are still visible today. Other industrial buildings in the eastern portion of the district to the right in the photo have been obliterated and replaced with more recent, but historic, elements. The flume along Henson Creek at the bottom of the photo was replaced in 1926 with the current flume that is extant today. Several of the buildings shown on the slope to the left of the tramway are represented by archaeological remains.

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A road graded at an unknown date below the building resulted in loss of support beneath the southwestern end of the southwestern wing. In 2015, that end of the building was lifted and supported by cribbed beams, providing needed stability. This has exposed 8"-diameter log sills, joined at the corners with flat notches, set on 10" x 10" hand-adzed foundation beams. In 2015, soil was removed from against the walls on the southeastern end and northeastern side of the southeastern wing to arrest deterioration of the walls. Some wood-frame debris suggests that a shed may have been present within the L of the building; coal dust indicates that the shed may have been used for coal storage.

Alterations

The building is in very good condition and remarkably unmodified from its construction in the early 1880s (Figure 1) and the construction of the second wing probably in the 1890s or early 1900s. Installation of electrical wiring elements is also a historic modification, probably from the 1920s. Work conducted on the building in 2015 by HistoriCorps included roof repair, lifting and resupporting a corner of the building, and removal of soil accumulation along two of the walls. These actions have arrested ongoing deterioration. Removal of doors and windows, presumably by Environmental Demolition, Inc. during remediation in 2013, is a temporary measure and they will be reinstalled after they are restored. Covering of the door and window openings and a portion of the roof with plastic sheeting is an expedient measure to keep moisture from entering the building and will be removed when the doors and windows are reinstalled and final repair of the roof is made. Historic Photos 9 and 10 show the building in 2001.

Dam (Contributing Structure – Feature 1), 1926 (Map Key F1; Photos 24-25, 46; Historic Photos 2-3)

A poured concrete dam (Feature 1) stretches about 160' across Henson Creek near the western end of the main district area; it is breached at the base, which allows the stream to flow through unimpeded. The dam replaced an earlier wood dam that was situated downstream for which there is no remaining evidence. The dam is arched upstream, and the concrete is reinforced with woven rebar. The upper upstream portion of the dam is a double thickness of concrete, 3½' thick, covered with horizontal boards held from above by vertical 3" x 6" and 4" x 6" boards and 6" x 6" posts attached at the top to projecting 6" x 6" beams anchored to the top of the dam. A pipe railing is present along the downstream side of the dam top. The lower rail of the railing is ore car rail. A 6'-diameter pipe exits about 25' below the top of the dam on the southwestern side. The pipe moved water through the dam into a flume (Feature 2) that transported water about 900' southeastward to a tank (Structure 12) on the southwestern side of the power plant portion of the old mill (Site Feature 11). A concrete and pipe framework anchored to the southwestern bank probably supported some sort of screen that prevented debris from entering the pipe. A similar opening on the northeastern end of the dam without the debris-filter framework probably served as an outlet to prevent water from spilling over the top of the dam during periods of high runoff. The lift-type sluice gates on both of the outlets were operated by geared pedestal gate lifts on top of the dam above each outflow pipe (Photo 52). These are

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marked "THOMPSON MFG. CO./DENVER COLO."¹⁴ The dam was constructed in 1926 to provide water for a hydroelectric plant at the end of the flume (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929).

Alterations

The dam is in poor condition with deteriorating concrete and a large natural breach. The breach allows Henson Creek to flow unimpeded through the base of the dam. The lift gates, diversion with a debris grizzly, and the projecting pipe that fed the flume are all in good condition and demonstrate how the dam functioned.

Flume (Contributing Structure – Feature 2), 1926 (Map Key F2; Photo 26; Historic Photos 4-5)

A semicircular sheet-metal Lennon flume (Feature 2) runs along the creek for about 1,300' between the concrete dam (Feature 1) upstream and a water tank (Structure 12) at the lower end of the old mill (Building 11). Water entered the flume through the intake on the southeastern end of the dam that allowed water to pass through the dam in a large, welded-steel pipe. Metal Lennon flumes were made of sheet metal sections that locked together at the ends to form water-tight joints. Trestle supports for the flume are 9"–11"-diameter spruce logs with 2" x 8" horizontal cross braces and diagonal sway braces. The legs of each trestle are 10' apart, and each trestle bent is 12' apart. The flume itself is 6½'-diameter semicircular galvanized sheet metal supported by iron carrier rods hung from 4" x 4" cross bars set on 3" x 10" side posts mounted on top of the trestle supports. The flume was built in 1926 to transport water from the dam to the power plant in the original mill (Site Feature 11) downstream. It collapsed in 1951 and was not rebuilt, resulting in the abandonment of the power plant portion of the original mill and installation of the diesel engine in Building 10 for generating electricity to be used at the mine and mill (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929; *The Nineteen Fifty-Two Mining Year Book 1952*; *Colorado Bureau of Mines, Information Report*, December 6, 1952; *Colorado Bureau of Mines, Operator's Annual Report for the Year 1952*).

Alterations

The flume has mostly collapsed but retains enough intact sections so that its construction and function are readily apparent. Natural deterioration is the only alteration of the flume.

Water Tank (Contributing Structure 12), 1926 (Map Key 12; Photos 27-28, 62; Historic Photo 11)

The wood water tank (Structure 12) at the end of the flume is set on six bents of two-level trestles resting on parallel concrete foundation walls that run the length of the tank. The tank is

¹⁴ In business at 30th and Larimer Streets in Denver by 1903 and still in business in the 1930s.

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about 14' x 45', oriented northwest to southeast, and is about 30' above the tops of the foundation walls. It is of 4" x 4" post-and-beam construction with 2" x 10" horizontal-board walls with battens over the cracks and a 2" x 10" plank floor. The tank has accumulated a few inches of silt and the bottom is beginning to rot, with two major sections of the floor already fallen from the structure. The top of the tank appears to have been covered with boards, and two iron pipes have fallen downward from the sides of the tank that apparently extended northeastward to the mill. Three 2½'-diameter riveted iron pipes drop straight down from the bottom of the box and then turn northeastward into the lower concrete room of the old mill (Site Feature 11), passing through its lower front wall. Beneath each of the pipes are drain outlets through the lower mill walls allowed water to drain from the rooms and return to Henson Creek (Photo 28). Each of the drain outlets is 4½' wide and at least 4' deep; they are mostly silted in. A double trestle comprised of bents made of 12"-14"-diameter logs set on 14" x 14" beams with 14" x 14" caps supports the tank. The legs are stabilized with 2" x 6" to 2" x 12" board diagonal sway braces and horizontal cross braces. The water tank supplied water through the three vertical pipes to three Leffel turbine water wheels that powered the electrical generating equipment in the adjacent power plant.

Alterations

The water tank is in fair condition and is subject to ongoing natural deterioration. It is a monumental, highly visible element of the complex, standing dramatically above the ruins of the original mill and power plant along Henson Creek. The semicircular connection with the flume is readily visible, though the flume is no longer connected, and the iron pipes that dropped water from the upper reservoir box to the power plant are constituent elements still in place.

Old Mill and Power Plant (Contributing Site Feature – Feature 11), ca. 1880/1926 (Map Key 11; Photos 27-29; Historic Photos 4, 11)

The former power plant and concentrating mill is on the northern edge of Henson Creek about 160' south of Adit 1; it is in ruins with only remnants of walls and the floor of the building in place and has been impacted by earth-moving activities at the district since the abandonment of portions of it in 1926 and 1951. Waste rock is encroaching on the location from the northeast, and mostly stabilized waste rock is encroaching from the northwest. Former tailings that surrounded the building were stabilized in 2013 and capped with waste rock. The former building is fairly well delineated by wall alignments; it appears to have measured about 70' x 85', oriented southwest-northeast. Part of the northwestern wall of the former building is still standing. It is uncoursed native stone laid in cement mortar. One six-over-six, double-hung, steel-sash window is on the southwestern end of the northwestern wall, and two other partial door or window openings are evident farther northeast in the northwestern wall. The window is set in a concrete surround and is likely a later element of the building, probably added in 1926 when the power plant was installed in the southern portion of the building. Also present is a remnant of the northeastern wall with a stub of a wall projecting northwestward and a brick corner. Remnants of charred wood and burned metal indicate that elements of the building may have been burned when the majority of the mill was dismantled in 1926. A few cut nails were found within the building area, but most of the nails are wire. A concrete floor is evident over

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most of the area, and numerous machinery mounts with projecting bolts are present throughout. The mounts are mainly dressed sandstone or granite set in the floor. The largest mount is at the end of the northeast-southwest dividing wall rubble. It is a 6½' x 9' (northwest-southeast axis), 6"-deep concrete depression with 1"-diameter mounting rods projecting upwards. On the southeastern end of the mount is a 2' x 4' (northeast-southwest axis) stone block that is 1½' tall with 1"-diameter bolts projecting from the top. Additional large sandstone mounting blocks are to the northeast. Subterranean rooms with poured concrete walls are on the southwestern end of the building area. The concrete walls evidently represent modification to the original building in 1926 when hydroelectric generating equipment was installed. The southwestern wall was used to support the northeastern side of the trestle legs of the large wood water tank (Structure 11) at the end of a flume leading from the dam on Henson Creek, all constructed in 1926 to provide water to the hydroelectric plant. Where the trestle legs rest on the wall, the wall has been slightly buttressed. A doorway is near the northwestern end of the wall, and a six-light, fixed, steel-sash window is on the southeastern end of the wall. Bolts on top of the wall indicate that a wood-frame wall was built on it at one time. Extending down from the bottom of the water tank are three 2½'-diameter water pipes that turn 90 degrees and enter through the base of the wall; the concrete wall is formed around the pipes. The water pipes were originally connected to three Leffel turbine water wheels that were connected to electrical generators. In the northwestern subterranean room is a concrete ledge and several electrical fuse boxes. The power plant was used until 1951, when the flume supplying it from the dam collapsed; it is uncertain when that portion of the building was torn down (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929; *The Nineteen Fifty-Two Mining Year Book 1952*; *Colorado Bureau of Mines, Information Report*, December 6, 1952; *Colorado Bureau of Mines, Operator's Annual Report for the Year 1952*).

Extending to the southwest through the middle of the former building area is a linear rubble mound that appears to represent a wall separating the power plant from the concentrating mill. The mill area is about 35' x 50', oriented southwest-northeast, and is covered with coal cinders, slag, and brick fragments. A concrete floor is evident only on the northeastern side and appears to be associated with piles of firebrick and common brick, suggesting that a steam boiler was situated there. The original concentrating mill on the property had been built by 1882. Considerable changes in equipment took place through time, particularly in 1890. The mill portion of the former building was removed in 1926, and construction of a new concentrating mill (Building 6) began in 1928 and was completed in 1930 (Morse and Bielser 2000:29-31; *Silver World*, November 11, 1882:3; *Lake City Times*, January 15, 1891:1; October 1, 1891:1; April 14, 1892; *Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929).

Alterations

All of the mill and power plant equipment has been removed. The lower water entry and water return elements of the power plant are still present as are several electrical fuse boxes,

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enabling the function of that part of the building to be readily ascertained. Incorporated into the floor of the mill itself are several stone machinery mounts, demonstrating that heavy equipment was installed in the mill at one time.

Concrete Piers (Contributing Structure – Feature 3), ca. 1926 (Map Key F3; no photo)

Two concrete piers (Feature 3) project perpendicularly from the bank 15' southeast of the water tank (Structure 12); they are in line with the flume and tank. These are 8' long, 4½' tall, and 1½' wide at the top. Projecting from the tops of the piers are 7/8"-diameter bolts that evidently secured wood elements above. Numerous trestle posts are present in the area, so the piers may have been trestle supports for a conveyance to direct overflow from the adjacent water tank.

Alterations

The concrete piers are in good condition, but the elements that they at one time supported are no longer present. They are minor elements of the industrial complex.

Shed (Contributing Building 13), ca. 1926 (Map Key 13; Photo 30; Historic Photos 11-12)

A 5½' x 6' (northeast-southwest axis) wood-frame shed (Building 13) is on the northeastern bank of Henson Creek, 8' south of the southern corner of Structure 12. Since it was recorded in 2001, it has fallen and is lying on its northeastern side. It has its original corrugated sheet metal gable roof and corrugated sheet metal siding. A doorway on the northwestern end of the northeastern side is no longer visible because the building is laying on that side. It was built on 4" x 6" sills set on a deck made of 2" x 12" planks that extended beyond the sides of the building and 8' to the northeast. The interior is covered with fiberboard and appears to have been wired for electricity.

Alterations

Except for having fallen or been laid on its side, the shed is in unmodified condition.

Log Cabin (Contributing Building 14), ca. 1880 (Map Key 14; Photo 31)

Projecting from the northern side of the road entering the district from the southeast (Road 1), about 60' north of the northwestern end of the southeastern tailings impoundment (Tailings Impoundment 7), is an 11' x 13' (north-south axis) log cabin (Building 14) partly dug into the southern-facing slope. It is not known if the cabin was company-built or built by workers for housing. The cabin is constructed of V-notched, 9"-12"-diameter logs, sawn flat on the ends, set on log sills. The logs are chinked on the interior with wood wedges and have mud daubing; remnants of cement daubing are present on the exterior. The cabin has a gable roof consisting of boards covered with earth supported by a ridge log and two side logs; the roof has mostly caved in. A four vertical panel wood door painted bluish-green is on the center of the southern side. Cut nails were used throughout the construction with wire nails used in modifications and repairs. A utility pole is attached to the southwestern corner and includes

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white porcelain nail knob and ring insulators and a wood insulator bracket. A nail knob-type white porcelain insulator is present inside the building. Also inside are wood benches built into the room from the western wall. Construction of the road into the district immediately adjacent to the southern side of the building has resulted in a loss of soil support beneath the entire southern end of the building. In addition, the log walls have rotted where they have come in contact with the soil in the northern half of the building, causing them to settle substantially. The northern wall is being pushed inward from the bottom from the pressure of downslope movement of soils from above.

Alterations

The log cabin is in poor condition as the result of natural deterioration. It appears to be unmodified from the time of its construction in the 1880s, except for repairs made using wire nails, probably in the 1890s or early 1900s.

Adit 6 (Contributing Site Feature – Adit 6), ca. 1880s (Map Key A6; Photo 32)

On the northeastern side of County Road 20, about 80' northeast of the southeastern end of the mining shops and storage building (Building 1), is a 4½'-wide, 4½'-tall mine adit (Adit 6) dug northeastward into a rock face. It was covered with a steel grate to prevent entry, during the remediation work in 2013. The adit is partly filled at the entrance by rock fall from above; the interior dimensions of the adit are about 7' wide and 10' tall. In 2001, an ore car was visible inside the adit. A piece of ore car track projects from the opening and is bent up on the end.

Alterations

Adit 6 was covered with a steel grate to prevent entry for safety reasons in 2013. Even with the grate, the dimensions of the opening are unaltered and the function of the adit is readily recognizable.

Residence (Contributing Building 15), 1890s (Map Key 15; Photos 33; Historic Photos 6-7, 16)

Building 15 is a 17½' x 20' (southeast-northwest axis) one-story, company-built, wood-frame former residence on the northeastern side of County Road 20 about 25' east of Ute Creek. It is unknown who resided in the building. It is of 2" x 4" frame construction built on 8" x 8" and 12" x 12" beam sills set on rock and has a 1" x 6" board floor. The exterior is covered with 1" x 8" vertical-board siding. The corrugated sheet-metal gable roof has a brick chimney projecting through the center of the ridge. The residence was built exclusively with wire nails. Single four-over-four, double-hung, wood-sash windows are right of center on the southwestern and northwestern sides, and a pair is on the center of the southeastern side. Additional double-hung window openings are on the southeastern end of the northeastern side and left of center on the northwestern side with a four-light, fixed, wood-sash window to the left. Although all of the window sashes remain, no glass is present in any of the windows. Doorways are on the southwestern and northeastern ends of the southeastern side. A small doorway opening is left of center on the southwestern side. Rock from upslope is pushing the northeastern wall and the

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northeastern end of the northwestern wall inward. Some lower wall elements are rotting on the southeastern side and southeastern end of the southwestern side. A shed addition at the eastern corner of the building measures 6' x 10', oriented southeast to northwest. It has a 2" x 4" board framework covered with horizontal-board walls. A corrugated sheet-metal shed roof slopes to the northeast, and a doorway is on the northwestern end of the southwestern side.

Alterations

The residence is in very good condition, but has suffered some minor natural deterioration. It remains virtually unmodified, and the shed addition is of historic age, probably added soon after the main building was constructed. The small doorway on the southwestern side appears to have been added after the building was constructed, but appears to be of historic age. It is unlikely that the corrugated sheet-metal roof is original to the building, but is likely a historic alteration.

Boarding House (Contributing Building 16), 1880s (Map Key 16; Photos 34-35; Historic Photos 1, 3, 6-7, 17)

A 1½ story, 28' x 48' (northwest-southeast axis), wood-frame, company-built, boarding house (Building 16) with a gable roof is immediately southeast of the residence (Building 15). It was probably originally built as a boarding house, was reused as a bunkhouse in 1926, and was last used as a residence by mine personnel at least through 1929 (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Colorado Bureau of Mines Inspector's Report*, August 12, 1929). Composition roll roofing covers the northeastern roof slope and corrugated sheet metal covers the southwestern slope. A brick chimney is just northeast of the ridge near the northwestern end. The building is framed with cut nails and is covered on the exterior with composition brick-pattern roll siding with corrugated sheet metal at the base of the walls except on the southwestern side. The lower wall elements on the southwestern side are rotting. Except where noted, all of the original windows were four-over-four, double-hung, wood sash. Those on the ground floor are still in place, but covered with sheet-metal panels, and those on the upper level have been removed and are uncovered. A large shed dormer projects across nearly the entire southwestern side; it contains three pairs of windows. Two identical double-hung windows are on the ground floor of the northwestern side with three openings in the gable. Three double-hung windows and two four-light, fixed, wood-sash windows are on the ground floor on the northeastern side with pairs of window openings in the two projecting gabled dormers above. One double-hung window is on the ground floor on the northeastern end of the southeastern side with three window openings above in the gable. A four-panel wood door is also on the southwestern end of the southeastern side. Four double-hung windows are on the ground floor of the southwestern side flanking a central four panel wood door with a transom opening above from which the sash has been removed. Attached to the northeastern end of the northwestern side is a 5½' x 6' shed addition, oriented northeast to southwest, with a screened projection on the northeastern side. The addition is comparable in style and construction to the rest of the building, so was probably added in the 1890s as suggested by the use of wire nails in its construction. Its aluminum-panel

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shed roof slopes to the northwest. The shed addition has a four-panel wood door on the southwestern side and a four-light fixed wood-sash window on the northwestern side.

Alterations

The boarding house was built in the 1880s (Figure 1) has seen reuse as a residence and a bunkhouse but is remarkably intact. Historic modifications can be noted by the use of wire nails, whereas the original construction is evident because of the use of cut nails. In addition, the dormer on the southwestern side is not shown in the 1880s photograph (Figure 1) and was probably added in 1926. The sheet-metal roofing is not original; it was probably covered with a shingle roof when built. The current composition roll siding was probably a modification made during the 1950s, but the original vertical-board siding is still present beneath it. Most of the window sashes have been removed from their frames, presumably by Environmental Demolition, Inc. during remediation in 2013, and are in storage awaiting restoration and reinstallation. All of the doors and windows appear to be original. In 2001, the central entry on the southwestern side was covered with a corrugated sheet metal shed roof, angle-braced from the building; this is no longer in place.

Log Cabin Residence (Contributing Building 17), 1880s (Map Key 17; Photo 36; Historic Photos 1, 6, 18-19)

A 14' x 24' (northwest-southeast axis), company-built, log cabin residence (Building 17) is 60' southeast of the boarding house; it has a 9' x 14½' (northeast-southwest axis) wood-frame shed addition at the southern corner. The 8"-12"-diameter logs are half-dovetail-notched, sawn flat on the ends, and chinked with wood wedges and daubed with cement. The side-gable roof is covered by corrugated sheet-metal panels (over a wood-shingled roof that was present in 2001). A brick exterior chimney is on the southeastern end just off the ridge to the southwest. Vertical boards fill the gable ends, and a small opening with a side-hinged board door in the southeast gable provides access into the attic. A doorway, covered with a plywood panel, is centered on the southwestern side, flanked by four-over-four, double-hung, wood-sash windows. An 8½'-square open porch is in front of the door; it has a board floor, a 2" x 6" board railing, and a set of wood steps up the southwestern side. Another window opening is in the southeastern end of the northeastern side. Cut nails were used in the construction of the log cabin. A wood-frame shed addition on the southwestern end of the southeastern side projects 3' southwest of the log cabin. It has a southeastern-sloping shed roof covered with remnants of composition roll roofing and wood shingles. Vertical-board siding covers the exterior with corrugated sheet metal attached on the lower walls on the southeastern and northeastern sides. A window opening is in the southwestern end of the northwestern side, a four-by-four, horizontal-sliding, wood-sash window is in the center of the southwestern side, and a four-light, fixed, wood-sash window is in the center of the southeastern side. A four-panel wood door with the upper two panels knocked out is in the southwestern end of the southeastern side. Behind the building to the northeast is a leveled area partly enclosed on the northwest by a stone alignment/retaining wall.

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Alterations

The log cabin residence is in remarkably good condition and is virtually unmodified from its original construction in the early 1880s (Figure 1). The original shingle roof of the main cabin was covered with sheet metal roofing within the last 15 years. The shed addition is probably a historic early 1900s addition.

Log Cabin Residence (Contributing Building 18), 1880s (Map Key 18; Photo 37; Historic Photos 1, 6, 20)

A second one-story, company-built, log cabin residence (Building 18) measures 13' x 25', oriented northwest to southeast; it is 30' upslope to the north of the first log cabin residence (Building 17). It is constructed of 8"-12" half-dovetailed logs that are mostly sawn flat on the ends and chinked with wood wedges and have cement daubing. Written in the daubing near the front door is "1880-1980." The logs are set on a stone foundation on the southwestern side. Corrugated sheet-metal panels are attached to the base of the northeastern wall. The cabin has a side-gable roof covered with standing-seam metal panels. Vertical-board siding fills the gable on the southeastern side and vertical board-and-batten siding fills the northwestern gable. A brick chimney projects through the northwestern portion of the northeastern slope of the roof. The door into the building is on the center of the southwestern side and is covered with a plywood panel. The door is flanked by four-over-four, double-hung, wood-sash windows. A 4'-square, open, wood landing is in front of the door; it has a 2" x 4" board railing on the southwestern side and wood steps leading to it from the northwest. A four-light, fixed, wood-sash window is northwest of center on the northeastern side. The northwestern side of the cabin has no door or window openings, and the southeastern side has only a small side-hinged vertical-board door into the attic. The cabin was constructed using cut nails.

Alterations

The log cabin residence is in remarkably good condition and is virtually unmodified from its original construction in the early 1880s (Figure 1). The only visible modification is the roofing material, which was originally probably wood shingles, but has since been covered with standing-seam metal roofing installed after 2001 over earlier composition roll roofing that was probably installed in the 1950s. The inscription in the cement daubing suggests that it dates to 1980.

Outhouse (Contributing Building 19), 1880s (Map Key 19; Photo 38, Historic Photo 20)

A 5' x 10' (southwest-northeast axis) wood-frame outhouse (Building 19) with a boxed-eave, corrugated sheet-metal, side-gable roof is 14' upslope to the north of the second log residence (Building 18). The outhouse is divided into two rooms to the northeast and southwest, each with doorways on the southeastern wall, 1" x 4" tongue-and-groove board flooring, and two-hole seats along the northwestern wall. The outhouse has vertical board-and-batten siding with diamond-shaped cutouts in the gables and is set on a cribbed log foundation. The building was built with cut nails; later repairs, such as reattachment of siding, were made with wire nails.

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Alterations

The outhouse is remarkably intact, lacking only its doors. The corrugated roofing, installed at an unknown time, is the only non-historic change.

Dump 1 (Contributing Site Feature – Dump 1), 1880s-1900s (Map Key Dump 1; Photo 39)

Below County Road 20 about 100' west-southwest of the wood-frame residence (Building 15) is an extensive dump (Dump 1) that is about 125' wide and extends 75' down the steep slope all the way to a cliff immediately above Henson Creek. The materials are largely household in nature and appear to have originated from the boarding house (Building 16) and communal dumping from nearby residences that were part of the Henson community. Artifacts date from the 1880s to early 1900s. Observed in the dump were dense deposits of coal cinders; heavy plain white earthenware china with marks indicating manufacture by Homer Laughlin China Company dating from ca. 1880-ca. 1900 and ca. 1901-ca. 1915 (Gates and Ormerod 1984:134-135, Figures 114b and 115a); cast-iron stove parts; butchered bone; iron sheet-metal friction lids; a stamped iron sheet-metal spoon; an iron three-tined fork with a pot metal recessed handle; a glass Lea & Perrins bottle with a base marked "J D S" dating between about 1877 and 1900 (Toulouse 1971:277; Zumwalt 1980:269); hole-in-cap, hole-in-top, and Sanitary cans; amber, olive green, aqua, clear, and cobalt blue vessel glass; an amber glass square-paneled medicine bottle fragment; tobacco tins; barrel hoops; a purple glass "Drey PERFECT MASON" canning jar fragment dating between 1910 and 1925 (Toulouse 1977:24), an olive green glass "Hunyadi Janos Bitterquelle" bottle base dating between 1863 and at least 1927 (Schulz et al. 1980:142-144; Toulouse 1971:257-258; Fike 1987:41; Charles & Co. 1927:324); a corset last fastening strip; Bakelite comb; window glass; and cut and wire nails.¹⁵

Alterations

The dump contains archaeological materials from the 1880s to the early 1910s. The deposits are undisturbed and have excellent data-recovery potential.

Building Ruins (Contributing Site Feature – Feature 5), 1880s-1900s (Map Key F5; no photo)

Feature 5 is an L-shaped rock alignment of unmodified natural stone that probably represents a partial foundation for a building on the slope about 50' south-southeast of the second log residence (Building 18). The feature appears as a one-story building in the historic 1880s photograph (Figure 1). The southwestern leg of the L is 6' long and the southeastern leg is 9' long; the area above the alignment appears to have been leveled for the former building. The building may have been built by workers for housing. An old road seems to have been graded below the alignment. Eroding from the slope are artifacts typical of residential use from

¹⁵ Hole-in-cap cans began being produced in the 1820s and began being replaced by "Sanitary" cans in about 1904. Sanitary cans were invented by about 1900 but were not used on a large scale until the Sanitary Can Company was formed in 1904. By 1911, Sanitary cans dominated the can market. Hole in cap cans generally date before about 1914. Hole-in-top cans were introduced by Carnation for evaporated milk in 1900 (Rock 1984:102-104; 1989:50-51, 60, 65-66). The combination of can types can be very informative in determining date ranges for historic sites. For instance, a site with only hole-in-cap cans can typically be inferred to date prior to 1900. Other can attributes can further refine dating.

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the 1880s to the early 1900s, including hole-in-cap, hole-in-top, and Sanitary cans; light green, olive green, aqua, and purple vessel glass; purple glass hand-finished ketchup and liquor bottle necks; amber and light green glass beer bottle bases marked "+/M. G. Co." dating between the 1880s and 1924 (Toulouse 1971:358-361; Wilson 1981:123), "FHGW" dating between 1880 and 1900 (Toulouse 1971:202-203, Wilson 1981; Herskovitz 1978), and "ABG Co." dating between 1886 and 1928 (Toulouse 1971:26), an aqua glass medicine bottle side fragment marked "J_MADRAS/LIQUID;" a purple-tinted white milkglass jar base marked "NEW YORK;" butchered bone; a zinc canning jar lid; window glass; white earthenware fragments including one marked "[coat of arms]/ALFRED MEAKIN/ENGLAND" that dates after 1891 (Godden 1991:425-427; Kowalsky and Kowalsky 1999:277);" a shell button; and shoe leather.¹⁶

Alterations

Although no building has survived, the former building location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Outhouse Hole Depression (Contributing Site Feature – Feature 6), 1880s-1900s (Map Key F6; no photo)

Feature 6 is a 4'-diameter, 2'-deep depression about 35' east of Feature 5; it may represent an outhouse location. Found in association were iron pipe, barrel hoops, sheet metal fragments, a leather shoe sole, a hole-in-top can, iron wire, aqua vessel glass, and window glass. Iron rods driven into the ground as anchor points of unknown function are present nearby.

Alterations

Although no building has survived, the outhouse hole has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Building Ruins (Contributing Site Feature – Feature 20), 1880s-1890s (Map Key 20; Photo 40)

Former Building 20 is a 9' x 12' (north-south axis) leveled area dug into a western-facing slope about 50' east-southeast of Feature 6. The building appears in the historic 1880s photograph (Figure 1). Rock alignments of unmodified natural stone that probably represent a partial foundation for a building delineate the northern, western, and southern sides of the leveled area, and rock eroding downslope has encroached upon the eastern portion of the leveled area;

¹⁶ All bottles were handmade until the advent of semi-automatic and automatic bottling machines. Hand-finishing was required with vessels made in semi-automatic machines, but with the advent of fully automatic bottling machines beginning in 1904, hand finishing began to be phased out. By 1920, all commercially made bottles were manufactured in automatic bottling machines requiring no hand finishing. Use of manganese as a clearing agent in glass began about 1876 and became very common by 1885. Although the vessels started out clear in color, exposure to the sun resulted in a purple tint, varying in intensity depending on the amount of manganese used. The use of manganese as a decolorant declined with the adoption of automatic and semi-automatic bottling machines beginning about 1904. Selenium was found to work better as a decolorant in glass manufacture in place of manganese. World War I caused a disruption in the importation of manganese from foreign sources, but was not the primary reason for decline in its use. By 1920, all but manufacturers of specialty bottles had ceased using manganese (Lockhart 2006).

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the remnant of a log is present along the western side. Scattered in the vicinity are purple, amber, and clear vessel glass fragments, including a hand-finished crown cap bottle finish; woven fabric; an iron stamped sheet metal button; a stamped iron sheet metal buckle from a rubber boot; boot leather; shoe sole screws; white porcelain dishware; lamp chimney glass; and stoneware crockery. The artifacts suggest that a former residential building had been built there, possibly built by workers.

Alterations

Although no building has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Outhouse Hole Depression (Contributing Site Feature – Feature 7), 1880s-1890s (Map Key F7; no photo)

An L-shaped rock alignment of unmodified natural stone probably representing a partial foundation for a building is adjacent to the south of former Building 20 with a 4'-diameter, 1½'-deep possible outhouse hole depression on the southeastern end (Feature 7). Within the depression, a hole-in-cap can, an amber hand-finished liquor bottle neck, and an aqua vessel glass fragment were found.

Alterations

Although no building has survived, the outhouse hole has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Outhouse Hole Depression (Contributing Site Feature – Feature 8), 1880s-1890s (Map Key F8; no photo)

Feature 8 is 40' north of former Building 20. It is a 5'-diameter, 1½'-deep depression with a possible rock wall on the southwestern side that may represent an outhouse hole depression. Upslope is a 9'-long, 1'-wide trench oriented northwest to southeast.

Alterations

Although no building has survived, the outhouse hole has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Building Ruins (Contributing Site Feature - Feature 21), 1880s-1890s (Map Key 21; no photo)

About 8' northwest of Feature 8 is a 10' x 18' (northwest-southeast axis) leveled area on a southwestern-facing slope representing a former building (Site Feature 21). The building appears in the historic 1880s photograph (Figure 1). Rock alignments of unmodified natural stone that probably represent a partial foundation for the building delineate the northwestern and southeastern ends, and a 4" x 4" post with baling wire is present upslope. Barrel hoops; hole-in-cap cans; coal cinders; amber, aqua, and olive green vessel glass fragments; a hand-finished

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crown cap finish; melted glass; and a piece of gray enamelware cookware were found in association. The artifacts suggest that a former residential building is represented, possibly built by workers.

Alterations

Although no building has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Water Tank (Contributing Structure 22), ca. 1926 (Map Key 22; Photo 41)

An approximately 20'-diameter, 12'-tall redwood stave water tank (Structure 22) is set on 6" x 6" beams resting on parallel concrete foundation walls; it is 40' east of the outhouse (Building 19). A wood-plank retaining wall held by drill steels anchored in the ground on the northern side of the tank prevents slope movement from above. Several ¾"-diameter iron bands hold the staves of the tank. The bands are secured with band tank lugs that are marked "PAT AUG 8-05/E. C. TECKTONIUS/RACINE, WIS" and "E. C. T. M. CO/3/4."¹⁷ These are similar to those illustrated in the Hendrie & Bolthoff ca. 1915 catalog (Hendrie & Bolthoff n.d.:152). The tank has a conical overlapping board roof and a 4"-diameter iron overflow pipe on the southern side that has been disconnected from a fitting at the top of the tank. The pipe opened at ground level into an existing informal ditch that ran the water at an angle downslope. An outlet pipe valve beneath the southwestern side of the tank evidently fed a water line in that direction; it is unknown if the water line was for domestic use, industrial purposes, or both. The tank was fed by an iron pipe that probably originates from the cistern (Feature 9) on Ute Creek, but is buried between the cistern and where it emerges from the ground and is contained in the box, though it can be partly seen in the water line access box (Feature 11). The southernmost 240' is visible and contained in a 1' x 1½' wood box covered with a corrugated sheet-metal top that is elevated for its last 80' and leads to the top of the northern side of the tank. The elevated box is on a small trestle made of 3" x 4" post legs with a 3" x 4" beam cap. The northwestern-most bent of the trestle has 4" x 6" post legs and a 2' x 6" board cap. The box probably contains insulation to prevent the waterline from freezing in cold weather. In addition to the pipe in the box, 4"-diameter and 2"-diameter iron pipes enter the upper portion of the northern side of the tank. Two 8'-diameter, 14'-tall welded-steel tanks with flat tops set on 10" x 10" beams surrounded by unformed poured concrete are on the northwestern side of the wood water tank; these were probably added in the 1950s. The steel tanks are connected near their bases by a 4"-diameter iron pipe, and a 2"-diameter PVC pipe empties into the top of one of the tanks.

Alterations

The water tank is in unaltered condition. The two adjacent tanks were probably installed to provide additional water storage in the early 1950s, so are of historic age. Although not ascertained for sure, the water line probably still connects to the cistern (Feature 9) in Ute Creek.

¹⁷ The bands were manufactured by the E. C. Tecktonius Company, which was founded in Racine, Wisconsin, in 1891 and incorporated in 1904.

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Cistern (Contributing Structure – Feature 9), ca. 1926 (Map Key F9; no photo)

A cistern (Feature 9) is in the bottom of Ute Creek, a perennial drainage of low flow, 325' north of the wood water tank that is the likely source of water for the water tank (Structure 22). The top of the cistern is covered with a 10' x 16' concrete slab with an opening at the western corner covered with a sheet metal lid. Hoses and iron pipes lead downslope and become buried, and two iron pipes lead into the drainage from the southeast.

Alterations

The cistern lid has had a corner chipped away to enable a pipe to exit the top.

Water Line Access Box (Contributing Structure – Feature 11), ca. 1926 (Map Key F11; Photo 42)

About 100' southwest of the cistern (Feature 9) and 250' north of the water tank (Structure 22) is a 3' x 3½' box (Feature 11), oriented northeast to southwest that extends about 1½' above the ground and 2' below ground. The box has 1" x 6" horizontal-board sides on a 2" x 4" board framework. The box is along the route of the water line to the water tank and a 4"-diameter water pipe can be seen within the box, exiting to the south below grade.

Alterations

The water line access box is unaltered.

Leveled Area (Contributing Site Feature – Feature 10), ca. 1926 (Map Key F10; no photo)

Feature 10 is an approximately 6' x 20' (northeast-southwest axis) leveled area on the southeastern side of the drainage about 14' below (southwest of) the cistern (Feature 9). A berm of soil delineates the northwestern side of the leveled area, and pieces of 2"-diameter and 4"-diameter iron pipe appear to be associated. Some lumber with a wire nail in it is on the northeastern end, a fallen 10"-diameter log post is in the center, and a fallen 6" x 8" post is on the southwestern end. The feature may have been part of the water development system.

Alterations

The leveled area is covered with rock and debris. Although a building or structure may have been situated there, the remnants are poorly preserved and provide little indication of what it was.

Building Ruins (Contributing Site Feature – Feature 23), 1880s-1890s (Map Key 23; no photo)

A 12' x 16' (northwest-southeast axis) leveled area representing a former building (Site Feature 23) is on a southwestern-facing slope about 25' north of the water tank (Structure 22) and immediately above its elevated water line. The building appears in the historic 1880s photograph (Figure 1); it may have been built by workers for housing. Rock alignments of

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unmodified natural stone probably represent a partial foundation for the building and delineate its northwestern and southwestern sides. The southeastern side is defined by a berm of soil; the northeastern side is filling with soil from upslope. An aqua glass beer bottle base marked "A. B. G. M. Co." was found on the leveled area. The mark is that of the Adolphus Busch Glass Manufacturing Company in Belleville, Illinois from 1886 to 1907 and St. Louis, Missouri from 1904 to 1928; the mark was in use for the entire life of the company (Toulouse 1971:26). Another possible rectangular leveled area is immediately above to the northeast. It measures 8' x 18', oriented northwest to southeast, and has rock sloughing onto it from above. The leveled area is not well defined, as it does not include any rock alignments.

Alterations

Although no building or structure has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Mine Shaft Headframe (Contributing Structure 24), ca. 1951 (Map Key 24; no photo)

A mine shaft headframe (Structure 24) is over what appears to be a 10' x 18' (northeast-southwest axis), three-compartment mine shaft (Mine Shaft 2) surrounded by a concrete collar. This is the headframe that was installed to facilitate the digging of a new shaft by the Colorado Standard Lead Zinc Mines, Inc. in 1951. The headframe is on a leveled area on the western side of the obliterated route of Ute Creek about 300' north of the wood-frame residence (Building 15). The upper portion of the shaft is lined with vertical boards inside and the opening is now surrounded by a concrete collar and covered with a metal grate. The concrete and grate were installed in 2012 as part of a grant from the Colorado Department of Public Health and Environment (CDPHE); the project does not appear to have been reviewed by History Colorado. This was part of the same grant-funded work that enabled rotten wood elements of the headframe to be replaced in-kind by K & P Landscaping of Montrose, Colorado. The headframe stands about 25' tall and is positioned over the center of the shaft. It is supported by three main 8" x 8" post legs set on a 12" x 12" beam base framework on the northwestern edge of the mine shaft. The framework supports a large, elevated, cast-iron sheave. The elevator portion of the headframe opens into an ore chute that extends forward to the southeast. The ore chute floor and sides are made of 3" x 10" planks. The bottom edge of the ore chute opening is 8' above the ground and is supported by doubled 6" x 6" post legs. A heavy sheet-iron gate is inside the chute. The headframe is braced from the northwest by 8" x 8" post diagonal braces set 24' to the northwest and by 8" x 8" post diagonal side braces. The rear diagonal braces are supported by 8" x 8" posts. Additional horizontal and angle bracing is provided by 8" x 8" and 6" x 6" horizontal cross and diagonal braces above along with 3" x 8" diagonal crossing sway braces on the three main legs. The rear braces and upright braces are set on 12" x 12" beams extending between pyramidal concrete piers. The area between the headframe and the hoist house (Building 25) to the northwest is floored with 3" x 10" planks.

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Alterations

Rotting support beams, brace posts, and the flooring were replaced in 2012 with in-kind materials. The large, cast-iron sheave was reinstalled in the upper portion of the headframe at the same time.

Hoist House/Transformer House (Contributing Building 25), 1951 (Map Key 25; Photos 43-44; Historic Photo 3)

About 30' northwest of the mine shaft and headframe (Structure 24), but connected to them by a plank floor, is a wood-frame hoist house/transformer house (Building 25) constructed on a steep southwest slope. The building was built by Colorado Standard Lead Zinc Mines, Inc. for digging the new shaft on the Ute vein in 1951. The hoist house consists of a 12' x 18' (southeast-northwest axis) gabled building with a 10' x 18' (southeast-northwest axis) shed extension on the northeastern side. The main building is set on tall, parallel concrete piers that provide space below the upper floor for electrical transformer equipment, whereas the shed extension is set on bedrock on its northeastern edge. Both the main building and the shed extension have corrugated sheet-metal siding and roofs. A large open doorway with a personnel-sized corrugated sheet-metal door on the northeastern side comprises the southeastern side of the main building. The sheet-metal siding on the entire southeastern side of the shed extension has come off, leaving that side open. The only window is a four-light, fixed, wood-sash in the gable on the southeastern side. Inside the main building is a single-drum geared hoist in a cast-iron frame. The drum is 16" wide and 5" deep and has lever-operated brake bands on either side. A 10"-wide, 4"-deep auxiliary drum is attached to one end of the main drum. The frame is marked "OTTUMWA IRON WORKS/OTTUMWA, IOWA U.S.A."¹⁸ A four-cylinder 1940s-1960s gasoline Ford tractor engine powers the hoist. The space below the hoist has been used as an electrical transformer room. This room has a board floor and is partly enclosed by a sheet metal wall on the northwestern side. The southwestern and northeastern sidewalls are partly enclosed by widely spaced 2" x 4" boards. High-voltage wires extend to the southwestern side, and inside the room are electrical transformers. Two of the transformers are not connected and are leaking fluid. They are marked "WESTINGHOUSE ELECTRIC & MFG. CO./PITTSBURG, PA. U.S.A/PATENTED/JULY 12 '87 – NOV. 8 '87 – JULY 9 '89/MAY 20 '90 – MARCH 1 '92 – JUNE 9 '94/JAN. 1 '95 – NOV 26 '95 – JUNE 26 '00."¹⁹

Alterations

The hoist house/transformer house is virtually unmodified from its original construction in 1951. The metal siding on the southeastern side has become detached, leaving the building open on that side. The building contains the original hoist and engine that powered it. In addition, the transformer house contains all of its original electrical equipment.

¹⁸ The Ottumwa Iron Works was established in 1872 and incorporated in 1903 for the manufacture of mining equipment. It was in business at least into the 1940s.

¹⁹ Westinghouse Electric and Manufacturing Company was founded in 1886; it became Westinghouse Electric Corporation in 1945. The transformers in the transformer room are old equipment that was being reused; the latest patent date is from 1900.

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Mill Tailings Disposal Pipeline (Contributing Structure – Pipeline 1), ca. 1930 (Map Key P1; Photo 45)

The mill completed in 1930 (Building 6) pumped tailings upslope to the north through a buried pipeline. This pipeline emerges from the ground for 80' below and 20' above County Road 20 and for 75' on the slope above and to the northeast of the headframe (Structure 24), in a 1' x 1½' wood box covered with a corrugated sheet-metal top identical to that of the water line leading to the water tank (Structure 22). The pipe was contained in the box in order to keep it from freezing during cold weather. At the top of the upper pipeline box, the pipeline enters a raised, covered box within which a cut-off 4"-diameter iron pipe from below is visible. It was at this point that the pumped tailings reached an elevation suitable to enable it to run westward and slightly downslope on contour through a 4"-diameter pipe to Tailings Impoundments 1-5 upstream of the mill on the northern side of Henson Creek. The pipe has been removed from the box, but remains of the box that contained it is visible on a 3'-10'-wide cut that runs on contour along the hillside to the west for about 1,400'. The widening of County Road 20 has obliterated the last 425' of the pipeline route above the road, and remediation work in 2009 at Tailings Impoundments 1-5 has obliterated its route on the southern side of the road where it entered the tailings impoundments.

Alterations

The mill tailings disposal pipeline is mostly buried to the point where it emerges high on the slope and runs as a flow line to the west to Tailings Impoundments 1-5. The pipeline and its route have suffered natural deterioration, and the sections on both sides of County Road 20 have been obliterated by road construction and mill tailings remediation. Although the western end of the mill tailings disposal pipeline has been obliterated, the majority of the route has survived as a visible landscape element, and its function can be readily interpreted.

Storage Building (Contributing Building 37), 1880s (Map Key 37; Photos 46-47; Historic Photos 3, 7, 22)

A 22' x 48' (southeast-northwest axis), company-built, wood-frame, barn-like storage building (Building 37) is on the northeastern side of County Road 20, northeast of the dam across Henson Creek. It has a standing-seam metal-panel gable roof with boxed eaves and is built on 6" x 8" beam sills set on 6" x 6" post piers where elevated above the ground on the southwestern side. The exterior is covered with 1" x 10" and 1" x 12" vertical-board siding on a framework of 2" x 6" boards. The building was built using cut nails. An open 11'-wide doorway from which the door has been removed is on the southeastern end, and an 8½'-wide doorway with a top-sliding vertical-board door mounted on the interior is on the northwestern end. This latter doorway appears to have been added to the building, as indicated by cut marks on the adjacent siding at the top of the doorway opening. A wood, four-panel door is centered on the southwestern side. Two double-hung window openings are on the southeastern end of the southwestern side, each with four-light, fixed, wood-sash windows set in the upper portions of the openings. Extending northwestward from the northeastern and southwestern sides of the building are fences constructed sometime after 2001 with frameworks of 4" x 4" posts and 2" x

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4" horizontal rails (Photo 47). The southwestern fence is covered with vertical boards and the northeastern fence is uncovered.

Alterations

The storage building is in good condition and has been minimally modified. The addition of a doorway on the northwestern end is evident by the use of wire nails and cut marks around the opening. The doorway is probably of historic age, but it is unknown when it was added. The shingle roof noted in 2001 has since been covered with standing-seam, metal-panel roofing. In 2016, HistoriCorps lifted the entire southwestern side of the building and supported it on wood beams. This was necessary because the sills and lower walls had deteriorated and were not providing sufficient support, causing the building to lean. Wood cross bracing was also added to give lateral support to the doorway on the southeastern side and internal wire-rope bracing was installed to pull the southwestern wall back in line. The fences extending northwestward from the northeastern and southwestern sides were added sometime after the building was last evaluated in 2001.

Residence (Contributing Building 38), ca. 1890s (Map Key 38; Photos 46 and 48; Historic Photos 3, 7)

About 30' northwest of the storage building (Building 37) is a company-built, one-story, wood-frame residence (Building 38) that measures 16' x 24', oriented northwest to southeast, with a 7'-wide porch floor framework across the southwestern side. The residence has a wood-shingle side-gable roof covered with plastic sheeting for protection. The exterior is covered with vertical-board siding. All of the windows have been removed from the building and are in storage awaiting reinstallation. Double-hung window openings are on either side of a central doorway on the southwestern side and a smaller window opening is northeast of center on the northwestern side. Framing for a porch is along the entire southeastern side and the southeastern end of the southwestern side.

Alterations

The residence is in fair condition and is in the process of being renovated to a more original condition. A baseline condition of the building was established in 2001 when it was recorded and photographed in detail. The building had been used as a residence into the 2000s, so had quite a bit of non-original fabric added in a piecemeal fashion to make it livable. Modifications to the building took place during remediation in 2013. Non-original, brick-pattern, composition roll siding of historic age and corrugated sheet metal along the base of the walls on the northwestern and northeastern sides and part of the southeastern side were removed, revealing the original vertical-board siding underneath. The non-original corrugated sheet metal roof was also removed, revealing the original wood shingles; the roof is currently covered with plastic sheeting in anticipation of the roof being replaced. A brick chimney through the center of the northeastern slope just off the ridge and a small stovepipe at the southern corner were also removed. The sheet metal shed roof extending over a porch on the southeastern end of the southwestern side was also removed, along with its 6" x 6" support posts. The board railing of

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the porches and the porches' 2" x 6" board decking have been removed to the framing in anticipation of being replaced. In addition, the windows have been removed in anticipation of their being reconditioned and reinstalled. In 2001, these were four-over-four, double-hung, wood-sash windows on either side of a central doorway on the southwestern side and a four-light, fixed, wood-sash window northeast of center on the northwestern side.

Building Ruins (Contributing Site Feature – Feature 32), 1880s-1890s (Map Key 32; no photo)

A leveled area (Site Feature 32) representing a former building is on the steep slope below County Road 20, about 200' northwest of the dam across Henson Creek (Feature 1) and 75' west-northwest of the BLM historical interpretive sign on the southern side of the road. The leveled area measures about 14' x 36', oriented northwest to southeast, with the southeastern portion held in place from below by an uncoursed native stone retaining wall up to 3½' tall. The southeastern portion of the leveled area may have been the location of a V-notched log cabin, of which remnants of three logs remain along the northeastern side. These are 12' long, adzed flat on one side, have axe-cut ends, and exhibit wire nails. The logs may have been anchored to the slope behind with wire rope. Additional lumber remnants and one log remnant is present to the northwest. In addition to modern trash from the road above, stovepipe, amber and aqua glass, sheet metal, harness leather with copper rivets, and barrel hoops were found in association with the leveled area. The function of the former building is unknown, but it does not appear to have been residential. It was likely built by workers.

Alterations

Although no building has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Building Ruins (Contributing Site Feature – Feature 16), 1880s-1890s (Map Key F16; no photo)

Adjacent to the northwest of Site Feature 32 is a 4' x 10' (northwest-southeast axis), 2'-deep depression overgrown with currant bushes, designated Feature 16. A lack of artifacts prevents a firm identification of function, but it is suspected that the depression may have been a portion of a worker-built former residential building. It has a 5'-long, 1" x 8" board wall on the southeastern end that is supported by irregular posts on each end. Both cut and wire nails are in evidence. Farther to the northwest, the steep bank is held in place with log cribbing.

Alterations

Although no building or structure has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

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Building Ruins (Contributing Site Feature – Feature 33), 1880s-1900s (Map Key 33; no photo)

Site Feature 33 is a 12' x 21' (southeast-northwest axis) leveled area about 15' southwest of and below Site Feature 32 that probably represents the partial footprint of a former worker-built residential building. The remnant of an uncoursed, native-stone retaining wall is on the southeastern end of the northeastern side. Another segment of retaining wall up to 1½' tall delineates the northwestern side, and a berm of rocky soil delineates the southwestern side of the area. About 6' to the north, the remnant of a retaining wall is built against the hill slope. Artifacts found in association with the area date to the 1880s to early 1900s time period and include clear, amber, aqua, and olive green vessel glass; hole-in-cap, hole-in-top, and Sanitary cans; a Sanitary can that is marked "SANITARY" indicating manufacture between 1904 and 1908 (Rock 1989:65); barrel hoops; coal cinders; wire nails; common brick; white earthenware ceramic fragments; and a zinc canning jar lid marked "MASON FRUIT JAR CO./PHILAD, PA." around a keystone surrounded by radiating lines dating between 1885 and 1900 (Toulouse 1977:140).

Alterations

Although no building or structure has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Building Ruins (Contributing Site Feature – Feature 34), 1880s-1900s (Map Key 34; no photo)

Contiguous to the northwestern side of Site Feature 33, Site Feature 34 is a 10' x 20' (northwest-southeast axis) leveled area with remnants of a stone retaining wall along the southwestern side and a rock alignment on the northwestern side that probably represents the partial footprint of a former residence. Rock and soil is encroaching upon the leveled area from above, a large serviceberry bush covers the southern corner, and large serviceberry and currant bushes cover the northern corner. Artifacts found in association include galvanized sheet metal, galvanized wire rope, window glass, coal cinders, stovepipe, butchered bone, several hole-in-cap cans, one Sanitary can, boot leather, wire, an amber hand-finished beer bottle neck, and aqua and amber vessel glass. A log lying across the area appears to be a fallen utility pole. The function of the former building is unknown, but it does not appear to have been residential. It was likely built by workers.

Alterations

Although no building or structure has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

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Outhouse Hole Depression (Contributing Site Feature – Feature 17), 1880s-1890s (Map Key F17; Photo 49)

A possible outhouse hole is at the base of a rock prominence 50' southeast of Site Feature 33 that is filling with rock from the northeast. Designated Feature 17, it measures 2' x 5', oriented northwest to southeast, and is 1' deep. Artifacts observed in the vicinity include barrel hoops, shoe and boot leather, bedsprings, woven wire, hole-in-cap and hole-in-top cans, and amber and clear vessel glass.

Alterations

Although no building has survived, the outhouse hole has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Gauging Station (Contributing Building 35), ca. 1926 (Map Key 35; Photo 24; Historic Photo 3)

The gauging station (Building 35) is a 6" x 8', oriented southwest to northeast, corrugated sheet-metal shed situated 100' northwest of the northeastern end of the dam across Henson Creek (Feature 1). It is framed with 2" x 4" boards, covered with corrugated sheet metal, and has a corrugated sheet metal front-gable roof. The shed is set on a 6'-wide boardwalk that projects 10' to the northeast and about 4' to the southwest of the building. The boardwalk has a deck of 2" x 10" planks nailed to an 8" x 8" beam framework supported by 8" x 8" posts. Electrical wire enters the top of the southeastern wall, and the interior walls are of fiberboard. The building projects southwestward over a very steep slope at what was probably just above the high water line of the reservoir behind the dam. On the southeastern side of the southwestern-projecting deck is a diagonal boom arm made of a 4" x 6" beam with a small cable sheave on the end. Cable through the sheave suspends a length of iron pipe. A small hand-crank ratchet winch set horizontally on a mount made of 3" x 12" planks regulated the raising and lowering of the cable, probably to gauge the amount of water in the reservoir.

Alterations

The gauging station is in very good condition except that its corrugated sheet metal-covered door has fallen off and is lying adjacent. The building is unaltered.

Upper Mining Complexes

Four interconnected upper mine complexes supplied ore to the Ute-Ulay Mill along Henson Creek. All are on the steep slopes to the northeast of the mill and southeast of Ute Creek. The mine complexes were numbered as they were encountered during the original recording in 2001 from southwest to northeast and their numbering does not reflect their sequential periods of use. The mine complexes farthest upslope are the oldest. Mine Complexes 3 and 4 accessed the First and Second Levels of the Ute vein, respectively (see Map 16), by 1877 and probably produced ore well into the 1880s. Both of these had surface tramways that served as feeder lines to Mine Complex 2, where a large tram house was built in or soon after 1882 to

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transport ore by an inclined surface tramway to the newly completed mill on Henson Creek. Mining at Mine Complex 2 accessed the Third and Fourth Levels of the Ute vein by the early 1880s. By about 1890, the upper mine complexes had largely exhausted the available ore in the upper levels of the Ute vein, so mining focused on Mine Complex 1, where the Fifth Level of the Ute vein was accessed, but ore from the Third and Fourth Levels may have still been procured below ground. A new tram house was built at Mine Complex 1 that reflects this change in focus of mining lower levels of the Ute vein and abandonment of Mine Complexes 2, 3, and 4. Mine Complex 1 and the inclined tramway probably served the mill along Henson Creek until 1904.

Upper Mine Complexes Road (Contributing Structure – Road 3), 1877 (Map Key Road 3; Photo 43).

A 3,150'-long dirt road provides access to the upper mining complexes switchbacks up the steep slope above County Road 20. This road was built by manager Henry Finley in 1877. The road begins on the northern side of County Road 20, just west of Building 38, and quickly climbs the steep southwest-facing slope above. A non-historic metal gate at the base of the switchback east of the redwood water tank (Structure 24) prevents casual vehicle use. The road is seldom used and not maintained, but is in remarkably good condition. It is typically 8'–10' wide, but is somewhat wider at its tight turns. The road continues northeastward beyond the upper mine complexes of the district.

Alterations

The road to the upper mine complexes is unimproved and is typical for a road that was likely built in the 1880s to bring equipment to the upper mining areas of the district. It does not appear to have been graded by heavy equipment. The only place where it has seen recent disturbance is on its lower extent where it passes through the area reclaimed during remediation in 2013 in the vicinity of the headframe (Structure 24) and the hoist house (Building 25).

Mine Complex 1

Mine Complex 1 is the lowest of the upper mine complexes and was connected to the Ute-Ulay Mill by an inclined surface tram. It is also the most recent of the four upper mine complexes that fed the mill. Considering the history of mining and milling at the district, it is likely that Mine Complex 1 was in use between the 1880s and 1904 to access the Third through Fifth Levels of the Ute vein. Waste rock shown on the 1880s photograph of the mine and mill indicates that mining may have originated there in the 1880s (Figure 1), but it was in the early 1890s that the complex became the new upper terminus of the inclined tramway, replacing the earlier upper terminus at Mine Complex 2. The complex consists of a mine adit (Adit 2), a tipple/tram house (Building 26), the remains of a boiler house (Building 27), a wood drum on which the wire rope of the inclined surface tramway rotated (Feature 13), and a log dugout (Building 28). The tipple/tram house (Building 26) is about 875' northeast of the old mill/power plant (Building 11), which was the destination of the inclined surface tramway.

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Adit 2 (Contributing Site Feature – Adit 2), 1880s (Map Key Adit 2; Photo 50)

Adit 2 is the mine opening for Mine Complex 1. It is dug north-northeast into a bedrock face and has a 5'-tall, 9'-wide opening. Some soil from upslope has accumulated at the entrance. The portal of the adit evidently extended about 6' to the south-southeast; this is demarcated by a fallen log post-and-beam framework with vertical boards attached on the eastern and western sides. A 3"-diameter compressed-air pipe leads into the adit. Extending out of the adit is ore car rail that curves westward toward the tipple/tram house (Building 26) about 50' away and southward to a large waste rock pile. Four distinct linear extensions visible at the edge of the waste rock show how the ore car rail was moved periodically to facilitate waste rock disposal. The adit opening was covered by a steel grate in early 2016 and has an aluminum cap adjacent that indicates it was covered as part of a Colorado Division of Reclamation, Mining and Safety project.

Alterations

Adit 2 was covered with a steel grate in 2016 to prevent entry for safety reasons. Even with the grate, the dimensions of the opening are unaltered and the function of the adit is readily recognizable.

Ore Tipple and Tram House (Contributing Building 26), 1890s (Map Key 26; Photos 51 and 53)

West of Adit 2 is a log and wood-frame tipple and tram house (Building 26) that measures 18' x 40', oriented northeast to southwest, with a 10' x 16' (northeast-southwest axis) trestle extension on the northeastern end. Ore car rail on a 12'-long trestle from Adit 2 leads about 50' westward onto the trestle extension on the northeastern side of the tipple/tram house, whereupon it curves southwestward to the center of the ore bin/tipple portion of the building where the ore was dumped through an iron-bar grizzly. The small spacing of the grizzly suggests that the ore may have been crushed prior to being emptied into the tipple. The upper portion of the tipple where the ore was dumped was enclosed in a wood-frame room with a shingled gable roof. This has completely collapsed except for a remnant of the northeastern wall. The forward portion of the ore bin/tipple to the southwest was probably covered by a shed-roof extension that has also collapsed. The trestle portion of the building is constructed of 8"-diameter log legs that support a log framework, on top of which a board floor is laid that supports the ore car rail. The log legs are braced by horizontal and diagonal 6" x 8" beams and 7"-diameter logs. The main portion of the building is built down the slope, with the inclined surface tramway route passing northeast to southwest underneath. Large cribbed log walls on the northwestern and southeastern sides with waste rock behind form the passageway for the inclined surface tramway. These form the foundation for the 18' x 30' (southwest-northeast axis) ore bin/tipple with a southwestern-sloping floor above. Large log beams support the floor of the tipple, with diagonal log bracing from below. The floor and walls of the bin are 3" x 10" and 3" x 12" planks. The upper tipple framework is anchored to the slope to the northeast by flat woven-wire rope. Two small ore chutes project downwards at the southwestern end of the tipple directly over the tram route. These are 14" wide, lined with sheet iron, and were operated from

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above by hand-operated, top-lifting sheet metal gates. A narrow wood platform across the front of the chutes provided access for an operator. An adjacent third ore chute opens just to the southeast and slightly in front of the southeastern-most of the chutes. The ends of the ore chutes are 4' above the ground and are about 6' forward of the ore bin. A single set of rails is positioned beneath the ore chutes that extends into the passageway beneath the ore bin. This indicates that multiple ore cars may have been coupled together and filled. It is likely that the rails split at some point below the building to allow descending tramcars destined for the mill to pass empty tramcars that were being pulled up the inclined surface tramway to be filled at the tipple; the rails below the tipple/tram house have been removed. Adjacent to the northwest of the ore chutes is an X-handled shaft with a ratchet gear mounted on a 3' x 4' framework made of 4" x 8" planks; its function is unknown, but may have been part of a braking system that kept loaded cars in position until it was the proper time to release them down the incline. The ore chutes were enclosed by a 10' x 18' wood-frame room on the southwestern end of the tipple that had 1" x 12" vertical-board walls and a shingled shed roof. The front of this enclosure has fallen off and the roof is sagging.

Alterations

The ore tipple and tram house is unaltered from its original construction, but is suffering natural deterioration. The heavy framing of the building has remained intact, but the more lightly framed overlying structure has largely collapsed. Still, the function of the building is apparent and the manner in which it was used can be readily ascertained.

Tramway Cable Roller (Contributing Structure – Feature 13), 1890s (Map Key F13; Photo 52)

About 75' above the tipple/tram house (Building 26), within a cut section of the upper grade, is an 8'-long, 6'-diameter wood drum (Feature 13) that served as the pivot point for the flat woven-wire rope that connected the tramcars on the inclined surface tramway. The drum was mounted 8' above the ground at its center on a 9' x 11' (southeast-northwest axis), 10" x 10" beam framework set on 8" x 12" posts. The front (southwestern end) is braced by 10" x 12" angled supports. The shaft of the drum is mounted in bearing blocks on 10" x 12" beams attached on top of the sides of the framework. A lever operated a brake band on the northwestern side of the drum from below. The drum itself is constructed with two cast-iron flanged end sheaves on the ends having a recessed wood barrel between supported by a central internal wheel framework. Long bolts that run the length of the drum connect the end sheaves. The evidence of the cable roller and the tram houses indicate that the tramway was funicular, where individual tram cars were connected by a wire rope and the weight of a loaded cars running down an incline used gravity to pull empty cars up the tracks. This required parallel tracks over at least some of the route to enable cars to pass each other, but cars were switched to single tracks on either end.

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Alterations

Although some of the structural supports for the cable roller have given way due to natural deterioration, the structure is remarkably complete and intact. It is a rare survival of a type of equipment that was likely uncommon at the time it was used.

Inclined Tramway (Contributing Structure – Feature 14), 1880s (Map Key F14; Photo 53)

Below the tipple/tram house (Building 26), the route of the inclined tramway (Feature 14) is demarcated by a southwest-oriented, raised grade about 6' wide and 1'–2½' high. Just before it reaches County Road 20 475' away, the route becomes entrenched for about 40'. Below the road, the route cannot be discerned because of more recent disturbance related to the mine and mill operations. Above the tipple/tram house (Building 26) to the northeast, the tram route is visible variably as a slight cut or slight raised grade all the way to the upper tipple/tram house (Building 29), 250' away at Mine Complex 2. The route is wide enough for two tracks to have been in place for it to have functioned in a funicular fashion. The single track beneath the tram house (Building 26) indicates that a switch was used on the upper section.

Alterations

The inclined tramway originated in the early 1880s (Figure 1) and has excellent integrity as a graded route that at one time had rails on ties for the transport of ore from the mine to the mill. The only alteration is the removal of ties and rails from the route, probably by the 1920s. It is readily recognizable as a surface tramway route.

Building Ruins (Contributing Site Feature – Feature 12), 1880s-1890s (Map Key F12; no photo)

About 350' north of Mine Complex 1, above an old piece of road that branches up Ute Creek from the road leading to the complex, is Feature 12, a leveled area where a dwelling may have been situated with domestic trash below. The leveled area measures 8' x 18', oriented north to south, on a western-facing slope. Except for being leveled, there is no other visible evidence that a structure or building was built there except that artifacts seem to emanate from it, including cut nails, window glass, and charred wood; some of the nails appear to have been burned. Axe-cut trees are present in the vicinity. Artifacts extend from the leveled area to the trace road below. They include a brass suspender buckle; a stamped iron sheet metal work clothes button; three four-hole sew-through Prosser ceramic buttons; two lead bullets; five cartridges; butchered bone; hole-in-cap cans; purple, amber, and aqua vessel glass all from hand-finished beer, liquor, and medicine bottles; a leather boot; a tin plate; a cast-iron crank handle; a baking powder friction lid; and a white earthenware coffee cup fragment. The five cartridges are a .50-70 Government centerfire introduced in 1866, a .30 Short rimfire introduced in the 1860s, and three .32 Long rimfire introduced in 1861 (Barnes 1993:114, 372-373); all are unmarked, indicating manufacture before the mid-1880s. The cartridges potentially indicate a very early date for the feature, possibly as early as the 1870s or early 1880s.

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Alterations

Although no building or structure has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Boiler House Ruins (Contributing Site Feature – Feature 27), 1890s (Map Key 27; Photo 54)

About 30' south of Adit 2 is a collapsed wood-frame building that appears to have served as a boiler house (Site Feature 27). The building measured about 10' x 20', oriented southeast to northwest, and is represented by pieces of 2" x 4" board wall frameworks covered with 1" x 6" vertical-board siding. Wire nails were used throughout the construction. A 4½' x 5' (southwest-northeast axis) framework is near the southeastern end of the collapsed remains, and a possible entry is indicated near the center of the southwestern side. Within the debris are portions of 20"-diameter riveted sheet-metal smokestacks, a collapsed barrel, barrel hoops, a shaft bearing block, iron rods, a tobacco tin, a strap hinge, sheet metal, and a cast-iron shaft with a pulley on the end with an offset knob on its face. Coal cinders and slag are scattered throughout the area and have been disposed of in a large pile to the south and southwest. Evidence demonstrates that the building housed a steam boiler that powered machinery for the mine, most likely including a compressor.

Alterations

Although no building has survived, the location has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

Log Dugout (Contributing Building 28), 1890s (Map Key 28; Photo 55)

A log dugout (Building 28) is about 70' upslope to the east of the boiler house. It measures 8' x 12' (northeast-southwest axis) on a northeastern-facing slope. The function of the building is unknown; it may have served as a company-built office, residence, or both. The building has log side walls with log cross beams that support log purlins that ran the length of the roof. The building had either a flat or slightly gabled roof covered with soil that is now collapsed. The front of the building has upright log posts at the corners with 2" x 8" board framing between. A doorway with a vertical-board door is on the left side of the front wall, and a window opening is to the right. Upright log posts formed the back wall. Wire nails were used exclusively in the construction. An iron ore box and a homemade table are inside. The building is in very poor condition. The side logs are rotten, the front wall is leaning outward, the back wall is being pushed inward, and the roof has collapsed.

Alterations

The dugout is in poor condition as a result of natural deterioration. Except for natural deterioration, it has remained unaltered.

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Mine Complex 2

Mine Complex 2 is directly upslope and 250' northeast of Mine Complex 1. It was the earlier upper terminus of the inclined surface tramway (Feature 14) and includes a mine adit (Adit 3), an associated waste rock pile, and a tipple/tram house (Building 29). The tram house was likely put into use in or soon after 1882 (Figure 1) and was clearly replaced by the mine and tram facilities at Mine Complex 1, probably in about 1890. The adit at Mine Complex 2 evidently was used to access the Third and Fourth Levels of the Ute vein. The complex also served as the collection point for ore produced from the First Level of the Ute vein from Mine Complex 3 and the Second Level of the Ute vein from Mine Complex 4.

Adit 3 (Contributing Site Feature – Adit 3), 1880s (Map Key Adit 3; no photo)

Adit 3 is a mine entrance dug northeastward into a solid rock slope. It is 9' wide and 3' tall at the mostly covered entrance, but is about 10' tall inside. The adit opening is in line with the northeastern end of the tipple/tram house (Building 29), about 35' to the southwest.

Alterations

Adit 3 is an unaltered mine opening that has been partly covered by rock naturally eroding from the slope above. No protective grate has been installed over the opening because it is almost completely covered by rock fall.

Ore Tipple and Tram House (Contributing Building 29), 1880s (Map Key 29; Photo 56)

The upper ore tipple and tram house (Building 29) is of almost identical construction as the lower tipple/tram house (Building 26) at Mine Complex 1, except that Building 29 has mortised-and-pegged posts and beams, cut nails throughout the construction, and a set of wood stairs extending to the tramway passageway beneath the ore bin/tipple from the southeast. The dimensions of the trestle approach on the northeastern end of the building and the tipple/tram house itself are identical to the lower building. The southwestern end of the building is collapsing, but it appears that a similar ore chute arrangement was present, enclosed by a wood-frame projection. Building 29 is clearly of earlier construction, being constructed using cut nails (the lower tram house [Building 26] is constructed using wire nails) and is in a more advanced state of deterioration. All of the upper wood-frame structural elements where ore carts emptied their contents into the ore bin/tipple have collapsed, and the major structural members of the ore bin/tipple and the supporting cribbing are rotting and being pushed out of position. Waste rock was disposed of principally to the south and southeast of the tipple/tram house, though some waste rock is also present to the northwest of the building. Posts that originally supported ore car rail for waste rock disposal project from the top of the waste rock. Scattered on the waste rock are ore car rail, a section of sheet-metal smokestack, and hole-in-cap cans. About 35' southwest of Adit 3 is the southeastern end of a surface tram from Mine Complex 4.

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Alterations

The ore tipple and tram house is unaltered from its original construction in the 1880s (Figure 1), but is suffering natural deterioration. The heavy framing of the building has remained intact, but the more lightly framed overlying structure has largely collapsed. Still, the function of the building is apparent and the manner in which it was used can be readily ascertained.

Mine Complex 3

Mine Complex 3 is a mine adit (Adit 4) above a large waste rock pile, a heavy timber framework (Site Feature 30) that is part-way down the waste rock pile, and a surface tramway route that extends from the timber framework to a point 100' northeast of Adit 3 that is directly in line with the inclined surface tramway route (Feature 14). Mine Complex 3 was the place where the First Level of the Ute vein was mined beginning in 1876. Mining through Adit 4 produced ore that was transported to the mill by first moving it on a surface tramway to Mine Complex 2 for transport by the larger surface tramway to the mill along Henson Creek. It is likely that ore from the mine was originally packed out by animals, but with the construction of the surface tramway from Mine Complex 3 in the early 1880s, the smaller surface tramway from Mine Complex 3 was constructed as a feeder line enabling more efficient movement of ore from the mine to the mill.

Adit 4 (Contributing Site Feature – Adit 4), 1876 (Map Key Adit 4; no photo)

Adit 4 is a mine opening dug east-southeastward into a rock face. It is presently 5' wide and 3' tall, having been mostly filled with rock fall at the opening. It appears to be completely collapsed about 12' in. The portal of the adit appears as a 15'-long cut to the west-northwest that is mostly filled with rock and soil from the sides. Northwest of the opening is a large leveled area on top of a large waste rock pile covered with a scatter of coal and coal cinders. Although no building is evident, some milled lumber, wire nails, and window glass are scattered throughout the area, indicating that one or more buildings were present at one time, probably including a steam boiler for a compressor. On the edge of the waste rock pile is a depression that is open to the west that may be where a piece of equipment was set. On the southern edge of the depression is a cast-iron machinery base with two sets of bearing blocks attached. Also on the waste rock are ½"-diameter and 4"-diameter iron pipes, ore car wheels, ore car rail, and strap iron. Downslope are hole-in-cap cans, a riveted sheet-metal smokestack, a shovel blade, and a barrel hoop.

Alterations

Adit 4 is an unaltered mine opening that has been mostly covered by natural erosion from the slope above. Although no building or structure has survived on the adjacent leveled area, it has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed.

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Ore Bin Remnants (Contributing Site Feature – Feature 30), 1880s (Map Key 30; Photo 57)

On the southern edge of the waste rock about 40' below and to the west-southwest of the leveled area is a 12' x 12' heavy timber framework (Site Feature 30), that appears to have served as an ore bin. It has 12" x 12" posts at the corners with mortised 12" x 12" beams top and bottom and 2" x 8" vertical-board walls on the inside of the framework. Several of the 12" x 12" posts and beams are hand-hewn. The bin apparently opened to the south, and the upper portion seems to have broken off. Cut nails were used throughout the construction. It may have served as the upper terminus of a small surface tramway.

Alterations

The ore bin is in poor condition as a result of natural deterioration. Except for natural deterioration, the ore bin is unaltered. Because it is surrounded by waste rock, it has little archaeological data-recovery potential. Its importance to the site is as an engineering feature that is important to the understanding of ore transport from Mine Complex 3.

Tramway (Contributing Structure – Tramway 1), 1880s (Map Key T1; no photo)

A possible surface tramway originates on the southern side of the ore bin (Site Feature 30) and proceeds 300' in a south-southwest direction on a regular downward grade. Although it terminates at a 10' x 20' raised-grade platform 140' upslope of Mine Complex 2, at a point in direct line with the inclined surface tramway route (Feature 14) below, the upper possible tramway is not a direct extension of the inclined surface tramway and is oriented in a slightly different direction. The leveled landing at the end of the possible tramway route may have served as a point where ore was transferred to the ore tipple/tram house (Building 29) for transport on the inclined surface tramway to the mill. The possible tram route from the ore bin (Site Feature 30) begins as a 5'-deep cut that is 5' wide at the bottom. About 40' downslope is a small gear-driven hoist buried in the bottom of the cut. The hoist has a 2'-diameter, wood-lined drum with a depth of 4"; a 2'-diameter gear is on one side of the drum. Farther down the grade, an unusual food can was found. This was a hole-in-cap type can in which the cap end is fit within the sides of the can, rather than over the outside as is typical and how the opposite side of the can is constructed. In order to accommodate the can end, the can sides are swaged outward so that the can end would not fall completely within the can when installed. Similar cans have been found at archaeological sites dating between 1876 and 1882 (Horn et al. 1986; 2008a; Reed 2001).

Alterations

The surface tramway route has fair physical integrity, as it has suffered from natural deterioration. Except for natural deterioration, the bed of the route is unaltered, though ties and rails have been removed. Removal of the ties and rails probably took place when the route no longer was utilized, probably about 1890.

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Mine Complex 4

Mine Complex 4 is on the southeastern side of Ute Creek near the base of the waste rock about 175' downslope and west of Mine Complex 3. It consists of a mine adit (Adit 5), a waste rock pile, and an animal-powered surface tram route that runs on contour southward for 800' to Mine Complex 2. Mine Complex 4 was the opening of the Second Level of the Ute vein, which was initially accomplished in 1877, shortly after the First Level was opened higher up at Mine Complex 3. Ore from Mine Complex 4 was transported by surface tramway to Mine Complex 2 from where it was transported to the mill on Henson Creek by the larger inclined tramway.

Adit 5 (Contributing Site Feature – Adit 5), 1877 (Map Key Adit 5; Photos 58-59)

Adit 5 is a 5'-wide, 1'-tall mine opening that was dug eastward into a solid rock slope. Rock fall covers much of the opening, but the adit interior is about 10' tall and 10' wide. An entry portal extended about 16' to the west and was constructed of a log beam and 12" x 12" post framework covered with a pole roof built using cut nails. The portal has completely collapsed. A 2½"-diameter iron pipe projects about 15' from the portal. Waste rock extends downslope from the portal and across Ute Creek to the northwest. The top of the waste rock is level and likely had one or more buildings or structures built on it, but no clear evidence of those remains. Scattered on top of the waste rock are numerous sections of ore car rail, iron pipe, ore car wheels, amber and purple vessel glass, cut nails, bolts, brackets, and copper wire. Abundant coal cinders disposed of west of the portal indicate that steam-powered equipment was used at the mine, probably including a compressor.

Alterations

Adit 5 is an unaltered mine opening that has been mostly covered by natural erosion from the slope above. Although no structures or buildings have survived on the adjacent leveled area, it has excellent archaeological data-recovery potential. The archaeological deposits do not appear to have been disturbed. Archaeological data can be expected to provide important information about the level of technology used at the mine, particularly the types of equipment that were in use. In addition, archaeological data may shed light on other mining-related activities that took place within the building.

Tramway (Contributing Structure – Tramway 2), (Map Key T2; Photos 58-59)

Extending from the southern end of the waste rock pile is a level tramway grade that runs 800' on contour south and then southeast around the hillside to Mine Complex 2. The grade is 5'–10' wide and has numerous wood rail ties (Photo 59) in place and occasional pieces of rail discarded to the side. The wood ties are worn at the center, indicating that horses, mules, or donkeys were used to pull tramcars along the route.

Alterations

The tram line grade is in excellent condition and includes the rare survival of ties that have been dished out from the passage of animals used to pull tram cars along the route.

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Although most of the rails have been removed, a few pieces remain along the route. The bed of the tram line has not been altered. The tram line was abandoned by 1890 and the rails were probably removed from the route upon abandonment.

Other Upper Mining Elements

A number of mine prospect pits and a mine shaft were found to the east-northeast of Mine Complex 1 and upslope to the northeast of Mine Complex 2. All of the prospect shafts and shafts described below have been subject to natural deterioration, but are otherwise unaltered.

Prospect Pit 1 (Contributing Site Feature), 1880s-1890s (Map Key PP1; no photo)

Prospect Pit 1: 6' x 12' (east-northeast-west-southwest axis) cut 3' deep with waste rock to the west-southwest.

Prospect Pit 2 (Contributing Site Feature), 1880s-1890s (Map Key PP2; no photo)

Prospect Pit 2: 4' x 8' dug 3' deep next to rock outcrop.

Mine Shaft 1 (Contributing Site Feature), 1880s-1890s (Map Key S1; Photo 60)

Mine Shaft 1: 8' x 8', at least 20' deep to water in the bottom covered in early 2016 with a steel grate. An aluminum cap adjacent indicates it was covered as part of a Colorado Division of Reclamation, Mining and Safety project.

Prospect Pit 3 (Contributing Site Feature), 1880s-1890s (Map Key PP3; Photo 61)

Prospect Pit 3: Adit 4' wide, 5' tall where the opening heads northeastward into a bedrock face for 15' on a slightly downward incline. A portal passageway runs southwestward for 30' that is 4' wide and 2½' deep with rock retaining walls at places on either side.

Prospect Pit 4 (Contributing Site Feature), 1880s-1890s (Map Key PP4; no photo)

Prospect Pit 4: 5'-diameter, 2½'-deep pit with waste rock to the southwest.

Prospect Pit 5 (Contributing Site Feature), 1880s-1890s (Map Key PP5; no photo)

Prospect Pit 5: 6' x 8' pit, 4½' deep with waste rock to the west.

Prospect Pit 6 (Contributing Site Feature), 1880s-1890s (Map Key PP6; no photo)

Prospect Pit 6: 4' x 7' pit, 3' deep with waste rock to the northwest.

Prospect Pit 7 (Contributing Site Feature), 1880s-1890s (Map Key PP7; no photo)

Prospect Pit 7: 5'-diameter, 2'-deep pit with waste rock to the west-northwest; two hole-in-cap cans are nearby.

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Prospect Pit 8 (Contributing Site Feature), 1880s-1890s (Map Key PP8; no photo)

Prospect Pit 8: 4'-diameter, 1½'-deep pit with waste rock to west-northwest.

Prospect Pit 9 (Contributing Site Feature), 1880s-1890s (Map Key PP9; no photo)

Prospect Pit 9: 8' x 12', 10'-deep pit with waste rock to the west-northwest; notched logs have fallen in that may have been the upper portion of a cribbed shaft.

Prospect Pit 10 (Contributing Site Feature), 1880s-1890s (Map Key PP10; no photo)

Prospect Pit 10: 8'-diameter, 4½'-deep pit with waste rock to the northwest.

Prospect Pit 11 (Contributing Site Feature), 1880s-1890s (Map Key PP11; no photo)

Prospect Pit 11: 6'-diameter, 4'-deep pit with waste rock to the northwest.

Prospect Pit 12 (Contributing Site Feature), 1880s-1890s (Map Key PP12; no photo)

Prospect Pit 12: 5'-diameter, 3'-deep pit with waste rock to the northwest.

Prospect Pit 13 (Contributing Site Feature), 1880s-1890s (Map Key PP13; no photo)

Prospect Pit 13: 3'-diameter, 1'-deep pit with waste rock to the northwest.

Prospect Pit 14 (Contributing Site Feature), 1880s-1890s (Map Key PP14; no photo)

Prospect Pit 14: 2'-wide, 18'-long trench, 1½' deep. A can lid in the trench is embossed "EAGLE BRAND + N-YORK CONDENSED MILK CO.+" dates between about 1865 and 1900 (Rock 1989:105-106).

Prospect Pit 15 (Contributing Site Feature), 1880s-1890s (Map Key PP15; no photo)

Prospect Pit 15: 7'-diameter, 2'-deep pit with waste rock to the southwest.

Landscape Alterations

During the time that active mining was underway from 1876 to the middle 1960s, the district was under a constant state of flux with mining taking place at various locations during specific time periods and then being abandoned; milling and support buildings being erected, abandoned, and replaced; and residential and community components being built and occupied during the high-employment period of mining and milling from 1876-1903, but only the more substantial residential components occupied thereafter with the decline in the need for a large, on-site labor force. On the upper slopes of the district, abandoned mining locations were probably partly dismantled for reusable equipment and then left to deteriorate naturally. On the lower slopes and along Henson Creek early mining and milling activity was supplanted by later mining and milling activities that often obliterated early buildings and mining and milling features, sometimes leaving them in place and at other times completely removing them.

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Accumulations of waste rock and mill tailings grew through time, probably covering earlier mining and milling evidence, creating a constantly changing industrial landscape. The reduction in mining and milling after 1903 resulted in a dramatic decrease in mine workers resulting in the community of Henson completely ceasing to exist by 1913. Worker-built housing, which was mostly expedient and insubstantial, was largely abandoned and naturally deteriorated. Company-built housing, which was more standardized and substantial, probably proved sufficient for the housing of on-site company personnel and seasonal mining labor after 1913, so was maintained and has survived to the present day. With the resurgence of industrial-scale mining in 1926 and the completion of a new mill in 1930, many workers probably resided in Lake City, less than 4 miles away, and commuted by automobile, though some probably continued to occupy the company-built housing; however, the community of Henson did not reemerge. The resurgence resulted in abandonment and razing of all but the water-powered electrical plant portion of the old mill, but not its complete obliteration.

Overall, the Ute-Ulay Mine and Mill is an evolved, intact, historic mining landscape that retains and visually conveys its architectural, industrial, engineering, and residential history. Complete recordation of the district in 2001 provided information on the state of the property at that time. Since then, some important alterations to the landscape have taken place, primarily in the form of reclamation and remediation of waste rock in 2009 and 2013, but also from having two highly visible buildings collapse and completely removed.

Tailings Impoundments 1-5 (Photo 64; Historic Photos 25-29)

Tailings Impoundments 1-5 were on the northern side of Henson Creek and below County Road 20 in the far western portion of the district. In 2009, remediation and reclamation of the tailings impoundments resulted in the tailings being stabilized, covered with soil, and revegetated, so the impoundments no longer exist in their historic form. The area currently appears as gently rolling terrain with man-made, rock-filled drainage pathways leading toward Henson Creek between artificial hills to direct water away from underlying contaminated soils. Lush vegetation cover grows on the capped sediments consisting of grasses, forbs, and small shrubs. Islands of trees are present on adjacent land not subject to reclamation.

Prior to reclamation, the five impoundments were shallow basins dug out of the alluvial sediments on the northern side of Henson Creek. The basins had dikes of river cobbles and soil mounded to heights up to 12' primarily to their downslope southern and eastern sides with natural topography forming the remaining sides of the impoundments. In some cases, mill tailings had been pushed up the sides of the dikes, apparently to further increase their height. A complex network of expedient roads was evident leading to and around the impoundments. The upper four impoundments had been utilized for mill tailings disposal. These were fed by pipelines contained within wood boxes that at one time had been connected to the mill tailings pipeline that transported the tailings northward from the mill and then on contour westward to the impoundments area. All of the pipe of the distribution networks feeding the impoundments had been removed before 2001, but some of the routes could be discerned in places where

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remnants of the boxes remained. In some cases, the boxes had been collected and deposited in piles. Tailings Impoundment 5 had been constructed, but never received any mill tailings.

Remediation at Tailings Impoundments 1-5 obliterated a leveled area and artifact scatter (former Feature 15) and a shallow depression identified as a collapsed dugout (former Structure 31) documented in 2001 (Historic Photo 29); these elements were considered to be non-contributing elements of the site at the time the remediation was being planned (David Lazorchak, BLM-Gunnison Field Office, personal communication to Jon Horn, November 18, 2016). No additional mitigation was performed to document the tailings impoundments and associated historic elements prior to remediation activities at Tailings Impoundments 1-5 in 2009.

Tailings Impoundment 6 (Photo 62)

Tailings Impoundment 6 was downslope and about 35' south of the mill (Building 6) on the edge of the lower terrace above Henson Creek. The tailings were eroding into Henson Creek, so were stabilized and covered with loose waste rock during the 2013 reclamation. Before reclamation, the impoundment was about 80' x 145', oriented southeast to northwest, and was 6'-8' deep. It had been scooped out of the waste rock terrace and was surrounding by earth and rock dike walls. Remediation stabilized and solidified the tailings in place by mixing them with cement and armoring them with a surface layer of angular waste rock cobbles. Consequently, the areal extent of the tailings is mirrored by the waste rock surface treatment, but the appearance is different.

Tailings Impoundment 7 (Photo 62)

Tailings Impoundment 7 was about 340' east-southeast of the mill (Building 6), on the southeastern end of the district; it was entirely remediated and reclaimed in 2013 using the same technique as at Tailings Impoundment 6 and is now armored with a protective layer of loose waste rock. When recorded in 2001, the area measured 50' x 275' (southeast-northwest axis). The southeastern end was enclosed by a rock and soil berm. A wood fence-like structure stepped down the slope on the southwestern side to contain the tailings and prevent them from escaping down the slope into Henson Creek. The collapsed remains of the structure were 2" x 4" frameworks with 1" x 4" horizontal-board sides. Some supports on the northwestern end had 1" x 6" and 2" x 6" board cross supports and diagonal bracing. A 6"-diameter iron pipe projected southwestward toward the creek about 10' beneath the tailings near the northwestern end of the impoundment; the source of the pipe was not known. Archaeological monitoring was conducted at Tailings Impoundment 7 in 2013. As the upper fence-like structure was removed, it was documented, as were underlying elements, a cribbed wall, and two wood drains (Illustrations 1-4) (Prouty and Horn 2013). The 2013 remediation completely altered the historic appearance of the tailings impoundment and removed its associated features.

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Collapsed and Removed Buildings

Two buildings collapsed and were removed sometime after 2012. One was a 22' x 26' wood-frame barn (recorded as Structure 36 in 2001; Historic Photos 3 and 21) on the southwestern side of County Road 20 across from Building 37. It was constructed using cut nails, so dated to the 1880s. The other was a multiple-room shed (recorded as Structure 39 in 2001; Historic Photos 3, 23-24) about 18' northeast of the wood-frame residence (Building 38). It was a one-story wood-frame building that measured 10½' x 14' with a 6'-square shed extension and an attached 5' x 8½' outhouse. The age of the shed is unknown, but was constructed after 1890.

Integrity

The Ute-Ulay Mine and Mill has remarkable historic and physical integrity for a mining property that was operated for nearly 100 years, from the 1870s to the 1960s. Following are assessments of the seven aspects of integrity of the property. Four property types are represented at the site – 1) Hard Rock Mine – Shaft Mine and Tunnel Mine, 2) Ore Concentration Facility – Concentration Mill, 3) Mining Settlement and Residence, and 4) Rural Historic Mining Landscape as defined in *The Mining Industry in Colorado* Multiple Property Documentation Form (MPDF) by Fell and Twitty (2008) – and four complementary property types of Mining Habitation Property, Ore Extraction Property, Hydroelectric-Power Generation Property for Mining, and Ore Production Property as defined in the *Hinsdale County Metal Mining* MPDF by Conner (1999) – assessments of integrity for these will be discussed (See Section 8 for further discussion of property types). The property satisfies the registration requirements under both MPDFs. For all of the property types, integrity of Location is consistently high because the district is where the mining, milling, and residential occupation took place, and those historic activities form a dramatic and immovable historic mining landscape.

As a Hard Rock Mine, integrity of Design is very good, as the property retains and conveys the important elements of its organization and engineering. Mining sites of long duration rarely survive in unaltered form. Instead, they derive their significance in terms of integrity of Design from their retention of certain aspects of their original design and their ability to illustrate how its design evolved over time. In the case of the Ute-Ulay Mine and Mill, the progress of much of the mining left early elements from the 1880s and 1890s intact in the upper reaches of the property at the mining complexes high on the mountainside. Early mining and milling elements lower on the slope and on the bank of Henson Creek saw considerable change with the resumption of mining beginning in 1926, with some elements retained and reused, but a number of new elements added. Later historic elements from the 1926-1967 time period are more intact as a complete system. Contributing to this is the 1930 mill, which is the constituent element of the property as an Ore Concentration Facility. The mill, built in 1930 and upgraded in 1951, retains excellent integrity of Design because the building is intact, unaltered, and all equipment is present. The flow of materials and processes used are readily recognizable and understandable because all of the equipment is present. As a Mining Settlement and Residence, integrity of Design in terms of layout is good for the boarding house and residential buildings, as they were sited to face the former wagon road (current County Road 20). Design is less evident

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for archaeological elements, as they are representative of residential use that was never part of a formal layout, though both the standing buildings and archaeological components convey the spatial organization of the community. The overall design as a mine, mill, and place of residence is excellent as a Historic Mining Landscape.

Integrity of Setting has remained largely intact with no modern intrusions. This is particularly true as a Hard Rock Mine and Mining Settlement and Residence. The only change of the Hard Rock Mine is a natural breach of the dam on Henson Creek that has resulted in it no longer retaining a reservoir on the creek above. The integrity of Setting as an Ore Concentration Facility and a Historic Mining Landscape has been somewhat diminished because of modern remediation and stabilization of tailings, with revegetation and recontouring of Tailings Impoundments 1-5 in the westernmost part of the district in 2009 and stabilization of tailings in Tailings Impoundments 6 and 7 and covering of those areas with waste rock in 2013. Tailings Impoundments 1-5 now has a more natural appearance, whereas changes at Tailings Impoundments 6 and 7 have resulted in a difference in appearance of color and texture: the tailings were yellowish, powdery soil, and the areas are now covered with dark, angular waste rock cobbles. The reclamation work at Tailings Impoundment 6 and 7 was done carefully so that no adjacent historic elements were directly impacted, so the changes are visual and did not diminish the important mining, milling, or residential portion of the district.

Integrity of Materials and Workmanship are good for the standing buildings that are constituent elements of the Hard Rock Mine, Ore Concentration Facility, and Mining Settlement and Residence, as materials are all original or are materials used during the historic period in modifications that enabled the buildings and structures to continue to be used. Recent stabilization work has resulted in the use of compatible in-kind materials, except in the case of new roofing, which extends the life of the buildings, but is reversible and has the potential to be replaced with more in-kind materials in the future (Fell and Twitty 2008:230-231; Twitty 2009 298-299). Integrity of workmanship is excellent, with the log and wood-frame construction of buildings and structures and historic modifications being intact. The integrity of Materials and Workmanship contribute to the integrity of the Historic Mining Landscape.

Integrity of Feeling is excellent as the property is clearly a Hard Rock Mine and Ore Processing Facility. Integrity of Feeling is good as a Mining Settlement and Residence, but is not as clear because the buildings are rather plain and the archaeological components are not highly visible, though the leveled areas, stone outlines, outhouse hole depressions, and artifacts are recognizable as having originated from residential use. Taken as a whole, integrity of Feeling for the Historic Mining Landscape is excellent because of the dramatic natural setting and the clear evidence of historic mining, milling, and residential use with a very complete complement of buildings, structures, and transportation elements, and an absence of modern intrusions.

Strong integrity of Association exists as a Hard Rock Mine and Ore Concentration Facility because buildings, structures, and features amply illustrate the property's function as a large-scale mine and mill (Fell and Twitty 2008:177-178). The mill has a strong sense of

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connectedness with the surrounding mining operation. The mill building and all of the equipment it contains are its character-defining characteristics (Fell and Twitty 2008:203-204). Integrity of Association is good as a Mining Settlement and Residence as the residential buildings and archaeological elements are interrelated and in close proximity to the mining elements of the district. As a Historic Mining Landscape, the mining, milling, and residential elements in a mountain setting lacking modern intrusions provide strong integrity of Association. Mine and mill buildings and structures, a suite of residential buildings that have not been altered substantially, readily apparent transportation systems, and mine shafts and adits readily demonstrate the mining system and support structure of the mine, mill, and community. Archaeological elements contribute to the sense of complexity of the property. Although some elements of the systems in use through time have deteriorated, those systems can still be readily discerned and the evolution of the site easily understood.

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8. Statement of Significance

Applicable National Register Criteria

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

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

Criteria Considerations

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

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

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Areas of Significance

(Enter categories from instructions.)

ARCHAEOLOGY/Historic – Non-Aboriginal

ARCHITECTURE

ENGINEERING

EXPLORATION/SETTLEMENT

INDUSTRY

SOCIAL HISTORY

Period of Significance

1876–1903

1930–1967

Significant Dates

1871, 1874, 1876, 1882, 1899, 1901, 1926, 1930

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

EUROPEAN

Architect/Builder

John J., Lewis, and Robert Crooke

Crooke's Mining & Smelting Company, Ltd.

The Lake City Mining Company, Ltd.

Ute and Ulay Mines, Ltd.

Auric Mining Company

Western Mining Company

M. B. Burke Mining and Investment Company

Colorado Standard Lead Zinc Mines, Inc.

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Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Ute-Ulay Mine and Mill is a representative large-scale industrial mining and milling complex and residential community from the entire period of hard-rock mining in Colorado as defined in *The Mining Industry of Colorado* MPDF. Under Criterion A, the Ute-Ulay Mine and Mill is significant in the area of Industry as a representative large-scale silver and lead mining and milling complex in the Colorado mountains and one of the most productive in the Lake City area. The 1876-1903 and 1930-1967 periods of significance are the years that productive mining took place at the property. Although the Ute and Ule veins were discovered in 1871, the period of significance for the complex begins in 1876 when the Ute and Ulay began to undergo industrial-scale mining by the Crooke Brothers. The mine operated under a variety of owners through 1903, when complex ores were encountered that defied profitable separation. Once new technologies were developed in dealing with these complex ores, a new mill was completed in 1930 and the mine and mill operated on a commercial scale again into the middle 1940s. Thereafter, mining and milling was conducted sporadically in the early 1950s and the mid-1960s. The end of productive mining in 1967 provides the termination of the period of significance. Occasional use of the mill to process ore from other mines took place in the 1980s, but the Ute-Ulay did not function as a fully industrial complex as it had before.

The district is further significant under Criterion A for Exploration/Settlement and Social History. The community of Henson grew up around the mine and mill beginning in 1876 and lasting until 1903. In addition, during the same period of time, the prosperity of the mine and mill operation was the prime economic force that resulted in the establishment and growth of nearby Lake City. In 1899, a labor strike at the mine and mill resulted in the expulsion of Italian laborers. The period of significance for Exploration/Settlement is 1876-1903, which covers the primary period of time that the community of Henson existed on the property. The period of significance for Social History is 1899, the year of the labor strike.

Under Criterion C, the district is significant for both Architecture and Engineering for its collection of intact buildings, equipment, and mining and milling elements indicative and representative of the adaptation of mining in Colorado's mountains. The mining and milling technologies that took place at the property, much of which is extant, were state-of-the-art for the periods that the mine was in operation. The period of significance for Architecture and Engineering is 1876-1903 and 1930-1951, which covers the periods of time when mining and milling improvements were made and the high level of technology and engineering in use at the complex.

Finally, under Criterion D, the Ute-Ulay Mine and Mill is significant in the area of Archaeology/Historic – non-aboriginal because it contains archaeological deposits that are likely to yield important information about the historic use of the property industrially and as a place of residence. The period of significance for Archaeology is 1876-1903, which covers the period of time when the archaeological materials were deposited at the height of the residential and

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industrial activities at the property. The complex society that grew up around the mine and mill reflected by the community of Henson can largely be explored archaeologically for the 1876-1903 period of significance.

The Ute-Ulay Mine and Mill has a full complement of standing mining and residential buildings, structural ruins of additional surface mining and residential buildings, numerous mine openings with associated waste rock, connecting surface tramways and tram houses, reclaimed mine tailings, water control and transport elements, power production remains, and associated archaeological deposits. The elements of the district range from intact to deteriorated, retain sufficient integrity to be readily recognized and interpreted, and are important mining landscape elements in that they are highly visible from County Road 20, which passes through the district. The mining elements on the steep slope of the district are the source of the ore processed in the mills along Henson Creek in the lower portion of the district. The mining elements on the steep slope above County Road 20 exemplify “adaptations to the difficult environmental conditions of high-altitude mining” as discussed in the mining context for adjacent San Juan County, *Mining Resources of San Juan County* MPDF (Twitty 2009:F-257). Character-defining attributes of the district are buildings, features, and artifacts representative of mining, milling, assaying, power production, and residential living facilities.

The complex exhibits four property types: 1) Hard Rock Mine – Shaft Mine and Tunnel Mine, 2) Ore Concentration Facility – Concentration Mill, 3) Mining Settlement and Residence, and 4) Rural Historic Mining Landscape as defined in *The Mining Industry in Colorado* Multiple Property Documentation Forms (MPDF) by Fell and Twitty (2008) – and four complementary property types of Mining Habitation Property, Ore Extraction Property, Hydroelectric-Power Generation Property for Mining, and Ore Production Property as defined in the *Hinsdale County Metal Mining* MPDF by Conner (1999). In particular, the engineering, industrial, and architectural features retain sufficient integrity to satisfy the registration requirements under both the statewide and county-specific MPDFs (Conner 1999; Fell and Twitty 2008). Although the Ute-Ulay is in Hinsdale County, the MPDF mining context for adjacent San Juan County, *Mining Resources of San Juan County* (Twitty 2009), a subcontext to the NRHP *Mining Industry in Colorado* MPDF (Fell and Twitty 2008), also provides additional information, as it is an outgrowth of the statewide mining context and is more comprehensive in the treatment of mining in the San Juan Mountains than either *The Mining Industry in Colorado* MPDF (Fell and Twitty 2008) or the *Hinsdale County Metal Mining* MPDF (Conner 1999).²⁰ The discovery and operation of the mine and mill falls mainly within 12 of the 14 periods of significance, as defined by Twitty (2009). These are: Return to the San Juans, 1870-1874; Settlement and Establishment of Industry, 1875-1881; The Early 1880s Boom, 1882-1885; The Late 1880s Slump, 1886-1889; The Value of Silver is Restored, 1890-1893; The Silver Crash, 1894-1897; The Great Mining Revival, 1898-1910; Major Decline, 1922-1932; Great Depression Era Revival, 1933-1939; World War II, 1941-1945; Post World War II Recovery, 1946-1954; and An End to Mining. In

²⁰ N.B.: although a helpful resource for further context and discussion of mining in the San Juan mountains, the *Mining Resources of San Juan County* MPDF (Twitty 2009) cannot serve as a cover document for the Ute-Ulay as it is county-specific to San Juan County only.

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The Mining Industry in Colorado MPDF (Fell and Twitty 2008), the property falls within three periods of significance: Gold and Silver Mining, the San Juan Mountains: the 1860s to the 1890s; The New Focus on Gold: the 1890s to circa 1900; and The Long Decline: circa 1900-2005. In the *Hinsdale County Metal Mining* MPDF (Conner 1999), the property falls within all four of the defined periods of significance: Exploration Period (1761-1876); Decade of Promise and Disappointment (1880s); The Gilded Age (1890s); and All That Glitters Is Not Gold (1900-1950).

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

Criterion A

Under Criterion A, the complex exemplifies a well-capitalized mining operation in the Colorado mountains, with production, transportation, processing, and residential elements represented. Mining was the principal reason for the settlement of the mountainous portions of Colorado and was a key industry in the development of the state. As a major producer of mineral wealth, the Ute-Ulay Mine and Mill was a major contributor to regional settlement and the mining industry of the state.

The property was the focus of intense speculation by parties interested in mining investments with the prospect of high returns. The property played an important role in international commerce because it saw considerable investment by English capitalists, who invested heavily in the property to provide it with the most current technologies available at the time with the expectation that their investment would return untold riches. The English investors saw realization of the high profits they sought at times and major losses at others. During this time of rampant speculation, the Ute-Ulay was portrayed as an example of the dangers of investing in ventures of high risk encouraged by aristocrats not fully informed of actual conditions and as a warning to beware of unscrupulous promoters. In addition, the importance of the mine in local economic activity was immense, as it was the primary commercial force responsible for the development of Lake City and was the impetus for the extension of rail service to the town by the Denver & Rio Grande Railroad.

The mine is significant under the area of Industry because it was the most productive mine in the Lake City region as an industrial-scale mine that concentrated its ore in a modern mill. It operated successfully because it was an integrated system that incorporated extraction facilities, transportation systems, power production facilities, and an ore beneficiation mill that resulted in profitable mineral extraction. The complex is representative of the importance of mining in Hinsdale County, Colorado, and the western U.S. and is typical of tunnel and shaft mines and the scale of mining of a productive mining venture from the 1870s to 1960s time period. The property is also important because it is representative of initial investment by eastern U.S. capitalists, who then transferred ownership to English investors. This use of outside investment was critical in the development of the mining industry of Colorado, Hinsdale County, and the rest of the West and is demonstrative of the international economic importance of

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western U.S. mining in the last half of the nineteenth century. The Industry area of significance has 1876-1903 and 1930-1967 periods of significance that mirror the periods of profitable mining and refinement efforts.

A significant Social History event was the 1899 strike at the Ute-Ulay Mine and Mill. The strike was due to a change in company rules that required laborers to live in company boarding houses. Italian laborers were most affected, as they previously had found living on their own was less costly and many had established residences with their families, particularly in nearby Little Rome. To support the Italian laborers, the Western Federation of Miners called a strike on March 14, 1899. On March 17, 210 National Guard troops arrived on the scene, along with the Italian Consul from Denver. The strike was quickly broken, resulting in all of the Italian laborers being expelled from the property. Despite having been the prime ethnic group employed at the time, Italians ceased to be employed in any numbers at the property from that time onward (Coleman-Fike 1999). This was one of many strikes at mines in Colorado, beginning with strikes in Cripple Creek in 1894 and Leadville in 1896-1897 and culminating in the 1903-1904 Colorado Labor Wars with strikes in Idaho Springs, Telluride, Denver, Colorado City, and Cripple Creek, and the most famous and devastating in the coal fields of southeastern Colorado at Ludlow in 1913-1914. Although the strike at the Ute-Ulay was unsuccessful in attaining the goals of the strikers, it drew attention to unjust management policies toward labor that gradually added to the momentum to reform labor relations.

The Ute-Ulay Mine and Mill is significant under the area of Exploration/Settlement with a period of significance from 1876 to 1903. The Ute and Ule veins were initially discovered in 1871 when the area was still part of the Ute Indian Reservation. After the Utes ceded the San Juan Mountains in 1873, miners returned to the property in 1874 and the rich ore at the mine and other nearby properties resulted in the establishment of Lake City in 1875. The Ute-Ulay Mine proved to be the richest mining property in the region and sustained the growth of Lake City through 1903. In addition, beginning in 1876, the large workforce employed at the mine and mill resulted in the establishment of the community of Henson, which was interrelated with the industrial buildings of the mine and extended westward; a separate, satellite community of Italian laborers was on the south side of Henson Creek in a separate district outside the boundary of the Ute-Ulay Mine and Mill, known as Little Rome. Henson can probably be best classified as "Workers Housing" as opposed to an "Unincorporated Settlement," as defined by Fell and Twitty (2008:220-221) and Twitty (2009:289-290) and "Mining Camp and Town," as defined by Conner (1999:24), even though it had a post office and some businesses and the community was named. There was no specific pattern of layout, no formal community organization, and no means for transfer of property ownership. Between the standing buildings above County Road 20 in the western portion of the district and the archaeological remains of residences, outhouses, and artifacts on both sides of County Road 20, the Henson community is readily recognizable, can be easily interpreted, and has potential for additional important information to be obtained through archaeological investigation (see additional information under Criterion D, below).

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Criterion C

The Ute-Ulay Mine and Mill is significant under the area of Architecture. As a Hard Rock Mine property type, the functional layout of the mining operation through time is evident. Intact buildings and equipment are rare examples of the adaptation of mining in Colorado mountains and are engineering, technology, and architectural elements representative of the mining that took place. Character-defining elements include shafts, adits, prospect pits, mining shops, other buildings and features, and transportation systems. As an Ore Concentration Facility, the mill (Building 6) is an excellent example of a flotation mill from 1930, with upgrades dating to 1951. The mill contains all of its equipment, so its design and engineering are readily evident, and the ore treatment processes it used are intact and readily understandable and interpretable. The mill building is representative of mills of the time utilizing gravity as part of the industrial flow. The building form follows the industrial processes and functions. The large size makes it an important element of the larger mining operation and historic mining landscape. Standing architecture related to the Mining Settlement and Residence property type has survived that is representative of a typical boarding house and workers residences in the San Juan Mountains. Taken together, the standing buildings, structures, and architectural features are important elements of a Historic Mining Landscape and are representative of the mining and milling that took place there and the settlement pattern of workers' housing that formed the associated and interrelated community of Henson. They also are representative of the evolution of land use at the property.

All 24 of the standing buildings are significant as good examples of Architecture related to industrial mining, milling, and residential occupation by mine employees. These were constructed from the 1880s to the 1950s and are representative of the mining, milling, and residential activities that took place at the site. They form a cohesive architectural complex that is representative of vernacular architecture typical of mining sites in Colorado. More than half of the buildings (13) were constructed in the 1880s and 1890s and are considered rare survivals from the early mining period in the state in terms of diversity of function, condition, and number. Most continued to be utilized until the end of the period of significance of the district in 1967; however, the two ore tipple/tram house buildings high on the slopes in the northern portion of the property had shorter periods of use and are rare survivals of their architectural types. Other than the two ore tipple/tram house buildings, which remain unaltered, but subject to natural deterioration, the other 11 surviving buildings constructed in the 1880s and 1890s saw continued reuse that is typical of mining sites in Colorado. Alterations are most typically from routine maintenance that resulted in changed roofing materials, small additions, and attachment of other siding material over the original siding. The most substantive change to a building was the addition of upstairs dormers on the boarding house, probably in 1926 (Colorado Bureau of Mines, *Report to Bureau of Mines for the Year 1926, Ute-Ulay Mine*). In all instances, historic alterations were done to enable the buildings to continue to function as important elements of the mining complex, the basic form of the buildings is readily recognizable, the original construction can be easily determined, and the alterations have minimal impact on their architectural integrity. Several buildings were added in 1926–1930 and 1950–1951 and are typical buildings from the later operation of the mine and mill. All are unornamented, vernacular buildings that are

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representative of their functions, materials, climate, and region. The residential buildings were utilitarian and represent the working-class nature of the population that worked at the Ute-Ulay and resided at Henson. The buildings also reflect that Henson never developed into a permanent settlement, so investment in buildings of stone or brick never took place and residences that have not survived as anything other than archaeological sites reflect the transient and undependable nature of mining jobs of the time.

The district is also significant for Engineering. The investment in the property by investors financed the installation of the most up-to-date equipment and technologies available in the 1880s and 1890s. This included mining equipment, milling equipment, tramways, power plants, and water-control systems that all came together to form a first-class mining and milling operation. The property is representative of typical and innovative means used to move ore in the steep, rugged terrain of the San Juan Mountains at productive mines. The three surface tramways, two tram houses, and the tramway roller are excellent examples of land transportation systems used to connect mining facilities and are rare survivals dating to the 1880s and 1890s. The construction of a flotation mill in 1930 served to overcome ore separation problems that caused the mine to shut down in the early 1900s. The mill was upgraded in the early 1950s and is a rarity in the region, being one of only a few mills that still retains all of its equipment and can be readily interpreted.²¹ The period of significance for Engineering mirrors that of the district (1876-1903, 1930-1967).

Criterion D

The district is significant for Archaeology/Historic non-aboriginal, particularly in relation to information that can be yielded in relation to research questions investigating Exploration/Settlement and Social History themes. Numerous areas containing archaeological deposits are readily evident within the district. Most of the archaeological deposits are associated with the Mining Settlement and Residence property type, where archaeological integrity is sufficient to identify residence locations and characteristic ancillary buildings (outhouses) and artifacts that can provide important information about everyday life of workers, household composition, diet, socioeconomic status, and, potentially, ethnicity. Others are associated with the Hard Rock Mine property type, where archaeological features and deposits are present that can contribute to the understanding of the mine operation and technologies. Important archaeological deposits are most common at the numerous residential and industrial components that no longer contain standing architectural elements, depressions interpreted as privy pits, and artifact scatters, including Dump 1, where important information about the

²¹ Only nine other concentrating mills with standing or mostly standing buildings are known in southwestern Colorado (San Juan Mountains). The only other intact flotation mill in the region is the Mayflower/Shenandoah-Dives Mill (5SA.6717; listed National Historic Landmark, NRHP 2000) outside of Silverton, constructed in the late 1920s and updated with later equipment. The Pandora Mill (5SM.3536), the Lewis Mill (5SM.4180; listed NRHP 2009), the Matterhorn Mill (Valley View Leasing and Mining Co. Mill, 5SM.6717; listed NRHP 2010), the Frisco Mill (5SA.165; listed State Register 2005), and the Lackawanna Mill (5SA.280) are former flotation mills with mill buildings in good condition but have had nearly all of their equipment removed. The Empire Chief (5HN.375; listed NRHP 1999) is a flotation mill that has a partly standing mill building and some equipment still present from the 1920s. Earlier stamp mills include the San Juan Chief (5SA.38), which was built in the 1890s, but contains little equipment and has a less intact mill building, and the Sound Democrat Mill from the early 1900s (5SA.1537; listed NRHP 2015).

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activities that took place there, the nature of the buildings that were once present, and the lives of the workers that resided or worked there can be expected. These archaeological components have a period of significance from 1876 to the 1903. In most areas, artifacts can be expected to be relatively shallowly buried, perhaps only 10-20 cm deep, but within privies and trash pits, deposits may exceed 1 m.

Around standing buildings, archaeological deposits can be expected that can provide important information about the activities carried out within. This may be particularly important at the assay office and company office, as they are perhaps the earliest buildings still standing and their functions may have changed through time. In addition, archaeological deposits at the various mine complexes may be able to provide information about equipment and the level of technology that can flesh out what is known from the historical record.

The most important archaeological deposits are those that can provide important information about the composition and layout of the community of Henson as it existed from about 1876 to 1903. These deposits can be expected to be able to provide important data about the workers at the Ute-Ulay Mine and Mill and may prove to be important to our understanding of the ethnic groups present, as people of diverse cultural backgrounds were residents. Archaeology can be anticipated to play an important role in identifying the function and period of uses of many of the building locations in the Henson community.

Archaeological context for the community of Henson can be developed through examination of the historical archaeology context for Colorado (Church et al. 2007). Mining was the primary reason for the existence of Henson, so the industry theme may be a major avenue of research. The settlement theme is probably the most comprehensive avenue for archaeological investigation and provides a wide number of directions for future work. The town was comprised of several businesses for the convenience of the community's residents. Archaeology can illuminate the nature and breadth of the businesses in the town. The historical record does not provide any information as to where businesses in Henson, such as saloons or merchandise stores, were actually situated, so archaeological data may be the only way their placement can be determined with certainty. Archaeological deposits can be anticipated to reveal important information about households and how residents adapted to life in a high-elevation mining camp. Residential components of the town can provide good comparative data for households with important research avenues including comparisons between mine workers and mine managers or other professionals in terms of socioeconomic status, consumer choices in goods, diet, health, and vices. It is possible that European ethnicity may also be a variable that will come into play, with Italian and Russian ethnicity having the highest likelihood of being recognizable. Recreational facilities, the saloons, round out the enterprises present in the community that were frequented by residents.

Little archaeological work has been conducted on settlements in Colorado in a comprehensive way. Archaeological excavations were conducted at Little Rome, near but separate from the Ute-Ulay Mine and Mill, where Italian laborers that worked at the Ute-Ulay resided in the 1890s (Ringhoff 2001). The results from Little Rome would provide excellent

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comparison to the residential archaeological components at Henson. Other good community studies using archaeological data are of Berwind (5LA.2175), a coal mining town in southeastern Colorado (Wood 2002); Dearfield (5WL.744; listed NRHP 8/4/1995), a 1910s African-American agricultural colony on the Eastern Plains (Wooley 2012); and Old Las Animas City (5BN.176), also on the Eastern Plains (Pickrell 2012). Only Little Rome is associated with precious metal mining and only Old Las Animas City and Little Rome are of a comparable age to Henson. Components of settlements have seen somewhat greater archaeological investigation. Excavations at the Vanoli site (5OR.585.34) in Ouray and the Dallas townsite (5OR.69) were of portions of mining communities of comparable age to Henson (Baker 1976; Buckles et al. 1986). The Vanoli site work has not been fully reported and may not provide comparable data, and work at the Dallas townsite was of such small scale as not to be of much comparative value. Individual mining residences have been dug at Elkton (5TL.72) and Independence (5TL.78) in the Cripple Creek Mining District (Sara et al. 1998). Only recordation and archaeological assessment work has been done at Animas Forks (5SA.26) in nearby San Juan County and at Lincoln City (5ST.381) in Summit County (Horn 2010; Twitty 2010).

The labor pool employed at the Ute-Ulay can largely be explored through archaeological investigations because it is through archaeology that important information about the composition and interactions of the labor force at the Ute-Ulay Mine and Mill are likely to emerge. Immigrants from many parts of the world were enticed to America because of the economic opportunities it afforded them. The Colorado mining industry was a major employer of immigrant labor. The importance of immigrant labor at the Ute-Ulay Mine and Mill as a major employer in the region is exemplified by the census data for the Ute-Ulay Mine and Mill and the community of Henson. Italians were known to be the predominant ethnic group employed at the Ute-Ulay mine between 1890 and 1899, numbering about 100 workers. Other laborers and skilled workers came mainly from Western Europe, including Germany, Prussia, Sweden, Denmark, Norway, Finland, England, Wales, Ireland, and Scotland. A surprising number of individuals were from Russia. Archaeology is likely to demonstrate dietary and product preference characteristics and social markers of members of different ethnic groups and individuals of different socioeconomic levels that can be used to compare and contrast them. Information from Henson can be used to compare with the data already collected about the Italian residents of Little Rome, which was a separate community of workers that were also employed at the Ute-Ulay Mine and Mill in the 1890s.

Historic Background

The Ute-Ulay Mine and Mill complex is comprised largely of the Ute, Ule, Ule Mill Site, Bushnell, and Bushnell Mill Site patented mining claims, with portions of the Saxon and Equator Mill Site patented mining claims partly within the boundaries (Table 2). These claims proved to be very valuable because of the rich silver and lead ore that they contained. Unpatented claims within the boundaries include the J. J. Crooke Placer, and the Monitor and Annie lodes. Much of the area was overlaid by the Yankee Doodle, Cuter, and Free Lance mining claims that were patented in 1899, probably to eliminate any potential for additional mining claims to be made over the mining territory of the Ute-Ulay Mine and Mill so as to avoid potential legal challenges.

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The mining claims are in the Galena Mining District of Hinsdale County, Colorado, about 3.8 miles west of Lake City along Henson Creek, just east of Ute Creek.²² The Ute-Ulay is reported to have been the most productive mining property in Hinsdale County with production of \$12,000,000 before 1900. By contrast, the second largest ore producer in the Lake City area was the Golden Fleece (5HN.518), which was considered fabulously rich and produced \$1,400,000 in ore (Irving and Bancroft 1911:17). Two prominent veins were the source of the rich silver and lead ore that was mined from the Ute-Ulay; both are within the Picayune volcanic group. The Picayune volcanic group is the earliest of the lavas of what formerly had been termed the Silverton volcanic series dating to the Tertiary (26-30 million years ago) (Lipman et al. 1973; Tweto 1979). It is comprised of augite andesite in tuff, breccia, or agglomerate in massive flows.²³ Fractures and fissures in the rock allowed minerals to be differentially deposited. The Ulay vein was over 380' long, averaged 5' in width, and reached a depth of 1,600'. The Ute vein that extended into the area mined by the Hidden Treasure Mine (no site number, unrecorded), was over 2,700' long, averaged 4' wide, and extended to a depth of over 1,400' (Irving and Bancroft 1911:39). Ore from these veins was galena, argentiferous tetrahedrite, ruby silver, pyrite, and chalcopyrite, containing predominately lead and silver with some copper present as a byproduct.²⁴ Little gold was present. With depth, sphalerite was encountered that contained considerable zinc (Irving and Bancroft 1911:46-47).²⁵ The main workings on the Ulay vein, prior to 1926, were through an inclined shaft trending northwestward from which nine levels were run. The upper three levels (Levels 3, 4, and 5) were not extensive. Level 6 was worked somewhat more, but Levels 8, 9, and 11 were where the majority of the mining took place. The Ute vein is about 500' northwest of the Ulay vein and roughly parallel to it. Prior to 1926, the workings on the Ute vein had been opened by two crosscut tunnels on Levels 1 and 2. A very crooked adit opened into Level 4. The lowest level was through a long crosscut tunnel that ran below ground to the line of the Hidden Treasure claim.²⁶

Table 2. Patented and Unpatented Mining Claims within National Register Boundary

Name	Mineral Survey	Ownership History
Ute Lode and Mill Site Ute Lode	147A&B 148	Located by J. K. Mullin, Henry Henson, Charles C. Godwin, and Albert Mead April 27, 1871; relocated by them July 11, 1874. Sold to Lewis Crooke May 31 and June 11, 1877. Sold to Crooke Mining and Smelting Co.

²² The Galena Mining District encompassed rugged country in Hinsdale County along Henson Creek west from Lake City to the Ouray and San Juan County lines (Irving and Bancroft 1911:12).

²³ Augite is a highly variable silica mineral commonly found in igneous and metamorphic rock. In this case, it is combined with andesite, a porphyritic igneous volcanic rock. Tuff is consolidated volcanic ash. Breccia is broken fragments of minerals or rock cemented together. Agglomerate is a mass of large, coarse, rock fragments resulting from a lava flow or explosive volcanic eruption.

²⁴ Galena is lead sulfite ore, often accompanied by silver. Argentiferous tetrahedrite is a complex sulfide mineral containing copper and antimony in a crystalline form with distinctive cubic (tetrahedral) crystals in company with gold and silver. Ruby silver is a dark red silver ore comprised of silver antimony sulfide, also known as pyrargyrite. Pyrite is iron disulfide with a cubic crystalline form and gold color. Chalcopyrite is copper and iron sulfide that is a major copper ore.

²⁵ Sphalerite is zinc sulfide ore.

²⁶ A crosscut is a passageway connecting to shafts or tunnels.

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Name	Mineral Survey	Ownership History
		September 25, 1878. Patented by Lewis Croke, January 30, 1879.
Monitor Lode	282	Located by C. F. McConkey and William Phillipe, June 28, 1875; relocated July 31, 1877 by A. R. Bushnell ²⁷ , John G. Clark, Joseph Breck, A. Nathan, Joe Nathan, John Schniner, and Fred J. Miller. Not patented.
Bushnell Lode and Mill Site	1212A&B	Located by George P. Blunt and sold to John J. Croke on December 28, 1878. Croke sold it to the Croke Mining and Smelting Co. on October 15, 1881. Patented by the Croke Mining and Smelting Co. on December 20, 1894.
J. J. Croke Placer	1280	Located by John J. Croke, January 15, 1879, who amended the location September 20, 1882. Entry cancelled December 30, 1885.
Equator Mill Site	1366B	Located by John H. Shaw and patented by him on January 30, 1886.
Annie Lode and Mill Site	2663A&B	Located by George L. Doherty and sold to the Croke Mining and Smelting Company on May 1, 1879. Not patented.
Yankee Doodle, Cuter, Free Lance, and others	12265	Located in 1898 by Samuel D. Nicholson and James W. Newell and patented by them April 4, 1899.

Joel K. Mullin, Albert Mead, Henry Henson, and Charles E. Godwin first located the Ute and Ule (Ulay) claims on April 27, 1871.²⁸ Their exploration of the mountains of southwestern

²⁷ Allen Ralph Bushnell was born July 18, 1833 in Harford, Ohio. He studied at Oberlin College and graduated from Hiram College, both in Ohio, and then taught school in Platteville, Wisconsin, where he moved permanently in 1854. While there he studied law under S. O. Paine and was admitted to the bar in 1857. Bushnell was elected District Attorney for Grant County in 1860. He enlisted as a private in the 7th Regiment of Wisconsin Volunteer Infantry on April 1, 1861 and was made a 1st Lieutenant of Company C when the troops were organized. After the initial three-month enlistment period, he reenlisted for three years. He fought in several battles in Virginia, West Virginia, and Florida before contracting typhoid. After his recovery, he returned to his unit and fought at Fredericksburg, where he was promoted to Captain. He retired soon thereafter due to poor health, returned to law practice in Platteville in 1864, and then moved to Lancaster, Wisconsin, where he married Laura F. Burr in 1867. He was elected to the Wisconsin State Assembly in 1872. His wife, Laura, died on August 1, 1873, and he remarried to Mary F. Sherman on May 13, 1875. He served as the U. S. Attorney for the Western District of Wisconsin from 1886-1890, during which time he was also the first mayor of Lancaster. He served as the U.S. Representative from Wisconsin from 1891-1893 (Powell 1893). He died in Madison, Wisconsin on March 29, 1909.

²⁸ Joel K. Mullin was born in Indiana in 1837. He enlisted as a Quartermaster Sergeant in Company A of the Nebraska 1st Infantry Regiment on June 11, 1861 and transferred to Company A of the Nebraska 1st Cavalry Regiment on November 6, 1863; he was mustered out on August 27, 1864. After being one of the first prospectors in the San Juan Mountains and locating the Ute and Ule claims in 1871, he, Henry Hensen, Charles Goodwin, and Albert Meade settled at the Hot Springs at Wagon Wheel Gap in October 1872. He then mined near Lake City into at least the late 1880s. Mullins was one of the patentees of the Pelican Lode, patented August 15, 1882, and the Lightning Striker Lode, patented July 2, 1885, both near Lake City. He died in the mining camp of Dunton, Colorado on August 6, 1900.

Albert Mead was born January 22, 1846 in Pennsylvania. After passing through the San Juans on the prospecting trip that resulted in the location of the Ute and Ule claims, he settled at the Hot Springs at Wagon Wheel Gap in October 1872, and

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Colorado was one of many trespasses on what was then the Ute Reservation by miners in the early 1870s that caused considerable alarm to the Ute. The realization that abundant mineral deposits were present resulted in negotiations with the Utes for cession of the San Juan Mountains, encompassing 3.7 million acres with the Brunot Agreement of 1873. Chief Ouray was the key negotiator of the agreement for the Ute. Following the ratification of the agreement in April 1874, miners were able to legally enter the area, and the Ute and Ule claims were relocated by Mullin, Henson, Godwin, and Mead on July 11, 1874 (Hinsdale County Courthouse, County Clerk's Office, Locations Book 1, Page 1; *Lake City Phonograph*, January 1, 1910:1; Hall 1895:115).

According to the location records, the Ule Lode was originally called the Urey Lode, clearly named for Chief Ouray, whose name was spelled phonetically in early records as Ure, Urey, Ule, Ulay, and Ouray, which is now considered the correct spelling. The naming of the Ute and Ule lodes recognized the Ute Indians and their leader, Ouray, though it is unknown if any of the locators had met Ouray. On May 31, 1877, Lewis Crooke purchased Henry Henson's ¼ ownership in the Ute and Ule lodes for \$50,000 on May 31, 1877 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 4, Page 467). About two weeks later, on June 11, 1877, he purchased the remaining ¾ interest in the two claims from Mead, Godwin, and Mullin for \$90,000 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 4, Pages 474-475). Crooke had a mineral survey conducted for the Ute Lode (Mineral Survey [MS] 148) on June 23, 1877 and on the Ule Lode and the associated Ule Mill Site (MS 147 A and B) from June 25 to July 10, 1877, whereupon he filed an Amended Location Certificate for the Ute Lode on August 6, 1877 to correct information in the original location (Hinsdale County Courthouse, County Clerk's Office, Lode Record Book 2, Pages 323-324). Prior to obtaining the patents for the claims, Crooke and his wife, Sarah, sold the two claims and the Granite Mill Site, where the Crooke Smelter was later constructed, to the Crooke Mining and Smelting Company for \$1,193,000 on September 25, 1878 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 5, Pages 332-334). Crooke was issued patents to the two claims on January 30, 1879

became one of the founders of Loma. He partnered with Charles E. Godwin in developing a hotel at Antelope Springs in 1877, which was evidently sold to J. C. McClelland, who opened the hotel in early 1878. Mead obtained a Cash Entry Patent for 160 acres of land there on March 21, 1881. He then mined in Eagle County, where he obtained patents for the Ogden and Surprise lodes on February 28 and April 16, 1883. Moving on to Leadville, he obtained a patent for the J. B. Grant Lode on May 19, 1886. He was enumerated in the 1900 census as a house carpenter in Leadville. Mead died in Rifle, Colorado on May 22, 1914 (*Colorado Daily Chieftain*, August 12, 1875; Hall 1895: 155-156, 295, and 297).

Henry Henson was born on November 12, 1824 in Wayne County, Kentucky. His family moved to Martin County, Indiana by 1833, where he was enumerated as a farmer in his parent's household in the 1850 census. He served four years as the Martin County Treasurer. Henson came to Colorado in early 1860, making his way to Fairplay by 1864 where he was a merchant and postmaster. He served as the Representative from Park County in the 1864 Territorial Legislature (McGrath 1934). In 1869, he was the postmaster at Cash Creek, in Lake County, and then moved to Saguache where he was partners in a store with Joseph Hutchinson. While in Fairplay he served as Postmaster from January 23, 1871 to October 11, 1872 and was the school superintendent. As a result of his prospecting venture into the San Juans in 1871 when the Ute and Ule lodes were located, Henson Creek was named for him. In 1876, he was elected to the Colorado State Senate.

Charles Evelyn Godwin was born February 14, 1839 in Virginia. He joined the Navy in 1859 and served on the USS John Adams during the Civil War. He then came to Colorado where he prospected in the San Juan Mountains and near Wagon Wheel Gap in 1872, partnering with Albert Mead in the development of a resort at Antelope Springs. Godwin received a 166.37-acre Cash Entry Patent for the land on December 30, 1880. On December 10, 1877, Godwin married Ann Woodruff Pierce in Del Norte. After selling his interest in the Antelope Springs resort, they moved to Birdsnest, Virginia, where he spent the rest of his life as a farmer. Godwin died there on April 15, 1909.

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(Hinsdale County Courthouse, County Clerk's Office, Deed Book 5, Pages 419-423 and 424-427).

The Bushnell Lode (MS 1212A) to the northwest of the Ule Lode, was surveyed for the Crooke Mining & Smelting Company from November 17-19, 1882 (Mineral Patent issued December 20, 1894), indicating an expansion of mining in the area by the company. A concentrating mill was constructed at the Ulay in 1882 to process the rich silver and lead ore from the property. This mill is shown on the Mineral Survey plat for the Ule Extension, which was surveyed November 16, 1882 for the Crooke Mining & Smelting Company (MS 1220); a Mineral Patent for the claim was issued to the company on February 19, 1894. The Mineral Survey plat for the Ute Mill Site (MS 2590) surveyed September 6 to 8, 1886 (Mineral Patent issued November 5, 1890) for Lewis Crooke and Warren Delano, Jr. and accompanying survey notes show the mill to have been 65' x 100', oriented northwest to southeast.²⁹ The mill was situated at the junction of the Ule Lode, Ule Extension Lode, and the Ute Mill Site. In 1882, a dam, the forerunner of the later dam built in 1926, had been built across Henson Creek about 80' upstream of the mill. The dam was 80' long and about 30' tall and supplied a 100'-long flume that extended to the southwestern side of the mill. Crushers, rollers, and jigs were installed in the mill.³⁰ In addition, it was reported that a community, Henson, was quickly growing adjacent to the mine (*Silver World*, November 11, 1882:3).

Operation under the Crooke Brothers

By 1876, the Crooke brothers, including John J., Lewis, and Robert Crooke, had acquired most of the claims. They were the first eastern capitalists to invest in the mining of the area. John J. Crooke founded the John J. Crooke Company in New York City in 1845 and perfected a technique for rolling tin into foil. The product was used to line tobacco pouches and to colorfully decorate bottles, among other uses. Lewis and Robert Crooke were officers of the company. The role of the Crooke Brothers in developing the mining and smelting industries of the San Juan Mountains is mentioned in the *Hinsdale County Metal Mining* MPDF (Conner 1999), but is most completely explained in the *Mining Resources of San Juan County* MPDF (Twitty 2009). Another company, Crooke Brothers & Company, operated a lead smelter in New York. The proceeds from these companies and their expertise with metals enabled the Crooke Brothers to speculate in mining in the San Juan Mountains of Colorado, focusing on Hinsdale, San Juan, and Rio Grande counties. They held interests in the two most important mines in the Lake City area – the Ute-Ulay and Golden Fleece – and erected a concentrating mill and smelter at Granite Falls on the Lake Fork of the Gunnison River near Lake San Cristobal just outside Lake City that made Lake City a regional mining center (Morse and Bielser 2000:29-31). The

²⁹ Warren Delano, Jr. was born January 17, 1809 in Fairhaven, Massachusetts. He traveled to China in 1833 and became a partner in the Boston trading firm of Russell & Company, which was heavily involved in the opium trade. He returned to New York in 1846 a wealthy man, but suffered financial decline as a result of the Panic of 1857, so returned to China where he regained his wealth. He then invested as a capitalist in several business ventures and was a founder of Newburgh, New York, where he died on January 17, 1898. He was the grandfather of President Franklin Delano Roosevelt.

³⁰ A jig concentrator separates crushed particles using specific gravity by using pulses of water through a screen bed. Higher density material falls to the bottom of the jig bed where it is separated from less dense material.

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Crooke Concentrating Works at Lake City was organized on March 1, 1877 by John J., Robert, and Lewis Crooke, Oscar E. Schmidt, George V. Tompkins, and William O. Loeschig.³¹

Initial mining in 1876 was high above Henson Creek on the Ute vein with a 65'-deep shaft from which drifts were run 30' to the northeast and 139' to the southwest, whereupon the southwestern drift penetrated the surface (Adit 4, Mine Complex 3) (Map 16). A second level was then run to the southwest. At the time, in early 1877, the mine was described as the most extensively developed in Hinsdale County (*Rocky Mountain News*, "San Juan," January 25, 1877:4). In May 1877, it was reported that the 65'-deep No. 1 shaft on the Ute vein had been dug under contract to A. M. Cree, formerly of Cripple Creek and Boulder County, and J. R. Simons with H. A. Wood as the mining superintendent.³² Drifts at the bottom of the shaft had been run 120' to the east and 155' to the west. In addition, they had dug two more shafts to a depth of 60' with the No. 2 shaft having a drift extending 160' east that connected to the No. 3 shaft (Map 16). The No. 1 shaft was sunk deeper by Simons to connect with the eastern drift from the No. 2 shaft. All hoisting of ore and waste rock was done using a whim powered by horses. At the same time, it was reported that a 287'-long tunnel had been dug on the Ule vein lower on the mountainside with its opening between the toll road through the mine complex and Henson Creek (Adit 1). In addition, the Ule vein was penetrated by a 70'-deep shaft with a 95'-long drift to the northeast and a 112'-long drift to the southwest. Worked progressed quickly, and by the middle of 1877, in addition to the workings described earlier on the Ute vein, the Ute was also penetrated by 60' and 85'-deep shafts with over 700' of underground drifts that connected the three shafts. The work done at the mine was under contract to Cree, under the supervision of manager Henry Finley.³³ Under Finley, a road to the upper workings on the Ute

³¹ Oscar Egerton Schmidt was born in Bloomindale, New York on September 24, 1838. He graduated from Columbia College in 1859 and worked as a Commission Agent in London and New York dealing in metals. He operated his own metals commission house under the name O. E. Schmidt & Co. The 1880 census for New York City lists him as a lawyer. He was the president of the New York Orthopedic Dispensary and Hospital and treasurer of the Title Guarantee and Trust Company and the Bond and Mortgage Guarantee Company. He died in New York on April 21, 1911. George Vreeland Tompkins was born in Philadelphia, Pennsylvania on May 27, 1848. His family moved to New York City by 1850. He was associated with Oscar E. Schmidt in the metals business. He resided in Brooklyn, New York, and served as President and Secretary of the Brooklyn Eastern District Homeopathic Dispensary. He died in Basking Ridge, New Jersey on July 29, 1914. William O. Loeschig was born on April 19, 1852 in Staten Island, New York. He was a metals merchant and served as a manager on the New York Metal Exchange in 1887.

³² Alexander M. Cree was born July 28, 1842 in Pennsylvania. He enlisted in Company H of the Pennsylvania Reserves Infantry in 1861. During the war he fought in the Seven Days' Battle, South Mountain, Antietam, and Gettysburg. He was taken prisoner on August 8, 1864 at Petersburg and was imprisoned at Libby Prison, Belle Island, and Salisbury, North Carolina; he was released in March 1865. He went to Colorado to mine and was enumerated in Central City in 1870. He married Eleanor Thomas in 1871. In 1874, he obtained a Homestead Entry Patent on the Jefferson/Douglas County line. Cree returned to mining at the Ute-Ulay in the late 1870s, then moved to Maysville. He obtained a Mineral Entry Patent for the Valley View Lode in 1882, which he promptly sold (*Mountain Mail* [Salida, Colorado], March 18, 1882:4; April 1, 1882:3). Cree then went to Bozeman, Montana in 1883 and entered the sheep business in Miles City in 1884. He later moved to Newport, Minnesota, where he died December 25, 1903.

Joseph Randall Simons was born about 1844 in Rhode Island. He married Betsey B. Doherty in 1862 and enlisted as a Private in Company H of the 11th Regiment of the Rhode Island Infantry in June 1863; he was a butcher in Providence at the time. After the Civil War, he returned to Providence, but the family moved to Colorado by 1869. He was enumerated as a miner in Idaho Springs in 1870 and became a resident of Alamosa by 1880. He became the town marshal of Alamosa by 1889 and was killed by accidental gunfire there on September 9, 1897.

Henry A. Wood was born about 1845 in New York. He was enumerated in Lake City as a miner in 1880 and was an assayer in Leadville in 1882. He evidently returned to Lake City to mine in 1885.

³³ Henry Finley was born in Ohio in 1826. He was a miner in Silver Park, Nevada by 1870 and came to Colorado soon thereafter. He helped Enos Hotchkiss build the Saguache and San Juan Toll Road in 1874 and became one of the owners of the Golden

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vein was built from the toll road and a road to the workings on the Ule vein was built below the toll road. The mine reportedly produced 25 tons of ore per day, all brought to the surface using horse power. In order to help hoist the ore to the surface, a 40-horsepower Ames engine was purchased. In late 1877, Cree took another contract to sink a 75'-deep shaft and run 200' of drifts. With seven men at work, he expected to have the contract completed by April 1878. Ore from the mine was the primary supply for the Crookes' newly installed concentrating plant (*Daily Denver Tribune*, "The Ute and the Ula," May 31, 1877:4; *Rocky Mountain News*, "Lake City," July 15, 1877:4; *Colorado Weekly Chieftain*, "Lake City," November 22, 1877:2). The Crookes brought in S. W. Hill as the mine manager from Michigan, where he had experience copper mining near Lake Superior. Plans were made to install steam-powered equipment for mining (*Silver World*, October 26, 1878:3).

The first known casualty at the mine was Henry Pierce, who was killed by a blast in the Ulay Tunnel on November 27, 1878; he was 24 and originally from Cornwall, England (*Silver World*, November 30, 1878:3).³⁴ By June 1879, development on the Ute vein had about 2,000' of shafts, winzes, and drifts, whereas the Ule vein was worked with about 1,200' of shafts and drifts. At that time, the company planned to build a tramway to connect the workings on the Ute vein to the workings of the Ule vein, well downslope, terminating at a planned concentration mill on the bank of Henson Creek near the main opening of the Ule (*Rocky Mountain News*, "Lake City Letter," June 22, 1879:1). The most profitable part of the Crookes' operation was their smelter at Granite Falls, just above Lake City. In 1879, the smelter was reported to have a capacity of 75 tons per day (Corbett 1879). The smelter handled the ore from the Ute-Ulay, Golden Fleece, and other mines near Lake City, but also drew business from Silverton and Animas Forks, despite having to haul ore over Cinnamon Pass (Horn 2008b). By June 1880, the Ulay shaft had been sunk 150' to reach the Fifth Level of the mine (*Silver World*, June 5, 1880:3). By early 1881, the mine had three shafts and five levels totaling 531' of shafts and 1,575' of drifts (*Lake City Times*, April 1, 1881:3).

Sale to English Investors

With the early workings in place, the Crooke Brothers sought outside investors through the firm Bateman and Company in early 1881. Bateman and Company interested James E. Thorold Rogers of England, who had just been elected a Member of Parliament in 1880. Rogers was not a mining man, but became interested in the investment opportunity because of its

Fleece Mine at what was to become Lake City that same year. With the founding of the town, he was made a town trustee in 1875. That same year he started the first sawmill in the area at Granite Falls outside of Lake City and was one of the principals in the formation of the Antelope Park & Lake City Toll Road Company. He was elected Hinsdale County Sheriff in 1876 and erected the Finley block in 1877 (Hinsdale County Museum 2013). He, his wife, Catherine (Katie), and their son, John, moved to Montrose County by 1885, where he was a gold miner. He then left the family and mined along the Colorado River in California through at least 1900.

³⁴ Many more casualties of mine were to come. For instance, Jack McCarthy (age 23) and Patrick Souse (25) were killed by an explosion on the Eighth Level of the Ulay on March 23, 1893 (*Lake City Phonograph*, March 25, 1893:3; *Lake City Times*, March 30, 1893:1); J. B. Traverse was killed by falling rock after a blast on the Eighth Level of the Ulay in February 1894 (*Lake City Times*, February 15, 1894:2); Gim Geeko (age 28 from Italy) was killed by an explosion at the Ulay in February 1896 (*Lake City Times*, February 13, 1896:2); Nick Johnson was killed by a runaway tram car in June 1898 (*Lake City Times*, June 2, 1898:2); and Ed McGraw and George Lair were killed in an explosion at the Ute Mine in November 1899 (*Lake City Times*, November 30, 1899:3).

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promotion by William Dorsheimer, the former Lieutenant Governor of New York and partner in the New York law firm Dudley, Field, Dorsheimer and Co., whom he trusted. Rogers agreed to be a director of a new company. Rogers visited the mine and smelter in the company of the Croke brothers and had the operation inspected by knowledgeable experts, who indicated that the venture was solid. Consequently, Croke's Mining and Smelting Company, Ltd. was formed in London in 1882, with capital stock of £100,000 to purchase and work the mines and smelter of the Crookes at the Ute Ulay. In London, Rogers served as chairman of the company with the directors being J. Spencer Balfour, a Member of Parliament and Director of the London & Lancashire Fire Insurance Co.; H. S. Coulson, Director of United Discount Corporation; John Dixon, Civil Engineer of Laurence Pountney Hill; Robert Ewing, formerly of Finlay Muir & Co. of Bombay and Calcutta; Ellis Gilman, Director of the Ocean Marine Insurance Company; A. R. Grenfell, Director of the Brazilian Imperial Central Bahia Railway Co., Ltd.; H. W. Maynard, Director of the London and St. Katherine Docks Company; Robert Milburn, Director of the City of London Brewery Company, Ltd.; and M. M. Moore, Director of the Calcutta Tramways Company. Directors in New York were William Dorsheimer; D. Willis James of Phelps, Dodge & Company; David H. McAlpin of D. H. McAlpin & Co.; John N. Goodwin, former Governor of Arizona; and John J. Croke. With these prestigious individuals on board, £60,000 of stock was quickly subscribed (Spence 1958:100-101; *The Economist*, June 6, 1885:693; *Truth: A Weekly Journal*, April 20, 1882:558). To facilitate the sale, the Croke Mining & Smelting Company transferred all of its assets to John J. Croke on March 8, 1882, who then sold them to Croke's Mining & Smelting Company, Limited on June 8, 1882 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 8, Pages 504-505 and 506-507). John J. Croke was appointed as the Agent for the new company on August 2, 1882 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 8, Page 564). The new company installed a new hoisting plant, Cornish pumps, air compressors, and rock drills at the mine (*Engineering and Mining Journal*, August 5, 1882:78).³⁵ Soon, a concentration mill was under construction under the supervision of manager Dan Hurd. By November 1882, a penstock originating from a small dam on Henson Creek was completed to provide water power for the mill and crushers, rolls, and jigs were being installed (*Silver World*, November 11, 1882).

Within three months of formation of the company, a \$15,000 payment was sent from Colorado to London. No explanation of this payment was made, so it was not distributed as a dividend. Further investigation showed that the payment was not based on operational profits, but seems to have been sent in order to stimulate excitement about the profitability of the mine and smelter in order to entice investors to take up the outstanding £40,000 of capital stock. Alarmed, the London directors terminated John J. Croke as their agent on April 27, 1883, appointed Reuben Rickard of California in his place on April 27, 1883, and began managing the company operations themselves.³⁶ This did not sit well with the Crookes, who discharged the

³⁵ A Cornish pump was operated by a steam beam engine.

³⁶ Reuben Rickard was born August 20, 1841 in England. His father was a mining engineer and Rickard learned the profession from working with his father. In 1875, Rickard moved with his family to America to manage the mines of the Richmond Mining Company in Eureka, Nevada, owned by an English syndicate. He was known as an expert in silver and lead mining. In 1881, he began inspecting mines for English investors throughout the western United States, settling in Berkeley, California, but retired from the mining profession in the early 1890s. After his wife died in 1895, he returned to the profession and died of dysentery

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company officials. It then came to light that the Crookes had taken out a \$200,000 (£40,000) mortgage from The Farmers Loan and Trust Company of New York on January 21, 1881 (Hinsdale County Courthouse, County Clerk's Office, Mortgage Trust Deed Book 2, Page 310) that had been hidden from the directors, which put the company into a precarious financial situation. Failure to make a regularly scheduled payment on the loan on July 1, 1883 put the loan into default. When the full payment of the loan was not made on its due date of January 1, 1884, The Farmers Loan and Trust Company began taking steps to recoup the debt. The holdings of Crooke's Mining & Smelting Company, Limited were sold at public auction in New York City on May 24, 1886 to Warren Delano, Jr. and Lewis Crooke for \$243,000 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 14, Pages 150-154).

James E. Thorold Rogers suffered considerable public embarrassment as a result of the financial fiasco, as his role in the venture was broadcast as a warning that prominent men should not promote what they do not fully understand and that investors should not put their money forward because prominent individuals are involved (Spence 1958:100-101; *The Economist*, June 6, 1885:693; *Truth: A Weekly Journal*, April 20, 1882:558).

Despite the financial upheaval, Manager Plummer sought proposals for sinking the No. 2 shaft 100' in late January 1884 and, that summer, it was reported that the Ulay Mill was producing 10 tons of concentrate per day (*Silver World*, January 26, 1884:2; August 9, 1884:2). So long as ore could be run through the mill there was sufficient capital to operate the mine, but when a water shortage occurred due to the area creeks freezing up as winter arrived, the mill ceased operation. Consequently, there was no money available to pay laborers and to continue mining (*Silver World*, November 22, 1884:4). After Lewis Crooke and Delano reacquired the company, they sold it on June 16, 1886 to the Lake City Mining Company, Limited, another English syndicate. The purchase price was 129,993 shares of capital stock in the new company, valued at £1 per share (Hinsdale County Courthouse, County Clerk's Office, Deed Book 14, Page 161).

Operation under the Lake City Mining Company, Ltd.

The Lake City Mining Co., Ltd. put Colonel H. E. Armitage in charge of its operations (*Silver World*, April 27, 1886:2; May 29, 1886:3; October 9, 1886).³⁷ Armitage worked hard to make the Ute-Ulay profitable by improving the equipment used to mine through the Ulay shaft. By the end of 1886, a new engine and shaft house had been erected that contained a 150-horsepower steam-powered engine with double 12"-diameter cylinders with 36"-long strokes. The engine powered a 6'-diameter drum hoist equipped with flat wire rope and a strap brake that was rated to hoist a distance of 1,800'. The engine and hoist was set on a cut-stone foundation

while inspecting mines for English investors in Perth, Australia (*San Francisco Call*, "Reuben Rickard is Dead," February 29, 1896; *Engineering and Mining Journal*, "Reuben Rickard," April 4, 1896:327).

³⁷ Henry Edward Armitage was born February 12, 1849 in England and immigrated to America in 1871. He mined in New Mexico, then came to Colorado by 1880, first mining near Ashcroft, then in Eagle County, where he was a mine manager. He arrived in Lake City about 1885. By 1900, he was working as a mining engineer in Prescott, Arizona, where he died on June 1, 1913.

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constructed by George F. Gardner.³⁸ This was reported to have been the second largest hoist in Colorado at the time and the largest ever manufactured in Colorado. The engine and hoist was designed by Armitage and manufactured by James W. Jackson of Denver.³⁹ A pair of new boilers was also installed to supply steam to the engine powering the hoist, a Cornish pump, and an air compressor (*Silver World*, October 9, 1886:3; December 31, 1886:2). The engine was started for the first time in late February 1887 (*Silver World*, June 4, 1887:2). Improvements at the mine also included a blacksmith shop and a steam-heated changing room for the miners. A self-dumping skip was used at the hoisting works at the Ulay Mine. The Ute and Ulay mines were connected by a crosscut and ore from both mines was transported by a tracked tramway to an ore dump near the mill from which ore was fed by hand into ore crushers (*Silver World*, June 4, 1887:2, June 18, 1887:2; *Lake City Sentinel*, January 12, 1889:3). By the middle of 1887, the mine had 51 men at work (*Silver World*, July 30, 1887:2). The Cornish pump was lowered from the Eighth to the Ninth Level of the Ulay Mine in early October 1887 (*Silver World*, December 24, 1887:3).

Armitage then went about rearranging the concentrating mill, with initial improvements completed in the spring of 1887. Further improvements were made that divided the mill into northern and southern halves with duplicate equipment, including two crushers, twelve double-compartment Hartz jigs, two revolving buddles, and two Frue vanners, all run by a water-powered turbine.⁴⁰ The southern half was completed in early October 1887, and the mill began making regular shipments of 3 tons of concentrates and 1 ton of hand-sorted ore per day. The crushers were at the upper level of the mill and then passed through the other pieces of equipment by gravity feed with the resulting concentrates being deposited on the ground floor where they were prepared for shipping. Concentrates from the mill were packed out by freighter Dave Wood (*Lake City Sentinel*, January 12, 1889:3; *Silver World*, October 5, 1887:3; December 24, 1887:3).⁴¹ The mill was shut down in mid-November 1887 because of a failure of the water supply. As a result, an engine was installed to run the mill during the winter (*Silver World*, November 19, 1887:3).

³⁸ George F. Gardner was born in October 1844 in New York. He appears in the 1885 Colorado census for Hinsdale County as working in a livery. He then served as Hinsdale County Sheriff from 1886-1892. He was the manager of the Lucy Group of claims near Lake City in the late 1890s and was listed as the superintendent of an ore mill in the 1900 census. During these later years, he was in command of the local National Guard unit and was made Adjutant General of the Colorado National Guard in the early 1900s. In this capacity, he was in charge of units sent to Cripple Creek and Telluride during labor disputes. He died in Lake City in 1914.

³⁹ James W. Jackson opened the Denver Foundry and Machine Shop in west Denver in 1870, which grew to be one of the largest manufacturers of steam engines, mills, and mining machinery in Colorado. The company was sold to W. O. McFarlane in 1892 (Mittick 1947:228).

⁴⁰ A Hartz jig was a nineteenth century German invention. It was a wood tank with a wedge-shaped bottom divided into compartments with a sieve on one side and a piston on the other. The piston was moved by an adjustable eccentric on a shaft causing alternating suction and propulsion that resulted in the separation of minerals by gravity. A buddle is a shallow trough that separates metal ore from gangue (non-metallic rock) using running water. The Frue vanner was invented in 1874 by W. B. Frue of Canada. It was a continuous wide rubber belt that passed over rollers that moved the belt slowly up an incline while being shaken laterally. Crushed ore on the belt was sprayed with water that washed non-metallic material off the belt.

⁴¹ Dave Wood was the best known and most successful freighter in southwestern Colorado. He was born in 1851 in Ohio and accompanied his father as a 10-year-old in the Civil War. He moved to Colorado from Kansas in 1876. His operations moved goods from the head of rail service to the mining camps of the region, including Lake City, Telluride, Ouray, Rico, and elsewhere from headquarters in Gunnison, Montrose, and Dallas. His freighting operation ceased in 1893.

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It was hoped that the output from the Ute-Ulay would be sufficient enticement to the Denver & Rio Grande Railroad (D&RG) to extend their line to Lake City (*Silver World*, December 24, 1887:3; February 11, 1888; March 10, 1888). It was, and the Lake City Branch of the D&RG was constructed in 1889. The first train arrived in Lake City on August 15, 1889. The arrival of the railroad to Lake City stimulated mining in the area and nearly twenty mines were in operation that year (Irving and Bancroft 1911:14).

Unfortunately, the revitalization by Armitage was not long-lived. A lawsuit brought against the Lake City Mining Company, Limited on February 26, 1888 by Michael Miller Moore on behalf of its investors resulted in a decision by the court to liquidate the company (Hinsdale County Courthouse, County Clerk's Office, Deed Book 7, Pages 454-462). Despite this, improvements at the Ute-Ulay were planned, including a new 1,000'-long flume to convey water from Henson Creek and a new 8-ton compressor capable of running twenty drills (*Lake City Sentinel*, January 12, 1889:3). The company began to be unable to pay debts beginning in early 1889. Legal action was taken by several of its creditors, the largest of which were the First National Bank of Pueblo, which was owed \$19,892; Laflin & Rand Powder Company, owed \$3,252.90; and freighter Dave Wood, owed \$3,146.20 (Hinsdale County Courthouse, County Clerk's Office, Writ of Attachment Book 1, Pages 299-305, 308, and 326; Hinsdale County Courthouse, County Clerk's Office, Judgement Book 1, Pages 124-126).⁴² The Ute and Ulay Mines, Limited was incorporated September 19, 1889 in order to purchase the holdings of the faltering Lake City Mining Company, Limited with Horace Woodbury Kirby of the General Assets Purchase Company, Limited of London serving as Liquidator and James Durie Pattullo, representing the Lake City Mining Company, Limited.⁴³ Kirby and Pattullo worked out the details of the transfer in accordance with a liquidation agreement of December 16, 1889. The new company was capitalized at £100,000 in £1 shares. Company principals were Robert Milburn of Cintra Benkenham, Charles W. F. Craufurd of Middlesex, J. D. Pattullo of London who was the company accountant, James Henry Davidson of London who was also the company solicitor, Edward Bertram Francis of Kent, Thomas Heckels of Blackheath, and Sey Botling of London (Hinsdale County Courthouse, County Clerk's Office, Deed Book 31, Pages 56-65).⁴⁴ The transaction was finalized on June 21, 1890 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 7, Page 454-462).

Operation under the Ute and Ulay Mines, Ltd.

H. E. Armitage resigned as the manager of the Ute-Ulay in August 1890 (*Hinsdale Phonograph*, August 16, 1890:4). The new company put Alexander Harvison in charge of the mining and milling operation and immediately started making improvements to the mill by

⁴² Laflin & Rand Powder Company of New York City manufactured black powder. It was formed by the merger of the Laflin Powder Company and the Smith & Rand Powder Company in 1869. It was purchased by DuPont in 1902 as a subsidiary and dissolved in 1912 (DuPont 2014).

⁴³ James Durie Pattullo was born June 22, 1855 in Dundee, Scotland. By the late 1870s, he had moved to London where he was an accountant specializing in the liquidation of troubled businesses. Through his business connections, he became the controller or secretary of a large numbers of mining companies in England, Australia, and Africa and rubber companies in Malaysia into the 1920s.

⁴⁴ Charles William Frederick Craufurd (1847-1839) was the 4th Baronet of Kilvirny in southwestern Scotland. He served as a Lieutenant in the Royal Navy.

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installing new equipment in the building, including a power plant supplied by water from a new dam across Henson Creek and a 3,000'-long flume.⁴⁵ The powerhouse was reported to be 65' x 85' and to contain two 80-horsepower Atlas engines, two seven-drill Norwalk compressors, one 10-drill Jackson compressor, four 100-horsepower boilers, and a main line shaft that ran the mill.⁴⁶ The new dam on Henson Creek to supply the flume began to be constructed in September 1891 and was completed later that fall. The flume had a straight fall of 110' that provided the water power for two Leffel turbine water wheels that were the energy source for the powerhouse machinery, including an electric light plant, and the hoisting works for the mine.⁴⁷ Water was conducted to the water wheels by a 700'-long, 6'-deep, and 14'-wide flume. Water for ore treatment was raised from the flume to a tank at the top of the mill by an 8" x 8" Triplex pump.⁴⁸ The new mill was equipped with two Blake crushers, crushing rolls, numerous screens, and elevators to move ore from place to place (see *The Mining Industry in Colorado* MPDF [Fell and Twitty 2008] for details about concentration mills in use during this time period).⁴⁹ After being crushed and screened, ore was sent to double jigs and then single jigs for separation. The resulting concentrated ore was then moved by elevator to a dryer and then hoisted by elevator to ore bins where it was loaded into wagons for shipment (*Lake City Times*, January 15, 1891:1; October 1, 1891:1; April 14, 1892). In order to finance the improvements, the company took a mortgage on the property from The Farmers' Loan and Trust Company of New York (Hinsdale County Courthouse, County Clerk's Office, Deed Book 14, Page 477).

A large-scale resumption of mining and exploration work took place with bids requested in June 1890 to run a 450'-long crosscut tunnel to reach the Ute vein, a 300'-long drift on Level 7 of the Ulay vein, and 75' of main shaft. Air winzes between Levels 7 and 8 and between Levels 10 and 11 of the mine were also called for.⁵⁰ The contractor was furnished with Ingersoll-Rand drills, tram car track, power, and a blacksmith shop by the company (*Aspen Daily Times*, June 13, 1890). Despite this increased exploration, little mining seems to have taken place and the mill may have shut down over the winter. In February 1891, it was reported the mine had resumed work and was employing 100 men. The mill was under repair and was expected to employ another 50 men when ready to resume operation (*The Financial and Mining Record* (29), February 14, 1891:105). During the late summer and early fall of 1891, a new Direct Current electrical plant was installed at the mine. The electrical plant ran seven

⁴⁵ Alexander Harvison was born about 1852 in Ohio. His family moved to Iowa in 1870 and he moved to Colorado soon thereafter.

⁴⁶ The Atlas Engine Works originated as the Indianapolis Car Works in about 1872 and was reorganized as the Atlas Engine Works in 1878. It manufactured stationary steam engines and boilers in their plant in Indianapolis, Indiana. They began manufacturing gasoline engines in 1897. The company failed in 1907 (Vintage Machinery 2016a). The Iron Works of Norwalk was founded in 1864. The patented the first multistage compressor in 1881. The company is still in business as the Norwalk Compressor Company in Stratford, Connecticut (Norwalk Compressor Company 2016). The Jackson compressor was probably manufactured by the Denver Foundry and Machine Shop. See footnote 37.

⁴⁷ James Leffel & Company was established in Springfield, Ohio, in 1862 for the manufacture of water turbines. The company is still in business (The James Leffel & Co. 2016).

⁴⁸ A positive displacement pump using pistons to draw water through three cylinders.

⁴⁹ The Blake jaw crusher is based on a June 12, 1858 patent issued to Eli Whitney Blake. It is a crusher with one fixed jaw plate and one pivoting plate operated by an oscillating eccentric. Rock enters the top of the crusher and exits through the bottom after passing through the jaws.

⁵⁰ A winze is a vertical or inclined opening driven downward within a mine, often to connect horizontal levels.

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Martin electric drills, concentrate dryers in the mill, and air compressors.⁵¹ It was expected that the use of the new drills would increase the speed of mining (*The Financial and Mining Record* 30, July 18, 1891:41; July 25, 1891:64; August 1, 1891:82; September 12, 1891:185; and October 3, 1891:239). Once the electrical plant was up and running, Mr. Millet, the superintendent, began the process of increasing the capacity of the mill, with hopes of doubling its output. New equipment was ordered in Chicago and was gradually installed between October 1891 and April 1892; this required a complete shutdown of the mill from February to April 1892 (*The Financial and Mining Record* 30, October 10, 1891:264; October 17, 1891:336; November 14, 1891:354; November 21, 1891:372; December 19:1891:444; *The Financial and Mining Record* 31, January 2, 1892:12; February 6, 1892: March 12, 1892:192; April 2, 1892:253). In addition to the refurbishment of the mill, new compressors were installed in November 1891 in order to run more air drills and increase production (*The Financial and Mining Record* 30, November 21, 1891:372). This suggests that the electric drills that were experimented with earlier in the year were not entirely satisfactory. As the mill was being upgraded, development work in the mine was also carried out in anticipation that the mill would be able to process a higher volume of ore. From February through April 1892, the shaft on the Ulay vein was sunk to the Eleventh Level and work begun on drifting on the ore body 750' below Henson Creek (*The Financial and Mining Record* 31, February 6, 1892:102 and February 27, 1892:156). At the same time, a large body of ore was opened on the Eighth Level (*The Financial and Mining Record* 31, March 12, 1892:192). Initial estimates for production resulting from the improvements to the mill and a commensurate increase in mining was that 70 to 100 carloads (700 to 1,000 tons) of concentrates would be produced per month from 3,000 to 5,000 tons of ore (*The Financial and Mining Record* 31: April 9, 1892:270). By May 1892, two to three carloads of concentrates were being shipped per day, which was in line with the earlier estimates (*The Financial and Mining Record* 31, May 21, 1892:377). In early summer 1892, high water in Henson Creek washed out the flume, but it was replaced by mid-August (*Lake City Times*, August 18, 1892:1).

Impacts of the Panic of 1893 and Operations under Lease

Because the primary output of the Ute-Ulay was silver and lead, it was hard hit by the drop of mineral prices as a result of the economic downturn of the Panic of 1893. Because of the low prices for silver and lead, the 200 miners employed at the mine and mill took a pay cut and continued to work throughout July with Superintendent Harvison keeping production at pre-depression levels. Such production was not sustainable and the mine closed in early August 1893 (*Lake City Times*, July 6, 1893:3; August 10, 1893:2). Creditors began attaching levies to the property, further exacerbating the company's financial strife (*Littleton Independent*, April 5, 1893; *Rocky Mountain Sun* [Aspen], July 29, 1893; *Lake City Times*, August 31, 1893:3; Hinsdale County Courthouse, County Clerk's Office, Deed Book 14, Page 431). A levy for

⁵¹ The drills may have been prototype or first-generation electric drills manufactured by the Martin Electric Drill Company of Syracuse, New York. The electric drill was invented by Harry Norton Martin and initially patented on July 1, 1890 (patent no. 431,170); subsequent patents were issued in 1893. The drills were reportedly first put into use in 1891, so the Ute-Ulay may have been the first or among the first to experiment with them. Martin established the Martin Electric Drill Company, first in Syracuse, then in Canostota, and finally in Binghamton, New York. The company seems to have remained in business into the 1910s. The drill is described in detail in an 1899 *Scientific American* article (*Scientific American* April 29, 1899:262).

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\$3,050 owed to W. W. Jones and issued by the Sheriff in November 1893 seems to have been the final impetus for leasing the mine to Alva Adams, William Bayly, and Otto Mears, who incorporated themselves as the Ute & Ulay Mine Leasing Company in December 1894 with \$10,000 capital stock in \$100 shares (*Lake City Times*, November 23, 1893:3; Hinsdale County Courthouse, County Clerk's Office, Articles of Incorporation, Ute & Ulay Mine Leasing Company, Deed Book 23, Page 45).⁵² Under the management of Daniel O. Kirby, the mine

⁵² Alva Adams was born in Wisconsin on May 14, 1850. He moved with his family from Wisconsin to Colorado in 1872 where he went to work for C. S. Sanborn in the hardware business in Colorado Springs. He quickly bought the business and took on J. C. Wilson as a partner in 1872. He opened a second store in Pueblo that year and married Ella Charlotte Nye in Manitou Springs. Adams was elected to the South Pueblo City Council in 1873. In 1874, he went to Del Norte and opened a hardware store. Soon he had hardware stores throughout the San Juan Mountains. In 1876, Adams was elected to the first Colorado General Assembly. While in Del Norte, he certainly met William Bayly, with whom he formed the San Juan Hardware Company in 1884 in partnership with John H. Wingate. The company had stores in Durango, Silverton, Telluride, and Ouray, but Adams' focus was on his store in Pueblo. Throughout the 1880s, 1890s, and early 1900s, Adams speculated in mining, including patenting numerous claims in Rio Grande, Hinsdale, Chaffee, Gunnison, La Plata, and San Miguel counties. He was elected for two-year terms as Governor of Colorado in 1887 and 1897, and a third term in 1905 was cut short when he relinquished the post after allegations of voter fraud. Beginning in about 1900, his business life focused on banking. He also served as the President of the Holmes Hardware Company and the Pueblo Savings & Trust and was a director of the International Trust Company and Great Western Sugar Company. In order to seek treatment for diabetes and heart trouble, he traveled to a sanitarium in Battle Creek, Michigan in October 1922, where he soon died on November 1, 1922 (Griesan 2012; National Governors Association 2015). William Bayly was born February 28, 1855 in Lexington, Missouri. His family moved to the St. Louis area when he was a child and he headed to Colorado in 1872 at the age of 16. He married Eva Houghton in Del Norte in 1876. They returned briefly to Missouri, where their son, William Bayly, Jr., was born in January 1881. In 1884, Bayly formed the San Juan Hardware Company with Alva Adams and John H. Wingate. The business had stores in Durango, Silverton, Telluride, and Ouray; Bayly and his family resided in Durango. He ran for the U.S. Senate in 1890, but was defeated. The hardware business was very profitable, enabling Bayly to begin speculating in mining properties and other investments. By 1890, he was an investor in Otto Mears' Silverton Railway and the Rio Grande Southern Railroad. In 1894, he became part owner of the Tom Boy Mines Company and continued to be an owner after the company was acquired by an English syndicate. The profits from the Tom Boy Mine enabled him to divest himself of his involvement in the hardware business and move his family to Los Angeles, from where he continued to invest in gold and copper mining in Utah, Arizona, and Nevada, most prominently the copper mines in Bingham, Utah (Bingham Gold Mining Company/Bingham Consolidated Mining & Smelting Company and the associated Copper Belt Railway). He was the president of the Daisy Mines Syndicate and a director of the Greenwater Furnace Creek Copper Company and the Nevada Copper Mining & Smelting Company in Nevada, and vice president of the Arizona Hercules Copper Mining Company in Arizona (Los Angeles Examiner 1912). Bayly died in Los Angeles on May 27, 1946. Otto Mears was born May 3, 1840 in Estonia (Russia), but was orphaned and sent to live with relatives in San Francisco in 1850. He is listed in the household of Peter Abrahamson in Vacaville in the 1860 census. In 1861, he enlisted in Company H of the 1st California Regiment, which was sent to the southwest. After being mustered out of the Army in 1864 in the Mesilla Valley near Las Cruces, New Mexico, he went to Santa Fe, where he clerked for the merchant firm Elsberg & Amsberger and then went into partnership with the Staab brothers. He moved to Conejos, Colorado in the San Luis Valley in 1865 where he started a merchandise business. While there, he partnered with Lafayette Head to build a water-powered sawmill and gristmill. In order to supply the gristmill, he moved northward to grow wheat and raise cattle. He is credited with bringing the first mower, reaper, and thresher to the San Luis Valley in 1867. The 1870 census lists him as a farmer living in the household of merchant Joseph Gotthelf in Saguache. In 1875, Mears obtained a 164.17-acre Cash Entry Patent for land that comprised a portion of the town of Saguache. While in the San Luis Valley and in Saguache, Mears certainly became well acquainted with the Ute and prospered by supplying the Los Pinos Agency with flour and beef. When the government price for flour dropped, he began marketing it to the miners on the upper Arkansas River, resulting in him improving the road over Poncha Pass as a toll road in the early 1870s. After the Saguache & San Juan Toll Road was built in 1874, he constructed a branch into the Uncompahgre Valley and then obtained lucrative mail contracts to the Uncompahgre Valley and Ouray. From that time on, Mears was the primary builder of toll roads in the San Juan Mountains. He continued to live in Saguache into the 1880s, when he was appointed to serve on the Ute Commission in 1880 and 1881, where he ensured removal of the Uncompahgre and Northern Utes from Western Colorado to reservations in Utah. He also served in the Colorado Legislature in the early 1880s. With the removal of the Ute, Mears moved to Montrose where he engaged in real estate speculation. He then turned his attention to building railroads to serve the mining industry of the San Juan Mountains. His initiation into railroad building was the Silverton Railroad that extended from the end of the Denver & Rio Grande Railroad tracks over Red Mountain Pass to Ironton. He then constructed the Rio Grande Southern Railroad from the new town of Ridgway to Durango by way of Rico with a branch line to Telluride in 1890 and 1891. The

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reportedly was shipping about 40 tons of ore per day in December 1893 (*Lake City Times*, December 7, 1893:3, December 28, 1893:2).⁵³ Between 250 and 350 men were employed throughout 1894 under the management of William Bayly. Bayly reportedly purchased equipment from Frazer & Chalmers to increase the ore handling capacity of the mill from 100 tons to 200 tons per day (*Colorado Transcript* [Golden], March 7, 1894; *Colorado Transcript* [Golden], September 5, 1894).

Despite the improvements, the mine shut down in early December 1894 and was not expected to reopen until the following spring. Machinery was brought down from the Ute Mine and stored, water was let out of the flume, and workers departed for jobs elsewhere. The mine was not expected to resume operation until March or April 1895 (*Lake City Times*, December 6, 1894:3). The shutdown was partly because of an anticipated reduction in the water supply due to freezing of Henson Creek, but a larger reason was that the Ute and Ulay Mines, Limited had decided to discontinue their business due to indebtedness and began the process of liquidation. James Durie Pattullo was appointed liquidator and Robert Milburn, Arthur W. Dixon, and George W. Mudley were appointed to a Committee of Inspection to assist Pattullo (*Lake City Times*, December 6, 1894; Deed Book 31, Pages 64-65). However, the liquidation proved to be a long and drawn out process, perhaps because mining by their lessee, the Ute & Ulay Mine Leasing Company, proved profitable.

The pumps and air compressors were started at the mine in May 1895 with 25 men at work. The mill was put back into operating condition that June (*Lake City Times*, May 23, 1895:3, May 30, 1895:3). With resumption of operations, large numbers of Italian laborers arrived (*Lake City Times*, June 6, 1895:3).

Although in liquidation, the Ute and Ulay Mines, Ltd. purchased the Hidden Treasure Mine in February 1896. William Bayly, from his office in New York, closed down operations at the Ute-Ulay Mine in mid-July, putting 200-250 men out of work and failed to pay the \$24,000 in wages that was due them. The unhappy miners threatened to blow up the mine if they were

decline in traffic due to the Panic of 1893 caused him to lose control of the railroad and he moved to Washington, DC in 1896 to promote a resort at Chesapeake Beach and construct the Washington & Chesapeake Beach Railway with David Moffat. Throughout the 1890s, Mears speculated in mining in the San Juan Mountains and was the recipient of several Mineral Patents on mining claims in Ouray, San Juan, and Dolores counties. His interest in building railroad in the San Juans was rejuvenated, and he constructed the Silverton Northern Railroad to Eureka in 1896 and the Silverton, Gladstone & Northerly Railroad north of Silverton in 1899. Speculation in mines around Silverton was very profitable and he moved there permanently in 1907. In 1917, he and his wife retired to Pasadena, California, where he died June 24, 1931 (Perry 2015:178-184; Smiley 1913:436).

⁵³ Daniel O. Kirby was born in Pennsylvania in 1852. He came to mine in Colorado in the 1870s and was enumerated as a miner in Lake County in 1880. Kirby seems to have been a mining superintendent at the Ute-Ulay in 1886 under the supervision of Henry E. Armitage (*Silver World*, August 14, 1886:3; December 31, 1886:2). He was in Rico in 1892, where he was one of the Directors of the Rico Miners' Hospital (*Aspen Evening Chronicle* November 30, 1892). After working at the Ute-Ulay, Kirby became the Superintendent of the Little Annie Mine and other properties owned by the Consol Company in Summitville from 1897 to 1900 (*Pagosa Springs News* May 28, 1897; *Daily Sentinel* [Grand Junction], September 20, 1897; *San Juan Prospector* [Del Norte] August 27, 1898, February 3, 1900). In August 1900, he resigned his position with the Consul Company and turned his attention to oil exploration in Mesa County as an incorporator of the Western Slope Oil and Development Company (*San Juan Prospector* [Del Norte], August 4, 1900; *Herald Democrat* [Leadville], December 7, 1901). In 1907 and 1909, he was granted patents with others for the Missing Link, Sunnyside, Jesse, Kirby, and Bismark lodes near Summitville. Soon thereafter he moved to Idaho, where he died in Boise on June 30, 1931.

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not paid and were advised by Attorney General Byron L. Carr to initiate a civil suit against Bayly through the State Labor Commissioner. Alarmed, the English owners enlisted Dr. Charles H. Gresswell to help the miners by pressuring Bayly to pay them.⁵⁴ Bayly capitulated and sent the money by the end of the month (Hinsdale County Courthouse, County Clerk's Office, Deed Book 14, Page 477; *Aspen Daily Times*, July 19, 1896; *Aspen Weekly Times*, July 25, 1896; *Lake City Times*, February 20, 1896:2, July 16, 1896:3, and July 30, 1896:3; *New Castle News*, July 31, 1896).

Lease to Nicholson and Newell

Gresswell took possession of the mine for the company on September 14, 1896 and began negotiating a lease with Samuel D. Nicholson and James M. Newell.⁵⁵ Gresswell was made the official agent for the Ute and Ulay Mines, Limited with a primary duty being the finalization of the lease, which was completed on October 21, 1896 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 28, Pages 343 and 428; *Aspen Weekly Times*, September 19, 1896; *Aspen Tribune*, November 5, 1896; *Boulder Daily Camera*, October 17, 1896; *Castle Rock Journal*, October 23, 1896). Part of the reason that Nicholson and Newell were interested in leasing the Ute-Ulay property was that a devastating strike was underway in Leadville, where they were among the incorporators of the Mab Mining Company that leased the Castle View and Big Chief claims (*Engineering and Mining Journal* 61[19]:453 May 9, 1896). Although strikers in Leadville did not specifically target the mines Nicholson and Newell were operating, they certainly felt the impact of the strike that lasted from June 21, 1896 to March 9, 1897. The Leadville strike probably colored their view of mine labor and effected how they reacted to a strike at the Ute-Ulay a few years later.

⁵⁴ Charles Richard Gresswell was born December 16, 1851 in Louth, Lincolnshire, England. He was a graduate of the Royal Veterinary College of London. Gresswell immigrated to America in 1888; his wife and infant son arrived the following year. They established themselves in the Denver area where Charles became a State Veterinarian and raised cattle. Being a prominent Englishman seems to have been the primary reason he was engaged by the English owners of the Ute-Ulay to intercede on the part of the miners. Gresswell resigned his state position in 1901 and sold his cattle so that the family could move to San Francisco, California for his wife's health. He consulted on veterinary matters and served as the agent for copper mines in northern California owned by Thomas Lawson. Gresswell died as the result of intestinal surgery in San Francisco on March 17, 1905 (*San Francisco Call*, March 18, 1905).

⁵⁵ Samuel Danford Nicholson was born February 22, 1859 in Springfield, Prince Edward Island, Canada. He immigrated to Michigan in 1880 and arrived in Leadville, Colorado in 1881, where he worked his way up in the mining industry as a miner, foreman, superintendent, manager, and owner. He became the owner of some of the most productive mines in Leadville, then expanded to other areas of the state. In addition to his mining ventures, he was a director of the Denver City Tramway Company, Denver National Bank, and the American National Bank of Leadville. He served as the mayor of Leadville from 1893 and 1897 and lived in Denver from 1902 to 1908, returned to Leadville from 1908 to 1914, and finally resided in Denver beginning in 1914. Nicholson was defeated in bids for the governorship in 1914 and 1916, but was elected U.S. Senator in 1921 (Stone 1918:38-40). He died in office on March 24, 1923.

James William Newell was born April 10, 1857 near Muncie, Indiana and grew up near Liberty. He came to the Leadville, Colorado area by the early 1880s and engaged in mining. He married Lilla Fleming on April 25, 1888 in Marion County, Indiana. He was the manager, superintendent, and part owner of numerous mines in the Leadville, Aspen, and Cripple Creek areas through the early 1900s, living mostly in Leadville, but splitting his time between there and Denver beginning in the late 1890s. Newell served as the Lake County Clerk and Recorder in 1894 and 1895. He moved to southern California about 1907, where he grew citrus fruit in the Fullerton and Placentia areas. He continued his interest in Colorado mines and came down with typhoid while visiting mines in the San Juan Mountains for investors in 1915. He recovered and later died in Orange County, California on November 14, 1936 (*Herald Democrat* [Leadville], April 15, 1896, November 24 and 25, 1898, November 11, 1915).

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After examining the property and doing preliminary work, the Cornish pumps began removing water from the workings in February 1897, and the mine resumed operations March 1, 1897, initially putting 100 men to work in the mine and the mill in order to satisfy a contract Nicholson and Newell had made to deliver 1,000 tons of concentrates per month to a smelter (*Daily Journal* [Telluride], February 5, 1897; *Aspen Daily Times*, February 26, 1897; *Herald Democrat* [Leadville], March 23, 1897). The first load of concentrates was sent off in early March 1897, and, by the end of the month, about 100 men were at work at the Ute-Ulay (*Lake City Times*, March 4, 1897:3, March 25, 1897:3).

In May 1897, the owners of Ute-Ulay settled a \$500,000 lawsuit for unlawful extraction of ore with the owners of the Monitor Lode by giving up some of their mining ground (*Herald Democrat* [Leadville], May 23, 1897). This conflict stimulated them to consolidate the mining ground of the Ute-Ulay group to prevent future conflicts over ownership of underlying ore bodies. Nicholson and Newell located the Mab, Auric, Mayor of Leadville, Maid of Henson, Yankee Doodle, Cuter, Free Lance, Leadville, and Regulator Lodes in May and June 1897 and had a Mineral Survey carried out for them between November 8 and December 28, 1897 (MS 12265). These claims overlaid most of the earlier mining claims of the Ute-Ulay group. A Mineral Patent for the claims was issued to them on April 4, 1899 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 7, Pages 585-591). It is interesting to note that the many of the claim names were identical or very close to names used for good producing mines in the Leadville area.

Mining at the Ute-Ulay under the lease by Nicholson and Newell was profitable. In December 1897, Nicholson replaced Harry Allenby as the manager of the operation (*Aspen Tribune*, December 7, 1897).⁵⁶ John Brambough, the mill superintendent of the AY & Minnie Mill in Leadville and secondarily at the Ute-Ulay Mill, and Nicholson, always interested in making improvements in ore recovery at the mill, visited the Smuggler-Union Mill in Telluride in 1898 to see if innovations there would be suitable for the Ute-Ulay Mill (*Daily Journal* [Telluride], June 28, 1898).⁵⁷ Because the water supply from Henson Creek was unreliable during the winter, a coal-fired steam plant had been used for many years as a backup system for power production. This was upgraded in late 1898 with a system that was less costly to operate (*Herald Democrat* [Leadville], December 11, 1898).

⁵⁶ Henry (Harry) Allenby was born October 1852 in England. He arrived in Leadville by 1880 where he was a miner and became a mining foreman at the Henriette Mine by 1886. He left Leadville for Creede in 1891 to become the superintendent of the Holy Moses Mine and quickly became the manager of the Amethyst Mine later that year. He resigned as manager of the Amethyst Mine after a deadly accident there in October 1894. He then superintended the building of a mill for the Solomon Mine for the Creede Mining & Leasing Company in 1895, whereupon he took the job as manager at the Ute-Ulay Mine. He then moved to Denver where he was a mining consultant. In 1904, he became a naturalized citizen, probably so that he could be eligible to complete acquisition of 163.85 acres of land as a Homestead Entry Patent in 1905 in Elbert County, where he retired as a farmer (*Creede Candle*, January 7, 1892 and October 12, 1894; *Fort Morgan Times*, November 15, 1895; *San Juan Prospector* [Del Norte], May 23 and November 14 and 28, 1891).

⁵⁷ John Brambough was born in June 1861 in England. He immigrated to America in 1879 and arrived in Leadville by 1880, where he was enumerated in the 1880 census as a miner. By 1887, he was the mill foreman at the Colonel Sellers Mine in Leadville and was the Superintendent at the AY & Minnie Mill by 1889. After serving as the Superintendent at the Ute-Ulay Mill in 1901 and 1902, he returned to Leadville as the superintendent of the AY & Minnie Mill through 1906 (*Herald Democrat* [Leadville], November 15, 1901; *Mining Reporter*, January 6, 1903:36). By 1909, he had gone to Graneros, Chile to work for the Braden Copper Company (*Herald Democrat* [Leadville] November 4, 1909).

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Nicholson and Newell's experience in Leadville probably resulted in their having very little patience with the demands of their workers, particularly those that belonged to the Western Federation of Miners, who had gained a reputation for lawlessness during the strike in Leadville. By March 1899, the Western Federation of Miners had formed a new local in Henson consisting of workers employed at the Ute-Ulay and Hidden Treasure mines (Suggs 1972:20). In reaction to this, Nicholson proclaimed that unmarried workers would be required to live in company boarding houses. Whether this was to keep tabs on union members or was intended to provoke a confrontation is not known. In response, 80 Italians who were members of the union went on strike, reportedly perpetrating violence against miners who continued to work at the Ute-Ulay and Hidden Treasure. Alarmingly, strikers broke into the State Armory in Lake City and obtained guns and ammunition. In reaction, an appeal was made to Governor Charles S. Thomas, who sent the state militia to Lake City by train. In hopes of preventing a violent confrontation, the Italian consul, Dr. Guiseppe Cuneo, met with the colonel in charge of the militia and received a pass allowing him to travel ahead to Henson. Cuneo convinced the striking workers to surrender to the sheriff. The striking workers capitulated and departed with their families. With violence averted, the company announced three days later that they would no longer employ Italians and that single men were to depart in three days and married men within 60 days, much to the dismay of Dr. Cuneo and the Italian workers (*Aspen Tribune*, March 16, 1899; *Salida Mail*, March 17, 1899; Wolle 1949:352-353; Wright 1905:102-105).

Ute and Ulay Mines, Limited moved forward with liquidation of the property in late 1899. On October 4, 1899, the made an agreement with James Durie Pattullo authorizing him to proceed with paying off the over \$30,000 in debt the company had accrued, including the repayment of the mortgage to The Farmers Loan and Trust Company (Hinsdale County Courthouse, County Clerk's Office, Deed Book 23, Pages 300-307). Despite the strike, under Nicholson and Newell, the condition of the Ute-Ulay steadily improved, particularly as a result of digging a long crosscut tunnel at great depth to the Ute vein that encountered a rich body of ore in the lowest workings 1,500' below ground (*San Juan Prospector* [Del Norte], February 2, 1901). One setback was that the old shaft house at the Ulay Mine was destroyed by fire in late January (*Lake City Times*, January 24, 1901:3).

Operations under the Auric Mining Company and Western Mining Company

Because of the success of their operation, Nicholson and Newell, as the Auric Mining Company, purchased the holdings of the Ute and Ulay Mines, Ltd. on October 11, 1901 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 7, Pages 596-597; *Lake City Times*, May 2, 1901:3; *Herald Democrat* [Leadville], November 14, 1901). With the purchase finalized, the Ute and Ulay Mines, Ltd. satisfied the mortgage with The Farmers' Loan and Trust Company and paid the taxes due on the property from 1888 for which a Tax Sale Certificate had been issued to The Miners & Merchants Bank of Lake City on July 15, 1889 (Hinsdale County Courthouse, County Clerk's Office, Mortgage and Trust Deed Book 5, Pages 304-305 and Deed Book 31, Page 91). On December 29, 1902, the Auric Mining Company sold the Ute-Ulay group to the Western Mining Company, which was a New Jersey Corporation formed by

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Nicholson and Julius Rodman for \$150,000 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 7, Pages 630-631).⁵⁸ Rodman had probably been involved with the Ute-Ulay with Nicholson and Newell during the leasing period, as Rodman had been a business partner with Nicholson in Leadville as early as April 1896, and formed the A.M.W. Mining Company to work the Adams, Maid of Erin, and Wolftone mines in 1899, later adding the Brookland and Mahala mines to the group (*Engineering and Mining Journal* 61(19):453 May 9, 1896; Hinsdale County Courthouse, County Clerk's Office, Deed Book 198, Pages 560-562).

In 1903, the mill at the Ute-Ulay was described as having a capacity of 90-100 tons of ore per day (see *The Mining Industry in Colorado* MPDF [Fell and Twitty 2008] for details about concentration mills in use during this time period). Ore was first sent to a Blake 9" x 15" jaw crusher and to three sets of Allis-Chalmers 16" x 30" roll crushers.⁵⁹ It then went through four successive 36"-diameter, 7'-long trommel screens that sized the ore to 8, 6, 4, and 2½ mm.⁶⁰ The crushed and sized ore was then sent through jig concentrators from each trommel and fines that passed through the trommels went to sizers that also led to additional jigs or to buddles.⁶¹ Two plain 16'-long buddles and four double-deck 24'-long buddles were used. Tailings from the buddles were sent to settling tanks where the slime was arrested.⁶² The resulting concentrates were dried in a heated, revolving cylinder; they weighed only 16 percent (about one-sixth) of that of the raw ore. Concentrates contained 58-61 percent lead, 13-15 oz. of silver, and 0.05-0.06 oz. of gold per ton of ore. It was estimated that only 80 percent of the lead and 65 percent of the silver present in the raw ore was actually recovered (Rickard 1903:94-95). The poor rate of silver recovery was due to the presence of tetrahedrite, as this resulted in slimes that allowed the silver to float away. Sphalerite, which was found in association with the galena, also made recovery of silver difficult because of its high zinc content (Irving and Bancroft 1911:57). Despite this, it was estimated that the mine had yielded \$10-12,000,000 worth of ore through about 1900, an amount that could have been considerably more if recovery rates in the mill had been better (Rickard 1903:89).

Just before selling the property, the Auric Mining Company installed a new compressor that weighed 100 tons that was guaranteed to operate 20 drills. With this equipment, they drove a 2,700'-long tunnel. They also constructed a 285'-long upraise that connected the lower tunnel with the tunnel on the No. 4 level (*Mining and Scientific Press* 84(4), January 25, 1903:54).

⁵⁸ Julius Rodman was born in August 1860 in Michigan. He attended the University of Michigan in 1876 and 1877 and moved to Colorado in 1880. He mined in Colorado, Texas, California, and Mexico. Rodman worked closely with Samuel D. Nicholson on mining projects in Leadville, including finding financing in New York City. He was an ore buyer for the Philadelphia Smelter in Leadville and for smelters owned by the Guggenheim family, becoming the manager of the Arkansas Valley Smelter in Leadville in 1901. Rodman and his wife resided in Denver by 1900 where he was listed as a buyer for a smelter in 1900 and a mining expert in 1910. In 1909, he traveled with Nicholson on a mining venture to Costa Rica. By 1920, Rodman and his wife had moved to Manhattan, New York, where he was listed in the 1920 and 1925 censuses as a mining expert. They continued to live there through at least 1940. Rodman died in 1949 and is buried in Denver.

⁵⁹ A roll crusher is a toothed roller turned by a pulley that crushes rock against a solid curved-plate crushing surface. Rock is fed into the top of the crusher by a hopper and exits the bottom after being broken to a smaller size by the roller.

⁶⁰ A trommel is a rotating cylindrical drum with screen of a set size that is fed on one end and allows suitably sized material to fall through and oversized material to exit the opposite end of the drum to be conveyed for further crushing.

⁶¹ Fines are very small particles of crushed rock. Sizers are fine screens that separate fine material from coarse material so that the coarser material can go through further crushing.

⁶² Slimes are very small mineral particles usually disposed of as tailings (waste).

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Mining through a new shaft started in 1902, a rich body of ore was struck in the Ute vein that was hoped to justify the construction of a new mill (*Mining Reporter*, May 21, 1903:478). In 1904, it was reported that, after 1½ years of development, the large body of ore, which was 300' deeper than any previous workings of the mine, had yet to justify replacement of the old mill (*Lake City Times*, January 14, 1904). Despite indications that the mine was to reopen in 1906 (*The Plaindealer* [Ouray], December 8, 1905), no subsequent activity seems to have taken place at the mine until 1917. What appears to have happened was that the deep ore bodies encountered in 1903 and 1904 were zinc-laden sphalerite, which further compromised the mill's ability to recover the precious metals that were present (Rickard 1903:58; Irving and Bancroft 1911:58). Other mines in the San Juan Mountains suffered from this same affliction, resulting in many being abandoned. The zinc problem was not solved for many years until preferential flotation techniques were perfected (Rand and Sturgis 1931:807-808).⁶³ In 1917, the Western Mining Company leased the Ute-Ulay property, consisting of 14 patented mining claims, to the American Smelting and Refining Company (ASARCO).⁶⁴ During the winter of 1917-1918, a winze was sunk below the No. 5 tunnel to a depth of 115' with drifts driven about 250' each way on the Ute vein. Ore was stoped in the workings above the No. 5 tunnel.⁶⁵ During the summer of 1918, all operations were restricted to the main shaft, an incline about 900' deep with nine levels run from it. It was reported that several years before, a fire had destroyed the buildings over the collar of the shaft, destroying the timbers to a depth of about 35'. Plans were made to dewater and retimber the shaft. Equipment consisted of a large steam-driven Ingersoll-Sargent compressor, three 150-horsepower boilers, and the mill that was constructed in 1892 and described in detail in 1903 (*Colorado Bureau of Mines Inspector's Report, Ute-Ulay Mine*, June 9, 1918).⁶⁶ After shipping several hundred tons of silver-lead ore, all work was terminated in November 1918 (Loughlin 1921:846).

The Western Mining Company leased the property to J. S. Atkins and Austin Duff of Lake City late in 1921 and part of 1922.⁶⁷ They shipped 40 tons of ore from an old shaft and 25 tons of ore from the dumps of the Ute Mine (*Colorado Bureau of Mines Inspector's Report*, June 15, 1922; *Report to Bureau of Mines, State of Colorado, for the Year 1922*).

Acquisition and Rejuvenation by the M. B. Burke Mining & Investment Company

On October 26, 1925, the M. B. Burke Mining & Investment Company acquired the property from the Western Mining Company (Hinsdale County Courthouse, County Clerk's

⁶³ Preferential or differential flotation is separation of different metals through selective chemistry controlling for pH or using chemical agents to cause some materials to float and others to sink, thereby separating them, in mixers, conditioners, or cell tanks.

⁶⁴ The American Smelting and Refining Company was organized in 1899 to consolidate mining claims in Colorado and Mexico, gradually acquiring additional properties in Arizona, Texas, Idaho, Peru, and Tennessee. They are still in operation as a subsidiary of Grupo Mexico (Asarco Grupo Mexico 2016).

⁶⁵ A stope is a mine excavation in steps or layers for the removal of ore.

⁶⁶ The Ingersoll Rock Drill Company was formed in 1871 and merged with the Sergeant Rock Drill Company in 1888 to form the Ingersoll-Sergeant Rock Drill Company (Ingersoll Rand 2016).

⁶⁷ John S. Atkins was born in Wales in April 1861. He married in Rico in 1894 and moved to Henson in the 1890s to work as a master mechanic at the Ute-Ulay Mine. The 1920 census lists him as a stationary engineer in Lake City. He died in Lake City on July 24, 1930. Austin Dean Duff was born February 2, 1896 in Ouray, Colorado. He served as a Private in the U.S. Army during World War I and returned to Ouray to mine. He moved to Salmon, Idaho by 1942 and died January 13, 1962 in Minnesota.

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Office, Deed Book 43, Pages 271-273). Only the No. 5 level on the Ute vein was opened, and the 1,100'-deep shaft on the Ulay vein was being dewatered using an air lift. Improvements on the property were reported to include a mill, steam power plant, machine shop, and a number of dwellings. The dwellings included a log boarding house for 20 men, six log cottages, and four wood-frame cabins; it is uncertain which of these buildings have survived to the present day, though Buildings 15, 17, 18, and 38 were among them. Most of the buildings were in poor condition, but were being repaired. It was planned to build a modern boarding house for 50 men, but this never happened. The power plant was described as a stone building in good condition that was equipped with a steam-driven air compressor. By early 1926, the old mill was in the process of being torn down and a hydroelectric plant was being installed in the existing 50' x 80' stone power house. The building also housed compressors and steam boilers. The building was completely remodeled and reconstructed to make it fireproof (*Colorado Bureau of Mines Inspector's Report*, October 10, 1925; November 2, 1925; May 7, 1926; August 12, 1929).

By October 1926, machinery was being installed in a hydroelectric plant; a bunkhouse, a machine shop, blacksmith shop, and locomotive house had been built; and the portal of the Ute adit tunnel had been concreted and a steel fire door installed in a concrete frame about 50' inside.⁶⁸ Two of the new buildings were a 16' x 32' concrete blacksmith and machine shop and a 14' x 16' concrete storage house (extant, parts of Building 1). A concrete dam on Henson Creek to supply water for the hydroelectric plant was completed by the end of 1926, replacing the original dam constructed in 1882. The dam is about 60' high and was equipped with an intake structure, headgate, and spillway. A 6'-diameter heavy sheet iron flume extended 900' from the dam to the power plant. The hydroelectric plant consisted of three 5'-diameter Leffel water wheels with Graham clutches, one General Electric 180-kW generator, one 7½-kW General Electric exciter, one Woodward governor, one 250-horsepower General Electric generator, leather and rubber belts, lightning arresters, two 75-kW General Electric transformers, and panel switchboards.⁶⁹ Before entering the powerhouse, the water from the flume passed through an Allen sand cone and Oliver filter.⁷⁰ Electric motors on the property powered by the hydroelectric plant were 12 General Electric, Westinghouse, and Allis-Chalmers electric motors from 3- to 75-horsepower (*Colorado Bureau of Mines Inspector's Report*, October 14, 1926, August 12, 1929; *Report to Bureau of Mines, State of Colorado, for the Year 1926*; *Aspen Daily Times*, February 25, 1927).

Early in 1928, the M. B. Burke Mining & Investment Company contracted with Hendrie & Bolthoff Manufacturing and Supply Company of Denver for the installation of a 150-ton

⁶⁸The locomotive house no longer appears to exist and its former location is unknown.

⁶⁹No information about Graham clutches could be found. The Woodward Governor Company was founded by Amos W. Woodward in 1870 for the manufacture of controls for waterwheels. The company is still in existence as Woodward, Inc. (Woodward 2016).

⁷⁰The Allen sand cone is a classifier used to dewater finely crushed ore in the ore-concentrating process. They were manufactured by the Allen Cone Company of El Paso, Texas, which was established in 1915 and in business until at least 1923. The Oliver filter was a rotary vacuum disc filter comprised of mesh-covered arms emanating from a central hollow shaft that dips into a tub of concentrated ore slurry. A vacuum sucks solids onto the filter to separate them from liquids. The solids are then scraped off with knives, facilitated by reversing the air flow and inflating the filters. Edwin Letz Oliver formed the Oliver Company in 1907. It merged with Dorr Company, founded in 1904, in 1954 (Haynes 1949:109-113).

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concentrating and flotation mill at the Ute and Ulay mines (*Gunnison News-Champion*, May 3, 1928:4) (see *The Mining Industry in Colorado* MPDF [Fell and Twitty 2008] for details about flotation mills).⁷¹ The mill was to be of 150-ton per day capacity and had a concrete masonry and Oregon fir timber framework. Equipment to be installed consisted of two ore bins of 280 and 460-ton capacities, one 10" x 20" Blake jaw crusher, one 49-bucket belt elevator, one No. 64½ Marcy ball mill, one Dorr classifier, one 24 cell Ruth gradient flotation machine, one American continuous filter, two Wilfley pumps, one Allen sand cone, one Wilfley concentrating table, one Deister slimer, and two settling tanks.⁷² Storage bins of 1,000-ton capacity were also being constructed (*Colorado Bureau of Mines Inspector's Report*, August 12, 1929).

The main operating adit used by the company was called the No. 5 tunnel (current Adit 1) of the Ute Mine, which was reported to be in good condition for 2,650' from the portal. The No. 1 tunnel was reported to have caved in. Two old shafts, each about 200' deep, were considered to be in bad condition. The old Ute shaft, 700' northwest of the No. 5 tunnel, was 6' x 10' and caved at its collar; it was reportedly 420' deep. The Ulay load had formerly been operated through a 6' x 10' shaft that was filled with water and reported to have been 700' deep. Equipment used above and below ground included one Ingersoll-Sergeant compressor with 4,000 cubic foot capacity, two 4' x 16' air receivers, one 250-horsepower Fraser & Chalmers engine, three 150-horsepower Hendrie & Bolthoff boilers, one Ingersoll-Rand No. 4 drill steel sharpener, one Ingersoll-Rand drifting machine, one jackhammer drill, four Waugh stopers, a lathe, a drill press, blacksmith and carpenter tools, hammers, picks, and shovels.⁷³ Underground 22" gauge

⁷¹ Hendrie & Bolthoff was founded in 1876 in Denver by Charles F. Hendrie and Henry Bolthoff. They were perhaps the largest manufacturer of and supplier of mining equipment in the country. They ceased operation in 1964 (Vintage Machinery 2016b).

⁷² A Marcy ball mill is a rotary drum filled with steel balls that pulverizes roughly crushed ore introduced on one end. Water used in the process sluices the finely crushed fines and slimes through a grate on the opposite end of the drum. The Dorr classifier was invented by industrial chemist John Van Nostrand Dorr, who founded the Dorr Company in 1916 to manufacture the classifier. The classifier separates slimes from pulp after crushing and milling using an inclined corkscrew mechanism that raises larger material to a circuit for further grinding/milling and allows fine material to continue the ore-extraction/concentrating process (National Mining Hall of Fame & Museum 2016). The Dorr Company was founded in 1904, merged with the Oliver Company in 1954, and is presently a subsidiary of FLSmidth Minerals of Denmark. The Ruth flotation machine was a box-like cell with separate aerating and frothing compartments having a rotating aerating disk at the bottom run by a pulley on a shaft. The machine was manufactured by the Denver Engineering Works Company and was sold by the Mine and Smelter Supply Company of Denver. Floated material overflowed as froth into a trough across the front of the tank. Typical machines had four cells in groups of four or six (911 Metallurgy Corp. 2016). The machine was invented in 1918 by Joseph P. Ruth, Jr., who formed The Ruth Company in Denver. American continuous filters were a product of the United Filters Corporation of Hazelton, Pennsylvania. It is a rotary vacuum disc filter comprised of mesh-covered discs emanating from a central hollow shaft that dips into a tub of concentrated ore slurry similar to the Oliver filter. A vacuum sucks solids onto the filter to separate them from liquids and scrapes them off with knives. Arthur Redman Wilfley invented a centrifugal pump to move heavy and abrasive slurry (tailings) in about 1913. It was so successful that he and a son formed A. R. Wilfley & Sons in 1919 to market it (Wilfley 2013). The company is still in operation in Englewood, Colorado. The Wilfley table was invented in 1896 by Arthur R. Wilfley and was first used at the Puzzle Mill in Breckenridge, Colorado. It is a large, tilted table with a series of wooden-strip riffles that is mechanically vibrated, allowing heavy material to settle and lighter, non-metal material to pass through for further processing or disposal (Copper Country Media, LLC 2016). Wilfley products were manufactured by the Mine and Smelter Supply Company. The Deister slimer was a three-stage, reciprocating, ore concentrating tale using vibration for the recovery of metal from very fine slimes. It used fewer riffles than the Wilfley table. The slimer was invented by Emil Deister in 1906 and manufactured by the Diester Concentrator Company of Fort Wayne, Indiana, which still operates there as Deister Concentrator, LLC (Deister Concentrator, LLC 2008).

⁷³ Fraser & Chalmers was formed in 1871 by Davis R. Fraser and Thomas Chalmers. It merged with Gates Iron Works and E. P. Allis Company to form Allis-Chalmers in 1901 (Leffingwell 1996). Ingersoll-Rand was formed in 1905 with the merger of the Ingersoll-Sergeant Rock Drill Company and the Rand Drill Company (Ingersoll Rand 2016). A drifting machine is an air-

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30-pound rails were installed on main haulage in the No. 5 tunnel, and 12-pound rails were used on other levels of the mine. Twelve 2-ton ore cars were moved with a General Electric battery-powered 5-ton locomotive on the main haulage, and ten 16-cubic-foot ore cars were moved by hand on the other levels. Explosives were stored in a powder magazine in underground chamber (*Colorado Bureau of Mines Inspector's Report*, August 12, 1929).

Work throughout 1929 focused on the construction of the new flotation concentrating mill, which was completed in 1930. No mining was conducted in those years and no ore appears to have been processed in the plant (*Report to Bureau of Mines, State of Colorado, for the Year 1929*; *Colorado Bureau of Mines Inspector's Report*, October 16, 1930; *Report to Bureau of Mines, State of Colorado, for the Year 1930*). The company remained optimistic, however. The last run of the Denver & Rio Grande Railroad on the Lake City Branch was on May 25, 1933. Prior to its being scrapped, the owner of the Ute-Ulay leased the route and attempted to operate it as the San Christobal Railroad. Because of the Depression, they abandoned the railroad venture in 1935. Mining did not begin until June 1939, and the mill apparently was started in July of that year. A total of 986.67 tons of ore was processed in the mill, resulting in the production of 65.778 tons of concentrates. The only change in equipment seems to be that the belt-driven Ingersoll-Rand air compressor had been converted from steam power to an electric motor (Clark 2001; *Colorado Bureau of Mines Inspector's Report*, July 24, 1939; *Report to Bureau of Mines, State of Colorado, for the Year 1939*). In 1940, milling of ore for the dumps began in May and mining commenced in July. All of the mining took place in the Ute Tunnel. Milling was conducted for 86 days and mining for 56 days, with 71.38 tons of concentrates produced (*Colorado Bureau of Mines Inspector's Report*, August 8, 1940; *Report to Bureau of Mines, State of Colorado, for the Year 1940*).

Sporadic Productive Mining in the 1940s and 1950s

The M. B. Burke Mining and Investment Company sold the Ute-Ulay property to the Base Metal Corporation on January 15, 1942 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 50, Pages 167-169). The new owners started operations on a small scale that February by mining and milling about 40 tons of ore per day. Ore was mined in the No. 5 tunnel stopes about 40' above the Ute level. Ore was also taken from development of the Ulay Tunnel about 50' above the main Ute level; the two portals were about 125' apart. The company also carried out building repairs, power plant repairs, installation of crusher and flotation equipment, and made other changes and repairs in the mill. The new equipment in the mill could handle 125 tons of ore per day and included a crusher, ball mill, classifiers, two units of 12-compartment flotation cells, separation tables, tanks, filters, grizzlies, and other equipment. They milled 4,300 tons of ore resulting in 263 tons of concentrates with a value of \$25,826.29. The concentrates were trucked to Iola on the Gunnison River and shipped by rail to Leadville for smelting

powered rock drill on legs that is used for horizontal drilling. A Waugh stoper is an air-powered rock drill with an extendable tail for vertical drilling. Waugh stopers were invented by Daniel Shaw Waugh and were what made the Denver Rock Drill Manufacturing Company, the manufacturer of the drill, a successful company beginning in 1907 (*Mining Science*, October 27, 1910:400).

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(*Colorado Bureau of Mines Inspector's Report*, July 8, 1942; *Report to Bureau of Mines, State of Colorado, for the Year 1942*).

The company acquired the Hidden Treasure property in 1943. Most of the mining that year continued to be conducted through the Ute Tunnel (No. 5), with some ore also coming from the Ulay Tunnel and the waste dumps. It was reported that most of the electricity for the operation was furnished by the hydroelectric plant installed in 1926, but that in times of low water, three 200-horsepower steam boilers provided auxiliary power. The cost of hauling coal to the plant to run the boilers was prohibitive, however, and the mine was shut down in October as a result (*Colorado Bureau of Mines Inspector's Report*, October 19, 1943). In 1944, the mine operated for 80 days, and 8,250 tons of ore were processed with gold, silver, lead, zinc, and copper recovered (*Report to Bureau of Mines, State of Colorado, for the Year 1944*).

No further mining or milling took place at the Ute-Ulay until December 1950 or January 1951, just prior to its purchase by Colorado Standard Lead Zinc Mines, Inc. on January 29, 1951 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 53, Pages 207-208; *The Nineteen Fifty One Mining Year Book 1951, Gunnison News-Champion*, January 4, 1951:2, January 11, 1951:4).⁷⁴ In addition to reconditioning the two main tunnels below ground, the company sank a new 6' x 8' winze shaft on a 60-degree dip with a skip compartment and manway on the Ute vein.⁷⁵ It was operated with a bucket skip on 20-pound rails that was powered by a 3-ton Sullivan hoist.⁷⁶ The mill was described as containing crushers, a Marcy ball mill, old type lead-zinc float machines, a Dorr-type classifier, conditioners, and a drum-type filter. It was expected that a considerable amount of work would be required to put the mill into running condition, so new equipment was installed for a differential flotation mill with a 100-ton per day capacity. Installation of the new equipment was completed in 1952.⁷⁷ The power plant was described to be largely as constructed in 1926 with three 150-horsepower boilers, three 150-horsepower Leffel water turbines, and Westinghouse generators connected to turbines that produced 180 kW, 440 volts of electricity. The flume between the dam and the power plant collapsed in 1951, so a Caterpillar diesel that operated an electric generator was delivered to the mine on June 27, 1951 that provided all of the electric power for the mine and mill. They planned to install a 2,200-cubic-foot Corliss compressor powered with a Pelton water wheel and to recondition the dams across Henson Creek, but the flume collapse resulted in their acquiring two diesel-operated 500-cubic-foot portable Gardner Denver compressors with air piped into the mine through a 6"-diameter line with 2'-diameter distribution lines.⁷⁸ The shop was equipped

⁷⁴ Colorado Standard Lead Zinc Mines Inc. was incorporated in California on January 17, 1951.

⁷⁵ A skip is a mine car that rides on rails and is raised in a vertical or inclined shaft using a hoist.

⁷⁶ This was a product of the Sullivan Machinery Company of Claremont, New Hampshire. The company was founded in 1868 and became part of the Joy Manufacturing Company in 1946 (Henderson 1978).

⁷⁷ It is uncertain what new equipment was actually installed to improve the mill, as the earlier described equipment appears to be what is still present.

⁷⁸ The Corliss compressor was based on the design of the Corliss steam engine, which was a stationary, horizontal machine using valve technology patented by George Henry Corliss in 1849 (Sniderman 2012). Rather than being a source of power, the piston in the cylinder was used to compress air. The Pelton water wheel is an impulse turbine that turns a shaft by directing pressurized jets of water to double cup buckets around the perimeter of a wheel. It was patented by Lester Alan Pelton in 1880, who then founded the Pelton Water Wheel Company in San Francisco in 1888 (Shortridge 1989). The Gardner Denver Company was

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with lathes and sharpeners for processing steel and making repairs. Underground haulage was with 1-ton cars pushed by hand, but a Mancha 2-ton battery locomotive was planned to be put into service.⁷⁹ In 1952, the mine operated 300 days and produced 1,530 tons of lead and zinc concentrates (*Colorado Bureau of Mines Inspector's Report*, February 26, 1951; *Colorado Bureau of Mines, Operator's Annual Report for the Year 1951*; *Gunnison News-Champion*, June 28, 1951:5; *The Nineteen Fifty-Two Mining Year Book 1952*; *Colorado Bureau of Mines, Information Report*, December 6, 1952; *Colorado Bureau of Mines, Operator's Annual Report for the Year 1952*).

On December 8, 1952, Colorado Standard Lead Zinc Mines, Inc. sold the property to Idarado Mining Company (Hinsdale County Courthouse, County Clerk's Office, Deed Book 53, Pages 266-7). Idarado closed the mine and moved all of the loose equipment to Ouray (*Colorado Bureau of Mines, Information Report*, December 19, 1953).

The End of Productive Mining

Purvis C. Vickers, Robert Vickers, and Joseph M. Vickers, doing business as Vickers Brothers, purchased the property from Idarado on March 11, 1963 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 57, Pages 205-208).⁸⁰ They leased the property to the Hughes Mining Company of Grand Junction during the summer of 1965, which began installing a hoist in the shaft dug to a depth of 428' by Colorado Standard Lead Zinc Mines, Inc. (*Colorado Bureau of Mines, Information Report*, December 1, 1965). The prospects for the mine were encouraging enough that the Hughes Mining Company purchased the Ute-Ulay property on May 5, 1966 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 50, Pages 100-102), though some ownership seems to have been retained by the Hughes Mining Company. In 1966, they continued to pump out the winze shaft and installed a new electrical power plant, consisting of a Buckeye 5-cylinder diesel engine connected to a 250-kW alternator. The mill was put into operation and produced 126 tons of concentrate with good values of lead and silver and a small amount of gold. The following year, the company proceeded with underground mining and the mill produced 60 tons of concentrates per month, which was shipped to a smelter in El Paso, Texas. A copper strike in July 1967 caused the mine to shut down, and it was sold to the Ute Ule Company on August 3, 1967 (*Colorado Bureau of Mines, Information Report*, June 21, 1966, March 7, 1967; *Colorado Bureau of Mines, Operator's Annual Report for the Year 1966*; Hinsdale County Courthouse, County Clerk's Office, Deed Book 50, Pages 133-135; *Colorado Bureau of Mines, Operator's Annual Report for the Year 1967*). Agreements to operate the mine with options for purchase were executed with Donald O. Coleman on August 15, 1968 and with the Texota Mining Company, but neither resulted in a sale of the property (Hinsdale County Courthouse, County Clerk's Office, Deed Book 100, Pages 668-670 and 674). In 1968, the

formed in 1927 with the merger of the Gardner Governor Company and the Denver Rock Drill Company. The company is still in business as Gardner Denver, Inc. (Gardner Denver 2016).

⁷⁹ Manufactured by the Mancha Storage Battery Locomotive Company of St. Louis, Missouri, founded in 1917 and was purchased by the Goodman Manufacturing Company in 1932 (American Industrial Mining Co. 2016).

⁸⁰ Purvis C. Vickers (1914-2014), Robert Vickers (1911-1976), Joseph M. Vickers (1917-1976). All were born and resided in Lake City for their entire lives. In addition to mining together, they were involved with the family ranch, which was operated as the Vickers Dude Ranch.

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owner of the mine was reported to be Noramco; they may have been the parent company of the Ute Ule Company. The company carried out a small amount of mining in that year, and a pump was installed in the shaft to drain it. A 2'-diameter Simons secondary crusher was added to the mill, but the mill was not operated (*Colorado Division of Mines, Information Report*, December 14, 1968). Additional mining was carried out in 1969, but no ore was processed in the mill (*Colorado Division of Mines, Information Report*, October, 24, 1969). In 1970, the owner of the mine was once again listed as being the Hughes Mining Company, with Noramco as the operator. Work was conducted in cleaning up the mill and getting the equipment prepared for restarting it (*Colorado Division of Mines, Information Report*, December 8, 1970).

No further activity occurred until 1976. The property was sold by the Ute Ule Company to Morain Mines, Inc. on April 9, 1976 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 107, Pages 243-246 and 460-461). Under lease, Rocky Mountain Ventures, Inc. of Denver attempted to reopen the mine and restart the mill. The company began revamping the mill to process ore from the Ute-Ulay and the Golden Wonder mines, and the mine workings were pumped out. The company spent 120 days in rehabilitation work but did not produce any ore and did not operate the mill (*Colorado Division of Mines, Information Report*, July 27, 1976, September 9, 1976; *Colorado Division of Mines, Metal and Nonmetal Mine Operator's Annual Report for the Year 1976*). Morain Mines, Inc. failed as a business and the property was seized by the sheriff and sold to the Hughes Mining Company on October 4, 1977 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 109, Pages 114-118). Knowing that the sale was imminent, Hughes Mining Company executed an Option for Purchase with Lake City Mines, Inc. on September 1, 1977, which culminated in the property's sale on September 1, 1978 (Hinsdale County Courthouse, County Clerk's Office, Deed Book 108, Pages 997-999, Deed Book 109, Pages 11-20, Deed Book 110, Pages 488-490). Lake City Mines, Inc. had acquired the Golden Wonder Mine in June 1977 and purchased the Ute-Ulay group in order to utilize its 100-ton-per-day mill. Hughes Mining Company remained involved at the mine and planned to reopen the mine and mill in 1980, but no progress seems to have been made (*Colorado Division of Mines, Information Report*, August 29, 1980)

On December 29, 1982, LKA Minerals of Lake City acquired a 51 percent interest in the Ute-Ulay and Golden Wonder properties from Lake City Mines, Inc. (Hinsdale County Courthouse, County Clerk's Office, Deed Book 120, Pages 73-76). Immediately after the acquisition, LKA assigned 90% of its interest in the future proceeds from the properties to Caldera Partners Limited Partnership, a Washington limited partnership, for approximately \$1.6 million. LKA's President, Kye A. Abraham, was Caldera's Managing Partner. LKA rebuilt the mill for the processing of ore from the Golden Wonder Mine. A small amount of gold and silver concentrate was produced in 1983, and 82 tons of concentrates were produced in 1984 from the Golden Wonder Mine (*Colorado Division of Mines, Information Report*, October 7, 1983, May 4, 1984; *Colorado Division of Mines, Metal and Nonmetal Mine Operator's Annual Report for the Year 1983*; *Colorado Division of Mines, Metal and Nonmetal Mine Operator's Annual Report for the Year 1984*). No additional production was reported through 1988 (*Colorado Division of Mines, Information Report*, March 6, 1987, January 8, 1988).

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Subsequent to a bankruptcy filing by Lake City Mines in February 1984, LKA acquired Lake City Mines' remaining interest in the properties through a Sheriff's sale. Au Mining Inc., a Colorado corporation, began leasing the properties in August 1997 and purchased LKA's ownership in the properties in 1999, but LKA reacquired the ownership share in 2003. They terminated the lease with Au Mining Inc. in 2007. On March 1, 2005, the LKA reacquired Caldera's interest in the Golden Wonder and Ute-Ulay mines (LKA International, Inc. 2004, 2005).

LKA signed a non-binding letter of intent to transfer a four-acre parcel of the Ute-Ulay property that included the boarding house, two log cabins, storage buildings, a mine headframe, and redwood water tank to Hinsdale County on November 23, 2011; the transaction was completed in October 2012. The intent of the donation was to enable the county to restore and preserve the district. The second phase of transfer included land, buildings, and structures of the Ute Mill Site, including a blacksmith shop, assay office, power house, and mill buildings (LKA International, Inc. 2012a, 2012b, 2013). In all, LKA donated 10 acres of the property to Hinsdale County in three parcels.

Henson

It was very typical for miners to live near their place of work, resulting in the establishment of small mining communities. Often these were a combination of company housing and worker-built housing, as was the case at Henson. It is suspected that the standing buildings above County Road 20 – the boarding house and residences – were company built, as they were probably more conventionally constructed and more substantial. Worker-built housing is represented by archaeological features, probably representing less-substantial construction because of the transient and often seasonal nature of the work.

With beginning of industrial mining at the Ute-Ulay Mine in late 1876 and early 1877, a community of miners began to become established on the property. In early 1877, it was reported to include several families (*Colorado Weekly Chieftain*, May 31, 1877:2). In November 1882, the first mention was made that the community was known as Henson. At that time several new dwellings were reported to have been erected (*Silver World*, November 11, 1882). The Henson post office was established on May 17, 1883 with James Cruse appointed as postmaster; it was discontinued April 22, 1884.⁸¹ Cabins for miners and families were built by the mining company in late 1891 (*Lake City Times*, December 31, 1891:1); whether this was around the company boarding house or farther west in Henson is not known. It was not until the early 1890s that Henson developed some of the amenities of a real town: a 20' x 40' schoolhouse for 40 students was constructed in January 1891, W. D. Wing built a bathhouse there in June 1892, Joseph Weichselbaumer opened a general store probably about the same time, and the Hole in the Wall saloon was in business by early 1893 (*Lake City Times*, January 15, 1891:1,

⁸¹ James Cruse was born in December 1836 in Cornwall, England. He immigrated to America in 1864 and was a copper miner in at the Copper Falls Mine in Keweenaw County, Michigan by 1870. In 1880, he was a foreman at the Ute-Ulay Mine. By 1900, he was back in Michigan where he was an overseer of a mine in Calumet. He died in Kingston, New Mexico on December 7, 1905 and is buried in Calumet, Michigan.

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June 7, 1892:2, January 26, 1893:4).⁸² None of these improvements appear to have been made by the company; rather they were personally owned and constructed for the benefit of the residents themselves. It is not known where any of these were situated in the community; future archaeological investigation may assist in their identification. The Henson post office was reestablished on November 12, 1892 with Weichselbaumer appointed as postmaster (Bauer 2007:13). Weichselbaumer sold his store in early 1894, and William G. Myers was his successor (*Lake City Times*, February 22, 1894:2, March 1, 1894:3, March 15, 1894:3).⁸³ Myers became postmaster on February 13, 1895. A new 20' x 30' school building was built during the summer of 1894 and opened for the school year in early December with 20 students (*Lake City Times*, December 6, 1894:3). Although Henson was in existence for a number of years prior, it was not until 1897 that it was listed in the *Colorado Business Directory* with a population of 200. W. G. Myers is listed as the postmaster and as having a miners supply store; the only other business noted was the Ute and Ulay Mines Leasing Company, under the management of Charles Gresswell. After a few years of not being listed, Henson was listed in the directory from 1901 to 1915 with populations noted variably at 25 in 1901 and 1902, 200 from 1903-1907, and 20 from 1908-1914. It is impossible to tell how accurate these estimates are, but they show general trends. With the closure of the mine in 1904, it is likely that the community was largely abandoned, but the directory continued showing a population of 200 through 1907, so a lag in obtaining accurate population information for the directory is likely. Edward L. Salisbury was appointed postmaster on June 8, 1900 and Lena Myers on July 10, 1902.⁸⁴ The post office was discontinued on November 30, 1913 (Bauer 2007:13). This corresponds well with the 1914 directory being the last time Henson is included, reflecting that annual reporting probably utilized the prior year's information. Several rather long-term businesses are indicated by the directory. The Henson Clothing Company is listed consistently from 1901-1907 and then sporadically until 1911. Victor Anselmo sold gloves between 1901 and 1906. Mrs. W. G. Myers ran a general merchandise store from 1903-1907, which was probably a continuation of the business started by her husband and noted in the 1897 directory. Less durable businesses were the McPolin Saloon, listed in 1902 and 1903, which seems to have been taken over by R. O. Maio, listed in 1904. James O'Keefe was listed in 1903 as selling cigars and tobacco.

⁸² No additional information could be found about Wing. Joseph Weichselbaumer was born February 21, 1848 in Englestadt, Germany. He immigrated to America in 1873, first settling in New York. He and his family arrived in Colorado by 1880, where he worked as a blacksmith in Crookeville, outside of Lake City; this was the community associated with the Crooke Smelter. He died in a mining accident at the Ute-Ulay Mine on March 13, 1896 and is buried in Lake City.

⁸³ No additional information could be found about Myers. He was presumably the husband of Lena Myers, whom he divorced.

⁸⁴ Edward L. Salisbury was born in 1837 in New York. He served in the Civil War and made his way to Gilpin County, Colorado by 1865. He lived in Central City in the 1870s and was the owner of several silver mines. In 1872, he served as a Councilman for the Colorado Legislative Assembly and then was a member of the Territorial Assembly in 1876. Salisbury moved to Leadville by 1880 where he was a lawyer. He was appointed as the Receiver at the General Land Office from 1883 to 1886. Salisbury moved to Denver in 1888 and was in the mining business. He was appointed the postmaster of Capitol City on July 2, 1898 and of Henson on June 8, 1900. He died on December 5, 1902 and was buried in Denver. Lena P. Myers was born in 1865 in Sweden. She immigrated to America in 1887. She evidently married William G. Myers and they began residing in Henson in the early 1890s. After being the postmaster for Henson from 1902-1913, she evidently remained there through at least 1920, when she was enumerated as the caretaker for the mill. She was enumerated in Lake City during the 1930 and 1940 census, died on January 30, 1946, and is buried in Delta, Colorado.

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Ute-Ulay Population Composition

The 1880 census enumerated 78 individuals at the Ute-Ulay, of whom 45 were miners and 11 were laborers. Other mine-related occupations were a mine foreman, an engineer, a blacksmith, two carpenters, and a stone cutter. A physician and hotel cook may have also been company employees. Only three families were noted: one of a dairyman, one of a Presbyterian minister, and one of a mine laborer. Nine children were enumerated; these were in the dairyman's and minister's households. Only 21 of the individuals were born in the United States, including all of the children. The most common place of origin was Great Britain with 46 individuals from England, two from Wales, and two from Ireland. Four individuals came from Canada and one each came from Germany, Prussia, and France. Skilled workers were the mining foreman from England, a mining engineer from Wales, a blacksmith from Canada, a stone cutter from France, and two carpenters from Ohio and England. The physician was from Ohio, the dairyman from Indiana, and the minister from Missouri.

Unfortunately, no census exists for 1890, but historical information indicates a great influx of Italian laborers working at the mine and mill in the middle to late 1890s. The 1900 census does not reflect this influx, as nearly all of the Italian laborers had been ousted following the strike in 1899. The 1900 census enumerated 136 individuals at the Ute-Ulay Mine and its vicinity; 49 of these, including the mine superintendent and his wife and son, appear to have lived in the company boarding house. The majority of the population – 71 – was born in the United States, including 13 children. Surprisingly, 16 individuals were from Russia, including two children. In contrast to 1880, only 24 individuals were from the United Kingdom, with 11 from Ireland, nine from England, and four from Scotland. Europe accounted for 18 individuals, with eight from Sweden, four from Germany, three each from Italy and Denmark, two from Norway, and one from Finland. An additional nine individuals were from Canada. Sixty-three of the workers were associated directly with mining and milling with 43 being miners. Also noted were six mill workers with jobs such as crusher feeder, jig tender, buddle tenders, and ore dryer, five blacksmiths, four individuals that attended to tramways, three stationary engineers, a mine superintendent, and a mill foreman. Most of these skilled jobs were held by workers from America, Canada, England, and Sweden. Ancillary jobs were a sawmill owner, six wood/timber choppers, two teamsters, and two boarding house cooks. Also present were a saloon keeper, a bartender, and a gambler who also ran a lodging house. Seven families were present with a total of 16 children; two of the children were born in Russia and one was born in Canada.

No evidence has been found that the owners and management of the Ute-Ulay recruited labor from overseas. Rather, the labor force probably reflects the general labor pool of the Lake City area at the time. It is likely that employees at the mine and mill spread the word orally and through letters about employment possibilities and working conditions, resulting in their friends, relatives, and countrymen seeking and finding employment there.

Remediation and Stabilization Activities

In 2009, the upper mill tailings impoundments (Tailings Impoundments 1-5) were stabilized by capping with soil; revegetation was completed in 2010. The work was a

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partnership between of the BLM, Colorado Division of Reclamation, Mining and Safety, Hinsdale County, and the Lake Fork Valley Conservancy. Earth moving was done by McClelland Contractors. Cultural resource consultation concluded that the tailings impoundments were non-contributing elements of the district. As a result, no further cultural resource work was found to be necessary for the reclamation work to proceed (David Lazorchak, BLM-Gunnison Field Office, personal communication to Jon Horn, November 18, 2016).

In 2012, the CDPHE, BLM, and the Colorado Division of Reclamation, Mining and Safety partnered to obtain a CDPHE grant used to hire RMC Consultants to stabilize the waste rock above County Road 20. This grant also enabled rotted wood elements the headframe (Structure 24) to be replaced and the installation of a concrete collar and grate around and over the shaft opening. An additional CDPHE grant enabled RMC Consultants to conduct a thorough cleaning of the mill during the fall of 2013; no historical materials were removed from the mill. Additional work in 2013 was carried out by Environmental Demolition, Inc., under contract to Gobbell Hays Partners, Inc., to conduct remediation work at the mill and several other buildings on the property. This included asbestos abatement that required removal of insulation around the boarding house chimney and removal of glazing from the windows and asbestos-insulated wiring at the mill, boarding house, assay office, and other standing buildings, as necessary. Many sashes were removed for future rehabilitation in anticipation that they will be reinstalled. Also in 2013, major mill tailings stabilization and remediation was carried out by Environmental Restoration, LLC with oversight and funding by the Environmental Protection Agency that focused on Tailings Impoundments 6 and 7. Cultural resource consultation for the remediation resulted in archaeological monitoring of the removal of mill tailings from Tailings Impoundment 7 so that they could be stabilized. No archaeological monitoring was deemed necessary at Tailings Impoundment 6 and buildings, site features, and structures in the vicinity of the two tailings impoundments were carefully avoided by the project and not impacted. Closure of historic mine openings by the Colorado Division of Reclamation, Mining & Safety by placing barrier grates over them was conducted in 2016.

In 2015 and 2016, HistoriCorps, funded by Colorado Department of Local Affairs grants through Hinsdale County, spent time at the property doing emergency stabilization. In 2015, three days were spent working on the office (Building 9). This included removal of trees growing adjacent to the building, repairing and installing a temporary cover on the roof of the southwestern wing, and providing new supports beneath the southwestern end of the southwestern wing. In 2016, HistoriCorps spent five days at the property. Most of the work completed was at the storage building (Building 37), where the eastern door was braced and the southern wall was raised and resupported. All of the work conducted by HistoriCorps was conducted in compliance with *The Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* by using in-kind materials.

Stabilization of the waste rock above County Road 20 in 2013, remediation of mill tailings on the far western portion of the district (Tailings Impoundments 1-5) in 2009, and remediation of mill tailings in the southeastern portion of the district (Tailings Impoundments 6

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and 7) in 2013 have altered the historic integrity of those portions of the property's appearance, but not significantly. These projects were both subject to review under Section 106 of the National Historic Preservation Act and found to have no adverse effect. The latter project was subject to archaeological monitoring and additional documentation (Prouty and Horn 2013).

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Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # CO-87
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
 - Other State agency
 - Federal agency
 - Local government
 - University
 - Other
- Name of repository: History Colorado, Denver, Colorado

Historic Resources Survey Number (if assigned): 5HN.77

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10. Geographical Data

Acreage of Property 61.6

Latitude/Longitude Coordinates

Datum if other than WGS84: _____ (enter coordinates to 6 decimal places)

1. Latitude: _____ Longitude: _____

UTM References

Datum (indicated on USGS map):

NAD 1927 or NAD 1983

1. Zone: 13	Easting: 290671	Northing: 4210910
2. Zone: 13	Easting: 291080	Northing: 4210966
3. Zone: 13	Easting: 291455	Northing: 4210846
4. Zone: 13	Easting: 291615	Northing: 4211050
5. Zone: 13	Easting: 291767	Northing: 4211014
6. Zone: 13	Easting: 291652	Northing: 4210647
7. Zone: 13	Easting: 291563	Northing: 4210487
8. Zone: 13	Easting: 291321	Northing: 4210591
9. Zone: 13	Easting: 291230	Northing: 4210744
10. Zone: 13	Easting: 291065	Northing: 4210855
11. Zone: 13	Easting: 290841	Northing: 4210758
12. Zone: 13	Easting: 290693	Northing: 4210785

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

The boundary of the Ute-Ulay Mine and Mill is shown as a solid black line on the accompanying map. The property is a contiguous block of land in an irregular polygon. It contains all of the land that contains current and former buildings, structures, features, objects, and artifacts. This reflects the historic surface area encompassed by the mining and milling operations and residential occupancy, which fell on mining claims of larger areal extent than were actually utilized. The boundary includes all of the reclaimed tailings impoundments on the western and eastern ends of the district, passes just north of the mill tailing disposal pipeline in the northern central portion of the district, extends northeastward up the mountain side to include all four of the early upper mine complexes, and follows the general course of Henson Creek on the southern boundary with the creek meandering north and south of the boundary. The below ground extent of operations of the Ute and Ulay mines is not fully demonstrated by surface manifestations. Only abandoned water-related structures are within the boundary.

Boundary Justification (Explain why the boundaries were selected.)

The boundary of the Ute-Ulay Mine and Mill was drawn to include all of the former and existing buildings, structures, and site features associated with the complex during the period of significance.

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11. Form Prepared By

name/title: Jonathon C. Horn, Principal Investigator (for property owners)
organization: Alpine Archaeological Consultants, Inc.
street & number: PO Box 2075
city or town: Montrose state: Colorado zip code: 81402
e-mail: jon_horn@alpinearchaeology.com
telephone: (970) 249-6761 x 14
date: January 31, 2017

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

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Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch 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.

Photo Log

Name of Property: Ute-Ulay Mine and Mill
City or Vicinity: Lake City vicinity
County: Hinsdale
State: Colorado
Photographer: Jonathon C. Horn
Date Photographed: June 29 and 30, July 11, and August 19, 2016
Digital TIFF photographs on file with Office of Archaeology and Historic Preservation
Number of Photographs: 64

N.B.: Supplementary photos to this nomination with a corresponding photo log are on file with OAHF.

- | Photo # | Description |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Looking southwest down the road (Road 1) into the eastern portion of the site with County Road 20 continuing on the right. |
| 2 | Looking southwest from Mine Complex 1 at the mill area left of center and buildings above County Road 20 to the right. |
| 3 | Buildings above County Road 20 with the water tank at the far left. View is to the south-southeast. |
| 4 | Mine buildings at the main mine complex to the right of Adit 1, the main mine portal, looking east. Building 1 is the group at the far right and Building 2 is the open shed. Note the tramway tracks leading from the portal toward the crusher building and tipple. |
| 5 | Western and northern sides of the storage shed (Building 2) and the western side of the mine shops and storage building (Building 1), to the left, at the main mine complex. View is to the east-southeast. |

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- 6 Adit 1, the main mine portal, with a recently installed grate over the opening. Note the 1926 date in the recessed panel above the opening. View is to the north-northeast.
- 7 Northwestern and northeastern sides of the outhouse (Building 3) outside of the crusher dump building. View is to the south.
- 8 The eastern side of the mill (Building 6) with the outhouse (Building 3) at center, the green ore dump shed (Building 4) just right of center, and the ore bin/tipple building over the crushing/conveying building (Building 5) behind. View is to the west-northwest. Note the Upper Mill Road (Road 1) to the right and the Lower Mill Road (Road 2) to the left.
- 9 The ore bin/tipple building with its covered ore car rail extension on trestle supports with the crushing/conveying building (Building 5) extending to the left to the eastern side of the mill (Building 6). View is to the north.
- 10 Lower southeastern side and part of the southwestern side of the mill (Building 6), looking west-northwest.
- 11 Looking east-northeast at the northwestern and southwestern sides of the mill (Building 6). Note the covered passageway between the mill and the diesel engine electrical generator building to the left.
- 12 Northeastern and northwestern sides of the mill (Building 6). View is to the south-southeast.
- 13 Ball mill for pulverizing ore in the eastern portion of the second level of the mill. Note the large belt drive in the left foreground.
- 14 Dorr classifier on the second level of the mill.
- 15 Conditioning tank with flotation tanks to the right on the second level of the mill.
- 16 Slurry pumps and tanks on the third level of the mill.
- 17 Chute from the filter unit above entering the revolving dryer on the fourth level of the mill. Dried concentrates fall to the fifth level floor to the right. Note the wood tailings tank behind.
- 18 Eastern and southern sides of the diesel engine electrical generator building (Building 10) with the passageway from the mill to the right. Note the stack for venting exhaust from the diesel engine. View is to the north-northwest.

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- 19 Buckeye marine diesel engine in the diesel engine electrical generating building, looking northeast.
- 20 Southeastern and southwestern sides of the Butler building garage (Building 7). View is to the north.
- 21 Northwestern and southwestern sides of the assay office (Building 8). View is to the east.
- 22 Assay furnace inside the assay office with a brick chimney behind. View is to the east.
- 23 Looking north at the inside of the L of the office (Building 9). Note the plastic sheeting over the southwestern wing and door and window openings. Cribbing has been added to support the southwestern end of the southwestern wing.
- 24 Upstream side of the concrete dam (Feature 1) across Henson Creek, looking south. Note the intake for the powerhouse flume on the right side of the dam. Gauging station (Building 35), which was formerly on the edge of the reservoir created by the dam, in foreground.
- 25 Geared hoist on the eastern end of the dam (Feature 1). View is to the west. Note the upstream curve of the dam and the outlet pipe from the diversion that fed the powerhouse flume.
- 26 Looking northwest at a remnant of the semicircular sheet-metal powerhouse flume below the office.
- 27 Remnants of the old mill and power plant (Site Feature 11) with the water tank (Structure 12) behind, looking southwest. Dark rock on each side is waste rock used to stabilize tailings during remediation in 2013.
- 28 Looking northwest at the concrete pier and northeastern wall of the mill and power plant (Site Feature 11) supporting the water tank (Structure 12). Note the wood-lined openings at the base of the mill and power plant wall that allowed water to exit to Henson Creek.
- 29 Looking northwest at the last remaining window on the southwestern end of the northwestern wall of the old mill and power plant (Site Feature 11).
- 30 Corrugated sheet metal building (Building 13) that has fallen over between the old mill and power plant and Henson Creek. View is to the west.

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- 31 Looking northeast at the northwestern and southwestern side of the log cabin (Building 14) along the Upper Mill Road (Road 1) in the eastern portion of the district.
- 32 Adit 6 with a grate installed in 2013 over its opening, looking northeast. Note the ore car rail sticking up from the debris.
- 33 Southwestern and southeastern sides of the former residence, Building 15. View is to the north-northeast.
- 34 Looking east at the northwestern and southwestern sides of the boarding house, Building 16.
- 35 Looking west at the northeastern and southeastern sides of the boarding house, Building 16.
- 36 Southwestern side of the log cabin residence, Building 17, looking northeast.
- 37 Southwestern side of the log cabin residence, Building 18. View is to the northeast.
- 38 Looking northwest at the southeastern side of the outhouse, Building 19.
- 39 Artifacts concentrated down the steep slope above Henson Creek at Dump 1, looking west-southwest.
- 40 Former residence location (Site Feature 20) delineated by rock alignments. View is to the south.
- 41 The wood water tank (Structure 22) with auxiliary metal water tanks adjacent, looking north.
- 42 Small wood box (Feature 11) with a lid covered with corrugated sheet metal. View is to the west.
- 43 Headframe (Structure 24) with the northern and eastern sides of the hoist house/transformer house (Building 25) to the right. View is to the west-southwest.
- 44 Western side of the hoist house/transformer house (Building 25), looking east-southeast.
- 45 Looking northwest at the mill tailings disposal pipeline running across the talus slope above County Road 20 on its way to Tailings Impoundments 1-5.

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- 46 Southeastern and northeastern sides of Building 37 at left and Building 38 at right, looking west-northwest. Note the dam across Henson Creek at the far left.
- 47 Northwestern and southwestern sides of Building 37, looking east.
- 48 Northwestern and southwestern sides of Building 18. View is to the east.
- 49 Looking east at an outhouse hole (Feature 17) mostly filled with rock.
- 50 Looking northeast at Adit 2 at Mine Complex 1.
- 51 Looking south at the northwestern and northeastern sides of the tram house, Building 26, at Mine Complex 1.
- 52 The tramway cable roller (Feature 13) above tram house Building 26. View is to the northeast. Note the heavy timber framework and downhill bracing.
- 53 Looking upslope to the northeast at the surface tramway route (Feature 14) from County Road 20 with the tram house, Building 26, at Mine Complex 1 visible near the top.
- 54 Former Building 27, which housed a boiler, steam engine, and compressor at Mine Complex 1. View is to the south. Note the collapsed wood-frame structural debris, smoke stack from the boiler, and the pile of coal cinders.
- 55 Collapsing dugout 28 at Mine Complex 1. View is to the east-northeast.
- 56 Southeastern side of tram house Building 29 at Mine Complex 2. View is to the northwest.
- 57 Remnants of the ore bin (Site Feature 30) part way down the waste rock pile at Mine Complex 3, looking north-northwest.
- 58 Leveled machinery area extending from Adit 5 at Mine Complex 4, looking east-southeast. Note the coal cinders deposited in front of the adit from the steam boiler that powered the compressor. The surface tramway to tram house Building 29 exits the area to the right on waste rock.
- 59 Looking toward Mine Complex 4 along the surface tram route to tram house Building 29. View is to the north-northeast. Note the ties for the surface tram on the route.

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- 60 Mine Shaft 1 east of Mine Complex 2 covered by a steel grate installed in 2016. View is to the northwest.
- 61 Adit of Prospect 3, a short distance east of Mine Complex 2, looking north.
- 62 Waste rock over stabilized mill tailing at former Tailings Impoundment 6 reclaimed in 2013, looking southeast. Note the water tank (Structure 12) near the old mill in the distance.
- 63 Waste rock covering Tailings Impoundment 7 stabilized during the 2013 remediation above Henson Creek and east of the old mill (Site Feature 11). View is to the east.
- 64 Tailings Impoundments 1-5 reclaimed and revegetated in 2009 with a new drainage channel passing through. View is to the east. Note the mine buildings in the distance.

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HISTORIC PHOTOGRAPH LOG

Photos 8-29 taken in 2001 by Jonathan Horn; original photos on file with Alpine Archaeological Consultants, Inc.

Photo No.	Photographic Information
01	Ute-Ulay Mine and Mill in the 1880s. See Figure 1 in text for explanation of buildings that still exist. Photograph taken between 1883-89 by Frank E. Dean. (DPL photo X-61914).
02	The concrete dam (Feature 1) across Henson Creek and the initial part of the flume (Feature 2). Photo taken about 1942 by Muriel Sibell Wolle. (DPL photo X-4166).
03	Looking southeast at the Henson portion of the Ute-Ulay Mine and Mill. Note the concrete dam across Henson Creek with the gauging station (Building 35) to its left and the flume winding its way to the mill buildings in the distance. In the upper left is the hoist house/transformer house (Building 25). Immediately below it is the removed shed (Building 39) with Buildings 38 and 37 immediately to its right and removed Building 36 farther right. In the distance can be seen the boarding house (Building 16). Photo taken about 1959 by Muriel Sibell Wolle (DPL photo X-3475).
04	The flume (Feature 2) terminating at the end of the old mill (Site Feature 11) (no longer extant). Photo taken in 1942 by Muriel Sibell Wolle. (DPL photo X-3471).
05	The flume (Feature 2) winding southeastward down Henson Creek with the office (Building 9) just above the flume and the mill (Building 6) at center. At the far right is removed Structure 36 with the boarding house (Building 16) in the distance. Photo taken in 1942 by Muriel Sibell Wolle. (DPL photo X-3474).
06	Looking southeast at mostly obscured residence (Building 15) and the boarding house (Building 16) with the log cabin residence (Building 17) in the distance. Photo taken in 1942 by Muriel Sibell Wolle. (DPL photo X-3466).
07	Looking northwest at the boarding house (Building 16) with the residence (Building 15) partly visible behind, and Buildings 37 and 38 in the distance. Photo taken in 1942 by Muriel Sibell Wolle. (DPL photo X-3467).
08	2001 photo of the southeastern and southwestern sides of the assay office

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(Building 8). View is to the north.

- 09 2001 photo of the southeastern side of the southwestern wing and southwestern side of the southeastern wing of the office (Building 9). View is to the northwest.
- 10 2001 photograph of the northeastern side of the office (Building 9), looking west-northwest.
- 11 2001 photo of the old mill and power plant area (Site Feature 11) with water tank (Structure 12) behind to left, small shed (Building 13) at far left, and the current mill (Building 6) at far right. View is to the west-northwest across Tailings Impoundment 7.
- 12 2001 photo of the small corrugated sheet metal shed (Building 13) with wood boardwalk in front and water pipe in covered box to right. View is to the south. This building is now lying on its front side.
- 13 2001 photo of the Tailings Impoundment 7 with Henson Creek adjacent to the right. View is to the east.
- 14 Cribbed water drainage box (Feature 4) on the east end of Tailings Impoundment 7 as it appeared in 2001, looking east-southeast. This was removed during mill tailings remediation in 2013.
- 15 2001 photo of the Tailings Impoundment 6, looking west. This area was remediated and covered with waste rock in 2013.
- 16 2001 photo of the southwestern and northwestern sides of Building 15, looking east.
- 17 2001 photo of the southwestern and northwestern sides of the boarding house (Building 16), looking east-southeast. Note the original windows and door in place.
- 18 Southwestern and northwestern sides of the log cabin residence (Building 17), looking southeast in 2001.
- 19 Southeastern and northeastern sides of the log cabin residence (Building 17), looking northwest in 2001.
- 20 2001 photo of the southwestern and northwestern sides of the log residence (Building 18) with the outhouse (Building 19) to the left. View is to the east.

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- 21 2001 photo of the southeastern and northeastern sides of Building 36, looking west. This building collapsed and was removed in about 2013.
- 22 Southwestern and northwestern sides of Building 37, looking east-southeast in 2001.
- 23 2001 photo of the southwestern and northwestern sides of residence (Building 38), looking east with removed Building 39 to left.
- 24 2001 photo of the southwestern and northwestern sides of Building 39, looking east. This building later collapsed and was removed.
- 25 Tailings Impoundment 1, looking east in 2001. This area was remediated and revegetated in 2009.
- 26 2001 photo of Tailings Impoundment 2, looking east. This area was remediated and revegetated in 2009.
- 27 Tailings Impoundment 3, looking southwest in 2001. This area was remediated and revegetated in 2009.
- 28 Tailings Impoundment 4, looking west in 2001. This area was remediated and revegetated in 2009.
- 29 2001 photo of Structure 31 covered in brush in foreground with the leveled area and artifact scatter (Feature 15) behind. View is to the northeast looking into Tailings Impoundment 5. This area was remediated and revegetated in 2009.

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HP 1. Ute-Ulay Mine and Mill in the 1880s. See Figure 1 for explanation of buildings that still exist. Photo taken between 1883-89 by Frank E. Dean. DPL photo X-61914.

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HP 2. The concrete dam (Feature 1) across Henson Creek and the initial part of the flume (Feature 2). Photo taken about 1942 by Muriel Sibell Wolle. DPL photo X-4166



HP 3. Looking southeast at the Henson portion of the Ute-Ulay Mine and Mill. Note the concrete dam across Henson Creek with the gauging station (Building 35) to its left and the flume winding its way to the mill buildings in the distance. In the upper left is the hoist house/transformer house (Building 25). Immediately below it is the removed shed (Building 39) with Buildings 38 and 37 immediately to its right and removed Structure 36 farther right. In the distance can be seen the boarding house (Building 16). Photo taken about 1959 by Muriel Sibell Wolle. DPL photo X-3475.

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HP 4. The flume (Feature 2) terminating at the end of the old mill Structure 11 (no longer extant). Photo taken in 1942 by Muriel Sibell Wolle. DPL photo X-3471.



HP 5. The flume (Feature 2) winding southeastward down Henson Creek with the office (Building 9) just above the flume and the mill (Building 6) at center. At the far right is removed Building 36 with the boarding house (Building 16) in the distance. Photo taken in 1942 by Muriel Sibell Wolle. DPL photo X-3474

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HP 6. Looking southeast at mostly obscured residence (Building 15) and the boarding house (Building 16) with the log cabin residence (Building 17) in the distance. Photo taken in 1942 by Muriel Sibell Wolle. DPL photo X-3466



HP 7. Looking northwest at the boarding house (Building 16) with the residence (Building 15) partly visible behind, and Buildings 37 and 38 in the distance. Photo taken in 1942 by Muriel Sibell Wolle. DPL photo X-3467

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HP 8. 2001 photo of the southeastern and southwestern sides of the assay office (Building 8). View is to the north.



HP 9. 2001 photo of the southeastern side of the southwestern wing and southwestern side of the southeastern wing of the office (Building 9). View is to the northwest.

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HP 10. 2001 photo of the northeastern side of the office (Building 9), looking west-northwest.



HP 11. 2001 view of the old mill and power plant area (Site Feature 11) with water tank (Structure 12) behind to left, small shed (Building 13) at far left, and the current mill (Building 6) at far right. View is to the west-northwest across Tailings Impoundment 7.

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HP 12. 2001 photo of the small corrugated sheet metal shed (Building 13) with wooden boardwalk in front and water pipe in covered box to right. View is to the south. This building is now laying on its front side.



HP 13. 2001 photo of Tailings Impoundment 7 with Henson Creek adjacent to the right. View is to the east.

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HP 14. Cribbed water drainage box (Feature 4) on east end of Tailings Impoundment 7 as it appeared in 2001, looking east-southeast. This was removed during mill tailings remediation in 2013.



HP 15. 2001 photo of Tailings Impoundment 6, looking west. This area was remediated and covered with waste rock in 2013.

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HP 16. 2001 photo of the southwestern and northwestern sides of Building 15, looking east.



HP 17. 2001 photo of the southwestern and northwestern sides of the boarding house (Building 16), looking east-southeast. Note the original windows and door in place.

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HP 18. Southwestern and northwestern sides of the log cabin residence (Building 17), looking southeast in 2001.



HP 19. Southeastern and northeastern sides of the log cabin residence (Building 17), looking northwest.

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HP 20. 2001 photo of the southwestern and northwestern sides of the log residence (Building 18) with the outhouse (Building 19) to the left. View is to the east.



HP 21. 2001 photo of the southeastern and northeastern sides of Building 36, looking west. This building collapsed and was removed soon thereafter.

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HP 22. Southwestern and northwestern sides of Building 37, looking east-southeast, in 2001.



HP 23. 2001 photo of the southwestern and northwestern sides of residence (Building 38), looking east with removed Building 39 to left.

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HP 24. 2001 photo of the southwestern and northwestern sides of Building 39, looking east. This building later collapsed and was removed.



HP 25. Tailings Impoundment 1, looking east, in 2001. This area was remediated and revegetated in 2009.

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HP 26. 2001 photo of Tailings Impoundment 2, looking east. This area was remediated and revegetated in 2009.



HP 27. Tailings Impoundment 3, looking southwest, in 2001. This area was remediated and revegetated in 2009.

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HP 28. Tailings Impoundment 4, looking west in 2001. This area was remediated and revegetated in 2009.



HP 29. 2001 photo of Structure 31 covered in brush in foreground with the leveled area and artifact scatter (Feature 15) behind. View is to the northeast looking into Tailings Impoundment 5. This area was remediated and revegetated in 2009.

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Illustration No.	Illustration Information
1	Scale drawing of Feature 4 prepared during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.
2	Schematic profile scale drawing of Retaining Wall 1 uncovered during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.
3	Illustration 3. Scale drawing of Retaining Wall 2 uncovered during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.
4	Illustration 4. Scale drawing of the wood drainage culvert uncovered during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.

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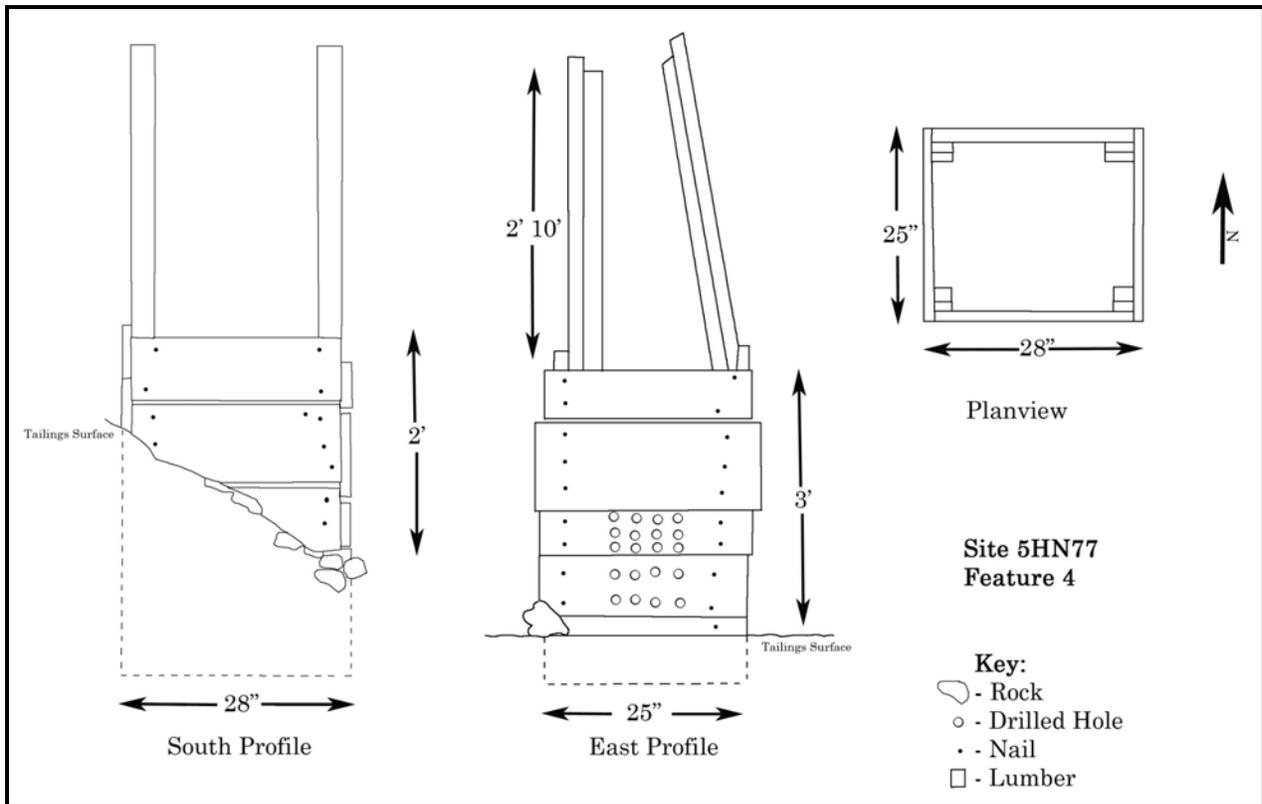


Illustration 1. Scale drawing of Feature 4 prepared during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.

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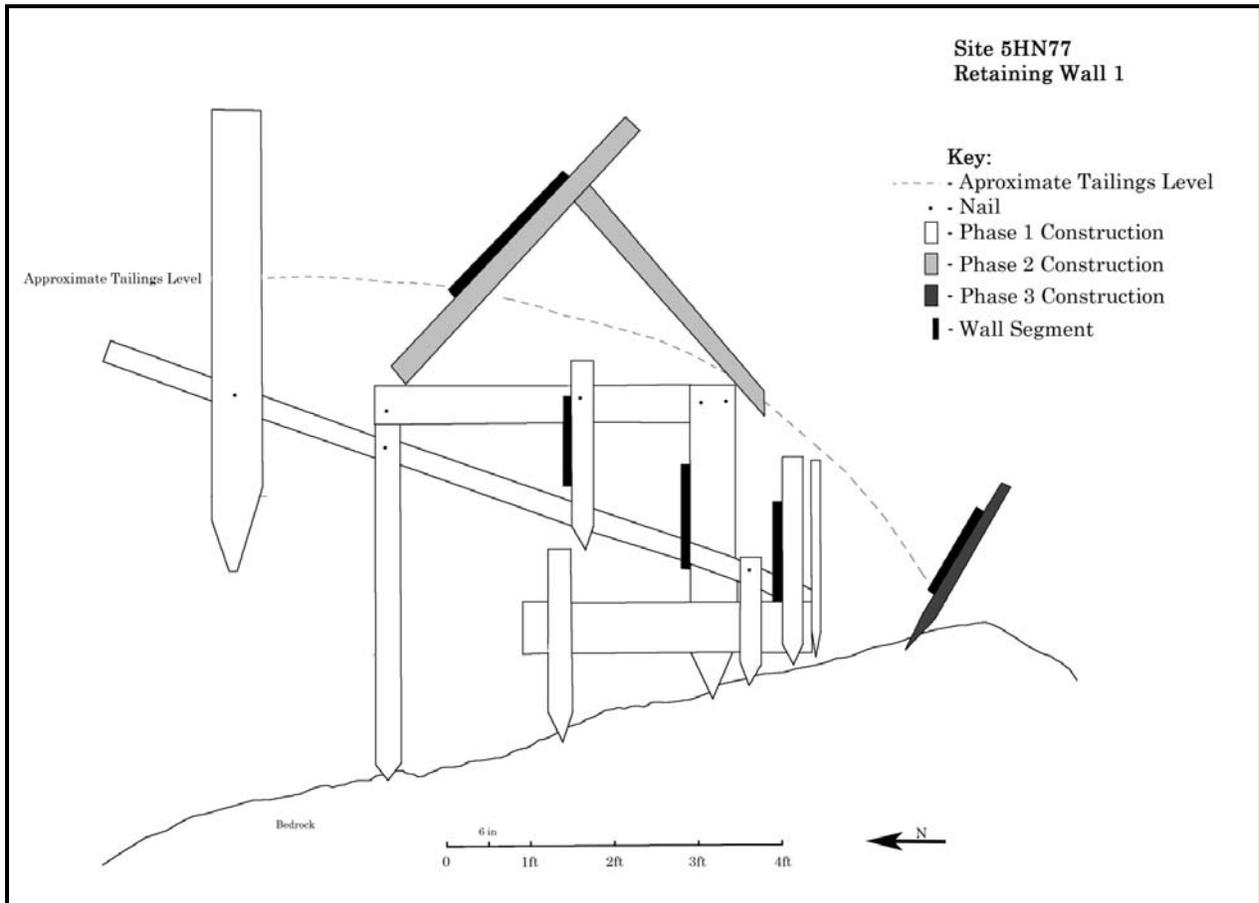


Illustration 2. Schematic profile scale drawing of Retaining Wall 1 uncovered during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.

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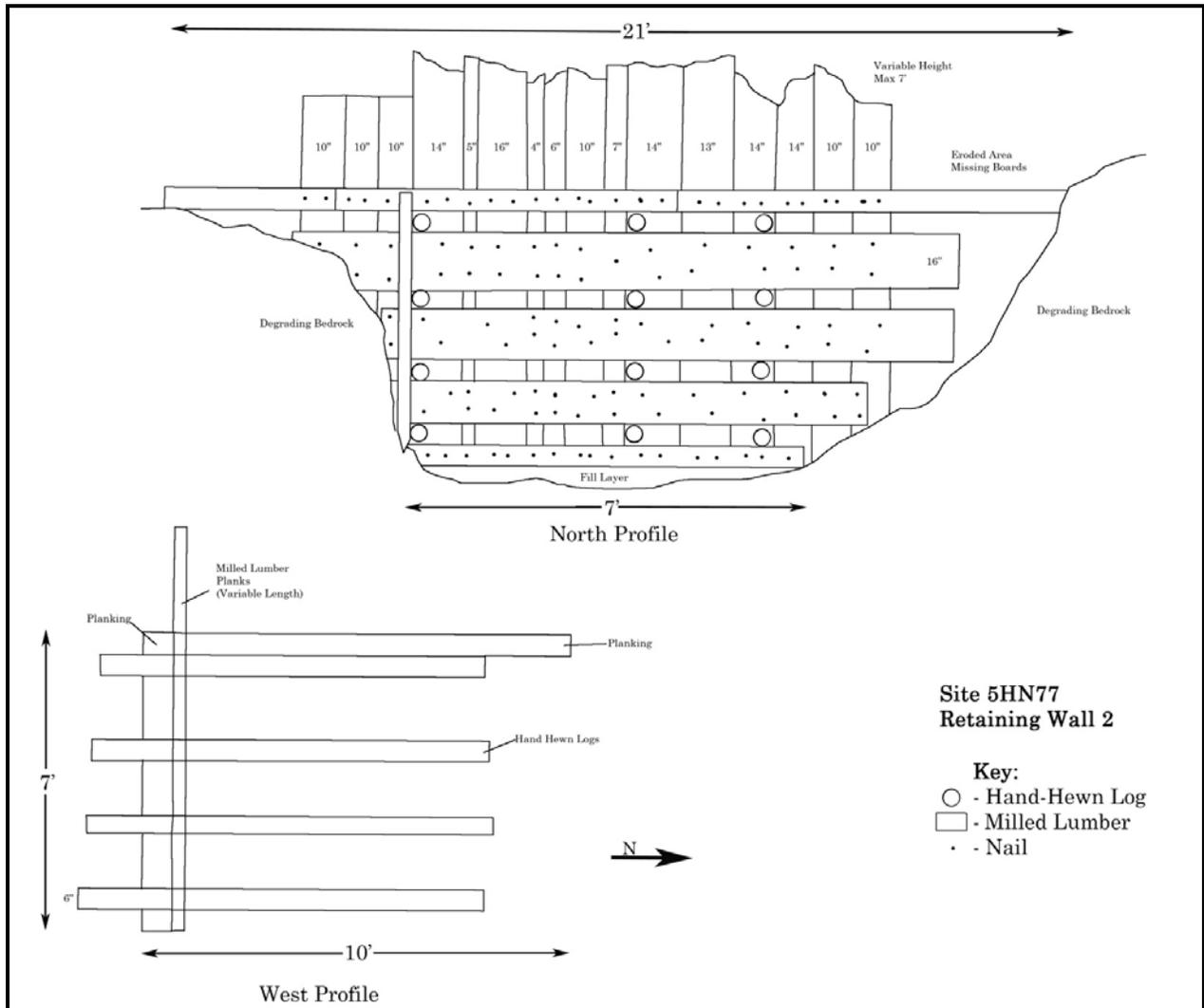


Illustration 3. Scale drawing of Retaining Wall 2 uncovered during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.

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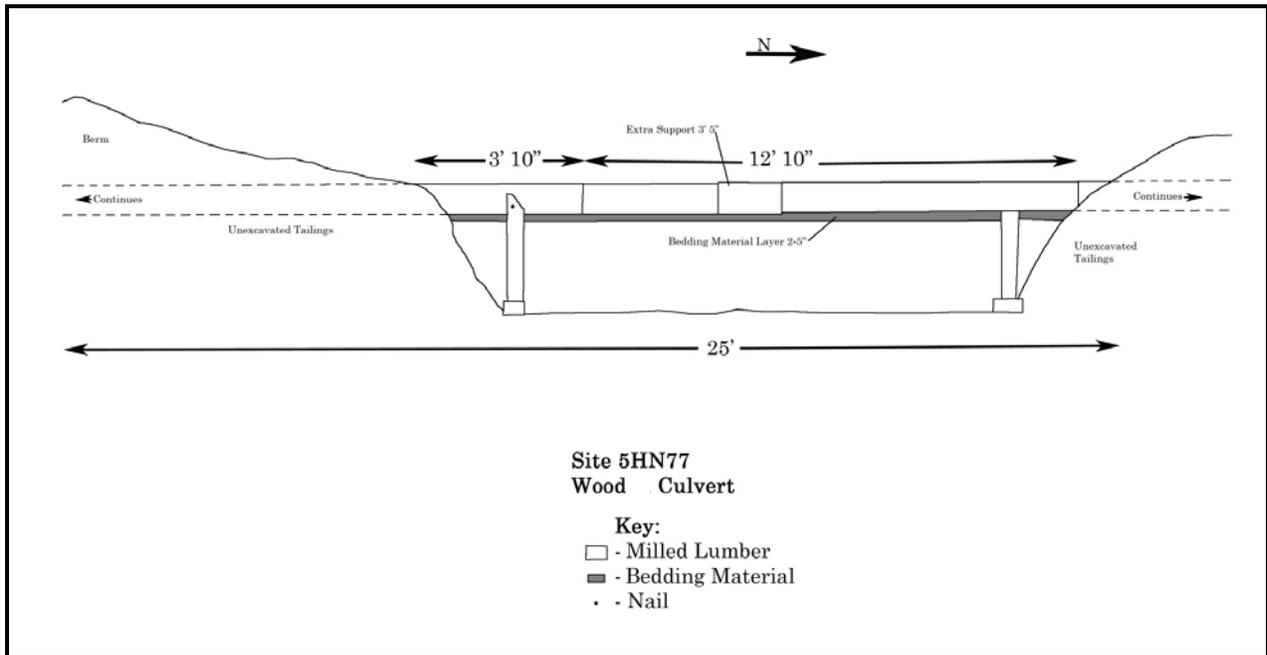


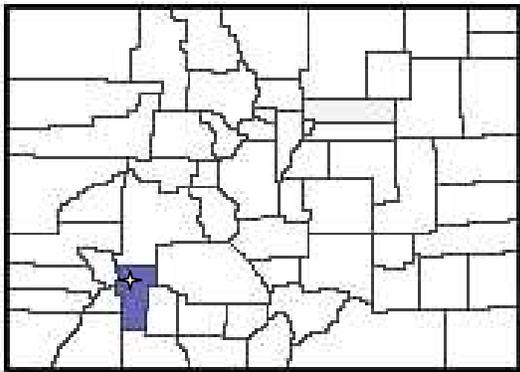
Illustration 4. Scale drawing of the wood drainage culvert uncovered during monitoring of 2013 remediation and stabilization of Tailings Impoundment 7.

Ute-Ulay Mine and Mill, The Mining Industry in Colorado MPDF;
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LIST OF MAPS

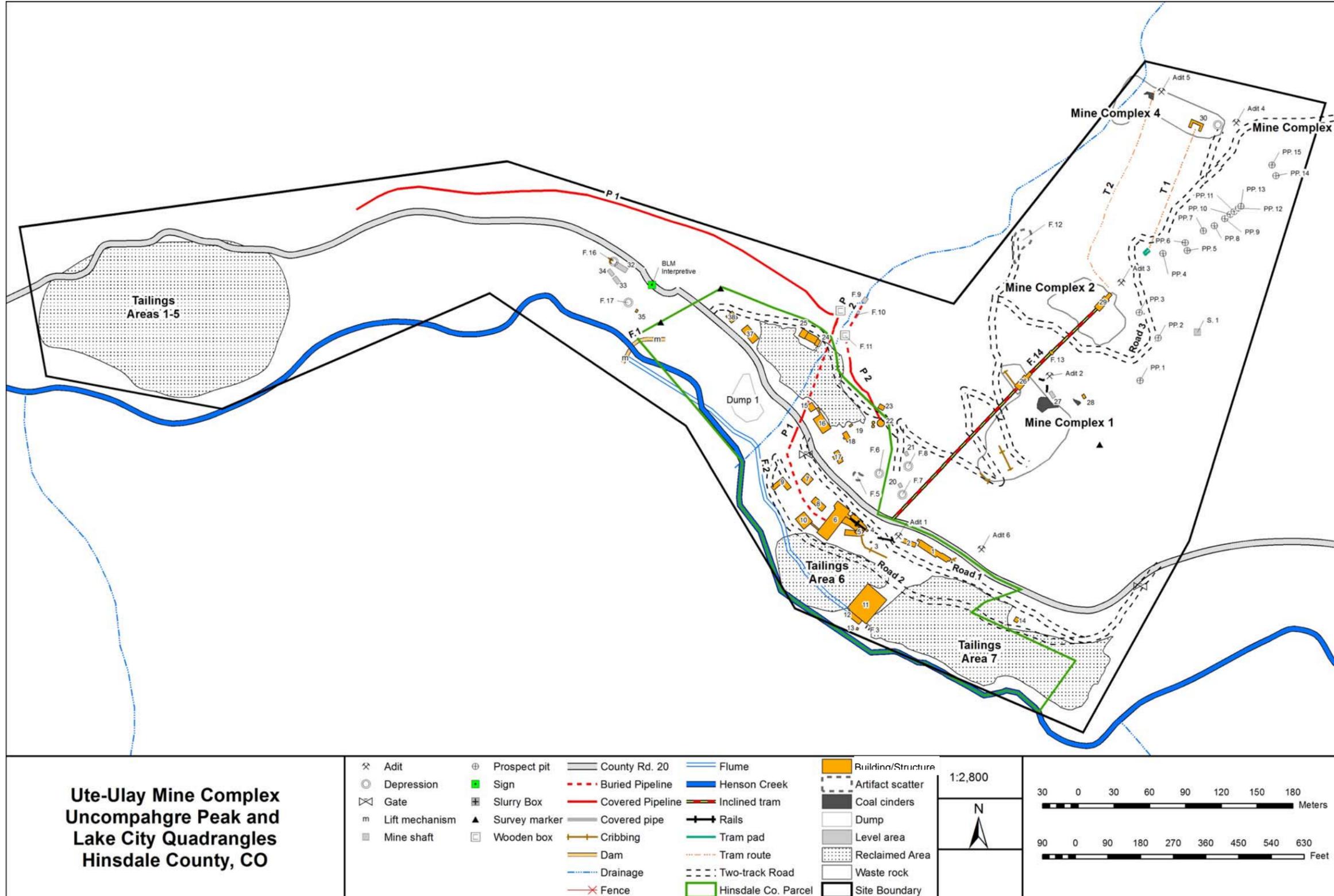
Map No.	Map Information
1	Plan view map of the Ute-Ulay Mine and Mill.
2	Plan view map of the Ute-Ulay Mine and Mill nomination parcel overlaid by patented and unpatented mining claims.
3	Plan of the Underground Workings of the Ute and Ulay and Hidden Treasure Mines; Henson Colorado (Reproduction of Plat V in Irving and Bancroft 1911). Note that surface tram routes are shown as dashed lines. The map evidently shows the mine configuration as it existed in the 1880s and was not updated for the 1911 publication.
4	Nomination boundary map including UTM points.



Location: Hinsdale County, approx. 3 miles west of Lake City

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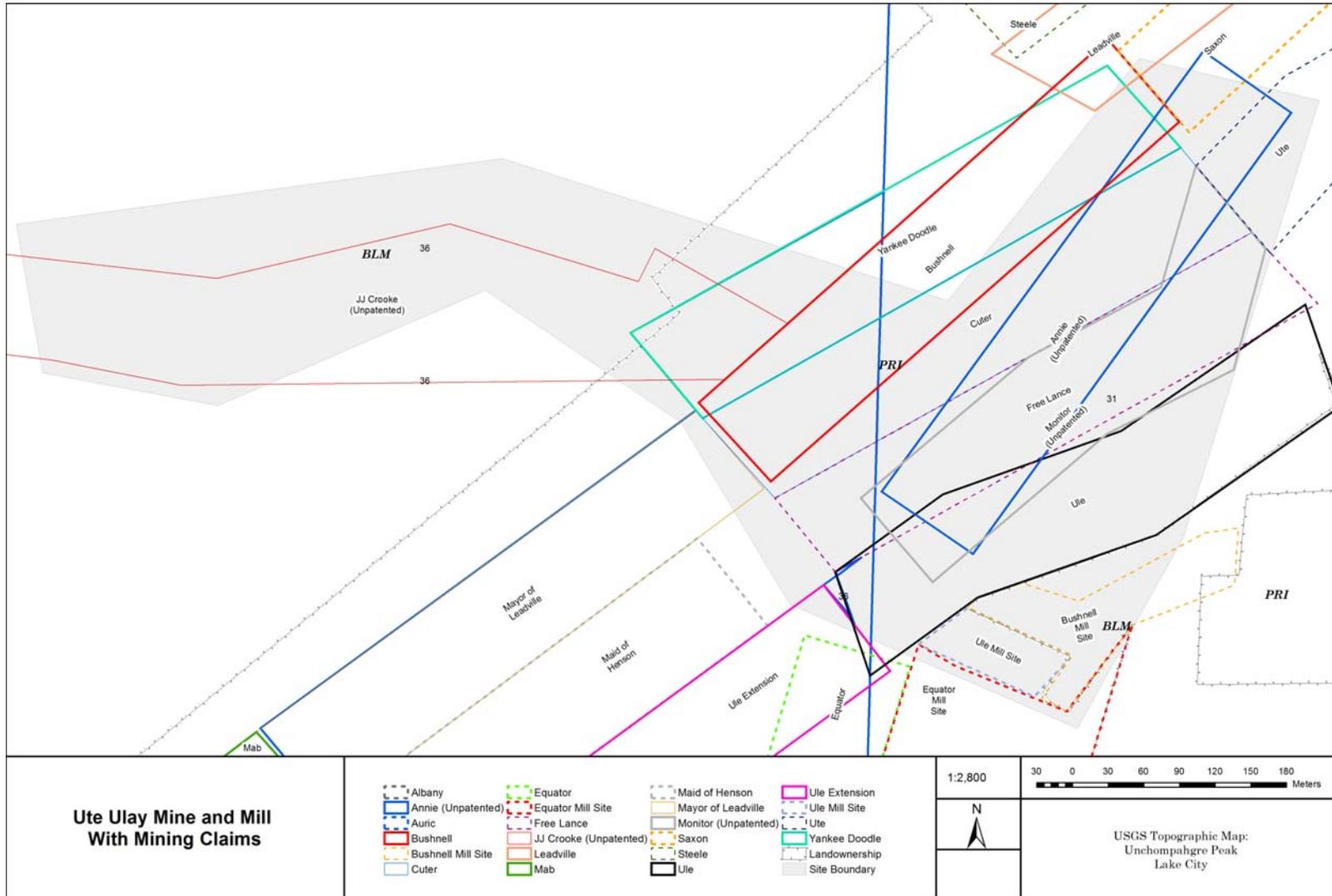
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Map 1. Plan view map of the Ute-Ulay Mine and Mill.

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 Hinsdale County Metal Mining MPDF
 Name of Property

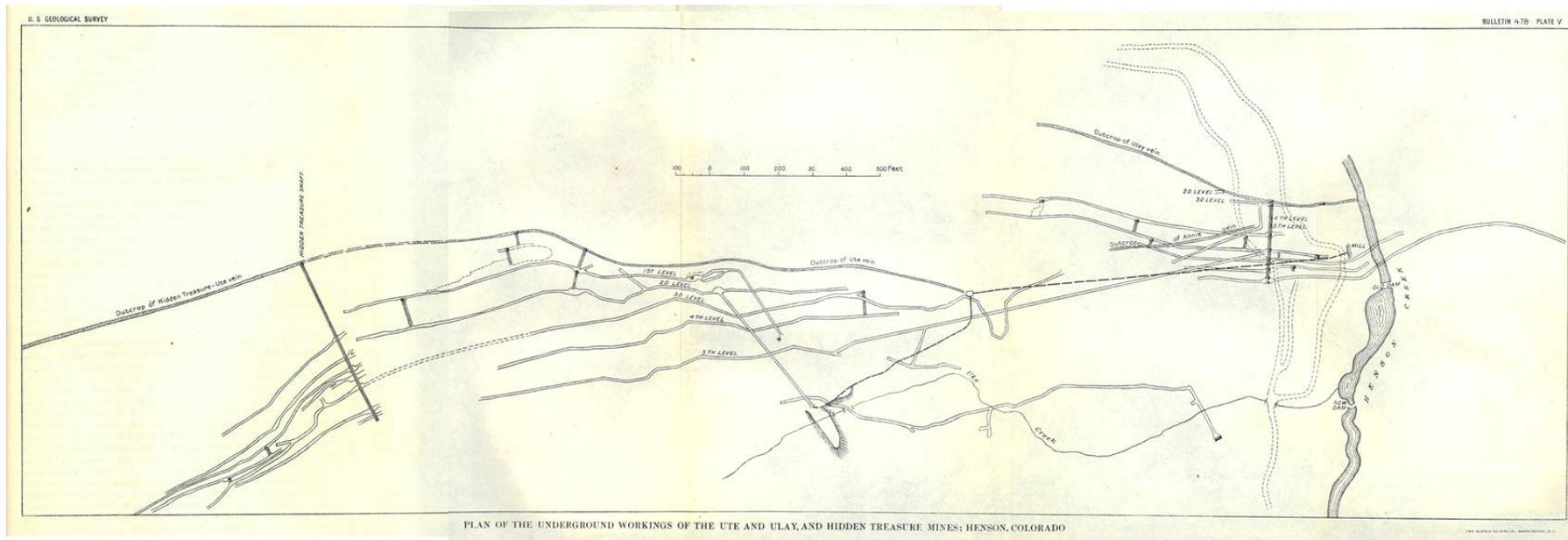
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Map 2. Plan view map of the Ute-Ulay Mine and Mill nomination parcel overlaid by patented and unpatented mining claims.

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Name of Property

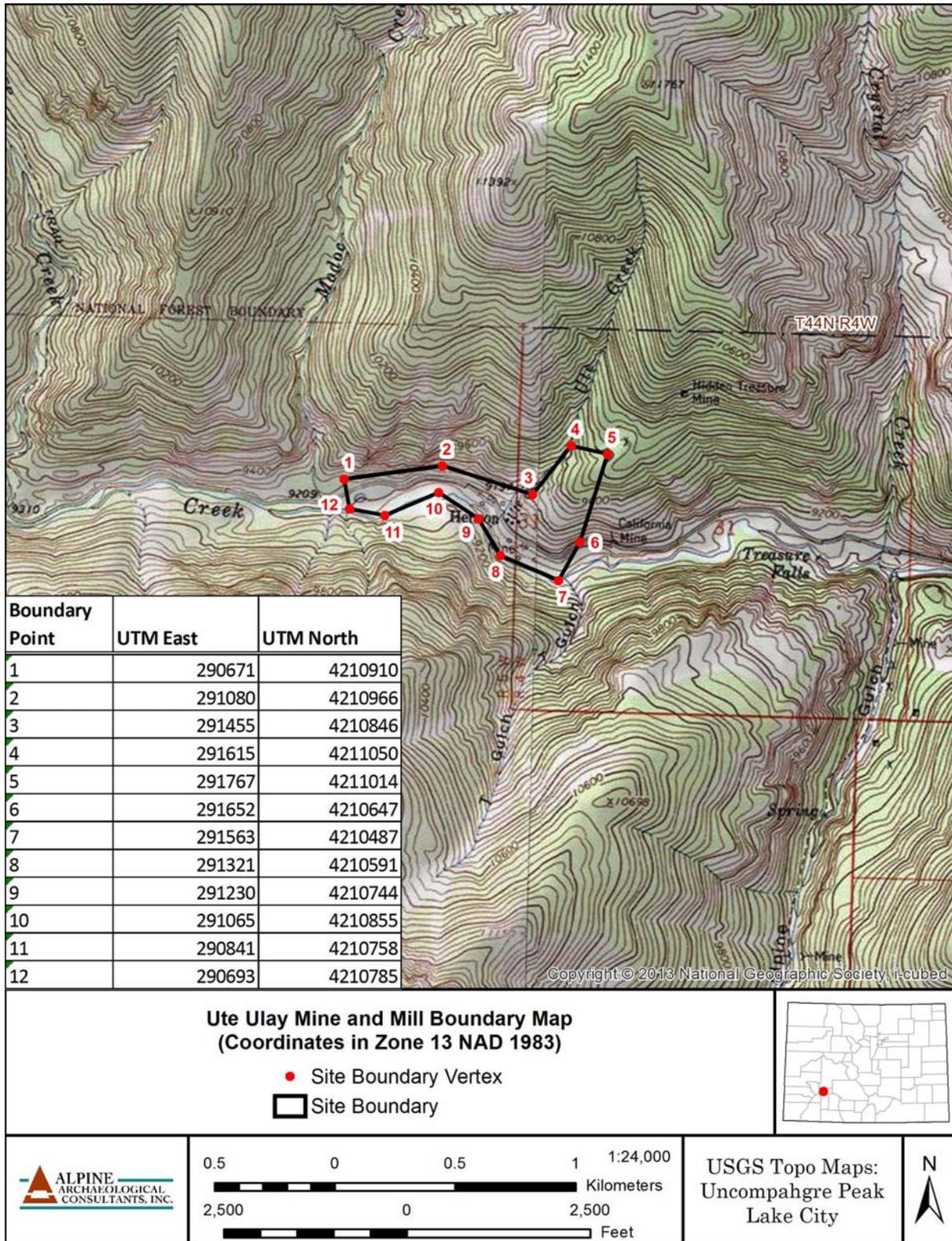
Hinsdale County, Colorado
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Map 3. Plan of the Underground Workings of the Ute and Ulay and Hidden Treasure Mines; Henson Colorado (Reproduction of Plat V in Irving and Bancroft 1911). Note that surface tram routes are shown as dashed lines. The map evidently shows the mine configuration as it existed in the 1880s and was not updated for the 1911 publication.

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Map 4. Nomination boundary map including UTM points.