

# FINAL ENVIRONMENTAL ASSESSMENT



PARK MINE AND MILL SITE  
INDIAN CREEK RESTORATION  
ABANDONED MINE LANDS PROJECT  
BROADWATER COUNTY, MONTANA  
PA # MT004012

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*PREPARED BY:*

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*IN COOPERATION WITH*

*UNITED STATES DEPARTMENT OF THE INTERIOR*

*OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT*

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## ACRONYM LIST

| <b><u>Acronym</u></b> | <b><u>Meaning</u></b>                                |
|-----------------------|--|
| AML                   | Abandoned Mine Lands                                 |
| amsl                  | above mean sea level                                 |
| ATP                   | Authorization to Proceed                             |
| BMPS                  | Best Management Practices                            |
| cfs                   | cubic feet per second                                |
| DEQ                   | Department of Environmental Quality                  |
| EE/CA                 | Expanded Engineering Evaluation/Cost Analysis        |
| EPA                   | Environmental Protection Agency                      |
| EQS                   | Environmental Impact Quotients                       |
| FONSI                 | Finding of No Significant Impact                     |
| gpm                   | gallon per minute                                    |
| MPB                   | Mountain Pine Beetle                                 |
| OSMRE                 | Office of Surface Mining Reclamation and Enforcement |
| PABFh                 | Palustrine, Aquatic Bed, Semi-Permanently Flooded    |
| RCRA                  | Resource Conservation and Recovery                   |
| SMCRA                 | Surface Mining Control and Reclamation Act           |
| SPA 124               | Stormwater Permit                                    |
| TMDL                  | Total Maximum Daily Load                             |
| USFS                  | U.S. Forest Service                                  |
| USGS                  | U.S. Geological Survey                               |

## DESCRIPTION OF AND NEED FOR PROPOSED ACTION

The purpose of this Environmental Assessment (EA) is to document the potential environmental impacts that could result from the proposed Park Mine and Millsite Reclamation Project. In accordance with the Montana Abandoned Mine Reclamation Plan, as amended July 19, 1995 (Federal Register Vol. 60 No. 138 pg. 36998), the Montana Department of Environmental Quality, Abandoned Mine Lands (DEQ-AML), is proposing to complete the removal of a dam and storage of sediments located within a failing Priority 1 Dangerous Impoundment at the Park/Marietta Mine and Millsite (Park Mine), Broadwater County, Montana (PA # MT004012). DEQ-AML has determined that there are significant negative potential impacts to the downstream portion of Indian Creek should the dam fail and has concluded that removal of the dam, the impounded sediments and restoration of the stream to its original condition are eligible for expenditure of abandoned mine reclamation funds. The proposal will need to be approved by an Authorization to Proceed (ATP) issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) after issuance of a Finding of No Significant Impact (FONSI) before grant funds can be expended to fund this project.

This effort will improve the quality of both public (Helena National Forest and Bureau of Land Management) and private lands. Eligibility for the abandoned mine reclamation fund is based on extensive hard-rock mining which included the installation of the dam. Park Mine has had previous reclamation completed in October 1998 which included the placement of waste rock and tailings in a storage area and restoration of Indian Creek upstream and downstream of the dam. Previous reclamation projects at Park Mine addressed waste rock dumps, tailings, stream restoration, open portals and regrading and revegetation of excavated areas and the cap on the storage area.

Mining activities took place prior to August 3, 1977. During the 1980's, an earthen roadway prism was constructed across Indian Creek downstream of the reclaimed portion of the site (Herrera, 2009). According to the cultural resources report (RTI, 1996), the pond was developed as a "dip site" by the U.S. Forest Service in 1988, when it was fighting fires in the Elkhorn Mountains and that the pond is unrelated to operation of the Park Mine. However, presence of historic roads and mining across Indian Creek suggest that the roadway and earthen dam were present prior to U.S. Forest Service work that may have occurred at the site. Additionally, the bermed outlet of the Mason Tunnel suggests that there was a historic pond in the area causing the need to raise the rails above the elevation of the water.

Currently, the roadway fill prism acts as a dam, which resulted in the development of an in-channel impoundment. Two corrugated metal pipe culverts were installed as outlets from the impoundment. This area, identified as area TP-3A in both the Final Reclamation Restoration Report for the Park Mine and Mill Site (Pioneer 1996) and the Expanded Engineering Evaluation/Cost Analysis (EE/CA) (Pioneer 1997) was not included in the reclamation activities completed in 1997 and 1998 because the impoundment was to be used as a sediment catch basin as the areas upstream revegetated. Substantial erosion of the downstream face of the prism has occurred prompting the need to remove the dam and sediments and complete restoration of Indian Creek that began in 1997. The feature has been categorized as a Priority 1 Dangerous Impoundment due to its potential risk to downstream resources including property, and environmental degradation.



**Erosion of dam impounding Indian Creek.**

## **Project Location**

Park Mine is a lode deposit mine located in the Indian Creek/Park Mining District approximately 12 miles west of Townsend, Montana in the Elkhorn Mountains (Figures 1 and 2). Several mines were developed in this area. Elevations at the site range from 7,000 to 7,400 feet above mean sea level (amsl). The Park Mine site is located in the Northeast ¼ of Section 15, Township 7 North, Range 1 West in Broadwater County, Montana. The dam/sediment pond is located at 46.359865° north and -111.703807° west. The Park Mine and mill site is located at the headwaters of Indian Creek, a tributary to the Missouri River. Indian Creek flows east out of the Elkhorn Mountains to Canyon Ferry Reservoir.

## **Project History**

The Park Mine is an abandoned hard rock mine site listed on the DEQ-AML Priority Sites List. A number of mines were developed in the Park Mine area including the Gold Dust, Little Annie, Bullion King, Park/New Era, and Venezuela. The Park Mine area was mined actively during various times since the late 1870s, with the most intensive mining occurring from 1880 to 1908. The Marietta group was mined intermittently from 1933 to 1949 when production resumed through at least 1966. In 1905 a 50-ton cyanide plant was constructed to treat ores from the Park/New Era property, and in 1959 a 200-ton flotation mill was constructed at the Marietta Property. The Park Mine is located at the headwaters of Indian Creek.

Pioneer (1996) identified several waste rock piles and two tailings impoundments near Indian Creek. Sampling at the site indicated that the tailings had elevated arsenic and lead levels. The waste rock dumps had elevated concentrations of arsenic, cadmium, copper, mercury, lead antimony, and zinc. A number of tailings deposits were located within and adjacent to Indian Creek downstream from the mine.

Three discharging adits were also identified by Pioneer (1996). Flows from the adits ranged from less than 1 gallon per minute (gpm) to more than 200 gpm. Two of these adits flowed into Indian Creek. The third discharges to the ground surface. The adit discharges exhibited low pH, and exceeded DEQ-7 surface water standards for arsenic, cadmium, copper, lead, mercury, and zinc. Sediment samples collected upstream and downstream from the site in Indian Creek indicated that numerous heavy metals were entering the surface water systems. The concentrations of arsenic, cadmium, copper, manganese, lead, and zinc were significantly elevated (>3 times) in the downstream sediments when compared to the upstream sediments.

Reclamation of Park Mine began in July 1997 and was completed in 1998. The purpose of the reclamation project included limiting human, livestock, wildlife, and environmental exposure to the contaminants of concern present at the site (primarily heavy metals) (Pioneer, 1998). In addition, the reclamation was designed to reduce the mobility of the contaminants to mitigate potential impacts to local surface water and ground resources. The reclamation project involved consolidation of the solid media waste sources which included four uncontained tailings piles, several small piles of tailings and four waste rock dumps adjacent to Indian Creek. The consolidated wastes were excavated and hauled to an existing waste rock dump which was subsequently covered with an impermeable cap. The repository has no bottom liner, wastes were placed on top of waste rock. Excavated areas and associated trenches and shafts were regarded and backfilled with clean cover soil and revegetated. Areas where waste had been removed from the stream required reconstruction of the creek channel and banks to approximately match pre-mining conditions.

In addition, following excavation of the stream-side waste materials, 11 additional waste rock dumps and associated trenches were graded to approximately match the surrounding topography, covered with imported clean soil and amendments, and seeded and mulched in place. Four discharging adits were backfilled with coarse rock and covered with soil. Lined channels were constructed to direct flows to pre-constructed discharge locations. A fifth discharging adit (Mason Tunnel) was closed using a culvert and a locked gate to allow later access by the landowner. Additional work at the site included constructing several surface water (run-on) control ditches.



## ALTERNATIVES CONSIDERED

### Alternative 1 – Removal of Dam, Sediments, and Stream Restoration

Under this alternative, the OSM Field Office Director would approve removal of the roadway prism, storage of impounded sediments, and restoration of the stream channel in the amount of \$350,000. Under this alternative, OSM would authorize construction activities by Montana DEQ-AML in implementing the abandoned mine land reclamation proposal described below.

The purpose of this maintenance project is to limit human and environmental exposure to the contaminants of concern; reduce the mobility of these contaminants; and mitigate impacts to the local surface water. The maintenance project includes construction of an 0.5-acre waste storage area, excavation of 2,380 cubic yards of waste material in and adjacent to Indian Creek, placement of the excavated waste and dam material in the sediment storage area, lime treatment of the waste material if required for physical stabilization of wet materials, regrading, and covering waste material with cover soil, and restoration of Indian Creek through excavation, shaping, and grading the channel area and sub-grade to its approximate pre-mining condition.

Once waste material is removed from in and adjacent to Indian Creek, new channel construction will consist of channel shaping, boulder weir and stream cobble installation, seeding, planting, log placement, and bank stabilization.

The Mason Tunnel ditch discharges to Indian Creek. The ditch channel will be reshaped and either lined with matting or riprap and each disturbed area will be planted and seeded.

Once waste material is treated (lime) and placed in the waste storage area, the contractor will prevent run-on of surface water to the storage area by installing an upgradient diversion ditch. The ditch will be constructed using geotextile overlaid with riprap and includes a dissipater pad at the discharge location. Disturbed areas will be seeded fertilized and mulched.

Excess cover soils will be placed over or adjacent to waste storage area or placed on disturbed slopes adjacent to Indian Creek to blend with the surrounding grade.

Work will include incidentals necessary to complete the project.

The proposed time schedule for this alternative is:

Submit this Draft Environmental Assessment for public comment.

Conduct a public meeting in Townsend to present preferred reclamation alternative

|             |  |
|-------------|--|
| Fall 2015   | Finalize design documents, complete bid process, select contractor, and complete required permitting |
| Summer 2016 | Complete construction activities and complete construction complete report                           |
| 2016 - 2017 | Project monitoring to include weed spraying as necessary   |

Under the oversight of DEQ-AML, a professional engineering firm licensed in Montana will complete an engineering design for the project and construction services will be solicited by a public bidding process. After the construction contract is awarded, and construction begins, a full-time construction inspector will be on-site to ensure quality control.

### **Alternative 2 - No Action**

Under this alternative, OSM would deny a Federal grant in the amount of \$350,000 to implement the Park Mine Reclamation Project as described in Alternative 1. Under this scenario, the pre-Surface Mining Control and Reclamation Act (SMCRA) era disturbances within Indian Creek at Park Mine would continue to present a threat of failure of the dam which would result in significant impacts to the surface water quality of Indian Creek. Prevention of direct human and ecological exposure would not be achieved.

## AFFECTED ENVIRONMENT

### General Setting

Park Mine is located in the headwaters of Indian Creek from 7,000 to 7,400 ft amsl. Park Mine is located on private land currently held by a private trust. The trust land is bounded by the Helena National Forest. The site can be accessed by traveling 1 mile north on Highway 287 from Townsend, Montana, to Indian Creek Road and following this road approximately 12 miles to the mine site. The roads are maintained by the U.S. Forest Service or Broadwater County. Land surrounding the site is primarily timbered forest land – used primarily for livestock grazing, wildlife habitat, and recreation. Some logging has been conducted in the vicinity of the site.

The impoundment is located in an incised valley downstream of the former mine workings and reclaimed areas approximately 6,800 ft amsl (Figure 2). The original grade of Indian Creek through this area is approximately 15 percent. Indian Creek drains eastward from the Elkhorn Mountains to the Missouri River. During low-flow periods the section of Indian Creek in the Park Mine area flows at approximately 0.34 cubic feet per second (cfs). An estimated “two-year” flood event is estimated to be approximately 3.7 cfs.

Indian Creek drains below the current waste repository and water draining from Mason Tunnel enters Indian Creek just upstream of the impoundment. The water entering the impoundment from Indian Creek and the Mason Tunnel is impacted by cadmium and zinc. The concentrations of these metals in water discharging from the Mason Tunnel are 2 to 3 times greater than those in Indian Creek. As noted above, EPA benchmarks were exceeded for most of the metals tested in the pond sediment. Arsenic, lead, and zinc were present at concentrations exceeding the EPA benchmarks. These results suggest that the pond sediment is toxic to aquatic biota.

Indian Creek is impacted by dissolved phase heavy metals associated with historic mining conducted upstream. Information regarding Indian Creek’s water quality is provided on DEQ’s Clean Water Act Website ([https://svc.mt.gov/deq/dst/#/app/cwaic/report/cycle/2014/auid/MT41I002\\_100](https://svc.mt.gov/deq/dst/#/app/cwaic/report/cycle/2014/auid/MT41I002_100)). In 2014, Indian Creek’s water quality was categorized as 5. Category 5 waters indicate that one or more beneficial uses are impaired or threatened, and a Total Maximum Daily Load (TMDL) is required to address the factors causing the impairment or threat. The factors that are causing impairment are believed to be caused by historical mining activities within the watershed. The activities have resulted in concentrations of arsenic, cadmium, and zinc in surface water. The impairment information focuses on agricultural and drinking water impacts. The 2014 report notes that additional information will be required to discuss impacts to aquatic life.

Indian Creek is also classified as a B-1 water. B-1 waters are suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

## Regional and Local Geology

Park Mine is located within the northern part of the Indian Creek Mining District (also known as the Park), nine miles west of Townsend, Montana. The district is on the eastern slope of the Elkhorn Mountains in Broadwater County. This portion of the Elkhorn Mountains is composed of Upper Cretaceous volcanic rocks, mostly andesite flows, tuffs and breccias. Several scattered Tertiary intrusive stocks invade the volcanics and are correlated in time and composition with the Boulder batholith. Mesozoic sedimentary rocks occur near the base of the mountains, several miles to the north and east of the district (Reed, 1951).

Park Mine produced ore from several moderately dipping, north- and northeast trending lenticular veins in the Elkhorn Mountains Volcanics and associated intrusives (basic dikes). Most of the ore has come from the Marietta and Blue veins, which contain pyrite, arsenopyrite, galena, sphalerite, and sparse chalcopyrite in a gangue of quartz, siderite, ankerite, and manganese carbonate (rhodochrosite). The Blue Vein was stoped for a length of 200 feet over a vertical distance of 150 feet, while the Marietta Vein was mined for 700 feet through a vertical distance of 250 feet. High-grade silver-lead ore was reportedly mined from a near vertical pipe at the Bullion King Mine, 1,000 feet northeast of the Marietta.

An inventory of abandoned mine features in the Park Mine prior to the 1997 reclamation project include the following (Pioneer, 1997):

- 10 waste rock dumps
- 4 tailings ponds
- Streamside tailings
- 3 discharging adits

## Hydrogeologic Setting

Park Mine is located within the Main Fork of the Indian Creek basin. The site is approximately one mile south of a divide separating it from the Whitehorse Creek basin to the northeast and the Beaver Creek basin to the north. The Indian Creek basin drains south and east into the Missouri River near Townsend.

The hydrogeologic system contains two components: the andesite bedrock and the Quaternary to recent alluvium valley fill. The andesite bedrock is fractured by post-emplacement faults and joints. This intense fracturing has likely resulted in a fairly permeable and transmissive bedrock aquifer system. The alluvial deposits are small and discontinuous and likely transmit both surface water from local streams and discharging bedrock groundwater.

Groundwater is present in the area at a shallow depth, evidenced by three discharging adits and numerous springs on the flanks of Indian Creek. Groundwater flow likely follows local stream gradients and topography, with groundwater discharging into gaining alluvial streams. This type of discharge is typical of high-mountain drainage systems. Local bedrock fault systems probably exert some control on the

direction and rate of groundwater flow, as do the extensive underground workings associated with the mines in the area.

## Surface Water Hydrology

Surface water hydrology in the vicinity of the site is part of the Main Fork of Indian Creek. The site is located adjacent to and in the headwaters of Indian Creek, which flows approximately five miles downstream from the site before merging with the West Fork of Indian Creek. From there, Indian Creek flows approximately seven miles east to the Missouri River.

The drainage basin of Indian Creek above the site is moderately steep, partially forested ground. The area of this drainage basin covers approximately 720 acres (1.12 square miles). Although this reach of Indian Creek is not gauged, the U.S. Geological Survey (USGS) Revised Techniques for Estimating Magnitude and Frequency of Floods in Montana (USGS Open-File Report 81-917) has been used to estimate the peak flood events in Indian Creek as follows:

$$Q_2 = 3.7 \text{ cfs}$$

$$Q_{10} = 11.4 \text{ cfs}$$

$$Q_{20} = 16.9 \text{ cfs}$$

$$Q_{50} = 21.6 \text{ cfs}$$

$$Q_{100} = 27.2 \text{ cfs}$$

The designation “Q2” represents the magnitude of the estimated peak flow rate observed in Indian Creek for a flooding event with a two-year frequency return period.

Surface water samples collected from the Mason Tunnel and the outfall culvert of the impoundment indicate that aluminum concentrations in surface water increase downstream from the Mason Tunnel, arsenic and zinc concentrations decrease downstream from the adit, and cadmium concentrations remain consistent. The concentrations of each of these metals exceed one or more surface water standards (Tables 1 and 2). The concentrations of cadmium and zinc are based on hardness values at the sampling locations (147 mg/L CaCO<sub>3</sub> at the Mason Tunnel and 47 mg/L CaCO<sub>3</sub> at the impoundment culvert outfall).

## Vegetation

Grassland, riparian, and timbered communities occur in the area surrounding Park Mine. Much of the area is fairly continuously timbered (lodgepole pine, subalpine fir, Englemann spruce, and Douglas fir), although the majority of the timber in the direct vicinity of the site was burned during the 1988 forest fire in the area. The wooded area adjacent to this site supports a Douglas Fir/Pinegrass association (Pfister et

al, 1977). The natural vegetation of the grasslands is Idaho Fescue/Bluebunch Wheatgrass (Mueggler and Stewart, 1980).

Mountain Pine Beetle (MPB) surveys were completed in the Elkhorn Mountains in 2012. The 2012 survey determined that MPB-caused mortality greatly decreased with only scattered large patches remaining (U.S. Department of Agriculture, et. al. 2012). Most of the MPB mortality was in lodgepole pine, but some ponderosa pine and high-elevation 5-needle pines were also noted.

Riparian areas occur in the study area along small tributaries forming the headwaters of Indian Creek. The riparian communities are classified as Drummonds Willow/Tufted Hairgrass Habitat types (Hansen et al, 1995). Most of the riparian areas on the site are affected by the mine waste and are non-functioning as riparian areas. Areas above the site are functioning, but the areas are at risk because of browsing and grazing pressure. The 0.14-acre sediment pond is classified by the USGS as a palustrine, aquatic bed, semi-permanently flooded, and impounded (PABFh) wetland freshwater pond (<http://viewer.nationalmap.gov/viewer/>), however no wetland plants exist at the site that would classify the site as a wetland under the United States Army Corps of Engineers' definition.

An ecological risk assessment was completed in 1996 (Pioneer, 1996). The risk assessment calculated environmental impact quotients (EQs) to determine whether ecologic receptors are exposed to potentially harmful doses of site-related contaminants via various ecological exposure scenarios (e.g. surface water/sediment aquatic life, deer ingestion, and plant-phytotoxicity). The aquatic-life scenario results in EQs as high as 89.6 (surface water – zinc), and 22.3 (sediments – lead) in Indian Creek. The deer scenario results in a maximum EQ of 75.9 lowest-observed adverse effect level of lead. The plant toxicity EQs are as high as 598 for arsenic. These EQ values indicate that even at the lower bound of these calculated risk estimates, the ecological risk characterization demonstrates that contaminants at the site constitute a probable adverse effect via each of the exposure scenarios and justify appropriate cleanup. Arsenic is the primary contaminant of concern, and the plant community is the primary receptor; zinc and cadmium in surface water and lead and arsenic in sediment are secondary contaminants and receptors of concern.

Two species of noxious weeds occur at the site: Dalmatian Toadflax and Canada Thistle. Presently, these plants occur in small patches along roads and on waste rock. Weed spraying will occur prior to reclamation activities and following reclamation to control the spread of noxious weeds across the site.

## **Fish and Wildlife**

The area surrounding the site is important habitat for a variety of big game animals, fur bearers, and birds, including: elk, mule deer, moose, black bear, mountain lion, bobcat, and mountain grouse. Bighorn sheep have been transplanted in the Sheps Gulch area approximately three miles south of the site. According to a report provided by the Montana Natural Heritage Program (Attachment A) there are several species of concern within the vicinity of the project. These species occurrences are areas depicting only what are known from direct observation within a defined level of certainty regarding the spatial location of the feature. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range of the species are incorporated into the

species occurrence. None of the species included in the Montana Natural Heritage Program's Species of Concern Report for the Park Mine are threatened or endangered species.

Within the vicinity of the project, three species of concern have been identified as sensitive by the U.S. Forest Service, U.S. Bureau of Land Management, or the Montana Natural Heritage Program. These include: McCown's Longspur, Hoary Bat, and Wolverine. A fourth species, the westslope cutthroat trout is located in an adjacent drainage but not within the Indian Creek Drainage System.

## Historic or Archeologically Significant Features

Cultural resources requirements were completed in accordance with Section 106 of the National Historic Preservation Act. Documentation is a part of the administrative record and is available at the Montana Department of Environmental Quality, Abandoned Mines Reclamation Bureau (RTI, 1996).

There are three features located within the project boundary:

- Feature 39 is the Mason Tunnel Adit. This is an adit portal which was constructed of 6-inch logs, 2x10s, 2x6s, 8x9s and wire nails. The portal is approximately 5 ft wide. The adit discharge is conveyed through a 36-inch culvert to Indian Creek.
- Feature 40 consists of rails for ore cars. The rails lay on 3x6 wood ties, and run east from Feature 39 near the south end of the site for about 80 feet. They then cross a 12-foot long platform before ending above a impoundment (Feature 41).
- Feature 41 is the sediment pond located immediately east of Features 39 and 40. Though the cultural report indicates that the pond was established in 1980s as a dip site for firefighting helicopters the extent of mining on the west side of the road prism/dam indicates that this location acted as an access point to mining features on the opposite side of Indian Creek. The road prism was likely raised and improved to pond additional water during the 1980's. The improvement of the dam also resulted in additional sediment being trapped behind the dam in the pond.

## Soils

There are four soil types within the vicinity of Park Mine (Natural Resource Conservation Service, 2015):

- Typic cryochrepts-rubble land complex, basaltic substratum, cold – This map unit is on mountain ridges at elevations from 7,200 to 9,000 ft amsl. Average annual precipitation is 25 to 30 inches. Vegetation in this soil type is upper subalpine forest and the soils are formed in material derived from basaltic rocks. This soil type represents only a small percentage of the soil types in the area (less than 1 percent).
- Argic cryoborolos-lithic cryoborolls complex, basaltic substratum, mountain ridges – This map unit is on mountain ridges. Elevation ranges from 6,000 to 7,500 feet. Average annual precipitation is 20 to

30 inches. Vegetation is mountain grassland and shrubland. Soils formed in material derived from basaltic rocks. This soil type represents approximately 15 percent of land cover in the area.

- Typic crochrepts, basaltic substratum, steep – This map unit is on mountain slopes. Elevation ranges from 6,000 to 7,200 feet. Average annual precipitation is 25 to 30 inches. Vegetation is lower subalpine forest. Soils formed in material derived from basaltic rocks. This soil type represents approximately 16 percent of the local land cover.
- Typic cryoboralfs-argic cryoborolls complex, mountain ridges – This map unit is on mountain slopes and ridges. Elevation ranges from 5,500 to 7,000 feet. Average annual precipitation is 20 to 25 inches. Vegetation is a mosaic of upper, mixed forest and mountain grassland. Soils formed in material derived from basaltic rocks. This is the dominant soil type near the site (nearly 70 percent).

No areas classified as Prime and Unique Farmlands exist at the Park Mine.

## Recreational Resource Values

The current land use of the area surrounding the Park Mine is primarily recreational. The Elkhorn Mountain range receives heavy big game and bird hunting usage. The area also receives use by recreational hikers, off-highway vehicle riders, and mountain bike riders.

## Air Quality

The Air Quality Index for Broadwater County ranged from 40 to 45 during the period from 1999 to 2009 (<http://www.usa.com/broadwater-county-mt-air-quality.htm>). These air quality values are considered good by the U.S. Environmental Protection Agency (EPAs).

## Noise

This site is situated within the Helena National Forest. Noise in the area is limited to noises associated with that recreational use, traffic noise associated with the U.S. Forest Service (USFS) road that passes through the forest, and any noise that might intrude from nearby logging operations.

## Topography

Access to the area is from Indian Creek Road (USFS Road 360) and former mine haul roads. The impoundment location is approximately 6,800 ft amsl. Total relief within the proposed stream restoration area is 200 ft. The waste storage area is approximately 120 ft lower in elevation than the impoundment. Sediment from the impoundment, dam and stream channel will be placed near an old non-system road on private property, covered with topsoil and tied into local topographic features. Top soil will be excavated from the area of the waste storage area.

The area has been extensively mined, as such, there are dozens of prospects and adits in the vicinity of Park Mine. Many of them are located within USFS property.



## **Social and Economic Values**

The Park Mine is on private land held by a private trust which is bounded by the Helena National Forest. The site is drained by Indian Creek which discharges to the Missouri River approximately 12 miles east of the mine. There are currently no residents within the Park Mine boundary. However, the forest is frequently used as a recreational area.

## **Conformance with Federal, State, Regional, and/or Local Land Use Plans, Programs and Policies**

Reclamation construction activities associated with Alternative 1 would comply with Montana's Abandoned Mine Reclamation State Plan. Three permits have been identified that will apply to this effort: 1. The Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains, and Other Water Bodies; 2. Construction Dewatering Permit; and 3. Storm Water Discharge Permit. Any other permits later identified as necessary for the project will be acquired, and DEQ-AML and its contractors will adhere to the applicable statutory or regulatory requirements for the project.

## **Environmental Justice**

Based on United States Government Census figures the median household income in Broadwater County is \$45,932 (<http://quickfacts.census.gov/qfd/states/30/30007.html>). The dominant race in Broadwater County is white with 96% of the population. The next largest percentage of the population by race is Hispanic or Latino at 2.6%.

## **ENVIRONMENTAL IMPACTS OF THE PROPOSED ALTERNATIVES**

### **Alternative 1 – Approval of the Proposed Abandoned Mine Construction Project (The “Preferred Alternative”)**

Alternative 1 will result in the excavation and storage of impounded sediment and the roadway prism in an on-site sediment storage area. Removal of the impoundment will limit human and environmental exposure to heavy-metal contaminated sediment. In addition, this alternative will eliminate the potential for failure of the roadway prism preventing possible human exposure to the impacted sediments.

### **Alternative 2 – Disapproval of the Proposed Abandoned Mine Construction Project (The “No Action Alternative”)**

Under the No-Action Alternative, the DEQ-AML would not perform removal of the dam and sediment which has resulted in impacts by pre-SMCRA mining, as described under Alternative 1. Under the No-Action alternative, the impounded sediment at Park Mine would continue to be a risk to human health and the environment through direct exposure in Indian Creek.

## **Resource Values**

### **a. Cultural or Historic**

Park Mine is eligible for listing in the National Register of Historic Places under Criterion C as a historic district with an intact collection of vernacular architecture (RTI, 1996). Of the 21 buildings and structures that contribute to the eligibility of the site all but three are of vernacular construction using local materials. The presence of these structures results in the site’s eligibility for listing in the National Register of Historic Places. These structures will not be disturbed under either alternative.

Feature 39 (Mason Tunnel Adit) will remain intact during and following construction. Feature 40, an 80 ft section of mine rail which extends from the Mason Tunnel toward the sediment pond will be moved and placed on an abandoned haul road next to the reclamation during completion of Alternative 1 (RTI 1996). The mine rail would not be altered under Alternative 2. Feature 41 (pond) will be removed and Indian Creek will be restored to its approximate pre-mining condition.

In the 1996 RTI Park Mines report, RTI determined that the Park Mines site is eligible for listing in the National Register of Historic Places under Criterion C as a historic district with an intact collection of vernacular architecture. Of the buildings that contribute to the eligibility of the site, none include the two features that will be impacted by the project. Neither the pond nor the 80-ft section of mine rail near the Mason Tunnel contribute to the eligibility of the site and therefore moving the rail and removing the pond to restore Indian Creek does not present a significant negative impact to the cultural or historic resources at the site, therefore Alternative 1 would impose a negligible, short-term, local impact to the historical or archeological resource. Alternative 2 would not impact the historical or archeological resource.

## **b. Hydrology and Hydrogeology**

Stream restoration completed under Alternative 1 will remove contaminated sediment from the stream channel and will return the stream to its approximate original morphology and create a functioning stream and floodplain in Indian Creek. Short-term impacts to the stream channel and floodplain during construction are not considered a significant negative impact considering the long term goal of restoring a functional stream channel and floodplain and preventing a catastrophic failure of the dam releasing contaminated sediment into Indian Creek below the site. Stormwater runoff from construction activities may also cause short-term adverse impacts to water quality in Indian Creek. Construction best management practices (BMPs) as required by the Stormwater Permit (SPA 124) would be employed to address these sources, and can effectively reduce adverse impacts on surface water from the construction activities. Therefore Alternative 1 would have a minor, short-term, local negative impact to hydrology, but would have a major, long-term, regional positive impact to water quality once the restoration of Indian Creek is achieved.

Alternative 2 may result in the failure of the existing dam, which could cause further damage to Indian Creek by deposition of contaminated sediments and scour of the bed and banks. This would result in decreased stream and floodplain function of Indian Creek both in the project area and further downstream. Therefore the no-action alternative could have major, long-term, regional negative impacts to water quality if the dam is to fail.

## **c. Fish and Wildlife**

Based on the research performed utilizing the Montana Natural Heritage Program no impact on federally listed species or designated critical habitat would occur associated with completion of either considered alternative. Within the vicinity of the project, three species of concern have been identified as sensitive by the U.S. Forest Service, U.S. Bureau of Land Management, or the Montana Natural Heritage Program. These include: McCown's Longspur, Hoary Bat and Wolverine. A fourth species, the westslope cutthroat trout is located in an adjacent drainage but not within the Indian Creek Drainage System.

The Forest Service conducted bird surveys in randomly selected grids in the Elkhorn Mountains in 2015. The closest grid to the Park Mine site, grid 26, was approximately ½ mile to the west. The one species of concern found in grid 26 was the Clarks Nutcracker. There were four Clarks Nutcracker detections on 7/10/15 and seven detections on 7/16/15. There was also, about 2 miles (or less) to the west of grid 26, a positive goshawk detection on 7/15/15. No McCown's longspurs were detected at any of the grids in that greater area.

Additional information is provided in Attachment A.

Under Alternative 1, removing the failing dam, and restoring Indian Creek and its riparian vegetation, habitat for wildlife species will be improved. Therefore there will be no significant negative impact to wildlife species as a result of the project. Any impacts to the species in the area by disturbance from construction noise will be minor, short term, for the duration of the construction project and local. While the no-action alternative would not create any temporary disturbance from construction, it would not

remove the dam and would possibly result in downstream impacts to Indian Creek and a detriment to wildlife habitat in those areas in the event of dam failure.

#### **d. Grazing**

Grazing would be altered in small portions of the site during and upon completion of Alternative 1 due to the placement of temporary fencing to protect the waste storage area and the stream restoration. Alternative 2 would result in no changes in grazing uses of the property. The impacts to grazing will be minor, temporary and local.

#### **e. Soils and Vegetation**

There are no areas of prime or unique farmland within the project area. The 0.14-acre sediment pond is classified by the USGS as a palustrine, aquatic bed, semi-permanently flooded, and impounded (PABFh) wetland freshwater pond (<http://viewer.nationalmap.gov/viewer/>). Alternative 1 will remove this pond and restore Indian Creek. Restoring a functioning floodplain and riparian area in Indian Creek will result in the long term improvement to soils and vegetation in the project area. The negative impacts to soils and vegetation in the project area will be minor, local and short-term. Once the revegetation is complete, the soils will begin to restore themselves.

The no action alternative will leave the pond in place and not result in disturbance to the existing soils and vegetation around the pond. However, the dam could fail in the near future resulting in downstream distribution of metals-impacted sediment which would result in significant, local and long-term negative impacts to contaminated soils and vegetation downstream of the site.

#### **f. Recreational Resource Values**

Alternative 1 would have no long-term impact on public recreational resources. Short-term, local and temporary impacts include increased traffic and construction noise. The reclamation project would occur on private property. Alternative 2 would also have no impact on public recreational resources.

#### **g. Air Quality**

Alternative 1 is not expected to impact air quality through the implementation of construction best management practices such as dust control during reclamation activities. Alternative 2 would have no impact to air quality.

#### **h. Noise**

Alternative 1 would result in a slight increase in noise during the construction period for this reclamation project. This impact would be minor, local and short-term. Noise increase will be a result of heavy equipment operation. Alternative 2 would have no impact to noise values.

#### **i. Topography**

Alternative 1 would have minimal impact on site topography and restore the site to pre-mining conditions.

Alternative 2 would result in the possible failure of the dam and result in raw unstable earthen banks exposed for future erosion of sediments into Indian Creek which would result in significant, long-term, regional negative impacts.

#### **j. Social and Economic Values**

Alternative 1 would mitigate public health and safety hazards by removing direct exposure to humans and ecological receptors to sediments and eliminate the potential for failure of the dam. In addition, a portion of the project includes road improvements in the area which will improve drainage conditions along roads and thereby improving access to public lands within the Elkhorn Mountains for recreational use and firefighting. Jobs related to abandoned mine reclamation project will provide a short-term economic boost to the local economy.

Alternative 2 would not improve the quality of the Elkhorn Mountains or the Indian Creek drainage.

#### **k. Environmental Compliance with Federal, State, Regional, and/or Local Land Use Programs**

Completion of Alternative 1 would be in accordance with the Montana Abandoned Mine Reclamation Plan. In addition, the preferred alternative will be completed in accordance with applicable federal, state and local permitting specifically including a Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains, and Other water Bodies; Construction Dewatering Permit, and Storm Water Discharge Permit.

Alternative 2, or the no action alternative would not be in accordance with the goals of the Montana Abandoned Mine Reclamation Plan.

#### **l. Environmental Justice**

Neither of the proposed alternatives in the Park Mine Indian Creek Restoration Project will have a disproportionate effect on any demographic population with regard to either income level or minority status. DEQ-AML has provided the public with full opportunity for meaningful participation by minority or low-income populations through a standardized public participation and comment process. Reclamation project reports, studies and work plans will be available for public inspection at all times.

### **Cumulative Impacts**

For each of the resource values identified in the section above, cumulative impacts are considered to ensure that incremental impacts are understood in regards to the proposed project. The list of planned and/or ongoing projects in the vicinity of the Park Mine include: grazing, wildfire suppression and ongoing road improvements. Not all of the resource values identified above would be relevant in the cumulative effects analysis, therefore not all of the resource values are considered in the following section.

## Alternative 1

Removal of the sediment pond and restoration of Indian Creek and its floodplain would increase its ability to withstand impacts from runoff associated with wildfire. Under the preferred alternative banks of Indian Creek would be stabilized with rock and vegetation. Over time that vegetation would stabilize the creek and allow it to withstand increased flows or sediment inputs following wildfire.

Grazing on the private land where the reclamation project would be modified to accommodate the establishment of vegetation in the project area by temporary fencing. Fencing would prevent livestock grazing but not prevent wildlife from accessing the stream and the floodplain. Livestock would be able to access the remainder of the private property for grazing with the exception of project area.

Ongoing road improvements undertaken by the Helena National Forest would not impact any of the resource values specified above under the preferred alternative.

## Alternative 2

Alternative 2 will likely result in the failure of the existing dam, further damage to Indian Creek by deposition of contaminated sediments and scour the bed and banks. This will result in decreased stream function and floodplain function in the project area of Indian Creek and downstream. Following a wildfire, runoff and sediment will increase in Indian Creek exacerbating the potential for contamination of the creek, scouring of the bed and banks and damage to the floodplain and riparian vegetation both on the site and downstream.

Grazing would continue in the area of the pond unconstrained and would not change, livestock would continue to have access to the water contaminated by sediments in the pond.

Ongoing road improvements undertaken by the Helena National Forest would not impact any of the resource values specified above under Alternative 2.

## SUMMARY

The purpose of Alternative 1 Removal of Dam, Sediments and Stream Restoration is to limit human and environmental exposure to the contaminants of concern; reduce the mobility of these contaminants; and mitigate sediment impacts to the local surface water. The maintenance project includes construction of a waste storage area, excavation of waste material in and adjacent to Indian Creek, placement of the excavated waste and dam material in the waste storage area, lime treatment of the waste material, necessary regrading, and covering waste material with cover soil, and restoration of Indian Creek to its approximate pre-mining condition. Any impacts to the area will be short-term or limited to the construction period. The project will be limited to a single construction season which will minimize impacts to forest access by the public and any impacts to wildlife. Any other potential negative impacts as a result of the project will be mitigated through the implementation of best management practices (sediment and dust) and therefore impacts will be local and minor. The outcome of the project is expected to have a significant positive, long-term, regional impact by improving water quality in Indian Creek and improving wildlife habitat, vegetation and soils.

Alternative 2 No Action will result in no disturbance to wildlife or public access to the forest. However, not removing the dam, could result in failure of the dam resulting in significant damage to large portions of Indian Creek and potentially damaging reclamation projects previously completed downstream of the project site. Alternative 2 represents potential long-term, regional and significant negative impacts.

In preparing this assessment the Montana Department of Environmental Quality Remediation Division consulted with the following agencies:

Montana National Heritage Program on issues related to federally listed threatened and endangered species (Attachment A).

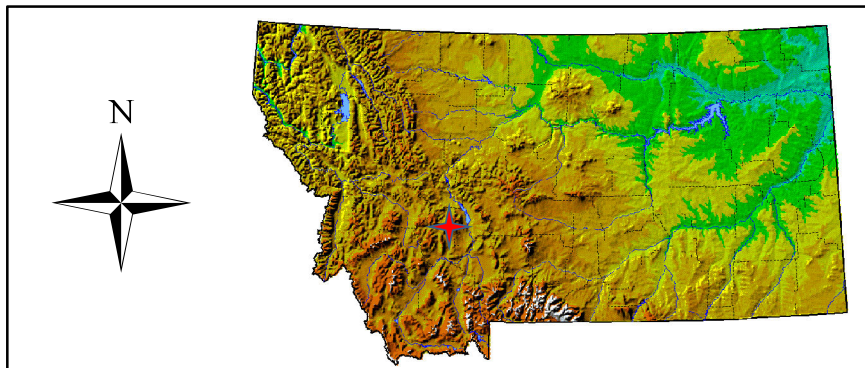
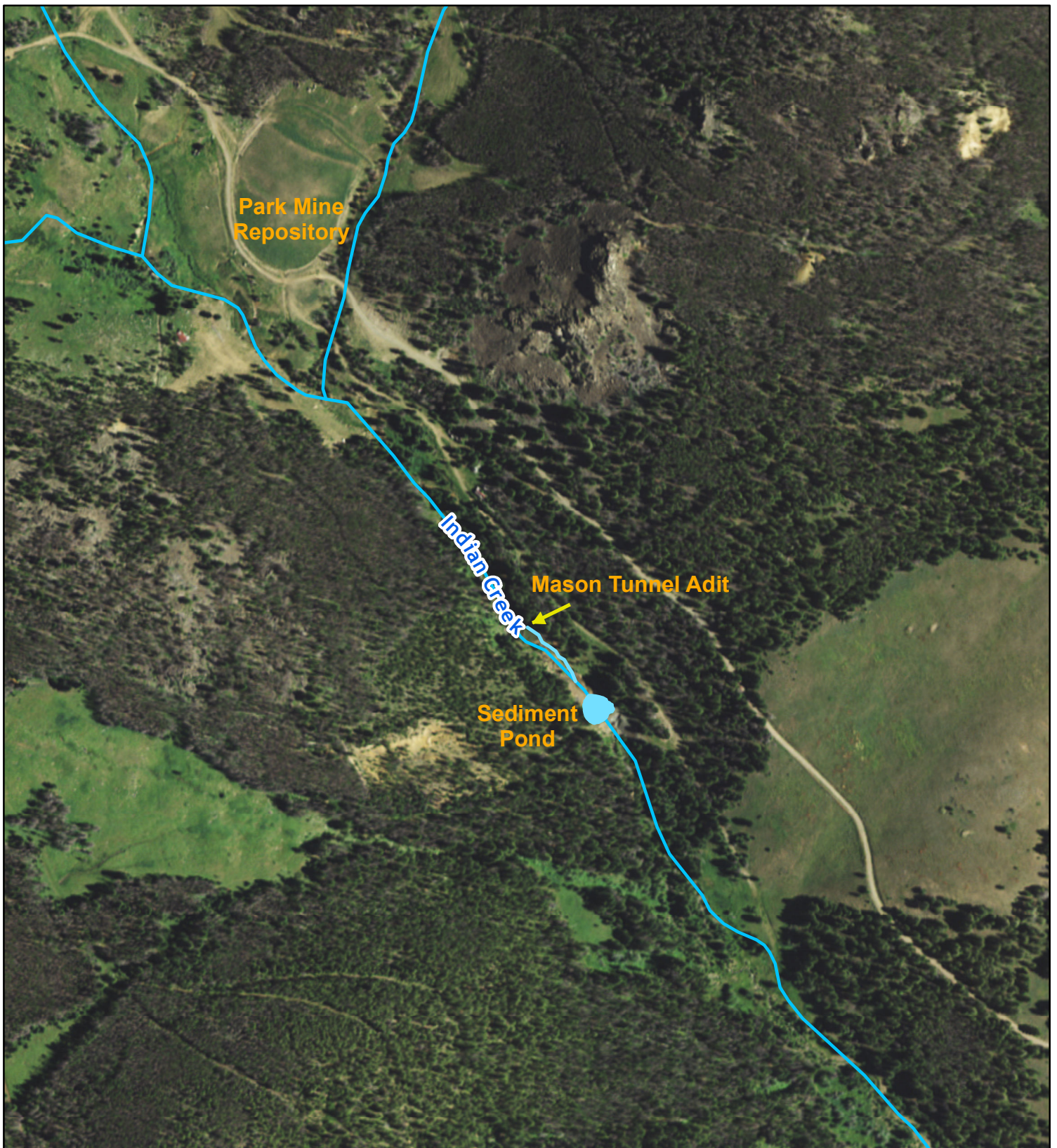
State Historic Preservation on issues related to cultural resources and the eligibility of properties for listing on the National Register of Historic Places (Attachment B).

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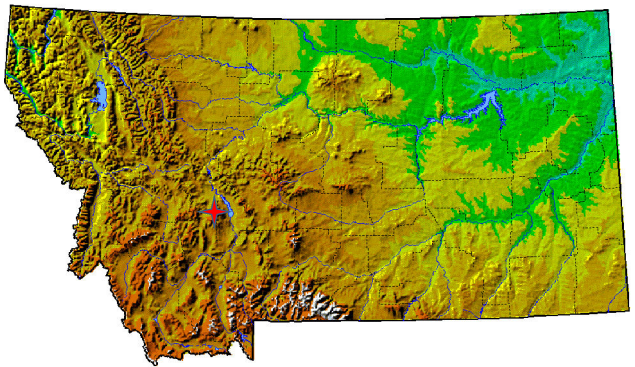
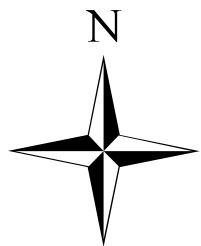
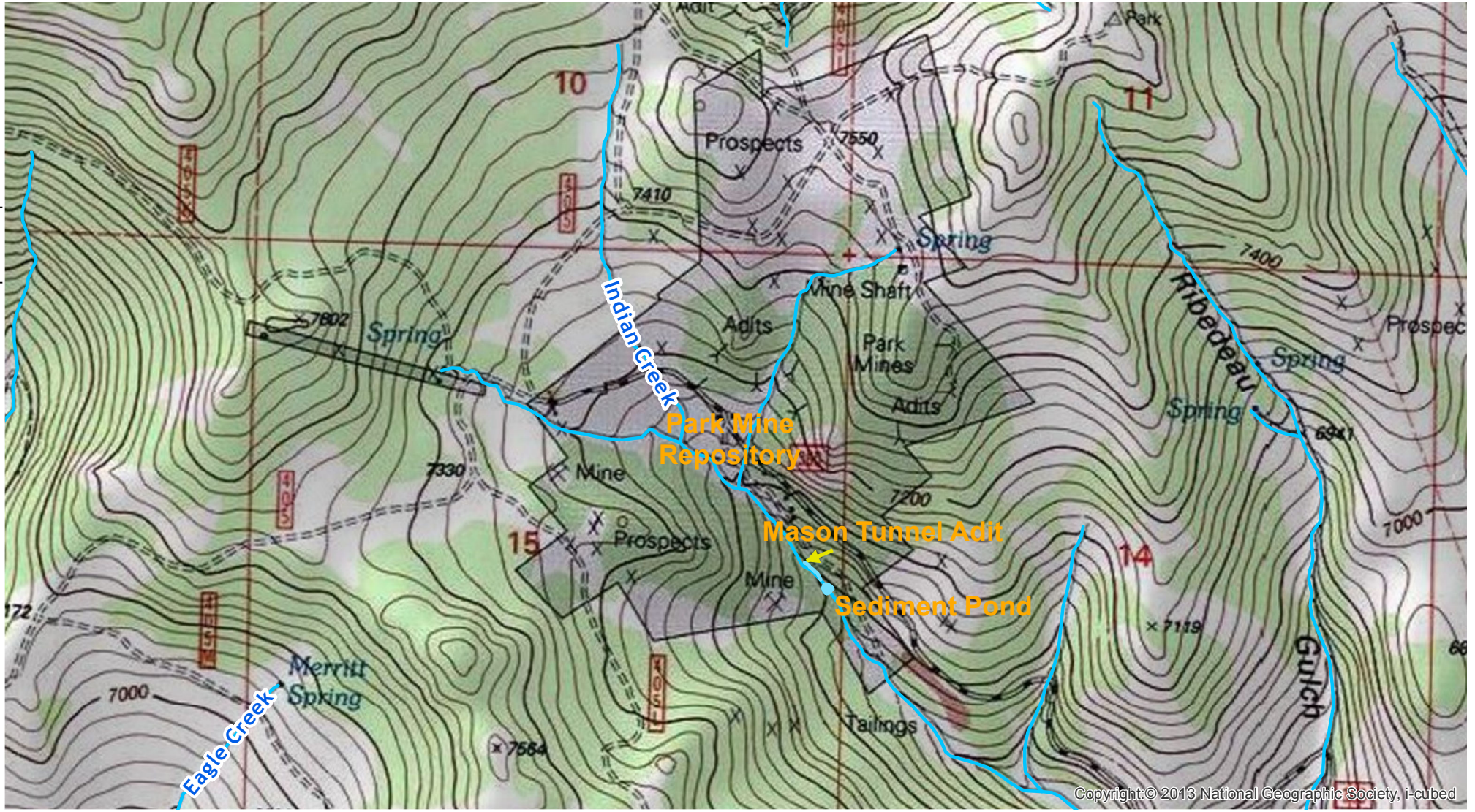
# Figures and Tables



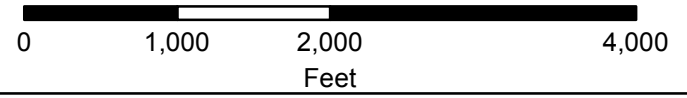
**Figure 1**  
**Park Mine**  
**Indian Creek**  
**Restoration Project**  
**Broadwater County, Montana**

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**Figure 2**  
**Park Mine Indian Creek**  
**Restoration Project**  
**Broadwater County, Montana**



**Table 1**  
**Park Mine**  
**Indian Creek Culvert 9.10.2009**  
**Surface Water standards in units of ug/L**

|                | acute | chronic | sw   | gw   | minimum | Indian Creek<br>9/10/2009 |
|----------------|-------|---------|------|------|---------|---------------------------|
|                | ug/L  | ug/L    | ug/L | ug/L | ug/L    | ug/L                      |
| aluminum       | 750   | 87      | none | none | 87      | <b>100</b>                |
| antimony       | none  | none    | 5.6  | 6    | 5.6     |                           |
| arsenic        | 340   | 150     | 10   | 10   | 10      | <b>38</b>                 |
| barium         | none  | none    | 2000 | 2000 | 2000    |                           |
| cadmium*       | 1.20  | 0.178   | 5    | 5    | 0.178   | <b>4</b>                  |
| chromium III   | 1138  | 54.4    | none | none | 54.4    |                           |
| chromium VI    | 16    | 11      | none | none | 11      |                           |
| total chromium | none  | none    | 100  | 100  | 100     |                           |
| cobalt         | none  | none    | none | none | none    |                           |
| copper*        | 8.24  | 5.77    | 1300 | 1300 | 5.77    | 3                         |
| iron           | none  | 1000    | 300  | 300  | 300     | 130                       |
| lead*          | 39.92 | 1.556   | 15   | 15   | 1.556   |                           |
| manganese      | none  | none    | 50   | 50   | 50      | 40                        |
| mercury        | 1.7   | 0.91    | 0.05 | 2    | 0.05    |                           |
| nickel*        | 292   | 32.4    | 100  | 100  | 32.4    |                           |
| selenium       | 20    | 5       | 50   | 50   | 5       |                           |
| silver*        | 1.543 | none    | 100  | 100  | 1.543   |                           |
| zinc*          | 74    | 74      | 2000 | 2000 | 74      | <b>510</b>                |

\*Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/L CaCO<sub>3</sub>).

|  |  |
|--|--|
|  | Greater than DEQ-7 acute and chronic freshwater aquatic life standards     |
|  | Greater than DEQ-7 surface water and groundwater standards                 |
|  | Greater than DEQ-7 chronic, surface water, and groundwater standards       |
|  | Greater than DEQ-7 acute, chronic, surface water and groundwater standards |
|  | Greater than DEQ-7 chronic freshwater aquatic life standards               |

Based on a hardness value of 57 mg/l CaCO<sub>3</sub>

**Table 2**  
**Park Mine**  
**Mason Tunnel 9.10.2009**  
**Surface Water standards in units of ug/L**

|                | acute  | chronic | sw   | gw   | minimum | Mason Tunnel<br>9/10/2009 |
|----------------|--------|---------|------|------|---------|---------------------------|
|                | ug/L   | ug/L    | ug/L | ug/L | ug/L    | ug/L                      |
| aluminum       | 750    | 87      | none | none | 87      |                           |
| antimony       | none   | none    | 5.6  | 6    | 5.6     |                           |
| arsenic        | 340    | 150     | 10   | 10   | 10      | 90                        |
| barium         | none   | none    | 2000 | 2000 | 2000    |                           |
| cadmium*       | 3.16   | 0.360   | 5    | 5    | 0.360   | 6                         |
| chromium III   | 2473   | 118.2   | none | none | 118.2   |                           |
| chromium VI    | 16     | 11      | none | none | 11      |                           |
| total chromium | none   | none    | 100  | 100  | 100     |                           |
| cobalt         | none   | none    | none | none | none    |                           |
| copper*        | 20.13  | 12.97   | 1300 | 1300 | 12.97   | 2                         |
| iron           | none   | 1000    | 300  | 300  | 300     | 180                       |
| lead*          | 133.33 | 5.196   | 15   | 15   | 5.196   |                           |
| manganese      | none   | none    | 50   | 50   | 50      | 40                        |
| mercury        | 1.7    | 0.91    | 0.05 | 2    | 0.05    |                           |
| nickel*        | 651    | 72.3    | 100  | 100  | 72.3    |                           |
| selenium       | 20     | 5       | 50   | 50   | 5       |                           |
| silver*        | 7.874  | none    | 100  | 100  | 7.874   |                           |
| zinc*          | 166    | 166     | 2000 | 2000 | 166     | 1360                      |

\*Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/L CaCO<sub>3</sub>).

- Greater than DEQ-7 acute and chronic freshwater aquatic life standards
- Greater than DEQ-7 surface water and groundwater standards
- Greater than DEQ-7 chronic, surface water, and groundwater standards
- Greater than DEQ-7 acute, chronic, surface water and groundwater standards
- Greater than DEQ-7 chronic freshwater aquatic life standards

Based on a hardness value of 147 mg/l CaCO<sub>3</sub>

**Attachment A:**  
**Fish and Wildlife**



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.5354 • <http://mtnhp.org>

May 27, 2015

Scott Graham  
Montana DEQ  
Helena, Montana

Dear Scott,

I am writing in response to your recent request regarding Montana Species of Concern in the vicinity of the Park Mine, in Section 15, T07N, R01W. I checked our databases for information in this general area and have enclosed 5 species occurrence reports for 4 animal species of concern, a map depicting species of concern locations, and explanatory material, including agency contacts that may have additional information about the area. Note that the maps are in Adobe GeoPDF format. With the appropriate Adobe Reader, it provides a convenient way to query and understand the information presented on the map. Documentation is included.

Please keep in mind the following when using and interpreting the enclosed information and maps:

- (1) These materials are the result of a search of our database for species of concern that occur in an area defined by the requested township, range and section(s) with an additional one-mile buffer surrounding the requested area. This is done to provide a more inclusive set of records and to capture records that may be immediately adjacent to the requested area. Please let us know if a buffer greater than 1 mile would be of use to your efforts. Reports are provided for the species of concern that are located in your requested area with a one-mile buffer. Species of concern outside of this buffered area may be depicted on the map due to the map extent, but are not selected for the SOC report.
- (2) On the map, polygons represent one or more source features as well as the locational uncertainty associated with the source features. A source feature is a point, line, or polygon that is the basic mapping unit of a Species Occurrence (SO) representation. The recorded location of the occurrence may vary from its true location due to many factors, including the level of expertise of the data collector, differences in survey techniques and equipment used, and the amount and type of information obtained. Therefore, this inaccuracy is characterized as locational uncertainty, and is now incorporated in the representation of an SO. If you have a question concerning a specific SO, please do not hesitate to contact us.
- (3) This report may include sensitive data, and is not intended for general distribution, publication, or for use outside of your organization. In particular, public release of specific location information

may jeopardize the welfare of threatened, endangered, or sensitive species or biological communities.

- (4) The accompanying map(s) display land management status, which may differ from ownership. Features shown on this map do not imply public access to any lands.
- (5) Additional biological data for the search area(s) may be available from other sources. We suggest you contact the U.S. Fish and Wildlife Service for any additional information on threatened and endangered species (406-449-5225). For additional fisheries information in your area of interest, you may wish to contact Montana Fish, Wildlife, and Park's Montana Fisheries Information System (phone: 406-444-3373, or web site: <http://fwp.mt.gov/fishing/mFish/>).
- (6) Additional information on species habitat, ecology and management is available on our web site in the Plant, Animal, and ecological Systems Field Guides, which we encourage you to consult for valuable information. You can access these guides at <http://mtnhp.org>. General information on any species can be found by accessing the link to NatureServe Explorer.**

The results of a data search by the Montana Natural Heritage Program reflect the current status of our data collection efforts. These results are not intended as a final statement on sensitive species within a given area, or as a substitute for on-site surveys, which may be required for environmental assessments. The information is intended for project screening only with respect to species of concern, and not as a determination of environmental impacts, which should be gained in consultation with appropriate agencies and authorities.

In order to help us improve our services to you, we invite you to take a simple survey. The survey is intended to gather some basic information on the value and quality of the information and services you recently received from the Montana Natural Heritage Program. The survey is short and should not take more than a few minutes to complete. All information will be kept confidential and will be used internally to improve the delivery of services and to help document the value of our services. Use this link to go to the survey: <http://www.surveymonkey.com/s/RYN8Y8L>.

I hope the enclosed information is helpful to you. Please feel free to contact me at (406) 444-3290 or via my e-mail address, below, should you have any questions or require additional information.

Sincerely,



Martin P. Miller  
Montana Natural Heritage Program  
[martinm@mt.gov](mailto:martinm@mt.gov)



# Montana Species of Concern Park Mine

**SPECIES OCCURRENCE:** A polygon feature representing only what is known from direct observation with a defined level of certainty regarding the spatial location of the feature.

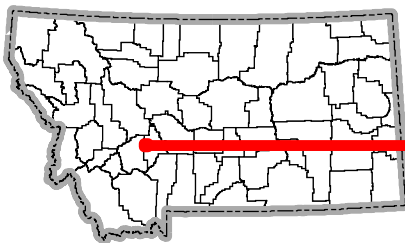
- Lichens
- Bryophytes
- Vascular Plants
- Invertebrates
- Amphibians
- Fish
- Reptiles
- Birds
- Mammals

**Sites**

- Sites

**Wetland Types**

- Lake
- River
- Freshwater Pond
- Freshwater Emergent Wetland
- Freshwater Scrub-Shrub Wetland
- Freshwater Forested Wetland
- Riparian Emergent
- Riparian Scrub-Shrub
- Riparian Forested



Not all legend items may occur on the map.

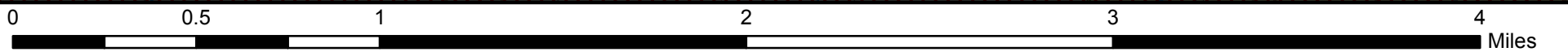
Features shown on this map do not imply public access to any lands.

Land ownership information shown on this map is not suitable for legal purposes.

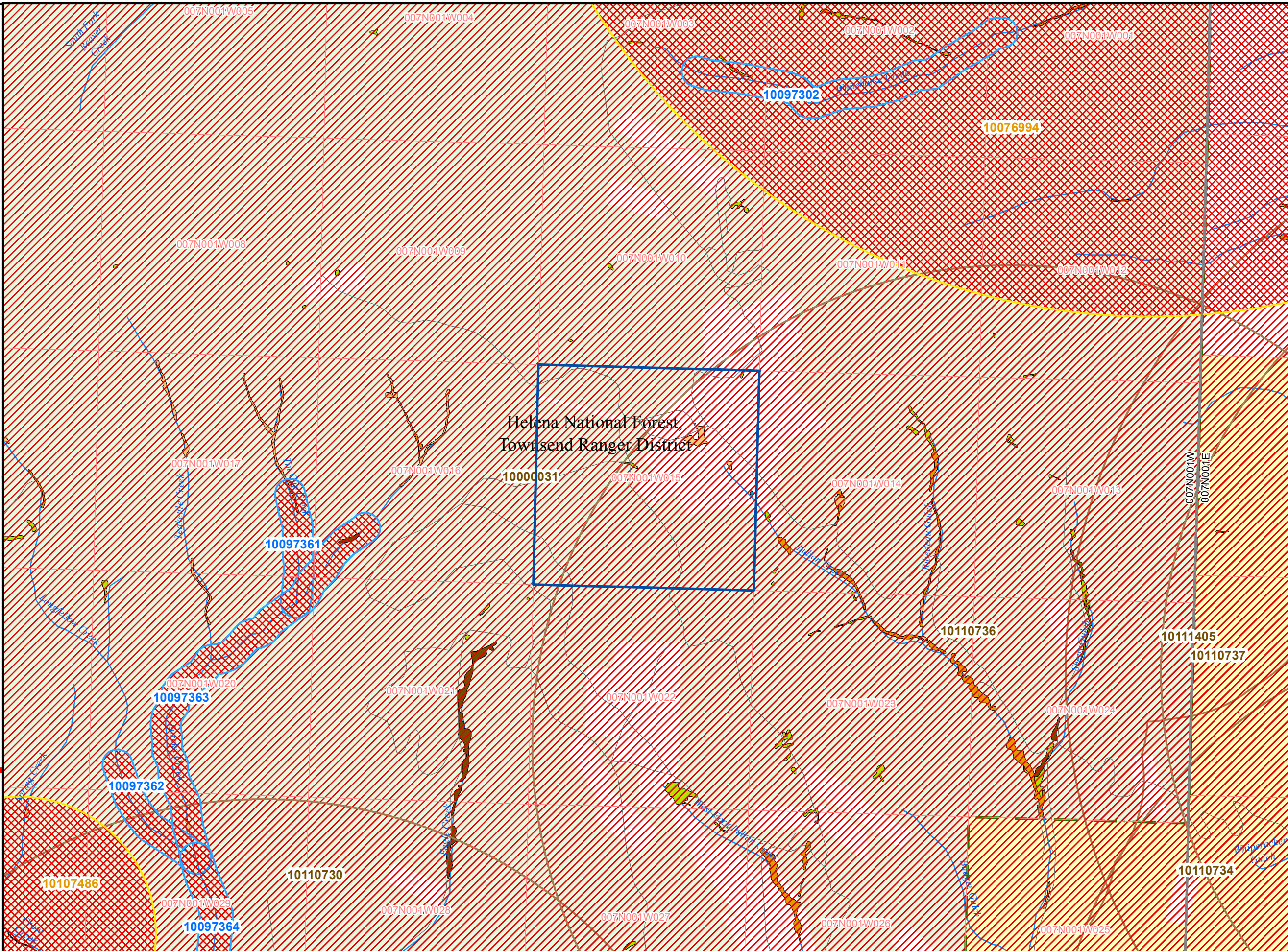


Natural Resource Information System, Montana State Library  
1515 East Sixth Ave., Helena, MT 59620-1800

406 444-5354 <http://mtnhp.org> [mtnhp@mt.gov](mailto:mtnhp@mt.gov)



Map Document: K:\REQUESTS\Requests\15\DEQ\15deq0162\15deq0162.mxd (5/27/2015)




## Suggested Contacts for State and Federal Natural Resource Agencies

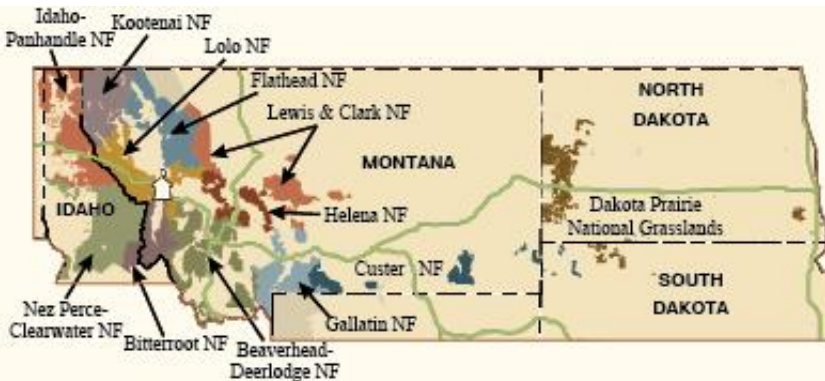
As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of planning processes and management decisions. In addition to the information you receive from us, we encourage you to contact state and federal resource management agencies in the area where your project is located. They may have additional data or management guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Conservation (IPAC) website <http://ecos.fws.gov/ipac/> regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species. For your convenience, we have compiled a list of relevant agency contacts and links below:

| Montana Fish, Wildlife & Parks   |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
|--|---|--------------------------|-------------|----------------|--------------------------|------------|----------------|--------------------------|-----------|----------------|--------------------------|---------------|----------------|--------------------------|------------|----------------|--------------------------|-----------|----------------|--------------------------|--------------|----------------|---|
| Regional Contacts<br>   | <table style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;"><a href="#">Region 1</a></td><td style="padding: 2px;">(Kalispell)</td><td style="padding: 2px;">(406) 752-5501</td></tr> <tr><td style="padding: 2px;"><a href="#">Region 2</a></td><td style="padding: 2px;">(Missoula)</td><td style="padding: 2px;">(406) 542-5500</td></tr> <tr><td style="padding: 2px;"><a href="#">Region 3</a></td><td style="padding: 2px;">(Bozeman)</td><td style="padding: 2px;">(406) 994-4042</td></tr> <tr><td style="padding: 2px;"><a href="#">Region 4</a></td><td style="padding: 2px;">(Great Falls)</td><td style="padding: 2px;">(406) 454-5840</td></tr> <tr><td style="padding: 2px;"><a href="#">Region 5</a></td><td style="padding: 2px;">(Billings)</td><td style="padding: 2px;">(406) 247-2940</td></tr> <tr><td style="padding: 2px;"><a href="#">Region 6</a></td><td style="padding: 2px;">(Glasgow)</td><td style="padding: 2px;">(406) 228-3700</td></tr> <tr><td style="padding: 2px;"><a href="#">Region 7</a></td><td style="padding: 2px;">(Miles City)</td><td style="padding: 2px;">(406) 234-0900</td></tr> </table> | <a href="#">Region 1</a> | (Kalispell) | (406) 752-5501 | <a href="#">Region 2</a> | (Missoula) | (406) 542-5500 | <a href="#">Region 3</a> | (Bozeman) | (406) 994-4042 | <a href="#">Region 4</a> | (Great Falls) | (406) 454-5840 | <a href="#">Region 5</a> | (Billings) | (406) 247-2940 | <a href="#">Region 6</a> | (Glasgow) | (406) 228-3700 | <a href="#">Region 7</a> | (Miles City) | (406) 234-0900 | <b>Fish and Wildlife Recommendations for Subdivision Development:</b> Renee Lemon <a href="mailto:RLemon@mt.gov">RLemon@mt.gov</a> (406) 444-3738 and see:<br><br><a href="http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/buildingWithWildlife/subdivisionRecommendations/">http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/buildingWithWildlife/subdivisionRecommendations/</a> |
| <a href="#">Region 1</a>   | (Kalispell)   | (406) 752-5501           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <a href="#">Region 2</a>   | (Missoula)  | (406) 542-5500           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <a href="#">Region 3</a>   | (Bozeman)   | (406) 994-4042           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <a href="#">Region 4</a>   | (Great Falls)   | (406) 454-5840           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <a href="#">Region 5</a>   | (Billings)  | (406) 247-2940           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <a href="#">Region 6</a>   | (Glasgow)   | (406) 228-3700           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <a href="#">Region 7</a>   | (Miles City)  | (406) 234-0900           |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <b>American Bison, Black-footed Ferret, Black-tailed Prairie Dog, Bald Eagle, Golden Eagle, Common Loon, Least Tern, Piping Plover, Whooping Crane:</b> Lauri Hanauska-Brown <a href="mailto:LHanauska-Brown@mt.gov">LHanauska-Brown@mt.gov</a> (406) 444-5209   |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <b>Grizzly Bear, Greater Sage Grouse, Trumpeter Swan, Big Game, Upland Game Birds, or Furbearers:</b><br>John Vore <a href="mailto:jvore@mt.gov">jvore@mt.gov</a> (406) 444-3940   |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <b>Managed Terrestrial Game and Nongame Animal Data:</b> Adam Messer <a href="mailto:amesser@mt.gov">amesser@mt.gov</a> (406) 444-0095   |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <b>Fish Species:</b> Zachary Shattuck <a href="mailto:zshattuck@mt.gov">zshattuck@mt.gov</a> (406) 444-1231 or Lee Nelson <a href="mailto:leenelson@mt.gov">leenelson@mt.gov</a> (406) 444-2447  |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <b>Fisheries Data:</b> Jane Horton <a href="mailto:jhorton@mt.gov">jhorton@mt.gov</a> (406) 444-3759   |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |
| <b>Wildlife and Fisheries Scientific Collector's Permits:</b> <a href="http://fwp.mt.gov/doingBusiness/licenses/scientificWildlife/default.html">http://fwp.mt.gov/doingBusiness/licenses/scientificWildlife/default.html</a><br>Merissa Hayes for Wildlife <a href="mailto:merhayes@mt.gov">merhayes@mt.gov</a> (406) 444-7320 or Beth Giddings for Fisheries <a href="mailto:begiddings@mt.gov">begiddings@mt.gov</a> (406) 444-7319 |   |                          |             |                |                          |            |                |                          |           |                |                          |               |                |                          |            |                |                          |           |                |                          |              |                |   |

| Montana Department of Environmental Quality   |
|---|
| <b>Permitting and Compliance Division:</b> <a href="http://svc.mt.gov/deq/staffdirectory#pca">http://svc.mt.gov/deq/staffdirectory#pca</a> (406) 444-4323 |
| <b>Wetlands:</b> Lynda Saul <a href="mailto:lsaul@mt.gov">lsaul@mt.gov</a> (406) 444-6836   |

| U.S. Fish and Wildlife Service  |
|---|
| <b>Information Planning and Conservation (IPAC) website:</b> <a href="http://ecos.fws.gov/ipac/">http://ecos.fws.gov/ipac/</a>                              |
| <b>Montana Ecological Services Field Office:</b> <a href="http://www.fws.gov/montanafieldoffice/">http://www.fws.gov/montanafieldoffice/</a> (406) 449-5225 |

| Bureau of Land Management   |
|---|
|    |
| <b>BLM Montana Field Office Contacts</b><br>Billings: (406) 896-5013<br>Butte: (406) 533-7600<br>Dillon: (406) 683-8000<br>Glasgow: (406) 228-3750<br>Havre: (406) 262-2820<br>Lewistown: (406) 538-1900<br>Malta: (406) 654-5100<br>Miles City: (406) 233-2800<br>Missoula: (406) 329-3914 |

| United States Forest Service   |
|--|
|    |
| <b>USFS Regional Office – Missoula, Montana Contacts</b><br>Wildlife Program Leader: Tammy Fletcher <a href="mailto:tammyfletcher@fs.fed.us">tammyfletcher@fs.fed.us</a> (406) 329-3588<br>Wildlife Ecologist: Cara Staab <a href="mailto:cstaab@fs.fed.us">cstaab@fs.fed.us</a> (406) 329-3677<br>Fish Program Leader: Scott Spaulding <a href="mailto:scottspaulding@fs.fed.us">scottspaulding@fs.fed.us</a> (406) 329-3287<br>Fish Ecologist: Cameron Thomas <a href="mailto:cathomas@fs.fed.us">cathomas@fs.fed.us</a> (406) 329-3087<br>TES Program: Kristi Swisher <a href="mailto:kswisher@fs.fed.us">kswisher@fs.fed.us</a> (406) 329-3558<br>Interagency Grizzly Bear Coordinator: Scott Jackson <a href="mailto:sjackson03@fs.fed.us">sjackson03@fs.fed.us</a> (406) 329-3664<br>Regional Botanist: Steve Shelly <a href="mailto:sshelly@fs.fed.us">sshelly@fs.fed.us</a> (406) 329-3041 |



# Species of Concern Data Report

Visit <http://mtnhp.org> for additional information.

Report Date:  
**Wednesday, May 27, 2015**

**Rhynchophanes mccownii** [View Species in MT Field Guide](#)

**Common Name:** McCown's Longspur **General Habitat:** Grasslands

**Description:** Birds

**Mapping Delineation:**

Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

**Species Status**

[Click Status for Explanations](#)

**Natural Heritage Ranks:**

[State:](#) S3B  
[Global:](#) G4

**Federal Agency Status:**

[U.S. Fish & Wildlife Service:](#)  
[U.S. Forest Service:](#)

[FWP CFWCS Tier:](#) 2

[U.S. Bureau of Land Management:](#) SENSITIVE

[MT PIF Code:](#) 2

**Species Occurrences**

|                                      |            |                   |        |
|--------------------------------------|------------|-------------------|--------|
| <b>Species Occurrence Map Label:</b> | 10076994   |                   |        |
| <b>First Observation Date:</b>       | 07/19/1994 | <b>SO Number:</b> |        |
| <b>Last Observation Date:</b>        | 06/07/2003 | <b>Acreage:</b>   | 17,886 |

**Oncorhynchus clarkii lewisi** [View Species in MT Field Guide](#)

**Common Name:** Westslope Cutthroat Trout **General Habitat:** Mountain streams, rivers, lakes

**Description:** Fish

**Mapping Delineation:**

Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards.

**Species Status**

[Click Status for Explanations](#)

**Natural Heritage Ranks:**

[State:](#) S2  
[Global:](#) G4T3

**Federal Agency Status:**

[U.S. Fish & Wildlife Service:](#)  
[U.S. Forest Service:](#) SENSITIVE

[FWP CFWCS Tier:](#) 1

[U.S. Bureau of Land Management:](#) SENSITIVE

[MT PIF Code:](#)

**Species Occurrences**

|                                      |          |                   |    |
|--------------------------------------|----------|-------------------|----|
| <b>Species Occurrence Map Label:</b> | 10097361 |                   |    |
| <b>First Observation Date:</b>       |          | <b>SO Number:</b> |    |
| <b>Last Observation Date:</b>        |          | <b>Acreage:</b>   | 53 |



# Species of Concern Data Report

Visit <http://mtnhp.org> for additional information.

Report Date:  
Wednesday, May 27, 2015

## Species Occurrences

Species Occurrence Map Label: 10097363  
First Observation Date: SO Number:  
Last Observation Date: Acreage: 181

### Lasiurus cinereus

[View Species in MT Field Guide](#)

**Common Name:** Hoary Bat **General Habitat:** Riparian and forest

**Description:** Mammals

#### Mapping Delineation:

Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric *Lasiurus borealis* and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.

## Species Status

[Click Status for Explanations](#)

### Natural Heritage Ranks:

**State:** S3  
**Global:** G5

### Federal Agency Status:

[U.S. Fish & Wildlife Service:](#)

[U.S. Forest Service:](#)

[U.S. Bureau of Land Management:](#)

**FWP CFWCS Tier:** 2

**MT PIF Code:**

## Species Occurrences

Species Occurrence Map Label: 10110736  
First Observation Date: 07/27/1992 SO Number:  
Last Observation Date: 07/27/1992 Acreage: 9,510

### Gulo gulo

[View Species in MT Field Guide](#)

**Common Name:** Wolverine **General Habitat:** Boreal Forest and Alpine Habitats

**Description:** Mammals

#### Mapping Delineation:

Confirmed area of occupancy supported by recent (post-1980), nearby (within 10 kilometers) observations of adults or juveniles. Tracking regions were defined by areas of primary habitat and adjacent female dispersal habitat as modeled by Inman et al. (2013). These regions were buffered by 1 kilometer in order to link smaller areas and account for potential inaccuracies in independent variables used in the model.

## Species Status

[Click Status for Explanations](#)

### Natural Heritage Ranks:

**State:** S3  
**Global:** G4

### Federal Agency Status:

[U.S. Fish & Wildlife Service:](#)

[U.S. Forest Service:](#) SENSITIVE

[U.S. Bureau of Land Management:](#) SENSITIVE

**FWP CFWCS Tier:** 2

**MT PIF Code:**



Natural Resource Information System  
Montana State Library  
PO Box 201800  
Helena, MT 59620-1800  
(406)444-3009 mtnhp@mt.gov

# Species of Concern Data Report

Visit <http://mtnhp.org> for additional information.

Report Date:  
**Wednesday, May 27, 2015**

## Species Occurrences

|                                      |            |                   |           |
|--------------------------------------|------------|-------------------|-----------|
| <b>Species Occurrence Map Label:</b> | 10000031   |                   |           |
| <b>First Observation Date:</b>       | 03/01/1958 | <b>SO Number:</b> |           |
| <b>Last Observation Date:</b>        | 03/15/2013 | <b>Acreage:</b>   | 1,326,340 |



# Montana Natural Heritage Program

1515 East Sixth Ave., Helena, Montana 59620-1800

(406) 444-5354

<http://mtnhp.org>

## Explanation of Species of Concern Reports

Since 1985, the Montana Natural Heritage Program (MTNHP) has been compiling and maintaining an inventory of elements of biological diversity in Montana. This inventory includes plant species, animal species, plant communities, and other biological features that are rare, endemic, disjunct, threatened, or endangered throughout their range in Montana, vulnerable to extirpation from Montana, or in need of further research.

**Species Occurrences:** (formerly called 'Element Occurrences') A "**Species Occurrence**" (**SO**) is an area depicting only what is known from direct observation with a defined level of certainty regarding the spatial location of the feature. If an observation can be associated with a map feature that can be tracked (e.g., a wetland) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the Species Occurrence. A "Species Occurrence" generally falls into one of the following three categories:

**Plants:** A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and are within approximately one air mile of one another).

**Animals:** The location of a specimen collection or of a verified sighting; known or assumed to represent a breeding population. Additional collections or sightings are often appended to the original record.

**Other:** Significant biological features not included in the above categories, such as bird rookeries, peatlands, or state champion trees.

**Ecological Information:** Areas for which we have ecological information are represented on the map as either shaded polygons (where small and/or well defined) or simply as map labels (where they are large generally-defined landscapes). Descriptive information about these areas is contained in the associated report. Such information can be useful in assessing biological values and interpreting Species of Concern data.

The quantity and quality of data contained in MTNHP reports is dependent on the research and observations of the many individuals and organizations that contribute information to the program. Please keep in mind that the absence of information for an area does not mean the absence of significant biological features, since no surveys may have been conducted there. Reports produced by the Montana Natural Heritage Program summarize information documented in our databases at the time of a request. These reports are not intended as a final statement on the species or areas being considered, nor are they a substitute for on-site surveys, which may be required for environmental assessments.

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As a user of MTNHP, your contributions of data are essential to maintaining the accuracy of our databases. New or updated location information for all species of concern is always welcome.

We encourage you to visit our website at <http://mtnhp.org>. On-line tools include a species observation viewer: the Natural Heritage TRACKER and *The Montana Field Guide* which contains photos, illustrations, and supporting information on Montana's animals and plant species of concern. Additional data are available on most species and ecological areas identified in our reports.

**If you have questions or need further assistance, please contact us either by phone at (406/444-5354), e-mail ([mtnhp@mt.gov](mailto:mtnhp@mt.gov)) or**

## Data Descriptions

The section below lists the names and definitions for descriptions of the data fields used in the reports. Certain codes and abbreviations are used in Species Occurrence reports. Although many of these are very straightforward, the following explanations should answer most questions.

**Map Label:** The label for the species occurrence as it appears on the map.

**Element Subnational ID:** The unique code used by the state or province to identify a specific element (species).

**SO Number:** Number that identifies the particular occurrence of the element (species).

**Scientific Name:** Latin (scientific) name.

**Common Name:** Commonly recognized name.

**Species of Concern/Potential Concern:** This value indicates whether the species is a “Species of Concern” (Y) or of “Potential Concern” (W).

**Last Observation Date:** The date the Species Occurrence was last observed extant at the site (not necessarily the date the site was last visited).

**First Observation Date:** The date the Species Occurrence was first reported at the site.

**EO Rank:** indicates the relative value of the Species Occurrence (SO) with respect to other occurrences of the Species, based on an assessment of estimated viability (species).

### Values:

- A - Excellent estimated viability/ecological integrity
- A? - Possibly excellent estimated viability/ecological integrity
- AB - Excellent or good estimated viability/ecological integrity
- AC - Excellent, good, or fair estimated viability/ecological integrity
- B - Good estimated viability/ecological integrity
- B? - Possibly good estimated viability/ecological integrity
- BC - Good or fair estimated viability/ecological integrity
- BD - Good, fair, or poor estimated viability/ecological integrity
- C - Fair estimated viability/ecological integrity
- C? - Possibly fair estimated viability/ecological integrity
- CD - Fair or poor estimated viability/ecological integrity
- D - Poor estimated viability/ecological integrity
- D? - Possibly poor estimated viability/ecological integrity
- E - Verified extant (viability/ecological integrity not assessed)
- F - Failed to find
- F? - Possibly failed to find
- H - Historical
- H? - Possibly historical
- X - Extirpated
- X? - Possibly extirpated
- U - Unrankable
- NR - Not ranked

**SO Data:** Data collected on the biology of this Species Occurrence. Specific information may include number of individuals, vigor, habitat, soils, associated species, and other characteristics.

# Species Status Codes

Provided below are definitions for species conservation status ranks, categories and other codes designated by MTNHP, Federal and State Agencies and non-governmental organizations.

- [Montana Species of Concern](#)
- [Montana Potential Species of Concern](#)
- [Status Under Review](#)
- [Exotic Species](#)
- [Montana Species Ranking Codes](#)
- [U.S. Fish and Wildlife Service](#)
- [Forest Service](#)
- [Bureau of Land Management](#)
- [MFWP Conservation Need](#)
- [Partners In Flight \(PIF\)](#)
- [MNPS Threat Category](#)

## Species of Concern

Species of Concern are native taxa that are at-risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Designation as a Montana Species of Concern or Potential Species of Concern is based on the Montana Status Rank, and is not a statutory or regulatory classification. Rather, these designations provide information that helps resource managers make proactive decisions regarding species conservation and data collection priorities. See the latest [Species of Concern Reports](#) for more detailed explanations and assessment criteria.

## Potential Species of Concern

Potential Species of Concern are native taxa for which current, often limited, information suggests potential vulnerability. Also included are animal species which additional data are needed before an accurate status assessment can be made.

## Status Under Review

Species designated "Status Under Review" are plant species that require additional information and currently do not have a status rank but may warrant future consideration as Species of Concern. This category also includes plant species whose status rank is questionable due to the availability of new information or the availability of conflicting or ambiguous information or data. Species listed in this category will be reviewed periodically or as new information becomes available.

## Exotic Species

Exotic species are not native to Montana, but have either been reported in Montana or have established populations in Montana outside of their native range.

## Montana Species Ranking Codes

Montana employs a standardized ranking system to denote global (G) and state (S) status (NatureServe 2003). Species are assigned numeric ranks ranging from 1 (critically imperiled) to 5 (demonstrably secure), reflecting the relative degree to which they are "at-risk". Rank definitions are given below. A number of factors are considered in assigning ranks - the number, size and distribution of known "occurrences" or populations, population trends (if known), habitat sensitivity, life history traits and threats.

For example, Clustered lady's slipper (*Cypripedium fasciculatum*) is ranked G4 S2. Globally the species is uncommon but not vulnerable, while in Montana it is at risk because of limited and potentially declining numbers, extent and/or habitat.

### G1 S1

At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.

### G2 S2

At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state.

### G3 S3

Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas.

### G4 S4

Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.

### G5 S5

Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

### GX SX

Presumed Extinct or Extirpated - Species is believed to be extinct throughout its range or extirpated in Montana. Not located despite intensive searches of historical sites and other appropriate habitat, and small likelihood that it will ever be rediscovered.

### GH SH



Possibly Extinct or Extirpated - Species is known only from historical records, but may nevertheless still be extant; additional surveys are needed.

**GNR SNR**

Not yet ranked.

**GU SU**

Unrankable - Species currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

**GNA SNA**

A conservation status rank is not applicable for one of the following reasons:

The taxa is of Hybrid Origin; is Exotic or Introduced; is Accidental or is Not Confidently Present in the state. (see other codes below)

**Other Codes and Modifiers**

**HYB**

Hybrid-Entity not ranked because it represents an interspecific hybrid and not a species.

**T**

**Intraspecific Taxon (trinomial)** - The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

**?**

**Inexact Numeric Rank** - Denotes inexact numeric rank.

**Q**

**Questionable** taxonomy that may reduce conservation priority-Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.

**C**

**Captive or Cultivated Only** - Species at present is extant only in captivity or cultivation, or as a reintroduced population not yet established.

**A**

**Accidental** - Species is accidental or casual in Montana, in other words, infrequent and outside usual range. Includes species (usually birds or butterflies) recorded once or only a few times at a location. A few of these species may have bred on the one or two occasions they were recorded.

**SYN**

**Synonym** - Species reported as occurring in Montana, but the Montana Natural Heritage Program does not recognize the taxon; therefore the species is not assigned a rank.

**B**

**Breeding** - Rank refers to the breeding population of the species in Montana.

**N**

**Nonbreeding** - Rank refers to the non-breeding population of the species in Montana.

**M**

**Migratory** - Species occurs in Montana on during migration.

**U.S. Fish and Wildlife Service**

**LE**

**Listed endangered** - Any species in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6)).

**PE**

**Proposed endangered** - Any species for which a proposed rule has been published in the Federal Register to list the species as endangered.

**LT**

**Listed threatened** - Any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)).

**PT**

**Proposed threatened** - Any species for which a proposed rule has been published in the Federal Register to list the species as threatened.

**E(S/A) or T(S/A)**

Any species listed endangered or threatened because of similarity of appearance.

**C**

**Candidate** - Those taxa for which sufficient information on biological status and threats exists to propose to list them as threatened or endangered. We encourage their consideration in environmental planning and partnerships; however, none of the substantive or procedural provisions of the Act apply to candidate species.

**PDL**

**Proposed for delisting** - Any species for which a final rule has been published in the Federal Register to delist the species.

**DM**

**Recovered, delisted, and being monitored** - Any previously listed species that is now recovered, has been delisted, and is being monitored.

**NL**

**Not listed** - No designation.

**XE**

**Essential experimental population** - An experimental population whose loss would be likely to appreciably reduce the likelihood of the survival of the species in the wild.

**XN**

**Nonessential experimental population** - An experimental population of a listed species reintroduced into a specific area that receives more flexible management under the Act.

**CH**

**Critical Habitat** - The specific areas (i) within the geographic area occupied by a species, at the time it is listed, on which are found those physical or biological features (I) essential to conserve the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by the species at the time it is listed upon determination that such areas are essential to conserve the species.

**PS**

**Partial status** - status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population, that has a record in the database has USESA status, but the entire species does not.

**PS:value**

**Partial status** - status in only a portion of the species' range. The value of that status appears in parentheses because the entity with status is not recognized as a valid taxon by Central Sciences (usually a population defined by geopolitical boundaries or defined administratively, such as experimental populations).

## Forest Service

The status of species on Forest Service lands as defined by the U.S. Forest Service manual (2670.22). These taxa are listed as such by the Regional Forester (Northern Region). The Forest Service lists animal species as:

**Endangered**

Listed as Endangered (LE) by the USFWS.

**Threatened**

Listed as Threatened (LT) by the USFWS.

**Sensitive**

Any species for which the Regional Forester has determined there is a concern for population viability within the state, as evidenced by a significant current or predicted downward trend in populations or habitat.

**Species of Concern**

USFS Species-of-Concern (FSH 1909.12, 43.22b) are species for which the Responsible Official determines management actions may be necessary to prevent listing under the Endangered Species Act (ESA). The Responsible Official, as appropriate, may identify the following plant and animal species, including macro-lichens, as species-of-concern:

1. Species identified as proposed and candidate species under the ESA.
2. Species with ranks of G-1 through G-3 on the NatureServe ranking system.
3. Infraspecific (subspecific) taxa with ranks of T-1 through T-3 on the NatureServe ranking system.
4. Species that have been petitioned for federal listing and for which a positive "90-day finding" has been made (a 90-day finding is a preliminary finding that substantive information was provided indicating that the petition listing may be warranted and a full status review will be conducted).
5. Species that have been recently delisted (these include species delisted within the past five years and other delisted species for which regulatory agency monitoring is still considered necessary).

**Species of Interest**

USFS Species-of-Interest (FSH 1909.12, 43.22c) are species for which the Responsible Official determines that management actions may be necessary or desirable to achieve ecological or other multiple-use objectives. The Responsible Official may review the following sources for potential species-of-interest:

1. Species with ranks of S-1, S-2, N1, or N2 on the NatureServe ranking system.
2. State listed threatened and endangered species that do not meet the criteria as species-of-concern.
3. Species identified as species of conservation concern in State Comprehensive Wildlife Strategies.
4. Bird species on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list (for the U.S. portion of the northern Rockies that occur on National Forest system lands).
5. Additional species that valid existing information indicates are of regional or local conservation concern (this includes all Forest Service Northern Region sensitive species) due to factors that may include:
  - a. Significant threats to populations or habitat.
  - b. Declining trends in populations or habitat.
  - c. Rarity.
  - d. Restricted ranges (for example, narrow endemics, disjunct populations, or species at the edge of their range).
6. Species that are hunted or fished and other species of public interest. Invasive species may also be considered.

## Bureau of Land Management

BLM Sensitive Species are defined by the BLM 6840 Manual as those that normally occur on Bureau administered lands for which BLM has the capability to significantly affect the conservation status of the species through management. The State Director may designate additional categories of special status species as appropriate and applicable to his or her state's needs. The sensitive species designation, for species other than federally listed, proposed, or candidate species, may include such native species as those that:

1. could become endangered in or extirpated from a state, or within a significant portion of its distribution in the foreseeable future,
2. are under status review by FWS and/or NMFS,
3. are undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution,

4. are undergoing significant current or predicted downward trends in population or density such that federally listed, proposed, candidate, or State listed status may become necessary,
5. have typically small and widely dispersed populations,
6. are inhabiting ecological refugia, specialized or unique habitats, or
7. are State listed but which may be better conserved through application of BLM sensitive species status. Such species should be managed to the level of protection required by State laws or under the BLM policy for candidate species, whichever would provide better opportunity for its conservation.

## MFWP Conservation Need

In recent years states have received federal funding to develop Comprehensive Fish and Wildlife Conservation Strategies. Montana Fish, Wildlife, and Parks completed [Montana's Comprehensive Fish and Wildlife Conservation Strategy](#) in 2005. Under this conservation strategy individual animal species were assigned levels of conservation need as follows:

### Tier I:

**Tier I:** Greatest conservation need. Montana Fish, Wildlife & Parks has a clear obligation to use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

### Tier II:

**Tier II:** Moderate conservation need. Montana Fish, Wildlife & Parks could use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

### Tier III:

**Tier III:** Lower conservation need. Although important to Montana's wildlife diversity, these species, communities, and focus areas are either abundant and widespread or are believed to have adequate conservation already in place.

### Tier IV:

**Tier IV:** Species that are non-native, incidental, or on the periphery of their range and are either expanding or very common in adjacent states.

## Partners In Flight (PIF)

[Partners In Flight \(PIF\)](#) is a partnership of federal and state agencies, industry, non-governmental organizations, and many others, with the goal of conserving North American birds. In 1991, PIF began developing a formal species assessment process that could provide consistent, scientific evaluations of conservation status across all bird species in North America, and identify areas most important to the conservation of each species. This process applies quantitative rule sets to complex biological data on the population size, distribution, population trend, threats, and regional abundance of individual bird species to generate simple numerical scores that rank each species in terms of its biological vulnerability and regional status. The process results in global and regional conservation assessments of each bird species that, among other uses, can be used to objectively assign regional and continental conservation priorities among birds. The species assessment scores and process has recently been updated! Check out the [new scores](#) and make sure to download and read the updated [Handbook on Species Assessment](#), which contains important information on the how scores are derived and used in the assessment process. Note that currently only breeding-season regional scores are available for BCRs. We hope to have non-breeding scores available soon. For those needing access to the previous versions of the PIF Species Assessment Database, including past regional scores for physiographic areas, [click here](#).

## Montana Native Plant Society (MNPS) Threat Category

The MNPS Threat Category process was initiated in 2006 at the Montana Plant Conservation Conference with the formation of a committee represented by federal, state and private botanists, ecologists and biologists. The objectives were to: 1) Evaluate threats impacting Montana's Plant Species of Concern and to classify species according to their level of imperilment/risk as a result of these threats. 2) Develop a ranking system based on the impacts of the identified threats to the species' viability in the state. The result of this process is a 4-tier threat ranking system for Plant Species of Concern in Montana. The threat categories are:

### Category 1:

The viability of the species in the state is Highly Threatened by one or more activities. Associated threats have caused or are likely to cause a major reduction of the state population or its habitat that will require 50 years or more for recovery, 20% or more of the state population has been or will be affected, and the negative impact is occurring or is likely to occur within the next 5 years.

### Category 2:

The viability of the species or a portion of the species habitat in the state is Threatened by one or more activities, though impacts to the species are expected to be less severe than those in Category 1. Associated threats exist but are not as severe, wide-ranging or immediate as for Category 1, though negative impacts are occurring or are likely to occur.

### Category 3:

The viability of the species in the state is Not Threatened or the Threats are Insignificant. Associated threats are either not known to exist, are not likely to occur in the near future or are not known to be having adverse impacts that will severely affect the species' viability in the state.

### Category 4:

Assessment not possible due to insufficient and/or conflicting information on potential threats to the species.

Please visit the MNPS website at <http://www.mtnativeplants.org> for additional information on MNPS Threat Categories or for MNPS contact information.



# United States Department of the Interior

## Fish and Wildlife Service



Ecological Services  
Montana Field Office  
585 Shepard Way, Suite 1  
Helena, Montana 59601-6287  
Phone: (406) 449-5225 Fax: (406) 449-5339

File: M.38 DEQ (I)  
06E11000-2015-I-0348

July 29, 2015

Scott Graham  
Montana Department of Environmental Quality  
P.O. Box 200901  
Helena, Montana 59620-0901

Dear Mr. Graham:

This is in response to your July 10, 2015 letter regarding the proposed reclamation project activities associated with the Abandoned Mine Lands Program of Montana Department of Environmental Quality (DEQ). The proposed project reclamation actions will occur at the Park Mine Indian Creek Site, Broadwater County, Montana.

We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (MBTA; 16 U.S.C 703 et seq.), as amended, Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668-668d, 54 Stat. 250), as amended, Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*, Endangered Species Act (ESA; 16 U.S.C. 1531 et seq.) as amended, and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

### Threatened and Endangered Species

Outlined below is the current list of threatened, endangered and candidate species occurring within the boundaries of Broadwater County:

| Scientific name              | Common name         | Status* |
|------------------------------|---------------------|---------|
| <i>Spiranthes diluvialis</i> | Ute Ladies' Tresses | LT      |
| <i>Lynx canadensis</i>       | Canada Lynx         | LT      |
| <i>Pinus albicaulis</i>      | Whitebark Pine      | C       |
| <i>Anthus spragueii</i>      | Sprague's Pipit     | C       |

\*LE=Listed as Endangered, LT=Listed Threatened, C=Candidate species for listing, CH=Designated Critical Habitat

It is our understanding that you consulted with the Montana Natural Heritage Program to evaluate potential impacts to any threatened or endangered species within the project area, and have concluded that no threatened or endangered species occur within the proposed work area. You have

also requested Service concurrence with respect to the aforementioned determinations. Given the proposed project location, scope of work, and features described in your letter and accompanying materials, we do not anticipate adverse effects to threatened and endangered species or critical habitat to result from activities at the proposed project area. Thus, we acknowledge your determinations.

This project should be re-analyzed if new information reveals effects of the action that may affect listed species or designated or proposed critical habitat (1) in a manner or to an extent not considered in this letter, (2) if the action is subsequently modified in a manner that causes an effect to a listed species or designated or proposed critical habitat that was not considered in this letter, and (3) if a new species is listed or critical habitat is designated that may be affected by this project.

### **Other Comments**

- If work is proposed to take place during the breeding season and may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers to protect the birds until the young have fledged. Active nests may not be removed.
- There may be additional state species of concern in the vicinity of the project and we recommend coordination with Montana Fish, Wildlife and Parks at 1420 East Sixth Ave., P.O. Box 200701, Helena, Montana 59620-0701, (406) 444-2535. They may be able to provide updated, site-specific information regarding fish and wildlife resources occurring in the proposed project area.

The Service appreciates your efforts to incorporate fish and wildlife resource concerns, including threatened and endangered species, into your project planning. Should you have any questions, please contact Karen Newlon within this office at (406) 449-5225, extension 209.

Sincerely,



*for* Jodi L. Bush  
Field Supervisor

# **Attachment B**

## **Cultural Resources**



**Renewable Technologies, Inc.**

---

511 Metals Bank    Butte, Montana 59701    (406) 782-0494    Fax (406) 782-3064

February 14, 1996

Joel Chavez  
Abandoned Mine Reclamation Bureau  
Montana Department of Environmental Quality  
P.O. Box 202301  
Helena, MT 59620-2301

Dear Joel,

Enclosed are seven copies of the final cultural resource report for the Park Mines site. When I spoke with Dale Herbort a few weeks ago about the number of copies for the Piegan-Gloster report, he requested seven, and I have assumed that you wanted the same number for this project. Anyway, the unbound copy is the original. Two copies of the CRABS forms also are enclosed; one copy should be sent to SHPO with its copy of the report and the second goes to Dale.

We have finished formatting the final report for the Piegan-Gloster site and intend to mail it tomorrow. Last but not least, the draft report for the Empire Mine and Mill site will be completed and sent out either on Friday or next Tuesday.

Sincerely,

Mitzi Rossillon  
Archaeologist

enclosures

**Montana**  
**Cultural Resource Annotated Bibliography System**  
**DATA ENTRY FORM**

DOCUMENT NUMBER: BW | 05 | \_\_\_\_\_ REPORT DATE: 2 / 7 / 96  
County code      File code      Report No. (SHPO use only)

AUTHOR (Last, First, Middle Initial, et al): Rossillon, Mitzi, and Dale Martin

TITLE: Park Mines : A Cultural Resource Inventory and Evaluation

AGENCY: 54 OTHER AGENCIES: (1) \_\_\_\_\_ (2) \_\_\_\_\_ OTHER COUNTIES: (1) \_\_\_\_\_ (2) \_\_\_\_\_

AGENCY DOCUMENT/PROJECT NO: \_\_\_\_\_ SURVEY ACRES: 62

DOCUMENT TYPE:  1. Inventory/Evaluation       3. Overview  
 2. Mitigation/Excavation       4. Other

KEYWORDS: (SHPO use only) (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_  
(4) \_\_\_\_\_ (5) \_\_\_\_\_ (6) \_\_\_\_\_ (7) \_\_\_\_\_

| INVENTORY LOCATION |           |           | PROPERTIES         |                           |                   |
|--------------------|-----------|-----------|--------------------|---------------------------|-------------------|
| <u>T</u>           | <u>R</u>  | <u>S</u>  | <u>Site Number</u> | <u>Property/Site Name</u> |                   |
| 1.                 | <u>7N</u> | <u>1W</u> | <u>14315</u>       | <u>24BW210</u>            | <u>Park Mines</u> |
| 2.                 |           |           |                    |                           |                   |
| 3.                 |           |           |                    |                           |                   |
| 4.                 |           |           |                    |                           |                   |
| 5.                 |           |           |                    |                           |                   |
| 6.                 |           |           |                    |                           |                   |
| 7.                 |           |           |                    |                           |                   |
| 8.                 |           |           |                    |                           |                   |
| 9.                 |           |           |                    |                           |                   |
| 10.                |           |           |                    |                           |                   |
| 11.                |           |           |                    |                           |                   |
| 12.                |           |           |                    |                           |                   |
| 13.                |           |           |                    |                           |                   |
| 14.                |           |           |                    |                           |                   |
| 15.                |           |           |                    |                           |                   |



### AGENCY CODES

|   |  |  |
|---|--|--|
| 01 National Park Service/General        | 32 Economic Development Administration   | 63 DOE Bonneville Power Administration |
| 02 NPS Custer                           | 33 Environmental Protection Agency       | 64 DOE WAPA                            |
| 03 NPS Glacier                          | 34 Department of the Army                | 65 DOE FERC                            |
| 04 NPS Big Hole                         | 35 Department of the Air Force           | 66 DOE REA                             |
| 05 NPS Yellowstone                      | 36 Veterans Administration               | 67 DOE Institutional Grants Program    |
| 06 NPS Big Horn                         | 37 Federal Aviation Administration       | 68 HUD Indian Reservations             |
| 07 NPS Grant-Kohrs                      | 38 General Services Administration       | 69 HUD General                         |
| 08 NPS Fort Union                       | 39 Farmers Home Administration           | 70 Army Corps of Engineers             |
| 10 Bureau of Land Management/General    | 40 MT Dept. of Highways/Federal Highways | 71 Postal Service                      |
| 11 BLM Lewistown                        | 41 Dept. of Natural Resources & Conserv. | 72 Interstate Commerce Commission      |
| 12 BLM Miles City                       | 42 Montana Arts Council                  | 73 Fish and Wildlife Service           |
| 13 BLM Butte                            | 43 Dept. of Health and Environ. Sciences | 75 Department of Military Affairs      |
| 18 Department of Agriculture/General    | 44 University Systems                    | 76 Soil Conservation Service (SCS)     |
| 19 USFS Custer NF                       | 45 Department of Administration          | 77 U.S. House of Representatives       |
| 20 U.S. Forest Service/General          | 46 Department of Institutions            | 78 U.S. Senate                         |
| 21 USFS Beaverhead NF                   | 47 Dept. of Fish, Wildlife and Parks     | 79 FCC                                 |
| 22 USFS Bitterroot NF                   | 50 Department of State Lands/General     | 80 Bureau of Indian Affairs/General    |
| 23 USFS Deerlodge NF                    | 51 DSL Lands Division                    | 81 BIA Blackfeet                       |
| 24 USFS Flathead NF                     | 52 DSL Open Cut Bureau                   | 82 BIA Crow                            |
| 25 USFS Gallatin NF                     | 53 DSL Coal Bureau                       | 83 BIA Flathead                        |
| 26 USFS Helena NF                       | 54 DSL Abandoned Mine Reclamation        | 84 BIA Northern Cheyenne               |
| 27 USFS Lewis and Clark NF              | 55 DSL Hardrock Mining Bureau            | 85 BIA Fort Belknap                    |
| 28 USFS Lolo NF                         | 56 State Department of Commerce          | 86 BIA Fort Peck                       |
| 29 USFS Kootenai NF                     | 50 HUD CDBG                              | 87 BIA Rocky Boy                       |
| 30 Bureau of Reclamation                | 61 HUD UDAG                              | 88 Indian Health Services              |
| 31 Office of Surface Mining/Coal Mining | 62 Department of Energy/General          |  |

### FILE CODES

|                              |                              |                                 |
|------------------------------|------------------------------|---------------------------------|
| 01 U.S. Forest Service       | 03 Bureau of Indian Affairs  | 05 Montana Dept. of State Lands |
| 02 Bureau of Land Management | 04 Montana Dept. of Highways | 06 Other                        |

### COUNTY CODES

|                  |                    |                           |
|------------------|--------------------|---------------------------|
| BE Beaverhead    | GN Granite         | PW Powell                 |
| BH Bighorn       | HL Hill            | PE Prairie                |
| BL Blaine        | JF Jefferson       | RA Ravalli                |
| BW Broadwater    | JT Judith Basin    | RL Richland               |
| CB Carbon        | LA Lake            | RV Roosevelt              |
| CT Carter        | LC Lewis and Clark | RB Rosebud                |
| CA Cascade       | LT Liberty         | SA Sanders                |
| CH Chouteau      | LN Lincoln         | SH Sheridan               |
| CR Custer        | MA Madison         | SB Silver Bow             |
| DN Daniels       | MC McCone          | ST Stillwater             |
| DW Dawson        | ME Meagher         | SW Sweetgrass             |
| DL Deer Lodge    | MN Mineral         | TT Teton                  |
| FA Fallon        | MO Missoula        | TL Toole                  |
| FR Fergus        | ML Musselshell     | TE Treasure               |
| FH Flathead      | PA Park            | VL Valley                 |
| GA Gallatin      | PT Petroleum       | WL Wheatland              |
| GF Garfield      | PH Phillips        | WX Wibaux                 |
| GL Glacier       | PN Pondera         | YL Yellowstone            |
| GV Golden Valley | PR Powder River    | ZZ Multiple Counties (>3) |

**Montana**  
**Cultural Resource Annotated Bibliography System**  
**DATA ENTRY FORM**

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County code                      File code                      Report No. (SHPO use only)

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KEYWORDS: (SHPO use only) (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_  
(4) \_\_\_\_\_ (5) \_\_\_\_\_ (6) \_\_\_\_\_ (7) \_\_\_\_\_

| INVENTORY LOCATION |           |           | PROPERTIES  |                    |                |                   |
|--------------------|-----------|-----------|-------------|--------------------|----------------|-------------------|
| T                  | R         | S         | Site Number | Property/Site Name |                |                   |
| 1.                 | <u>7N</u> | <u>1W</u> | <u>14</u>   | <u>15</u>          | <u>24BW210</u> | <u>Park Mines</u> |
| 2.                 |           |           |             |                    |                |                   |
| 3.                 |           |           |             |                    |                |                   |
| 4.                 |           |           |             |                    |                |                   |
| 5.                 |           |           |             |                    |                |                   |
| 6.                 |           |           |             |                    |                |                   |
| 7.                 |           |           |             |                    |                |                   |
| 8.                 |           |           |             |                    |                |                   |
| 9.                 |           |           |             |                    |                |                   |
| 10.                |           |           |             |                    |                |                   |
| 11.                |           |           |             |                    |                |                   |
| 12.                |           |           |             |                    |                |                   |
| 13.                |           |           |             |                    |                |                   |
| 14.                |           |           |             |                    |                |                   |
| 15.                |           |           |             |                    |                |                   |

**Park Mines:  
A Cultural Resource Inventory and Evaluation**

by  
Mitzi Rossillon  
and  
Dale Martin

Renewable Technologies, Inc.  
511 Metals Bank Building  
Butte, Montana 59701

for  
Abandoned Mine Reclamation Bureau  
Montana Department of Environmental Quality  
P.O. Box 202301  
Helena, Montana 59620-2301

February 7, 1996

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## INTRODUCTION

The Abandoned Mine Reclamation Bureau (AMRB) of the Montana Department of Environmental Quality has identified the Park Mines as a priority site for mine waste reclamation. Prior to developing and implementing a reclamation plan, the AMRB requires a cultural resource inventory to determine if the site is eligible for listing in the National Register of Historic Places. AMRB contracted with Renewable Technologies, Inc. (RTI) to conduct the needed site inventory and evaluation. This document reports the results of RTI's fieldwork and historical research.

The Park Mines site is located about 9 miles west-northwest of Townsend in northeastern Broadwater County. More specifically, it is in Sections 14 and 15, Township 7 North, Range 1 West (Figure 1). It lies near the head of Indian Creek at the north end of the Indian Creek Mining District.

## SITE HISTORY

In the north part of the Indian Creek Mining District is a group of mines that has gone by different names through the decades. Called Park, New Era, Park-New Era, and Marietta, this group of mines and claims is on the either side of Indian Creek. Gold brought miners to the locality, where they also recovered silver, lead, copper, and zinc. The primary periods of activity were from the late 1800s to about 1908, and 1933 to the early 1960s.

Placer miners first came to Indian Creek in 1866. Hard rock mining began in the 1870s and was flourishing in the 1880s. The community of St. Louis (later called Hassel) developed at the confluence of the forks of Indian Creek. About 5 miles up the main (east) fork, several mines began operating in about the late 1880s. An 1888 plat even identifies a 16-stamp mill on one of the claims. Accounts from the late 1890s mention independent operations at the Park, Switzerland, Little Annie, Gold Dust, and New Era, the last of which had a hoisting plant built in 1896. Exploration, ore production, and underground expansion continued, with some interruptions, at most of these properties past the turn of the century (GCM Services, Inc. 1995:1-3; Reed 1951:48; U.S. Surveyor General's Office 1888; Western Mining World 1896, 1898a, 1898b, 1899, 1901).

A new operation in the first decade of the twentieth century brought increased hopes and activity and, after several years, failure. Allen C. Mason, of Helena and affiliated with the Big Indian Mining Company, leased the Park-New Era group of 14 claims and began development in 1904. He built a 100-ton concentrator and 50-ton cyanide plant to handle new production. A post office called Mason was established nearby. Within five years, however, the enterprise had failed; the processing machinery was not suited to the ores extracted. For over two decades, the only activity in the Park group was sparse and irregular (Mining World 1904, 1905b; U.S. Geological Survey 1905:249, 1906:274; Walsh and Orum 1906:51; Stone 1911:89-90).

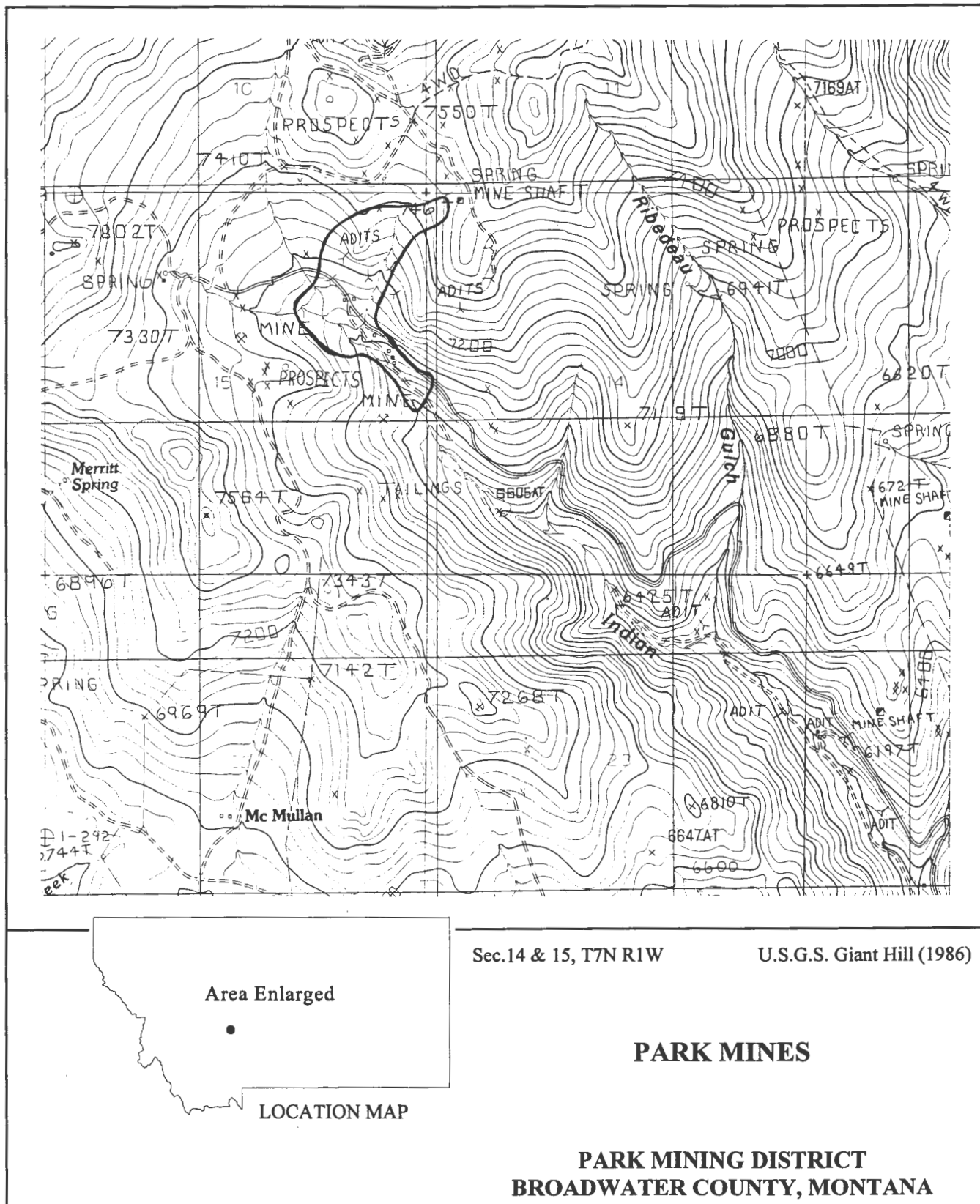


Figure 1. Portion of Giant Hill topographic map showing location of Park Mines (24BW210).

A long period of mining, centered on the Marietta Mine, started in the early 1930s. Al Dance of Townsend, owner of the Marietta or Park group of mines, resumed major extraction of ores in 1933. For most of the following three decades, the Marietta was one of two active mines (the other was the Iron Mask) in the northern part of the Indian Creek district. Of secondary importance in the 1930s, the Little Annie and Park-New Era also were producers. The ores were smelted by the American Smelting and Refining Company in East Helena and the Anaconda Copper Mining Company in Anaconda and Butte. Through the long ownership of the Marietta by Al Dance (later with Harry Q. Anders), the mine was a frequent, if not constant, producer of ores. This continued into the late 1950s, when a new operator's actions seemed to promise increased activity. The Northern Milling Company took over the Marietta in 1958 and began development for expanded operations. This included construction of a 200-ton flotation mill. While reports on the Marietta in the business and trade press of around 1960 suggest expectations of major mining, within a few years mentions of the mine and mill disappear from print. The Marietta was not actively mined after the early 1960s, although in the 1980s Edgemont Resources Corporation conducted exploration (Schell 1963:21-25; Reed 1951:48; Montana Bureau of Mines and Geology 1935-1938, 1987-1988; Mining Journal 1934).

## FEATURE DESCRIPTIONS

The Park Mines site (24BW210) is a large site, covering 62 acres. RTI recorded 69 features there (Figure 2). Both mining and residential features are represented, and include but are not limited to shafts, adits, and/or waste rock piles; the remains of two mills; four shops; two powder magazines; at least nine residences; five outhouses; two dams; and several other buildings or foundations of undetermined function (Table 1). Datable buildings and structures were built at the turn of the century, in the 1930s, and in the late 1950s.

To determine building dates, RTI examined associated artifacts (although few in number), the historic development of the Park Mines, and building materials and styles. The latter two analyses yielded most of the dates used in this report.

RTI's dates typically are based on the corner joints of log buildings. The field crew observed several joints at 24BW210, including dovetail, steeple, lap, and saddle notches, and box corners--logs abutted to a post or two planks set vertically. Box corners typically post-date dovetail and steeple-notched corners in the Rocky Mountain West. Dovetail and steeple joints, especially, were more commonly used in the late nineteenth and early twentieth centuries, while box corners were more common in later periods. Lap and saddle notches were employed throughout the twentieth century (and earlier). Sometimes, older saddle-notched buildings can be distinguished from newer ones by the log end treatment. As a general rule, old buildings may have axed log ends but newer buildings rarely do, having sawn ends instead.

At 24BW210, RTI attributes log buildings with dovetail or steeple notching to the period between the 1890s and 1909--an early period of mine development and operation. Buildings with saddle notched logs also probably date to the early period, especially if they exhibit axed log ends, although the widespread use of saddle notching at other mining sites dating to the 1920s-1940s

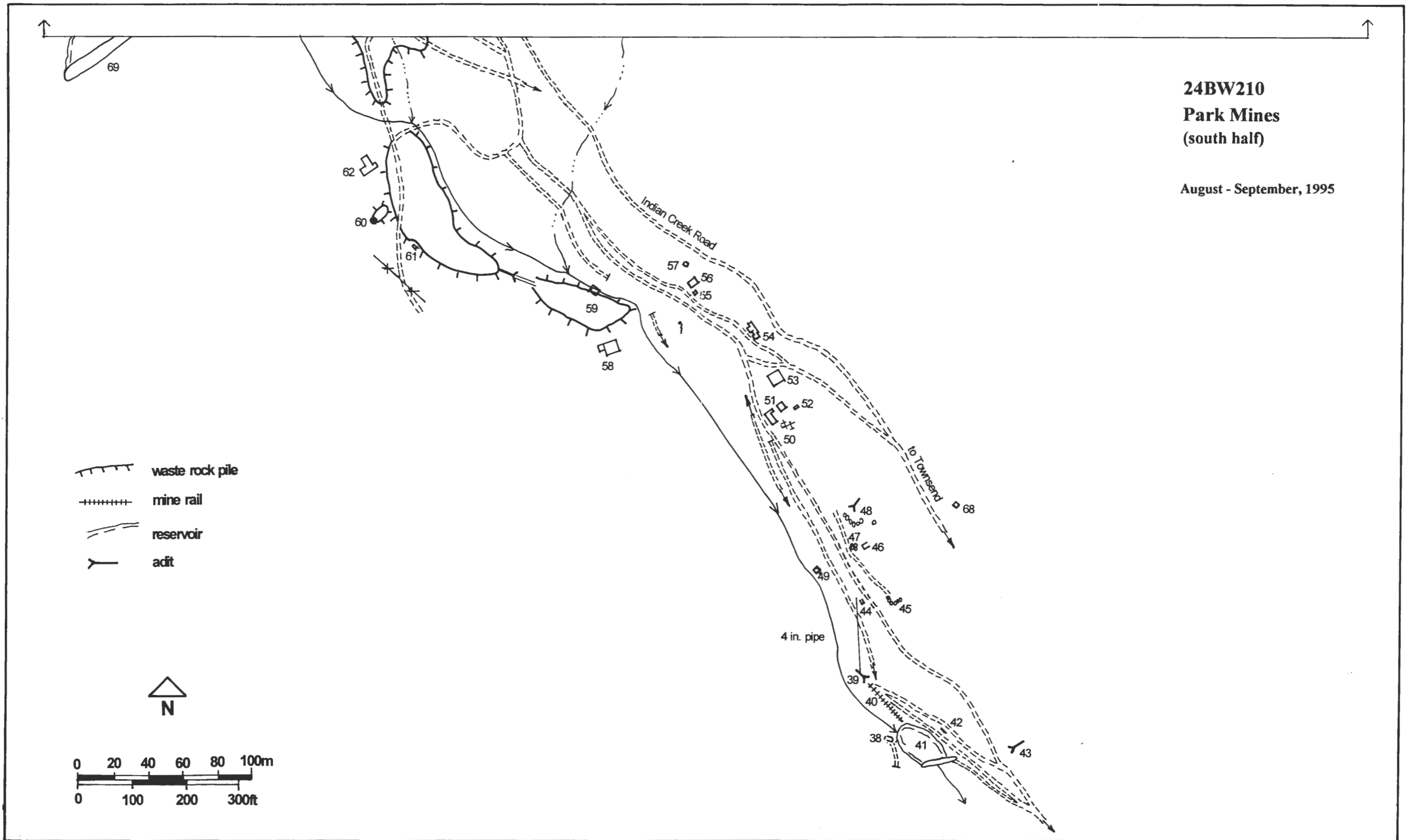


Figure 2, continued. Sketch map of 24BW210, showing the relative positions of recorded features.

**24BW210  
Park Mines  
(north half)**

August - September, 1995

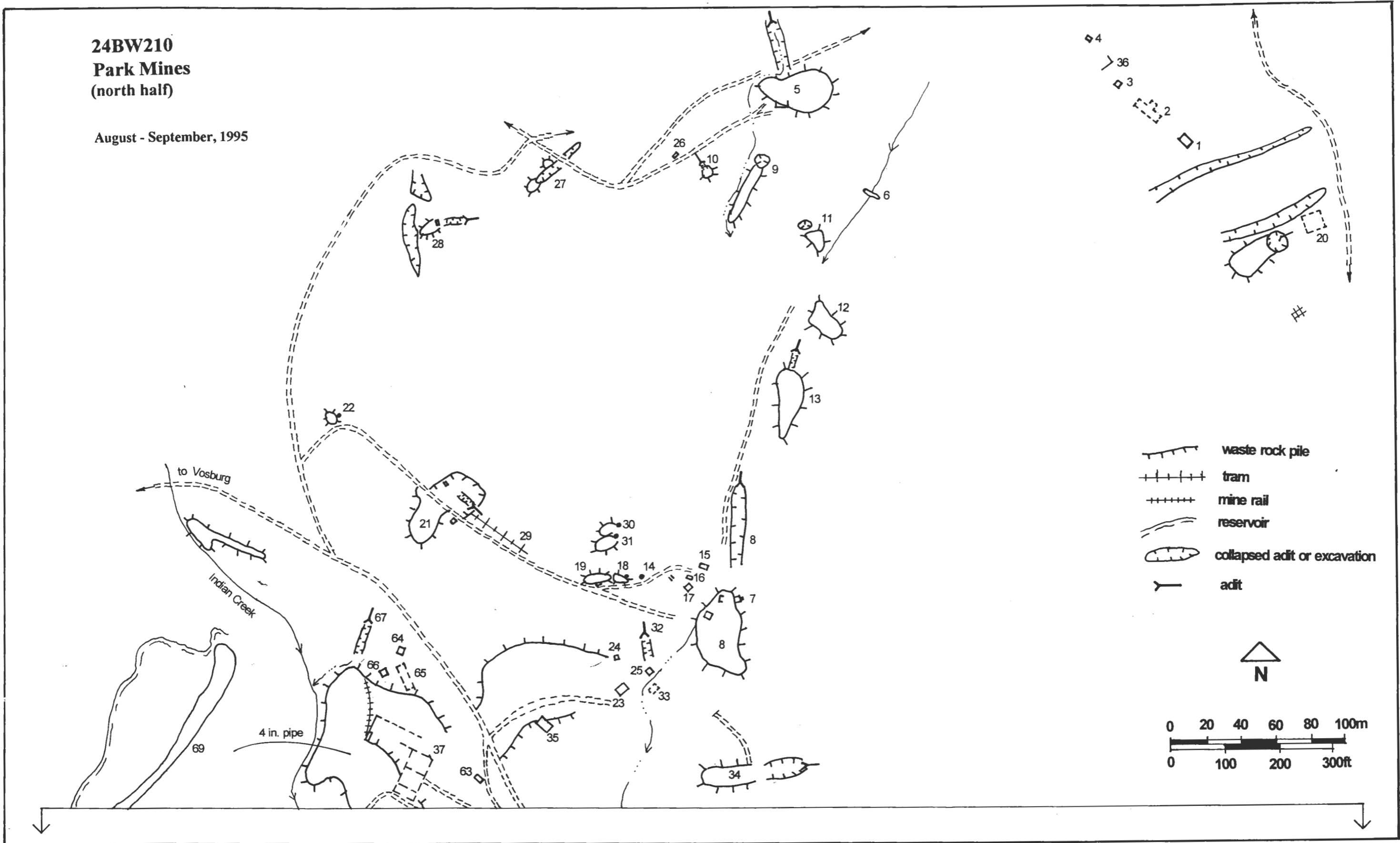


Figure 2. Sketch map of 24BW210, showing the relative positions of recorded features.

makes this assumption somewhat tenuous. At 24BW210, log buildings with box corners likely were constructed in the 1930s because that was the first time after about 1909 that the area was aggressively mined, and presumably re-populated. Mining activity continued on a small-scale into the late 1950s, but the similarity of log sizes and corner joints across the site strongly suggests that all buildings with box corners were constructed at about the same time, i.e., the 1930s. A handful of log buildings at 24BW210 have wood-frame additions. The dates of construction for these additions are unknown, but are likely between the late 1930s and the early 1960s.

Table 1. Features at the Park Mines site (24BW210) and their estimated dates of construction

| Feature Number | Feature Description                        | Estimated Date of Construction |
|----------------|--|--------------------------------|
| 1              | residence                                  | 1900                           |
| 2              | residence foundation                       | 1900                           |
| 3              | residence                                  | 1900                           |
| 4              | outhouse                                   | 1935                           |
| 5              | adit, waste rock pile, loading platform    | unknown                        |
| 6              | earth dam                                  | unknown                        |
| 7              | blacksmith's shop                          | before 1930s+                  |
| 8              | waste rock pile, loading platform, ore bin | 1904?+                         |
| 9              | waste rock pile, depression                | unknown                        |
| 10             | adit and waste rock pile                   | unknown                        |
| 11             | waste rock pile                            | unknown                        |
| 12             | waste rock pile                            | unknown                        |
| 13             | adit and waste rock pile                   | unknown                        |
| 14             | adit                                       | unknown                        |
| 15             | log building                               | 1935                           |
| 16             | outhouse                                   | 1935                           |
| 17             | log building                               | 1935                           |
| 18             | adit or shaft                              | unknown                        |
| 19             | powder magazine                            | unknown                        |
| 20             | possible hoist house                       | 1898                           |

Table 1. Features at the Park Mines site (24BW210) and their estimated dates of construction, continued

| Feature Number | Feature Description                | Estimated Date of Construction |
|----------------|------------------------------------|--------------------------------|
| 21             | adit, waste rock pile, boiler      | unknown                        |
| 22             | shaft, waste rock pile, artifacts  | 1900                           |
| 23             | waste rock pile, ore bin, platform | before 1930s+                  |
| 24             | outhouse                           | 1935+                          |
| 25             | workshop                           | 1935                           |
| 26             | powder magazine                    | 1900                           |
| 27             | possible adit, waste rock piles    | unknown                        |
| 28             | adit and building foundation       | unknown                        |
| 29             | possible tramway                   | 1896                           |
| 30             | adit and waste rock pile           | unknown                        |
| 31             | adit, waste rock pile, platform    | unknown                        |
| 32             | adit                               | unknown                        |
| 33             | collapsed building                 | 1935                           |
| 34             | adit and waste rock pile           | unknown                        |
| 35             | storage building                   | 1959                           |
| 36             | collapsed building                 | 1900                           |
| 37             | mill                               | 1959                           |
| 38             | shop?                              | by 1949                        |
| 39             | adit                               | unknown                        |
| 40             | mine rail and platform             | unknown                        |
| 41             | pond                               | 1988                           |
| 42             | foundation                         | unknown                        |
| 43             | adit and waste rock pile           | 1900                           |
| 44             | unknown                            | unknown                        |
| 45             | rock foundation                    | 1900                           |

Table 1. Features at the Park Mines site (24BW210)  
and their estimated dates of construction, continued

| Feature Number | Feature Description            | Estimated Date of Construction |
|----------------|--------------------------------|--------------------------------|
| 46             | dugout                         | 1900                           |
| 47             | rock pile                      | 1900                           |
| 48             | rock foundations and two adits | 1900                           |
| 49             | shaft                          | unknown                        |
| 50             | residence                      | 1935                           |
| 51             | garage                         | 1940s or later                 |
| 52             | outhouse                       | 1950                           |
| 53             | residence                      | 1935                           |
| 54             | residence                      | 1896?+                         |
| 55             | chicken house                  | 1935                           |
| 56             | residence                      | 1935                           |
| 57             | outhouse                       | 1935                           |
| 58             | mill                           | 1937                           |
| 59             | adit and waste rock pile       | 1896?/1950s                    |
| 60             | shaft and waste rock pile      | 1896?/by 1949?                 |
| 61             | collapsed building             | unknown                        |
| 62             | residence                      | 1896?+                         |
| 63             | assay office                   | 1959                           |
| 64             | probable shop                  | 1940?                          |
| 65             | miners' dry foundation         | 1950s                          |
| 66             | blacksmith's shop              | 1935                           |
| 67             | adit                           | unknown/1950s                  |
| 68             | residence                      | 1905-1910                      |
| 69             | earth-fill dam                 | 1959                           |



## Adits, Shafts, Waste Rock Dumps, and Associated Features

Twenty-five of the features recorded at the Park Mines site are adits, shafts, waste rock dumps, and associated features (Figures 3 and 4). The unusually large number of older scattered adits and waste rock piles may be explained by the independent operation of adjacent claims, and a pattern of leasing and sub-leasing portions of claims just before the turn of the century (Western Mining World 1898b). There are numerous depressions that were not recorded because they were thought to be prospects instead of mine openings. Also, some of those appear to post-date the historic period because of their large size, relatively little vegetation, or proximity to like depressions. This observation is consistent with one observer's report about his 1960 visit to the property. Schell (1963:24) noted bulldozer cuts where the vein of ore was exposed, presumably as part of Northern Milling Company's exploration and development of the Marietta Mine.



Figure 3. Feature 34 adit portal near center of 24BW210.



Figure 4. Feature 10 adit portal at north end of 24BW210.

Just over half of the recorded adits, shafts, and waste rock piles are located near the north edge of the site (Figure 2). A few associated artifacts and the mining features' positions away from 1930s and 1950s buildings and structures suggest that most or all of these features, including Features 5, 8-14, 18, 21, 22, 27, and 28, date to the late nineteenth or early twentieth centuries. Because of their non-distinctive appearance, however, exact dates of use cannot be determined.

The largest waste rock piles lie at the west edge of the site and probably date to the late 1950s. These are associated with some of the most intact adit portals, which also suggest a recent date of use.

Rather than describe the mine features individually, this report includes descriptions of the more unusual adits and waste rock piles, because of their size, associated features, or state of preservation. More detailed information about the features is presented in the appendix.

Feature 5 is a collapsed adit, large waste rock pile, and ore loading platform located at the far north end of the site. The adit appears as a trench approximately 100 feet in length with a maximum width of about 30 feet and maximum depth of approximately 20 feet. The waste rock pile measures 150 feet in length and 60 feet wide. At the lower end of the waste rock pile are the remnants of a loading platform (Figure 5). The platform, constructed of logs and wire nails, is about 25 feet long.



Figure 5. Loading platform at end of waste rock pile at Feature 5, north end of 24BW210.

Feature 8 is a collapsed adit, large waste rock pile, loading platform, and ore bin. The adit is marked by a long trench which measures about 35 x 150 feet. The 80 x 170-foot waste rock pile is located 40 feet from the mouth of the trench. Near the north end of the pile is what appears to have been a wooden ore loading platform, which measures 12 feet across. The platform is partially covered and collapsed by waste rock, suggesting that it was abandoned before the most recent dumping on the waste rock pile. About 20 feet south of the platform and near the west edge of the pile is an ore bin. It is constructed of logs with small branches for chinking; the logs are saddle-notched at the corners (Figure 6). A wooden ladder leads from the top to the bottom of the bin in the interior southeast corner. There is a single wooden chute measuring about 2 feet square on the west wall of the bin. At the top of the bin is a 12-foot wide platform which extends over the waste rock pile. Feature 8 is in the approximate position of the 1896 Tunnel No. 2 on the New Era lode and the 1904 tunnel on the Marietta claim (U.S. Surveyor General's Office 1896, 1904). These dates suggest a turn of the century date for the adit.

Feature 21 consists of a collapsed adit, a boiler and its foundation, and an associated waste rock pile. Access to the adit was via a large cut in a hillside, the floor of which measures roughly 12 x 24 feet. Also in this space is the foundation or footing for a boiler. This is a 6 x 12-foot, rectangular, masonry structure made of local rock. The boiler, which once presumably rested on the foundation, now lies 70 feet to the south just beyond the east edge of the waste rock pile. The waste rock pile measures about 36 x 80 feet. The position of the boiler near the entrance to the adit and the proximity of Feature 23 (thought to be the remains of a tram; see below) suggest that



Figure 6. Ore bin at Feature 8, near center of 24BW210.

the boiler supplied steam to power a hoist. The hoist pulled ore cars from the adit and from an ore dump somewhere east of the feature.

Feature 22 is a collapsed mine shaft and 30 x 40-foot waste rock pile. Domestic trash found widely scattered in the vicinity of the shaft suggest that a residence was located slightly uphill. Artifacts observed include at least 50 hole-in-top cans (all but one are completely soldered), a piece of porcelain with gilt on it, some undecorated whiteware, the top to a stoneware jug, and brown bottle glass. The cans indicate a date of occupation before 1900. While it is impossible to directly date the shaft and waste rock pile, the close proximity of a late nineteenth century “dump” strongly suggests that the Feature 22 shaft was open at the same time the artifacts were deposited. The 1889 survey plat of the Gold Dust claim identifies a “double house” and barn in the vicinity of Feature 22 (U.S. Surveyor General’s Office 1889). The observed artifacts may have been discarded by the house’s occupants in the late 1880s.

Feature 23 consists of a very large waste rock pile, an ore bin, and a platform. The Feature 32 adit which lies 70 feet from the upper end of the waste rock pile was apparently the source of the waste rock. The pile measures about 175 x 275 feet. On its southeast side and built against it is the ore bin, which is constructed of saddle-notched logs with small branches for chinking (Figure 7). The southeast wall of the bin has two wooden chutes, each measuring 3 feet square. Behind the ore bin and built out over the waste rock dump is a very deteriorated platform. Supporting mine rail, the platform is about 12 feet wide and was constructed of logs overlaid by boards. The large size of the waste rock pile, the relatively good condition of the Feature 32 adit portal, and the proximity of buildings estimated to date to the 1930s indicate that Feature 23 dates



Figure 7. Ore bin at Feature 23, with Feature 25 shop in left background.

at least as early as the 1930s, and probably was used into the 1950s. The ore bin may have been constructed before the 1930s, as suggested by both sawed and axed log ends.

Feature 43 is a collapsed adit located at the far south end of the site. It appears as a trench about 20 feet long. The front of the portal is supported by a dry-laid rubblestone wall on either side of the entrance. The portal itself is braced by 8-inch logs, connected with wire spikes. The backwalls are half-logs. A small waste rock dump lies downhill. The use of a rock wall and the feature's position in the same general area of the site as other stacked rock foundations that are estimated to date to the turn of the century (see Feature 46 below) strongly suggests that this adit also dates to that time period.

Feature 48 is a group of two dry-laid rubblestone foundations, a collapsed adit, and a depression, located on a bench above Indian Creek near the south end of 24BW210. The largest of the foundations consists of two walls that form an L-shape to partially enclose a 6 x 20-foot area. There is no evidence of the superstructure. Connected to the rock wall on the southeast is a second stone foundation, which is roughly 9 feet square. Just beyond what would have been the northeast wall of the first building is a collapsed adit portal. The portal was about 4 feet wide, and constructed mostly of heavy planks and 7-inch logs. The adit may have been accessed through the building which stood on the larger foundation. The last item at Feature 48 is an oval depression measuring 5 x 8 feet, which is located 20 feet east of the large foundation. Associated artifacts include core samples, a clear wide-mouthed bottle fragment with machine-made finish, and a fragment of square Hostetter's Bitters bottle. These artifacts are few in number and of different ages, and therefore not useful in identifying a date of occupation. Other artifacts found

in the area and the use of dry-laid rubblestone not seen at later features on-site, however, suggest that this feature dates to the turn of the century.

Feature 59 is an adit, large waste rock pile, and associated structures near the west edge of the site. The adit portal, constructed of 7-inch logs and 2x8 planks, stands in relatively good condition. The waste rock pile measures about 200 feet long and up to 65 feet wide. Running atop the pile is the remnants of mine rail. At the far end of the pile, the rail is attached to a platform of 7-inch logs and 2x6s, which extends about 10 feet beyond the end of the pile. Also part of this feature and over the north edge of the waste rock pile are the remains of a building (Figure 8). The wood-frame building once may have stood on the pile, but was evidently pushed over and into Indian Creek below. Its location suggests the building may have been some type of blacksmith or repair shop.

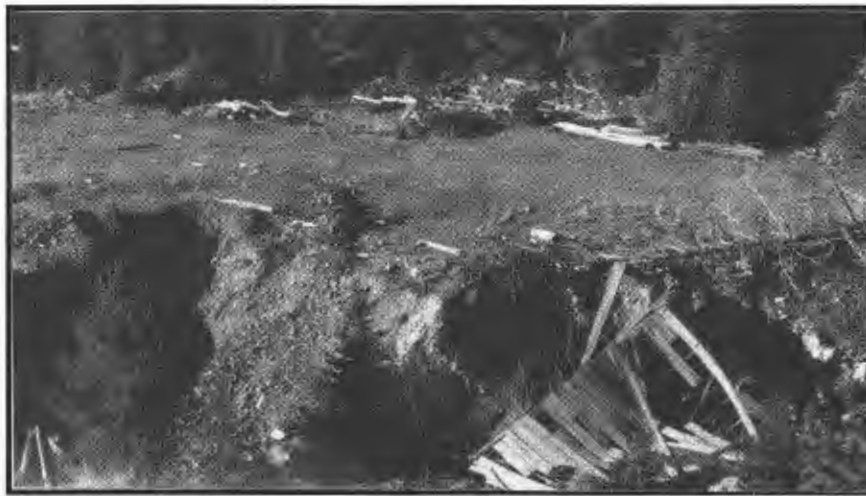


Figure 8. Waste rock pile and dumped building at Feature 59, on southeast edge of 24BW210.

The 1894 survey plat for the Park and New Era lodes shows a tunnel at about this location, as does the 1896 plat for the New Era and Crowbar lodes. These plats suggest use of the adit as early as the 1890s. While the adit may date to the turn of the century, the waste rock pile, collapsed building, and mine rail post-date original development. In fact, the good condition of the adit portal and the feature's proximity to the Feature 58 mill (see below) suggest improvements may date to the late 1930s, possibly with use into the 1950s.

Feature 67 is a collapsed adit and large waste rock pile. The adit appears as a trench about 70 feet long. The portal is constructed of lumber, 7-inch logs, and wire nails. The waste rock pile is irregularly shaped, but has a maximum length of 400 feet and averages about 100 feet wide. Another pile of waste rock immediately to the south (adjacent to the Feature 62 residence) also may have originated from the Feature 67 adit. The proximity of the adit and waste rock to the foundation of a mill built in 1959 (Feature 37) indicates that the feature dates to, or was most recently used at, that time.

## Mills

Two features at 24BW210 are the remains of ore mills. Feature 37 dates to the late 1950s and Feature 58 to the middle 1930s.

Feature 37 is the foundation of a mill which was built in 1959 (Schell 1963:21). It consists of concrete foundations and slabs, a log ore bin and retaining wall, and a flattened area, which together cover almost 5000 square feet (Figures 9 and 10). The concrete walls and slabs mark the rooms where the crushing and concentrating equipment was housed. At the short end of the mostly L-shaped feature is the ore bin, which remains basically intact. The bin, made of 6 to 8-inch logs, saddle-notched in the corners, measures about 14 x 18 feet and is about 23 feet tall. The inside of the bin is divided into two compartments, one of which is lined with boards set diagonally and with sheets of asbestos at the lower end. There is a grizzly at the top of the bin on the north side; it is made of mine rail welded into a grid. Abutting the north corner of the ore bin is a log crib wall. It extends north from the ore bin, and, along the top, has a remnant of the mine rail which originated at the Feature 67 adit. A flattened area east of the log wall and north of the concrete foundations suggests that a large shed was attached to the northeast end of the mill.

Feature 58 is the remains of a mill at the west edge of the Park Mines site. The feature consists of a wood-frame mill building, with a log ore bin attached to its west edge. The building stands in such poor condition that details of the building's construction are nearly impossible to determine. The frame building measures about 30-40 feet on a side. Apparently as siding, 2x10 and 2x12 planks were nailed to large vertical posts. The shed roof is completely gone. There was a double doorway and a set of two four-pane fixed windows. Inside the mill building are a cylindrical mill, wood wheels for transferring mechanical power to mill machinery, and a cyanide can (Figure 11). The attached ore bin was made of logs measuring 7 to 9 inches in diameter. It is lined with 4x20 planks.



Figure 9. Feature 37 mill foundation and associated ore bin.

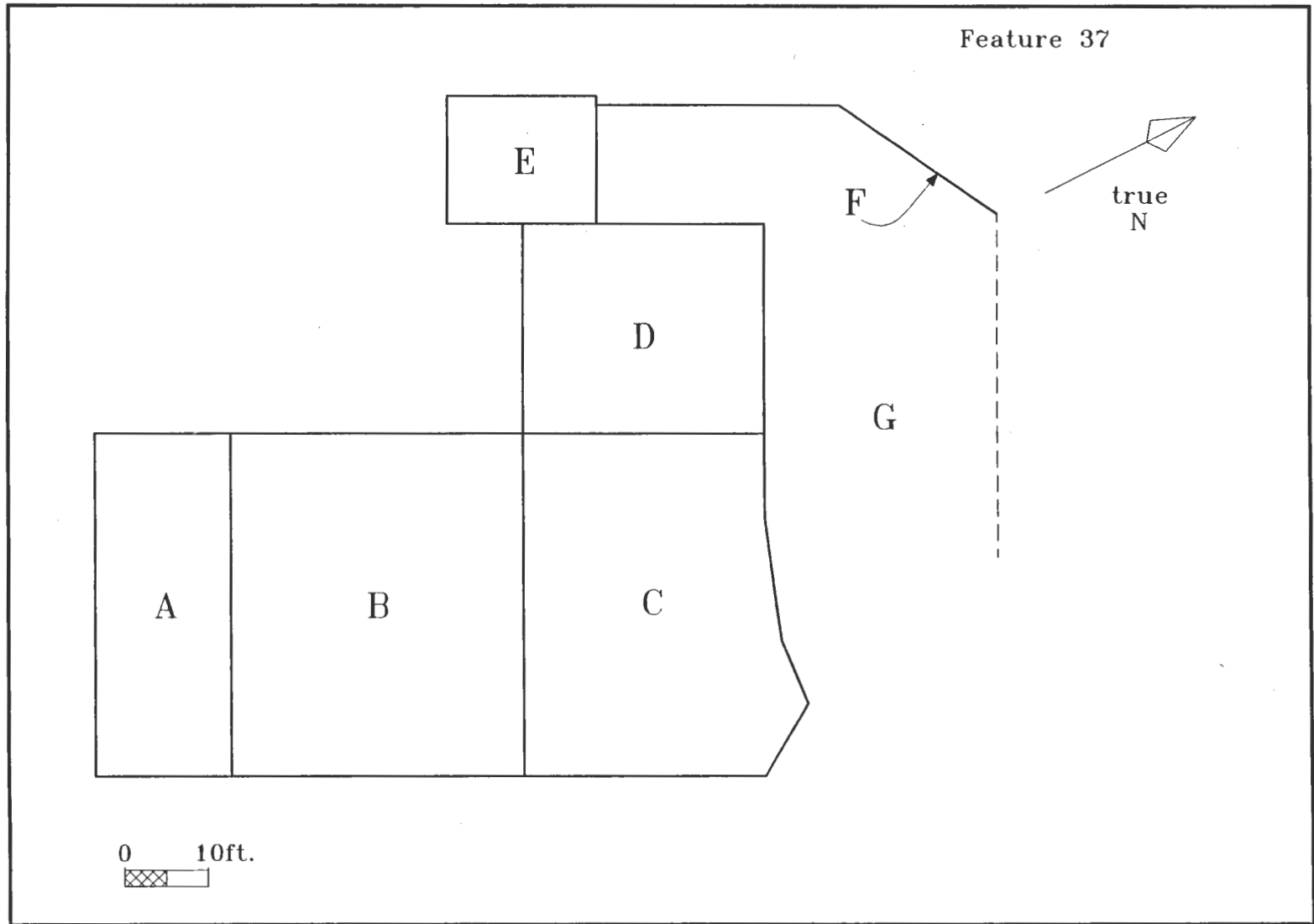


Figure 10. Plan map of Feature 37 mill foundation.





Figure 11. Remains of machinery at Feature 58, possible mill.

Feature 58's size and associated artifacts suggest that it was built and used in the late 1930s. It likely housed a 25-ton mill apparently built at the Park Mines in 1937. The mill was reportedly "being installed" in that year (Mining Journal 1937). This may have been the same mill that Al Dance and F. E. Benedict, operators of the Marietta Mine, rented in 1938 (Montana Bureau of Mines and Geology 1938). It is almost certainly *not* the 1905 mill built to process ores from the Park and New Era groups (see above) because that mill was a 20-stamp, 100-ton concentrator with cyanide plant (Mining World 1905a; U.S. Geological Survey 1905:249; Schell 1963:21; Walsh and Orum 1906:51). Feature 58 is too small to have housed such a large plant. It also was not the 16-stamp Jawbone mill built in about 1888; that mill stood on the opposite or east side of Indian Creek (U.S. Surveyor General's Office 1888).

### **Other Industrial Features**

Several other features at 24BW210 had functions which were directly tied to mining and milling operations. These include shops (Features 7, 25, 64, and 66), storage facilities (Features 19, 26, and 35), the collapsed remains of a possible hoist plant (Feature 20), a possible tramway (Feature 29), mine rail and a platform (Feature 40), an assay office (Feature 63), a foundation for a miners' dry (Feature 65), and a dam (Feature 69).

The four shops that were recorded on-site are centrally located with respect to other mining and milling features. Feature 7 lies between the adit and waste rock dump at Feature 8. Feature 25 stands near the mouth of the Feature 32 adit and near the head of the associated waste rock pile. And Features 64 and 66 are two of a small complex of buildings near the Feature 37 mill and Feature 67 adit and waste rock pile.

Feature 7 is a blacksmith's shop. It is a 12 x 15-foot log building with attached wood-frame shed (Figure 12). The logs are steeple-notched in the corners and chinked with small branches and mortar. More recently, the walls were covered with corrugated metal siding, but most of that is no longer attached. The shed addition is made with horizontal board siding. The remains of a forge are located in one corner of the main building. The fact that the logs of the original building meet in steeple-notched corners, instead of box corners as at nearby features which date to the 1930s, suggests that Feature 7 was built before the 1930s and perhaps in the early 1900s. The shed addition is likely of more recent construction, dating to the 1930s or later.

Feature 25 is a rectangular log building which appears to have been a workshop (Figure 13). It stands a single story tall and measures 12½ x 16 feet. The logs meet at 4x4 posts in the corners, and are chinked with branches, small wedges of wood, and mortar. The shed roof, now mostly collapsed, was made of log purlins covered with corrugated metal roofing. Identification of the building as a workshop is based on the presence of two interior work shelves, one 4-5 feet long and other 6-7 feet long, and the building's proximity to the Feature 32 adit. The box corners indicate a 1930s date of construction.

Feature 64 is a 10 x 12-foot, wood-frame building standing near the Feature 67 adit and waste rock pile. The 1x8 board siding is laid horizontally and covered with tarpaper (Figure 14). A shed roof covers the building. The only doorway is double-wide; there is a single window on an adjoining wall. The location of the building and the presence of a double door suggests that Feature 64 was a shop of some sort. Its age is unknown.



Figure 12. Feature 7 blacksmith's shop at edge of Feature 8 waste rock pile.



Figure 13. Feature 25 shop at base of Feature 23 waste rock pile, near center of 24BW210.



Figure 14. Feature 64 shop near center of 24BW210.

Feature 66 is a log blacksmith's shop. The 5 to 7-inch wall logs meet in box corners and are chinked with small boards and mortar (Figure 15). The gable roof, made with log purlins and covered with corrugated metal roofing, is all but gone. On the south side of the building, adjacent to the doorway, is a 3½-foot square wooden "box" supported by a single log post. The box is

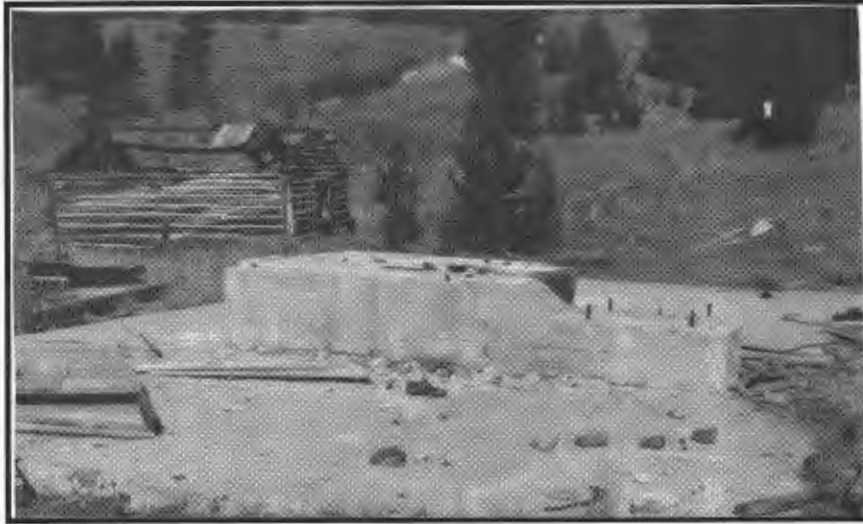


Figure 15. Feature 65 miner's dry and compressor room foundation; Feature 66 in background.

accessed from the inside of the building by a small hole cut into the wall. The remains of a blacksmith's forge lie inside Feature 66. The building is estimated to date to the 1930s.

The storage facilities at 24BW210 are two powder magazines of undetermined age and one large storage building dating to the late 1950s. Features 19 and 26, the magazines, are located in the northern half of the site, in areas where most of the features are adits and waste rock piles. Both are small dugouts measuring about 5½ feet across and 3 feet high (Figures 16 and 17). They are made of logs or poles, the logs at Feature 26 being saddle-notched in the two front corners. Each building has a shallow pitch roof and a board door which opens on v-strap hinges. Feature 19 is excavated into a waste rock pile. Feature 35, the storage building, is a wood-frame building which stands on the south edge of the large Feature 23 waste rock pile. Apparently built in the late 1950s, or at about the same time as the Feature 37 mill (Schell 1963:21), the 20½ x 24-foot storage building is now partially collapsed (Figure 18). The walls are sided with 1x6 boards laid horizontally and covered with tarpaper. The gable roof was made with 2x4 rafters, covered with 1x6s and tarpaper. Two wide doorways, one about 4 feet across and one about 8 feet across, suggest that large machinery may have been kept in the building.

Feature 20 is the collapsed remains of a relatively large industrial building (Figure 19). Measuring about 40 feet square, the building was made with large logs abutted to 8x8 posts in the corners, and fastened with wire spikes. Because it is completely collapsed, the specifics of construction, lumber dimensions, and fenestration are incomplete. The gable roof had an 8x8 beam ridge pole and end rafters. Others rafters were 2x6s. The board roofing beneath corrugated metal was held in-place by wire nails, although there are a few cut nails present. There were two doorways on the south side of the building, one person door and one double door. There may have been other doors and windows, but their sizes and positions could not be determined. There is a pit, possibly a collapsed shaft, about 20 feet south of Feature 20, and beyond that a large waste rock pile. A buried 1-1½ inch pipe leads south from the building toward the pit.



Figure 16. Feature 19 powder magazine excavated into waste rock pile.

Feature 20 is located in the far northeast corner of the site in the general vicinity of some residential buildings thought to date to the turn-of-the-century. The advanced state of deterioration, large size of the lumber used in construction, and some cut nails suggest that Feature 20 may be contemporaneous with the early 1900s residences.

Feature 20 may be the remains of a steam hoisting plant. *Western Mining World* ([1898]:np) reported in 1898-1899 that owners of the Little Annie Mine were planning to build such a plant. Assuming that the Little Annie was located on the Anna claim, Feature 20 stands in the correct location for such a plant, being located near the line between the Queen of the Park and Anna claims. The heavy timbers and logs used in construction and the feature's proximity to a possible shaft are consistent with its function as a hoist. However, none of the consulted sources documented actual construction of the plant.

Feature 29, possibly the remains of a tramway, today appears as trench leading east from the Feature 21 adit and boiler foundation. The V-shaped trench is about 7 feet wide at the top, and had rock piled on its south or downhill side. Only about 100 feet of the feature remains intact; farther to the east, the line has been obliterated by road construction. Its form and placement is consistent with its suggested function.

Feature 40 is a section of mine rail, a portion of which rests on wooden platform. Laying atop 3x6 wood ties, it runs east from the Feature 39 adit near the south end of the site for about 80 feet. The rail then crosses a 12-foot long platform before ending above a pond (Feature 41;



Figure 17. Feature 26 powder magazine at north end of 24BW210.

see below). Resting on waste rock, the platform is constructed out of 4-inch logs, planks, and heavy posts. Its age is unknown.

Feature 63 is an assay office located about 90 feet east of the Feature 37 mill. It is a 12 x 18-foot stuccoed, wood-frame building (Figure 20). The side-gable roof is covered with tarpaper. A shed addition is attached to the east side of the original building. It measures 8 x 12 feet, is sided with boards of varying widths, and is covered by a shed roof. The building may have been constructed in the late 1950s when the Northern Milling Company identified the building as an assay office (Schell 1963:Plate I).

Feature 65 is a large, poured concrete slab measuring roughly 20 x 50 feet (Figure 15). It marks the location of a miners' dry (changing room) and compressor room presumably built in the late 1950s (Schell 1963:Plate I). On the eastern end of the feature is a J-shaped concrete footing measuring 8 x 14 feet. The compressor was presumably mounted to this large footing.



Figure 18. Feature 35 storage building at base of Feature 23 waste rock pile.



Figure 19. Feature 20, possible hoist house, in northeast corner of 24BW210; Feature 3 at far right.



Figure 20. Feature 63 assay office, with Feature 37 mill in right background.

Feature 69 is an earth-fill dam located at the west edge of the Park Mines site (Figure 21). It is about 500 feet long and 12 feet wide at its crest. To build the dam, workers took material from the pool area. There is an overflow outlet or breach on the north end of the structure. A 4-inch pipe lies between the pond and the Feature 37 mill; it apparently was the conduit which supplied water to the mill. Near the center of the crest of the dam is a piece of equipment that may have been a dragline. It was made from a truck differential and chassis and an ore car was used for a bucket. In 1957, Sahinen (1957:1) recommended that the mine owners could operate a small mill on-site "if a dam is built to store the spring flood waters." The owners apparently took him at his word; the dam was probably built in 1959 when the mill was erected.

### **Residences**

Several residences or their foundations were recorded at 24BW210. These are associated with three periods of occupation: the 1890s to about 1909, the 1930s, and the late 1950s to the early 1960s. Most are simple, single story buildings which stand in small groups set apart from the industrial features. Some show evidence of re-use, either by the presence of artifacts which clearly post-date construction or by additions built on one or more sides.

Features 1, 2, and 3 are two buildings and a foundation which stand together at the northeast end of the site. Their materials and construction techniques suggest that they are some of the earliest features on-site, probably dating to the turn of the century.

Feature 1 is a two-room log residence which measures  $17\frac{1}{2} \times 23\frac{1}{2}$  feet (Figure 22). The wall logs meet in lap-notched corners which are secured with wire nails. A single stovepipe pierces the board and tarpaper gable roof. The presence of clear modern bottle glass and a few sanitary cans indicates that the building was re-occupied sometime after the early 1900s.





Figure 21. Panoramic view of west edge of 24BW210. Pictured features include Feature 62 residence (far left), Feature 63 assay office (next right), Feature 37 mill foundation (center), and Feature 69 dam (right).

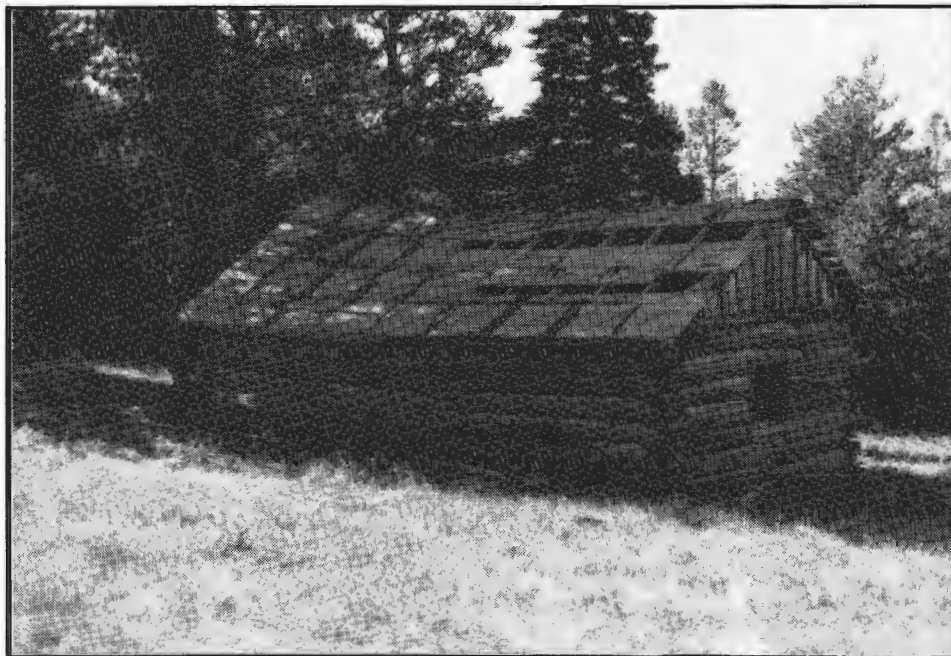


Figure 22. Rear and side of Feature 1 residence at northeast corner of 24BW210.

Situated about 60 feet northwest of Feature 1, Feature 2 is an artificial terrace which marks the location of a second residence in this part of the site. The terrace measures about 26 x 48 feet. Attached near the center of the north edge was a root cellar with its lower walls made of stone. The upper walls appear to have been log, although the logs observed may instead represent an interior wall. The building's superstructure has been completely removed; decaying lumber on the terrace may be 2x6 floor joists.

About 50 feet northwest of Feature 2, Feature 3 is a single room, hewn log residence which measures 13 x 17 feet (Figure 23). The logs are joined at the building corners with dovetail notching, and the ends are secured with wire spikes. The front gable roof is made of log purlins. The purlins are covered with boards, which in turn were once covered with tarpaper.

Features 50, 53, 54, and 56 are four residences which stand in a linear group between Indian Creek and the Indian Creek Road, about 750 feet southwest of the Feature 37 mill. They were constructed during the 1930s and earlier.

Feature 50 is a one story, 21 x 30-foot, log building (Figure 24). The 6-inch wall logs meet in box corners. Part of the building rests on a poured concrete foundation, and part on cinder block footings (Figure 25). The front gable roof was made with log purlins, covered by boards and then tarpaper. There is a small, shed-roofed addition at the north corner of the building. The use of cinder blocks for footings along the feature's downhill side may indicate that the building was once moved from another location.



Figure 23. Rear and side of Feature 3 residence at northeast corner of 24BW210.



Figure 24. Front and side of Feature 50 residence; Feature 50 in left background.



Figure 25. Rear and side of Feature 50 residence, showing cinder block footings.

Feature 53 is a 24½-foot square, one story, wood-frame residence. Its comparatively large size, good condition, and use of plain but good milled lumber in construction suggests that this was the residence of the mine or mill manager, possibly as early as the 1930s and until the early 1960s (Figure 26). The building has 1x6 lap siding with corner boards, and has been painted tan and yellow. The front-gable roof has exposed rafter tails and is covered with rolled asphalt roofing. The windows are 3/1 double hung, 6x6 sliding, or 6 pane fixed units. Both exterior



Figure 26. Feature 53 residence in south one-third of 24BW210.

doors in the house are on the front wall. There is an open porch along the entire front of the building. Its hip roof is supported by five plain 4x4 posts.

Feature 54 is an irregularly-shaped log and wood-frame building which is presumed to have been a residence from its location, comparatively large size, and wood floor (Figures 27 and 28). The core building measures about 16 x 19 feet and is made of 7-inch logs which are saddle-notched in the corners. Additions have been attached to the northeast, northwest, and southwest sides of the building. On the northeast, the 8-foot square shed addition is also of logs, but the



Figure 27. Front of Feature 54 residence, showing three additions.



Figure 28. Rear of Feature 54 residence; Features 53 and 51 in background.

logs meet at box corners. On the northwest, a 12-foot square log addition also has box corners. It has a gable roof, and, like the northeast addition, has no outside entry. On the southwest wall, one wood-frame addition measures only about 5 x 8 feet. Its size suggests its use as a mudroom where dirty clothes were removed before entering the main part of the house. The other addition on the southwest wall is about 10 x 11 feet. It is wood-frame and sided with 1x10s laid horizontally. The boards were once covered with tarpaper. Both additions on the southwest wall have shed roofs once covered with tarpaper. Because the original room was made with saddle-notched logs, it probably pre-dates the 1930s. In fact, the building may date to the turn of the century if it is the cabin marked at about this location on the 1896 survey plat for the New Era and Crowbar lodes (U.S. Surveyor General's Office 1896). The two additions with box corners likely date to the 1930s, and the other two additions slightly later.

The last of the residences in the south one-third of 24BW210, Feature 56, stands 130 feet northwest of the nearest house, Feature 54. Feature 56 is a one story, rectangular, log and wood-frame residence which consists of three parts (Figure 29). In all, the feature measures 16½ x 31 feet. The north approximate half of the building is made of 7-inch logs meeting in box corners, while the next section to the south is wood-frame. The second section is sided with 1x10 or narrower boards, and covered with tarpaper. Along the front or south end of the residence is a narrow, full-width addition which is also wood-frame and covered with tarpaper. A front-gable roof covers the entire building. Feature 56 was probably built in the 1930s, with the two additions dating later in that decade or to the 1940s.

The eighth residence at 24BW210 is Feature 62, another irregularly-shaped building with multiple additions (Figures 30 and 31). Feature 62 is not associated with other residences, standing about 275 feet south of the Feature 37 mill and adjacent to a large waste rock pile (Figure 21). The core of the building measures 18 x 19 feet and is made of 6 to 9-inch logs which are saddle-notched. The three additions are on the southwest, northwest, and southeast sides.



Figure 29. Feature 56 residence in south one-third of 24BW210.



Figure 30. Feature 62 residence at southwest edge of 24BW210.

The first is a 11 x 14-foot log room made with 6-inch logs which meet in box corners. The northwest addition is the largest of the additions, measuring 12 x 16 feet. It is wood-frame, sided with 1x10s set horizontally, and covered with tarpaper. The third addition, measuring 6½ x 8 feet, appears to be an entrance/mud room. It is of wood-frame construction, sided with 1x6s and 1x8s, and covered with tarpaper. Unlike the other three parts of the house which have shallow-pitch gable roofs covered with tarpaper, the southeast or last addition has a shed roof covered with corrugated metal roofing. Like Feature 54, the saddle-notching on the core building suggests a pre-1930s date for original construction. In fact, Feature 62 may be the cabin marked at about this location on the 1896 plat of the New Era and Crowbar mining claims (U.S. Surveyor



Figure 31. Side of Feature 62 residence, showing original room (center).

General's Office 1896). The southwest addition likely dates to the 1930s, and the other two possibly later.

One other residence is located on a steep hillside near the south end of the site, more than 150 feet from the nearest recorded feature. Feature 68 is almost completely collapsed, so measurements, fenestration, and roofing can only be estimated (Figure 32). The log building was small, measuring only about 10 feet square. The 6-inch logs are steeple-notched at the building's corners. Boards varying in size from 1x6s to 1x10s lie in the building debris, and may indicate roofing or other materials. A door on the east side of the building opened on leather hinges. Identification of Feature 68 as a residence was based on the presence of a domestic dump about 20 feet to the south. The dump contains miscellaneous metal, a piece of stove pipe chimney, rubber boots, about 10 hole-in-top crimped and soldered cans, purple flask with applied finish, stoneware jar, corrugated roofing, a sheet metal cookstove, a tin box with handle, and a lard bucket. Collectively, they date to about 1905-1910, and indicate the associated residence was built at about that time.

### **Outhouses**

Five outhouses remain standing at 24BW210. These are associated with both residences and mining features. All are small, single story, shed-roofed outhouses. They appear to date to the 1930s or later, either from the condition of the materials or their association with other features of that age.

Feature 4 is a 4½ x 5-foot outhouse is made of small logs and assembled with wire nails. The logs abut vertical pole corners (Figure 33). The building is located northwest of Features 1-3, two residences and one foundation thought to date to the turn-of-the-century. The small logs



Figure 32. Collapsed remains of Feature 68 residence at south end of 24BW210.



Figure 33. Feature 4 outhouse in northeast corner of 24BW210.

and the lack of notching, however, indicate that Feature 4 probably post-dates the three features. It is possible that it was built in the 1930s or later when (or if) the residences were re-occupied.

Feature 16 is a 4 x 5-foot outhouse made of logs that meet at box corners. It stands adjacent to two log buildings of unknown function, Features 15 and 17. Located just west of the



mouth of the Feature 8 adit, these two were probably either residences or office-type buildings constructed during the 1930s. Feature 16 is clearly of the same vintage.

Feature 24 is a very small outhouse, measuring 3½ x 4½ feet. Like Feature 16, the wall logs meet in box corners where they are nailed to the corner boards. The roof is missing. The building stands at the uphill edge of the Feature 23 waste rock pile. The use of box corners in construction suggests that Feature 24 dates to the 1930s.

Feature 52 is a 4 x 6-foot outhouse of wood-frame construction. It is sided with Celotex, a material which also forms the outside of the door. Feature 52 was, and presumably still is, used by occupants of the nearby Feature 53 residence, the latter a seasonal "camp." The use of Celotex may indicate that the outhouse post-dates the historic period.

The last outhouse, Feature 57, is a 5 x 5½-foot building constructed of 5-inch logs. The logs meet in box corners, each of which is reinforced by a 4x4 post. Pieces of lath attached to the outside indicate that the building once was covered with tarpaper or other insulating material. Feature 57 stands near the Feature 56 residence and was probably built at the same time as the first room at the house, namely, the 1930s.

### **Other Buildings**

There are several buildings on-site whose functions could not be determined with surface evidence. Some are all but completely collapsed, while others are standing in fair condition. They are located at various places across the site.

Feature 15 is a 12½ x 16-foot log building located near the mouth of the Feature 8 adit. The wall logs meet at box corners made of 2x6s; there, they are secured with wire nails. There is a single doorway and single, 5-foot wide window opening. The gable roof, now mostly collapsed, had a log ridge pole and purlins; it was covered with corrugated metal roofing (Figure 34). Standing in a group with Features 16 and 17, the building may have been a residence, or perhaps an office. It apparently dates to the 1930s.

Feature 17, located 35 feet southwest of Feature 15, is slightly larger than that building, but was constructed using the same techniques (Figures 35 and 36). The walls and roof of the 15 x 16-foot building were virtually identical. There are two doorways and a single window opening at Feature 17. The feature is clearly contemporaneous with Features 15 and 16.

Feature 33 consists of an artificial terrace on which lumber is scattered. It marks a building site, but almost all of the superstructure has been removed (Figure 37). What remains suggests that the building measured about 12 x 14 feet, was made of logs, and the logs abutted box corners. Located only about 15 feet from the Feature 25 workshop, it seems likely that Feature 33 functioned as some sort of mine-support facility. The use of box corners indicates a 1930s date of construction.



Figure 34. Partially collapsed Feature 15 at center of 24BW210.



Figure 35. Partially collapsed Feature 17; Feature 16 outhouse at far right.



Figure 36. Feature 17 with Features 15 (right) and 16 (left) in background.



Figure 37. Feature 33 ruins, with Feature 8 waste rock pile in background.

Feature 36 appears to be a collapsed building situated northwest of Feature 3 in the northeast corner of 24BW210. It is partially buried by a long pile of fill of unknown origin. The semi-subterranean building was about 18 feet long by at least 14 feet wide and had a gable roof made of poles and covered with corrugated metal. The type of walls and the date of construction could not be determined.

Feature 38 is the remains of a building, possibly dumped at its present location at the south end of the site. It is impossible to identify building dimensions; all that remains is lumber, including 1x10s, 2x6, 3x6s, and 10x12s, some connected with wire nails. Associated are sheet metal and a rectangular can labeled "Calcium Carbonate for Miners' LA(?) sold by American Carbol? Sales Company, Duluth, MN." The 1949 survey plat for the Big Jack and other claims identifies a shop at about this location (Bureau of Land Management 1949), suggesting a possible function for Feature 38.

Feature 42 is part of a log wall below a road at the south end of the site. Fill covers all but one building corner and the wall segment. It appears that one wall was about 12 feet long, but the length of the perpendicular wall could not be determined. The walls were constructed with 9-inch logs, saddle-notched in the building corners. The ends of the logs were axed. The feature's age is unknown, but the use of saddle-notching instead of box corners and the axed log ends suggest that the building was constructed before the 1930s.

Feature 51 is a 14 x 16-foot, wood-frame garage (Figure 38) associated with the Features 50 and 53 residences. It is sided with 1x lumber of varying widths, set vertically. The shed roof is made of 1x8s on 2x4 rafters, and is covered with corrugated metal roofing. Feature 51's very good condition indicates it is of relatively recent construction, possibly dating after the historic period.



Figure 38. Feature 51 garage; shed addition on Feature 51 residence at right.

Feature 55 is a wood-frame chicken house standing at the southeast edge of the Feature 56 residence. It measures 6 x 12 feet and was constructed of 1x lumber of varying widths. The doorway is on the southwest facade, as was a band of windows (now gone) which ran the full length of the building on either side of the door (Figure 39). The shed roof was constructed with 1x6s.



Figure 39. Feature 55 chicken house in south one-third of 24BW210.

Feature 61 is a collection of lumber which was once a building. It appears to have been pushed to its current location from somewhere else. Among the debris is a cross-panel door, still attached to some boards. The piled lumber includes 1x10s and 9-inch logs.

### **Miscellaneous Features**

Feature 6 is a small earth dam across a shallow ravine near the north end of the site. It is about 62 feet long. There is no evidence of an outlet or overflow structure. It is impossible to determine if the dam is contemporaneous with other features at 24BW210.

Feature 41 is a pond located immediately east of the Features 39 adit at the south end of the site. It was created as a “dip site” by the U.S. Forest Service in 1988, when it was fighting fires in the Elkhorn Mountains. It is unrelated to operation of the Park Mines.

Feature 44 is a wooden structure reminiscent of a horse-loading platform. It is constructed of 4 inch planks ranging in width from 8 to 16 inches, 10x10 beams, 2x8s, and wire nails. There is metal cable in association. Feature function or age could not be determined.

About 250 feet north of the Feature 41 pond is the first of a small group of features which appears to date to the early 1900s. It includes an adit (Feature 43, described above), two rubblestone foundations (Features 45 and 48, the latter described above), a dugout (Feature 46), and a rock pile (Feature 47). No superstructures remain and, except for the adits at Features 43 and 48, feature functions are not obvious.

Feature 45 is a rectangular building foundation which measures about 12 x 30 feet. It is made of dry-laid rubblestone (Figure 40).



Figure 40. Feature 46 rubblestone wall/foundation at near south end of 24BW210.

Feature 46 is a collapsed dugout. Its edges are marked by a stone “foundation” about 16 feet square. A single saddle-notched log laying inside the feature may indicate the materials used in the building’s sidewalls. On the southeast side of the dugout is an opening about 3 feet wide, indicating the position of the doorway. Nearby artifacts include miscellaneous metal, soldered cans, a square metal can which measures 9 x 9 x 14 inches, one piece of undecorated whiteware, a canning jar lid, crockery fragments, and some purple glass. A date of occupation between 1900 and 1905 is indicated by bases to bottles manufactured by the Massillon Bottle & Glass Company between about 1900 and 1904 and William Franzen & Son between 1900 and 1929.

Feature 47 consists of a pile of stone, oblong in shape, and measuring about 4 x 15 feet. Its function, significance, or age is unknown. It is possible that the pile merely represents rock-clearing work.

## NATIONAL REGISTER ELIGIBILITY

A collection of architectural features at 24BW210, the Park Mines site, is eligible for listing in the National Register of Historic Places as an historic district. The district is significant under Criterion C as an example of the construction methods and materials typically used at small-scale mining operations in isolated areas of the Rocky Mountain West. The buildings and structures, both residential and industrial, have been built in the vernacular style using local materials (logs). The number of intact buildings and structures is relatively large considering the scale of operations at the Park Mines.

### Significance

#### Criterion A

The significance of the Park Mines under National Register Criterion A is not readily apparent because production figures specific to the constituent claims are not available. Schell (1963:21-22) lists production by year for all of the Indian Creek Mining District between 1908 and 1960, but the district includes several properties in the Hassel area, over 5 miles to the south, as well as the Iron Mask, a nearby, irregular producer. Other sources of information about the area, however, identify the Park Mines as of relatively little importance.

Certainly the Park Mines paled by comparison to Hassel area mines in the late nineteenth century. The first settlement of the Indian Creek area was at St. Louis, later renamed Hassel (McCormick and Quivik 1991:7). While the late 1890s were relatively active in the Park Mines area (see, for example, *Western Mining World* 1899), they were a time of high speculation and extensive mine development at Hassel. The townsite of Hassel was platted in 1895; the Diamond Hill mining property sold for \$875,000 in the following year; and in 1897, Diamond Hill Gold Mines employed 150 workers and miners to build a large camp and 120-stamp mill and develop the Diamond Hill Mine (McCormick and Quivik 1991:8-9). Granted that the mill operated only a short time and never at capacity, these developments clearly outrank the construction of a new hoisting plant at the New Era claim in 1896 and a 20-stamp, 100-ton mill with 50-ton cyanide plant in 1905 (McCormick and Quivik 1991:9; *Western Mining World* 1896; *Mining World* 1905; Walsh and Orum 1906:51).

A second period of active historic mining at the Park Mines, between 1931 and 1945, is also of little importance. Again, while information about mining and production in the district usually is not specific to a particular claim, one source noted that the Marietta and Little Annie mines yielded 5400 tons of ore from 1933 to 1945 (Reed 1951:48). The Marietta Mine manager reported in 1940 that the property “produced \$125,000 since 1934” (Work Projects Administration 1940:12). The Gold Dust and Park-New Era claims were also producers at that time (Schell 1963:21-22). Yet, the district as a whole had gross receipts greater than \$1.5 million between 1931 and 1945 (Ibid.). These figures indicate the small scale of Park Mines operation(s) and the relatively low yields.

In conclusion, mining at the Park Mines was minor and insignificant, both by comparison with that in the Hassel/Diamond Hill area at the south end of the Indian Creek Mining District and with mining statewide. Site 24BW210 is not associated with important events and cannot be considered significant under National Register Criterion A.

#### Criterion B

None of the individuals known to have been associated with the Park Mines were important persons. The two most noteworthy of people affiliated with the mines, Allen C. Mason and Albert Dance, made contributions that were neither particularly significant nor long-remembered. Mason was associated with the early 1900s mining boom at the Park Mines. He and others took a lease and option on several area mines in 1904 (Mining World 1904), developed the Park and New Era groups, and built the 100-ton concentrator (Mining and Scientific Press 1904). The Mason post office, active from 1905 to 1909 (Cheney 1984:178), was named after him (Mining World 1905a). Albert Dance acquired the Marietta Mine, including eight patented claims, in about 1933 and held it for about 25 years (Mining Journal 1934, 1938; U.S. Bureau of Mines 1952:550, 1957:654). It was during his ownership in the 1930s--the most active historic mining in the area post-dating the 1909 "bust"--that the mine was developed and worked by a force of 16 men.

Mason's contribution was short-lived and, ultimately, did not result in a long-term or very productive period of mining in the district. Dance's contribution, although made over a long period of time, was small-scale. The relative insignificance of the men's work make it impossible to find 24BW210 significant under National Register Criterion B.

#### Criterion C

The review of the Park Mines history presented earlier documents the lack of important engineering innovations, constructions, or developments at the Park Mines during the historic period. Therefore, 24BW210 is not significant under National Register Criterion C for its engineering attributes.

The significance of the Park Mines under Criterion C may derive from its collection of vernacular architecture, however. Typically, miners at remote locations in the Rocky Mountain West used locally-available materials, mostly logs, in both residential and industrial construction to minimize the need to haul milled lumber from neighboring communities. This was especially true for smaller operations where neither was it economical or feasible to set up a sawmill to rough-cut lumber. The vernacular style and local materials reflected the shortage of capital available to unproven producers.

Historic mining sites such as the Park Mines may be significant under National Register Criterion C as representative collections of residences and industrial features (mining, milling, or support) built in the vernacular style with locally-available materials. As a general rule of thumb, representative sites include several residences and/or industrial features that together demonstrate



a pattern of use of local materials, rather than isolated construction. The properties are associated with small-scale operations at unproven or undercapitalized mines.

#### Criterion D

Finally, historic mining sites may be significant under National Register Criterion D if they contain archaeological remains that can be tied to research questions that cannot be answered solely through historical research. Such questions may be about the design and character of mining camps, the effects of isolation on material culture, ethnicity, archaeological dating techniques (Deaver and Rossillon 1991:24-29), or mining and milling technology (Hardesty 1988:18-66, 109-116). A site's ability to answer questions depends on the number and quality of artifacts which remain on-site. In general, historic mining camps have archaeological significance if the size and historic arrangement of features can be determined and if temporally diagnostic artifacts, food remains, and/or status markers are present (Deaver and Rossillon 1991:52-54). Sites that might be significant for their remains of mining and milling technology must have equipment left in place or sufficient structural remains to determine the physical relationship of most or all steps of the mining or ore reduction processes.

The history of the Park Mines site suggests that, if it retains integrity (see below), the property may be significant under Criterion D for its ability to address questions about the design and character of mining camps, the effects of isolation, and archaeological dating techniques. The existence of two distinct periods of occupation--1890s to 1909 and early 1930s to early 1960s--suggests that changes in camp design and use over time might be reflected in archaeological remains. Discrete dumps that clearly date to a specific period might reflect the site's isolation, and be useful in characterizing material culture of that period. Conversely, 24BW210 likely cannot address questions about ethnicity because no ethnic groups are known to have occupied the site. Nor can it provide important information about mining or milling technology. All mining was underground and work areas are inaccessible, and the only historic mill on-site (1937-1938) was apparently standard for a time when hundreds of new mills were built and used at Montana mining camps.

#### Park-Indian Creek Mining District (24BW204)

The Park Mines site lies within the boundaries of the possible Park-Indian Creek Historic Mining District (24BW204). Recorded in 1994, the district covers 27 square miles of the Indian Creek drainage with the Park Mines near its north end, Hassel near its south end, and Townsend just one mile beyond its east edge. The eligibility of the district has not been established, although Johnson (1994) suggests that the property might qualify for National Register listing under Criterion A for its association with important mining events and developments, under Criterion C for important technologies in the extraction and processing of ore, and possibly under Criterion D (no explanation provided).

It is beyond the scope of this project to determine if the Park-Indian Creek Historic Mining District is actually National Register eligible. RTI notes, however, recent reports that do

not support the district's eligibility, at least as currently defined (in terms of aerial coverage). McCormick and Quivik (1991) have convincingly argued that there is not a historic district at Hassel/Diamond Hill, although several sites are independently eligible for listing in the National Register. Inventories of 300 acres or more by Ferguson and Munson (1995), Wood (1994), and Johnson (personal communication, 1995) in the south half of the possible historic mining district did not identify a concentration of historic mining resources that could be considered contributing elements to the district. Finally, a visual inspection along the Indian Creek Road north of Hassel reveals isolated pockets of mining activity and no clear sense of a district.

Previous discussions have revealed that 24BW210 is not significant under Criterion A and Criterion C for its engineering or technology characteristics--the two criteria that may qualify the Park-Indian Creek Historic Mining District for National Register listing. Therefore, the site cannot be considered significant as a contributing element to the district.

### Integrity

The integrity of 24BW210 is evaluated with respect to the site's possible significance under Criteria C (architecture) and D (archaeology). Because the site may be significant for its collection of log vernacular architecture, this section evaluates the integrity of log buildings and structures. It also evaluates the integrity of associated artifact deposits to determine if they might answer important archaeological questions.

A total of 28 historic features (excluding adit portals and loading platforms) were recorded at 24BW210. Table 2 identifies the condition and integrity of those features, whether standing or in ruins and whether log or wood-frame. With the exception of Features 15, 17, 20, 33, 42, 58, and 68, the buildings and structures at 24BW210 retain or have diminished integrity of design and materials. Integrity is diminished by loss of roofs or by the addition of wood-frame rooms. The dates of the additions could not be determined, but their condition suggests they may well date just prior to the end of the historic period. Although they detract from the original vernacular construction using local materials, they do not result in a *loss* of integrity. The additions may actually reflect a gradual move from the more labor-intensive construction to wood-frame construction, with its more expensive materials but less expensive labor.

Table 2. Condition and integrity of historic buildings and structures at 24BW210

| Feature Number | Feature Description | Estimated Date of Construction | Condition (Alterations, Deterioration) | Integrity of Design and Materials |
|----------------|---------------------|--------------------------------|--|-----------------------------------|
| 1              | residence           | 1900                           | good                                   | retains integrity                 |
| 3              | residence           | 1900                           | good                                   | retains integrity                 |
| 4              | outhouse            | 1935                           | good                                   | retains integrity                 |

Table 2. Condition and integrity of historic buildings and structures at 24BW210, continued

| Feature Number | Feature Description                     | Estimated Date of Construction | Condition (Alterations, Deterioration)         | Integrity of Design and Materials             |
|----------------|---|--------------------------------|--|---|
| 7              | blacksmith's shop                       | before 1930s                   | post-1930s wood-frame addition                 | integrity diminished by addition              |
| 8              | ore bin                                 | 1935?                          | good   | retains integrity                             |
| 15             | log building, poss. residence or office | 1935                           | roof collapsed; walls leaning                  | lacks integrity                               |
| 16             | outhouse                                | 1935                           | good   | retains integrity                             |
| 17             | log building, poss. residence or office | 1935                           | roof gone; one wall collapsed; others leaning  | lacks integrity                               |
| 19             | powder magazine                         | unknown                        | good   | retains integrity                             |
| 20             | possible hoist house                    | 1898                           | completely collapsed                           | lacks integrity                               |
| 23             | ore bin                                 | before 1930s                   | fair; assoc. platform in ruins                 | retains integrity                             |
| 24             | outhouse                                | 1935                           | roof gone                                      | integrity diminished by complete loss of roof |
| 25             | workshop                                | 1935                           | roof mostly gone                               | integrity diminished by partial loss of roof  |
| 26             | powder magazine                         | 1900                           | good   | retains integrity                             |
| 33             | collapsed building                      | 1935                           | ruins  | lacks integrity                               |
| 37             | ore bin at mill                         | unknown                        | good   | retains integrity                             |
| 42             | foundation                              | unknown                        | ruins  | lacks integrity                               |
| 50             | residence                               | 1935                           | good, but possibly moved                       | retains integrity                             |
| 53             | residence                               | 1935                           | good   | retains integrity                             |
| 54             | residence                               | 1896?+                         | has two wood-frame additions on primary facade | integrity diminished by additions             |

Table 2. Condition and integrity of historic buildings and structures at 24BW210, continued

| Feature Number | Feature Description | Estimated Date of Construction | Condition (Alterations, Deterioration)         | Integrity of Design and Materials           |
|----------------|---------------------|--------------------------------|--|---|
| 55             | chicken house       | 1940s                          | fair   | retains integrity                           |
| 56             | residence           | 1935+                          | has two wood-frame additions on primary facade | integrity diminished by additions           |
| 57             | outhouse            | 1935                           | good   | retains integrity                           |
| 58             | mill                | 1937                           | most siding and roof gone; ore bin intact      | lacks integrity                             |
| 62             | residence           | 1896?+                         | two wood-frame additions                       | integrity diminished integrity by additions |
| 64             | probable shop       | 1940?                          | fair   | retains integrity                           |
| 66             | blacksmith's shop   | 1935                           | good   | retains integrity                           |
| 68             | residence           | 1900                           | ruins  | lacks integrity                             |

The setting of individual features has been altered over time. During successive developments at the various mines that comprise the Park Mines site, road construction, waste rock dumping, and mine exploration have changed the overall site setting and view to and from individual buildings and structures. For example, the waste rock dumps at Features 23, 59, and 67 appear from their sizes and locations to remain from the late 1950s and early 1960s mine operation. Because of these and other alterations, 24BW210 does not retain integrity of setting.

Site 24BW210 lacks archaeological integrity. Very few historic artifacts were observed on-site. Exceptions were relatively small dumps in the vicinity of Features 22, 46, and 68. There are less than 300 artifacts at those three features, a number insufficient to answer questions about camp design, isolation, or the like. Also, almost no mining or milling equipment remains at 24BW210, and the continued re-use of space for mining and dumping waste rock makes it impossible to identify historic mining patterns from any one particular period.

### Eligibility

The Park Mines site is eligible for listing in the National Register of Historic Places under Criterion C as a historic district with an intact collection of vernacular architecture. The buildings and structures are a good-sized group of residential and industrial features associated with a small-scale mining camp. Of the 21 buildings and structures that contribute to the eligibility of the

site--Features 1, 3, 4, 7, 8 (ore bin only), 16, 19, 23, 24, 25, 26, 37 (ore bin only), 50, 53, 54, 55, 56, 57, 62, 64, and 66--all but three are of vernacular construction using local materials (logs). This phenomenon reflects both small-scale of the mining operations at 24BW210, and the uncertainty of supporting capital and continued mine development. Features 53, 55, and 64 are wood-frame buildings also considered important architectural remains that contribute to the district's eligibility. The Feature 53 residence, presumed to have been a manager's house, apparently demonstrates the power attached to a managerial position, reflected in superior building materials. Features 55 and 64, the chicken house and shop, had less lofty connections; the wood-frame construction seems to date to the 1940s, or a period of gradual change away from log architecture (see above).

Site 24BW210 is not National Register eligible under Criterion D because it lacks archaeological integrity. There is almost no mining or milling equipment on-site, the relationship of contemporary features is not clear due to periodic re-working of the same mine areas, and historic domestic trash is rare. Therefore, the site cannot answer questions about mining and milling technology or the arrangement and character of mining camps.

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**Appendix**

Site Form for 24BW210

**MONTANA CULTURAL RESOURCES INFORMATION FORM**  
**Form No. 1 Locational Information**

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**1.1 Smithsonian Number:**  
24BW210

**1.2 Field Designation:**  
Park Mines

**1.3 County:**  
Broadwater

---

**1.4 Township/Range/Section:** NW $\frac{1}{4}$  NW $\frac{1}{4}$  NW $\frac{1}{4}$ , SW $\frac{1}{4}$  SW $\frac{1}{4}$  NW $\frac{1}{4}$ , and NW $\frac{1}{4}$  NW $\frac{1}{4}$  SW $\frac{1}{4}$  of Section 14, and NE $\frac{1}{4}$  NE $\frac{1}{4}$ , E $\frac{1}{2}$  NW $\frac{1}{4}$  NE $\frac{1}{4}$ , E $\frac{1}{2}$  SW $\frac{1}{4}$  NE $\frac{1}{4}$ , SE $\frac{1}{4}$  NE $\frac{1}{4}$ , and NE $\frac{1}{4}$  NE $\frac{1}{4}$  SE $\frac{1}{4}$  of Section 15, Township 7 North, Range 1 West

---

**1.5 UTM Coordinates:**

|    | <b>Zone</b> | <b>Easting</b> | <b>Northing</b> |
|----|-------------|----------------|-----------------|
| A: | 12          | 446050         | 5134910         |
| B: | 12          | 445410         | 5134500         |
| C: | 12          | 445910         | 5134030         |

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**1.6 Property Type/Types:** historic mining

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**1.7 Recording status:**  surface examination  photo  mapped  tested  
**Comments and recommendations:**

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**1.8 Administrative/surface ownership:** Thomas W. and Mary A. Cotter

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**1.9 Mineral Ownership:** presumed same as surface

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**1.10 Project Name:**  
**Project Number:**

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**1.11 General Narrative Description of Property:** The Park Mines site is a group of 69 features, all but one of which is apparently associated with mining activities near the head of Indian Creek between the late 1890s and the early 1960s. The site covers about 64 acres and includes numerous adits, shafts, and waste rock dumps, a handful of buildings dating to the turn of the century, several others apparently dating to the 1930s, and a few others dating to the late 1950s. Many of the features cannot be assigned to a specific period because of the lack of associated artifacts or adjacent dated buildings or structures. The main periods of mining at the several claims which comprise the Park Mines are from the late 1890s to about 1908, during the 1930s beginning in 1933, and in the late 1950s. Mills built in 1937 and 1959 apparently operated only for a few years.

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**1.12 Map Reference (Attach 8-1/2 x 11 USGS Photocopy):** Giant Hill (1986, provisional)

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**1.13 Vicinity of:** Townsend (9 miles to the southeast)

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**1.14 Narrative of access:** From U.S. Highway 287 about 1 mile north of Townsend, turn west onto the Indian Creek Road. Continue about 8 miles up that road until the junction of Indian Creek and the West Fork of Indian Creek. Turn north and continue following the Indian Creek Road upstream for about 7 miles. The site is on either side of the road near the head of the creek.

**MONTANA CULTURAL RESOURCES INFORMATION SYSTEM FORM**  
**Form No. 2 Environmental Setting**

Site No. 24BW210

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**2.1 Geographic Setting:** The site is located along Indian Creek and its tributaries near the head of the creek. This is a park with lots of open grassland, although there are pockets of conifers, especially in steeper areas.

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**2.2 Elevation:** 6790 - 7450 feet

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**2.3 View/aspect (estimated direction and distance):** Most of the mining features are located on a southwest-facing slope. Most of the residential features face downhill or toward Indian Creek.

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**2.4 Major River Drainage:** Indian Creek

**2.5 Minor Drainage:** its unnamed tributaries

**2.6 Available water sources**

| <b>Names</b>   | <b>Distance</b> | <b>Elevation Change</b> | <b>Type</b>          |
|----------------|-----------------|-------------------------|----------------------|
| 1. Indian Cr.  | 0 feet          | 0 feet                  | permanent stream     |
| 2. tributaries | 0 feet          | 0 feet                  | intermittent streams |

---

**2.7 Vegetation - regional:** interspersed grassy park and conifer forest

**2.8 Vegetation - local:** same

**2.9 Sediments/Deposition:** shallow soil development

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**2.10 Surface Visibility/season of survey:** good, in the fall

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**2.11 Other environmental factors pertaining to site:**

**MONTANA CULTURAL RESOURCES INFORMATION SYSTEM FORM**  
**Form No. 3 Assessment, Recording and Management Documentation**

Site No. 24BW210

**3.1 Condition/Integrity:**

The integrity of 24BW210 is evaluated with respect to the site's possible significance under Criteria C (architecture) and D (archaeology). Because the site may be significant for its collection of log vernacular architecture, this section evaluates the integrity of log buildings and structures. It also evaluates the integrity of associated artifact deposits to determine if they might answer important archaeological questions.

A total of 28 historic features (excluding adit portals and loading platforms) were recorded at 24BW210. The table below identifies the condition and integrity of those features, whether standing or in ruins and whether log or wood-frame. With the exception of Features 15, 17, 20, 33, 42, 58, and 68, the buildings and structures at 24BW210 retain or have diminished integrity of design and materials. Integrity is diminished by loss of roofs or by the addition of wood-frame rooms. The dates of the additions could not be determined, but their condition suggests they may well date just prior to the end of the historic period. Although they detract from the original vernacular construction using local materials, they do not result in a *loss* of integrity. The additions may actually reflect a gradual move from the more labor-intensive construction to wood-frame construction, with its more expensive materials but less expensive labor.

Table 2. Condition and integrity of historic buildings and structures at 24BW210

| Feature Number | Feature Description                     | Estimated Date of Construction | Condition (Alterations, Deterioration)        | Integrity of Design and Materials             |
|----------------|---|--------------------------------|---|---|
| 1              | residence                               | 1900                           | good  | retains integrity                             |
| 3              | residence                               | 1900                           | good  | retains integrity                             |
| 4              | outhouse                                | 1935                           | good  | retains integrity                             |
| 7              | blacksmith's shop                       | before 1930s                   | post-1930s wood-frame addition                | integrity diminished by addition              |
| 8              | ore bin                                 | 1935?                          | good  | retains integrity                             |
| 15             | log building, poss. residence or office | 1935                           | roof collapsed; walls leaning                 | lacks integrity                               |
| 16             | outhouse                                | 1935                           | good  | retains integrity                             |
| 17             | log building, poss. residence or office | 1935                           | roof gone; one wall collapsed; others leaning | lacks integrity                               |
| 19             | powder magazine                         | unknown                        | good  | retains integrity                             |
| 20             | possible hoist house                    | 1898                           | completely collapsed                          | lacks integrity                               |
| 23             | ore bin                                 | before 1930s                   | fair; assoc. platform in ruins                | retains integrity                             |
| 24             | outhouse                                | 1935                           | roof gone                                     | integrity diminished by complete loss of roof |
| 25             | workshop                                | 1935                           | roof mostly gone                              | integrity diminished by partial loss of roof  |
| 26             | powder magazine                         | 1900                           | good  | retains integrity                             |
| 33             | collapsed building                      | 1935                           | ruins   | lacks integrity                               |
| 37             | ore bin at mill                         | unknown                        | good  | retains integrity                             |
| 42             | foundation                              | unknown                        | ruins   | lacks integrity                               |
| 50             | residence                               | 1935                           | good, but possibly moved                      | retains integrity                             |
| 53             | residence                               | 1935                           | good  | retains integrity                             |

**MONTANA CULTURAL RESOURCES INFORMATION SYSTEM FORM**  
**Form No. 3 Assessment, Recording and Management Documentation, continued**

Site No. 24BW210

| Feature Number | Feature Description | Estimated Date of Construction | Condition (Alterations, Deterioration)         | Integrity of Design and Materials           |
|----------------|---------------------|--------------------------------|--|---|
| 54             | residence           | 1896?+                         | has two wood-frame additions on primary facade | integrity diminished by additions           |
| 55             | chicken house       | 1940s                          | fair   | retains integrity                           |
| 56             | residence           | 1935+                          | has two wood-frame additions on primary facade | integrity diminished by additions           |
| 57             | outhouse            | 1935                           | good   | retains integrity                           |
| 58             | mill                | 1937                           | most siding and roof gone; ore bin intact      | lacks integrity                             |
| 62             | residence           | 1896?+                         | two wood-frame additions                       | integrity diminished integrity by additions |
| 64             | probable shop       | 1940?                          | fair   | retains integrity                           |
| 66             | blacksmith's shop   | 1935                           | good   | retains integrity                           |
| 68             | residence           | 1900                           | ruins  | lacks integrity                             |

The setting of individual features has been altered over time. During successive developments at the various mines that comprise the Park Mines site, road construction, waste rock dumping, and mine exploration have changed the overall site setting and view to and from individual buildings and structures. For example, the waste rock dumps at Features 23, 59, and 67 appear from their sizes and locations to remain from the late 1950s and early 1960s mine operation. Because of these and other alterations, 24BW210 does not retain integrity of setting.

Site 24BW210 lacks archaeological integrity. Very few historic artifacts were observed on-site. Exceptions were relatively small dumps in the vicinity of Features 22, 46, and 68. There are less than 300 artifacts at those three features, a number insufficient to answer questions about camp design, isolation, or the like. Also, almost no mining or milling equipment remains at 24BW210, and the continued re-use of space for mining and dumping waste rock makes it impossible to identify historic mining patterns from any one particular period.

**3.2 Evaluation: Does this property meet National Register criteria for eligibility**

**yes**     **no**

**Evaluation Procedures/Justification:**

The Park Mines site is eligible for listing in the National Register of Historic Places under Criterion C as a historic district with an intact collection of vernacular architecture. The buildings and structures are a good-sized group of residential and industrial features associated with a small-scale mining camp. Of the 21 buildings and structures that contribute to the eligibility of the site--Features 1, 3, 4, 7, 8 (ore bin only), 16, 19, 23, 24, 25, 26, 37 (ore bin only), 50, 53, 54, 55, 56, 57, 62, 64, and 66--all but three are of vernacular construction using local materials (logs). This phenomenon reflects both small-scale of the mining operations at 24BW210, and the uncertainty of supporting capital and continued mine development. Features 53, 55, and 64 are wood-frame buildings also considered important architectural remains that contribute to the district's eligibility. The Feature 53 residence, presumed to have been a manager's house, apparently demonstrates the power attached to a managerial position, reflected in superior building materials. Features 55 and 64, the chicken house and shop, had less lofty connections; the wood-frame construction seems to date to the 1940s, or a period of gradual change away from log architecture (see above).

Mining at the Park Mines was minor and insignificant, both by comparison with that in the Hassel/Diamond Hill area at the south end of the Indian Creek Mining District and with mining statewide. Site 24BW210 is not associated with important events and cannot be considered significant under National Register Criterion A.

None of the individuals known to have been associated with the Park Mines were important persons. The two most noteworthy of people affiliated with the mines, Allen C. Mason and Albert Dance, made contributions that were neither

**MONTANA CULTURAL RESOURCES INFORMATION SYSTEM FORM**  
**Form No. 3 Assessment, Recording and Management Documentation, continued**

**Site No. 24BW210**

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particularly significant nor long-remembered. The relative insignificance of the men's work make it impossible to find 24BW210 significant under National Register Criterion B.

Site 24BW210 is not National Register eligible under Criterion D because it lacks archaeological integrity. It cannot answer questions about mining and milling technology or the arrangement and character of mining camps.

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**3.3 Possible impacts to site:** Mine reclamation is planned at the site, but specifics of the reclamation are unknown.

**3.4 Recommendations:** No additional work is required.

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**3.5 Site located by:** Mitzi Rossillon and Sunday Walker

**Date:** August 28-29, 1995

**3.6 Site recorded by:** Mitzi Rossillon and Sunday Walker

**Date:** August 28-29 and September 14-15, 1995

**3.7 Site form update and revisions by:**

**Date:**

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**3.8 Federal or State Permit no.:** NA

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**3.9 Publication(s)/Report(s) where site is described:**

Rossillon, M., and D. Martin

1996 *Park Mines: A Cultural Resource Inventory and Evaluation*. Renewable Technologies, Inc., Butte. Submitted to Montana Department of Environmental Quality, Helena.

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**3.10 Artifact Repository:** no artifacts collected

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**3.11 Field notes/maps/photo repository:** Abandoned Mine Reclamation Bureau, Montana Department of Environmental Quality, Helena

**MONTANA CULTURAL RESOURCES SITE FORM**  
**Form No. 5: Description of Historic Sites**

Site No. 24BW210

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**5.1 Property boundaries and justification:**

  x   estimated        measured

The site boundary is irregularly-shaped, designed to encompass all mining and residential features thought to be associated with the Marietta Mine and its predecessors. As a general rule of thumb, RTI included those features which lie within about 200 feet of other recorded features. The area is riddled with mines and prospects, so RTI attempted to include only those which lie in close proximity to each other and which were separated from other features by unused "space." The inclusion of Features 1-4, 20, and 36 is problematic because these features lie about 500 feet from the next closest structures. They were included within the site boundaries because of their high visibility and location on one or more of the patented claims which came to be known as the Marietta Mine.

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**5.2 Physical description of buildings/structures/features:**

Feature 1: Refer to the architectural feature form.

Feature 2: This is the remains of a rectangular residence which measured about 26 x 48 feet. The superstructure is completely gone. Lumber remaining on the leveled terrace which marks the building's location may represent 2x6 floor joist. Attached near the center of the north wall was a root cellar which is also mostly collapsed. It had stone lower walls. The upper walls appear to have been log, although the logs observed may instead represent an interior wall. Associated artifacts include a toy wagon and a cast and sheet metal cook stove.

Feature 3: Refer to the architectural feature form.

Feature 4: Refer to the architectural feature form.

Feature 5: This is a collapsed adit, very large waste rock pile, and associated ore loading platform. The adit appears now as a trench approximately 100 feet in length with a maximum width of about 30 feet, and maximum depth of approximately 20 feet. The waste rock pile measures 150 feet in length and 60 feet wide. The rock varies in size from very finely crushed to medium-sized chunks. At the lower end of the waste rock pile are the remnants of a loading platform. The platform, constructed of logs and wire nails, is about 25 feet long.

Feature 6: Feature 6 is a dam across a shallow ravine. It is an earth structure about 62 feet long.

Feature 7: Refer to the architectural feature form.

Feature 8: Feature 8 is a collapsed adit, large waste rock pile, older loading platform, and newer ore bin. The adit is marked by a large trench which measures about 35 x 150 feet. The waste rock pile is very large, measuring ~ 80 x 170 feet. The rock ranges in size from finely crushed particles to large, unmovable rocks. Against the rock pile is what looks to have been an ore-loading platform. It measures 12 feet across. It is constructed out of boards and beams with wire nails. To the south of this ~ 40 feet is an ore bin built against the waste rock pile as well. It is constructed of logs with small branches for chinking; the logs are saddle-notched at the corners. A wooden ladder leads from the top to the bottom of the bin in the interior southeast corner. There is a single wooden chute on the west wall of the bin. The top of the ladder is even with a platform built at the east edge of the bin and over the waste rock pile. The platform is ~ 12 feet wide and extends out over the pile about 10 feet. It is constructed of beams overlaid with planks and secured with wire nails. On the west wall of the ore bin is a one chute measuring ~ 2 feet square. It was constructed using boards and wire nails.

The adit may be Tunnel No. 2 shown on the 1896 survey plat for the New Era and Crowbar lodes, and also shown on the 1904 plat for the Marietta lode.

Feature 9: This another large, linear-shaped waste rock pile. It measures approximately 75 feet in length and 32 feet wide at its widest point. The waste rock ranges in size from finely crushed particles to medium size rocks. Lying among the rock is some metal and lumber with wire nails. At the north end of this feature is a rectangular depression which measures about 12 x 15 feet (interior). The north end of the depression is dug into the hillside. This may mark a former building location, but there is no surface evidence of the superstructure. Three small fragments of cast iron were observed in the vicinity.

Feature 10: Feature 10 is a small, round waste rock pile measuring 16 x 20 feet. The waste rock ranges in size from small to medium. To the north of the pile is an adit, with the portal constructed of logs, boards, and wire nails. The logs are saddle-notched at the corners. The portal has a shed roof made of boards over logs and poles.

Feature 11: This is an amorphous waste rock pile measuring 44 feet in length and 26 feet in width. The rock ranges in size from finely crushed to medium-sized.

Feature 12: This is yet another waste rock pile ~ 30 feet in length by 68 feet in width. Rock ranges in size from finely crushed to large. Broken bottle glass and unidentifiable metal are in association with this waste pile.

**MONTANA CULTURAL RESOURCES SITE FORM**  
**Form No. 5: Description of Historic Sites, continued**

Site No. 24BW210

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Feature 13: Feature 13 is a very large waste rock pile measuring ~ 75 x 80 feet. This pile is also amorphously-shaped, with discarded lumber present in the pile. The rock ranges in size from very finely crushed material to large pieces of rock. The associated adit appears to have been filled in.

Feature 14: This is a collapsed adit, which now appears as a trench measuring ~12 feet in length and 10 feet in width. The portal appears to have been constructed of logs.

Feature 15: Refer to the architectural feature form.

Feature 16: Refer to the architectural feature form.

Feature 17: Refer to the architectural feature form.

Feature 18: This is a collapsed adit or shaft. The portal was constructed of beams and boards. It is so completely collapsed that it is impossible to assess its size.

Feature 19: Feature 19 is a powder magazine located in a waste rock pile. The walls are made of 3-inch poles. The roof is a very shallow pitch shed roof made of 2x8s and covered with corrugated metal. The door of the structure is about 3 feet high and is made of 1x boards of various widths. It closes on V-strap hinges, and has a metal latch and hook. The waste rock pile into which the powder magazine has been dug measures 22 x 40 feet. The rock ranges in size from finely crushed to medium chunks.

Feature 20: Refer to the architectural feature form.

Feature 21: This feature consists of a collapsed adit, boiler and boiler foundation, and associated waste rock pile. The large waste rock pile measures ~ 36 x 80 feet. The rock ranges in size from finely crushed to large. In association with pile are deteriorated boards with wire nails, a leather shoe sole, and miscellaneous metal. Also present is a large boiler (with no distinguishable marks). The boiler foundation or footing is a 6 x 12-foot rectangular structure made of rock and mortar. It has a metal pipe extending vertically out of rock rubble within the structure. The adit and boiler foundation are located in a cut bank, the floor of which measures roughly 12 x 24 feet. At the bottom of the hole is miscellaneous trash including Budweiser (pull tab) beer cans, rusted metal cans (food). The position of the boiler near the entrance to the adit and the proximity of Feature 23 (thought to be the remains of a tram) suggest that the boiler supplied steam to power a hoist which pulled ore cars from the adit and from an ore dump somewhere east of the feature.

Feature 22: This is a mine shaft with its entrance constructed of logs, boards, metal hinges, and wire nails. It is in association with a waste rock pile measuring 30 x 40 feet. Rock in the dump ranges in size from finely crushed to medium. Miscellaneous metal and white stoneware were found in association. Other artifacts observed both north and south of the adit, apparently once associated with a nearby residence, include at least 50 hole-in-top cans (all but one are completely soldered), a piece of porcelain with gilt on it, and the top to a stoneware jug. The 1889 survey plat for the Gold Dust claim shows a double house and barn in this vicinity. The domestic trash at Feature 22 may have been associated with occupation of that house.

Feature 23: This feature consists of a very large waste rock pile, an ore bin, and a platform. The waste rock pile measures ~80 x 132 feet. The rock ranges in size from very small crushed pieces to large rocks. On the southeast side of pile and built against it is the ore bin, which is constructed of saddle-notched logs with small branches for chinking. The southeast wall of the bin has two chutes constructed from boards and wire nails. They measure 3 feet square. Behind the ore bin and built out over the waste rock dump is an almost entirely deteriorated platform. It was constructed of logs overlaid by boards and secured with wire nails. There is mine rail on the platform. The platform appears to have been 12 feet wide; the length was indeterminable. In association with the bin and rock pile are decaying logs and boards, and heavy duty metal cable.

Feature 24: Refer to the architectural feature form.

Feature 25: Refer to the architectural feature form.

Feature 26: Feature 26 is a powder magazine measuring 5½ feet wide by 3 feet high. It has been constructed of logs and boards. The logs are saddle-notched at the corners. Logs ends are axed, not sawed. The roof has been constructed of boards with wire nails and corrugated metal. The vertical board door opens on two v-strap hinges.

Feature 27: This is a large, amorphous hole measuring ~30 x 50 feet. Associated within this feature is a small log wall sunken into the ground; the wall may mark an adit or shaft entrance. To the west of the amorphous hole is a small waste rock pile about 6 feet across, and consisting of finely-crushed to small rocks. To the south is another pile of finely-crushed to medium rock, which measures about 5 x 12 feet.

Feature 28: This is a collapsed adit, with its portal constructed of logs, boards, wire nails, and a few cut nails. The adit appears as a trench which measures 12 x 35 feet. There also appears to have been a small building just outside the portal. Its location is marked by a foundation of logs joined with wire nails. The wood-frame building appears to have been covered with board and batten frame, and measured 8½ feet long by 7½ feet wide.



**MONTANA CULTURAL RESOURCES SITE FORM**  
**Form No. 5: Description of Historic Sites, continued**

Site No. 24BW210

Feature 29: Feature 29 is a trench leading east from the Feature 21 adit and boiler foundation. Its form and placement is consistent with its being a tramway. The v-shaped trench is about 7 feet wide at the top. Rock is piled up on south side of the trench. Only about 100 feet of the trench remains intact; farther to the east, the line has been obliterated by road construction.

Feature 30: This is a waste rock pile measuring 26 feet in length and 8 feet in width. The rocks range in size from finely crushed to small. The waste rock dump is associated with a depression that is probably the remains of the shaft or adit. There is some miscellaneous metal lying on the ground surface at Feature 30.

Feature 31: This is a collapsed adit or shaft. It is constructed of beams, logs, boards, and wire nails. The exact measurements of the portal are unattainable because of the structure's deteriorated condition. The adit or shaft is associated with a waste rock pile ~ 30 feet long and 5 feet wide. The rock ranges in size from finely-crushed to medium-large. Also atop the rock pile is a badly deteriorating small platform 3 feet square. It is constructed of logs, boards, and wire nails. I believe it to be out of context, so the function is unknown.

Feature 32: This is an open adit approximately 80-90 ft in length and 20 feet wide. Metal pipe, deteriorating boards, logs, and mining rail are in association.

Feature 33: Refer to the architectural feature form.

Feature 34: This is a collapsed adit. The portal was constructed of large and small logs held together with wire nails. The trench which marks the collapsed adit is approximately 80 feet long and, at its widest point, about 30 feet across. Mine rail, piping, and other unidentifiable items are associated. Also there is a large waste rock pile west-southwest of the adit. It measures ~72 feet in length and 18 feet in width. The rock ranges in size from finely-crushed to large.

Feature 35: Refer to the architectural feature form.

Feature 36: This feature appears to be a collapsed building situated northwest of Feature 3. It is partially buried by a long pile of "fill" (covered with trees up to 4 inches in diameter). The building was about 18 feet long by at least 14 feet wide and had a pole roof (gable) covered with corrugated metal. It was semi-subterranean. The type of walls could not be determined.

Feature 37: This is the foundation of a mill which was built in 1959 (Schell 1963:21). It is here described as consisting of seven parts, including concrete foundations and slabs, a log ore bin and retaining wall, and a flattened area. The south end of the building, Section A, is a room foundation constructed of cinder block. The room measured 16 feet 3½ inches x 40 feet 9 inches. Most of the south and east walls have collapsed. The floor is a poured concrete floor, which has a trough formed in the interior northeast corner. The floor of Section A is 9½ feet lower than that of Section B immediately to the north. Section B is a poured concrete slab which measured 40 feet 9 inches x 35 feet. The poured concrete side walls on the east and west are 21 inches high. There is a drain near the north wall. There was likely a 12-foot wide door on the east side of this room because there is an opening of that width in the 21 inch-high wall. There is lumber on the floor of this section that may not necessarily be associated. The floor is 5½ feet lower than that of Section C immediately to the north. Section C was the crushing room, as indicated by large concrete footings on the poured concrete slab. It measures roughly 40 feet 9 inches x 29 feet, although the north wall is irregular. Large, chemical cans, possibly cyanide cans, were observed in this section. The room to the west, Section D, has a poured concrete slab. It measures about 25 x 29 feet. The east and north walls are poured concrete and about 3 feet high. Resting on this foundation is a mostly-collapsed, wood-frame building, made with 2x4 studs on 2-foot centers and sided with 1x4 horizontal siding. This room may have had a roof because there is a lot of tarpaper amongst the building debris. Section E is the ore bin which is made of 6 to 8-inch logs. The entire structure measures about 14 x 18 feet and is about 23 feet tall. The inside of the bin is divided into two compartments, one of which is lined with boards set diagonally and with sheets of asbestos at the lower end. The sides of two chutes at the base of the bin are made of 2x10s and the "floors" are of 3x lumber. One bin is lined with boards set diagonally and there are sheets of asbestos at the lower end. There is a grizzly at the top of the bin on the north side; it is made of mine rail welded into a grid. The south part of the bin is covered by a platform made of 2x12s; it apparently was not used during the most recent operations. Section F is a log crib wall extended north from the ore bin. There is a remnant of the ore rail track along the top of the log crib wall. A flattened area east of the log wall and north of Sections C and D suggests there was a shed in that area (Section G).

Feature 38: This is the remains of a building, possibly dumped at this spot. Dimensions are unobtainable. Lumber includes 1x10s, 2x6, 3x6s, and 10x12s, some connected with wire nails. Associated are miscellaneous metal sheeting and a rectangular metal can labeled "Calcium Carbonate for Miners' LA? sold by American Carbol? Sales Company, Duluth, MN." The 1949 survey plat for the Big Jack and other claims shows a shop in this area.

Feature 39: This is an adit portal constructed of 6-inch logs, 2x10s, 2x6s, 8x9s, and wire nails. The portal is about 5 feet wide. The portal is in good condition, suggesting use within the last 50 years.

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**Form No. 5: Description of Historic Sites, continued**

Site No. 24BW210

Feature 40: Running east from the Feature 39 adit for about 80 feet are mine rails for ore carts. The rail lays atop 3x6 wood ties. The rail runs on top of what seems to have been a type of platform, which extends with rails about another 12 feet east. The platform is constructed out of 4-inch logs, 2x12s, 2x6s, 4x6s, and 4x10s, and wire nails.

Feature 41: Feature 41 is a pond located immediately east of Features 39 and 40. It was created as a "dip site" by the U.S. Forest Service in 1988, when it was fighting fires in the Elkhorn Mountains. It is unrelated to operation of the Parks Mines.

Feature 42: Refer to the architectural feature form.

Feature 43: Feature 43 is a collapsed adit. The adit appears as a trench about 20 feet long. The portal is about 10 feet across, and constructed of stacked stone on the outer edges. Bracing in the portal, about 3½ feet wide, consists of logs 8 inches in diameter, connected with wire spikes. The backwalls are half-logs. The entrance faces south. A small waste rock dump lies downhill. It has small trees (2½-3 inches in diameter) growing on it.

Feature 44: Feature 44 is a wooden structure reminiscent of a horse-loading platform. It is constructed of 4 inch planks ranging in width from 8 to 16 inches, 10x10 beams, 2x8s, and wire nails. There is metal cable in association. Feature function could not be determined.

Feature 45: This is a rectangular building foundation which measures about 12 x 30 feet. It is made of dry-laid rubblestone, but is not well defined. There is no indication of the type of superstructure or feature function.

Feature 46: This is the remains of a dugout. The edges are marked by "a stone foundation" about 16 feet square. A single saddle-notched log laying inside the feature may indicate the materials used in the "superstructure." On the southeast side of the dugout is an opening about 3 feet wide, indicating the position of the doorway. Nearby artifacts include miscellaneous metal, soldered cans, a square metal can which measures 9 x 9 x 14 inches, one piece of undecorated whiteware, a canning jar lid, crockery fragments, and some purple glass. Bases to bottles manufactured by the Massillon Bottle & Glass Company between about 1900 and 1904 and William Franzen & Son between 1900 and 1929 indicate a date of occupation between 1900 and 1905.

Feature 47: This feature consists of a pile of stone, oblong in shape, and measuring about 4 x 15 feet. Its function and/or significance is unknown. It is possible that the pile merely represents rock-clearing work.

Feature 48: This is a group of two rubblestone foundations, a collapsed adit, and a depression, located on a bench above Indian Creek. Feature 48a is a dry-laid rubblestone foundation, rectangular in shape and measuring 6 x 20 feet. There is no evidence of the superstructure. Feature 48b is a collapsed adit portal, which was probably about 4 feet wide. The portal was constructed of 2x8s, 1x10s, 2x10s, 7-inch logs, and wire nails. It faces south, and appears to have opened into the building which stood on the Feature 48a foundation. Connected to Feature 48a on the east is another stone foundation, Feature 48c. Its dimensions are roughly 9 feet square. Associated with it is a wooden ladder constructed of 3 inch poles and wire nails. Feature 48d is an oval depression measuring 5 x 8 feet. It is located 20 feet east of Feature 48a. It may mark a caved shaft. Artifacts associated with Feature 48 include core samples, a clear wide-mouthed bottle fragment with machine-made finish, and a fragment of square Hostetter's Bitters bottle.

Feature 49: This is an open shaft situated at the north side of Indian Creek and about 250 feet northwest of the Feature 39 adit. It is covered by a sturdy wooden platform measuring 8 x 12 feet. The platform or cover was constructed with 2x4s, 2x10s, and wire nails.

Feature 50: Refer to the architectural feature form.

Feature 51: Refer to the architectural feature form.

Feature 52: Refer to the architectural feature form.

Feature 53: Refer to the architectural feature form.

Feature 54: Refer to the architectural feature form.

Feature 55: Refer to the architectural feature form.

Feature 56: Refer to the architectural feature form.

Feature 57: Refer to the architectural feature form.

Feature 58: Refer to the architectural feature form.

Feature 59: This is an adit, large waste rock pile, and associated structures. The adit portal is constructed of logs ranging from 7 to 12 inches in diameter. 2x8 boards fastened with wire nails were also used in the construction. The area caved-in behind adit portal probably extends about 50 feet. The waste rock pile measures about 54 x 80 feet, and the rock size ranges from large, unmovable stones to finely-crushed material. Running atop the pile is the remnants of mine rail. The rail lay on a platform of 7-inch logs and 2x6s, which extends about 10 feet beyond the end of the pile. Also part of this feature and over the north edge of the waste rock pile are the remains of a building. The wood-frame building may have once stood on the pile, but was eventually pushed off the side towards the creek. Its location suggests the building may have been some type of blacksmith or repair shop. The building was apparently constructed of boards ranging in size from 1x6 to 2x12. Artifacts observed at

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Feature 59 include miscellaneous metal, unidentifiable (labels) soldered cans, sections of rail, and pieces of heavy machinery. Also on top of the waste rock pile is an area of stockpiled logs, boards, and beams. The adit's location suggests that the feature could be Tunnel No. 4, as shown on the 1894 survey plat for the Park and New Era claims, and/or the tunnel shown on the 1896 plat for the New Era and Crowbar claims.

Feature 60: This is a shaft opening and waste rock pile. The shaft opening is a deep, steep-sided hole which is about 20 feet in diameter. The waste rock pile is located to the north-northeast and measures about 8 x 20 feet. It contains rock ranging in size from large to finely-crushed. The feature may be the original discovery shaft of the New Era claim, as shown on the 1896 survey plat for the new Era and Crowbar claims; or it might be the inclined shaft shown on the 1949 plat of the Big Jack and other claims.

Feature 61: This is a collection of lumber which was once a building. It appears to have been pushed down from somewhere else. Among the debris is a cross-panel door, still attached to other boards. Other lumber includes 1x10s and 9-inch logs.

Feature 62: Refer to the architectural feature form.

Feature 63: Refer to the architectural feature form.

Feature 64: Refer to the architectural feature form.

Feature 65: Feature 65 is a large concrete foundation measuring roughly 20 x 50 feet. It marks the location of the miners' dry. On the eastern end of foundation is a J-shaped concrete footing measuring 8 x 14 feet. Also on the east and beside the foundation to the south are what look like wooden platforms. They are constructed of 1x8s and wire nails. Artifacts in association are scattered wood, miscellaneous metal, inner tubes, and a tire puncture repair can.

Feature 66: Refer to the architectural feature form.

Feature 67: This is a collapsed adit which appears as a trench about 50 feet long. The portal is constructed of 2x6s, 2x8s, 2x10s, 7-inch logs, and wire nails. There is a seep exiting the adit.

Feature 68: Refer to the architectural feature form.

Feature 69: Feature 69 is an earth-fill dam located at the west edge of the site. The dam is about 500 feet long and 12 feet wide at its crest. To build the dam, workers took material from the pool area. There is an overflow outlet or breach on the north end of the structure. A 4-inch pipe lies between the pond and the mill; it apparently was the conduit which supplied water to the mill. In 1957, Sahinen (1957:1) recommended that the mine owners could operate a small mill on-site "if a dam is built to store the spring flood waters." The owners apparently took him at his word; the dam was probably built in 1959 when the mill was erected. Near the center of the crest of the dam is a piece of equipment that may have been a dragline. It was made from a truck differential and chassis and an ore car was used for a bucket.

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**5.3 Artifacts observed, collected:** refer to Item 5.2

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**5.4 Subsurface testing methods and results:** no testing conducted

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**5.5 Historic information and context:**

In the north part of the Indian Creek mining district, which is located about 6-11 miles west of Townsend, is a group of mines that has gone by different names through the decades. Called Park, New Era, Park-New Era, and Marietta, this group of mines and claims is on the either side of Indian Creek, 9 miles west-northwest of Townsend. Gold brought miners to the locality, where they also recovered silver, lead, copper, and zinc. The primary periods of activity were from the late 1800s to about 1908, and 1933 to the early 1960s.

Placer miners first came to Indian Creek in 1866. Hard rock mining began in the 1870s and was flourishing in the 1880s. The community of St. Louis (later called Hassel) developed at the confluence of the forks of Indian Creek. About 5 miles up the main (east) fork, several mines began operating in about the late 1880s. Accounts from the late 1890s mention independent operations at the Park, Switzerland, Little Annie, Gold Dust, and New Era, the last of which had a hoisting plant built in 1896. Exploration, ore production, and underground expansion continued, with some interruptions, at most of these properties past the turn of the century.

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A new operation in the first decade of the twentieth century brought increased hopes and activity and, after several years, failure. Allen C. Mason, of Helena and affiliated with the Big Indian Mining Co., leased the Park-New Era group of 14 claims and began development in 1904. He built a 100-ton concentrator and 50-ton cyanide plant to handle new production. A post office called Mason was established nearby. Within five years, however, the enterprise had failed; the processing machinery was not suited to the ores extracted. For over two decades, the only activity in the Park group was sparse and irregular.

A long period of mining, centered on the Marietta mine, started in the early 1930s. Al Dance of Townsend, owner of the Marietta or Park group of mines, resumed major extraction of ores in 1933. For most of the following three decades, the Marietta was one of two active mines (the other was the Iron Mask) in the northern part of the Indian Creek district. Of secondary importance in the 1930s, the Little Annie and Park-New Era were producers. The ores were smelted by the American Smelting and Refining Company in East Helena and the Anaconda Copper Mining Company in Anaconda and Butte. Through the long ownership of the Marietta by Al Dance (later with Harry Q. Anders), the mine was a frequent, if not constant, producer of ores. This continued into the late 1950s, when a new operator's actions seemed to promise increased activity. The Northern Milling Company took over the Marietta in 1958 and began development for expanded operations. This included construction of a 200-ton flotation mill. While reports on the Marietta in the business and trade press of around 1960 suggest expectations of major mining, within a few years mentions of the mine and mill disappear from print. The Marietta was not actively mined after the early 1960s, although in the 1980s Edgemont Resources Corporation conducted exploration.

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## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 1

**Summary:** This is a two-room, rectangular, log residence constructed near the turn of the century. It is standing in relatively good condition. Most recently, the building has been used as an animal shelter.

### Description of Exterior:

**Dimensions:** L: 23 feet 6 inches, W: 17 feet 6 inches, H: one story.

**Building Orientation:** south-southwest

**Foundation:** not visible; north and end walls below ground surface 4-5 inches

**Wall Construction, Finish, Color:** Logs assembled using wire nails. Log ends are lap notched and hewn on the inside only. Walls are chinked with mortar.

**Chimneys:** small, crudely-made metal stovepipe

**Openings:**

**Doors and Doorways:** One doorway faces south-southwest, approximately in the center.

**Windows:** One window opening faces west-northwest about in the center. It has an old bed spring nailed to the window exterior. Another faces east-southeast in the center. A third window opening is on the south-southwest left of center.

**Roof Shape, Covering:** gable roof is boards on 2x4 rafters, once covered with tarpaper. Gable ends are board and batten, covered with tarpaper.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** floor boards very decayed; some possibly salvaged for wood

**Ceiling:**

**Condition:** walls in fairly good condition, but mortar falling out. Roof missing some planks. No door.

**Associated Artifacts:** chicken wire, remnants of metal cans (to rusty to identify), toy gun, modern clear glass, and a few sanitary cans

**Other Remarks, Description:** Interior partition, of 2x4s and 1x12s, divides room into east and west halves. Wall logs are larger than those at features farther downhill.

# ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 3

**Summary:** This is a one-room, hewn log residence constructed near the turn of the century.

## Description of Exterior:

**Dimensions:** L: 17 feet, W: 13 feet, H: one story

**Building Orientation:** south-southwest

**Foundation:** none

**Wall Construction, Finish, Color:** Hewn logs are joined at the building corners with dovetail notching. Log ends are secured by wire spikes. The walls are chinked with small boards and mortar on the outside and wood wedges on the inside.

**Chimneys:** metal stove pipe on west side of roof

**Openings:**

**Doors and Doorways:** One doorway faces south-southwest at the center. The door is a cross-panel in poor shape.

**Windows:** One, facing west-northwest, is 2/2 double hung. One, facing north-northeast, is a two-pane fixed. One, facing east-southeast, is 2/2 double hung.

**Roof Shape, Covering:** gable roof; made of log purlins supporting boards secured with wire nails, and once covered with tarpaper

**Other Features (such as Porches):**

## Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** probably board

**Ceiling:**

**Condition:** The roof and walls are still intact. Chinking is deteriorating and falling out. Some boards are missing from the roof. No window glass remains.

**Associated Artifacts:** wood burning stove, clear glass (container and pane), other unidentifiable metal, metal mattress springs (one twin, one double)

**Other Remarks, Description:** There are board shelves and shelf brackets at several places along the inside walls.

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 4

**Summary:** This is a log two-hole outhouse. It stands in good condition. It was built in the 1930s or later.

### Description of Exterior:

**Dimensions:** L: 5 feet, W: 4 feet 6 inches, H: one story

**Building Orientation:** south-southwest

**Foundation:** stone and lumber

**Wall Construction, Finish, Color:** The walls are made of small logs and assembled with wire nails. Logs abut vertical pole corners.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** one door, assembled out of boards and wire nails, right of center. opens on canvas hinges.

**Windows:** none

**Roof Shape, Covering:** shed roof with corrugated metal roofing

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** boards

**Ceiling:**

**Condition:** only slight deterioration of walls and roof, but building is leaning to the north

**Associated Artifacts:**

**Other Remarks, Description:**



## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 7

**Summary:** This small, log building was used as a blacksmith's shop. A wood-frame shed addition is attached to one side. It probably was built before the 1930s.

### Description of Exterior:

**Dimensions:** L: 19 feet, W: 12 feet, H: one story.

**Building Orientation:** west-southwest

**Foundation:** indeterminate

**Wall Construction, Finish, Color:** Logs are steeple notched at the building corners, and chinked with small branches and mortar. The walls were covered with corrugated metal (although some has since fallen off).

**Chimneys:** stove pipe located left of center on gable roof

**Openings:**

**Doors and Doorways:** One doorway, facing west-southwest, left of center. Door is constructed of boards and opens on metal hinges.

**Windows:** One window opening in the south-southeast wall is approximately 5 feet in width

**Roof Shape, Covering:** gable roof constructed of corrugated metal roofing on log purlins

**Other Features (such as Porches):** Included in length of building is a wood-frame addition. The main, log building is ~15 feet in length and the addition is ~4 feet in length and 4 feet wide. It has horizontal board siding, a shed roof covered with boards, and a vertical board door which opens on v-strap hinges. It was constructed with wire nails.

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** appears to have been dirt

**Ceiling:**

**Condition:** Most of the roof has collapsed, but the walls are still standing.

**Associated Artifacts:** corrugated metal sheeting, miscellaneous metal, metal bolts, wire, pane glass, metal pipe

**Other Remarks, Description:** There is a forge in one corner. It is constructed of logs with metal sheeting nailed by wire nails to wall (to avoid fire damage). There is also a square hole cut into the wall between the main building and the addition. It is reminiscent of a chute.

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 15

**Summary:** This is a rectangular log building of unknown function. It stands in poor condition. It was built in the 1930s.

### Description of Exterior:

**Dimensions:** L: 12 feet 6 inches, W: 16 feet, H: one story

**Building Orientation:** south-southeast

**Foundation:** log

**Wall Construction, Finish, Color:** Wall logs meet at box corners (2x6 boards) and are secured with wire nails.

**Chimneys:** stove pipe hole on north side of roof near northwest corner

**Openings:**

**Doors and Doorways:** One doorway, facing south-southeast, is right of center.

**Windows:** One window opening is ~5 ft. in width and faces south-southeast. It is left of center.

**Roof Shape, Covering:** The gable roof had a log ridge pole and purlins, and was covered with corrugated metal roofing.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** paneled with planks at northeast corner

**Flooring:** indeterminable

**Ceiling:** pole ceiling (poles running width of building).

**Condition:** Wall damage is critical; most logs have fallen in. The roof has collapsed. The door and window glass are gone.

**Associated Artifacts:** metal barrel or large can

**Other Remarks, Description:** The building was placed in a dug-out area, so that the back of Feature 15 is below grade.

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 16

**Summary:** This was probably an outhouse. It is of log construction with box corners and, as such, is presumed to be contemporary with Features 15 and 17 (built in the 1930s).

### Description of Exterior:

**Dimensions:** L: 4 feet, W: 5 feet, H: one story

**Building Orientation:** south-southeast

**Foundation:** stone and log

**Wall Construction, Finish, Color:** Wall logs meet at box corners (2x6s). Logs are chinked with branches.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** One doorway faces south-southeast.

**Windows:** none

**Roof Shape, Covering:** shed roof made of 2x4 purlins, covered with corrugated metal roofing and nailed with wire nails

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** boards

**Ceiling:**

**Condition:** slight damage to walls and roof; building tilting; door missing

**Associated Artifacts:** metal wire spools and bottle glass

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 17

**Summary:** This is a square building of unknown function in bad condition. This building and Feature 15 could have possibly been offices or administration buildings. Feature 17 was built in the 1930s.

### Description of Exterior:

**Dimensions:** L: 15 feet, W: 16 feet, H: one story

**Building Orientation:** south-southwest

**Foundation:** log

**Wall Construction, Finish, Color:** Wall logs meet in box corners (2x6s), and are secured with wire nails. The logs are chinked with mortar and small branches (latter on interior).

**Chimneys:** unknown; roof completely collapsed

**Openings:**

**Doors and Doorways:** One doorway, facing south-southwest, is right of center. The other, facing northeast, is far left of center. The latter has a door constructed of vertical boards with wire nails.

**Windows:** One window opening is 3 feet square. It is far right of center on northeast wall.

**Roof Shape, Covering:** gable roof had a small log ridge pole and was covered with corrugated metal roofing

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:**

**Ceiling:**

**Condition:** One wall is totally collapsed. The remaining three are off-balance and partially collapsed. The roof has totally collapsed.

**Associated Artifacts:** metal can, metal wire spool, miscellaneous metal, scattered boards and logs, window glass

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 20

**Summary:** Feature 20 is the collapsed ruins of an industrial building, possible a hoist plant. The square building was made of logs, and is situated near the edge of a large depression, which may be a caved shaft.

### Description of Exterior:

**Dimensions:** L: about 40 feet, W: about 40 feet, H: unknown

**Building Orientation:** south-southwest

**Foundation:** appears to have been stone

**Wall Construction, Finish, Color:** Large log walls abutted to 8x8s in corners, fastened with wire spikes and occasionally rods with large nuts.

**Chimneys:**

**Openings:**

**Doors and Doorways:** The doorway on the south-southwest right of center probably held double doors. One remaining door was an half-light door made of tongue and groove 1x6s. It opened on V-strap hinges. A person doorway left of center on the south-southwest wall has no door.

**Windows:** unknown

**Roof Shape, Covering:** gable roof with 8x8 beams serving as the ridge pole and rafters at either end. Other rafters are 2x6s. The board roofing is held in-place mostly by wire nails, although there are a few cut nails present. The board roof is covered with corrugated metal roofing. The gable ends are board and batten, and nailed with wire nails.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:**

**Ceiling:**

**Condition:** The building is completely collapsed; all measurements and construction methods and materials are estimated.

**Associated Artifacts:** two 4 foot-diameter barrel hoops. There is a can dump in a small depression feet to southeast. It has about 40 cans, all sanitary or evaporated milk. The cans are fairly large food cans. In addition there are about 5 pieces of clear bottle glass and one cow bone. Another 20 cans are scattered downhill of the small depression. These artifacts almost certainly post-date mill use.

**Other Remarks, Description:** There is a waste rock or tailings pile to the south. There is a buried 1-1½ inch pipe leading south from the building toward a pit (large depression) about 20 feet south of mill.

Feature 20 may be the remains of a steam hoisting plant. Western Mining World reported that owners of the Little Annie Mine were planning to build such a plant. Assuming that the Little Annie was located on the Anna claim, Feature 20 stands in the correct location for such a plant, being located near the line between the Queen of the Park and Anna claims. The heavy timbers and logs used in construction and the feature's proximity to a possible shaft are consistent with its function as a hoist. However, none of the consulted sources documented actual construction of the plant.

## ARCHITECTURAL FEATURE FORM

**Site No.** 24BW210  
**Site Name** Park Mines  
**Feature No.** 24

**Summary:** Feature 24 is a rectangular, log, one-hole outhouse. It stands in poor condition because the roof is gone. Feature 24 was built in the 1930s.

### Description of Exterior:

**Dimensions:** L: 4 feet 6 inches, W: 3 feet 6 inches, H: one story

**Building Orientation:** west-southwest

**Foundation:** stone and log

**Wall Construction, Finish, Color:** Wall logs meet at box corners and are nailed to corner boards with wire nails.

Logs are chinked with small branches.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** One doorway, facing west-southwest, fills the entire front of the outhouse. The door is no longer attached, but appears to have been constructed of boards and wire nails.

**Windows:** none

**Roof Shape, Covering:** gone

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** boards

**Ceiling:**

**Condition:** The walls have suffered only slight damage, but the roof is gone and the door has fallen off. The building is off-balance.

**Associated Artifacts:** corrugated metal

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 25

**Summary:** This is a rectangular-shaped building that was possibly some type of workshop. It is in fair condition; most of the roof is missing. Feature 25 was constructed in the 1930s.

### Description of Exterior:

**Dimensions:** L: 12 feet 6 inches, W: 16 feet, H: one story

**Building Orientation:** south-southwest

**Foundation:** stone and log

**Wall Construction, Finish, Color:** Wall logs meet at 4x4 posts in corners. They are chinked with small branches, small boards, and mortar.

**Chimneys:** unknown; roofing almost completely gone

#### Openings:

**Doors and Doorways:** One doorway, facing south-southwest, is right of center.

**Windows:** One window, facing south-southwest and ~5 ft. wide, is left of center. Another, facing east-southeast and about 2 feet square, is right of center. The latter was 4-pane fixed window at one time.

**Roof Shape, Covering:** shed roof, made of log purlins covered with corrugated metal. Roofing secured with wire nails and wire.

**Other Features (such as Porches):** The outside stairs leading to door were constructed of boards and wire nails

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** There are two interior work shelves, one on the south-southwest wall 6-7 feet long and one on the east-southeast wall 4-5 feet long.

**Flooring:**

**Ceiling:**

**Condition:** Most of the roof is gone. All four walls are standing, but are off-balance.

**Associated Artifacts:** miscellaneous metal, metal wire, metal drum, plastic, metal pipe, bolts, boards, planks, window glass, cloth

**Other Remarks, Description:** small hole cut out of north wall is about 6 x 18 inches

## ARCHITECTURAL FEATURE FORM

**Site No.** 24BW210  
**Site Name** Park Mines  
**Feature No.** 33

**Summary:** Feature 33 is a square, collapsed building of unknown function. It was built in the 1930s.

### Description of Exterior:

**Dimensions:** L: 14 feet, W: 12 feet, H: one story

**Building Orientation:** possibly west, because there is a steep slope to the east, a decline to the south, and a berm to the north

**Foundation:** appears to have been timber

**Wall Construction, Finish, Color:** The walls appear to have been log and chinked with mortar. Logs met at box corners.

**Chimneys:**

**Openings:** none apparent in collapsed remains

**Doors and Doorways:**

**Windows:**

**Roof Shape, Covering:** unknown

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:**

**Ceiling:**

**Condition:** The building has completely collapsed.

**Associated Artifacts:** metal can (food?), and unidentified metal

**Other Remarks, Description:**



## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 35

**Summary:** This is a large, rectangular building which was used for storage. It was built in about 1959.

### Description of Exterior:

**Dimensions:** L: 24 feet, W: 20 feet 6 inches, H: one story.

**Building Orientation:** northwest

**Foundation:** wood at west corner only; rest of building rests directly on waste rock; log sills

**Wall Construction, Finish, Color:** The walls are constructed of 1x6s laid horizontally and held together with wire nails and large bolts. The wood-framing is 2 x 4 studs on 2-foot centers. Covering the boards on the outside is tarpaper.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** One large door ~8 feet across faces the northwest and is left of center. Another door ~4 feet wide faces south-southwest and is also left of center.

**Windows:** One 3-foot square window faces north-northeast and is right of center. It has been boarded up. One window ~5½ feet wide faces south-southwest and is far right of center.

**Roof Shape, Covering:** gable roof is made of 2 x 4 rafters, covered with 1 x 6 boards. The roof was once covered with tarpaper.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** ladder on southeast wall made by nailing 1 x 4 cross-pieces between two studs

**Flooring:** dirt floor

**Ceiling:**

**Condition:** Most of the roof and the northeast and west-northwest walls have collapsed. The other walls, though not collapsed, are off-balance. The south-southwest wall is being stabilized by logs propped up against it. There is no glass in the windows and all doors are missing.

**Associated Artifacts:** large metal barrel, mattress spring, metal cable, window glass, Havoline oil can, unidentified metal, rubber machinery belts

**Other Remarks, Description:** There is a pile of 1x8 shiplap boards south of the building.

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 42

**Summary:** This appears to be what is left of a building foundation and partial log wall. It appears to date before the 1930s.

### Description of Exterior:

**Dimensions:** L: ~12 ft., W: unknown, H: unknown

**Building Orientation:** unknown

**Foundation:** cement, mortar, and stone.

**Wall Construction, Finish, Color:** The walls are constructed of 9 inch diameter logs with axed ends. The logs are saddle notched at the corners. Only the south wall and southeast corner remain intact; a road has been built over the top of the rest of the building. Rock and mortar chinking is used between the logs.

**Chimneys:**

**Openings:**

**Doors and Doorways:**

**Windows:**

**Roof Shape, Covering:**

**Other Features (such as Porches):** The building was built into the side of a hill.

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:**

**Ceiling:**

**Condition:** The building has collapsed and is in total ruin.

**Associated Artifacts:** none visible

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 50

**Summary:** Feature 50 is a log residence, rectangular in shape and standing in good condition. It was built in the 1930s.

### Description of Exterior:

**Dimensions:** L: 30 ft., W: 21 ft. (including the addition on the northeast), H: one story

**Building Orientation:** northwest

**Foundation:** The foundation mostly consists of cinder block footings reinforced on the sides by boards. On part of the northeast side, there is a poured concrete foundation.

**Wall Construction, Finish, Color:** The 6-inch wall logs meet at box corners. They are chinked with small wooden boards ( $\frac{1}{4}$  x 2 inch) and mortar.

**Chimneys:** stove pipe in far west corner

#### Openings:

**Doors and Doorways:** One half-light, three panel door is left of center on the northwest wall of the main building. The window on door is boarded over with plywood.

**Windows:** There are five windows. One window opening is on the northwest side of the addition, as the center of the wall. It is about 2  $\frac{1}{2}$  feet square and is boarded over with 1x6s. One window faces southwest and is left of center. It measures about 3 x 6 feet and contains 12 panes of glass. There is a second window opening on the southwest wall. It is right of center, and about 3 feet square. A 3-foot square window opening is at the center of the southeast wall. The last window faces northeast and is right of center. It measures 2 $\frac{1}{2}$  feet square and is boarded over with 1x6s.

**Roof Shape, Covering:** The roof over the main part of the building is a gable roof constructed with log purlins, covered by boards and then tarpaper. The addition has a shed roof, having the same pitch as the main roof.

#### Other Features (such as Porches):

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** plywood paneling

**Flooring:** unable to enter building to see floor.

**Ceiling:**

**Condition:** The building is in good condition. The walls are standing and relatively stable. Most of the window glass is gone. The tarpaper on part of the roof has blown off.

**Associated Artifacts:** Behind the building is a dump with soldered cans, miscellaneous metal, waste rock, boards, bottle glass (clear), mattress spring, blue glass, discarded appliances (stove), and metal pipe.

**Other Remarks, Description:** The cinder block footings may indicate that the building was moved from another location.

## ARCHITECTURAL FEATURE FORM

**Site No.** 24BW210  
**Site Name** Park Mines  
**Feature No.** 51

**Summary:** This is a wood-frame, rectangular garage standing in good condition. It probably post-dates the historic period.

### Description of Exterior:

**Dimensions:** L: 16 feet, W: 14 feet, H: one story

**Building Orientation:** northwest

**Foundation:** rubblestone

**Wall Construction, Finish, Color:** The wood-frame building is sided with 1x boards of varying widths, set vertically. Wire nails were used throughout.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** One set of garage doors is on the northwest wall left center. The double doors are made of 1x12s with battens. They have t-strap and v-strap hinges and a sliding bar latch. Another door right of center on the northwest wall is a person door. It is constructed out of 1x8s and has a padlock hasp and t-strap hinges.

**Windows:** none

**Roof Shape, Covering:** The shed roof is made of 1x8s on 2x4 rafters. It is covered with corrugated metal roofing.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** dirt

**Ceiling:**

**Condition:** The building is still standing with the roof intact.

### Associated Artifacts:

**Other Remarks, Description:** a large woodpile to the north of the building

## ARCHITECTURAL FEATURE FORM

**Site No.** 24BW210  
**Site Name** Park Mines  
**Feature No.** 52

**Summary:** This is a two-hole outhouse which apparently post-dates the historic period..

### **Description of Exterior:**

**Dimensions:** L: 4 feet, W: 6 feet, H: one story

**Building Orientation:** northwest

**Foundation:** Stone

**Wall Construction, Finish, Color:** This is a wood-frame building, with Celotex exterior walls.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** The only door is left of center on the northwest wall. It is about 2 feet wide. It is constructed of 1x10s overlaid with Celotex.

**Windows:**

**Roof Shape, Covering:** The shed roof is 1x10s on 2x4 rafters.

**Other Features (such as Porches):** There is a small wooden stoop in front of door measuring ~2 x 6 feet. It was made of 1x6s.

### **Description of Interior:**

**Interior Walls or Partitions--Construction, Covering:** cardboard apparently used for insulation

**Flooring:** 1x6s and wire nails

**Ceiling:**

**Condition:** The building is standing and stable.

**Associated Artifacts:** clear bottle glass, Hill Bros. coffee can, brick

**Other Remarks, Description:** One of the holes has a toilet seat and lid.

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 53

**Summary:** Feature 53 is a square, wood-frame residence standing in very good condition. It is apparently still used on a seasonal basis. It was built during the 1930s or possibly earlier.

### Description of Exterior:

**Dimensions:** L: 24 feet 6 inches, W: 24 feet 6 inches, H: one story

**Building Orientation:** southeast

**Foundation:** stone

**Wall Construction, Finish, Color:** wood-frame construction with 1x6 lap siding and corner boards; wire nails. Painted yellow and tan.

**Chimneys:** two stove pipes

**Openings:**

**Doors and Doorways:** One door faces southwest, is 2 feet 6 inches wide to the left of center, and has one glass pane in the door. Another doorway faces southwest and is right of center. This door has a "screen door" with 6 panes of glass and is 2 feet 6 inches wide.

**Windows:** There are two windows in the southwest wall, one left of center and one far right of center. Both are 3/1 double hung units. On the northwest side, there is a single window at the center which measures 2½ x 5 feet. It is a 6x6 sliding window. There are two windows in the northeast wall, one right of center and one left of center. Both measure 2½ feet square, and are fixed six pane units. On the southeast wall, there are two windows. A 6x6 sliding window is left of center and a 6 pane fixed right of center.

**Roof Shape, Covering:** The gable roof is made of boards overlaid by rolled asphalt roofing. The tails of the 2x4 rafters are exposed.

**Other Features (such as Porches):** There is an open, hip-roofed porch on the front (southeast) that measures 7 x 24 ½ feet. It has five plain 4x4 posts along the front. There is a set of open, wooden stairs which lead to the front porch from the south.

### Description of Interior: inaccessible

**Interior Walls or Partitions--Construction, Covering:** The interior walls are covered with wood paneling and divide the house into five rooms.

**Flooring:** tile and wood

**Ceiling:** appears to be paneling

**Condition:** This building is in very good condition. All the glass is present in the windows.

### Associated Artifacts:

**Other Remarks, Description:** The building is currently being used as a seasonal residence. Inside the house are items such as a stove, coffee maker, dish drying rack, milk oil, coffee can, etc.

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 54

**Summary:** Feature 54 is a log and wood-frame building, consisting of several additions. It was probably used as a residence. It stands in good condition. The 1896 survey plat for the New Era and Crowbar lodes shows a cabin at about this location. This suggests that the original room may date before the turn of the century. The two log addition probably date to the 1930s, and two frame additions in the 1940s or later.

### Description of Exterior:

**Dimensions:** A: original building: L: about 18 feet, W: about 16 feet, H: one story  
B: log addition on northwest: L: about 12 feet, W: 12 feet, H: one story  
C: log addition on northeast: L: 8 feet, W: 8 feet, H: one story  
D: shed addition on southeast: L: 8 feet, W: 5 feet, H: one story  
E: shed addition on south: L: 11 feet, W: 10 feet, H: one story

**Building Orientation:** southeast

**Foundation:** large stone

**Wall Construction, Finish, Color:** Section A is a log building, whose 7-inch logs are saddle-notched in the corners. The logs are chinked with mortar. Sections B and C also have log walls, but the logs meet in box corners. Sections D and E are wood-frame. The walls of the former are boards, fastened with wire nails and overlaid with tarpaper. Section E is sided with 1x10s laid horizontally. It was once covered with tarpaper.

**Chimneys:** two stove pipes in Section A, one on either side of roof

#### Openings:

**Doors and Doorways:** Section D has a 3-foot wide doorway in the southeast wall at the center. The door is missing. Section E has a 2½-foot wide door in center of its southwest wall. It is constructed of 1x12s and opens on v-strap hinges.

**Windows:** Section C has one window that faces northeast, is left of center, measures 3 x 3 feet. It is overlaid with mesh wire. Section D has a window opening that faces northwest, is right of center, measures 2 x 3 feet. It also has a window opening in the center of the southeast wall that measures 2½ x 6 feet. It is divided into two parts, but no glass remains. Section A has a window right of center in the southwest wall. It measures 3 x 6 feet, and is divided into two parts that have no glass. A second window opening is in the southeast wall, left of center. It measures 2½ x 3 feet, and has no glass. Section B has a window opening left of center in the southwest wall, which measures 2½ x 5 feet. Finally, that section also has a window opening in the center of the northwest wall. It measures 2½ x 3 feet, and is boarded over with plywood.

**Roof Shape, Covering:** Sections C, D, and E each have a shed roof, made of boards and once covered with tarpaper. Sections A and B have gable roofs, also made of boards, wire nail, and tarpaper.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** Plywood partitions divide Sections A and B into three rooms.

**Flooring:** wood

**Ceiling:**

**Condition:** The building is still standing in relatively good condition. The interior is badly deteriorated. The floor is rotting, the ceiling is swaying, and the plywood is delaminating.

**Associated Artifacts:** leather boot, old chair, miscellaneous metal, soldered cans, metal drum with spout, fruit juice drink cans

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 55

**Summary:** Feature 55 is apparently a chicken coup situated immediately south of Feature 56. It is a small, rectangular, wood-frame building that is deteriorating.

### Description of Exterior:

**Dimensions:** L: 6 feet, W: 12 feet, H: one story

**Building Orientation:** southwest

**Foundation:** stone and mortar

**Wall Construction, Finish, Color:** The (exterior) walls of the wood-frame building are constructed of boards of varying sizes, laid horizontally. Most boards are 1x6s, although there are some wider. They are fastened with wire nails.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** There is one doorway that faces southwest, left of center, and is 2½ feet wide.

**Windows:** There are window openings on either side of the doorway in the southwest wall which, together with the doorway, run the length of the building. The opening is about 3 feet high.

**Roof Shape, Covering:** The shed roof is constructed of 1x6s and wire nails.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** none

**Flooring:** dirt

**Ceiling:** none

**Condition:** Some of the wall boards are missing, as well as some roof boards.

**Associated Artifacts:** mesh screen, miscellaneous metal, insulated cable, bed spring, antifreeze can

**Other Remarks, Description:**



## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 56

**Summary:** Feature 56 is a rectangular, log and wood-frame residence. It was built in three stages. The first room was constructed in the 1930s, and the other two perhaps in the 1940s.

### Description of Exterior:

**Dimensions:** L: 31 feet, W: 16 feet 6 inches, H: one story

**Building Orientation:** southeast

**Foundation:** stone and mortar

**Wall Construction, Finish, Color:** On the north half of the structure, the walls are constructed of 7-inch logs with mortar chinking. The building has box corners. On the south half of the structure, including what appears to have been a narrow addition, the walls are wood-framed. They are made of 1x10s (or smaller) and covered by tarpaper.

**Chimneys:** stove pipe in the "south half" room on the northwest side

#### Openings:

**Doors and Doorways:** One doorway in the narrow front addition faces northwest and measures 3½ feet wide. A second doorway is left of center in the southeast wall. It measures 3 feet wide, and the door is missing.

**Windows:** A fixed 6-pane window faces southeast, is left of center, measures 3 x 3 feet. A second window opening on the southeast wall is far left of center, and also measures 3 feet square. One window faces northwest, is far left of center, and measures 3 x 3 feet. A second window in the northwest wall is a 4-pane fixed unit situated right of center. Finally, there is a window opening in the center of the southwest wall (of the narrow addition). It measures 3 x 10 feet, and is divided into three sections, each of which probably held a single pane of glass.

**Roof Shape, Covering:** The building has a gable roof of boards covered by tarpaper. The gable end of the log section is vertical boards.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** Inside, the walls are covered by plywood and wood paneling. Partitions divided the house into three sections.

**Flooring:** linoleum and wood

**Ceiling:** paneling or plywood

**Condition:** The foundation at Feature 56 is collapsing. Part of the southeast wall is missing.

**Associated Artifacts:** rubber garden hose, mattress springs, men's rubber boots, scattered lumber, miscellaneous metal

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 57

**Summary:** Feature 57 is a two-hole outhouse which is tilting in its hole. It stands near Feature 56. It was built in the 1930s.

### Description of Exterior:

**Dimensions:** L: 5 feet 6 inches , W: 5 feet, H: one story

**Building Orientation:** southeast

**Foundation:** stone

**Wall Construction, Finish, Color:** The walls are constructed of 5-inch logs. The logs meet in box corners, each of which is re-inforced by a 4x4 post. Wire nails were used in construction. Pieces of lath attached to the outside indicate that the building was once covered with tarpaper or other insulating material.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** The doorway faces southeast, and fills most of that wall. It measures 2½ feet wide. The door, made of 1x10s, is no longer attached to the building.

**Windows:** none

**Roof Shape, Covering:** The shed roof is made of 1x10s and wire nails.

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** boards

**Ceiling:**

**Condition:** This structure is unstable. The door has fallen off and part of the roof is missing.

**Associated Artifacts:**

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 58

**Summary:** This building appears to be a mill. The roof is completely gone, as are much of the walls. The ore bin still stands in fair condition. It may date to the late 1930s.

**Description of Exterior:** These are approximations due to Feature's poor condition.

**Dimensions:** L: about 50 feet, W: 30 - 40 feet, H:

**Building Orientation:** north-northwest

**Foundation:**

**Wall Construction, Finish, Color:** Located at the west corner of the feature, the ore bin is made of 7 to 9-inch log saddle -notched in the corners. It is lined with planks measuring about 4 x 20 inches. The mill itself appears to have been built of 2x10 to 2x12 boards nailed to large vertical posts.

**Chimneys:**

**Openings:**

**Doors and Doorways:** Facing north-northwest, there is a double doorway far to the left of center. There are no doors.

**Windows:** Just left of center on the east-northeast wall, there is a set of two 4 pane fixed windows.

**Roof Shape, Covering:** The mill had a shed roof which is completely gone.

**Other Features (such as Porches):** Platform built on top of ore bin.

**Description of Interior:**

**Interior Walls or Partitions--Construction, Covering:** There is a work bench along the inside north-northwest wall and two bins or troughs at the center of the east-northeast wall (interior).

**Flooring:** none apparent

**Ceiling:**

**Condition:** Feature 58 is in total ruin. It is difficult to determine measurements due to deterioration.

**Associated Artifacts:** Some type of ball or rod mill is set up inside the mill adjacent to the ore bin. Other artifacts include miscellaneous metal, scattered lumber, wooden wheels, and one cyanide can.

**Other Remarks, Description:** It appears that a platform was built from the waste rock pile over the mill in order to dump ore into two troughs that are visible on the interior of the structure.

*The Mining Journal* reported in August 1937 that "a 25-ton gravity concentration mill is being installed at the Park mine ...." In the following year, Al Dance and F.E. Benedict report that they were renting a mill to process Marietta Mine ores. I seems possible that the 1937-1938 mill was at Feature 58 because the building clearly is not associated with one of the other two mills known to be operated in the area. The 1905 mill had 20 stamps, but Feature 58 is too small to hold a mill of that size, and besides there is a rod or ball mill at this feature. Neither is Feature 58 the 1959 mill; that building stood at Feature 37 (see above).

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 62

**Summary:** Feature 62 is a residence with additions. It is badly deteriorated on the inside. The 1896 survey plat for the New Era and Crowbar claims shows a cabin at about this location.

### Description of Exterior:

**Dimensions:** A: L: 18 feet, W: 19 feet, H: one story  
B: L: 6 feet 6 inches, W: 8 feet, H: one story  
C: L: 16 feet, W: 12 feet, H: one story  
D: L: 11 feet, W: 14 feet, H: one story

**Building Orientation:** northeast

#### Foundation:

**Wall Construction, Finish, Color:** Section A, the original building, is made of logs which are saddle-notched in the corners. The logs are 6-9 inches in diameter and are chinked with mortar. Addition B is attached to the northeast side of the original building. It is a wood-frame building made of 1x8s and 1x6s fastened with wire nails and covered with tarpaper. Addition C, on the northwest side of Section A, is made of 1x10s and is also overlaid with tarpaper. Section D was added to the southwest wall of Section A. It is a log room made with 6-inch logs which meet in box corners. The logs are chinked with mortar.

**Chimneys:** one stove pipe chimney

#### Openings:

**Doors and Doorways:** Section A has one doorway that faces northwest, is far left of center, and measures 2½ feet wide. Addition B has one doorway that faces southeast, is far left of center, and measures 3 feet wide.

**Windows:** Section A has two windows. One faces northeast, is right of center, measures 3 x 5 feet, and is divided in two with no glass. The other window was a 6-pane fixed unit left of center in the southeast wall. Section B has two window openings. One is in the center of the northwest wall and one in the center of the northeast wall. Both measure 2½ feet square. Section C also has two window openings. One is just left of center in the northeast wall. It measures 2½ x 5 feet. The other faces northwest, is in the center, and holds the remains of a 6-pane fixed window.

**Roof Shape, Covering:** Sections A, C, and D have gable roofs made of boards and covered with tarpaper. Addition B has a shed roof made of boards and covered with corrugated metal roofing.

**Other Features (such as Porches):** Section B is an entrance and possible mudroom.

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** All walls are covered by a plywood paneling. Partitions divide the structure into three rooms.

**Flooring:** wood

**Ceiling:**

**Condition:** The building stands in relatively good condition, although the interior is trashed. The plywood paneling has been ripped out and is delaminating. All windows are broken.

**Associated Artifacts:** furniture, rubber boots, cinder blocks, miscellaneous metal, large metal drums, playing cards

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 63

**Summary:** Feature 63 was an assay office. It is a stucco building with a board shed attached to one short side. The feature stands in relatively good condition.

### Description of Exterior:

**Dimensions:** original: L: 12 feet, W: 18 feet, H: one story  
shed addition: L: 12 feet, W: 8 feet, H: one story

**Building Orientation:** northeast

**Foundation:** stone and wood beam

**Wall Construction, Finish, Color:** The original wood-frame building has stucco exterior walls. The shed addition is constructed of 1x4s and 1x10s.

**Chimneys:** at least two chimneys, maybe three; a stove pipe and suspicious-looking hole on northeast side of main building, and stove pipe on southwest side.

#### Openings:

**Doors and Doorways:** In the main building, one doorway is left of center in the northeast wall. It measures 2½ feet wide. In the shed addition, there is a doorway far right of center in the northeast wall.

**Windows:** There are two window openings in the northeast wall, one far left of center and one far right. Both measure 2½ feet square. Also, there is a window in the center of the northwest wall, which measures 2½ feet square. Finally, one window faces southeast into the shed addition. It is in the center of the wall and also measures 2½ feet square.

**Roof Shape, Covering:** The main building has a gable roof and the addition a shed roof. Both are made of boards and (partially) covered by tarpaper.

#### Other Features (such as Porches):

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:** There is plywood paneling on the walls. Partitions divide the main building into two rooms.

**Flooring:** wood

**Ceiling:** plywood paneling

**Condition:** Stucco is starting to deteriorate (helped along by being used for target practice). Floor are rotting. There are no doors or window glass.

**Associated Artifacts:** miscellaneous metal, large machine belts, beer can, Skoal container

### Other Remarks, Description:

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210

Site Name Park Mines

Feature No. 64

**Summary:** Feature 64 is a wood-frame building of unknown function.

### Description of Exterior:

**Dimensions:** L: 10 feet, W: 12 feet, H: one story

**Building Orientation:** east

**Foundation:** log

**Wall Construction, Finish, Color:** wood-frame with 1x8 board walls. boards set horizontally and overlaid with tarpaper.

**Chimneys:** none

**Openings:**

**Doors and Doorways:** probably one large double door about 6 feet across on east

**Windows:** One window faces north, in the center, and measures 2 x 3 feet.

**Roof Shape, Covering:** shed roof of boards

**Other Features (such as Porches):** There is a wooden box built onto the north side of the building measuring 2 x 3 feet and 3 ½ feet tall.

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:**

**Ceiling:**

**Condition:** In ruin. Very unstable, roof and door are missing.

**Associated Artifacts:** miscellaneous metal, clear glass

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 66

**Summary:** Feature 66 appears to be a blacksmith's shop in fair condition.

### Description of Exterior:

**Dimensions:** L: 15 feet, W: 12 feet, H: one story

**Building Orientation:** west

**Foundation:**

**Wall Construction, Finish, Color:** The walls are constructed of 5 to 7- inch logs which meet at box corners. The walls are chinked with mortar and lath.

**Chimneys:** at least one

**Openings:**

**Doors and Doorways:** One doorway faces west, is right of center, and measures 3 feet wide. The door is missing.

**Windows:** One window opening is in the center of the north wall and measures 3 feet square. A 12-pane fixed window is in the west wall, left of center.

**Roof Shape, Covering:** The building had a gable roof with log purlins and corrugated metal roofing.

**Other Features (such as Porches):** Built onto the west end of Feature 66 is a 3½-foot square box supported by a log post. The box has a shed roof. Access to the box is through an opening cut into the side of the building.

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:** boards

**Ceiling:**

**Condition:** The roof is all but gone and the walls are starting to cave in.

**Associated Artifacts:** miscellaneous metal, metal pipe, what looks like a blacksmith's forge

**Other Remarks, Description:**

## ARCHITECTURAL FEATURE FORM

Site No. 24BW210  
Site Name Park Mines  
Feature No. 68

**Summary:** Feature 68 is a collapsed building on the hillside near the south end of the site. It was apparently a residence.

### Description of Exterior:

**Dimensions:** L: 10 feet, W: 10 feet, H: probably one story

**Building Orientation:** unknown

**Foundation:** none apparent

**Wall Construction, Finish, Color:** The walls are constructed of 6-inch logs. which are steeple-notched in the corners. Boards varying in size from 1x6s to 1x10s lie in the building debris, but their use in the building is not known. There are also some wire nails.

**Chimneys:** stove pipe

**Openings:**

**Doors and Doorways:** A door faced east, was left of center, measured 3 feet wide, and opened on leather hinges. It was constructed of 1 x 10 boards and wire nails.

**Windows:** none discernible in the building debris

**Roof Shape, Covering:** unknown

**Other Features (such as Porches):**

### Description of Interior:

**Interior Walls or Partitions--Construction, Covering:**

**Flooring:**

**Ceiling:**

**Condition:** complete ruin

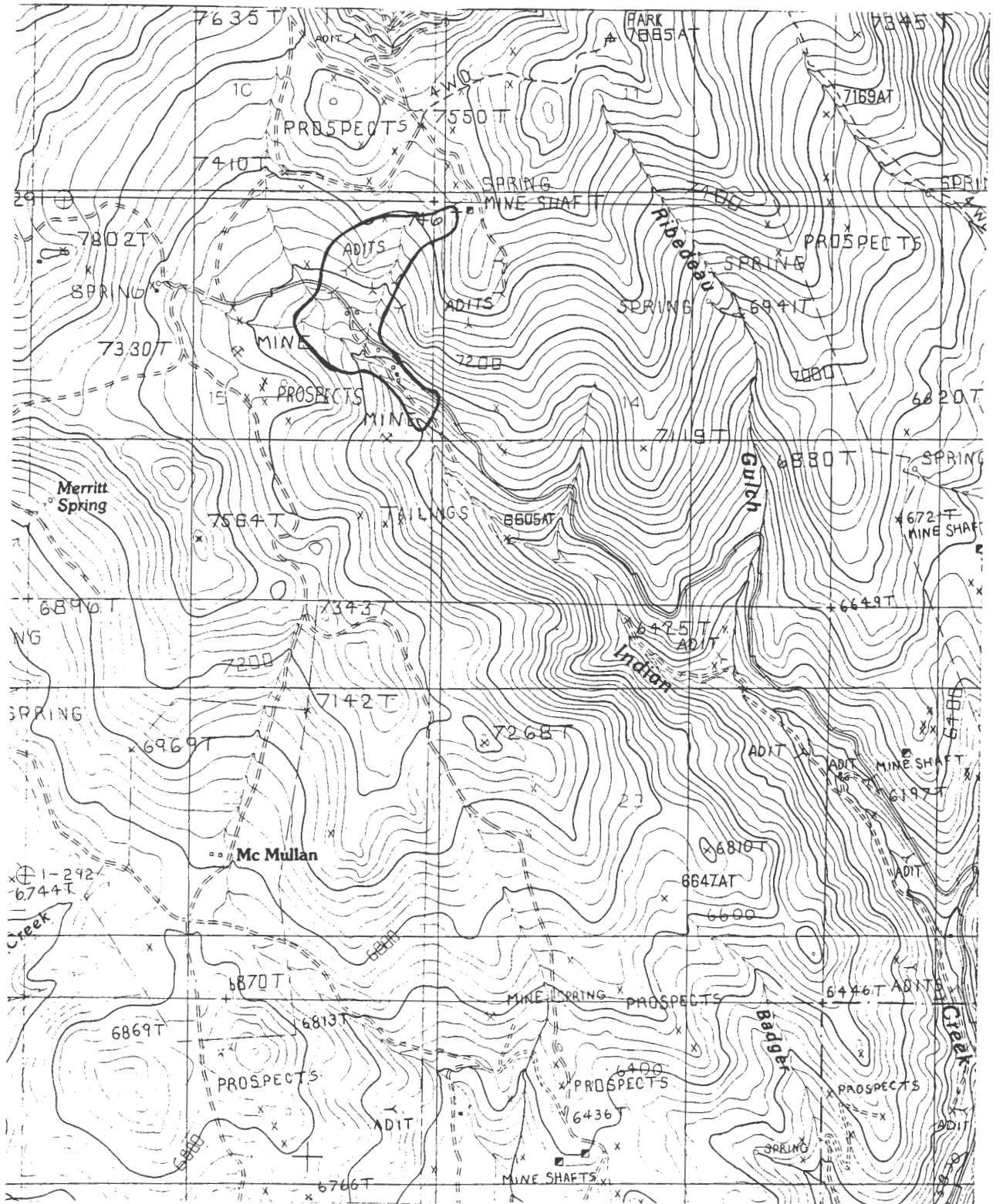
### Associated Artifacts:

**Other Remarks, Description:** There is a dump approximately 20 feet south of the structure. It contains miscellaneous metal, piece of stove pipe chimney, rubber boots, about 10 hole-in-top crimped and soldered cans, purple flask with applied finish, stoneware jar, corrugated roofing, sheet metal cookstove, tin box with handle, lard bucket







# Topographic Map

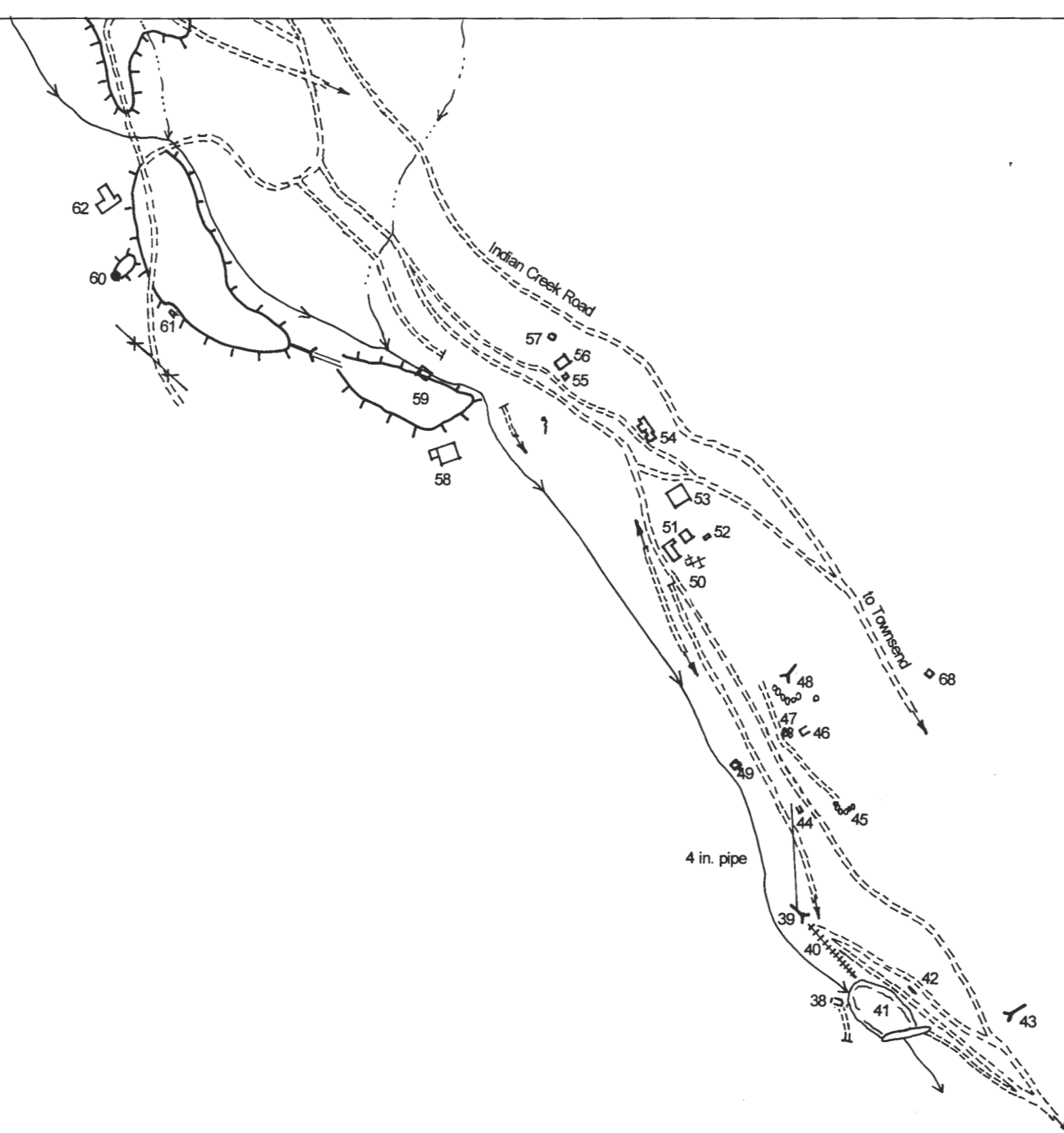
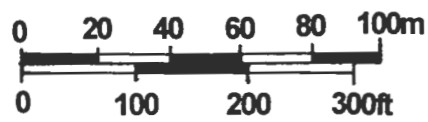
Site No. 24BW210  
Park Mines  
Sec. 14 and 15, T7N, R1W  
Giant Hill - 1986 (provisional)



**24BW210  
Park Mines  
(south half)**

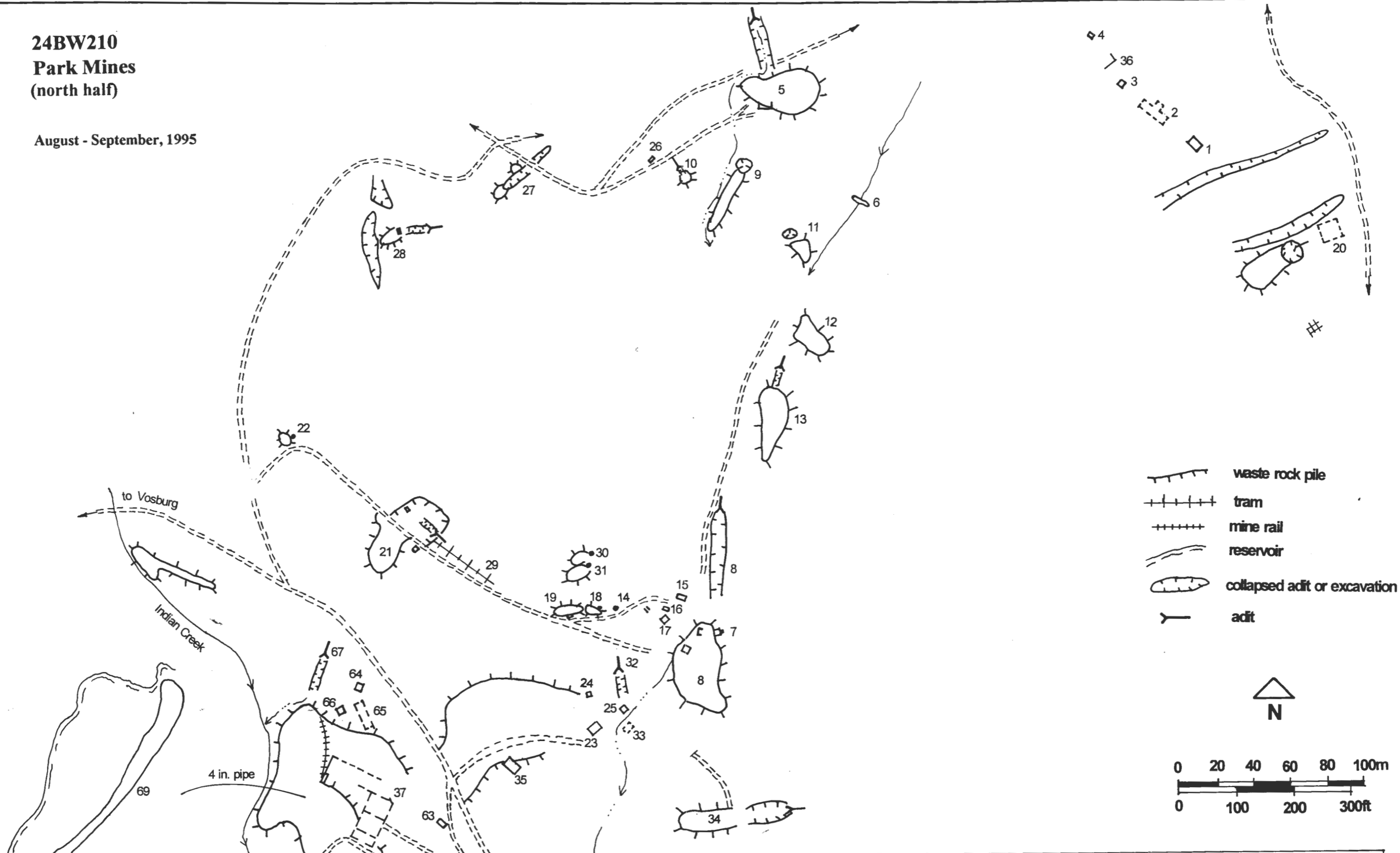
August - September, 1995

-  waste rock pile
-  mine rail
-  reservoir
-  adit



**24BW210  
Park Mines  
(north half)**

August - September, 1995



# **Attachment C**

## **Public Comments**

No public comments were received regarding this EA.