Bureau of Mines Boulder City Experimental Station, Original Building (Bureau of Mines Metallurgy Research Laboratory, Machine Shop)
(Building No. 200)
Date Street North of U.S. Highway 93
Boulder City
Clark County
Nevada

HABS No. NV-35-B

HABS
NEV
2-BOUC,
1B-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107

HABS
NEV
2-BOUC,
1B-

HISTORIC AMERICAN BUILDINGS SURVEY

BUREAU OF MINES BOULDER CITY EXPERIMENTAL STATION (Date Street Complex)
ORIGINAL BUILDING (Machine Shop, Building No. 200)

HABS No. NV-35-B

Location: Date Street Complex, bordered by U.S. Highway 93 Truck Route, and Elm and Date streets
Boulder City, Clark County, Nevada

Building 200 is located in the southeast corner of the complex near Date Street. Building 100 is located directly to the south.

Boulder City, Nev., 7.5' Topographic Quadrangle, U.S.G.S., 1958, Photorevised 1983, Universal Transverse Mercator Coordinates: 11.694610.3983310 (approximate center of building)

Present Owner: U.S. Department of the Interior, Bureau of Reclamation

Present Use: Machine Shop

Significance: Building 200, as part of the Date Street Complex, was part of the Bureau of Mines Electrometallurgical Research Facility located in Boulder City. As such, it is within the designated Boulder City Historic District. One of seven buildings considered eligible, this is one of two that are currently in use and will not be demolished. The building was included as a contributing element in the Boulder City Historic District Nomination (1983). Although it has undergone both exterior and interior alterations, additions, removals, the building's original footprint and roofline, as well as original roof and wall cladding, are unchanged. Furthermore, according to Pfaff (1992:3) the significance of the building is not associated with architecture but with the early development of Boulder City during the 1931 to 1945 period and the emergence of the Bureau of Mines Electrometallurgical Laboratory during that period, and, therefore, it is a contributing element to the District. The significance of the Boulder City Historic District is tied to the Boulder Canyon Project (Hoover Dam) and to the history of American City Planning. This was the first community constructed following the federal New Towns model, as well as the "first fully-developed experience in new town planning as promoted by the Community Planning Movement, a movement which is recognized as the force which most influenced contemporary community planning practices" (Woodward et al. 1982:8.1).

Description: Building 200 was originally built in 1931 as a maintenance garage for the Six Companies, Inc., primary builders of Hoover Dam. It was purchased by the Bureau of Mines in 1936, altered and added to during the next year in preparation for their new electrometallurgical laboratory with office space. A detailed description, with accompanying photographs, of the work done to the building and equipment added was addressed in a report by Koster and Knickerbocker (1938:17-24). The building is a steel-frame built on a rectangular plan with additions on the north and south

elevations. It measures 230 feet (northeast/southwest) long, has a varied width (northwest/southeast) of 50 to 80 feet, and is 1½ stories high. The primary mass has a low pitch (16°) front-gabled roof covered in rolled roofing with open eaves and enclosed rafters. There is a moderate overhang of approximately 10 inches on the east and west elevations, with none on the other elevations. In the center of the northwest elevation is a cement-block addition that has a flat roof with a low parapet. A concrete frieze band is along each section of the addition where the walls meet the roof edge on the primary mass. The central north roof slope of the primary mass has a raised shed on gable with a cut that appears in a c. 1939 photograph, but not in earlier ones (Koster and Knickerbocker 1938; Pfaff 1992:33-34) suggesting minor remodeling with changes in use. The south elevation has a shed roof addition. These additions were made between c. 1949 and c. 1953 (NV-35-2; NV-35-3; NV-35-B-5). The northwest addition has been identified as a "station-power distribution center" containing the *Plant Switch House* and *Transformer Vaults* on the c. 1953 plan drawing. The southeast addition was part of the *Machine Shop*. On the roof ridge are ten evenly spaced cylindrical ventilators. There are three vent pipes: one is near the northwest corner of the primary mass coming from the wall to rise above the roof, a second is on the southwest corner of the addition on the northwest elevation, and the third is on the west end of the southeast roof slope on the southeast elevation. The building sits on a concrete-block stemwall. The northeast addition is elevated higher approximately 4 feet than the rest of the building. Windows are few, but all are wood-framed divided-light.

Since 1936, the door and window openings on this building have undergone major changes. Original openings on the southeast elevation included six large overhead coiling doors, and about four single doors, as depicted in photographs taken in 1936 (Koster and Knickerbocker 1938; Pfaff 1992:33). A late 1930s photograph (Pfaff 1992:34) shows four distinct windows, one with an awning, and a ribbon window (the number is indistinct) with an awning. The windows with awnings were probably where the office was located. This view did not include the entire length of the building, but there may have been commercial-sized windows on this elevation, as well. The c. 1953 floor plan shows door openings on the primary mass on the southwest, southeast, and northeast elevations. The northwest addition had four exterior openings, and the southwest addition had two, as they do today. Other entries were on additions to the primary mass that since have been removed. Exterior lights are on the northwest and southwest elevations. A northwest trending concrete block retaining wall is at the northwest corner of the building. It is about 3 feet high.

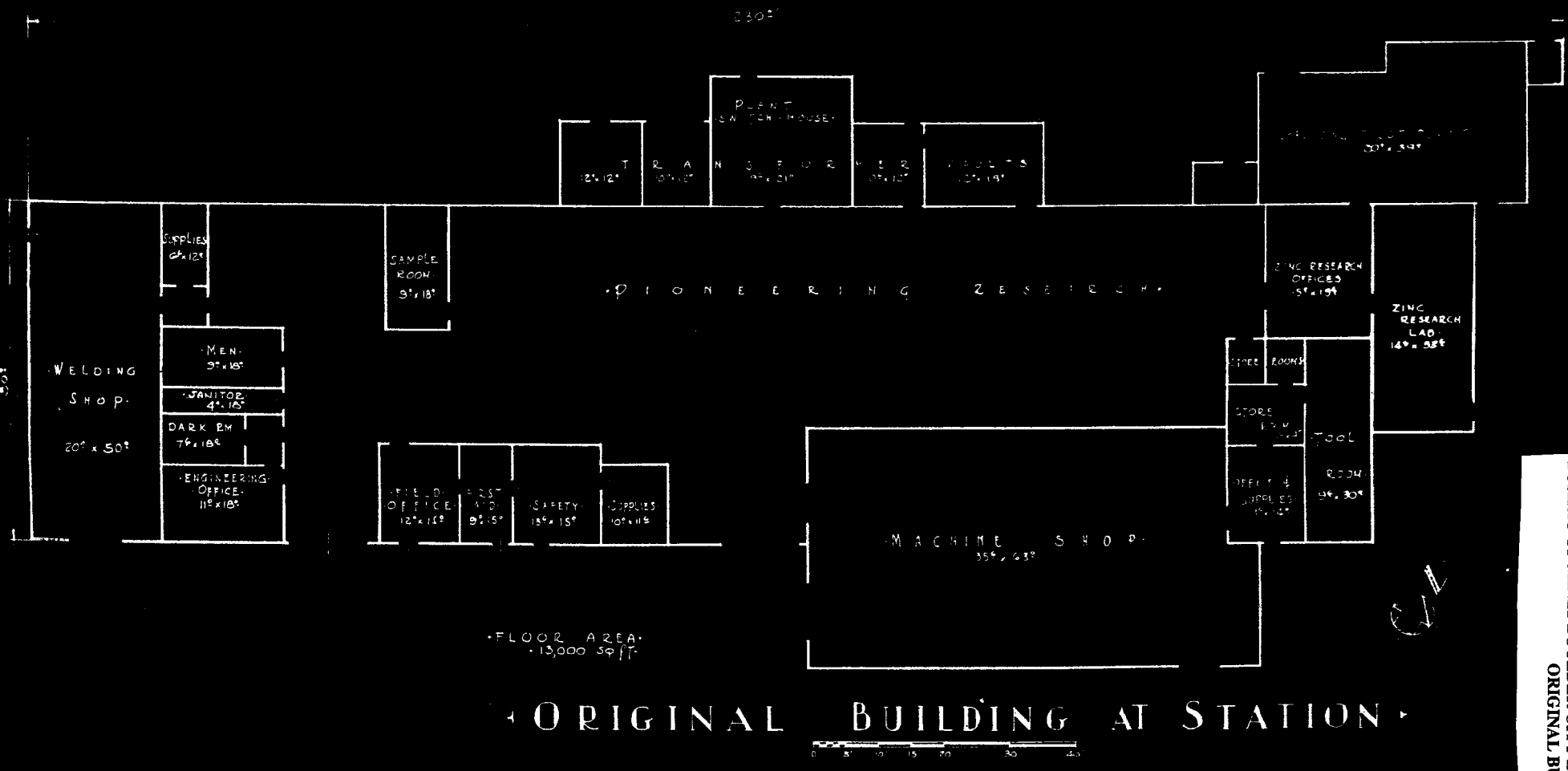
The primary (front) elevation faces southwest. In the center of the elevation are metal-framed, metal half-glass (8-part divided-light, 2/2/2/2) over panel doors. These are taller than the usual 7 feet, appearing to be about 10 feet high, as loading dock access. An evaporative-cooling unit is on a metal shelf on the northwest corner of the elevation. Below it is a concrete platform that extends beyond the building and along a portion of the northwest elevation. A pipe rail is at the edge of the platform on the

southwest and part of the southeast sides. At about three-quarters of the length of the southeast edge, it slants northward to the northwest corner of the building, underneath the metal shelf for the cooling unit. On the southwest elevation of the southeast addition is a divided-light (1/1) window near the juncture of the addition and the primary mass. In the center of the elevation is a set of metal-framed metal double doors that are half-glass (6-part divided-light, 2/2/2) over panel with the half-glass painted in. There are electrical conduit pipes on the southwest elevation of the northeast addition.

The southeast elevation has one door and two windows in the primary mass, and two windows and a set of double doors on the shed-roof addition. Below the roof on the primary mass, offset to the southwest, is a divided-light ribbon (three 4-light plus a fill-in) window. The northeast ribbon has a small evaporative cooling unit in it, with a small metal brace/frame on the exterior of the building. A second brace is just to the northeast of the window over a small vent opening. On the first level of the primary mass, at the southwest end, is a metal-framed, metal half-glass (2/2) over panel door. Between the door and ribbon window is a pipe that runs the height of the building. A horizontal slider divided-light (1/1) is near the center of the primary mass on this elevation. The windows on the shed-roof addition are divided-light (1/1) windows, located at the northeast end of the addition. At the southwest end is a set of metal-framed metal double doors. The northeast end of the primary mass extends beyond the addition for another 9 feet or so. On the southeast elevation is a wood-framed, half-glass (single-light) wood door.

On the northeast elevation of the primary mass, at the northwest corner, is a circuit breaker with an electrical panel connected to the building. The northeast elevation of the southeast addition has a divided-light window. There is a metal-framed hollow metal paneled (1/1) door on the northeast elevation of the northwest addition. This door is not on the c. 1953 plan.

On the northwest elevation are four single doors and one set of double doors. From the northwest corner, the first door is in the primary mass. It is hollow metal that is located between an evaporative cooling unit on the northeast and an external ventilation fan to the southwest. The remaining doors are on the northwest addition. First is a set of metal-framed metal double doors on the easternmost part of the addition. Continuing to the southwest, the next two doors are wood-framed wood, one of which is in an extension to the addition. The other is in the center portion of the addition. The remaining two doors, both metal-framed hollow metal, are in the next section of the addition. There are two small louvered vents above the westernmost opening. Each of these doors on the addition probably opens into separate transformer vaults and the plant switch house. An evaporative cooling unit is to the southwest of the addition on the primary mass. Southwest of this is a louvered box vent.



Photocopy of plan drawing (c. 1953, photocopy in U.S. Bureau of Mines Lab Collection, MS-18, Department of Special Collections, Leid Library, University of Nevada, Las Vegas). ORIGINAL BUILDING AT STATION

BUREAU OF MINES BOULDER CITY EXPERIMENTAL STATION
ORIGINAL BUILDING (Building No. 200)
HABS No. NV-35-B (Page 4)

C-879-BC

BUREAU OF MINES METALLURGICAL RESEARCH LABORATORY, ORIGINAL BUILDING
(Machine Shop)
(Building No. 200)
(Bureau of Mines Boulder City Experimental Station, Original Building)
Date Street north of U.S. Highway 93
Boulder City
Clark County
Nevada

HABS No. NV-35-B

HABS
NEV
2-BOUC,
1B-

Addendum to:
BUREAU OF MINES BOULDER CITY EXPERIMENTAL STATION, ORIGINAL BUILDING
(Bureau of Mines Metallurgy Laboratory, Machine Shop)
(Building No. 200)
Date Street north of U.S. Highway 93
Boulder City
Clark County
Nevada

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of Interior
1111 Jackson Street, Suite 700
Oakland, California

HABS
NEV
2-BOUC,
1B-

HISTORIC AMERICAN BUILDINGS SURVEY

Addendum to
Bureau of Mines Metallurgical Research Laboratory, Original Building
(Bureau of Mines Metallurgical Research Laboratory, Machine Shop)
(Building 200)

HABS No. NV-35-B (Pg. 5)

This report is an addendum to the four data pages previously transmitted to the Library of Congress.

Location: Date Street Complex, bordered by U.S. Highway 93 and Elm and Date streets, Boulder City, Clark County, Nevada. Building 200 is located in the southeast corner of the complex near Date Street.

The building lies within the SE ¼ of the NE ¼ of the NE ¼ of Section 8, Township 23 South, Range 64 East, on the 1958 Boulder City, Nevada, 7.5-minute U.S. Geological Survey (USGS) quadrangle (photorevised 1983). Universal Transverse Mercator Coordinates: Zone 11, N 3983307.1, E 694614.5 (approximate center of building).

Present Owner: U.S. Department of the Interior, Bureau of Reclamation
Lower Colorado Regional Office
Date Street Complex
Boulder City, Nevada

Present Use: Machine Shop and Office Space

Significance: Building 200, located in the Date Street Complex, is a contributing element of the Boulder City Historic District, a property listed in the National Register of Historic Places (NRHP) (Woodward et al. 1983). Despite many alterations to the exterior and interior—including additions and removals—the original footprint, roof, and wall cladding of the building remain unchanged. According to Pfaff (1992:3), the building's significance lies in its association with the Boulder Canyon Project and later operations of the U.S. Bureau of Mines Electrometallurgic Experimental Station.

Report Prepared by: Simon Herbert, Historic Preservation Specialist
Scott Thompson, Senior Historian
Statistical Research, Inc.
Tucson, Arizona

Date: September 2006

I. INTRODUCTION

Building 200 is part of the U.S. Bureau of Reclamation (Reclamation), Lower Colorado Regional Office's Date Street Complex (Figure 1). A detailed historical overview of the Date Street Complex and Building 200 may be found in HABS No. NV-35 and HABS No. NV-35-B, respectively; only an outline is presented here. (*Authors' note*: HABS No. NV-35-B was transmitted to the Library of Congress in 2001. It should be noted that this report is an addendum to HABS No. NV-35-B, which contained three pages of data. Pages for this documentation are numbered consecutively from the last page number of the previously transmitted report.)

Six Companies, Inc. (Six Companies), the primary contractor for the Boulder Canyon Project, constructed the building in 1931 as a garage for vehicle maintenance (Figures 2 and 3). After Hoover Dam and its appurtenant works were completed in 1935, Six Companies prepared to demobilize its workforce and equipment stationed in Boulder City. In 1936, the U.S. Bureau of Mines (Bureau of Mines) purchased the former Six Companies truck maintenance garage for $10,000 and converted the building into office space, an analytical laboratory, machine shop, electrolytic bench, ore dressing section, and an area for electric furnaces (U.S. Bureau of Mines 1952:1) (Figure 4). The availability of inexpensive power from the newly constructed power plant at Hoover Dam, as well as access by rail and highway, made Boulder City an ideal location for the Bureau of Mines' electrometallurgical research facility. From 1938 to the early 1950s, the Bureau of Mines expanded the research facility with the construction of new buildings. Between 1942 and 1954, Building 200 underwent a series of alterations that included the following components: a machine shop was added to the southeast facade, a zinc research laboratory was added to the northeast facade, and a cement-block addition was constructed on the north facade to house the station-power distribution center (Figure 5). Beginning in 1957, changing research needs resulted in a formal program for renovating the entire laboratory complex. In 1960, the zinc laboratory at the northeast end of Building 200 was removed (Pfaff 1992:10, 11, 14). Presumably, the Bureau of Mines also removed the shed addition on the west facade (constructed during the late 1930s).

Reclamation acquired Building 200 in July 1984 after the Bureau of Mines closed its Boulder City operations. Building 200 was one of eight buildings in the Date Street Complex that was part of a nonappropriation transfer between the Bureau of Mines and Reclamation. The building, listed at 12,228 square feet, was valued at $27,630.09 (Reclamation 1984).

In 1989, Reclamation initiated Section 106 consultation with the Nevada State Historic Preservation Office prior to remodeling portions of the exterior and interior of Building 200. The proposed remodeling was limited to the southeast portion to create office space and to meet existing building and safety code requirements. Reclamation determined the proposed project would not have an adverse effect on the historic integrity of the property and requested concurrence from the Advisory Council on Historic Preservation (Reclamation 1989). After receiving project approval, Reclamation commenced with remodeling the southeast portion of Building 200 in the early 1990s.

At present, the main mass of the building, comprising the shop area and upper-level office space, is under the jurisdiction of Reclamation's Facilities Management Office. The former Six Companies garage and Bureau of Mines laboratory now serve as a machine shop to meet the maintenance needs of the building and grounds function of the Facilities Management Office. This includes welding, fabrication, servicing mechanical equipment, and painting. The former machine shop area on the southeast side, in its remodeled state, consists of office space and currently houses the Water Conservation and Accounting Group.

II. DESCRIPTION

The written descriptive data and photographs presented in HABS No. NV-35-B treated the exterior of Building 200. This addendum addresses the elements and construction characteristics of the building's interior. [*Authors' note*: Building 200 was not constructed according to a true compass orientation (see direction of north arrow on drawing copy NV-35-B-5, submitted with HABS No. NV-35-B). For descriptive clarity, text and photographs refer only to north, south, east, and west elevations, facades, and views.]

Building 200 (Figures 6 and 7) was constructed in a series of additions and modifications. The primary mass of the building is one and one-half stories high and approximately 185'-0" long x 50'-0" wide. The roof has a low, approximately 16-degree pitch with the gable ends oriented (approximately) to the west and east. Flooring in the shop and storage areas is bare concrete. The primary vehicular and pedestrian entrance is on the west-facing gable end. There are a series of flat-roofed, single-story additions on the north side and a shed addition on the south side that is approximately 68'-0" long x 18'-0" wide.

The principal exterior material is corrugated metal for both siding and roofing with a concrete masonry unit (CMU) foundation wall. Additions to the north side of the original building appear to be constructed of roughly laid, nominal 4"-high masonry blocks and have flat concrete roofs (Degenkolb Engineers 2003a:ES-1–ES-2). The masonry and siding are painted a light sand color with a dark brown band on the lower walls to a height of about 4'-0" on the south, west, and east walls.

The building was constructed on a level foundation; however, the ground elevation on the north side of the building is approximately 4'-0" higher than the ground elevation on the south side. Subsequent additions extending the building to the east maintained the raised ground elevation on the north side. The ground slopes down toward the south on the west and east sides of the building.

The earliest portion of the building is contained in the western six bays of the primary mass. It was constructed in 1931 as a garage for servicing and repairing vehicles used by Six Companies during the building of Hoover Dam. Each bay opening had a large, south-facing, coiling roll-up door. Tall, industrial, metal-framed windows ran in continuous bands on the north, west, and east facades (see Figures 2 and 3).

The original building was constructed using seven pairs of evenly spaced steel columns, set approximately 16'-8" on center along the length of the building. Each pair of columns supported seven light steel roof trusses spanning the north-south walls. The east and west gabled end walls each contained two steel columns. The structure was stiffened against lateral forces with diagonal bracing at the wall ends on the north and south facades and with diagonal bracing extending from the gable-end columns to the roof trusses (Degenkolb Engineers 2003a:ES-1–ES-2).

After being taken over by the Bureau of Mines in 1936, the building was altered and converted to an electrometallurgical laboratory. Five identically sized bays were added on the east side to create the current full length of the primary building mass (Figure 8). It is possible the original (1931) east wall, including the two gable-end columns and steel-framed windows, was relocated to the new east wall. This would have provided an economical reuse of existing materials; however, no physical or documentary evidence could be found to support this hypothesis.

A total of 28 steel columns and 12 roof trusses is in the primary building mass. It is unclear how the building appeared upon completion of this addition, but an exterior photograph taken in the late 1930s shows the building with noticeable changes to the south-facing bays, including the construction of a shed addition to the west, which has since been removed (see Figures 4 and 8). During this renovation phase, some of the coiling roll-up doors were removed.

The spaces between the steel support columns on the north, west, and east facades are filled with CMUs to a height of about 4'-0" and essentially function as a retaining wall. The CMU wall engages the columns, with the columns protruding slightly from the line of the wall. Four-inch-high masonry blocks comprise the western portion of the north CMU wall, whereas the remaining portions of the CMU wall were constructed using 8"-high masonry blocks (see Figure 7). The coursing of the CMU wall is visible on the exterior and interior of the building. There is also a small section of CMU wall on the southeast corner of the primary building. It is unclear whether the original building contained the CMU wall or if the wall was added in subsequent building phases. Later additions to the north side (discussed below) may have coincided with the construction of the retaining wall because the type of material found in portions of the north wall (4"-high masonry blocks) is indistinguishable from those used to construct the north additions. On the south side of the building, where there is mostly no CMU wall, the corrugated siding extends all the way to ground level. Bolted on top of the CMU wall is a wooden 2" x 8" plate that anchors the lower portion of the exterior corrugated siding. Metal channels are mounted horizontally on the outside of the vertical steel columns and allow support and anchoring for the exterior siding. The location of these horizontal channels may also indicate the location and height of the earlier industrial, metal-framed windows.

Similarly, lateral metal channels are attached to the top of the roof trusses to support and secure the corrugated roofing. The roof trusses appear to be closest in design to a Fink-type truss but also contain elements of the Howe truss design. The truss allows for the greatest combination of lightness, strength, span, and economy of materials (Ching and Adams 2001:6.09; DeLony 2004:165). The truss components are bolted together using both flat and angle plates, with the connection to the steel columns being made with

bolted angle plates. The corrugated siding and roofing material are visible from the interior, except where spaces have been finished off with other materials, such as in offices and some storage rooms.

Around 1942, a south addition was constructed for use as a machine shop (Degenkolb Engineers 2003b [U.S. Bureau of Mines 1942 plan drawing, "Electro-Metallurgical Laboratory, Concrete Foundations, Southeast Addition"]). By the early 1950s, the machine shop had been extended into the primary building mass by about 16'-0" (see drawing copy NV-35-B-5). Although no longer used as a machine shop, the original footprint remains with modern offices occupying the space (Figure 9). Two exterior doors located on the south side of the addition provide access to the office area. A set of double doors on the west facade of the south addition remain in place but are inoperable, having been covered over on the interior. The interior of the south addition is finished in painted drywall, has a dropped ceiling, and is carpeted throughout. There are several enclosed spaces and a large, open space with temporary partitions to further subdivide the area into work cubicles. There are five small, one-over-one windows on the east, west, and south facades of the south addition.

In the 1950s, several additions were constructed on the north side of Building 200 using nominal 4"-high masonry blocks. The first was the plant switch house (ca. 1950), which contained electrical switch banks associated with the distribution of electricity to station facilities. Although no longer operational, the switch banks remain in place (Figure 10). The plant switch house measures 19'-0" x 21'-0" and is accessible through a door from an interior, metal-mesh catwalk and from a door leading to the building exterior. The interior walls are bare block and the building has a concrete floor and ceiling.

Additional single-story, masonry-block rooms were added to the east and west of the plant switch house around 1954 (Degenkolb Engineers 2003b [U.S. Bureau of Mines 1954 plan drawing, "Transformer Vault"]). To the east is a transformer vault room that is currently used for storage (Figure 11). The vault has one door on the east wall and a set of double doors facing north. This room contains a concrete stairway with a door entering the main shop area. To the west of this door, at ground level, is evidence of a set of large double doors that have been blocked by equipment and wall-mounted storage units (Figure 12). The brick masonry wall comprising the south wall of the transformer vault (including a portion of the north wall in the maintenance shop area) is offset from the main north wall of the building by about 1'-0" to the south. This same wall extends west and then has a short, approximately 1'-0" return to the south. At one time, this wall return extended south into the shop area but was later removed, as evidenced by the line of broken brick up to a height of 8'-7" (Figure 13). It is unclear what this wall might have supported or enclosed.

To the west of the plant switch house are two rooms that also served as transformer vaults. Regarding the westernmost room, there is a single door to the exterior; however, the room is currently inaccessible. The room to the immediate west of the plant switch house contains an inoperative compressor and has two doors—one serves as an entrance from the north side (exterior) and the other provides access to the machine shop area via a catwalk and stairs. The transformer vault additions made use of the exterior walls of the preexisting plant switch house, essentially using them as common walls. As with the plant switch

house, the transformer vaults have walls of nominal 4"-high masonry blocks and concrete floors and ceilings.

Building 200 contained office space from its earliest years. By 1932, Six Companies had added several rooms (see Figure 3), and shortly after the Bureau of Mines acquired the building, this space was reconfigured. In Figure 14, the single-story, horizontally sided structure to the left is located where the current central stairway leads to the upper-level offices on the south side. In all likelihood, this portion of the building contains elements of the earliest office structures. Horizontal wood siding, similar to that seen in Figure 14, remains exposed on the exterior of the upper-level offices (Figure 15).

The main shop area of Building 200 contains offices and storage areas that are located in the southwest corner. The first-floor rooms consist of bathrooms and storage areas, and the upper level contains office and storage space. There are two sets of metal stairways serving the upper-level offices. The exterior of the north-facing walls of the office and storage areas are covered with painted metal panels. A small section of the lower storage area is covered with vertical metal corrugated siding (Figure 16).

Unless otherwise mentioned, the interior finishes of the upper-level offices are painted paneling, with strips of lath covering the seams, acoustic tile ceilings, and carpeted floors. The westernmost office on the upper level serves as a break room and has a linoleum floor covering. A door in the east wall allows access onto an open deck with a solid railing on the north edge. This open deck provides access to the main office and serves as a temporary storage area (Figure 17). The main office is carpeted, and contains no divisions apart from a small closet. It has two large, single-pane fixed windows overlooking the shop area. On the south wall of this office are four, one-over-one windows, one of which is outfitted with an air-conditioning unit.

There are two bathrooms on the first floor. Both bathrooms are finished in painted drywall and have a linoleum floor covering. The storage areas to the east of the central stairway extend to the partition with the south addition office area (Figure 18). The north wall of the offices of the south addition faces into the main shop area and creates a continuation of the storage area wall. This portion of the wall is also covered in painted metal panels and includes a blocked doorway that once led into the machine shop (now the offices of the south addition). Of the two sets of doors leading to the exterior on the south wall, one was locked and the other was blocked.

By the early 1950s, the east and west ends of the building were partitioned into offices, work areas, supply rooms, and storage rooms. An engineering office, darkroom, janitor's closet, restroom, and supply room occupied the west gable end where the current vehicle and pedestrian entrance stands. In this early-1950s configuration, a sample room was located along the northwest interior wall and a tool room, offices for the zinc research laboratory, and storage and supply rooms occupied the east end of the building (see drawing copy NV-35-B-5). All of the rooms have since been removed.

The main double doors on the west gable facade are made of metal and open outwards. These can be fully opened, if needed, to lie flat against the exterior wall. These doors are 10'-0" high and 5'-0" wide and each contains a 5'-5"-tall, divided, glazed section (Figure 19).

A single partition wall approximately 8'-0" high extends from the west gable wall on the north side of the double-door opening. The partition is used for hanging equipment and provides a partial enclosure for desks and chairs for maintenance staff (Figure 20).

The remainder of the shop area is essentially open, with numerous pieces of light machinery for working with metal, wood, plumbing, electrics, and paint. There are also facilities for vehicle repair, including a vehicle lift and a half-ton aerial gantry and hoist mounted on steel rails attached to the roof trusses toward the east end. A wide variety of cabinets, storage bins, and assorted materials occupy the main shop area. A combination of ceiling-mounted, wall-mounted, and suspended fluorescent and incandescent light fixtures illuminate the office, shop, and storage areas.

Building 200 is significant for its association with the Boulder Canyon Project and the operations of the U.S. Bureau of Mines Electrometallurgic Experimental Station (Pfaff 1992:3). Over the years there have been numerous modifications to the building's exterior and interior (Table 1). Despite these additions and removals, the building retains sufficient integrity to convey its significance.

One of the critical components of determining the significance of a cultural resource is the integrity of the property. Integrity, as defined by Hardesty and Little (2000:162), is "the extent to which . . . a building, structure, or object retains its original design or pattern, historical association, or value as a repository of scientific or scholarly information." The National Register of Historic Places (NRHP) defines seven elements of integrity:

> Location is the place where the historic property was constructed or the place where the historic event occurred. . . . Design is the combination of elements that create the form, plan, space, structure, and style of a property. . . . Setting is the physical environment of a historic property. . . . Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. . . . Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. . . . Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. . . . Association is the direct link between an important historic event or person and a historic property [National Park Service (NPS) 1991:44–45].

A property that retains historic integrity will exhibit several, and often most, of these elements and will look much like it did during its period of significance.

Table 1. Summary of Building 200 Modifications

Year of Modification	Description of Modification
ca. 1936	Bureau of Mines purchases the property from Six Companies and converts the former garage into a research laboratory. At this time, five identically sized bays were added to the east side of the original building to create a large, open work area. Some of the coiling roll-up doors were removed from the original building at this time. A photograph of the building ca. 1937 shows a bank of industrial windows and two coiling roll-up doors on the south facade of the addition.
late 1930s	A shed addition is built on the west facade. Historical photographs suggest the walls and roof were constructed of corrugated metal. The shed addition was removed sometime after 1953.
ca. 1942	Machine shop addition on south facade. The addition measures approximately 68'-0" long x 18'-0" wide and consists of a concrete foundation and floor, five steel columns, five flange steel beams, metal siding, and a slightly pitched metal roof.
ca. 1942–ca. 1950	Zinc laboratory added to the northeast facade. An aerial photograph ca. 1953 indicates the zinc laboratory and machine shop additions were constructed using similar materials.
ca. 1950	The machine shop is extended into the primary building mass by about 16'-0".
ca. 1950	Plant switch house constructed on the north side of building using 4"-high masonry blocks. The ceiling and floor are concrete.
ca. 1950	East and west ends of the building are partitioned into offices, work areas, supply rooms, and storage rooms. The partitioned areas were later removed.
ca. 1954	Transformer vaults are added to the east and west of the plant switch house. The south (interior) wall of the easternmost transformer vault consists of clay brick. The remaining walls, and those of the transformer vault to the west of the plant switch house, are constructed of 4"-high masonry blocks. Both vaults have concrete floors and ceilings.
1960	Zinc laboratory removed.
ca. 1990	Reclamation remodeled the southeastern portion of the building (the former machine shop area) to create office space. The interior is finished in painted dry-wall, has a dropped ceiling, and is partitioned into permanent and temporary work spaces.

Most of the elements of integrity outlined by the NRHP (NPS 1991:44–45) are exhibited in Building 200. Building 200 maintains integrity of location on the grounds of the Date Street Complex, the site of the Bureau of Mines' electrometallurgical research facility from 1936 to 1984. The bulk of Building 200 retains integrity of design and materials. For example, the evenly spaced steel columns along the length of the building and the steel roof trusses they support (representing the original 1931 and ca. 1936 building episodes) are in place and serve their original functions. The aerial gantry and hoist, visible in a photograph of the building's interior ca. 1936 (see Figure 14), is still used to lift heavy equipment. Corrugated siding and roofing material (from the original 1931 and ca. 1936 construction phases) is visible from the interior except in those spaces finished with offices and storage rooms. Although the plant switch house and transformer vaults (constructed ca. 1950 and ca. 1954, respectively) no longer serve their original functions, the 4"-high-masonry-block walls and the concrete floors, ceilings, and the stairway of the north additions remain unaltered. Moreover, the original switch gear panels, although inoperable, are located in the plant switch house. The original building's footprint, steel columns, roof trusses, roof, and portions of the siding remain unchanged. Because the coiling roll-up doors and industrial windows have been removed, the interior is no longer recognizable as a garage used for vehicle maintenance. However, the primary building mass, consisting of the original building and the ca. 1936 addition, still retains the physical qualities necessary to demonstrate its association to the Bureau of Mines electrometallurgical research operations, and a person from the building's period of significance would recognize the property as it exists today. The interior of the south addition, which once served as a machine shop, does not demonstrate integrity owing to the fact that it was completely remodeled in the early 1990s and the significant physical features have been concealed.

Building 200 was constructed in a series of additions and modifications. Although some features have been removed (e.g., the coiling roll-up doors, industrial windows, shed addition on the west facade, and zinc research laboratory), the building retains the essential physical features that characterized its architectural style and appearance during its period of significance. Examples of these physical features include the concrete floors of the primary mass and north additions, steel columns, roof trusses, metal roof and wall cladding, and CMU walls. These visible features speak to the various construction phases and convey the property's significance.

III. PROJECT INFORMATION

In 2001, Reclamation initiated a project to demolish several abandoned buildings at the Date Street Complex as part of a plan to expand facilities at the Lower Colorado Regional Office in Boulder City, Nevada. Prior to demolition, Reclamation contracted with Kautz Environmental Consultants, Inc., of Reno, Nevada, to prepare a Historic American Buildings Survey (HABS) on those buildings to be demolished. The subsequent report (HABS No. NV-35) also recorded the exteriors of several buildings not scheduled for demolition at that time, including Building 200. In June 2005, Reclamation tasked Statistical Research, Inc. (SRI), to document the interior of Building 200 according to HABS Level III guidelines (NPS 2003).

Archival research and field investigations for this project were conducted in July 2005 by SRI Historic Preservation Specialist Simon Herbert and SRI Historian Scott Thompson. Herbert recorded the interior of Building 200 and prepared the architectural floor plan and building elevations (see Figures 6 and 7). The document was written and compiled by Herbert and Thompson. David G. De Vries, of Mesa Technical, completed the large-format photodocumentation of Building 200's interior.

IV. REFERENCES CITED

Bureau of Reclamation (Reclamation)

1984 *Receiving Report No. 84-35.* Bureau of Reclamation, Lower Colorado Region, Boulder City, Nevada. Report on file, Property Group, U.S. Department of the Interior, Bureau of Reclamation, Lower Colorado Region, Boulder City, Nevada.

1989 Correspondence of William E. Rinne, Regional Environmental Officer, to Claudia Nissley, Chief, Advisory Council on Historic Preservation, Western Office of Project Review. 22 June. Letter on file, U.S. Department of the Interior, Bureau of Reclamation, Lower Colorado Region, Boulder City, Nevada.

Ching, Francis D. K., and Cassandra Adams

2001 *Building Construction Illustrated.* 3rd ed. John Wiley and Sons, New York.

Degenkolb Engineers

2003a *Seismic Evaluation of Existing Buildings, Date Street Complex, Building 200*. Degenkolb Engineers, San Francisco. Submitted to Bureau of Reclamation, Building Seismic Safety Program, Technical Service Center, Denver.

2003b Appendix B: BOR Provided Location Map, Existing Structure Figures, BOR Provided Figures. In *Seismic Evaluation of Existing Buildings, Date Street Complex, Building 200*. Degenkolb Engineers, San Francisco. Submitted to Bureau of Reclamation, Building Seismic Safety Program, Technical Service Center, Denver.

DeLony, Eric N.

2004 Documenting Historic Bridges. In *Recording Historic Structures*, edited by John A. Burns, pp. 158–183. Institute of American Architects. John Wiley and Sons, Hoboken, New Jersey.

Hardesty, Donald L., and Barbara J. Little

2000 *Assessing Site Significance: A Guide for Archaeologists and Historians*. Alta Mira Press, Walnut Creek, California.

National Park Service (NPS)

1991 *How to Apply the National Register Criteria for Evaluation.* Rev. National Register Bulletin No. 15. National Park Service, U.S. Department of the Interior, Washington, D.C.

2003 Guidelines for Architectural and Engineering Documentation. *Federal Register* 68(139): 43,159–43,163.

Pfaff, Christine
1992 *Bureau of Reclamation Date Street Complex, Boulder City, Nevada: Determination of Eligibility*. U.S. Department of the Interior, Bureau of Reclamation, Denver.

U.S. Bureau of Mines
1952 History of the Electrometallurgical Experiment Station and Pilot Plants. Electrometallurgical Branch, Metallurgical Division, Region III, Boulder City, Nevada. Manuscript on file, U.S. Bureau of Mines Collection, Boulder City Museum and Historical Association, Boulder City, Nevada.

U.S. Geological Survey
1983 7.5-minute quadrangle, Boulder City, Nevada. U.S. Geological Survey, Washington, D.C.

Woodward, James, Cindy Myers, and Tere Sitter
1983 *Boulder City Historic District, Nomination to the National Register of Historic Places*. Janus Associates, Phoenix.

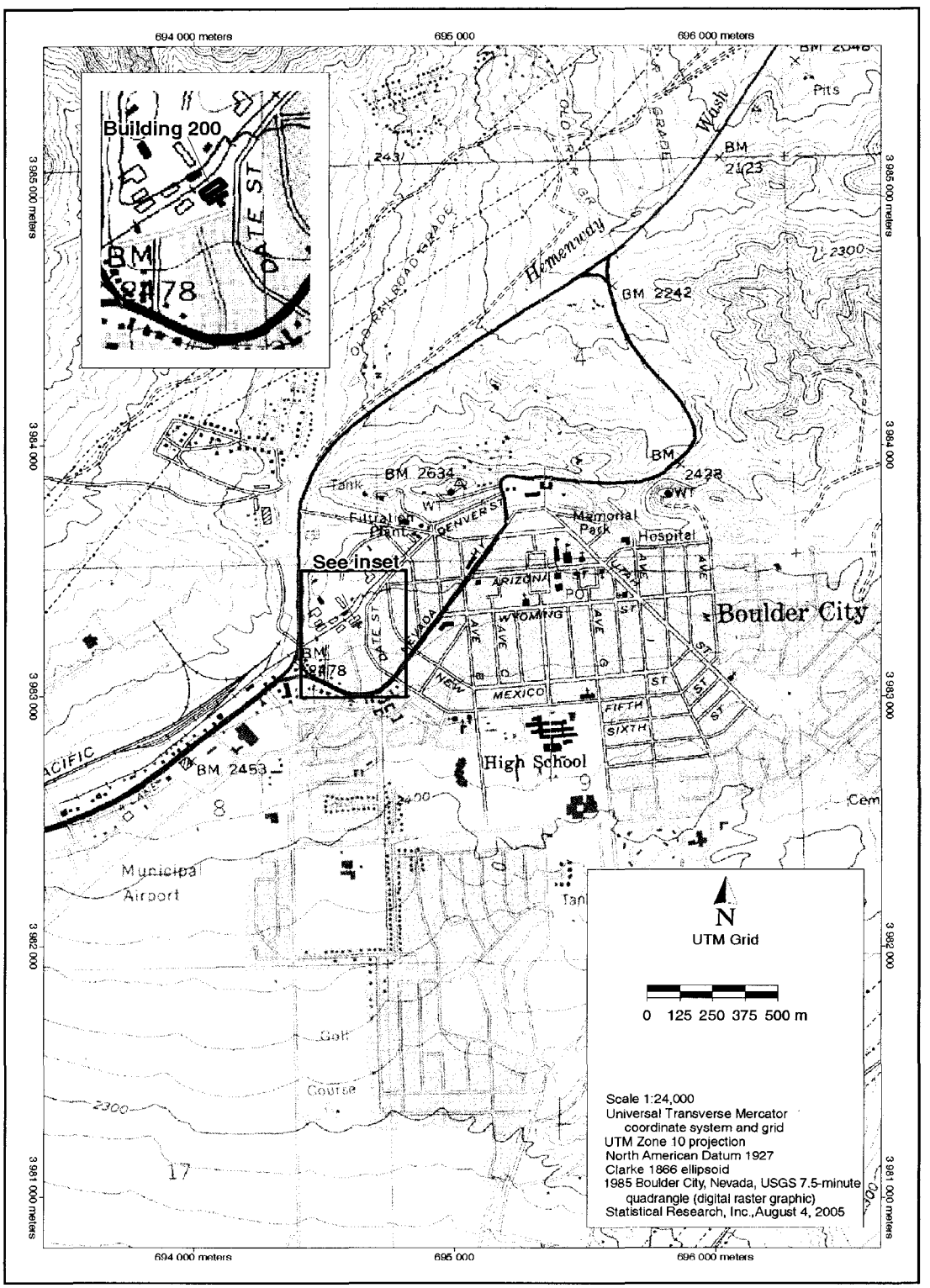


Figure 1. Project location (1958 Boulder City, Nevada, USGS 7.5-minute quadrangle, [photorevised 1983]).

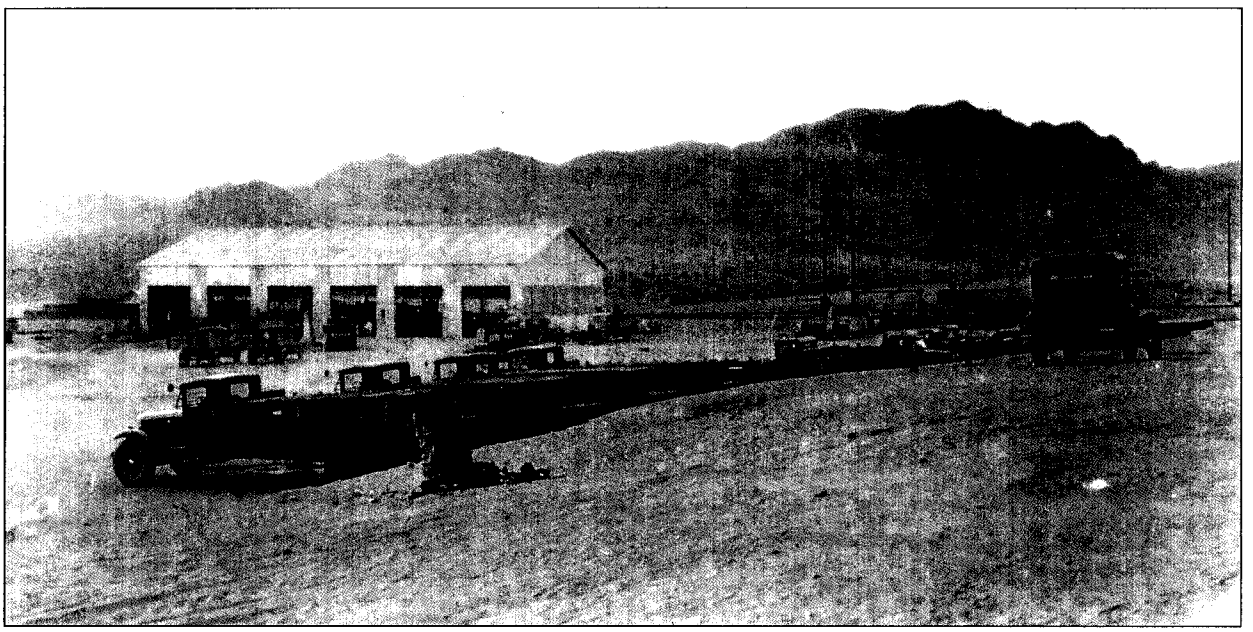


Figure 2. Six Companies garage, ca. 1931 (photograph courtesy of the Boulder City Museum and Historical Association, U.S. Bureau of Mines Collection, Photograph No. 0024:0002).

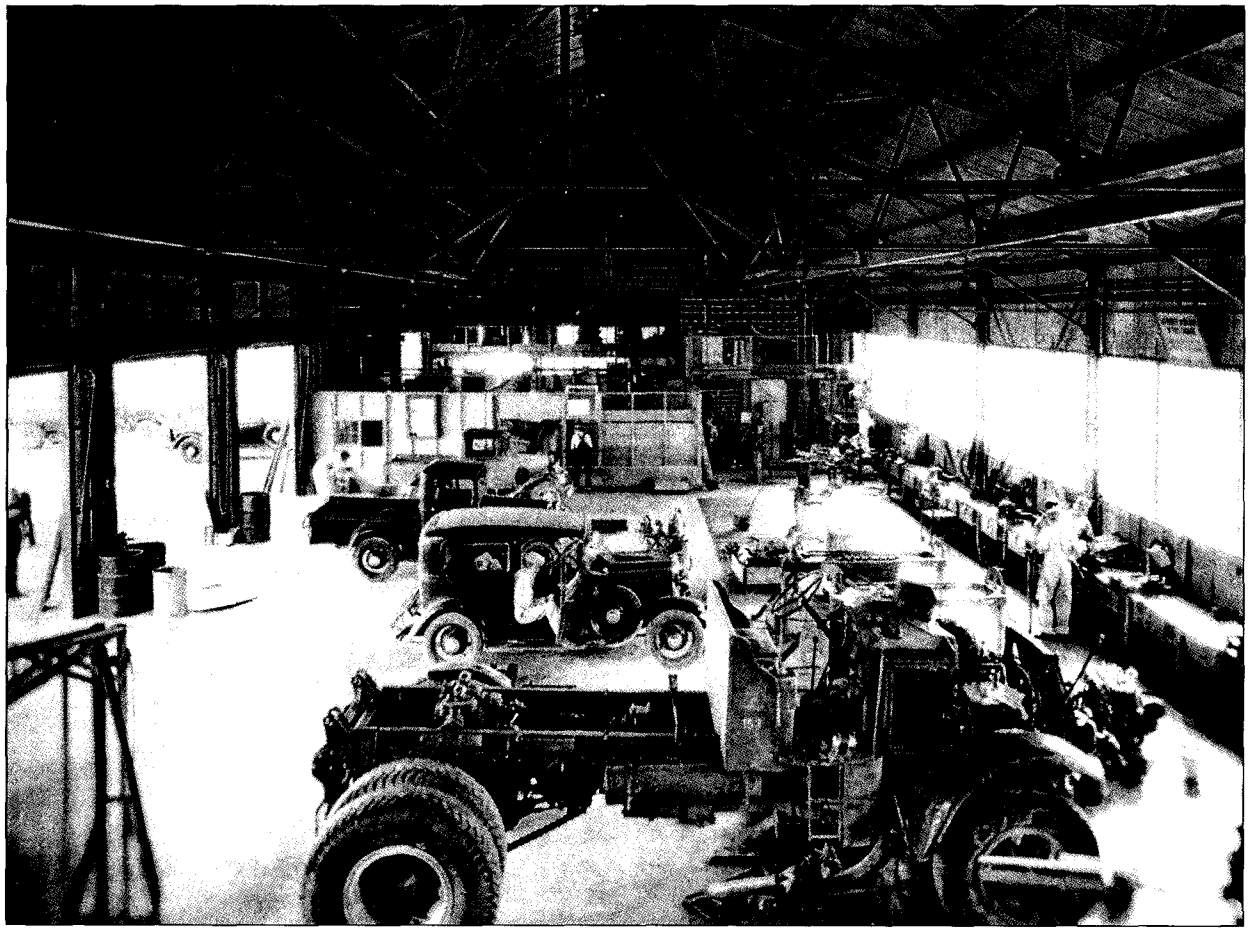


Figure 3. Interior view of Six Companies garage, August 15, 1932 (photograph courtesy of the Boulder City Museum and Historical Association, U.S. Bureau of Mines Collection, Photograph No. 0002:0516).

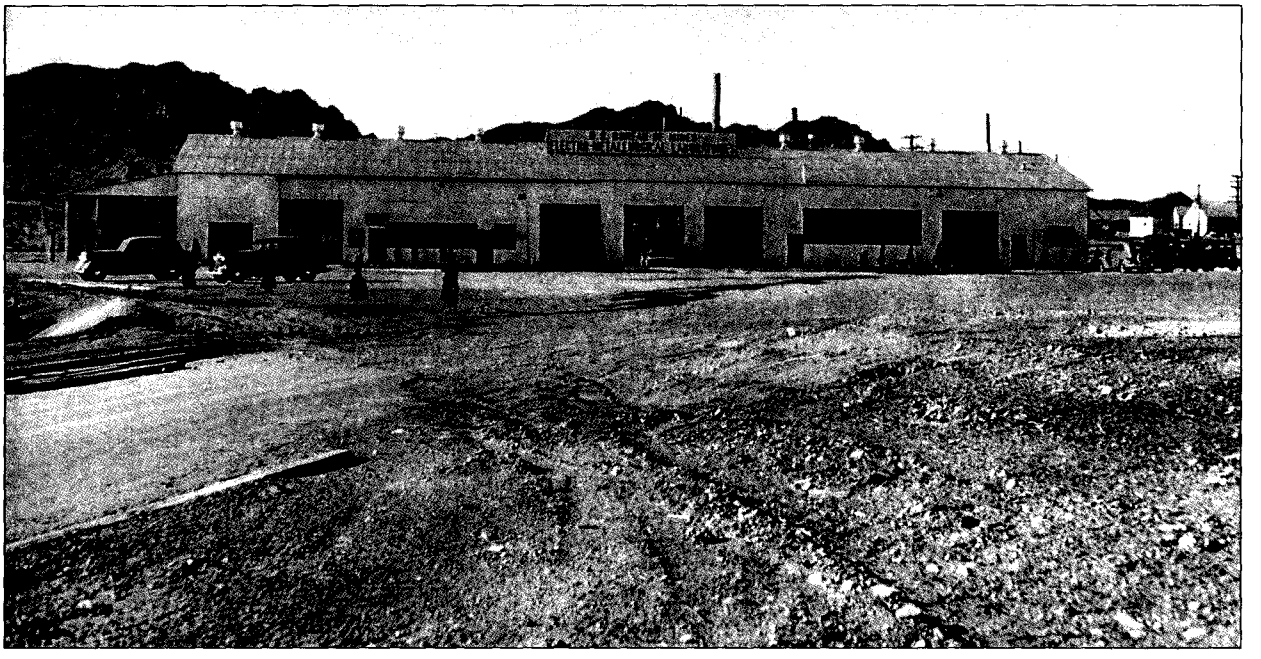


Figure 4. U.S. Bureau of Mines Electrometallurgical Laboratories, ca. 1937 (photograph courtesy of the Boulder City Museum and Historical Association, U.S. Bureau of Mines Collection, Photograph No. 0022:0406).

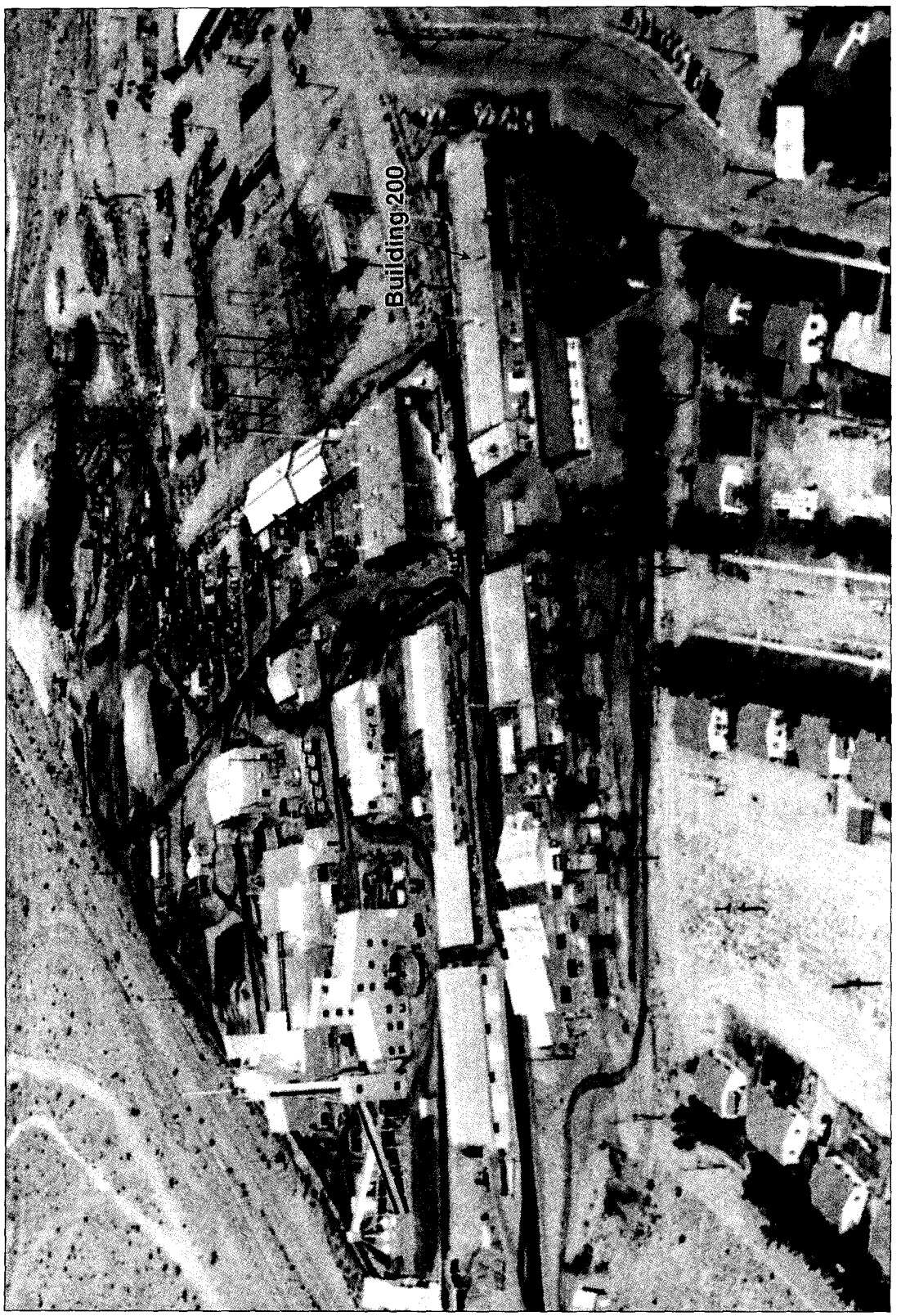


Figure 5. Aerial view of the U.S. Bureau of Mines Electrometallurgic Experimental Station, ca. 1953. Note the shed, machine shop, and zinc laboratory additions on the west, southeast, and northeast sides, respectively. The shed and zinc laboratory are no longer extant (photograph courtesy of the Boulder City Museum and Historical Association, U.S. Bureau of Mines Collection, Photograph No. 0022:0456).

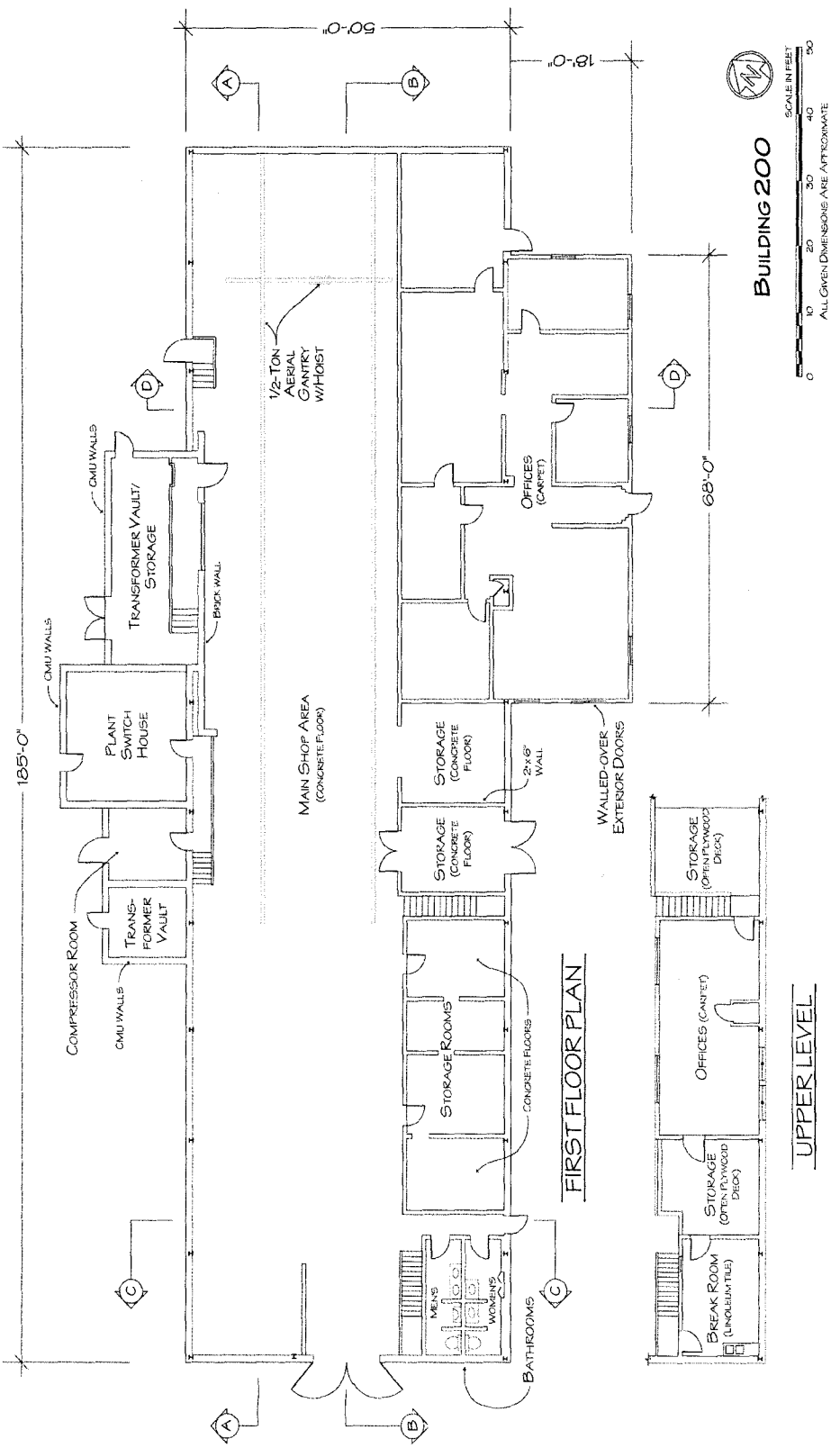


Figure 6. Floor plan, Building 200 (drawn by Simon Herbert, Statistical Research, August 2005).

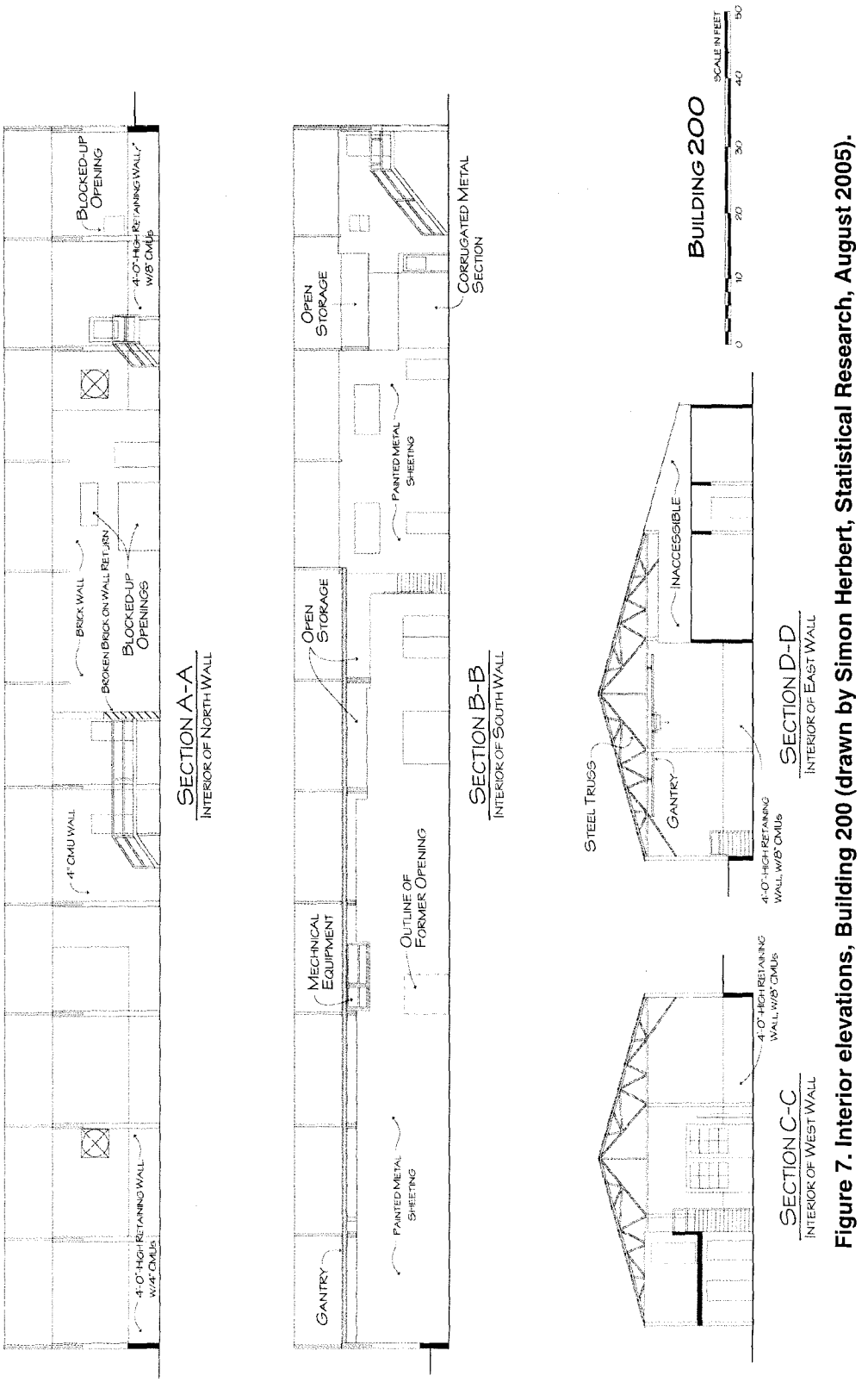


Figure 7. Interior elevations, Building 200 (drawn by Simon Herbert, Statistical Research, August 2005).

Figure 8. South facade of the former Six Companies Garage after the U.S. Bureau of Mines acquired the property, ca. 1936. Note addition to the east end of the original building (photograph courtesy of the Boulder City Museum and Historical Association, U.S. Bureau of Mines Collection, Photograph No. 0022:0266).

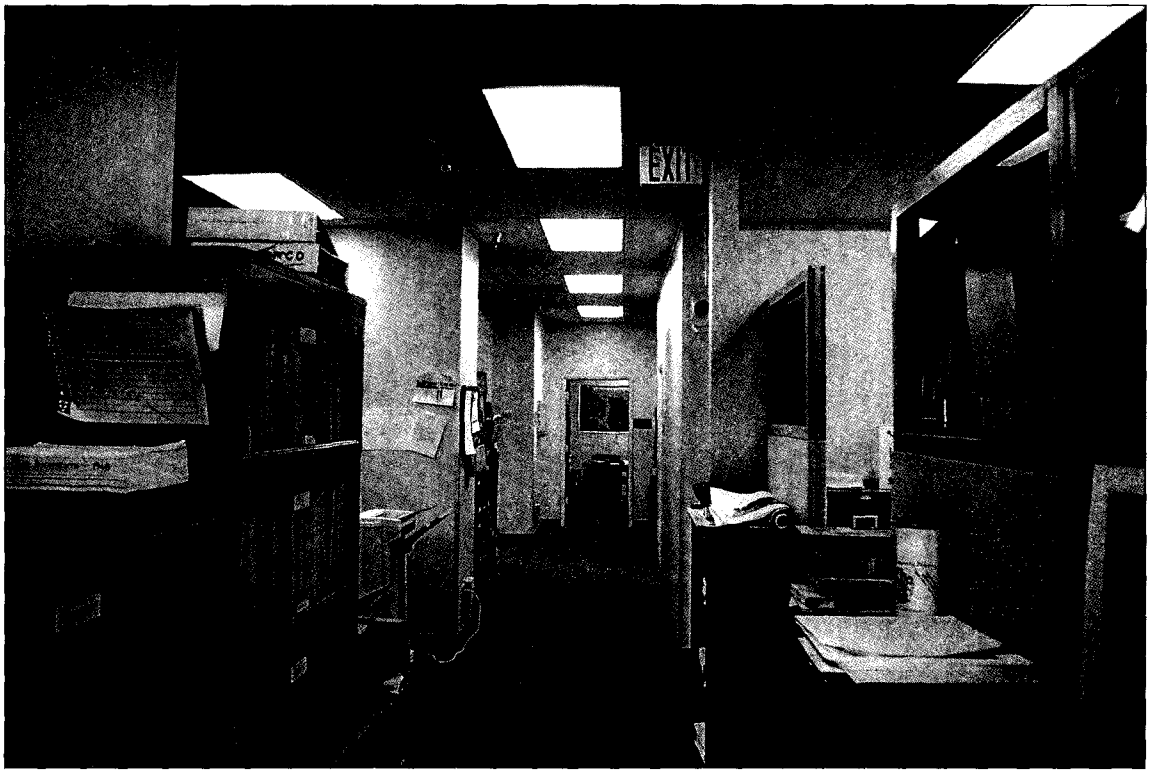


Figure 9. Interior of south addition (former machine shop area), now used as office space, July 2005.

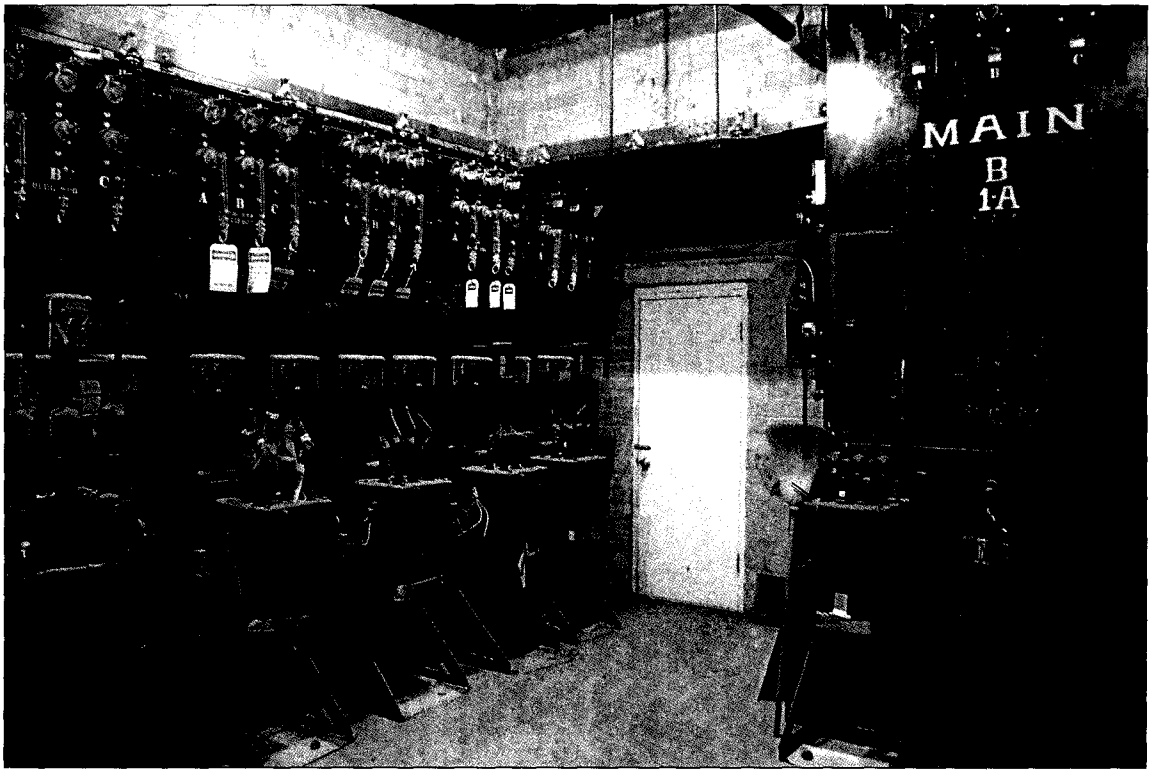


Figure 10. Electrical switch banks inside the plant switch house, July 2005.

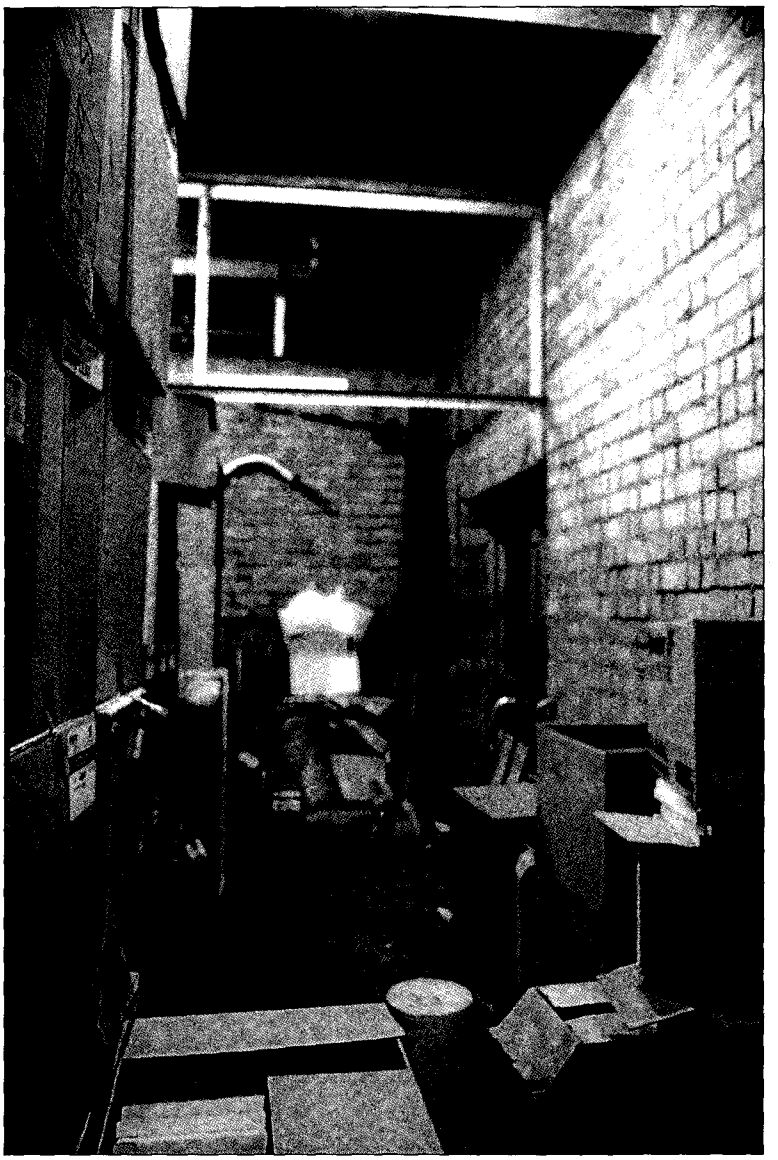


Figure 11. Interior of transformer vault, view to the west, July 2005.

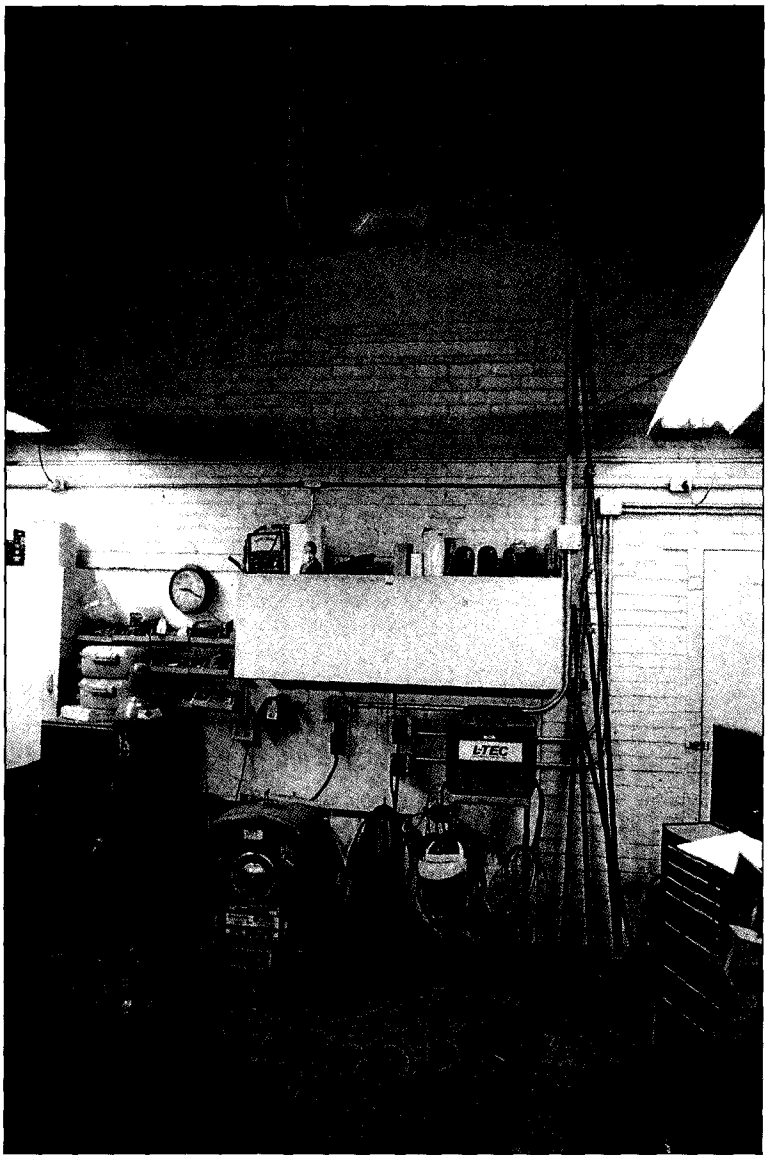


Figure 12. Equipment blocking double doors along south wall of transformer vault, July 2005.

Figure 13. Partial partition wall along north wall of building, July 2005.

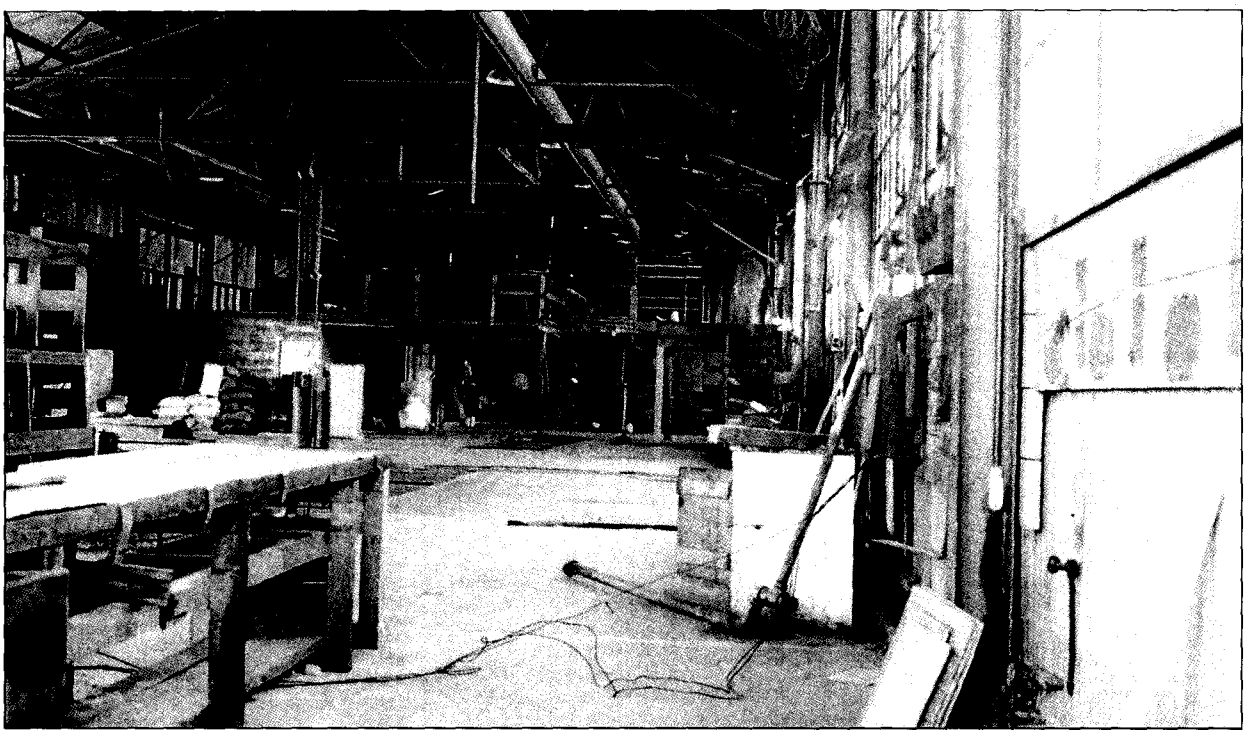


Figure 14. Interior of the former Six Companies garage after the U.S. Bureau of Mines took control, ca. 1936 (photograph courtesy of the Boulder City Museum and Historical Association, U.S. Bureau of Mines Collection, Photograph No. 0022:0281).

Figure 15. Wood siding outside main office, upper level, July 2005.

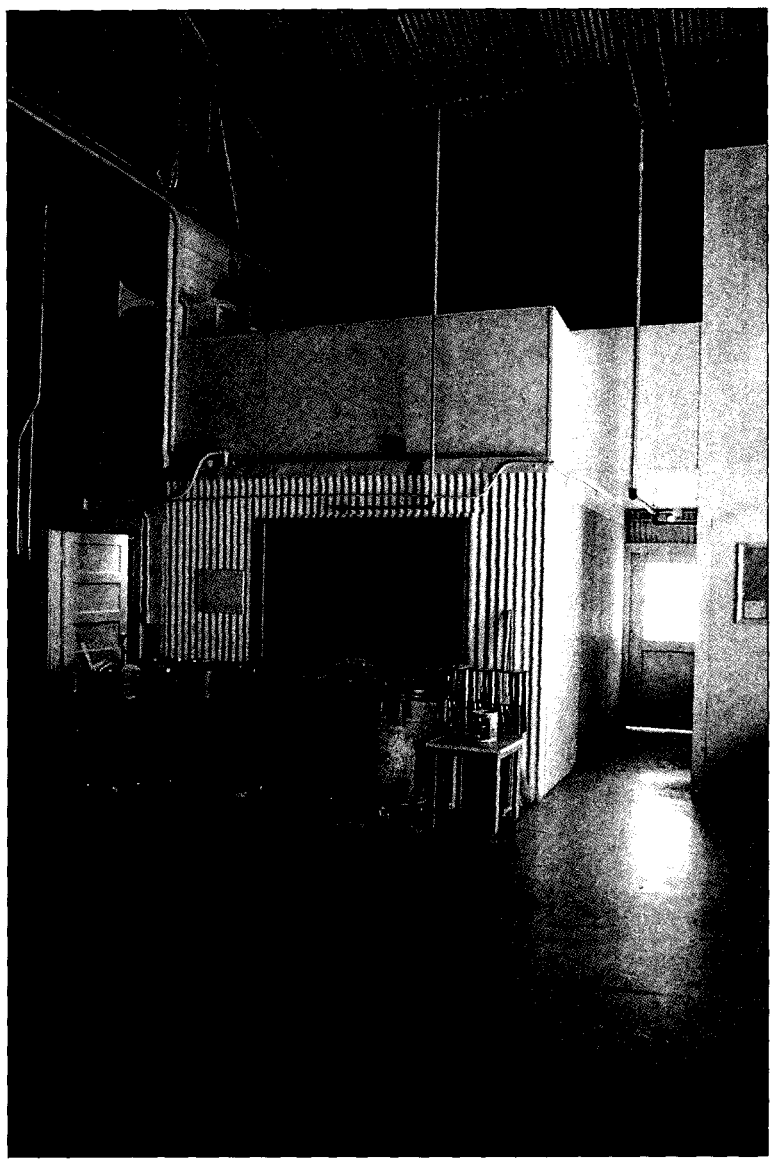


Figure 16. Vertical metal corrugated siding covers the walls to this storage area on the south side of the building interior, July 2005.

Figure 17. Open deck and storage area, upper level, July 2005.

Figure 18. Interior partition wall separating the shop area and south addition office area, July 2005.

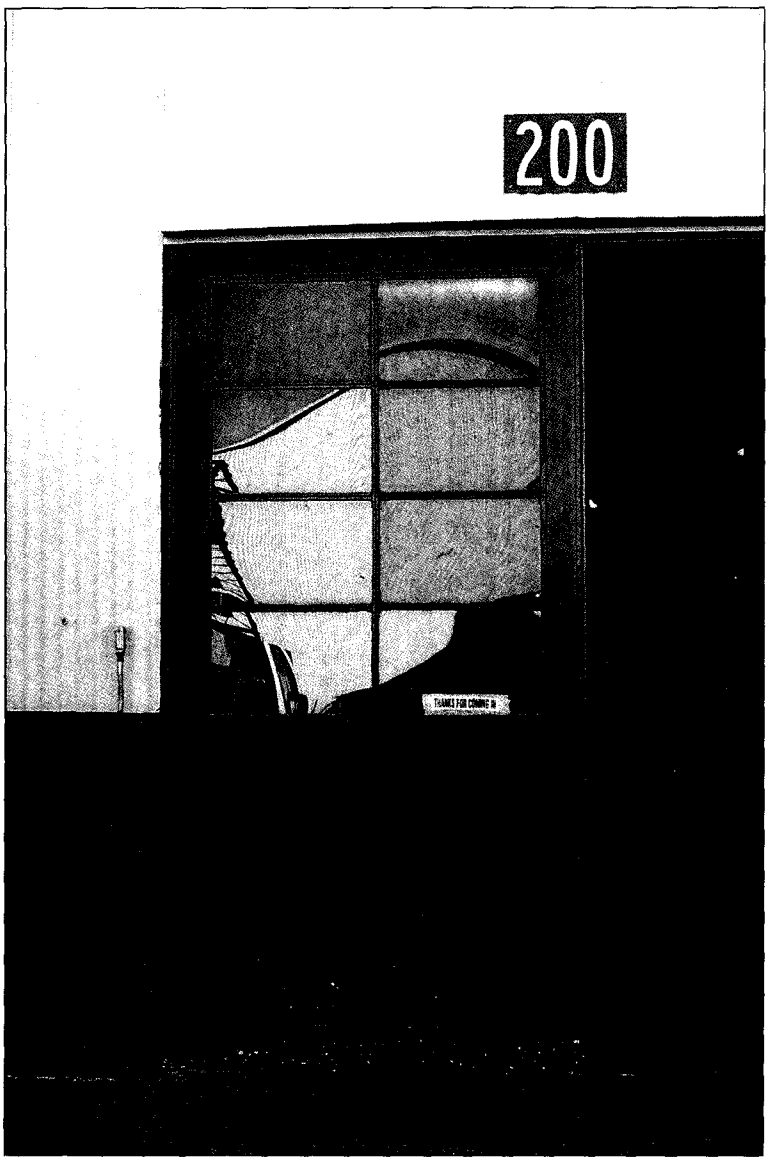


Figure 19. Main double doors on the west gable facade, July 2005.

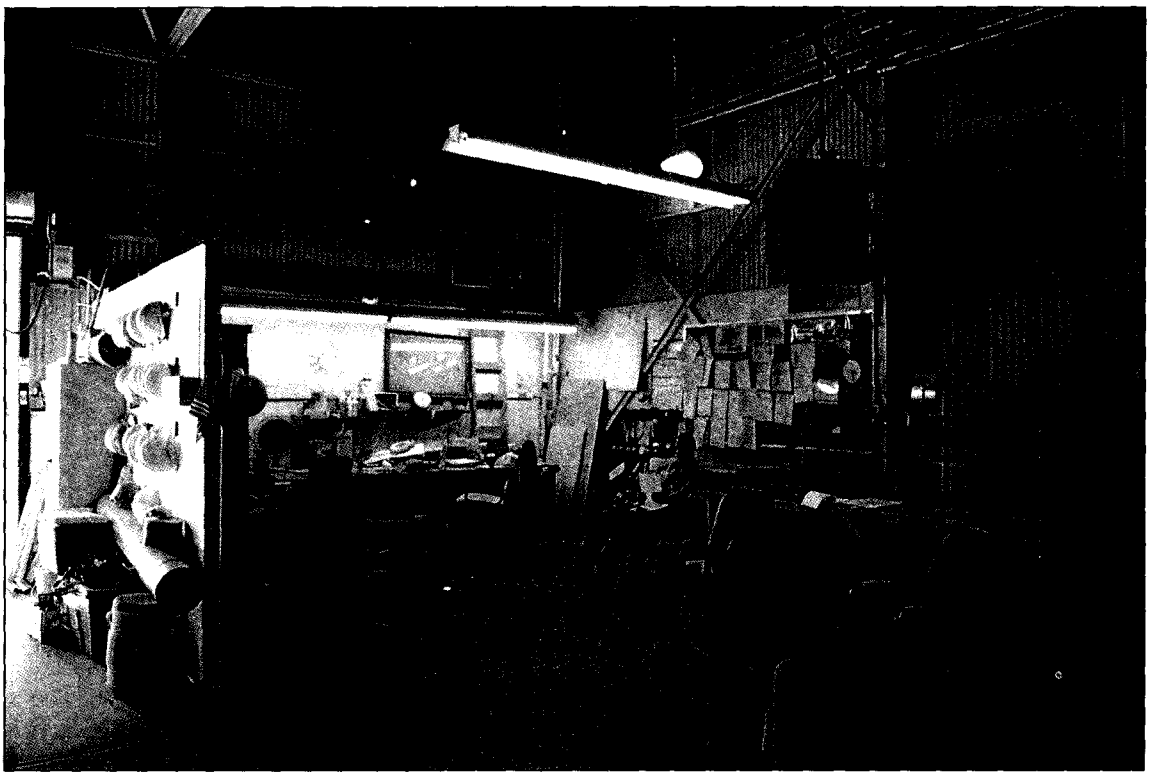


Figure 20. Partition wall extending from the west gable wall, July 2005.