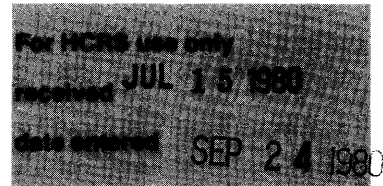


**United States Department of the Interior  
Heritage Conservation and Recreation Service**

**National Register of Historic Places  
Inventory—Nomination Form**



See instructions in *How to Complete National Register Forms*  
Type all entries—complete applicable sections

**1. Name**

historic Big Hole Pumpstation

and/or common

**2. Location** MT 43

street & number Old Highway #43 \_\_\_ not for publication

city, town Divide vicinity of Western congressional district

state Montana code 30 county Silver Bow code 093

**3. Classification**

*(also in Beaverhead County)*

Category	Ownership	Status	Present Use	
<input type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input type="checkbox"/> private residence
<input type="checkbox"/> site	<b>Public Acquisition</b>	<b>Accessible</b>	<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input checked="" type="checkbox"/> industrial	<input type="checkbox"/> transportation
		<input type="checkbox"/> no	<input type="checkbox"/> military	<input type="checkbox"/> other:

**4. Owner of Property**

name Butte Water Company

street & number 124 W. Granite Street

city, town Butte vicinity of Montana state

**5. Location of Legal Description**

courthouse, registry of deeds, etc. Butte-Silver Bow Clerk and Recorder's Office - Courthouse

street & number Granite Street

city, town Butte vicinity of Montana state

**6. Representation in Existing Surveys**

*/HAER-HCRS, Butte-Anaconda Project- 1979*

title National Waterworks Landmark has this property been determined eligible?  yes  no

date 1973 by the American Waterworks Association  federal  state  county  local

depository for survey records 6666 West Quincy Ave.

city, town Denver vicinity of Colorado state

## 7. Description

<b>Condition</b>		<b>Check one</b>	<b>Check one</b>
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input checked="" type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input checked="" type="checkbox"/> good	<input type="checkbox"/> ruins	<input type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		

### Describe the present and original (if known) physical appearance

The Butte Water Company supply system, comprised of two pumping stations, 121 miles of transmission line, five storage reservoirs, five distributing reservoirs, and thousands of miles of distributing mains, supplies water for the Butte mining district as well as the residential areas of Butte, Walkerville, East and South Butte, covering an area of about 15 square miles, varying in elevation from 5400-6368 feet above sea level. (see map). The Big Hole Pumping Station on the Big Hole River, 2½ miles northwest of Divide augments the water stored in the reservoirs located on small creeks in the mountains surrounding Butte. Two redwood continuous stave lines carry the water from the Pumping Station to the reservoirs, over the continental divide, a distance of about 28 miles to the city of Butte. The scope of this nomination includes only the Big Hole Pumping Station, the nearby employee housing, and the dam and settling basin in the Big Hole River. Bound to the north by old highway #43 and extending across the Big Hole River to the south bank, the nominated property includes all of the mentioned buildings and dam in a closely related, integrated cluster.

#### The Pump Station

The pumping station is a large brick building with a concrete foundation and floor. The original section of the station was completed in 1899; the equally large addition was finished in 1906. Within the station there are two 20,000 lb. travelling cranes, one in each of the pumprooms and a large repair shop.

The original #1 pump was a horizontal triple expansion two stage plunger pump manufactured by the Nordberg Manufacturing Company of Madison, Wisconsin. Installed in the original section of the pumping station in 1899, this pump was powered by steam produced by burning of coal. This pump was electrified in 1907 and remained in operation until 1946.

In 1906, the pumping station was expanded to accommodate the #2 pump, another horizontal triple expansion two stage plunger pump. Also manufactured by the Nordberg Company, #2 pump was installed and electrified by 1907. The pump was capable of pumping four million gallons per day. The electric motor is an 800 h.p. induction motor.

#3 pump is a Worthington five stage horizontal turbine, driven by a 1300 h.p. induction motor. This pump was installed in 1916 and is capable of pumping just over six million gallons per day.

#4 pump is a Cameron four stage 12" horizontal turbine, driven by 1300 h.p. synchronous motor. Installed in 1930, #4 pump is capable of pumping seven million gallons per day.

#5 and #6 pumps are Ingersoll Rand four stage horizontal turbines driven by 700 h.p. squirrel cage motors. Both of these pumps were installed in 1954 and are each capable of pumping 3.5 million gallons per day. These pumps use the suction line from pump #1 which was removed from the station in 1953.

A 150 foot riveted steel smokestack was erected in 1899 for the original steam boilers. A coal ramp was built onto the back of the building for the hauling and dumping of coal into the coal bins. Today, the sterling boilers and the 150 foot smokestack still exist but are no longer in use. The coal ramp has been removed.

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Continuation sheet

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Employee Dwellings:

The Big Hole Pumping station is located over 28 miles from Butte, Montana. Housing was constructed on the site for the engineers and workmen. In all, seven buildings providing housing and storage are included in this nomination.

The Chief Engineer's House was built to the east of the pump station in 1900. With a simple pitched roof and clapboard siding, the house was remodeled in 1912 into a bungalow style dwelling. A concrete basement foundation was constructed beside the house, then the house was moved  $\frac{1}{4}$  turn and placed on the new foundations. Shed dormers were built in the upstairs. A porch with river cobble supports was added to the front and another wooden porch attached to the back.

"The Boarding House" was built on a concrete foundation and basement just west of the pump station in 1912. An employee and his wife who lived here cooked and arranged for up to 15 workers to board during the station's busy summer months.

The house furthest west (employee house #1) was built in 1916 on a cement foundation and basement using the scrap lumber taken after the smaller buildings that were built on the east side of the station about 1900 had been dismantled.

The two small houses between the boarding house and the far west house (employee's houses #2 and 3) were built in 1937 and set on pipes filled with cement. After employees moved into the houses in the spring of 1938, they removed dirt beneath the buildings and constructed cement foundations. Later, removing more dirt and pouring a concrete floor, a complete basement was built for each house.

The hose house sets slightly to the west and north of the pump station and houses the hand pulled fire cart. There are fire hydrants to the east and west of the station and enough hose on the cart to reach all of the houses on the property. A fire siren was installed on top of the station in 1935.

The garage is located to the east of the Chief Engineer's residence and has been used as both a garage and a chicken house. It was built ca. 1920.

Concrete Diversion Dam

Prior to 1927, the only diversion dam in the river was made of rock and timber and was very short in height. On June 14, 1927 the dam, small wooden intake, and pump station were devastated by a flood caused by a dam washing out on Pattingail Creek (a tributary to the Wise River which is a tributary to the Big Hole River). The company that owned the Pattingail dam assumed responsibility and constructed the existing dam, intake, and settling basin in 1928.

## 8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400–1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500–1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600–1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700–1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800–1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input type="checkbox"/> 1900–	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1899

Builder/Architect Eugene Carroll

### Statement of Significance (in one paragraph)

The Big Hole Water system is a significant engineering accomplishment, pumping up to 15 million gallons of water each day over the Continental Divide to Butte, Montana. The system is complex and ingenious, tapping water sources more than 27 miles from Butte, utilizing an 840 foot pump lift from the Big Hole River to a reservoir on Divide Creek, then allowing the water to drain by gravity through miles of continuous stave redwood pipelines across the divide to the city of Butte. The system requires five separate distributing systems, necessitated by the contour of the territory served and its high elevation above sea level. The Big Hole Pumping Station exemplifies the determination and imagination of the Butte Water Company engineers in surmounting the unusual difficulties inherent in providing sufficient fresh water to the citizens and industry of Butte.

Butte, Montana is nearly encircled by the Continental Divide. The first prospectors in 1864 found adequate water supplies from the Silver Bow Creek and its tributaries. Due to the high bedrock in the Silver Bow Basin, the artesian effect was limited; shallow wells yielded a small additional water supply. As the mines dug deeper into the earth, the aquifer supplying the wells was drained off into the shafts. The water produced by the mines was a dilute sulfuric acid, unfit for domestic, industrial, or agricultural use. The city's population tripled in the 1880's and the water demands of the mines, mills, and smelters increased at an enormous rate. For a time, water was piped down to the city from mountain creeks. Butte saw another tripling of population during the 1890's and the Anaconda Company decided to move its smelters to Anaconda where the company could be assured of sufficient water supplies. The water situation in Butte had become critical.

After much political maneuvering and financial debacle, the Butte Water Company was established in 1898. In 1899 it installed a pumping plant on the Big Hole River, capable of lifting 15 million gallons of water a day over the Continental Divide to reservoirs on Basin Creek. The fifteen square mile area served by the company, including Butte and surrounding suburbs, ranges in elevation from 5410 to 6368 feet above sea level. To maintain appropriate pressures in the distributing system, seven zones, based on elevation served, were established. Reservoirs were constructed and piping interconnections installed between the three independent water sources (Yankee Doodle Creek, Basin Creek, and the Big Hole River Supply) in such a way that pumping was minimized and that continuity of service and ability to react to emergencies was maximized.

Butte is the largest American city which began as a mining camp and owed its prosperity almost exclusively to the mining and metallurgical industries. It is by far the largest American city in such close proximity to the Continental Divide. Butte's water problems and solutions were rather unique. Although the Silver Bow Basin obtains a fair amount of drainage from the annual precipitation upon the surrounding mountains, the water quality was dangerously polluted at an early date from the mine tailings,

# 9. Major Bibliographical References

- Water Resources of Butte Montana, O.E. Meinzer, Water Supply Paper 345-G, U.S.G.S., Washington Printing Office, 1914.
- "Butte, Montana, Waterworks", The Mueller Record, 221:21-28, January 1931.
- "Water for Thirsty Cities, Butte", George A. Whetstone, Vol. 8#2, Oct. 1976, p.14-15 U of Texas

# 10. Geographical Data

Acreage of nominated property 8 acres

Quadrangle name Dewey, Montana

Quadrangle scale 1:24000

**UMT References**

A 

1	2
Zone	Easting

3	6	0	9	0	0
Northing					

5	0	6	9	1	9	0
Northing						

B 

1	2
Zone	Easting

3	6	0	9	1	0
Northing					

5	0	6	9	0	8	0
Northing						

C 

1	2
Zone	Easting

3	6	1	1	4	0
Northing					

5	0	6	9	1	2	0
Northing						

D 

1	2
Zone	Easting

3	6	1	1	4	0
Northing					

5	0	6	9	2	1	0
Northing						

E 




F 




G 




H 




**Verbal boundary description and justification** 2½ miles NW of Divide, Montana, North boundary is the southern right-of-way line of old Highway #43; Southern boundary is the south bank of Big Hole river; Eastern Boundary runs between UTM points D and C; Western Boundary runs between UTM points A and B. NE¼, NW¼, SW¼ and NW¼, NE¼, SW¼ of Section 12. T1S; R10W.

**List all states and counties for properties overlapping state or county boundaries**

state None code county code

state code county code

# 11. Form Prepared By

name/title Miles Tuttle, Chief of Big Hole Water System; Patricia Bick, Preservation Office

organization Butte Water Co.

date May 12, 1980

street & number 124 W. Granite

telephone 406-792-2311

city or town Butte

state Montana

# 12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national  state  local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the Heritage Conservation and Recreation Service.


State Historic Preservation Officer signature 

title State Historic Preservation Officer

date 6-6-80

For HCRS use only

I hereby certify that this property is included in the National Register

 Patricia Bick  
Keeper of the National Register

date 9/24/80

Attest:   
Chief of Registration

date 9/22/80

**United States Department of the Interior  
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Continuation sheet

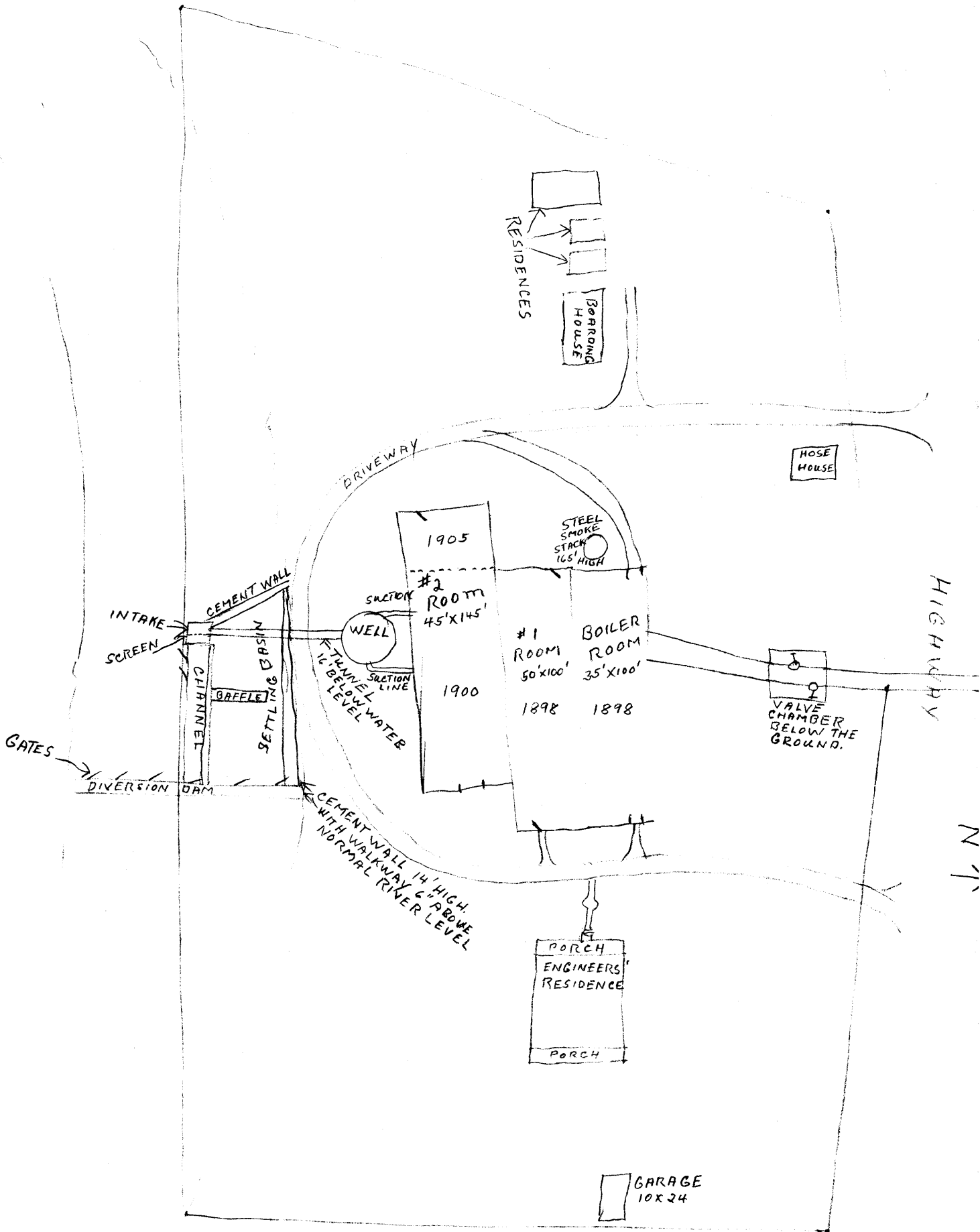
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smelting slag, and residential sewerage which was pumped directly into the Silver Bow Creek. With a rapidly growing population and heavy industrial demands for a voluminous water supply, the solution reached by the Butte Water Company was both creative and far-sighted. The Big Hole Pumping Station has kept pace with technological improvements in the field, installing new pumps to increase its capacity, and continues to meet Butte's water demands.

SKETCH OF BIG HOLE TUNNELING STATION 7/1980.



NOT DRAWN TO SCALE

JUL 5 1980

SKETCH OF INSIDE OF BIG HOLE PUMPING STATION

0861 S 1 702

- #2 Pump -  
3.8 million gallons/24 Hrs.
- #3 Pump  
6.5 million gallons/24 Hrs.
- #4 Pump  
7.0 million gallons/24 Hrs.
- #5 & #6 Pump  
3.6 million gallons/24 Hrs each

- #3 - 1300 H.P. INDUCTION MOTOR  
GENERAL ELECTRIC
- #4 - 1300 H.P. SYNCHRONIS MOTOR  
GENERAL ELECTRIC
- #5 & #6 - 700 H.P. SQUIRRELCAGE MOTORS  
GENERAL ELECTRIC

