

**United States Department of the Interior
National Park Service**

For NPS use only

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

received **MAR 13 1987**

date entered **APR 9 1981**

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

1. Name

historic Anaconda Copper Mining Company Smoke Stack

and or common Anaconda Stack

2. Location

street & number Anaconda Copper Smelter N/A not for publication

city, town Anaconda N/A vicinity of

state Montana code 030 county Deer Lodge code 023

3. Classification

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

4. Owner of Property

name Montana Department of Fish, Wildlife and Parks

street & number 1420 East 6th Avenue

city, town Helena N/A vicinity of state Montana

5. Location of Legal Description

courthouse, registry of deeds, etc. Deer Lodge County Courthouse

street & number South Main Street

city, town Anaconda state Montana

6. Representation in Existing Surveys

title None has this property been determined eligible? yes no

date federal state county local

depository for survey records

city, town state

7. Description

Condition		Check one	Check one
<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 <u> N/A </u>
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

Towering over the city of Anaconda, Montana, the Anaconda Copper Mining Company Smoke Stack stands as it did upon completion in 1918, with a beautiful backdrop of the Rocky Mountains. Set on the top of a small hill, the stack rises a total of 1000' above the town of Anaconda. The base of the stack, built in the form of a truncated octagon, is made of 5, 100 cubic yards of concrete. The outside diameter of the stack at the base is 86', on the inside it is 74' 4". The walls at the base are 5' 4" thick. The inside diameter at the top is 60'. At the time of its construction, the Anaconda Copper Mining Company Smoke Stack was the tallest masonry stack ever built. In other dimensions, it continues to hold rank as the largest in volume. Another smoke stack like this one should never be built because the volume of a stack does not prove to be as useful as its height. It was found after construction that the diameter of the Anaconda Copper Mining Company Smoke State was too large because it did not draw the smoke properly. A gas pipeline had to be installed to heat the smoke so that it would rise more quickly.

The stack connected to a vast flue system from the furnaces of the smelting complex. The smoke passed through treaters at the end of the flue system where, within the treaters there were 111 miles of chains, electrified by high voltage current. The gas and dust particles were electrified by contact as they passed through the links and then violently repelled and attracted by great plates between which the chains were suspended. There were two of these treaters, and when one would be shut down for cleaning, a crew would come in and beat the chains with bamboo poles, and the accumulation of dust and toxic materials dropped into giant hoppers that were then hauled by railroad cars to a special reverbatory furnace for re-treating. By 1972, the flue system had filled with such large amounts of arsenic-tainted dust that a supplemental flue structure was constructed to bring in additional air to facilitate draft. The flue system has been dismantled.

The stack was built with high quality materials and superior workmanship. It is in very good condition because maintenance has been strictly observed. According to tests that were completed in 1984, the stack appears to be structurally sound.

Since the closure of the Anaconda Copper Mining Smelter in 1980, the smelter complex has been systematically dismantled and the milling and smelting equipment sold for reuse. The smoke stack is the primary structure to remain standing on the hill and serves as a poignant reminder of the once large industrial complex. The Anaconda Copper Mining Company Smoke Stack has been donated to the Montana Department of Fish, Wildlife and Parks and will be preserved as an historical landmark.

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 type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1918 **Builder/Architect** Alphons Custodus Chimney Construction Co.

Statement of Significance (in one paragraph)

The Anaconda Copper Mining Company Smokestack, a major industrial landmark of Western Montana, towers over the city of Anaconda, Montana and is visible from a distance of over 20 miles. It rises against a backdrop of the Rocky Mountains to a total height of 585 feet. With an interior diameter of 75 feet at the base and 60 feet at the top, the Anaconda Copper Mining Company Smokestack still claims the distinction of having the largest volume of any stack in the world. When in operation, this stack discharged 3 to 4 million cubic feet of gas per minute. It was to have been the answer to air pollution problems in the Deer Lodge Valley when it was constructed. Although the special Cottrell electric precipitation processing system that was installed at the base of the stack (described in section #7) did serve to reduce the particulate effluents emitted, it did not bring the Washoe (Anaconda) Smelter even close to compliance with Federal and State air quality standards. The smelter was shut down in 1980 and the ore processing equipment is now being systematically dismantled. The smokestack is quite literally the most outstanding feature of this industrial complex and serves as a symbol of the complex industrial history of this one-company city for the people of Anaconda and as a monolithic reminder to the people of Montana of the unchallengeable power of the Company in the State's history.

In 1884, Marcus Daly, the Anaconda Copper Mining Company magnate, built a new smelter, the world's largest, and simultaneously founded the town of Anaconda. In 1902, the smelter was relocated and enlarged on the opposite hill in Anaconda in order to catch the westerly prevailing winds and better disperse the smelter smoke. A 225 foot smokestack was constructed at this time. However, the deleterious effect of the enormous release of smelter dust, arsenic, and sulphur oxides into the air became immediately apparent to the farmers and ranchers of the Deer Lodge Valley. State health officials and the Deer Lodge Farmer's Association filed reports of drastically reduced harvests and livestock dying by the thousands in the fields. Extensive litigation in 1903 gave the Anaconda Company incidental blame in this matter. A new 300 foot stack was constructed later that year. Although the effluents were then sent out over a larger area, the toll on livestock was still high and large numbers were still dying. The Deer Lodge Valley farmers lacked the financial means to pursue court appeals for damages.

During the administration of Teddy Roosevelt, the Federal government became involved in the dispute with Amalgamated Copper Company (Anaconda's parent corporation until 1915) on the grounds that National Forest land in the vicinity of the Washoe Smelter was adversely affected by the concentrations of arsenic and sulphur oxides emitted from the stack. Roosevelt, who often took fishing vacations in Montana, had personal knowledge of the destruction of the forest reserves and resulting soil erosion and a strong commitment to seeking rectification of this problem. Because the Washoe Smelter was the largest in the country, Roosevelt reasoned that if Amalgamated Copper Company could be brought

9. Major Bibliographical References

See continuation sheet

10. Geographical Data

Acreeage of nominated property less than one

Quadrangle name Anaconda

Quadrangle scale 1:62500

UTM References

A

1	2	3	5	2	1	5	0	5	1	0	7	8	5	0
Zone				Easting				Northing						

B

Zone				Easting				Northing						

C

Zone				Easting				Northing						

D

Zone				Easting				Northing						

E

Zone				Easting				Northing						

F

Zone				Easting				Northing						

G

Zone				Easting				Northing						

H

Zone				Easting				Northing						

Verbal boundary description and justification

The boundary for the Anaconda Copper Mining Company Smoke Stack is described by a circle with a 100' radius, centered on the stack.

SW $\frac{1}{4}$ section 12, T.4N; R.11W.

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

state N/A code county code

state code county code

11. Form Prepared By

name/title Margie Smith Sec./Treas./Board Member

organization ANACONDANS TO PRESERVE THE STACK

date October 11, 1983

street & number P.O. Box 893

telephone (406) 563-7774

city or town Anaconda

state Montana 59711

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 National Park Service.

State Historic Preservation Officer signature

Mareille Sheffy

title SHPO

date March 9, 1987

For NPS use only

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

for Allous Byers
Keeper of the National Register

date 4/9/87

Attest:

date

Chief of Registration

**United States Department of the Interior
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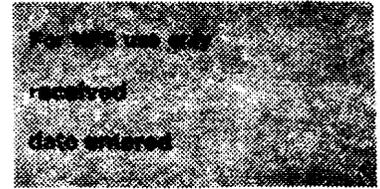
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into compliance, the other, smaller smelting operations would more readily follow suit. For political reasons, the Federal government did not pursue the matter in the courts. When the Justice Department was prepared to commence litigation, the worldwide copper market was glutted and a federal suit at that time, Justice Department investigators felt, would have provided a convenient excuse for the Company to shut down operations for a while, put thousands of people out of work, and blame federal intervention. Instead, the Department initiated lengthy negotiations with the Company in an attempt to reach a solution through cooperative effort. Although the technology existed that would allow for the recapture of a large portion of the poisonous chemical components in the smelter fumes, the Company judged this not be an economically viable undertaking. No action was taken through both the Roosevelt and Taft administrations. After World War I, the Anaconda Company was enjoying heretofore unknown prosperity as the world demand for copper soared. The 585 foot smokestack, with the Cottrell pollution control devices attached, was completed in late 1918. However, damage to forest and agricultural land surrounding the smelter did not abate. Production levels markedly increased at that time with a commensurate increase in the tonnage of arsenic and sulphur dioxide emitted daily from the stack. The Company began to negotiate land transfers with the Federal Government, exchanging National Forest lands for Company lands located in other parts of the State and to simply buy out those farmers and ranchers who had experienced the greatest amount of damage. The government action against the Anaconda Copper Mining Company was "abandoned" in 1933.

From the construction of the first Washoe Smelter in 1884 until the final closing of the Company's operations in Anaconda in 1980, the air pollution problem was never fully addressed. The Anaconda Copper Mining Company smokestack, the tallest in the world at the time of its construction, represents the Company's attempt to find a technical solution to perhaps the most severe air pollution problem in the nation, although with only partial success.

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