REPORT OF GEOLOGIC INVESTIGATION OF THE BROADWAY LEAD-ZINC CLAIM, CARBON COUNTY, WYOMING.

The Broadway Claim is located in section 7, T. 13 N., R. 83 W., on Coon Creek, Carbon County, Wyoming. The area is heavily forested, and lies within the boundaries of the Medicine Bow National Forest at an elevation of approximately 9300 feet. The claim is 19 miles from Encampment, Wyoming, via the Blackhall Mountain Forest Trail, and may be reached only by foot, jeep, or horseback. The last 2.6 miles of the route are over a rough, little used trail.

According to Mr. B.E. Benson, of Encampment, the claim was originally staked by Bill Sodder, about 1907, and the so-called Sodder shaft was sunk at that time. Later Mr. Benson acquired the claim and the three Broadway shafts were put down by him. All of the shafts were accessible when visited except Broadway #3, which is completely caved. The Sodder shaft and Broadway nos. 1 and 2 are about 20 feet deep. The property was examined by the U.S. Bureau of Mines in 1942, and a brief report prepared but not published. Analyses of samples from the various shafts accompanied the report. Maps and other information contained in the report are marked "Confidential - for use of government agencies only." The claim was visited and sampled in the early summer of 1947 by two men from the New Jersey Zinc Company. The present field work was carried on during the first week of August, 1947, and consisted of surface mapping with plane table and telescopic alidade on a scale of one inch equals fifty feet, together with a brief examination of the various shafts. Mr. Benson is the present owner of the property, and he is associated with Mr. Wallace Collins. of Clio, Michigan, and Mr. Bishop, of McCook, Nebraska, who are partners.

The ore zone, as shown on the accompanying map, is about 1000 feet long and about 50 feet wide on the surface. Exact dimensions of the zone were difficult to obtain because the area is heavily wooded and covered by alluvium and fallen timber. Similar ore in small amounts is found in scattered outcrops and old prospect pits near the Broadway claim.

The ore minerals consist mainly of sphalerite with a minor amount of galena. Locally chalcopyrite, chalcocite and covellite are present, usually as finely disseminated grains. Small amounts of malachite and chrysocolla are present in surface outcrops. Usually the ore is massive, but occasionally there may be up to 40 percent open space. Though the mapped zone ranges in ore content from 3 to 35 percent, no reliable estimate of average ore percentage may be made, because the poor exposures and the small extent to which the property is developed. An inaccessable tunnel located halfway down the west wall of shaft #1 contains a gray and white gneissic rock which bears 1 to 5 per cent finely disseminated chalcocite, chalcopyrite and bornite. No exposures of this rock were found at the surface, but specimens were collected from the dump.

The following statements are taken from a letter by M.E. Volin for Paul T. Allsman, Chief, Salt Lake City Division, Minning Branch, U.S. Bureau of Mines, to Dr. H.G. Fisk, Director, Natural Resources Research Institute, University of Wyoming, and are quoted from the Bureau of Mines report on the Broadway property.

"Exposures of sphalerite with minor amounts of galena, silver, and gold have been developed to such a small extent that a just appraisal of the extent of the ore body cannot be made. Five character samples and one channel sample taken during the examination are described as follows:

1. A channel sample along the ends and west side of No. 1 shaft, 4 feet above the bottom, assayed 12.5 percent zinc, 1.9 percent lead, 0.02 percent copper and 7.65 percent sulfur.

2. A sample from a no. 2 shaft dump assayed 4.2 percent zinc and 1.9 percent lead.

3. A sample from no. 3 shaft dump assayed nil zinc and 1.0 percent lead. Chips from the outcrop near No. 3 shaft assayed nil zinc and 0.5 percent lead.

4. A selected character sample of the primary ore from No. 1 shaft assayed 10.2 percent zinc and 0.9 percent lead.

5. Another selected character sample from no. 1 shaft assayed 5.2 percent zinc and 1.5 percent lead.

A platinum group metal in very small amounts in the samples was identified by spectrograph."

The report recommended diamond drilling to determine the extent of the possible ore body, but these recommendations are now out of date."

The ore is localized along the contact of a granite and a complex group of gneisses, amphibolites, gabbros, and extremely coarse-grained rocks of dioritic composition. There is a considerable amount of granite pegmatite associated with the ore zone.

Because exposures in the area are poor, little structural data can be obtained on the surface. Dip of the ore body varies from 50° SE to 50° NW in the various shafts. In the shafts soft yellow limonitic material may be found which usually underlies the ore body. This material is probably localized along fractures. The gneisses and amphibolites have been fractured and recrystallized near the contact with the granite. Ore has replaced the amphibolites where they have been sheared without recrystallization. The replacement has apparently been controlled by a set of northwest trending cross-fractures. It is believed the ore deposition followed the fracturing, injection of pegmatites, and recrystallization. The limonitic material which follows some of the fractures is believed to have been

the result of downward percolation of surface waters. The deposit is zoned to a certain extent, as copper minerals are most highly concentrated near the Sodder shaft (NE end of the ore zone) and zinc minerals near Broadway nos. 1 and 2.

No accurate prediction of the probable extent of the ore body can be made at this time. Surface exposures are poor and development work limited to timbered shafts. If further development work is undertaken, trenches should be dug to more accurately determine the attitude and size of the ore body.

Signed,

F. W. Osterwald, Assistant Geologist
Geological Survey of Wyoming

31 August 47

Root (WGS)

Cu Pb Ag Zn

COMPLETION DATE: 9/29/72

Sample #	% Cu	% Pb	% Ag	% Zn
Above Staff #1	0.82	1.0	0.10	0.039
Blake #1	0.0027	1.2	0.0008	6.9
Lower Exp #1	0.44	1.0	0.04	0.031
Lower Exp #2	0.065	0.52	0.010	2.3

NAME: Root

ANALYSIS FOR: Cu Pb Ag Zn

COLLECTION DATE: 9/27/72

9.

	Cu	Pb	Ag	Zn					
Above Shear #1	0.80	0.80	0.085	0.036					
Shear #1	0.0127	0.6	0.007	8.20					
Low Exp #1	0.50	0.31	0.029	0.5					
Low Exp #2	0.015	0.27	0.005	2.01					

Broadway Mine Geol. Samples

Root (WGS)

Cu, Pb, Ag, Zn

10/2/72

	% Cu	% Pb	% Zn	% Ag	oz/T Ag	PPM Au
Above Shaft #1	0.82	1.0	0.039	0.0285	9.1	C.5
Blake #1	0.0027	1.2	6.9	0.00035	0.11	C.C
Lower Exp #1	0.44	1.0	0.031	0.00485	1.5	C.3
Lower Exp #2	0.065	0.52	2.3	0.0011	0.35	C.4

THE GEOLOGICAL SURVEY OF WYOMING
Horace D. Thomas, State Geologist

OPEN FILE REPORT 47-1

GEOLOGIC RECONNAISSANCE MAP

OF THE

BROADWAY LEAD-ZINC CLAIM

SEC. 7, T. 12 N., R. 83 W., CARBON COUNTY, WYOMING

Geology by F. W. Osterwald
Plane table by John Albanese
August 1947

SCALE
0 25 50 100
FEET

(Contour Interval- 10 Feet)

EXPLANATION

- Lithologic Boundary
- Lithologic Boundary Inferred
- Outcrop Limit of Ore
- 70° Strike & Dip of Foliation With Amount of Dip
- 35° Plunge of Axis of Drag Fold
- 9300' Topographic Contours With Elevation
- Shaft
- Prospect Pit

ROCK TYPES

QUATERNARY

Qal — Alluvium

PRE-CAMBRIAN

ore — 5-35% Ore (mainly sphalerite with lesser galena & minor chalcocite, chalcopyrite & oxides)

gr — Granites

gn — Gneisses, Gabbros, Amphibolites

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