

REPORT OF INACTIVE MINE HAZARDS

BRENNER MINE

23 April, 1991

A. GENERAL INFORMATION

1. Other names;

- a. Barnes
- b. Greenback Mining Company

2. Location;

- a. Southwest 1/4 of Northwest 1/4 of Section 16,
Township 11 North, Range 2 East, Seward Meridian
- b. Latitude- North 61 degrees, 2 minutes, 46 seconds
Longitude- West 149 degrees, 6 minutes, 48 seconds
- c. Elevation above sea level; 2,500 feet
- d. Narrative;

This mine is located almost 8 miles from Girdwood near the head waters and on the east side of Crow Creek at the creek level. It is approximately 300 yards southwest from the mill site of the Monarch Mine. See figure 1.

3. Claim owner;

- a. Name; None
- b. Address;
- c. Telephone number;

4. Claim lessee;

- a. Name; None
- b. Address;
- c. Telephone number;

5. Mine history;

The discovery of this ore deposit is not documented, however, Clyde Brenner owned and operated this mine by 1931. On the west side of Crow Creek he drove an adit 175 feet into the hill side. On the east side of the creek,

he sank an inclined shaft, which was 54 feet deep and had two levels extending from it. One level was 30 feet long and the other was 50 feet long (Parks, 1933).

By 1937, Clyde Brenner with J. Campbell and Stanley McCullam owned the property under the name of the Greenback Mining Company. At that time, two men advanced an adit at a location next to the creek and 330 feet south from the inclined shaft. The adit was at the same elevation as the bottom of the inclined shaft and went 150 feet into the hill. It went through glacial material for most of its length and had only a few feet of earth above it. By this time, too, the inclined shaft had filled with water (Roehm, 1937).

No ore was milled in 1937, however, the machinery for it was in place at a mill building located on the east bank of the creek near the inclined shaft. The equipment included a 10 by 12-inch Blake crusher, three 750-pound stamps, a Gibson impact amalgamator, a half-sized Wilfly concentrating table, and a 5-horsepower, Fairbanks-Morse gasoline engine. A Waukesha, air-cooled, gasoline engine and a two-stage, Ingorsoll-Rand, portable, air compressor were used for the underground work (Roehm, 1937).

No further information about this mine is available, although it probably ceased operation during the Second World War along with the other gold mines in the country.

U. S. Bureau of Mines personnel visited and sampled the mine area in the early 1980's, as part of a mineral assessment of the Chugach National Forest (Jansons, 1984).

6. Access to mine;

The mine is accessible by 6 miles of asphalt and improved dirt road leading from the town of Girdwood to the Crow Pass trail head and by an additional 2 miles along the Crow Pass Trail which was developed on the bed of the old mine road. At one time, a wagon trail went from the Monarch Mine road down to the Brenner Mine, but alder brush has long since overgrown this trail. Currently, access to the mine is by hiking down a steep hill to the creek and then to the mine site.

The Crow Pass Trail appears to be very popular with the public. During the time that we were in the mine area, it was not unusual to see 10 to 12 people, a day, passing through the mine area. Some people hiked up to the mine to look at the mining artifacts. Others passed through on

their way to or from Eagle River, 26 miles away. A few were hunters looking for game. Many people visit this area thus, its hazards should be given high priority for remediation. See figure 2.

B. PHYSICAL HAZARDS

1. Shafts, pits, trenches;

The portal of the inclined shaft was found next to and 2 feet above the creek. The shaft is flooded up to the portal. The original dimensions were about 5 feet high by 5 feet wide, but soil and debris have sloughed down from above and partially blocked the portal. It appears that a few of the mine timbers are holding up this debris. If this is the case, the timbers could collapse if someone happened to stand on the debris, causing them to fall into the flooded shaft. This is a dangerous situation. Also, the shaft appears to be supported by closely spaced timbers along its length, indicating that the material around it is not very stable. This would be dangerous for anyone attempting to descend into the shaft, because after being underwater for at least 50 years, the timbers are probably rotten and could possibly fail at any time. See figure 3.

2. Adits and underground workings;

The adit is on the east side of the creek several hundred feet south of the shaft and mill site. The portal is 3 feet wide by 3 feet high and partially flooded. An iron pipe at the portal was discharging water at a rate of approximately 1 gallon per minute. Further investigation of this adit was not done because of its small size. The reported adit on the west side of the creek was not located. More than likely, it has caved in since it was last used.

3. Highwalls;

No man-made highwalls are present at the mine, however, the topography of the area is very steep and in places almost vertical.

4. Impoundments;

No impoundments are at the site.

5. Unexpended explosives;

We found no abandoned explosives at the site.

6. Buildings, equipment;

No buildings remain at the site, however, many pieces of equipment are present, especially in the creek by the mill site. These include a jaw crusher, flat belt pulleys and axles, two pneumatic drills, steel cable, and pieces of scrap metal. See figure 4.

7. Unstable tailings piles or ditches;

No unstable tailings piles are at this site.

8. Timber, ladders;

The inclined shaft contains many timber supports. Practically all of this timber is under water and rotten. The timbers appear to be holding up debris that has fallen into the entrance of the shaft. As this wood rots and loses its strength, it will allow the debris and anyone standing on it to fall into the flooded shaft.

9. Mine gases;

The open adit was not entered because it was so small and wet. The air quality was not checked.

10. Miscellaneous physical hazards;

None.

C. ENVIRONMENTAL HAZARDS

1. Mercury, arsenic, cyanide;

a. Soil

Close examination of the soil at the mill site showed several tiny beads of mercury. One soil sample was collected from the area 2 feet below the ledge where mill had been located. The result of the laboratory analysis is as follows;

Element	Concentration (parts per million)
Mercury	25.01

This is not as high as one would expect when native mercury is visible in the sample. This may be due to the sampling method used at the laboratory when doing the analysis. Normally, the laboratory technician will thoroughly mix a soil sample and take 2 grams for the actual analysis. Elemental mercury will not disperse evenly through a sample. Thus, a much larger sample of the soil must be analyzed, to increase the probability of analyzing soil which has elemental mercury in it.

The concentration of 25.01 parts per million plus the presence of elemental mercury, however, indicate that very anomalous amounts of mercury are present and should be mitigated.

b. Water

Three water samples were collected from Crow Creek, as follows:

- 1) Sample 1- 100 feet upstream from the mill site,
- 2) Sample 2- next to the mill site, and
- 3) Sample 3- 100 feet downstream from the mill site. See figure 2.

The results are as follows;

Sample	Element	Concentration (parts per million)
1	Arsenic	<0.08
2	Arsenic	<0.08
3	Arsenic	<0.08
1	Mercury	<0.02
2	Mercury	<0.02
3	Mercury	<0.02

These results indicate that the concentrations of arsenic and mercury are very low and do not change at all when passing by the mill site.

2. Acid forming materials;

A pipe at the portal of the adit is discharging water but there was no visible evidence of acid drainage in the area.

3. Heavy metals;

No evidence of heavy metals was found except arsenic and mercury which are discussed above.

4. Asbestos;

There is no indication of asbestos in the area.

5. Radioactive materials;

The underground workings were not tested for radon.

6. Sedimentation;

No sedimentation has occurred at the site.

7. Miscellaneous environmental hazards;

None.

D. RECOMMENDATIONS

As a result of the investigation at the Brenner Mine, the following are recommended;

1. Warning signs could be displayed around the property to advise the public about the dangerous conditions which are present, especially the inclined shaft.

2. A chain link fence could be installed around the inclined shaft as a temporary means of keeping people away from this hazard until a permanent closure is completed.

3. Permanent closure of these mine openings could be considered because they are very hazardous, they will be very expensive to reopen, and there is no known claimant for this property. The openings could be closed by blasting them shut or by backfilling them with earth.

4. The smaller pieces of scrap lumber could be disposed of by burning or burying. The scrap metal could be buried or recycled. The large pieces of equipment, such as the crusher and pneumatic drills could be put on display and stabilized so as not to be a toppling or falling hazard.

5. Further soil sampling could be done to determine the extent of mercury occurrence in the soil in the mill site. If native mercury is in the soil at the mill site, it is very likely to be in the adjacent creek, too. At least 10 soil or sediment samples should be collected around the mill site and in the

creek. Once the extent of the mercury has been delineated, all of the effected soil and sediments could be removed and transported to a licensed hazardous materials disposal site.

6. According to John Mattson, the Archaeologist for the Chugach National Forest, any reclamation work done at this mine could be considered a Federal undertaking as stated in section 106 of the National Historic Preservation Act of 1966 and 36 CFR 800. As such, he must be consulted during the planning phase of the reclamation process to assure that Federal interests are considered.

E. REFERENCES

1. Bureau of Land Management. Mining Claim Activity Report. Available from the BLM Alaska State Office, Anchorage, June, 1990.
2. Jansons, U., R. B. Hoekzema, J. M. Kurtak, and S. A. Fechner. Mineral Occurrences in the Chugach National Forest, Southcentral Alaska. BuMines MLA 5-84, 1984, 218 pp., (Locality A-38).
3. Park, F. C., Jr. The Girdwood District, Alaska. U. S. Geol. Surv. Bull. 849- G, 1933, pp. 406- 419.
4. Roehm, J. C. Preliminary Report of Mining Activities on Crow Creek, Girdwood District, Alaska. Alaska Territorial Department of Mines Report, 1937, 6 pp.
5. Roehm, J. C. Investigations in the Cache Creek, Innoko, Iditarod, Aniak- Tuluksak, and Goodnews Bay Districts, and Itinerary of J. C. Roehm, September 1- 30, 1938. Alaska Territorial Dep. of Mines Itinerary Rep., 1938, 8 pp.

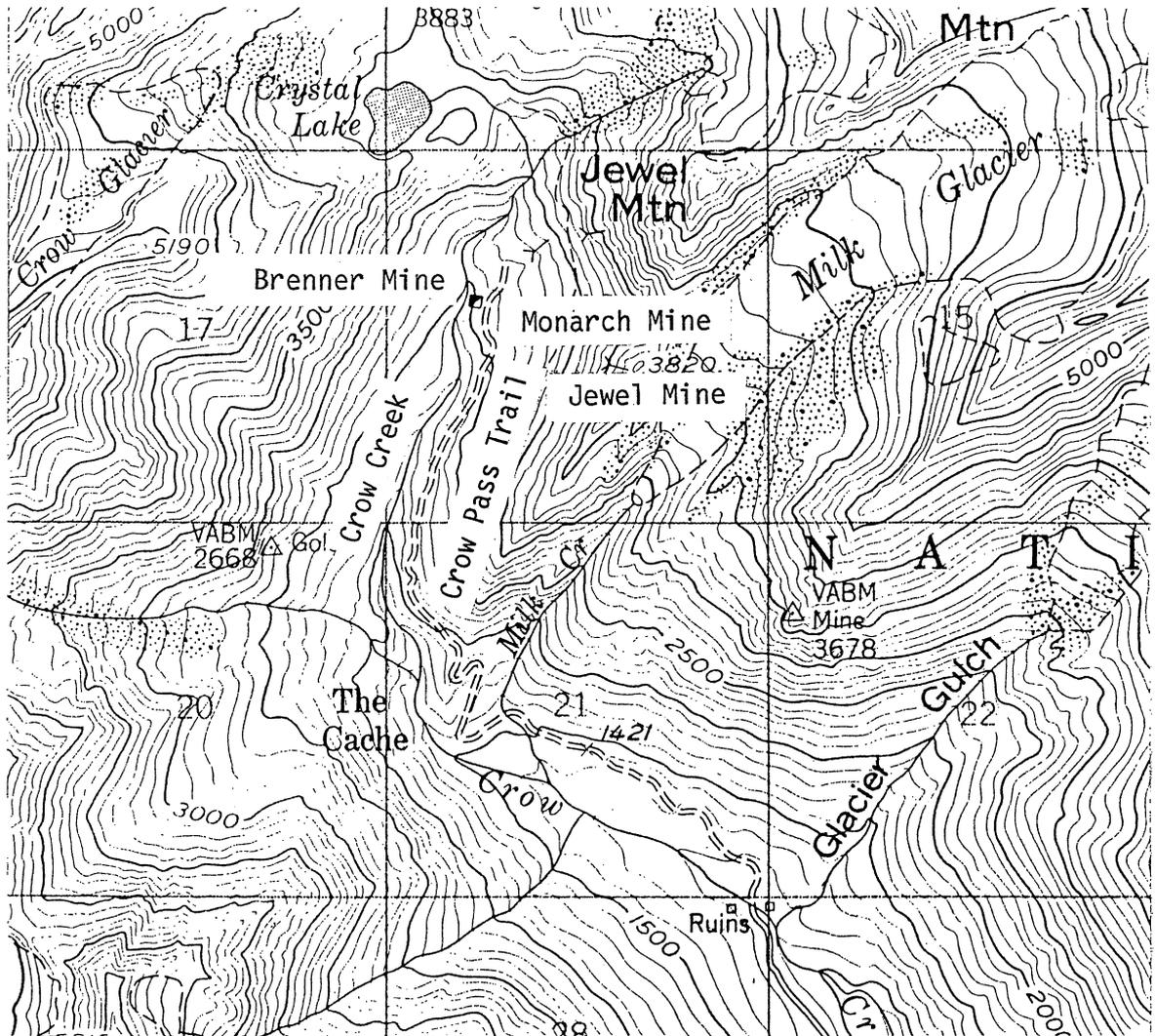


Figure 1.- Map showing the general location of the Brenner Mine.

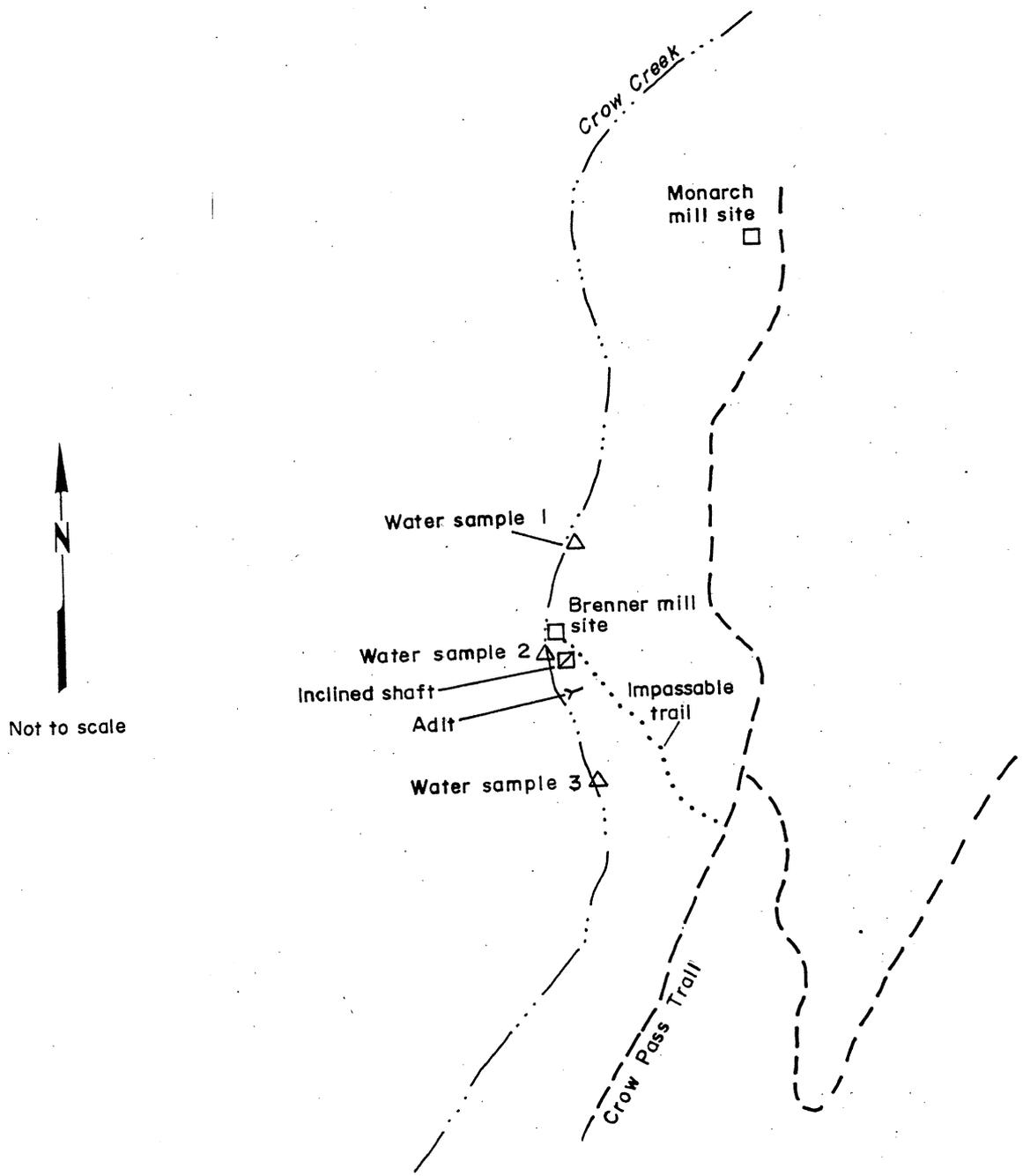


Figure 2.- Sketch map showing the main features of the Brenner Mine area and the locations of the water samples.



Figure 3.- The inclined shaft at the Brenner Mine
which is partially hidden from view.

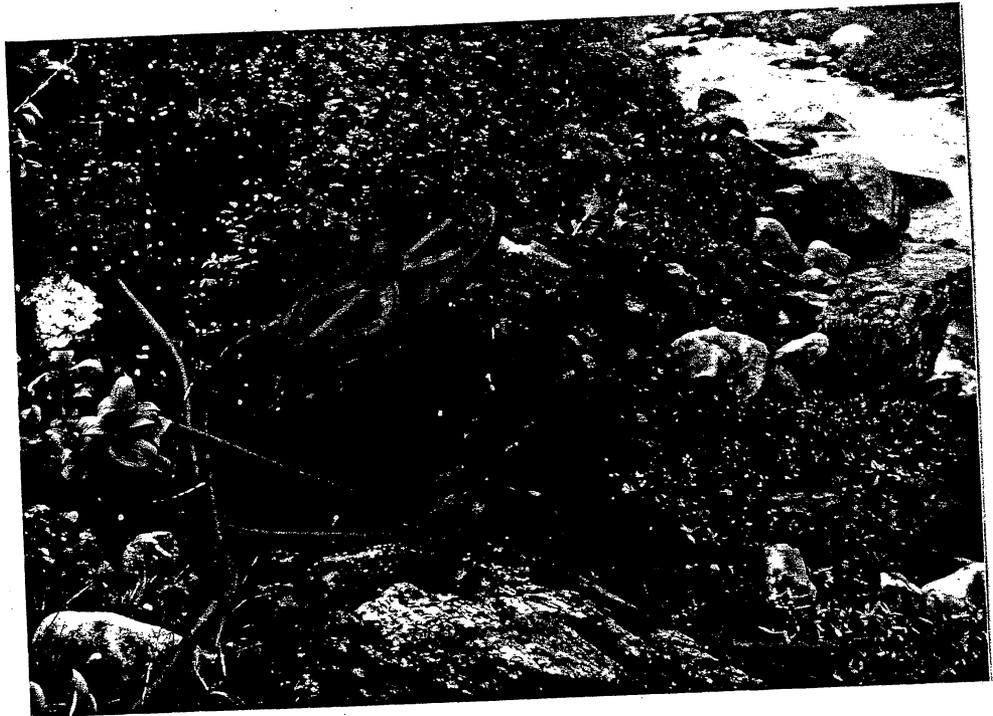


Figure 4.- A jaw crusher found near the Brenner Mill site.