

SILVER BASIN
SITE #45
MINFILE# 105M 005

1. LOCATION AND ACCESS

The site is on the north side of Keno Hill, approximately 1km north of the Monument Hill summit. Four-wheel drive access is possible by the Silver Basin Gulch Trail, some 2.5km from Keno Hill Signpost. The approximate UTM co-ordinates are 7 091 450m N and 491 000m E (Latitude: 63° 57' 08" N and Longitude: 135° 09' 30" W).

2. SITE PHYSIOGRAPHY

The area slopes gently to moderately to the north and east. The site is located at an elevation of 5400ft (1640m) and is above the treeline. The vegetation is mostly grass, moss and some small shrubs. Surface runoff from the site drains 500m to the west into Silver Basin Gulch, a tributary of the Keno Ladue River. Given the elevation and aspect, the area is presumably underlain by continuous permafrost.

3. GEOLOGY AND MINERALIZATION

Trench #1 located in the relatively flat area above the break in slope of the Gulch cut Earn Group quartz, sericite chlorite phyllite and carbonaceous phyllite.

Trench #2 is located on a moderate dipping east facing slope of Silver Basin Gulch and sub-parallel to the strike of the vein. The vein is poorly exposed in two locations, approximately 30m apart. The vein in the upper section of the trench is approximately 0.5m wide and has quartz and weak oxidized siderite. The lower vein zone is approximately 1m wide. The footwall 0.5m, section is vein quartz, and the hanging wall section has fractured quartz in a strong rusty mud gouge with occasional small pods of gneissic galena. The rusty gouge may be crushed and oxidized arsenopyrite. The wallrock for the vein is Keno Hill Quartzite. The vein is reported in the Yukon Minfile as 2.4m wide, traced for 30m, with minor galena, tetrahedrite and arsenopyrite in a quartz-siderite gangue.

In the road cut, just above the head of Trench #2, the vein is a 1.5m wide fracture zone with weak quartz and oxidized siderite veining.

Abundant vein quartz, with minor oxidized siderite is present in the shaft waste rock pile. No mineralization was seen in the quartz or siderite. Host rock for the hand shaft is Keno Hill quartzite.

4. SITE HISTORY

Between 1919 and 1927 a short shaft, open cuts and trenches were excavated. Some bulldozer trenching was undertaken in 1986.

5. MINE DEVELOPMENT

Three trenches and one collapsed shallow shaft were visited. There is a small waste rock pile outside of the shaft. No ore was processed at the site and no tailings were encountered. There is no wastewater treatment facility at the site. Site photos are in Attachment 1 and laboratory sampling results are in Attachment 2.

5.1 Mine Openings and Excavations

Shaft #1 (photo 45-1)

The hand shaft is collared in Keno Hill Quartzite. It has collapsed approximately 1m below the surface. From the amount of material in the waste rock pile, the shaft was originally approximately 3m deep. The shaft is located roughly 200m east of Silver Basin Gulch Trail.

Dimensions (L x W x D): 1m x 1m x 3m

Supports: The shaft is supported by log cribbing.

Accessibility: The shaft cannot be accessed.

Trench #1 (photo 45-2)

Trench #1 is a bulldozer trench excavated shallowly into overburden. There is a small volume of ponded water at the northern end. The trench is oriented at 005°.

Dimensions (L x W x H): 48m x 2-4m x 1.5m

Condition: The trench walls are gently sloped and shallow. There are no stability concerns.

Trench #2 (photo 45-3)

The trench is located on a moderately dipping (30°) east facing slope on the southeast side of the Silver Basin Gulch Trail, 300m northeast of the shaft. A quartz vein is exposed in the upper and lower sections of the trench. There is a small trickle of water crossing the lower vein.

Dimensions (L x W x H): 50m x 2-4m x 2-4m

Condition: The trench walls are moderately steep and are composed of rock rubble and exposed bedrock. There is possibility of the walls slumping.

Trench #3

Trench #3 is a small hand trench located 5m to the west of the shaft.

Dimensions (L x W x H): 1m x 3m x 0.5m

Condition: Given the size of the trench there are no stability concerns.

5.2 Waste Rock Disposal Areas

There are three waste rock piles associated with the workings.

Waste rock from the excavation of Trench #1 is piled at the north end of the trench, just past the ponded water. The pile measures roughly 4m wide, 6m long and 1.5m high. The surface rock on top of the pile is primarily overburden. There is no surface water flowing over the pile at the time of the site visit.

There is a small waste rock pile located outside of the shaft. Abundant vein quartz, with minor oxidized siderite is present in the shaft waste rock pile. No mineralization was seen in the quartz or siderite. No acid rock drainage conditions were seen in the vein or vein wallrock.

6. MINE SITE INFRASTRUCTURE

There is one collapsed building at the site. No fuel caches, electrical equipment, rail and trestle or any other mine site infrastructure was encountered.

6.1 Building 45A (photo 45-4)

There is an old collapsed log and timber cabin located on the west side of Silver Gulch Trail.

Dimensions (L x W x H): not measured

Asbestos: No asbestos was encountered.

Non-Hazardous Contents: A small volume of metal debris, mostly tin cans, was observed inside the cabin.

Hazardous Contents: No hazardous contents were encountered.

7. SOLID WASTE DUMPS

No solid waste dumps were encountered.

8. POTENTIAL CONTAMINANTS OF CONCERN

No hazardous products were encountered. Potential contaminants of concern include any metals washing from the trench walls or from the waste rock pile.

9. WATER QUALITY

There is a small trickle of water flowing over the lower quartz vein in Trench #2. A water sample (Silver Basin F3 – Silver Basin – 99/09/17) was collected for analysis. The field pH was 5 and the conductivity 930µS/cm.

10. RECLAMATION

Due to the high elevation, there is very little natural revegetation of the disturbed areas. There is some grass growing back in the trenches.

11. REFERENCES AND PERSONAL COMMUNICATIONS

Minfile #105M 005

ATTACHMENT 2: 1999 SILVER BASIN WATER SAMPLES

LABORATORY RESULTS

| Sample Number | Detection Limit | Units | Silver Basin F3 - Silver Basin - 99/09/17 |
|-------------------------------|------------------------|--------------|---|
| Site Description | | | Small trickle of water flowing over the lower vein in Trench #2 |
| pH (field) | N/A | pH | 5 |
| Conductivity (field) | N/A | µS/cm | 930 |
| pH (Lab) | 0.01 | pH | 5.84 |
| Conductivity (Lab) | 0.01 | µS/cm | 770 |
| Total Alkalinity | 5 | mg CaCO3/L | 8 |
| Chloride | 0.5 | mg/L | <0.5 |
| Hardness (CaCO3 equiv) | 5 | mg/L | 422 |
| Nitrate-N | 0.1 | mg/L | <0.1 |
| Nitrite-N | 0.003 | mg/L | 0.003 |
| Sulphate | 1 | mg/L | 420 |
| Total Dissolved Solids | 5 | mg/L | 627 |
| Analysis by ICP-USN | | | |
| Aluminum | 0.0008 | mg/L | 16.9 |
| Antimony | 0.005 | mg/L | 0.013 |
| Arsenic | 0.01 | mg/L | 0.48 |
| Barium | 0.00004 | mg/L | 0.237 |
| Beryllium | 0.00001 | mg/L | 0.00061 |
| Bismuth | 0.0004 | mg/L | 0.0014 |
| Boron | 0.002 | mg/L | 0.027 |
| Cadmium | 0.00006 | mg/L | 0.0227 |
| Calcium | 0.002 | mg/L | 133 |
| Chromium | 0.00006 | mg/L | 0.0177 |
| Cobalt | 0.00003 | mg/L | 0.0321 |
| Copper | 0.00003 | mg/L | 0.368 |
| Iron | 0.00001 | mg/L | 44.6 |
| Lead | 0.0003 | mg/L | 0.443 |
| Lithium | 0.001 | mg/L | 0.035 |
| Magnesium | 0.0005 | mg/L | 27.1 |
| Manganese | 0.00002 | mg/L | 3.51 |
| Mercury | 0.0001 | mg/L | 0.0002 |
| Molybdenum | 0.00007 | mg/L | 0.00984 |
| Nickel | 0.00001 | mg/L | 0.169 |
| Phosphorus | 0.03 | mg/L | 1.65 |
| Potassium | 0.4 | mg/L | 1.5 |
| Selenium | 0.004 | mg/L | <0.004 |
| Silicon | 0.004 | mg/L | 16.8 |
| Silver | 0.00005 | mg/L | 0.0117 |
| Sodium | 0.004 | mg/L | 0.8 |
| Strontium | 0.00002 | mg/L | 0.565 |
| Sulphur | 0.008 | mg/L | 139 |
| Thallium | 0.001 | mg/L | <0.001 |
| Titanium | 0.00002 | mg/L | 0.115 |
| Vanadium | 0.00003 | mg/L | 0.0181 |
| Zinc | 0.0002 | mg/L | 1.29 |
| Analysis by Hydride AA | | | |
| Arsenic | 0.0002 | mg/L | 0.452 |
| Selenium | 0.0001 | mg/L | 0.0032 |



Photo 45-1 : Silver Basin. The pile of logs is the remains of a shallow shaft, Silver Basin Gulch is in the background. (Azimuth $\sim 090^{\circ}$)



Photo 45-2 : Silver Basin. View of Trench #1 with ponded water at the north end. (Azimuth 005^o)



Photo 45-3 : Silver Basin. View of Trench #2. (Azimuth 316^o)



Photo 45-4 : Silver Basin. Collapsed log and timber cabin beside Silver Basin Gulch Trail.
(Azimuth $\sim 180^\circ$)