CANYON CREEK PROSPECT-FIELD REPORT

February 2, 1987

General Description

The Canyon Creek prospect is located on unpatented mining claims adjacent to Canyon Creek, approximately 2.5 miles downstream of the Ohio Creek Glacier on the left-limit of Ohio Creek. This area lies in the SE quarter of section 28, T 20S, R 12W, Healy (A-1) Quadrangle, Alaska. The Canyon Creek claims partially surround and area generally located uphill and to the north of 12 patented claims known as the Ready Cash Group. The Ready Cash Group has been described by Ross (1) and Caps (2) and consist of precious-metal bearing arsenopyrite-galena-rich veins. Two short, now inacessible adits were driven around 1915, however no production is recorded. Reported assays on vein samples generally range between .01 and .08 oz/t Au and several ounces silver, however a few, possibly high-graded samples containing up to several tenths of an ounce gold are also mentioned.

The Canyon Creek prospect has been described by Hawley and others. (3-7). As reported, the geology of the area is dominated by a sequence of basalt and interlayered limestone with minor amounts of hornsfeld argillite. Mineralization consists of quartz-sulfide and massive sulfide veins and disseminated sulfides in basalt, limestone, and hornfels. The sulfide-bearing area parallels to the west a north-northwest-trending

steeply southwest (?)-dipping fault. A second fault is also infered to follow the valley of Canyon Creek. Several discontinuous northeast-trending rhyolite dikes are also present in the area.

Hawley reports vein samples containing up to 43.1 oz/t Ag and 1.15 pct Sn and surmizes that the deposits at Canyon Creek resemble Bolivian tin-silver veins that may overlie a staniferous granite (7). One vein, the No. 4, was found to have a mineralized shoot in excess of 400 ft long that averages 0.5 pct Sn, 20.8 oz/t Ag, and 4.0 pct Pb over 3.3 ft. Hawley infers 25,000 tons within the No. 4 vein and postulates that the area has potential for a deposit containing several hundred thousand tons of silver-tin-ore (7).

Investigations

Four days were spent mapping and sampling a one-third mi2 mineralized area that is centered about a small knowl located approximately 0.5 mi east and 1000 ft above the narrow precipitous valley of Canyon Creek (Fig. 1). This area was previously mapped at the same scale by Hawley (7); Bureau efforts therefore focused on a systamatic sampling of the veins. The mineralized area extends to the north-northwest beyond the area mapped, but the steep terrain makes the extension inacessible.

Mapping

Bureau mapping generally concurs with that by Hawley, therefore the

following discussion is limited to a description of the mineralization. Three main veins were mapped; they are here referred to as the "No Number", "No. 4", and "No. 3" veins. The No Number and No. 4 veins were mapped seperately by Hawley but referred to collectively as the "Ready Cash No. 4" veins; the No. 3 vein mapped here corresponds to Hawley's "Ready Cash No. 3" vein. The veins strike north to northwest extending towards the headwaters of Canyon Creek from the southwestern flank of the knowl, and have variable dips ranging from the vertical to 450 east. Vein widths are variable over short distances, ranging from less than 1 ft to 9 ft, but probably average between 1.5 and 2.0 ft. Vein plays are common and country rock inclusions are locallly abundant. Slickensides and brecciation are also locally present on vein margins.

Veins generally consist of massive banded or disseminated arsenopyrite in milky quartz with lessor quantities of galena, sphalorite, and chlcopyrite. Galena and sphalorite mostly occur as subhedral masses within the veins where as chalcopyrite is generally contained in fractures. The veins are locally deeply weathered and oxidized to a black-colored scorodite-rich rock, especially where massive arsenopyrite originally predominated .

Rocks adjacent to veins locally contain minor disseminated pyrite or arsenopyrite, however the most previously altered country rocks are located on the southeast flank of the knowl away from the veins. A crudley triangular-shaped area bounded as the north by a fault and on the west by limestone contains pervasively hornfelsed and iron-stained argillite. The argillite is out by northwest-trending vertical rhyolite

dikes containing minor amounts of disseminated arsenopyrite. Minor quantities of disseminated and fracture-filling arsenopyrite, chalcopyrite, and pyrrhotite locally occur adjacent to the dikes in the hornfels. Many of the dikes appear to be cut by the northwest-trending fault, however at least one dike may cut the fault.

Sampling

Samples analyses are presented in tables 1 and 2 and sample locations are shown in figure 1. Sampling was generally confined to representative continuous chips across vein widths collected at regular intervals. Unfortunately, the precipitous terrain prevented sampling extensions of the veins to the north. A few random chip samples were also collected.

Based on 9 samples, a 400 ft- long portion of the No Number vein contains a weighted average grade of 0.26 pct Sn, 8.3 oz/t Ag, 0.15 pct Cu, 1.8 pct Pb, and 0.8 pct Zn over an average width of 3.4 ft. Metal concentrations are generally proportional to each other, however, there is no apparent relationship between vein width and grade, except for cases in which wall rock is included in the sample. Most of the samples also contain several to 10 pct As and detectible quantities of gold.

Vein No. 4, located approximately 35 ft west of the No Number Vein contains a weighted average grade of 0.34 pct Sn, 6.4 oz Ag, .34 pct by .71 pct Pb, and .13 pct Zn over an average width of 1.5 ft, based on 3 samples collected alloy 200 ft of strike length. At a mining width of 3.0 ft the vein would average one-half this grade at .17 pct Sn and 3.2 oz/t Ag.

Only one sample each was collected from the No. 3 and Ready Cash veins. Both of the samples contained less than .1 pct Sn. The sample from the Ready Cash vein, however, was enriched in Cu, Pb, and Zn relative to samples of all the other veins.

Samples of hornfels and rhyolite with disseminated sulfides contained less than 20 ppm Sn and only minor base-metal concentrations. One sample of an approximately 6-ft wide, 15-ft-long pod of massive sulfide in hornfels near a rhyolite dike, however, contained 770 ppm Sn and several tenths of a percent combined base-metals.

Reserves, Resources, and Potential

At average weighted grades of 0.26 pct Sn and 8.3 oz/t Ag, a width of 3.4 ft, an estimated tonnage factor of 10, and assuming mineralization is continuous at depth for one-half of the strike length, the sampled 600-ft-long portion of the No Number vein contains an indicated 61,200 tons of marginal reserves containing 318,000 lb Sn and approximately 500,000 oz Ag. Assuming similar grades and width over the entire mapped 1000 ft strike length and assuming this mineralization also continues at depth for one-half of the total strike length, an additional approximately 560,000 lb Sn and 900,000 oz Ag can be inferred. Using similar assumtions, 20,000lb Sn and 38,400 lb Ag are indicated to be contained within 6,000 tons of mineralized rock alay a 200 ft strike length of vein No. 4. Additional inferred reserves over a projected 400 ft strike length total approximately 60,000 lb Sn and 110,000 oz Ag. At a mining width of 3.0 ft, rather than the measured width of 1.5 ft, the average grade of this mineralized rock would be approximately 0.17 pct Sn and 3.2 oz/t Ag.

Table ___: Results of tin, in pct, and silver and gold, in oz/t, analyses from the Canyon Creek prospect.

Sample	Type	Width ft	Sn	Au	Ag	Description
				No Number Vein		
23998	C	8.8	0.124	LD	4.7	Massive arsenopyrite and black oxide mineral. Central portion of vein is more copper-rich, margins more galena-rich.
23997	C	2.0	.31	.002	11.0	Massive arsenopyrite and lesser galena
23993	C	3.1	.44	.002	24.9	Massive arsenopyrite and quartz, locally pervasively oxidized.
23990	C	.8	.23	LD	3.7	Massive quartz-arsenopyrite with fracture-controlled pyrite and chalcopyrite.
23992	C	2.3	.53	LD	4.3	Massive and disseminated arsenopyrite and base-metal sulfides
23989	C	1.3	.4	.003	11.8	Quartz-arsenopyrite vein
23988	C	1.6	.44	.004	20.4	Similar to 23989 and separated from by 2.0 ft of barren hornfels.
23986	C	2.3	.26	.002	5.2	Arsenopyrite and chalcopyrite mostly near hanging wall of quartz vein.
23985	C	3.0	.273	.001	4.2	Quartz-arsenopyrite vein.
				No. 4 Vein		
23995	C	2.3	.53	.011	6.3	Quartz-arsenopyrite-chalcopyrite galena vein
23996	C	.5	.255	.002	.48	Similar to 23995, but thinner. Vein thickens 15 ft on either side of sample site.
24025	C	1.6	.104	.024	8.4	Arsenopyrite-chalcopyrite vein
				No. 3 Vein		
23999	C	1.3	74ppm	.019	1.1	Arsenopyrite-rich quartz vein
				Ready Cash Vein		
24027	RC	3.9	.068	.007	11.9	Massive quartz-arsenopyrite vein with lessor galena, chalcopyrite, and pyrite.

C-Continuous chip sample; RC-Random chip sample; NA-Not Applicible
1-Analyses of Cb and Ta below detection limit. 2-This sample also contained > 120 ppm W

Sample	Type	Width	Sn	Au	Ag	Descriptions
			Other Samples			
24026	RC	NA	13 ppm	LD	.15	Disseminated and fracture-filling arsenopyrite, chalcopyrite,and pyrrholite in siliceous hornfels.
24022	RC	6.0	.007	LD	2.9	6-ft-wide pod of massive pyrite pyrrhotite, arsenopyrite, and chalcopyrite, approximately 15 ft long.
24021	RC	NA	16.9	LD	.023	Quartz-porphyry felsic dike with disseminated arsenopyrite
24020	RC	NA	8.0	LD	.023	