

<u>Location</u>	<u>GSC Analyses</u>				<u>Newhawk Analyses</u>				<u>Sample Numbers</u>	
	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
1) Mitchell Silver Zone	1080	(0.03)	19	(0.55)					KQ-86-96	104B 869108
	244	(0.007)	22	(0.64)		(0.003)		(0.01)	96A	109
	319	(0.009)	33	(0.96)	480	(0.014)	67.5	(1.97)	96B	110
	160	(0.005)	<2						96C	111
	110		9	(0.26)					118	165
	602		63	(1.84)		(0.005)	24	(0.70)	118A	166
	67		<2						118B	168
	368	(0.01)	4	(0.08)	1700	(0.05)		(0.25)	118C	169
	388	(0.01)	381	(11.11)		(0.014)	321	(9.38)	118D	170
	170		47	(1.37)		(0.004)		(0.19)	118E	171
	656	(0.019)	494	(14.4)	1200	(0.035)	168	(4.91)	118F	172

Comments

The zone crosses Mitchell Creek about 100-150 m west of the glacier. First traverse across zone was with Ken Hicks. Zone is polymetallic and consists of many quartz veins and veinlets with pyrite, chalcopyrite, galena, sphalerite, molybdenite and tennantite. The zone has tonnage potential but unfortunately it contains little Au and Ag values are low. However, as you can see from #2 below, I now have reason to believe that this polymetallic vein system might be related to a bulk tonnage, Au-bearing quartz vein stockwork with low Cu and Mo values to the east. Specimens 96, 96A, 96B, 118A, 118D, 118E and 118F are from mineralized quartz veins and 96C 118, 118B and 118C are from quartz, sericite, pyrite, highly altered host rocks and quartz, pyrite veins.

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	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
2) Mitchell Glacier South	361	(0.01)	<2						KQ-86-112E	104B 869142
Side (north of "old"	592	(0.017)	<2						112F	143
Kirkham Zone)	728	(0.02)	4						112G	144
	527	(0.015)	<2						113	145
	1600	(0.047)	65	(1.90)	9257	(0.27)	1.4	(0.041)	113A	146
	862	(0.025)	<2						113B	148
	1610	(0.047)	<2						113C	149
	2090	(0.061)	12	(0.35)					113D	150
	3700	(0.108)	<2						114	151
	3290	(0.096)	3						114A	152
	677	(0.02)	<2						115	153
	730	(0.02)	<2						115A	154
	566	(0.016)	3						115B	155
	2290	(0.067)	190	(5.54)	411	(0.012)	65.5	(1.91)	115C	156
	812	(0.024)	6						115D	158
	828	(0.024)	4						116	160
	597	(0.017)	<2						116A	162
	801	(0.023)	<2						117	163

Comments

These samples were taken, from east to west, over a traverse length of greater than 1 km, mostly near the ice along the south side of the Mitchell Glacier. On the west end they are close to contacting the "Mitchell Silver Zone" (#1 above). Samples 112E, 113, 113A, 113B, 113C, 115B, 115C, 116 and 117 contain numerous quartz veinlets with variable amounts of pyrite, molybdenite, chalcopyrite and tennantite. Sample 113A is from irregular 2-20 cm-wide quartz veins with abundant pyrite, chalcopyrite and tennantite. These veins have just recently been exposed from under the ice. Samples 112F, 112G, 113D, 114, 114A, 115, 115A, 115D and 116A are from more typical altered, chloritic, sericitic, pyritic volcanic host rocks with lower concentrations of quartz veinlets. Note that all of these samples, including ones that are not high-grade vein material (e.g. 113A), are highly anomalous in Au, including possible economic values. These results indicate that we have probably discovered another bulk-tonnage Au deposit. My preliminary conclusion is that it is part of a large cupriferous quartz stockwork with Mo and Mo becomes dominant on the east side and the polymetallic (Pb, Zn, Cu) Ag zone is on the west side. For some reason, this possible relationship between the large quartz vein stockwork and the "Mitchell Ag zone" was not apparent to me in the field (perhaps because of the different nature of the veins). The results are an excellent example of the importance of extensive lithochemistry in studying and exploring for gold.

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	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
3) Hanging Glacier Zone	130		<2						KQ-86-120	104B 869174
	979	(0.028)	170	(4.96)					120A	175
	5070	(0.148)	150	(4.37)	10766	(0.314)	211	(6.145)	120B	176
	21		<2						120C	178
	265		11	(0.32)		(0.005)		(0.37)	120D	179
	62		<2						120E	180
	429		2680	(78.2)	514	(0.015)	2503	(73.01)	121	182
	12600	(0.367)	59	(1.72)					121A	183
	255		8590	(250.5)		(0.010)	4222	(123.144)	121B	184
	<2		17	(0.50)					121C	185
	9970	(0.29)	7250	(211.5)					121D	186
	61		<2						122	188
	13		<2						123	189
	<2		<2						124	190
	15		<2						124A	191
	255		5			(0.010)		(0.010)	KQ-87-46	104B 879586
	33		<2						47A	588
	140		<2						47B	589
	68		<2						47C	590
	728	(0.02)	<2						47D	592
	436		<2						47E	593
	45		<2						47F	594
	260		<2						95A	736
	37		<2						95B	738
	15		9						95C	739
	524	(0.015)	43	(1.25)					95D	740
	1880	(0.055)	57	(1.66)	1371	(0.040)	35	(1.02)	95E	742

Comments

The Hanging Glacier Zone covers most of the bold, bare outcrop, for about 150 to 200 m, below and beside the toe of the Hanging Glacier. First traverse was with Ken Hicks, in an attempt to relocate electrum found by RVK in 1961. The zone consists of narrow (~1 to 50 cm), irregular, widely spaced quartz, calcite, barite veins with pyrite, galena, sphalerite, chalcopryite, tetrahedrite, pyrargyrite, native silver and electrum in hard, intensely altered, pyritic, green, hornfelsic sedimentary rocks cut by mafic to intermediate dykes. Samples KQ-86-120A, 120B, 120D (sample from many veins), 121, 121A, 121B, 121C, 121D, KQ-87-46, 95C, 95D and 95E are from the polymetallic veins. KQ-87-47C is from a quartz, calcite, pyrite vein with a trace of chalcopryite and 47E is from quartz, pyrite veins with minor chalcopryite. Samples KQ-86-120, 120C, 120E, 122, 124A, KQ-87-47A, 47B, 47D, 47F, 95A and 95B are from altered, pyritic host rocks. KQ-86-124 is from a relatively unaltered "Premier-type" (dark mafic porphyry with scattered large white K-spar phenocrysts) porphyry dyke. The analyses indicate that the Au and Ag values are mainly restricted to the polymetallic veins. Some high-grade Au and Ag samples make this an interesting area but the narrow, irregular, widely-spaced, erractic nature of the polymetallic veins suggest limited economic potential and make effective exploration difficult. The high-grade vein system (many anastomosing semi-parallel veins and stringers) that Ken Hicks and I found (sample 121, 121A, 121B and possibly 121D) should be properly trenched and sampled and an attempt should be made to trace it along strike. Sample KQ-86-121A could be significant because it comes from the same vein system as 121 and 121B and evidently contains significant Au without obvious galena, sphalerite and ruby silver minerals. Further exploration might demonstrate that this is the vein system that contains the electrum collected by RVK in 1961.

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	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>RVK</u>	<u>Geochem.</u>
(4) Ridge south of Hanging Glacier and north of Catear Property	110	<2			KQ-87-42A	104B 87573
	265	<2			42B	574
	160	<2			42C	575
	631 (0.018)	2			42D	576
	255	<2			61	628
	499	<2			62	629
	54	11			63A	630
	160	28			63B	632
	801 (0.023)	206 (7.58)			63C	633
	21	9			63D	634

Comments

Two of my traverses crossed this area from east to west, the first traverse along the edge of the snow south of the Hanging Glacier and the second to the south about half way down the slope. The analyses reported here are from an area of quartz veins and stringers in altered rock just to the west of the Brucejack Lineament. The area is pyritic and most veins contain no obvious minerals of economic value, except sample 63C which comes from an 80 cm-wide leached and weathered quartz vein that contains weathered relics of sphalerite and galena. An area on the top of ridge contains trace amounts of molybdenite. These samples cover an east-west width of about 0.5 km. This area is distinctly anomalous in Au and Ag and #63C leached vein clearly is argentiferous and might contain Au. I would probably have difficulty relocating this vein in the middle of a scree slope but, because of its narrow width this individual vein is probably not of economic importance. Nevertheless, this area probably warrants further sampling and prospecting and leached veins such as #63C should be trenched below the weathered zone. I intend to traverse between this area and the Catear workings next summer.

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	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
(5) Arsenopyrite Showing	26600	(0.776)	26	(0.76)	26777	(0.781)	25	(0.724)	KQ-87-67A	104B 879645
	44		<2						67B	46
	38		<2						67C	48
	67		23	(0.67)	(0.009)		29	(0.857)	67D	49

Comments

The Arsenopyrite Showing was found in the mid-1970s by Erik Ostensoe and Ed Kruckowski, while working for Helca. It was evidently ignored and/or overlooked entirely by Esso. RVK relocated the showing in 1987 and brought it to the attention of Tom Drown. The showing is in a small draw near treeline about 1 km west of Catear Camp. Even on July 31st, the day of RVK's visit, the main trench was still covered in snow. Sample 67A came from the dump of the trench and is the only sample from the Au-bearing, quartz-arsenopyrite vein. Samples 67B and 67C are from pyritic, altered host rocks about 3 and 7 m, respectively, east of the vein. Sample 67D is from large blocks of quartz, calcite, galena, sphalerite and chalcopryrite vein material that are probably in situ about 15-20 m east of the arsenopyrite vein. This showing warrants more work because of the high Au values, poor outcrop in the area, very limited past exploration and because it is within relatively easy access of any mill built in the Brucejack area. The KQ-87-67D vein material is obviously very different and much lower in Au content than 67A vein material.

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	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
(6) Catear-Red Group (?)	5750	(0.17)	4						KQ-87-121	104B 879829
Boundary Area	32500	(0.95)	2450	(71.5)					121A	30

Comments

I bring these results to your attention because Ed Kruckowski said that he was going to talk to you about this area and these sample localities are probably on Newhawk's ground. Sample 121 is from a pale altered pyritic, quartz, sericite schist zone with dismembered quartz veins that is probably at least 15 m wide about 60 m west of the Brucejack Lineament west of old sample site #160 south of Catear camp. Later discussions with Ed indicated that this is the general area where he first discovered electrum in the mid-1970s while working for Helca. KQ-87-121A is from the most southwesterly pit blasted by Catear in 1987, immediately above a snow patch. Catear blasted many pits in the area in 1987. The sample is from an approximately 20-40 cm-wide quartz vein with high-grade ruby silver, tetrahedrite, galena and sphalerite. In the top of the outcrop about 1 to 1.5 m above the pit the vein appears barren! This area warrants more work with trenching and geology and an attempt should be made to follow Au- and Ag-veins and stringer zones. Nevertheless, I suspect that in detail the geology of the area might be complex because it might be near a significant fault between volcanic and sedimentary rocks just to the south. The possible fault is covered here but I hope to try to find it in outcrop to the northwest next summer.

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	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>RVK</u>	<u>Geochem.</u>
(7) Possible northern extension of West Zone (along west flank of Gossan Hill) (see attached sketch map)	180 3680 (0.107) 110 120 217	6 (0.175) 5 4 11 (0.32) 2			KQ-87-115B 115C 115D 115E 115F	104B 87812 813 814 816 818

Comments

Although I have largely avoided the geology of West Zone because so many geologists have been working on it, I know that over the past 2 years your company has had problems trying to determine what happens to the West Zone to the north. During the course of my mapping in 1987 I noted that a "polarity" seems to occur at the West Zone with essentially barren unaltered rocks to the west and highly altered pyritic, sericitic rocks to the east with increasing density of quartz veins to the west in the vicinity of the West Zone. Postulating that the sharp western boundary of the West Zone is a fault separating altered and relatively unaltered rocks, I traversed to the north along the western flanks of Gossan Hill, attempting to stay near the boundary between unaltered and altered rocks. For the entire length of this boundary, for >.7 km from north of Brucejack Creek and the well-mineralized trench on Gossan Hill to the Brucejack Lineament, I was able to trace an intense quartz stringer zone (~5-25% quartz veinlets) in lenses and small faulted blocks possibly up to a maximum width of 10 m (?) (see attached sketch map for location). No silver minerals were observed in outcrop but none of the outcrops have been trenched and they are hard and difficult to sample. The above observations were discussed with Tom Drown. These samples were taken from the quartz vein stockwork at scattered intervals along strike. Although they are mostly not very high values, all samples are clearly anomalous in Au and Ag. Sample 115C with greater than 0.1 oz Au/t is from about 250 m north of Brucejack Creek. Some of these outcrops should be trenched and more work should be done in the area. Although more work is required, I feel that this zone might be the northern extension of the West Zone.

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	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>RVK</u>	<u>Geochem.</u>
(8) Alteration zone west of Brucejack Lineament to the west of the Electrum Zone	8280 (0.24)	<2			KQ-87-133	104B 879868

Comments

This sample is from a pale, pyritic altered zone with about 30-40% quartz stringers about 15 m (??) west of the Brucejack Lineament. The zone could be in a fault slice but is about 7-8 m wide (?). Except for some indeterminate dark mineral(s) in the matrix, nothing about this sample attracted my attention in the field. Besides the high Au content, this sample is also high in arsenic. Another good example of the value of lithochemistry.

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	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>Au ppb (oz/t)</u>	<u>Ag ppm (oz/t)</u>	<u>RVK</u>	<u>Geochem.</u>
(9) Resistant, isolated outcrop about 0.4 km south of Electrum Zone and 0.3 km east of Brucejack Lineament <i>in field</i>	635 (0.019) 4930 (0.144)	5 120 (3.50)			KQ-87-51A 51B	104B 879602 603

Comments

Old Esso(?) sample site #3239 and 2 Red River claim posts (D. Bridge, July 8/82-Post 10-#84661). Isolated, about 20x30 m, very hard, resistant outcrop of pyritic, quartz, sericitic altered rock cut by about 10-20% quartz veinlets. Outcrop is difficult sample. 51A is from altered host rocks with few veins and 51B is from a single 10 cm-wide quartz vein with pyrite and minor arsenopyrite(?). Although these values are not spectacular, they are clearly anomalous and the features of this outcrop strongly suggest that it is next Au-Ag zone east of the Brucejack Lineament to the south of the Electrum Zone. Because of its limited size and resistant nature the zone should eventually be tested by drilling from this outcrop.

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	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
(10) Cu-Au-bearing chloritic pyritic shear zone north side of Sulphurets Glacier ("Chibougamau-type Shear")	369		28	(0.82)					KQ-87-110	104B 879793
	4160	(0.12)	68	(1.98)	6137	(0.179)	73.7	(2.15)	110A	794

Comments

Sample KQ-87-110A is from about a 3m-wide, sulphide-rich, ductile shear zone (~054°/80° NW?) with evidence of reverse movement. It occurs in an area of otherwise pyritic altered rocks (sample 110 is from the wall rocks). Besides the interesting Au content, sample 110A also contains 3% Cu. This zone has many similarities to the Cu-Au shear zones in the Chibougamau area, Quebec. This zone is at ice level at the base of a steep slope on the north side of Sulphurets Glacier about 1.5 km east of Sulphurets Lake where the medial moraine intersects the north side of the glacier. My sample number (110A) was written on the rock face, with permanent felt pen, at the site of collection. The zone should be channel-sampled and an attempt should be made to trace it up the steep hillside. The area contains abundant avalanche debris indicating that it would be a dangerous place in the winter.

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	<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>Au ppb (oz/t)</u>		<u>Ag ppm (oz/t)</u>		<u>RVK</u>	<u>Geochem.</u>
(11) Ostensoe Bornite Zone	2330	(0.068)	20	(0.58)					KQ-87-146	104B 879909
					5451	(0.159)	3.8	(0.11)	147	(SBB sample)

Comments

This zone is exposed in steep rock bluffs on a heavily wooded hillside about 100 to 200 m (?) south of the moraine and 300 m (?) east of the "Kerr" Creek. Ed Kruckowski took SBB, DCH and RVK into the area because it is difficult to locate. According to Ed, Erik Ostensoe (hence the name) discovered this occurrence in the mid-1970s while working for Helca. Evidently Esso did little or no work in the area. The area consists of chloritic green, potassic altered (?) (pink), sheared, monzonite(?) with "minor" visible chalcopyrite in the lower trench area (sample KQ-87-146) and chalcopyrite and bornite (sample KQ-87-147 and SBB and DCH samples) along fractures and chloritic shears in the upper trench area about 100 m south and 50 m vertically higher. Sample KQ-87-146 also contains 2% Cu (I might have unconsciously have "upgraded" this sample(?) and SBB's samples from the bornite-bearing trench and another locality farther south uphill still have to be analyzed). Although we have limited analytical information for this area and faults may pass through the region (see GSC January 1988 map) a number of factors suggest that this area may contain an important bulk tonnage Cu-Au deposit. Positive features are: 1) this area, apparently, only contains Cu minerals in a district that is regionally pyritic suggesting that this area might be in the centre of a porphyry Cu-

Au zone; 2) although in outcrop only minor amounts of chalcopyrite and bornite are apparent along fractures and shears, polished slabs from the bornite- and chalcopyrite-bearing trench contain abundant fine-grained, disseminated copper sulphides that are not readily apparent to the unaided eye; 3) Cu and Au values are favourable; 4) the area has been little prospected and 5) the large trees, although on a steep hillside, indicate that the area has not been adversely affected by avalanches and landslides.

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	Au ppb (oz/t)		Ag ppm (oz/t)		Au ppb (oz/t)		Ag ppm (oz/t)		RVK	Geochem.
(12) Mitchell Glacier north side just west of Brucejack Lineament	50		<2						KQ-87-127	104B 879845
	1480	(0.043)	402	(11.72)	685	(0.020)	150	(4.37)	127A	846
	110		49	(1.43)		(0.010)		(0.68)	127B	848
	130		<2						127C	849
	190		34	(0.99)		(0.011)	56	(1.64)	128D	850
	294	(0.009)	<2						127E	852
	29		<2						128	853
	337	(0.01)	<2						128A	854

Comments

Based on available information, I don't view this as a particularly interesting area; however, I did want to point out that we found some Ag-bearing veins here and the area is anomalous in Au. Samples 127A, 127B and 127D are from quartz (calcite) veins with pyrite, galena, sphalerite and tetrahedrite(?). The veins are irregular and range from a few centimetres to >1 metre wide. Samples 127, 127C, 127E, 128 and 128A are from pyritic, sericitic, siliceous altered host rocks. Samples were taken from east to west near ice level from about 60 m to 150 m west of the Brucejack Lineament. Number KQ-87-127A was marked, with permanent felt pen, on the outcrop of the vein sampled.

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	Au ppb (oz/t)		Ag ppm (oz/t)		Au ppb (oz/t)		Ag ppm (oz/t)		RVK	Geochem.

(13) Snowfield Gold Zone

Comments

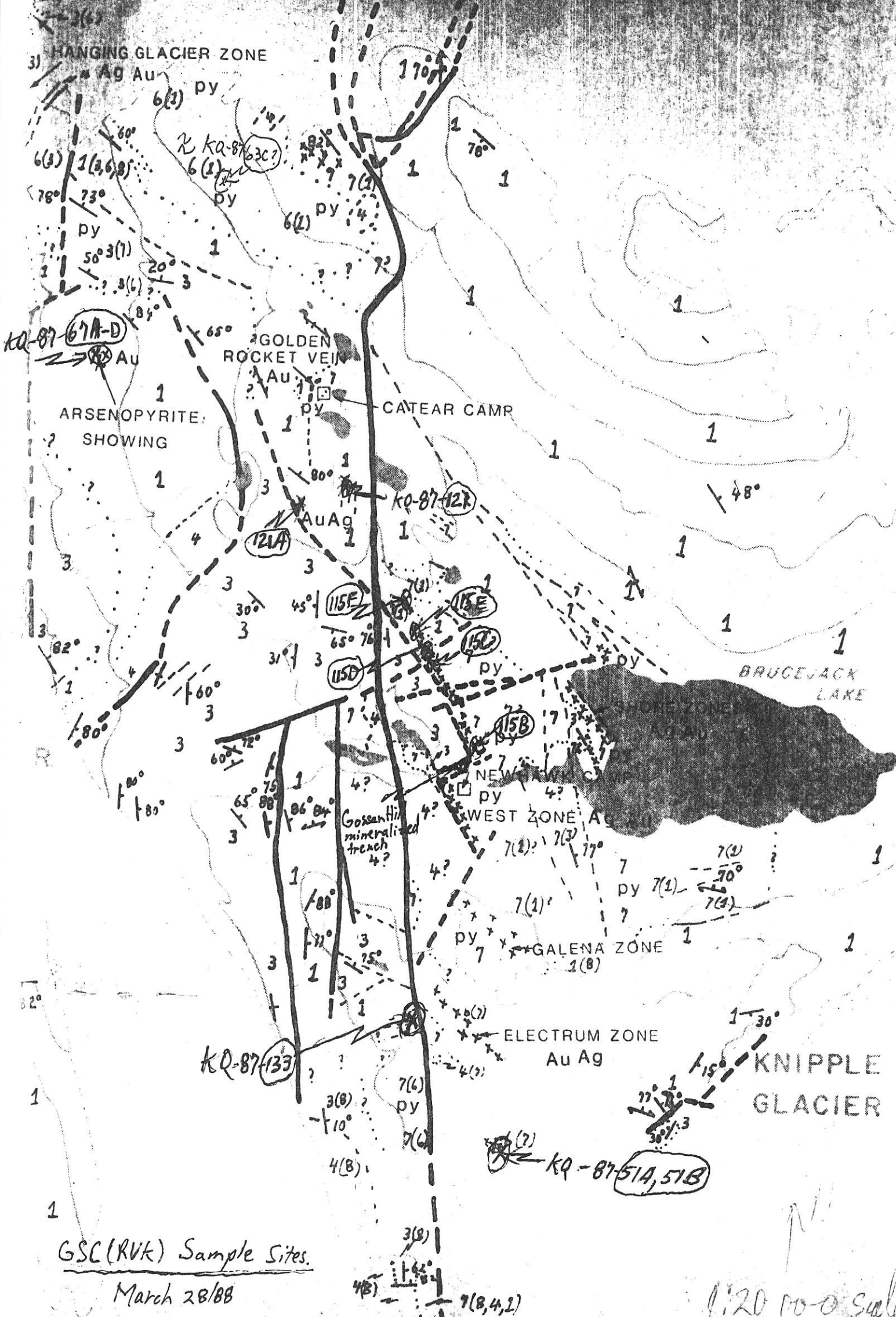
Esso and Newhawk have already considered the bulk tonnage potential of the Snowfield Au Zone; however, I want to make a few comments about our work in the area. We have sampled drillhole S85-131 and have traversed across the zone and along its flanks to the east and above it in the snowfields to the south. I will not list analyses but just make a few comments. The entire area is anomalous in Au and preliminary information suggests that the best Au values might occur near the boundary between sparse Mo and Cu zones (?). Au grade gradations definitely are present in the drillholes with better grades near the tops of the holes (about 0.1 oz Au/t) and lower grades near the bottoms (about 0.05 oz Au/t). As these holes were collared downhill to the north of the main trenched area, perhaps any future holes might be collared uphill and possibly some angled to the south (?). Bruce Ballantyne's analytical work definitely suggests that the better grade Au values in the upper part of hole S85-131 correlate with potassic (sericite) alteration and lower values near the bottom of the hole with more sodic, chloritic altered rocks. For any potential large-scale mining operation, this hillside is clearly very dangerous with many landslide scarps in bedrock along the north-dipping schistosity, as support is being withdrawn as the Mitchell Glacier recedes to the north. Careful engineering will be required for any potential operation in this area and because the entire area contains Au some consideration should be given to in situ leaching (although I am unfamiliar with such technology).

GSC Localities March 28/88
(RVK)

locations are only approximate.



HANGING GIRA



GSC (RVK) Sample Sites.

March 28/88

*Locations are only approximate.

ICEFIELD

9:20 10-0 Scale