

Dispersion of Selected ore elements from Faro orebodies -
an orientation survey

The present report is based on results obtained on a suite of overburden and soil samples collected during a visit to Anvil Mines area in June, 1970. The purpose of this work was to obtain more information on secondary dispersion of selected ore elements from the Pb-Zn orebodies in the area, which may facilitate interpretation of geochemical results in further exploration.

Faro 2 Orebody

Results obtained over Faro 2 orebody are limited to a few samples of overburden only. These had been collected during earlier work and were found stored on the property.

After sieving to -80 mesh the fines were leached by hot aqua regia and analyzed for Cu, Pb and Zn by atomic absorption spectrophotometry. No content was determined by the thiocyanate colorimetric method. Results obtained are given in Table 1.

Table 1

Vertical variations of selected ore elements in overburden on Faro 1 orebody from FRH 3.

<u>Depth, Ft.</u>	<u>Cu, ppm</u>	<u>Pb, ppm</u>	<u>Zn, ppm</u>	<u>Mo, ppm</u>
10-15	24	46	108	<2
20-25	24	110	134	<2
35-40	30	40	70	<2
60-65	23	82	186	<2

Results obtained do not represent the complete section of overburden. However, they seem to indicate the following:

1. Cu is low and appears to show little variation with depth.
2. Pb variations are irregular. Values above 50 ppm are anomalous and probably represent irregular mechanical dispersion trains from ore body.

3. Zn is at low anomalous level and appears to have a tendency to increase with depth. It is likely that Zn values in soil at the sample site, that is at the top of the overburden section, may be below or near 100 ppm, and would not have attracted attention in a routine soil survey.

Soil Survey over Faro 2 Orebody

Faro #2 orebody is covered by apparently shallow overburden on a forested gentle south slope. On upper slopes, rusty schists are exposed over a marshy area drained by a creek. Some muscovite granite float found along this creek is covered by up to 2mm. thick limonitic crusts. One sample of the latter had 5 ppm Cu, 13 ppm Pb, 183 ppm Zn and <2 ppm Mo. Therefore, among elements sought, only Zn is concentrated in this type of material. Muscovite granite itself, according to one analysis performed, contains 6 ppm Cu, 11 ppm Pb, 35 ppm Zn and <2 ppm Mo.

Reddish-yellow sand sampled on the creek banks (gossan area) was low in Cu but anomalous in Pb (90 ppm) and strongly anomalous in Zn (950 ppm). Similar values (70 ppm and 580 ppm respectively) were found in a nearby sandy slightly organic stream sediment. However, an old drilling site situated a short distance upstream may have caused some contamination in the drainage.

Soil samples over the Faro #2 orebody were collected mostly at 100 ft. intervals along line 32. Soil is with 2-5 inch. H-L (humus and litter) horizon over several inches of Btj horizon (poorly developed horizon with clay accumulation) grading into a yellow sandy percent material probably derived from altered rock. Samples were taken from either Btj or C horizon. At several sites soils were water saturated and in places frozen.

To obtain some information on the background range of elements sought, several soil samples were collected in a nearby area believed to be unmineralized. The threshold values were tentatively set as 50 ppm for Cu and Pb and 100 ppm for Zn.

Geochemical variations in soil over Faro 2 orebody shown in Figure 1 indicate the following:

1. Cu is mostly within background range. A few moderately anomalous values appear along the northern part of the traverse.
2. Both Zn and Pb give well expressed anomalies with peaks reaching well over 10 times threshold value. However, anomalies are not very homogeneous, and a sampling interval larger than 200 ft. could result in a considerable change in the intensity of outlined anomalies. Zn anomaly appears to persist further downslope than Pb anomaly which can be expected from the relative mobilities of these two metals.

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ANVIL ROCK GEOCHEM - YUKON OEX

Sample No.		Cu	Pb	Zn
87050	Sample of argillic altered granite immediately adjoining Anvil orebody	42	91	3400
87051	Sample of fresh granite 200' north of granite contact	42	+	42
87052	Sample of fractured and weathered granite, traces of argillic alteration lower bench Anvil No.1 open-pit.	55	11	66
87053	Sample of fractured and altered granite 300' from 87052, rusty fracture 3' below overburden contact			
87060	Black and white finely laminated graphitic argillite Anvil	41	22	84
87061	Medium-grey foliated, orbicular acid tuff orbs of calcite	72	11	21
87062	Pyrite, graphitic argillite with contorted quartzose veinlets	52	11	9
87063	Pyritic, porphyroblastic biotite quartzite, slightly foliated	210	2	53
87064	Biotite gneiss with traces of felsic porphyroblasts	97	7	55
87065	Grey, very fine grained siltstone? cross-bedding?	36	7	58
87066	Staurolite gneiss very fine grained meta-tuff	54	4	47