LEAF SAMPLES AS AN AID TO PROSPECTING FOR ZINC.

Through interest aroused by the Bulletin of the Geological Society of America, "Biogeochemical Prospecting for Copper and Zinc", by H. V. Warren and C. H. Howatson, a few leaf samples and water samples were taken by the writer on the property of the Western Exploration Co. Ltd., Silverton, B. C., A. M. Ham, Manager, in August 1948.

The leaf samples were of alder leaves in all cases, since alders covered more key points than any other tree growth; also they grow in damp soil and might be presumed to absorb more zinc, when on or below a vein, than growths in a drier soil.

The sketch shows the approximate location of the samples with respect to the vein and the drainage, but is a diagram rather than a true map drawn to scale.

The samples were taken (1) Above the known vein, (2) Below the known vein, and (3) More or less along the probable course of the vein where it is covered with soil and detritus, and its location is in doubt.

One hundred grams of air-dried leaves were taken for all leaf assays, and one liter for the water assays, both of which were made by Mr. R. N. Williams.

The following table shows the assays for Zinc in Parts per Million (ppm) in the ash from the burned leaves:-

Sample Number	Grams Ash	Zinc ppm	Remarks
Under category (1) - Above the known vein.			
L- 2	3.9	385	Above the vein in question, but in the drainage of another vein and dumps 1500 feet distant.
L- 3	4.0	750	No known vein above this.
Under category (2) - Below the known vein.			
L- 1	3.6	1111	On the supposed apex of the vein, but also on the drainage from vein and dumps 1500 feet distant.
L- 4	3.6	278)	Below apparently barren vein partially exposed in open cuts.
L- 5	3.6	139)	
Under category (3) - Where position of vein is unknown.			
L- 6	4.0	250	
L- 7	2.9	172	
L- 8	3.2	469)	
L- 9	4.0	500)	Near the projected position of the vein.
L-10	3.5	857)	

The samples of water were also assayed for Zinc, with rather erratic and inconclusive results, as follows:-

Sample Number	Zinc ppm	Remarks
W- 1	0.22	Drainage from lowest tunnel, mostly from footwall of vein.
W- 2	Nil	Zinc in W-3 and W-4 has disappeared.
W- 3	0.75	See Sample L-1
W- 4	0.3	See Sample L-2
W- 5	0.5	No known vein above this. Mere trickle of water.
W- 6	Nil	Wide variation from L-3. " " " " .
W- 7	0.2	Drainage from tunnel which cut vein in low-grade section.
W- 8	0.5	No known vein above. Tiny stream.
W- 9	0.5	" " " " Good stream.
W-10	0.2	"known" " " " "
W-11	Nil	Known vein above. Zinc in water above has disappeared.

The results of the assays suggest the advisability of checking sample L-3, and of systematically sampling at close intervals across the indicated position of the vein in the vicinity of samples L-8, L-9 and L-10 in the hope of locating it more definitely.

The leaf samples seem to indicate that samples of vegetation may be of considerable value in prospecting but that water samples are of doubtful value.

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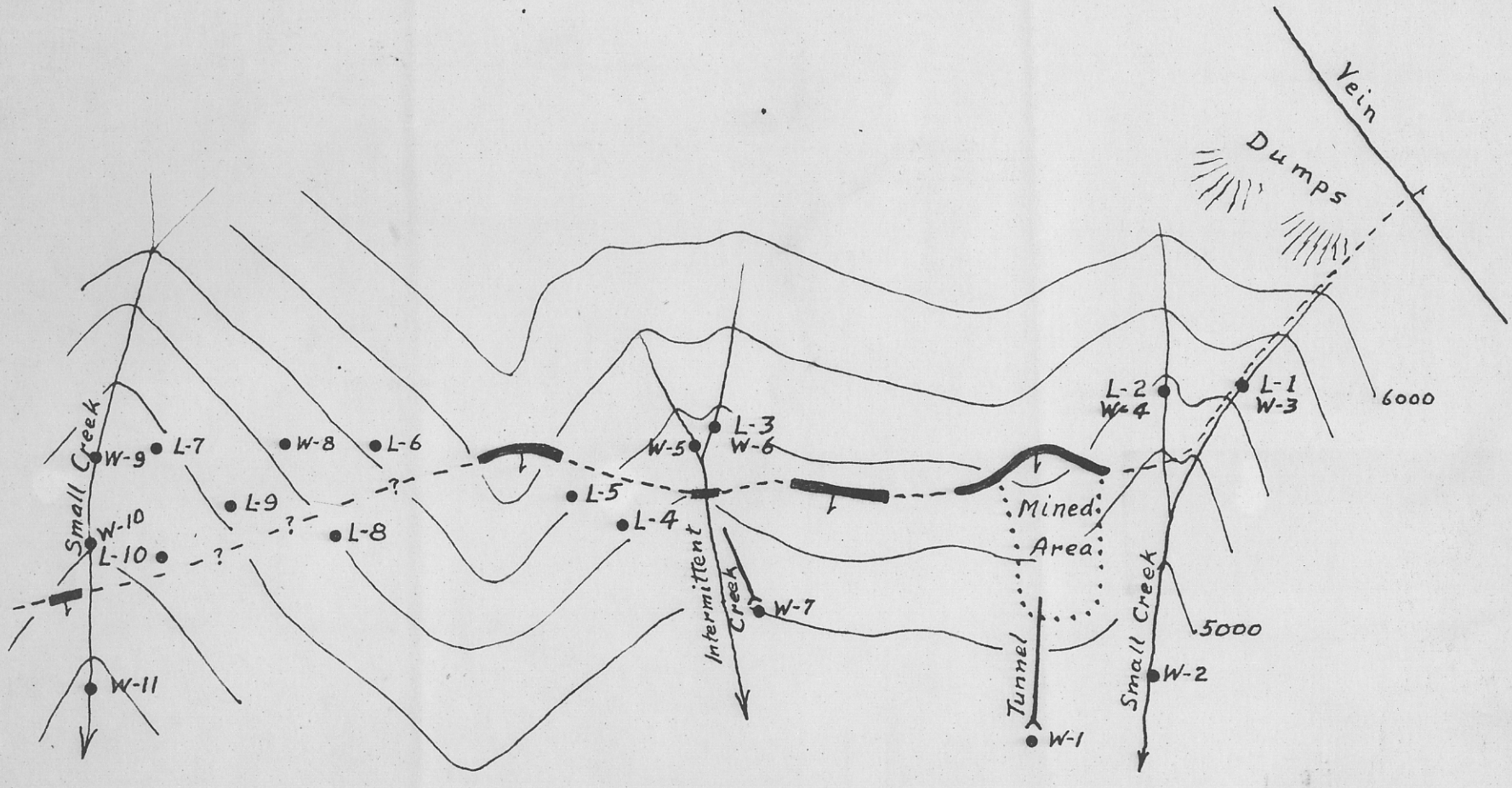

Diagram Showing Location of Leaf and Water Samples and Direction of Drainage.