GEOCHEMICAL PROSPECTING REPORT

ON THE

VAL CLAIM GROUP

SIMILKAMEEN MINING DIVISION

92 H 6

(Latitude 49° 29', Longitude 121° 02')

OWNER AND OPERATOR

B. R. MOWRY

PRINCETON, B.C.

Author: G. D. Bysouth

Submitted: 1 October 1982

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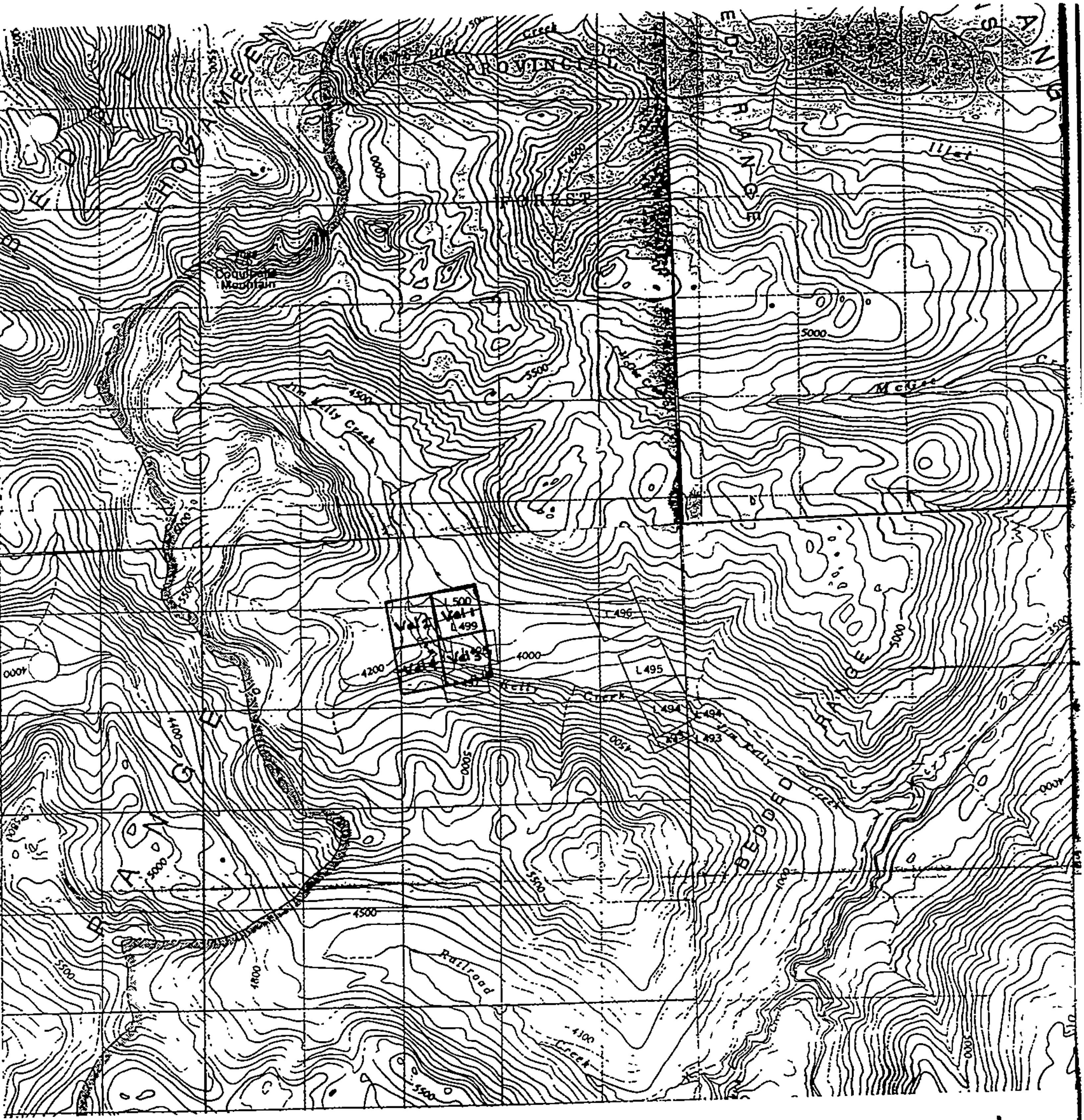

LOCATION MAP

VAL MINERAL CLAIM GROUP

Scale 1:50,000 Échelle

Miles 1 — 0 — 1 — 2 — 3 Milles

Metres 1000 — 0 — 1000 — 2000 — 3000 — 4000 Mètres

Yards 1000 — 0 — 1000 — 2000 — 3000 — 4000 Verges

FIGURE I

1.0 INTRODUCTION

The Val Mineral Claim Group is located on Jim Kelly Creek about three miles (4.8km.) from the Tulameen River. The nearest settlement is Tulameen Village which lies about 15 miles (24 km.) to the northeast. Access is via a 4 - wheel - drive - type road which leaves the Tulameen River road near the Kelly Creek bridge and extends westerly to Coquihalla Mountain.

The claims cover an old gold prospect formerly known as the John Bull (Minister of Mines Report 1913, K232) which consisted of several open cuts and short tunnels in rocks of the creek canyon. This work was directed along gold-bearing quartz veins carrying abundant pyrite and minor chalcopyrite. The mineralization appeared to be controlled by northwesterly shearing in a predominately andesitic host rock.

This report covers a soil geochemical survey over a possible northwestern extension of the John Bull quartz vein system. Earlier orientation work indicated weak copper and zinc anomalies over the main prospect. For this reason, copper and zinc are being used in this survey as "pathfinder" elements in the search for gold mineralization. Large high concentration anomalies are not expected.

The field work was done during August 8 to 10, 1982. A total of fifty samples were collected. Cold tests for copper and total heavy metals were first carried out, then followed by determinations of hot extractable copper and zinc.

2.0 MINERAL CLAIMS

The location of the Val Mineral Claim Group is shown in Figure 1. Claims of the group are given below:

CLAIM NAME	RECORD NO.	ANNIVERSARY DATE
Val 1	1566	5 October 82
Val 2	1567	5 October 82
Val 3	1568	5 October 82
Val 4	1569	5 October 82

All claims are owned by B. R. Mowry of Princeton, B.C. As shown in Figure II, the sampling was done almost entirely on Val 1 and 2.

3.0 TOPOGRAPHY

As shown in Figure I, the claims straddle the Jim Kelly Creek valley. Bedrock exposures are plentiful on the southeast side of the creek and in the creek canyons. On the northeast side, above the canyons and up to the 4300-foot level, rock exposures are virtually absent. Here, thick deposits of glacial till and fine sandy outwash form a broad, almost plateau-like topography in contrast to the otherwise mountainous and deeply incised terrain. This ground is very poorly drained with most of the flatter ground forming swamps and thick alder growths. Towards the creek, where the plateau is deeply downcut, the terrain is characterized by numerous mudflows and land slumps. Springs and small streams abound, particularly at the base of the outwash. Most of the ground is water saturated.

The soil sampling was confined entirely to the till and outwash environment. These soils would not be expected to directly reflect the character of the underlying bedrock but rather indicate mineralization through glacially entrained material or by some favourable hydromorphic process.

4.0 SOIL SURVEY

4.1 FIELD METHODS

Soil samples were collected at 100-foot intervals along east-west lines spaced 200 feet apart. Control was by chain and compass. Samples were placed in standard kraft geochemical envelopes. A record was kept of ground slope, vegetation type, soil horizon and water conditions for each sample site; this information is included in Appendix B of the report. Sample depth ranged between four and ten inches. Soils were moderately well developed and in most cases a good B-horizon soil could be collected, otherwise the C-horizon was taken. Care was exercised to exclude humus material.

4.2 ANALYTICAL METHODS

The samples were dried and sieved to a minus-80-mesh fraction. Cold extractable copper and total heavy metal determinations were then carried out on all samples using 0.4g. portions of the sieved fractions. The standard Holman test was used for copper and the Bloom test for total heavy metals. Metal concentrations of anomalous samples were determined using the blue-grey endpoint method. Results are listed in Appendix C.

The hot extraction methods used are a variation of that described in G.S.C. Paper 59-3, Field and Laboratory Methods Used by the Geological Survey of Canada In Geochemical Surveys. A 0.4g. sample was mixed with 1.0 g. of potassium bisulfate of pyrosulfate and slowly fused over a Coleman stove. Then, 10 ml. of 1 N hydrochloric acid were added and the sample digested over low heat for about 15 minutes. After the flux had completely disintegrated, 10 ml. of water were added and mixed well.

For the copper determinations, 5 ml. of the test solution were taken with a pipette and mixed with 5 ml. of citrate buffer (100 g. hydroxylamine hydrochloride and 100 g. ammonium citrate made up to one litre with water). The solution was then adjusted to a pH 2.0 using either 5 N ammonium hydroxide or 1 N hydrochloric acid. Thymol blue was the indicator. Next, 1 ml. of dithizone was added and the test tube shaken 100 times. The resulting dithizone colour was then compared with copper dithizone standards representing 3.6, 4.8, 5.6, 6.4, 7.2 and 8.0 micrograms copper.

For zinc determinations, 2 ml. of test solution were taken with a pipette and mixed with 8 ml. of buffer solution (62.5 g. sodium thiosulfate, 153 g. sodium acetate, and 30 ml. glacial acetic acid made up to one litre with water). Next, 1 ml. of dithizone was added and the test tube shaken 100 times. The resulting dithizone colour was then compared with zinc dithizone standards representing 2.4, 2.8, 3.2, 3.6, 4.0 and 4.4 micrograms zinc.

The dithizone standards were made up with the same dithizone solution used in the tests, and fresh standards were prepared every 24 hours. For those samples having dithizone colours equal to, or beyond that of the highest standard, a smaller volume of test solution was used and the procedure repeated.

Metal concentrations for the soil samples were calculated using the following formula:

$$\text{Cu (or Zn) concentration} = \frac{\text{micrograms in test soln.} \times 20}{\text{sample weight} \times \text{vol. of test soln.}}$$

All assaying was done by the author in a field-type laboratory.

4.3 RESULTS AND INTERPRETATION

Soil sample locations are given in Figure II. Plots of copper and zinc distribution are given in Figures III and IV respectively. Details of sample site environment are given in Appendix B while assay results are provided in Appendix C.

Cold extractable tests were largely negative, which would seem to rule out hydromorphic anomalies being formed by the abundant springs and creeks draining the area.

The zinc determinations were equally disappointing. Some anomalous values occur with the copper highs, but no large anomalous area can be outlined.

The copper distribution is more encouraging. Threshold values appear to be about 70 ppm. while values above 100 ppm. are definitely anomalous. Two anomalous zones can be outlined, which, for descriptive purposes, have been labelled A and B on Figure III. Anomaly A occurs near the creek in a downcut portion of the valley and could be near the bedrock surface. Most of these samples were taken in dry, well-drained ground, which suggests a lack of hydromorphic influences. The lack of readily extractable copper in the Holman test adds support to this notion. It is most likely this anomaly has been caused by glacially-entrained material in till near the bedrock surface. Anomaly B occurs higher up the hill in generally swampy ground situated at the base of a steep hill. Chief vegetation type appears to be willow. Most of the samples were water saturated. Overburden appears to be deep. No definite assumption can be made about this anomaly at the present time, but there is a suggestion that the two anomalies will join into one larger anomaly to the southwest with the focal point near the fork in the creek.

5.0 STATEMENT OF EXPENDITURES

a) Assay Costs

Sieving and Preparation	$ .50
Hot Test, Two Elements	2.50
Cold Test, Two Elements	.80
	$3.80

50 samples @ $3.80/sample — $190.00

b) Personnel Costs

G.D. Bysouth, geologist, Aug. 8 & 9 16 hrs. @ $20.00/hr.	$320.00	
B.R. Mowry, helper, Aug. 8 & 9 16 hrs. @ $12.00/hr.	192.00	
	$512.00	512.00

c) Vehicle Costs
4 x 4 1979 Chev. Aug. 8 & 9
2 days @ $18.00/day — 36.00

d) Camp Costs
2 men Aug. 8 & 9
2 days @ $15.00/day — 30.00

e) Miscellaneous Costs
Soil bags, flagging, field books, etc. — 10.00

f) Report Preparation
G.D. Bysouth
16 hrs. @ $20.00/hr. — 320.00

TOTAL COST OF SURVEY — $1098.00

6.0 CONCLUSIONS

Anomaly A and B are sufficiently enriched in copper to be an expression of the weak copper mineralization associated with the John Bull gold quartz system. Anomaly A is particularly interesting since it lies close to bedrock and may be close to a mineralized source. Both anomalies are open to the east, and therefore more sampling is required on the east flank of the grid. The value of zinc as a pathfinder element is, at this point, questionable.

Garry D. Bysouth

Garry D. Bysouth

APPENDIX A

STATEMENT OF QUALIFICATION

I, Garry D. Bysouth, of Williams Lake, B.C., do certify that:

1. I am a geologist.
2. I am a graduate of the University of B.C., with a B.Sc. degree in geology in 1966.
3. From 1966 to the present I have been engaged in mining and exploration geology in B.C.
4. I have both formal training and practical experience in field geochemical laboratory work.

Garry D. Bysouth

Garry D. Bysouth

Sample No.	Soil Horizon	Ground Slope	Environment	Vegetation
100	B	20	dry	fir, balsam
200	B	15	dry	fir, balsam
300	C ?	0-5	water sat.	alder grove
400	B	10	dry	spruce, hemlock, balsam
500	B	15	dry	spruce, balsam
600	B	10	dry	spruce, balsam
700	B	5	dry	spruce, balsam
800	C ?	0-5	water sat.	spruce, willow
900	C ?	0-5	water sat.	spruce, willow
1000	C ?	0-5	water sat.	spruce, willow
1001	C ?	0-5	water sat.	willow
1002	B	0-5	sl. wet	spruce
1003	B	5	dry - slump	spruce, balsam
1004	B	0-5	dry	spruce
1005	B	0-5	dry	pine, balsam
1006	B	0-5	dry	spruce, balsam
1007	B	30	dry	spruce, balsam
1008	B	20	dry	balsam
1009	B	25	dry	hemlock, balsam
1010	B	15	dry	spruce, balsam
1011	C ?	20	water sat. - act. spring	willow
1012	C	10	dry	pine, balsam
1013	C	40	water sat. - spring	pine
1014	C ?	10	water sat.	willow
1015	A + C	5	water sat.	willow, spruce
1016	C	15	dry	balsam
1017	C ?	5	water sat.	willow
1018	C	0-5	water sat.	spruce
1019	B	0-5	dry	spruce, balsam
1020	B	25	dry	spruce
1021	B + C	0-5	road "sluff"	balsam
1022	B + C	20	dry	balsam
1023	B + C	30	dry	meadow
1024	C ?	0-5	water sat.	willow
1025	C ?	0-5	water sat.	willow
1026	C ?	20	wet - edge of swamp	willow
1027	C ?	10	water sat.	wellow
1028	B + C	5	dry	pine
1029	B	5	dry	pine
1030	B + C	30	dry	bas., spruce
1031	C + A	15	dry gulley	spruce
1032	C ?	10	water sat.	spruce, alder
1033	C ?	0-5	water sat.	willow, swamp grass, meadow
1034	B	10	dry - edge of swamp	meadow / willow
1035	C ?	10	water sat.	willow, swamp grass
1036	C + A	10	dry	willow, spruce
1037	C + A	10	dry	meadow, willow

Sample No.	Soil Horizon	Ground Slope	Environment	Vegetation
1038	B	20	dry	spruce
1039	B	30	dry	balsam
1040	c	40	dry - road cut	willow

ASSAY SHEET

(all concentrations in ppm)

Sample No.	Cx. Cu Holman Test	Total Heavy Met. Bloom Test (Zn eq.)	Hot Extract Cu	Hot Extract Zn
100	<4	<2	32	70
200	<4	<2	48	90
300	<4	<2	64	70
400	<4	<2	28	80
500	<4	<2	36	100
600	<4	<2	48	90
700	<4	<2	48	90
800	<4	<2	48	80
900	<4	<2	48	60
1000	<4	<2	80	180
1001	<4	<2	48	70
1002	<4	<2	44	80
1003	<4	<2	24	90
1004	<4	<2	48	90
1005	<4	<2	56	100
1006	<4	<2	36	180
1007	<4	<2	56	90
1008	<4	<2	88	68
1009	<4	<2	19	60
1010	<4	<2	18	60
1011	<4	<2	24	90
1012	<4	<2	88	80
1013	5	<2	50	120
1014	<4	2	24	90
1015	<4	<2	28	60
1016	<4	<2	24	70
1017	<4	3	48	90
1018	<4	<2	56	100
1019	<4	<2	45	100
1020	<4	<2	48	75
1021	<4	<2	56	100
1022	<4	<2	48	100
1023	<4	2	48	100
1024	<4	<2	64	90
1025	<4	<2	152	130
1026	<4	<2	56	150
1027	<4	2	48	90
1028	<4	<2	44	80
1029	<4	<2	28	70
1030	<4	3	164	240
1031	5	<2	248	130
1032	<4	<2	76	70
1033	<4	<2	100	70
1034	<4	<2	48	130
1035	<4	<2	72	130
1036	<4	3	152	80
1037	<4	3	72	150

ASSAY SHEET

(all concentrations ppm)

Sample No.	Cx. Cu Holman Test	Total Heavy Met Bloom Test (Zn eq)	Hot Extract Cu	Hot Extract Zn
1038	< 4	< 2	36	80
1039	< 4	< 2	36	110
1040	< 4	< 2	36	70

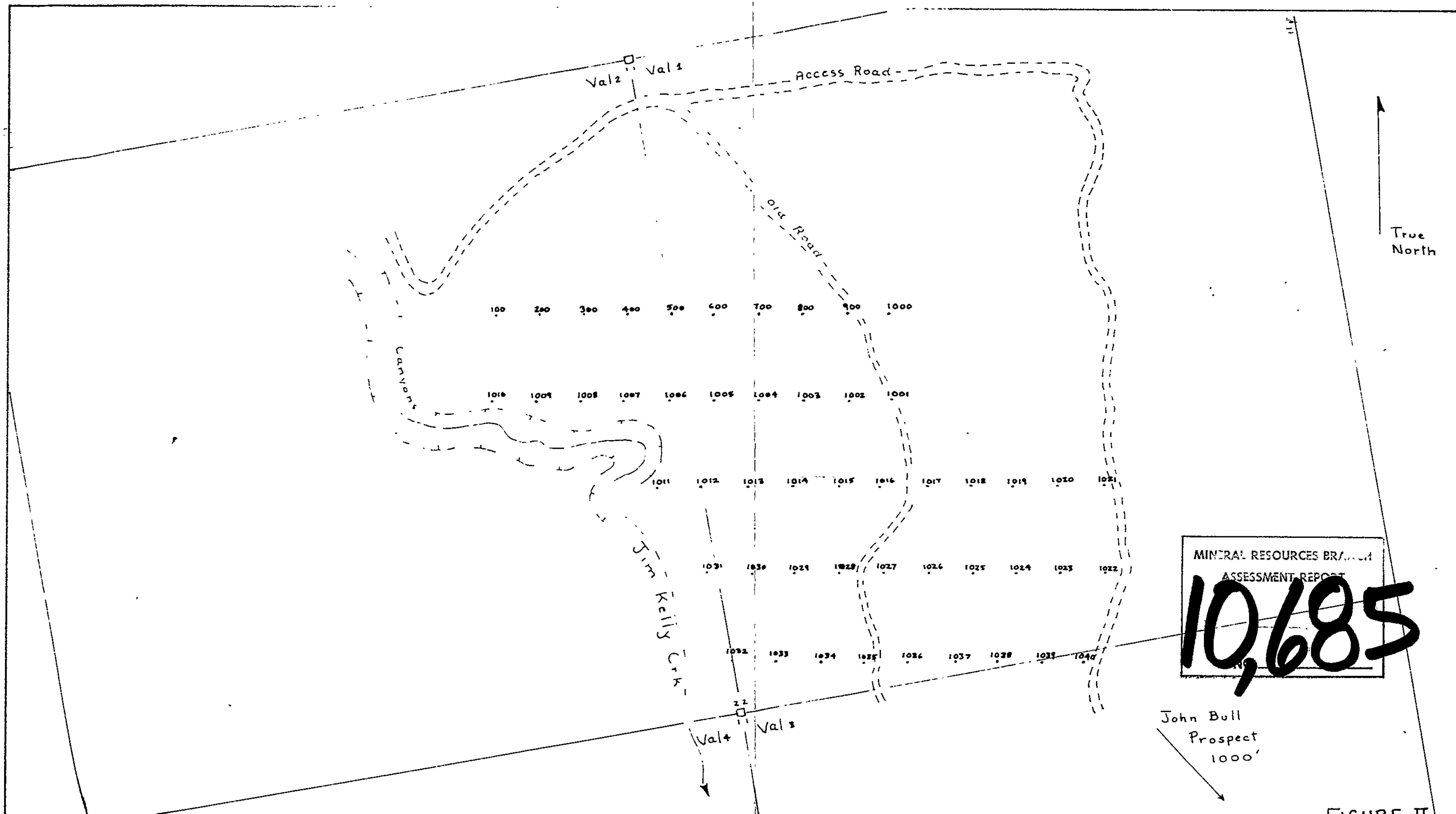

FIGURE II

VAL MINERAL CLAIMS
GEOCHEMICAL SOIL SURVEY
SAMPLE LOCATION

Sept. '82

SCALE: 1" = 200'

DWN CHECK APPR

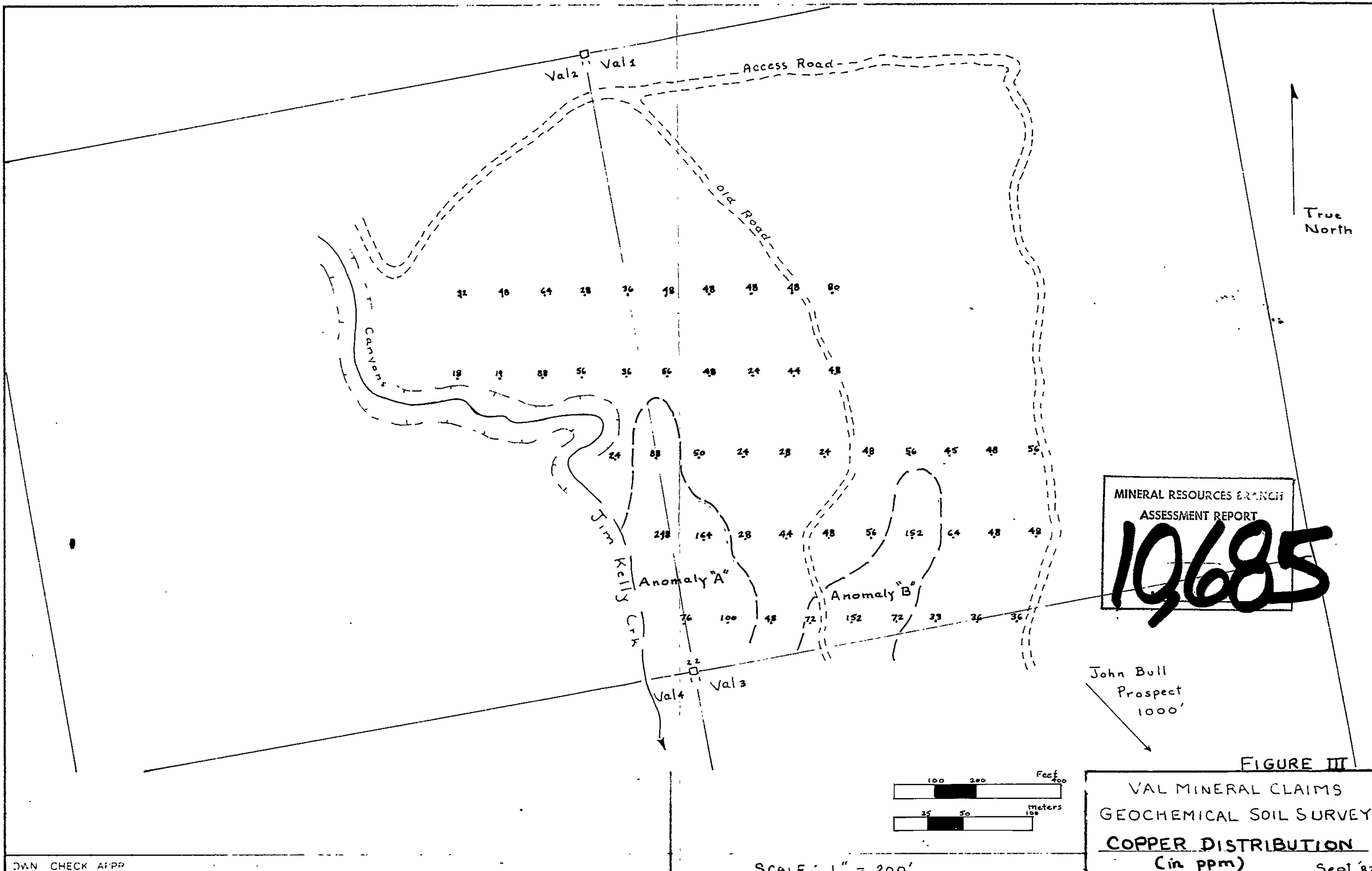

FIGURE III

VAL MINERAL CLAIMS
GEOCHEMICAL SOIL SURVEY
COPPER DISTRIBUTION
(in ppm)
Sept. '82

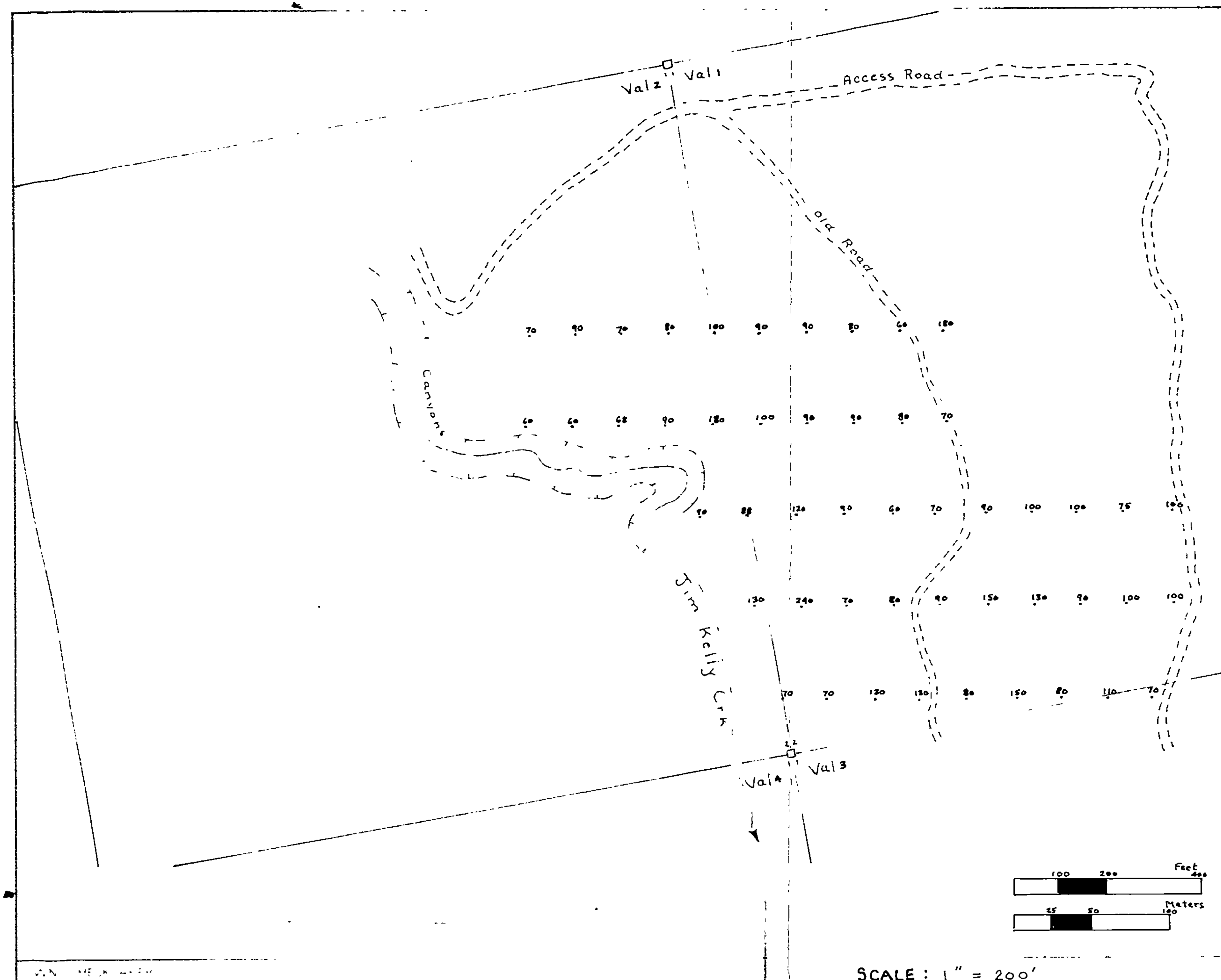

FIGURE IV

VAL MINERAL CLAIMS

GEOCHEMICAL SOIL SURVEY

ZINC DISTRIBUTION
(in ppm)

Sept. '82