ASSESSMENT REPORT

1980 SOIL GEOCHEMICAL SURVEY

MOHAWK-FISSURE CLAIM GROUP

FERGUSON, B. C.

CLAIMS: MOHAWK 1, 2, 3, 4, 5, 6, 7 Frac., 8 Frac., 9 Frac., 10 Frac.

MINING DIVISION	:	REVELSTOKE
N.T.S.	:	82K/12E, 82K/13E
LATITUDE AND LONGITUDE	:	50°45'N/117°35'W
OWNER(S) OF CLAIMS	:	WESTMIN RESOURCES LIMITED (formerly Western Mines Ltd.)
OPERATOR	:	WESTMIN RESOURCES LIMITED

H. D. MEADE
WESTMIN RESOURCES LIMITED

DATE: MAY, 1981

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

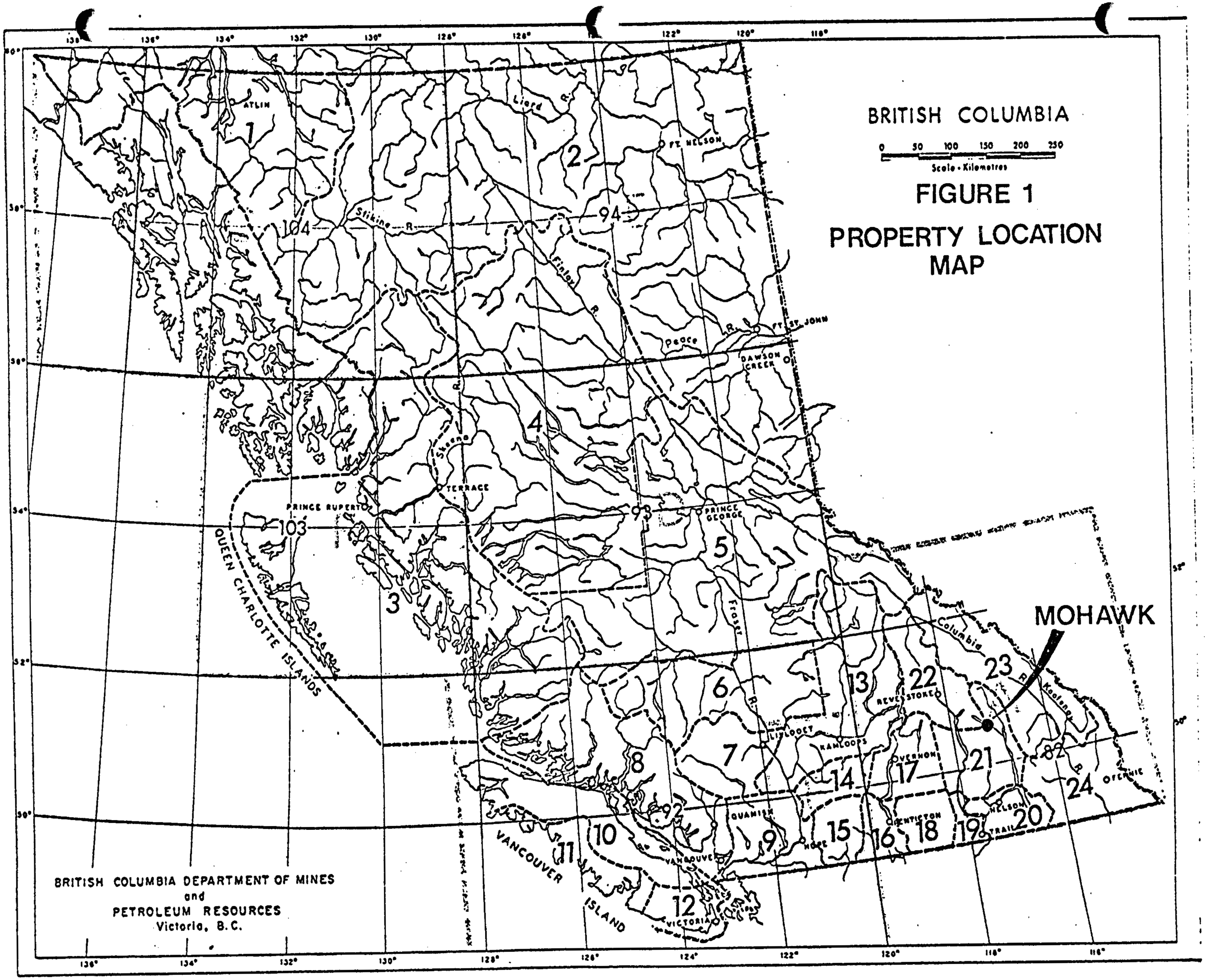
LIST OF APPENDICES

INTRODUCTION

The Mohawk claims cover the headwaters of Mohawk, Mountain Goat and Fissure creeks and form a linear northwest-southeast trending belt six miles (10 km) long. The midpoint of the claims is 6 miles (10 km) north of the community of Trout Lake (Figure 1). Southeast part of the claims is accessed from Trout Lake on Highway 31, by gravel road four miles (6.4 km) to Ferguson and thence by four-wheel drive road north approximately 4 miles (6.4 km) to the previous mill site of True Fissure mines. Northwest part of the claims is accessed by 10 miles (16 km) of gravel road from Beaton turnoff on Highway 31 to the community of Camborne and thence by approximately 6 miles (10 km) by four-wheel drive on the Spider-Beatrice mine road.

The Mohawk 1 to 10 claims (77 units) were located in May 1980 and recorded for Westmin Resources Limited, May 29, 1980 (Table 1). They encompass and flank numerous crown-granted claims, reverted crown-granted claims, 2 post claims and mineral claims (Figure 2) along the trend of the 25 mile (40 km) long Lardeau Central Mineral Belt (Emmens, 1914). Since then Westmin has acquired the Hawk, Pool and Fissure claims. The present claims group abuts the Spider Mine property on the northwest, encompasses the Golden Nugget, Gilman, Silver Dollar and Beatrice properties in the middle, and abuts the True Fissure mine on the southeast.

The Spider Mine operated intermittently from 1910 to 1958 and produced 138,798 tons grading 0.085 oz/T Au, 12.39 oz/T Ag, 8.6% Pb, 9.15% Zn, 0.4% Cd and minor Cu. The True Fissure produced 5,076 tons in 1908 to 1918 of similar grade material as at Spider and 300 tons was high-graded from Beatrice in 1897-1907. The vein-type deposits like many in B.C. at that time suffered from lack of development, financing and poor metallurgy. Under todays economic conditions, these prospects and surrounding rocks warrant re-evaluation.


BRITISH COLUMBIA
0 50 100 150 200 250
Scale - Kilometres
FIGURE 1
PROPERTY LOCATION
MAP
MOHAWK
ATLIN
FT. NELSON
Liard R.
Stikine R.
Finlay R.
Peace R.
FT. ST. JOHN
DAWSON CREEK
Skeena R.
TERRACE
PRINCE RUPERT
PRINCE GEORGE
QUEEN CHARLOTTE ISLANDS
Fraser R.
Columbia R.
Kootenay R.
REVELSTOKE
LILLOOET
KAMLOOPS
VERNON
PENTICTON
NELSON
TRAIL
FERNIE
SQUAMISH
HOPE
VANCOUVER
VICTORIA
VANCOUVER ISLAND
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BRITISH COLUMBIA DEPARTMENT OF MINES
and
PETROLEUM RESOURCES
Victoria, B.C.

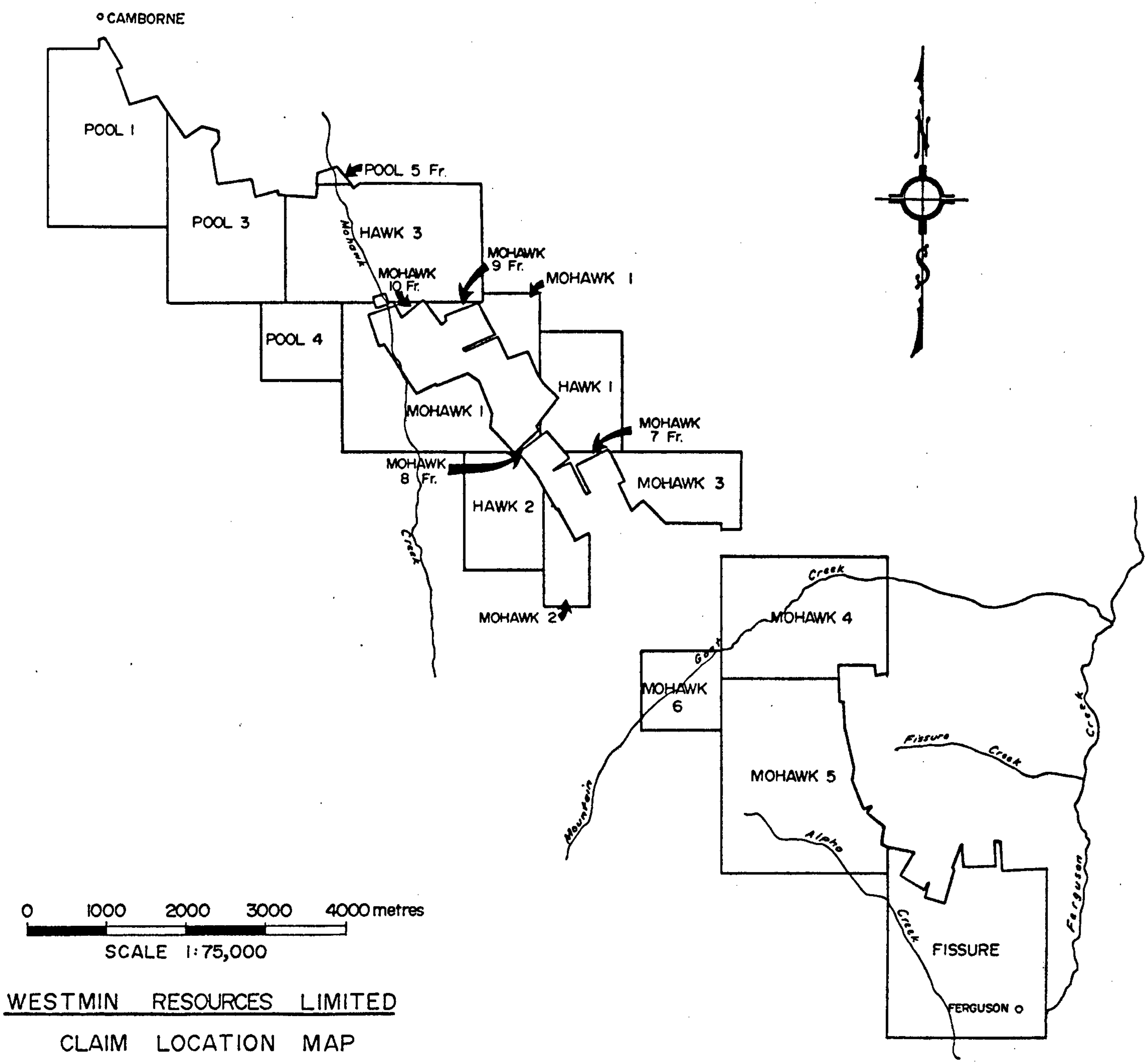
TABLE 1 CLAIMS AND GROUPING INFORMATION

A) MOHAWK GROUP

	No. of Units	Record No.	Anniversary Date
Mohawk 1	20	953 (5)	May 29, 1981
Mohawk 2	8	954 (5)	May 29, 1981
Mohawk 3	6	955 (5)	May 29, 1981
Mohawk 7 Frac.	1	959 (5)	May 29, 1981
Mohawk 8 Frac.	1	960 (5)	May 29, 1981
Mohawk 9 Frac.	1	961 (5)	May 29, 1981
Mohawk 10 Frac.	1	962 (5)	May 29, 1981
Hawk 1	6	766 (10)	October 22, 1981
Hawk 2	6	767 (10)	October 22, 1981
Hawk 3	15	768 (10)	October 22, 1981
Pool 1	15	1185 (3)	March 12, 1982
Pool 3	15	1187 (3)	March 12, 1982
Pool 4	4	1186 (3)	March 12, 1982
Pool 5 Frac.	1	1188 (3)	March 12, 1982
	100		

B) FISSURE GROUP

Mohawk 4	15	956 (5)	May 29, 1981
Mohawk 5	20	957 (5)	May 29, 1981
Mohawk 6	4	958 (5)	May 29, 1981
Fissure 1	20	1189 (3)	March 12, 1982
	59		



WESTMIN RESOURCES LIMITED

CLAIM LOCATION MAP
MOHAWK PROJECT
FIGURE-2

Two baselines and soil geochemistry grids were completed during the period July 23 to August 10, 1980. A total of 310 samples were taken on the northerly Mohawk Grid and 600 samples on the southerly Fissure Grid. Samples were analyzed for Cu, Pb, Zn and Ag. Fourteen anomalies are recognized with those reflecting a bedrock source usually anomalous in all four elements whereas those that appear transported are anomalous in one or two of the elements.

GEOLOGY

The 1:125,000 scale compilation of geology of the west-half of Lardeau Sheet (Read, 1976) shows the claims area to be underlain mainly by grey and green phyllitic grit and phyllite of the Broadview Formation and underlain by green phyllite, limy green phyllite and greenstone of the Jowett Formation and are part of the Lower Cambrian to Middle Devonian Lardeau Group. Exposures of the Jowett Formation are limited to both the northwest and southeast ends of the claims area. Read (1976) suggests that the Jowett Formation may correlate with the Index Formation and the Broadview Formation with the Ajax and Sharon Creek formations.

Locally, the following rock types were recognized:

- quartz-feldspar porphyritic grit-arkose
- interbedded grey phyllite and quartzose phyllitic arkose
- carbonaceous gritty phyllite and phyllite

Cleavage is well developed in the rocks and minor folds are common. Quartz-carbonate veining is relatively common.

The Mohawk claims cover part of a mineral belt characterized by pyrite-galena-sphalerite-chalcopyrite-tetrahedrite bearing quartz-carbonate veins such as the True Fissure (Fyles and Eastwood, 1962) and Beatrice and Spider properties (Emmens, 1914; Gunning, 1929). Significant gold, silver and lead were won from the veins by early operators. The veins are described as fissure-veins filling faults. Read (1976) shows a major fault following the trend of the mineral belt.

SOIL GEOCHEMICAL SURVEY

Description of Work

A total of 910 soil samples were taken on the Mohawk claims mainly on a grid-basis, the most northerly of which is referred to as the Mohawk Grid (310 samples) and the southerly Fissure Grid (600 samples). A blazed and picketed baseline was established at 135 degrees on Mohawk Grid and labelled 10+00SW (extends from 80+00NW to 124+00NW). Baseline of the Fissure Grid trends 160 degrees (except at north end where it is at 145 degrees) and is labelled 0+00SW and extends from 25+00NW to 63+00NW. Cross-lines were run with topofil hip-chains generally at 100 meter intervals with soil samples taken at 50 meter intervals.

Soil sampling and grid location was under the supervision of A. Neale and H. Meade. All soil samples were taken with a mattock from the B horizon and placed in kraft paper sample bags. In the predominantly alpine terrane the B horizon was generally sampled at a depth of 10 to 20 cm although in valley bottoms thick organic-rich soils are found for up to 20 cm depth.

Analytical Procedure

All the soil samples were analyzed by Chemex Labs Ltd., 212 Brooksbank Ave., North Vancouver, B.C. Soils were dried, sieved to 95 percent minus 80 mesh, and the 1.0 gram sample digested for two hours using hot 70% $HClO_4$ and concentrated HNO_3. The digested sample was then brought to volume and measured by atomic absorption techniques. Results for Cu, Pb, Zn and Ag are reported in ppm.

Results and Interpretation

No attempt will be made to describe all the anomalous values, however, some general interpretation of soil geochemical anomalies and the character of the anomalies is discussed. Background and contour intervals for Figures 3 to 10 are arbitrarily chosen as follows:

	Cu in ppm	Pb in ppm	Zn in ppm	Ag in ppm
background	20-30	15-20	40-50	0.1-0.2
slightly anomalous	40-70	30-40	150-200	0.4-1.0
anomalous	70-100	40-60	200-300	1.0-2.0
very anomalous	>100	>60	>300	>2.0

In general, there is a moderate to strong correlation of Cu, Pb and Zn and to a lesser degree Ag correlation of anomalous areas. Commonly a linear anomaly is indicated, particularily when all four elements are considered, that parallel structure and stratigraphy. Commonly, Ag forms less well defined anomalies, presumably reflecting hydromorphic dispersion. The linear nature of the Cu, Pb and Zn may also in part reflect dispersion, however, in several areas the anomalies do not follow creeks or other depressions.

FISSURE GRID

Several north to north-northwest trending linear anomalous zones can be defined in this area and are best typified by anomaly No. 1 (Figures 3-6) immediately east of the baseline and extending from 42+00NW to 56+00NW with values up to 1,300 ppm Cu, 66 ppm Pb, 1,400 ppm Zn and 6.4 ppm Ag. Characteristic of the anomalies, each highest value was in different sample sites along the trend of the anomaly. Source of the metals for this anomaly is not known. Anomalies 2 and 3 parallel anomaly 1 to the east. Anomaly 4 is oblique to anomaly 1 and may be due to down slope dispersion. Anomalies 5 and 6 may be the north extension of anomalies south of Mountain Goat Creek.

Anomaly 7 corresponds with a vegetative kill zone of ferri-crete developed on pyritic black shale. An old collapsed adit and small dump are present in this area. Further south along the baseline is anomaly 8 which appears to be the continuation of anomaly perhaps offset along an east-west fault at approximately 40+00NW. It is fairly weak and defined by anomalous Pb and spotty, weak Cu, Zn and Ag values.

Anomaly 9 may be a hydromorphic accumulation anomaly occurring near the break in slope - it is mainly Pb and Ag with a few weak Cu and Zn samples. Clearly anomaly 1 should be trenched in search of bedrock mineralization while the other anomalies should be prospected and checked by soil profiling to determine whether they are in-situ or transported.

MOHAWK GRID

Consideration of Cu, Pb, Zn and Ag in soil samples reveals at least 6 anomalous zones, many of which are elongate downslope and appear due to hydromorphic accumulation of metal (Figures 7-10). For example, anomaly 9, a broad moderate Pb anomaly corresponds with weak Cu and Zn anomalous values and no anomalous Ag values. Soil profiling is required to determine if the anomaly is transported or in-situ. Anomaly 10 contains moderately strong Cu, Pb and Ag values with up to 96 ppm Cu, 184 ppm Pb and 3.6 ppm Ag. A bedrock source is probable as the anomaly is near a local topographic high.

Anomaly 11 is a large anomaly where in the weakly anomalous Pb, values are offset upslope from the Cu, Zn and Ag values. Values for Cu are up to 680 ppm,Zn to 2,950 ppm and Ag to 2.6 ppm. Location of the Cu-Zn-Ag anomaly in a topographic depression and downslope from anomalous Pb values suggest a transported anomaly and hydromorphic accumulation of Cu, Zn and Ag. The strength of the anomaly suggests a source of mineralized bedrock. Soil profile sampling is required to resolve the nature of this anomaly.

Anomalies 12, 13 and 14 are comprised of moderately anomalous values of Pb and Cu and only weakly anomalous Zn and Ag values. Anomaly 12 appears to be in-situ whereas anomalies 13 and 14 may be transported.

SUMMARY

Fourteen anomalies have been defined, those on the Fissure Grid have a northerly trend and correspond to the trend of stratigraphy and structure. Coincidental strongly anomalous Cu, Pb, Zn and Ag values are interpreted to reflect nearby sphalerite-galena-pyrite-tetrahedrite vein mineralization. Many of the anomalies appear transported or to be hydromorphic accumulations that will require considerable soil profile sampling to determine their bedrock source. Selected samples should be analyzed for gold to define its distribution relative to Cu, Pb, Zn and Ag.

STATEMENT OF EXPENDITURE

The following expenditures were made during grid location and soil sampling of the Mohawk-Fissure Claim Group from July 23, 1980 to August 10, 1980:

Senior Supervision			
H. Meade	(July 28-30)		$ 500.00
Site Personnel			
A. Neade	(June 24; July 23-Aug. 10)	@ $56.25/day	1,125.00
G. O'Brien	(July 23-Aug. 10)	@ $41.65/day	791.35
B. Jerrerson	(July 23-July 31)	@ $40.50/day	364.50
P. Meade	(July 23-Aug. 10)	@ $40.50/day	769.50
A. Young	(July 28-Aug. 10)	@ $41.70/day	583.80
			$ 3,634.15
Meals and Accommodation			
85 man-days @ $17.00/day			1,445.00
Assay Costs			
910 samples @ $4.25 (Cu, Pb, Zn, Ag)			3,867.50
Freight			150.00
Field Supplies			300.00
Vehicle Rental			
2 vehicles x $35/day x 19 days =		$1,330.00	
gasoline		$ 100.00	1,430.00
Transportation			
Castlegar-Vancouver @ $65/one-way x 6 persons			390.00
Report Preparation			
Report	$500.00		
Drafting	$600.00		1,100.00
			$12,816.65

Apportionment of Expenditure

MOHAWK GRID - 310 samples

310/910 x $12,816.25 = $ 4,365.97

FISSURE GRID - 600 samples

600/910 x $12,816.25 = $ 8,450.28

BIBLIOGRAPHY

Emmens, N.W., 1914; The Mineral Resources of Lardeau and Trout Lake Mining Division, B.C. Bureau of Mines, Bulletin No. 2, 65 p.

Fyles, J.T. and Eastwood, G.E.P., 1962; Geology of the Ferguson Area, Lardeau District, British Columbia, B.C. Dept. of Mines and Petroleum Resources, Bull. No. 45, 92 p.

Read, P.B., 1976; Geology Lardeau West-Half, British Columbia; Geol. Surv. Canada, Open File Rept. 432.

APPENDIX 1

STATEMENT OF QUALIFICATIONS, HARLAN D. MEADE

- University of British Columbia, Vancouver, British Columbia, May 1972, B.Sc. Honors Geology.
- University of Western Ontario, London, Ontario, 1977, Ph.D. Geology.
- I am a member of the Canadian Institute of Mining and Metallurgy and a Fellow of The Geological Association of Canada.
- I have been employed by Western Mines Limited, Ste. 1103-595 Burrard Street, Vancouver, B. C., V7X 1C4, since December 1978.
- I supervised the taking of samples and recording of data in the field.

Respectfully submitted,

Harlan Meade

Harlan Meade

APPENDIX 2

CHEMEX LABS

GEOCHEMICAL PREPARATION
AND
ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 50°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.

2. A 1.00 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% $HClO_4$ and concentrated HNO_3. Digestion time = 2 hours.

3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.

4. Detection limits using Techtron A.A.5 atomic absorption unit.

Copper	1 ppm
Molybdenum	1 ppm
Zinc	1 ppm
*Silver	0.2 ppm
*Lead	1 ppm
*Nickel	1 ppm
Chromium	5 ppm

*Ag, Pb & Ni are corrected for background absorption.

5. Elements present in concentrations below the detection limits are reported as one half the detection limit, ie. Ag - 0.1 ppm

GEOCHEM PROCEDURES

PPM Antimony: a 1.0 gm sample digested with conc. HCl in hot water bath. The iron is reduced to Fe^{+2} state and the Sb complexed with I^-. The complex is extracted with TOPO-MIBK and analyzed via A.A. Correcting for background absorption 0.2 ppm ± 0.2 Detection limit.

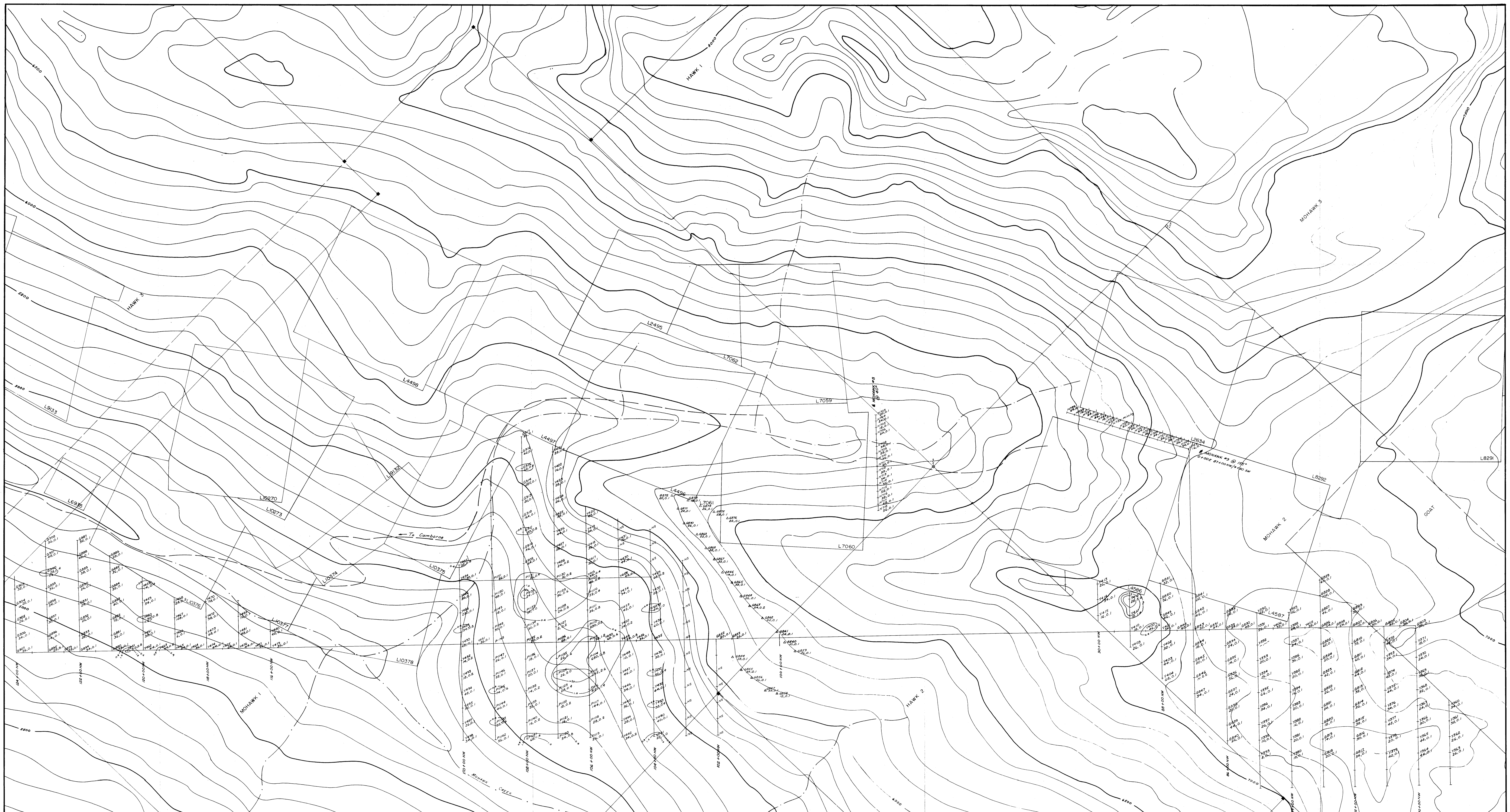
PPM Arsenic: a 1.0 gram sample is digested with a misture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with Kl and mixed. A portion of the reduced solution is converted to arsine with $NaBH_4$ and the arsenic content determined using flameless atomic absorption.
Detection limit - 1 PPM

PPB Gold: 5 gm samples ashed @800°C for one hour, digested with aqua regia - twice to dryness - taken up in 25% HCl^-, the gold then extracted as the bromide complex into MIBK and analyzed via A.A.
Detection limit - 10 PPB

PPM Tungsten: 0.50 gm sample is fused with potassium bisulfate and leached with hydrochloric acid. The reduced form of tungsten is complexed with toluene 3,4 dithiol and extracted into an organic phase. The resulting color is visually compared to similarly prepared standards.
Detection Limit: 2 ppm W.

PPM Tin: 1.00 gm of sample is sintered with ammonium iodide. The resulting tin iodide is leached with a dilute HCL-ascorbic acid solution. The TOPO complex is then extracted into MIBK and analyzed via A.A.
Detection Limit: 1 ppm Sn.

PPM Fluorine: 0.25 gms is fused with a 2:1 $NaCO_3$-KNO_3 mixture. The melt leached with water and citric acid, adjusted to pH 5.5 and the activity measured with a fluoride specific ion electrode.
Detection Limit: 10 ppm F.



LEGEND

Corner Post and Claim Boundary	Assay Information	Contour Interval
Legal Corner Post	Cu, Ag-order of appearance	Ag
Sample Stations	Cu in ppm	0.4 - 1.0
Sample Number Cu, Ag	Ag in ppm	1.0 - 2.0
HAWK 2, L 8292 Claim Name or number.		>2.0

WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

SILVER SOIL GEOCHEMISTRY
MOHAWK GRID

0 50 100 150 200 metres
Scale 1 : 4,000

Date March, 1981 | Drawn by L. Connor | FIGURE-10

LEGEND

		Assay Information	Contour Interval
	Corner post and Claim boundary	Pb,Zn - order of appearance	Zn
LCP	Legal Corner Post	Pb in ppm	150 - 200
	Sample Stations	Zn in ppm	200 - 300
Y409 28,74 G860 10,10	Sample number Pb, Zn		>300
HAWK 2, L8292	Claim name or number.		

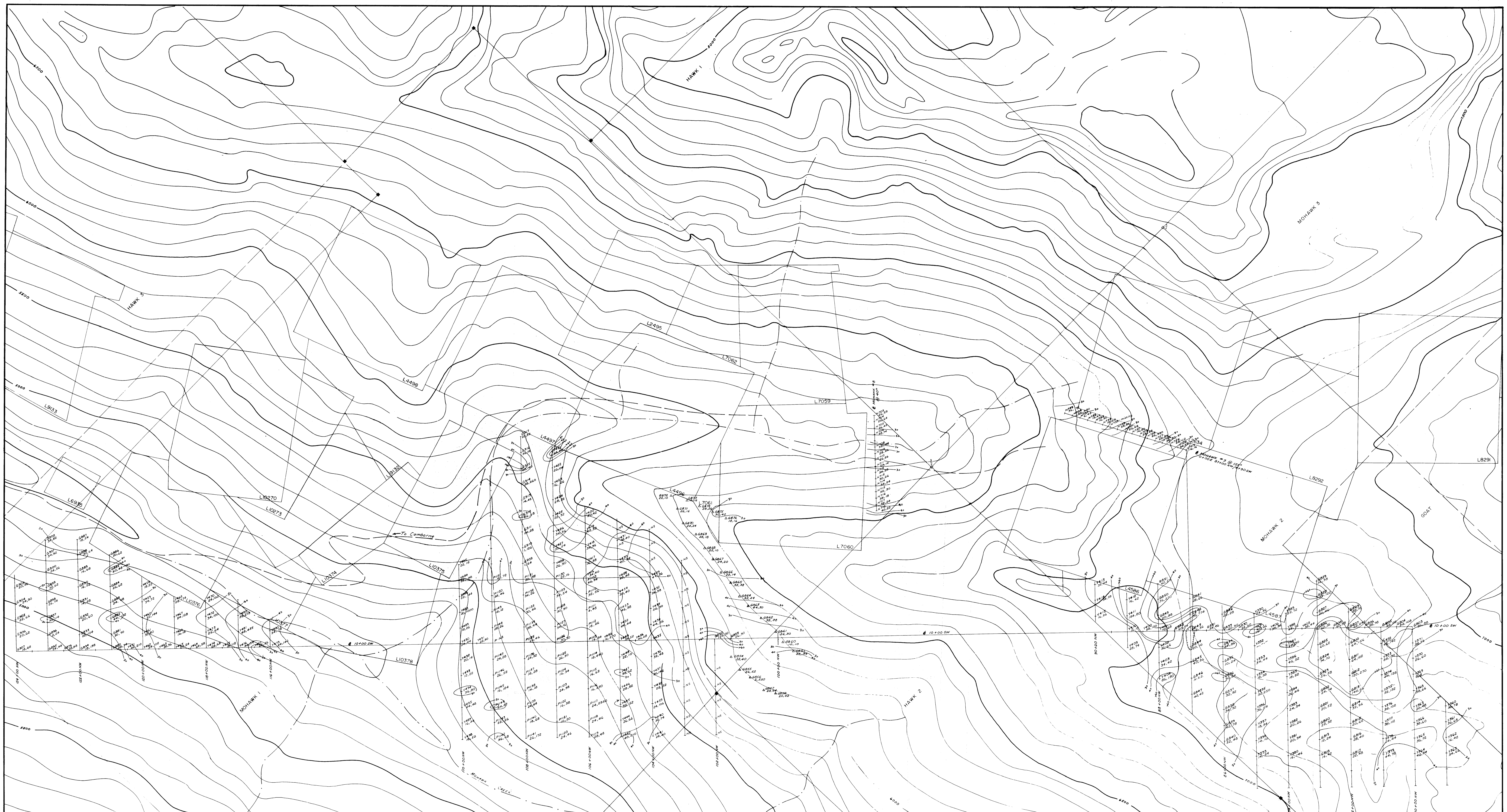
WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

ZINC SOIL GEOCHEMISTRY
MOHAWK GRID

0 50 100 150 200 metres
Scale 1 4,000

Date March, 1981 | Drawn by L. Connor | FIGURE 9



L E G E N D

		Assay Information	Contour Interval
	Corner post and Claim boundary	Pb,Zn - order of appearance	Pb
LCP	Legal Corner Post		30 - 40
			40 - 60
		Pb in ppm	>60
	Sample Stations	Zn in ppm	
Y409 28,74 G860 10,10	Sample number Pb, Zn		
HAWK 2, L 8292	Claim name or number.		

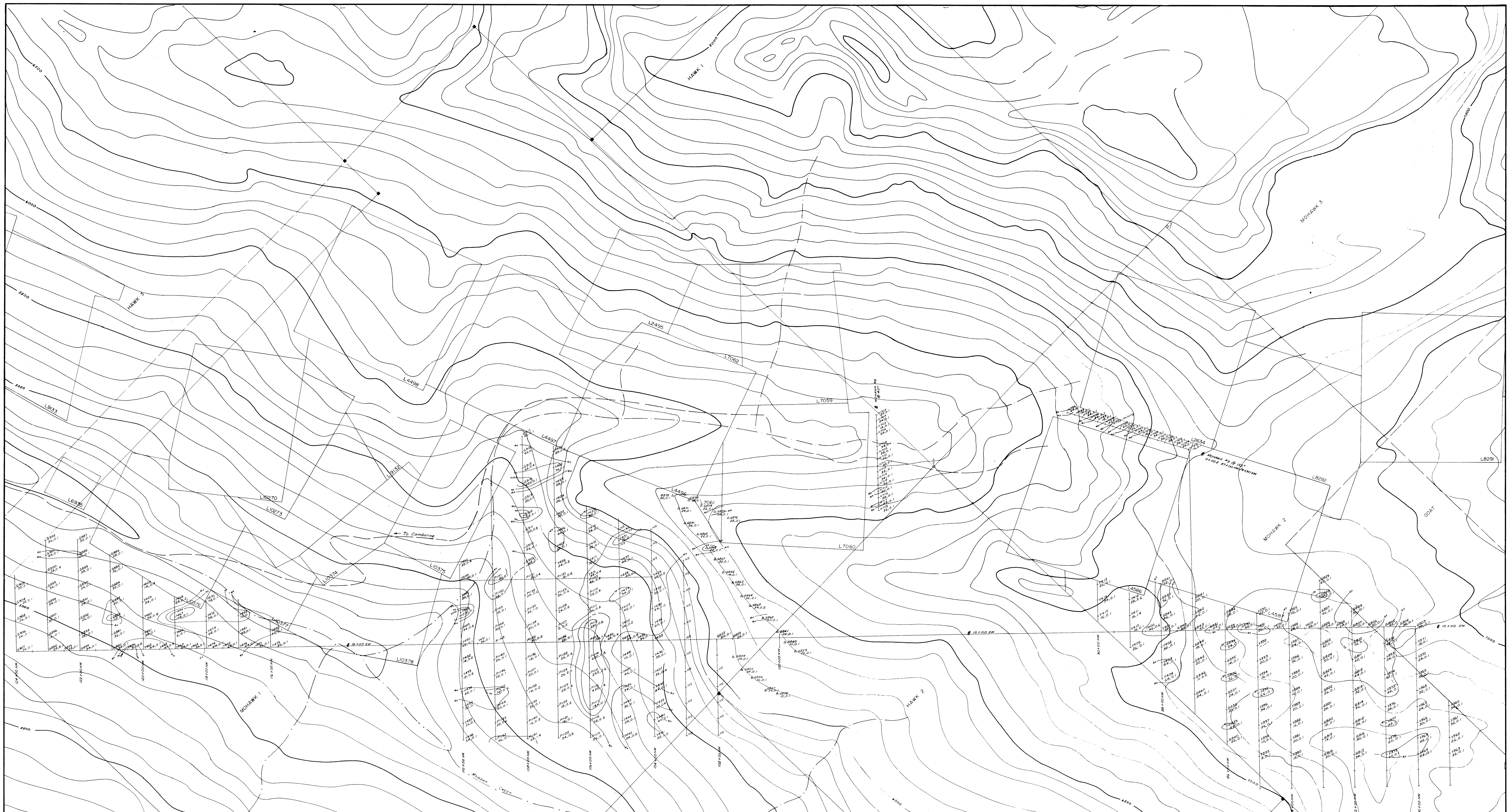
WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

LEAD SOIL GEOCHEMISTRY
MOHAWK GRID

0 50 100 150 200 metres
Scale 1 4,000

Date March, 1981	Drawn by L. Connor	FIGURE : 8



L E G E N D

	Assay Information	Contour Interval
Corner Post and Claim Boundary	Cu, Ag-order of appearance	Cu
Legal Corner Post	Cu in ppm	40 - 70
Sample Stations	Ag in ppm	70 - 100
Sample Number Cu, Ag		>100
HAWK 2, L 8292 Claim Name or number.		

WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

COPPER SOIL GEOCHEMISTRY
MOHAWK GRID

0 50 100 150 200 metres
Scale 1 : 4,000

Date March, 1981	Drawn by: L. Connor	FIGURE 7

LEGEND

		Assay Information	Contour Interval
	Corner Post and Claim Boundary	Cu, Ag-order of appearance	Ag
LCP	Legal Corner Post	Cu in ppm	0.4 - 1.0
	Sample Stations	Ag in ppm	1.0 - 2.0
N687 14,0.1	Sample Number Cu, Ag		>2.0
HAWK 1, L1103	Claim Name or Number		

WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

SILVER SOIL GEOCHEMISTRY
FISSURE GRID

0 50 100 150 200 metres
Scale 1:4,000

Date: March, 1981 | Drawn by: L. Connor | FIGURE: 6

L E G E N D

	Assay Information	Contour Interval
Corner Post and Claim Boundary	Pb, Zn-order of appearance	Zn
Legal Corner Post	Pb in ppm	150 - 200
Sample Stations	Zn in ppm	200 - 300
Sample Number Pb, Zn		>300
HAWK 1, L1103 Claim Name or Number		

WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

ZINC SOIL GEOCHEMISTRY
FISSURE GRID

0 50 100 150 200 metres
Scale 1 : 4,000

Date: March, 1981 | Drawn by: L. Connor | FIGURE: 5

L E G E N D

		Assay Information	Contour Interval
	Corner Post and Claim Boundary	Pb, Zn-order of appearance	Pb
LCP	Legal Corner Post	Pb in ppm	30 - 40
	Sample Stations	Zn in ppm	40 - 60
N687 18,38	Sample Number Pb, Zn		>60
HAWK 1, L1103	Claim Name or Number		

WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

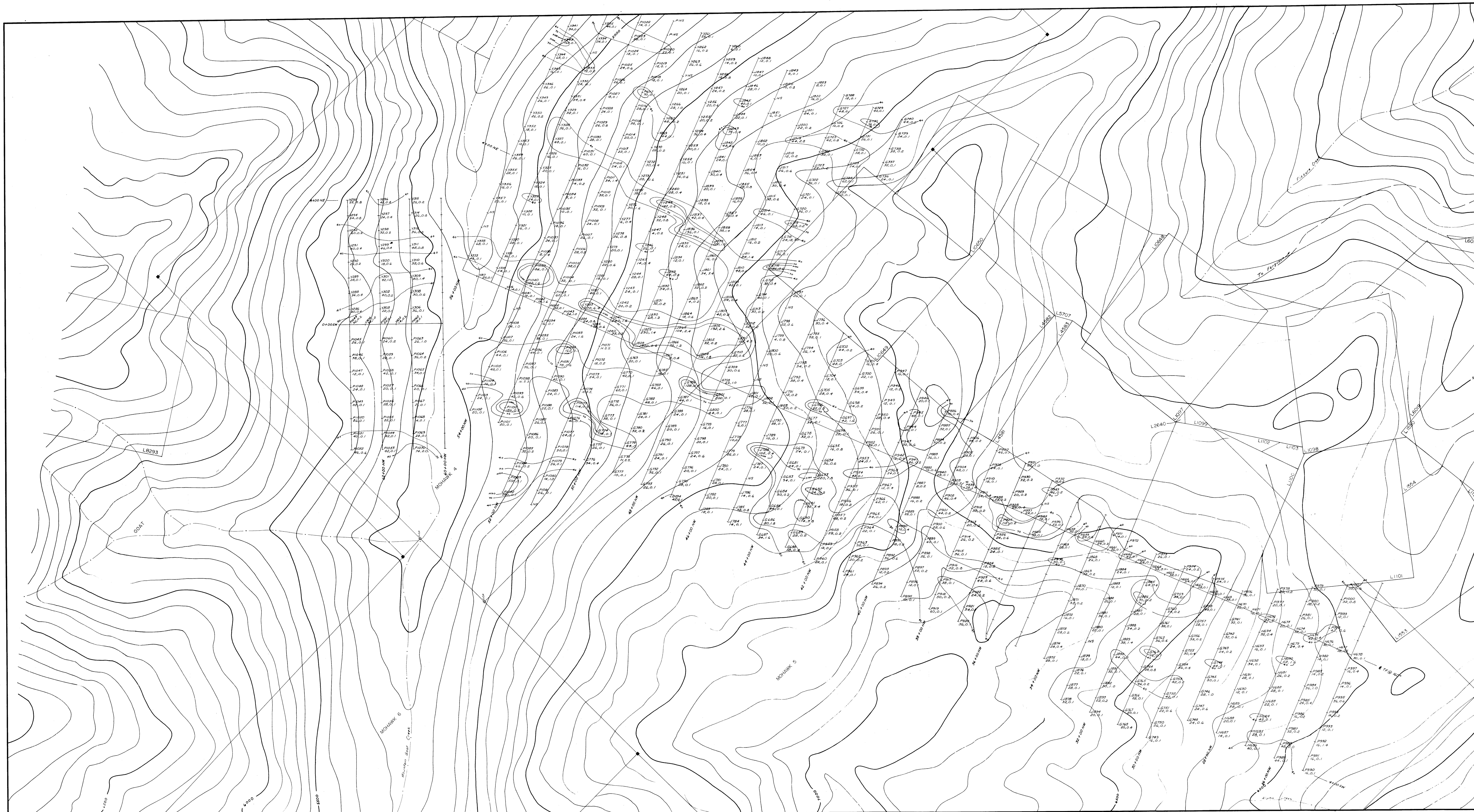
LEAD SOIL GEOCHEMISTRY

FISSURE GRID

0 50 100 150 200 metres

Scale 1: 4,000

Date: March, 1981 | Drawn by: L. Connor | FIGURE: 4



L E G E N D

Corner Post and Claim Boundary	**Assay Information**	**Contour Interval**
Legal Corner Post	Cu, Ag - order of appearance	Cu
Sample Stations	Cu in ppm	40 - 70
Sample Number Cu, Ag	Ag in ppm	70 - 100
HAWK 1, L1103 Claim Name or Number		>100

WESTMIN RESOURCES LIMITED

MOHAWK PROJECT

COPPER SOIL GEOCHEMISTRY
FISSURE GRID

0 50 100 150 200 metres
Scale 1 : 4,000

Date: March, 1981 | Drawn by L. Connor | FIGURE: 3