81 - # 1033 - # 9801

ASSESSMENT REPORT

GRID PREPARATION, SOIL GEOCHEMICAL SURVEY, GEOLOGICAL MAPPING AND ROCK SAMPLING AT POPLAR CREEK

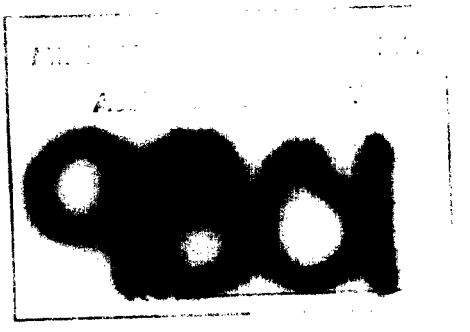
50°28'N, 117°10'W

BULLOCK CLAIM GROUP

CLAIMS: MARCH 1 & 2, LUCKY 3, BIG HOPE FR., BIG HOPE NO. 2 FR., GOLDSMITH, GOLDHILL, PLUTO, GALILEO, ALEX 1 & 2, CROWN KING, BULLOCK, BULLOCK 2 & 3, LUCKY JACK, LUCKY JACK 2 & 3, RUSTY 7 & 16.

MINING DIVISION: SLOCAN

N.T.S.: 82K/6E



PAUL J. WOJDAK
PROJECT GEOLOGIST

WESTMIN RESOURCES LIMITED

DECEMBER 1981

Part 3 of 3

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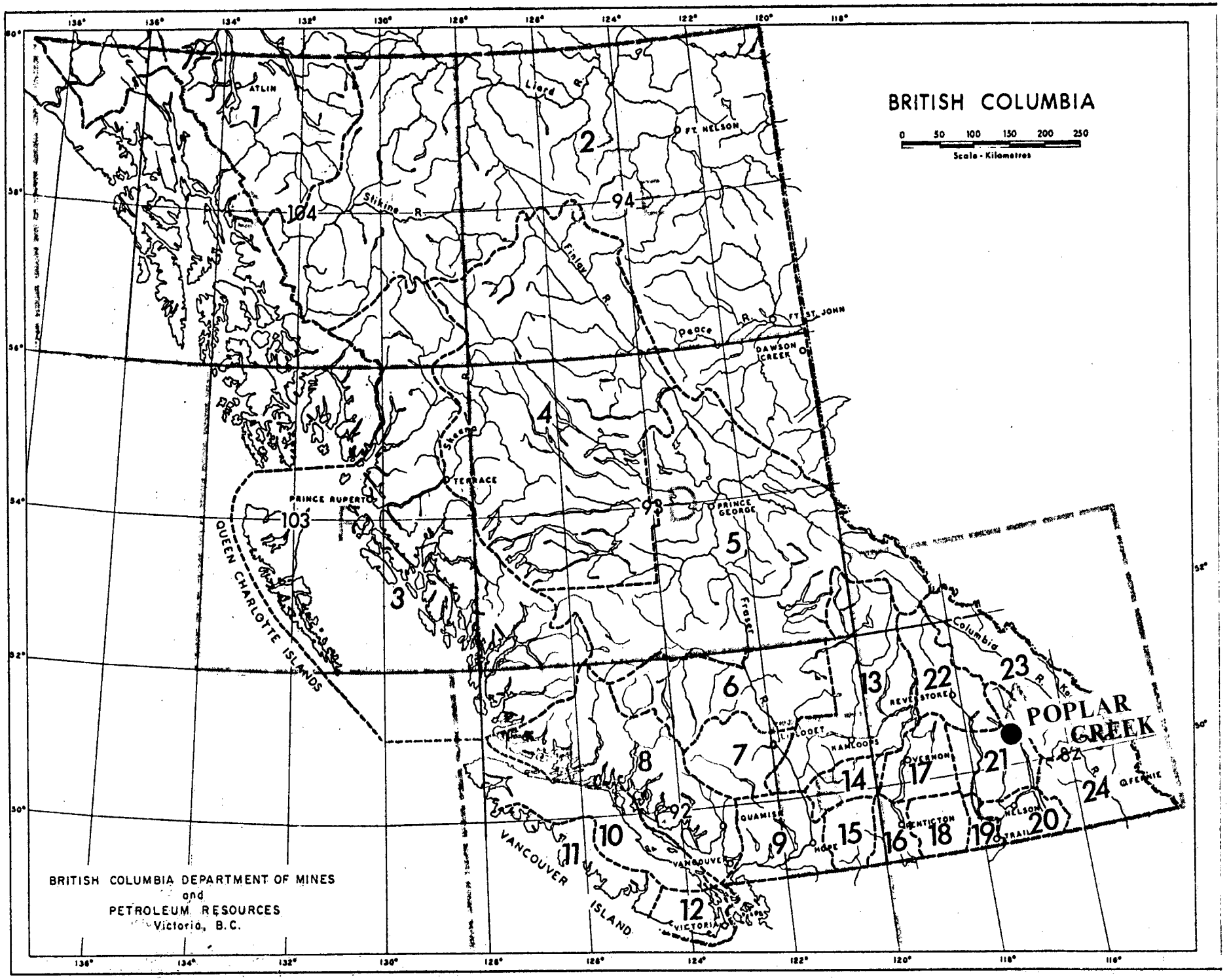
INTRODUCTION

The Bullock claim group is located on lower Poplar Creek, at its confluence with Lardeau River, 70 km north of Kaslo. Access is by Highway #33 (gravel surface) from Meadow Creek and Kaslo. The claims lie on a moderate to steep southwest side of Lardeau valley, deeply incised by Poplar Creek valley. Outcrop is moderately abundant on steep slopes, as at Lucky Jack, but is sparse on moderate slopes, such as at Bullock.

A gold prospecting rush passed through the Lardeau valley at the turn of the century, stopping briefly at Poplar Creek between 1898 and 1903. Exploration, consisting of open cuts and driving numerous short adits continued intermittently until about 1930. Essentially no further work had been done until 1980 when claims were optioned by Westmin Resources and Armco. A soil geochemical survey begun in 1980 was extended in 1981, in addition to geological mapping, trenching and sampling. A 1:5,000 scale topographic map was prepared and two grids (Bullock and Lucky Jack) were prepared for more detailed control. Field work was carried out between June 1 and July 15, 1981 and comprised 10.7 km of grid preparation for soil geochem and/or mapping, 451 soil samples, 347 m of rock sampling, and detailed and 1:5000 scale geological mapping.

REGIONAL GEOLOGY

The Poplar Creek area is underlain by lower Paleozoic (Cambrian to Devonian) volcanic and sedimentary strata of the Lardeau Group that extends at least 250 km along the Kootenay Arc from the U.S. border to north of Revelstoke. The regional geology has been described by Read (1973, 1976). The strata have undergone an early isoclinal phase of folding and a younger open to tight phase and greenschist grade (biotite zone) metamorphism. The lowermost Index Formation comprises


BRITISH COLUMBIA
0 50 100 150 200 250
Scale - Kilometres
POPLAR CREEK
ATLIN
FT. NELSON
Liard R.
Stikine R.
Finlay R.
Peace R.
FT. ST. JOHN
DAWSON CREEK
TERRACE
PRINCE RUPERT
PRINCE GEORGE
Fraser R.
Columbia R.
QUEEN CHARLOTTE ISLANDS
VANCOUVER ISLAND
VANCOUVER
VICTORIA
REVELSTOKE
KAMLOOPS
OKANAGAN LAKE
OVERNOM
QUAMISS
PENTICTON
NELSON
TRAIL
GREENWOOD
BRITISH COLUMBIA DEPARTMENT OF MINES
and
PETROLEUM RESOURCES
Victoria, B.C.

limy green phyllite (of volcanic origin), phyllitic and arenaceous limestone, grey and light green phyllite (volcanic derived sedimentary strata) and quartz grit. The Jowett Formation is a greenstone unit and is overlain by grey and green phyllite, grit and limestone of the Broadview Formation (Read, 1976). The Bullock claim group are interpreted to cover the stratigraphic interval at the top of the Jowett, although the Jowett/Broadview contact has not been defined by this study.

GRID PREPARATION

Grids were prepared over two areas of old workings and reported gold mineralization. The Lucky Jack zone lies near the bottom of Lardeau valley. A baseline 550 m long was established at a bearing of 110° and five 600 m long and four 200-300 m long crosslines were run from it at 200°. The lines were chained and slope corrected. The origin of the grid was chosen at the main Lucky Jack adit.

The Bullock zone is at 1,050 m elevation and the grid was set up so that the 600 m long baseline at 135° approximately contours the slope and extends 300 m each side of the Bullock #1 adit. Eleven crosslines are centred on the baseline and are 500 to 700 m long.

PROPERTY GEOLOGY

The map legend (Figure 2) portrays a lithologic succession that is not necessarily a stratigraphic succession. Foliation produced by the first phase of deformation mainly parallels compositional layering and indicates rocks strike northwest, parallel to the valley and dip mainly steeper than topographic slope so that the succession youngs northeasterly. Structures are not sufficiently understood to preclude repetitions by folding or faulting. This is particularly the case for argillaceous metasedimentary units 3, 6, 8 and 11.

Unit 1 These are dark green, commonly magnetic, mafic volcanic strata probably of basalt composition. They are homogeneous except for local interflow chert beds.

Unit 2 These are fine grained quartz sericite schists and local massive, fine grained quartzo-feldspathic rocks that were tentatively mapped as felsic volcanics in the field. Follow-up thin section work mainly on the massive variety has not stood up to a felsic volcanic origin. Instead, these appear to be metasedimentary rocks.

Unit 3 Black to dark grey, commonly graphitic argillite occurs at a number of stratigraphic levels intercalated with carbonated mafic volcanic rocks (Unit 4). The appearance of argillite is interpreted to signal diminishing volcanic activity and the approaching termination of the mafic volcanic cycle represented by Unit 1. The argillites are thin bedded, and probably formed as deep water distal turbidites.

Unit 4 These are pale green altered mafic volcanic rocks that may include tuffaceous material. They are equivalent to Unit 1 except for containing up to 50% carbonate (typically 20%) as disseminated porphyroblasts and stringer veins. Quartz veins are also very common. Carbonate alteration also affects interbedded argillites and is interpreted to be contemporaneous sea-floor hydrothermal activity that had an increasing opportunity to leave its mark as the rate of volcanism slowed.

Unit 5 The carbonate exhalite unit represents the end result of the hydrothermal process described above. Where best developed, the rock consists of massive coarse grained ferroan dolomite intergrown with quartz, fuchsite-muscovite and lesser chlorite to produce an amazingly hard compact rock. The iron carbonate weathers to a dark red gossan. This unit is best developed on the Bullock zone. Where the rock has not recrystallized it is schistose and laminated with chert, carbonate and muscovite (sericite) rich bands on a scale of mm to 10 cm. The laminations are considered primary compositional layers (bedding) and indicates the hydrothermal process vented onto the sea-floor. The carbonate unit contains minor pyrite and is the locus of intensive quartz veining. As discussed further below these quartz veins contain little other than quartz. Graphitic argillite has also been included in this unit although it is not clear if these truly are interbeds, or represent under or overlying strata that might instead be assigned to Unit 3. As exposed at the beginning of the Bullock #1 adit it is at least 15m thick.

Unit 6 These are siltstone and argillite beds intercalated with limey chlorite schist. Unit 6 is comparable lithologically to Unit 3 but is separated from it stratigraphically by the carbonate exhalite, Unit 5. Where Unit 5 is not developed, distinction between Units 3 and 6 is obscure, other than the slightly grittier grain size.

Unit 7 This a thick medium green mafic volcanic unit locally with distinctive limestone lenses that range from a few cm to several metres in thickness. The mode of occurrence of carbonate and darker colour distinguish Unit 7 from Unit 4, although the possibility these represent

facies variations of the same stratigraphic unit has been considered. This unit is laterally extensive and like Unit 4, contains intercalated clastic sedimentary strata (Units 6 and 8).

Unit 8 is a local facies variant of Unit 6 and consists of coarser clastic detritus, quartzite and grit. The gradational coarsening upward of clastic material represented by Units 3, 6 and 8 reflects a gradational change to coarse clastic sedimentation that typifies the Broadview Formation.

Unit 9 is a 25 m thick limestone band within Unit 7 greenstone. It varies from pure limestone to laminated chlorite-sericite phyllitic limestone. In comparison with Unit 5, chert is rare but limy black phyllite is about equally common. This unit is best developed at the Big Hope adits where quartz veins associated with the unit are well developed. Elsewhere quartz veins in Unit 9 carbonate are uncommon. It is dubious whether "exhalite" is an appropriate term; the carbonate is calcite with minor dolomite, chert is rare and fuchsite is absent. The possibility that Unit 9 carbonate is a structural repetition of Unit 5 has been considered in conjunction with the comparison of Units 4 and 7, but likewise has been discounted.

Unit 10 is a weak to moderately foliated feldspar porphyry andesite. Feldspar phenocrysts are ubiquitous and account for 10-30% of the rock. Quartz eyes are rare but petrologically significant. The rock is well jointed, the joints filled by quartz veins. Very fine grained, lens shaped (flattened) mafic fragements occur

sporadically. Upper and lower contacts have been observed and are sharp. The origin of this rock has been debated as either extrusive (a massive flow with fragments) or intrusive (a sill with xenoliths). Lack of flow alignment of feldspars, sharp lower contact with chilled margin (observed in drill core) and contacts which truncate bedded units favour an intrusive origin. Unit 10 is probably the rock termed "diabase schist" by the early miners. It only occurs in the Lucky Jack area.

Unit 11 is a sedimentary unit intruded by andesite (Unit 10) at Lucky Jack. Below the andesite lies a graphitic black argillite and above is graphitic black argillite and dark grey argillaceous greywacke.

MINERALIZATION

Major quartz veins, 0.1 to 1.5 m wide, at Bullock and Marquis-Gilbert strike at 130°-150° (parallel to stratigraphic strike) with a spectrum of dips ranging from 45° NE through vertical to 45° SW. At a specific site quartz vein sets are commonly apparent, eg. a vertically dipping set and 45° SW set, or a vertical and 80° NE set but over a wider area these sets loose unique identity. These veins have strike continuity over tens of metres. Cross veins are less well developed but a common set strikes 090°-110° and dips 45°-85° S. These veins crosscut the major veins. They extend only a few metres and not beyond a group of major veins.

All veins are essentially monomineralic, bull quartz veins. Sulphides are very sparse and comprise rare pyrite and sporadic galena or arsenopyrite. Galena occurs in quartz veins at Bullock and arsenopyrite occurs (without galena) at Goldsmith and Marquis-Gilbert. A few veins, eg. Bullock trench 9, contain pockets of massive sulphide (pyrrhotite, pyrite, chalcopyrite, galena, in order of abundance).

The preferred vein host is carbonate exhalite (Unit 5) or carbonated mafic volcanic rocks (Unit 4) at the same stratigraphic level.

The most common vein orientation at Lucky Jack is a strike of 000° to 045° dipping vertically. The overall pattern is more diverse as veins follow numerous joint directions in feldspar porphyry andesite. Other orientations are 120° with moderate NE dip, 070° with moderate NW dip and 040° with 45° NW dip. These veins are continuous for up to 10 m. They are essentially monomineralic quartz veins with pyrite, pyrrhotite and chlorite, being a minor component of some veins.

A crudely conformable zone of sparsely disseminated arsenopyrite occurs within feldspar porphyry andesite at trench LJ-2. It extends for 5 m along the trench (across strike) but was not located in parallel trenchs.

Galena and sphalerite occur in a quartz vein exposed in the Big Hope adits.

ROCK SAMPLING

At Bullock and Marquis-Gilbert careful sampling was carried out of quartz veins, the most important vein host unit - the carbonate exhalite, and other units close to that stratigraphic level. At Lucky Jack,quartz veins and the host andesite feldspar porphyry were the principal rocks sampled. Sampling was carried out with a moil and a 2½ pound sledge hammer to produce a continuous chip sample - approximately 4 cm wide by 2 cm deep by 2 to 4 m long. Sample weights of 5-10 kgm were reduced prior to shipment by crushing to minus 1 cm (using a portable lab crusher set up at Cooper Creek) and using a riffle splitter to produce a 2 kgm sample. These were shipped to Chemex Laboratory in North Vancouver for Au and Ag determinations.

RESULTS

Assay results are presented on accompanying trench plan maps, with trench locations given on the 1:1000 and 1:5000 scale maps and are only summarized below.

Disappointing results were obtained from the 73 samples from the Bullock zone. Gold and silver values are uniformly low. Some of the better values are 0.018 oz Au/ton and 0.56 oz Ag/ton over 0.6 m from trench 9, 0.022 oz Au/ton over 1.4 m from trench 12 and 0.005 oz Au/ton from trench 6 (across 2.0 m), trench 10 (across 1.9 m) and trench 13 (across 2.0 m). All other values are 0.003 oz Au/ton or less.

Marquis-Gilbert results are only marginally better than Bullock (33 samples). The best results are from trenches 1 and 2. Two of five samples from trench 1 gave 0.050 and 0.032 oz Au/ton over 1.0 and 2.0 m respectively. Three of ten samples from trench 2 gave 0.028, 0.048 and 0.054 oz Au/ton over 2.4, 2.4 and 1.5 m respectively. All other samples were 0.01 oz Au/ton or less.

Sampling adits on the Big Hope claim produced uniformly low values from 18 samples. The best value is 0.90% Pb, 0.58 oz Ag/ton and 0.005 oz Au/ton over 1.6 m on the galena-bearing quartz vein described above.

Twenty-nine samples were collected at Lucky Jack. Vein samples gave modest values (eg. 0.058 oz Au/ton over 1.5 m from trench 5). The best values came from trench 2, on the zone of sparse arsenopyrite in feldsapr porphyry andesite; a 12.5 m trench length averaging 0.087 oz Au/ton:

Sample	Trench Length	oz Au/ton
LJ-2A	4.1 m	0.028
LJ-2C	1.0 m	0.070
LJ-2D	4.1 m	0.112
LJ-2E	0.3 m	0.488
LJ-2F	3.0 m	0.100
	12.5 m	0.087 (avg.)

Two samples of a narrow (~10 cm) vein running the length of the trench gave 0.038 and 0.116 oz Au/ton, both over 0.7 m. The 12.5 m trench length represents a stratigraphic thickness of 9 m. It is significant that the gold assay width is greater than the observed width of arsenopyrite.

SOIL GEOCHEMISTRY

In 1980 an extensive soil survey was carried out on the Rusty and Bullock claims (see H.D. Meade 1980 report). In 1981 additions were made to the Bullock grid to cover claims optioned from Pan American Consultants Ltd. These include the Goldsmith, Pluto and Galileo claims. The new Lucky Jack grid was used to cover the Big Hope, Lucky Three, Lucky Jack and part of March 1 claims.

B-horizon soils were sampled using a mattock and kraft paper bags. Samples were shipped to Chemex Labs Ltd. in North Vancouver for Cu, Pb, Zn, Ag, Au and As determinations. These were analyzed by atomic absorption and following dissolution by standard techniques described by H.D. Meade in 1980.

The data has been contoured at the same intervals as in 1980 and is presented on the accompanying maps. The Lucky Jack grid is shown on the Bullock map but for data presentation the grid has been 2X enlarged and redrafted.

(a) Bullock

The main feature of the Bullock geochem maps is a strong 1000 m long by 250 m wide multi-element anomaly. It was partially defined by the 1980 work but was open to the northwest and southeast. The 1981 sampling has closed the southeastern extension and carried the northwestern trend as far as the precipitous slope to Poplar Creek canyon. The anomaly is best defined by arsenic and shows the continuity of the Bullock and Goldsmith zones.

This in itself is intriguing as arsenopyrite is common at Goldsmith but not at Bullock. Maximum arsenic values are 1000 ppm. Gold dispersion is more localized than arsenic and shows a centre at Bullock and a stronger one at Goldsmith. Soil values at Goldsmith are up to 3200 ppb and follow-up assays have been as high as 0.118 oz/ton. The intervening less anomalous zone is presumed to be a real feature - overburden depth appears to be similar but quartz veins are much less abundant.

Silver, copper, lead and zinc add little to the gold and arsenic maps. Silver is quite flat where there is a strong gold-arsenic response. The 1980 survey found a weak anomaly east of the Bullock zone (related to argillaceous metasediments?).

The southwestern side of the grid shows elevated copper values that are likely due to a preponderance of un-altered mafic volcanic rocks. In addition there is a strong (upto 535 ppm), localized anomaly at Goldsmith.

Lead values are not very interesting. There are few scattered "anomalies" that are actually of low magnitude.

Modest high zinc values occur at the southeast end of the grid, and on the Pluto and Goldsmith claims. These may be related to intercalated argillaceous metasediments.

(b) Lucky Jack

The surprising result of the Lucky Jack survey is the lack of high arsenic values in the vicinity of disseminated arsenopyrite in trench LJ-2. There are only three spot highs in arsenic on the grid and they are of unknown origin. There is, however, a gold anomaly associated with the zone of disseminated arsenopyrite. It is not an extensive anomaly, but values are up to 1000 ppb Au.

The silver and lead maps show weak response and no high values near the Big Hope galena-bearing quartz vein. The cause of modest variations in copper and zinc values is obscure; higher values may be related to proximity to outcrop areas of basic volcanic rocks for copper and argillite for zinc.

CONCLUSIONS

Rocks at Poplar Creek comprise low grade metamorphic strata of volcanic and argillaceous composition belonging to the lower to mid-Paleozoic Lardeau Group. Gold mineralization took place in association with: (1) a submarine hydrothermal system that developed near the conclusion of mafic volcanism at Bullock, Goldsmith and Marquis-Gilbert and (2) emplacement of the feldspar porphyry andesite sill at Lucky Jack. The hydrothermal system resulted in widespread carbonate alteration, exhalative quartz-carbonate precipitates and quartz veins with variable gold content. The feldspar porphyry andesite hosts a zone of sparse disseminated arsenopyrite and low grade gold mineralization. In addition, quartz veins filling joints in the intrusive carry sporadic gold values.

Carbonate-quartz exhalite is best developed in the Bullock zone and is minor to absent along strike at Goldsmith and Marquis-Gilbert. There is a converse pattern in metal zoning; quartz veins at Bullock contain galena and low gold values whereas at Goldsmith and Marquis-Gilbert sporadic arsenopyrite and better gold values.

No further work is recommended on the Bullock zone. The strong soil geochemical response at Goldsmith warrants trenching and sampling follow-up. The zone of gold-arsenopyrite at Lucky Jack warrants diamond drilling follow-up to test lateral and down-dip continuity. The high grade veins at Lucky Jack also warrant diamond drilling. Low rock assay and poor soil geochemical response at Marquis-Gilbert make this zone a low priority for drill testing.

P. J. Wojdak

Paul J. Wojdak
Project Geologist

BIBLIOGRAPHY

Meade, H.D. (1981); Assessment Report, 1980, Soil Geochemical Survey, Rusty Claim Group, Poplar Creek, B.C.

Read, P.B. (1973); Petrology and Structure of Poplar Creek Map-Area, B.C.; G.S.C. Bulletin 193.

Read, P.B. (1976); Geology of Lardeau West-Half, B.C.; G.S.C. Open File Report 432.

APPENDIX 1

STATEMENT OF EXPENDITURES

ON

March 1 & 2, Lucky 3, Big Hope Fr., Big Hope No. 2 Fr., Goldsmith, Goldhill, Pluto, Galileo, Alex 1 & 2, Crown King, Bullock, Bullock 2 & 3, Lucky Jack, Lucky Jack 2 & 3, Rusty 7 & 16.

Work Period

June 1 - July 15, 1981

SALARIES

Trent Bollinger (soil and rock sampling, surveying, grid preparation);	
20 days @ $52	$ 1,040.00
Don Dudek (grid preparation, geological mapping);	
26 days @ $55	1,430.00
John Easton (grid preparation, sampling, surveying);	
10 days @ $42	420.00
Jim Eenkooren (rock and soil sampling);	
17 days @ $40	680.00
Alex Marr (grid preparation, geological mapping);	
22 days @ $57	1,254.00

Pat Meade (soil and rock sampling);		
17 days @ $42		714.00
Paul Wojdak (geological mapping, supervision);		
20 days @ $140		2,800.00
FIELD EQUIPMENT		
Flagging, hip chains, string, packs, mattocks, compasses, sample bags		593.00
ANALYSES		
Rocks:	109 Au assay @ $6.00	654.00
	68 Ag assay @ $2.50 (when analysed with Au)	170.00
	14 Au geochem @ $4.50	63.00
Soils:	451 Au, Ag, As, Cu, Pb, Zn @ $11.10	5,006.10
SAMPLE SHIPPING (by bus)		240.00
TRANSPORTATION		
Four-wheel drive truck, fuel and repairs		2,200.00
CAMP COSTS		
Groceries:	132 man days @ $16.00	2,112.00
Equipment:	tents, heaters, lumber, cooking equipment, cots, chairs, propane, etc.	1,947.53
		$21,323.63

APPENDIX 2

STATEMENT OF QUALIFICATIONS

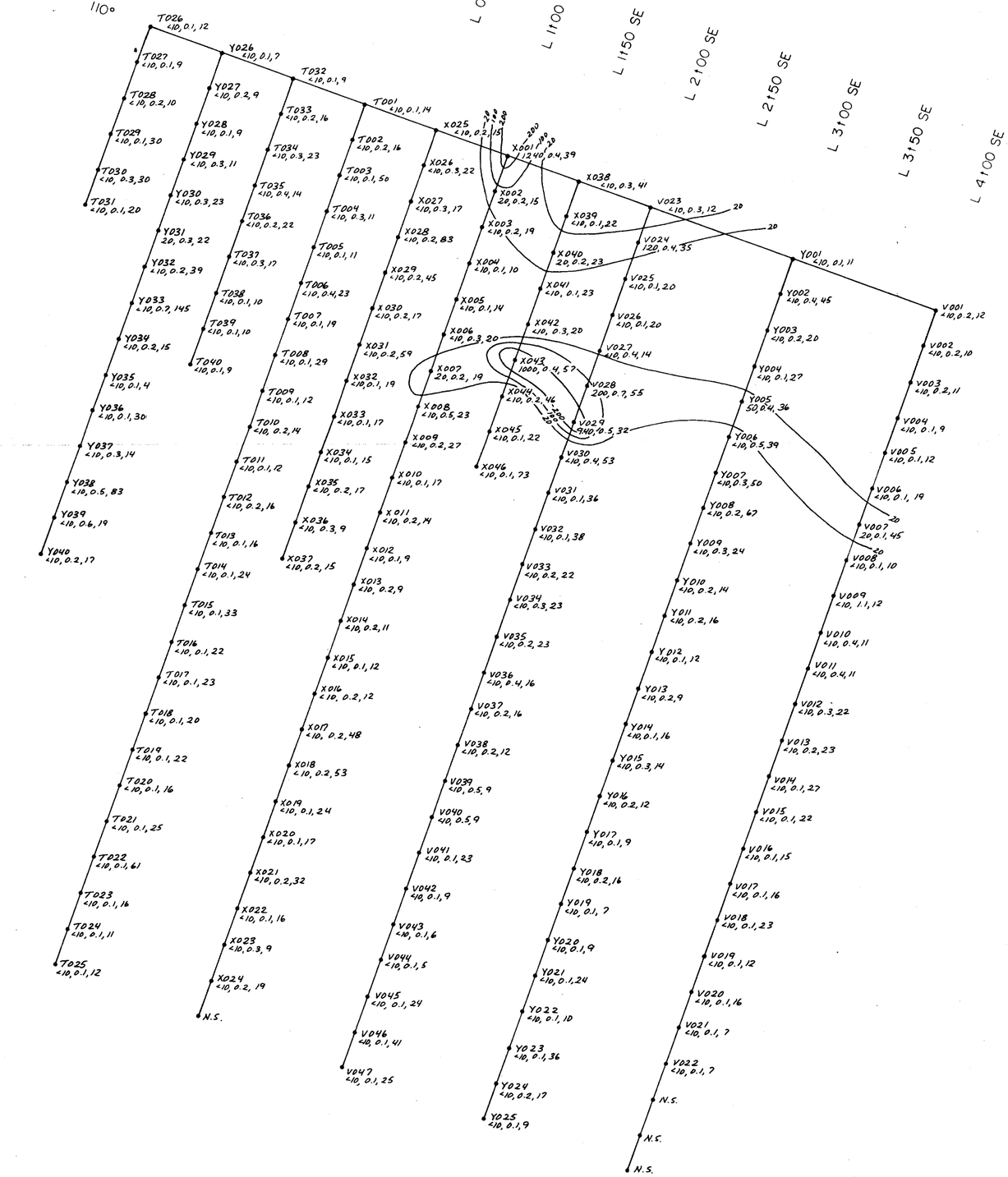
I, PAUL J. WOJDAK of the Municipality of Delta, Province of British Columbia, hereby certify:

1. That I am a geologist residing at 11405 85th Avenue, Delta, British Columbia with a business address at Suite 904, 1055 Dunsmuir Street, P.O. Box 49066, Four Bentall Centre, Vancouver, British Columbia V7X 1C4.
2. That I graduated with a B.Sc. (Honours) in Geology and Chemistry from McMaster University, Hamilton, Ontario in 1971 and with a M.Sc. in Geology from the University of British Columbia in 1974.
3. That I am a member of the Geological Association of Canada.
4. That I have practised geology with Cominco Limited and Westmin Resources Limited from 1974 to 1981.

Dated this 8 day of December 1981 at Vancouver, British Columbia.

Signed P. J. Wojdak

P. J. Wojdak, M.Sc.



N

LEGEND

T001 <10, 0.1, 14 — Sample Number & Result (Au ppb, Ag, As ppm)

N.S. — No Sample

Contour Interval

Au

20-99ppm
100-199 ppm
≥ 200 ppm

part 3 of 3

WESTMIN RESOURCES LTD.

POPLAR PROJECT

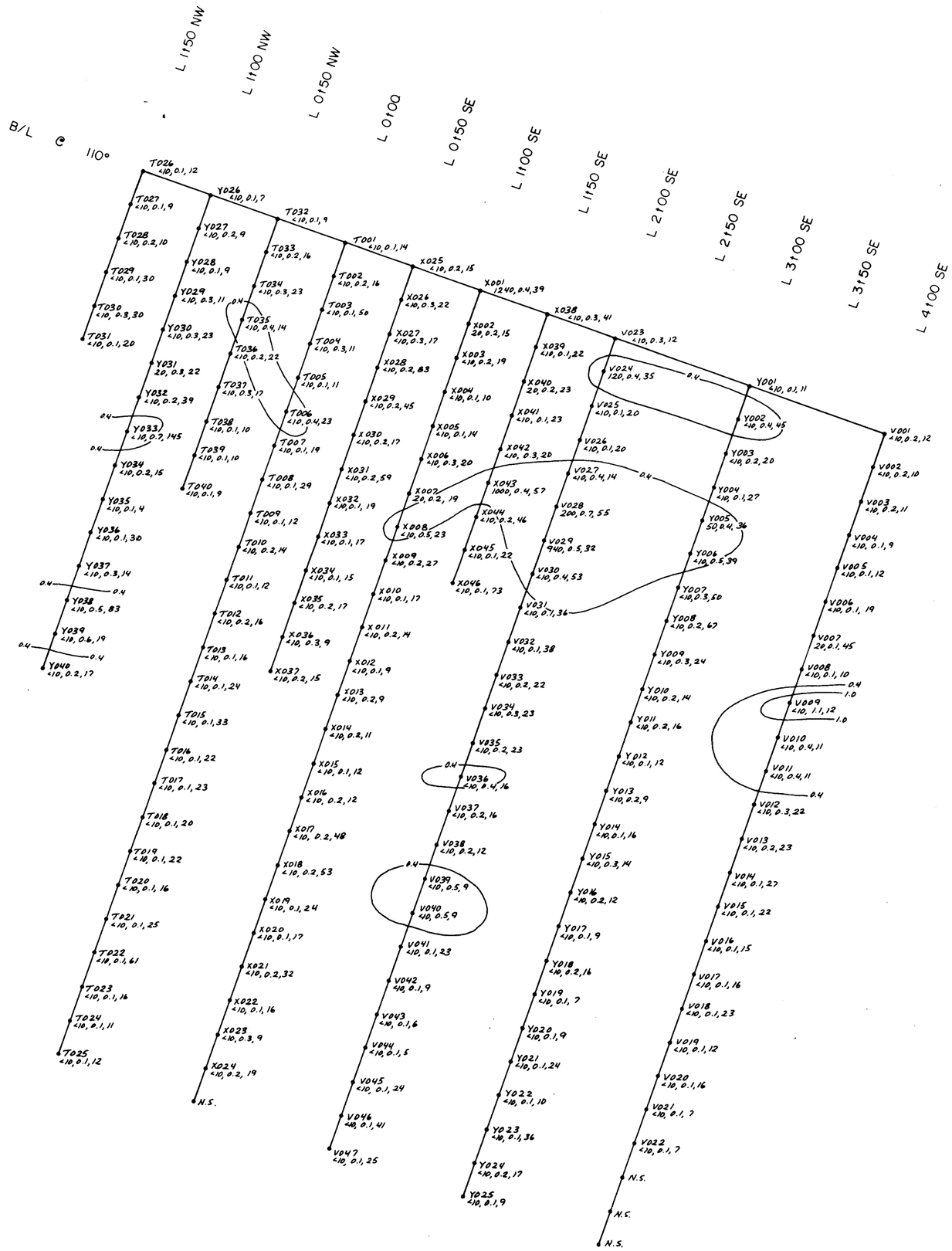
GOLD SOIL GEOCHEMISTRY

LUCKY JACK GRID

50 25 0 50 100 150 metres

Scale 1:2,500

Date: Dec. 1981 | Drawn By: R. Ivany | FIGURE: 33



LEGEND

T001 <10, 0.1, 14 — Sample Number & Result (Au ppb, Ag, As ppm)

N.S. No Sample

Contour Interval

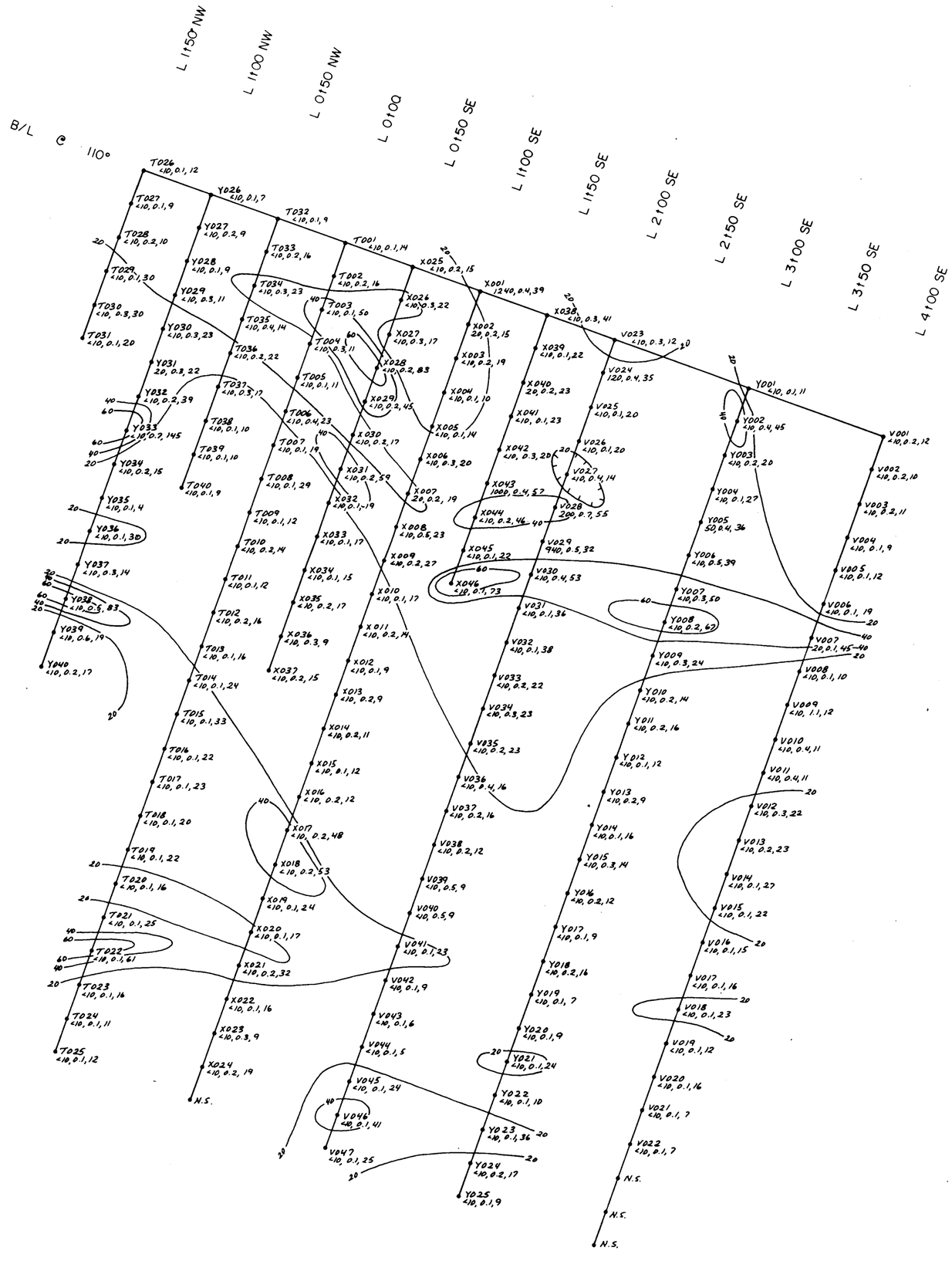
Ag

0.4 - 0.99 ppm
1.0 - 1.99 ppm
≥ 2.0 ppm

9801

part 3 of 3

WESTMIN RESOURCES LTD.		
POPLAR PROJECT		
SILVER SOIL GEOCHEMISTRY		
LUCKY JACK GRID		
50 25 0 50 100 150 metres Scale 1:2,500		
Date: Dec. 1981	Drawn By: R. Ivany	FIGURE: 34



LEGEND

T001 <10, 0.1, 14 — Sample Number & Result (Au ppb, Ag, As ppm)

N.S. — No Sample

Contour Interval

As

20-39 ppm
40-59 ppm
≥ 60 ppm

part 3 of 3

WESTMIN RESOURCES LTD.

POPLAR PROJECT

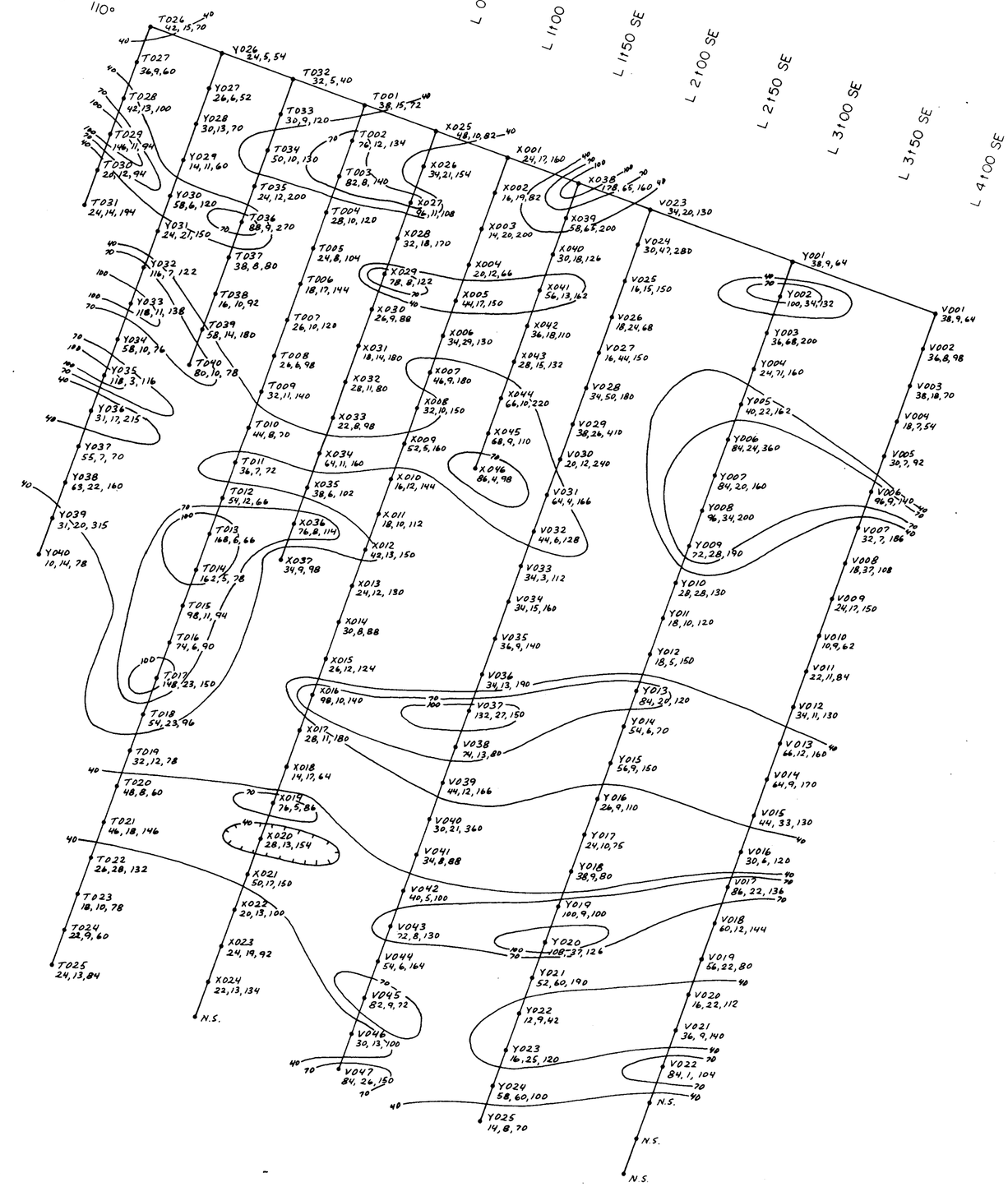
ARSENIC SOIL GEOCHEMISTRY

LUCKY JACK GRID

50 25 0 50 100 150 metres

Scale 1:2,500

Date: Dec. 1981 | Drawn By: R. Ivany | FIGURE: 35



LEGEND

T001 38,15,72 — Sample Number & Result (Cu,Pb,Zn ppm)

N.S. — No Sample

Contour Interval

Cu

40-69 ppm
70-99 ppm
≥ 100 ppm

9801

part 3 of 3

WESTMIN RESOURCES LTD.

POPLAR PROJECT

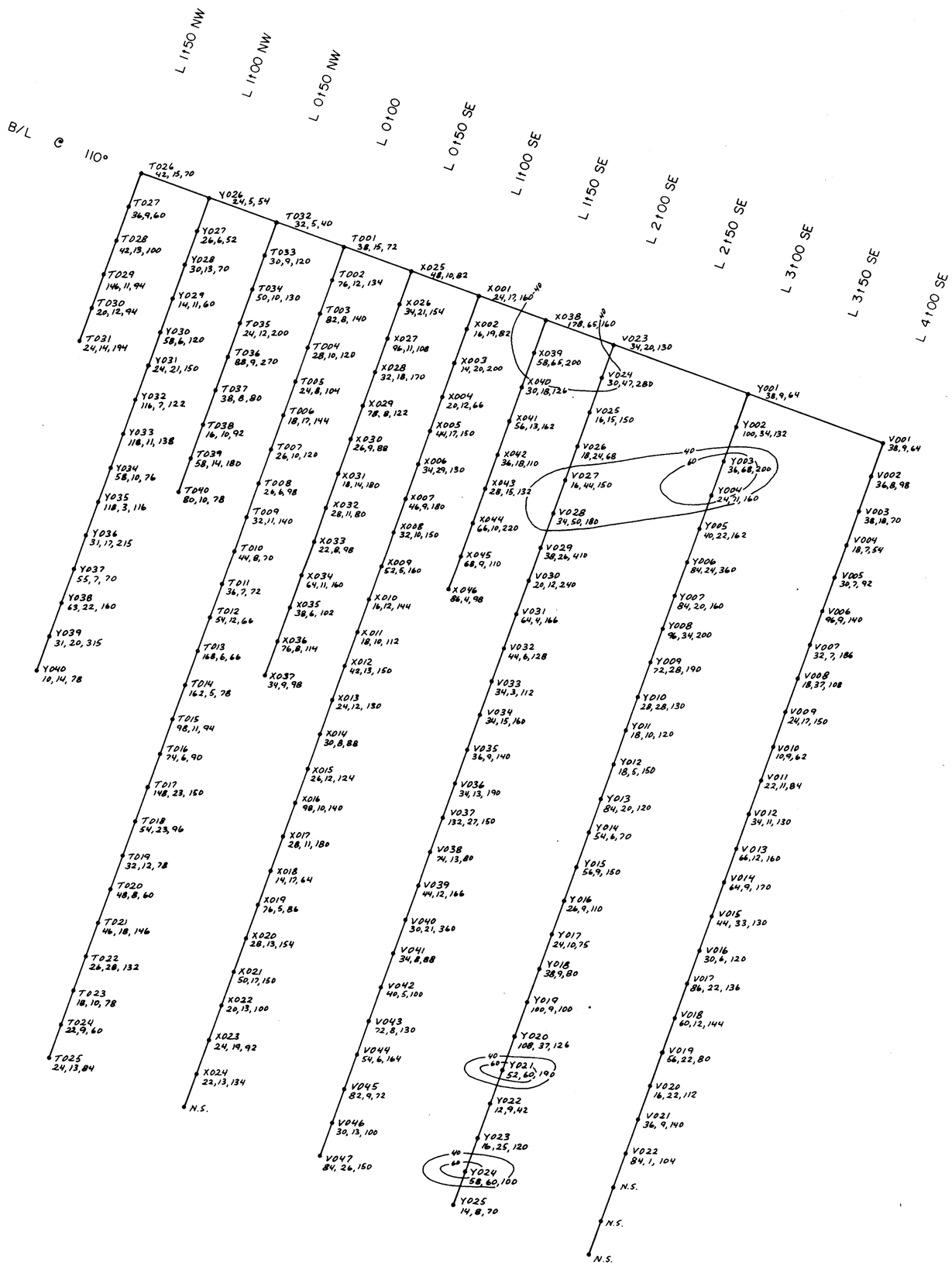
COPPER SOIL GEOCHEMISTRY

LUCKY JACK GRID

50 25 0 50 100 150 metres

Scale 1:2,500

Date: Dec. 1981 | Drawn By: R. Ivany | FIGURE: 36



N

LEGEND

T001 30, 15, 72 — Sample Number & Result (Cu, Pb, Zn ppm)

N.S. — No Sample

Contour Interval

Pb

40 - 59 ppm
60 - 79 ppm
≥ 80 ppm

part 3 of 3

9801

WESTMIN RESOURCES LTD.

POPLAR PROJECT

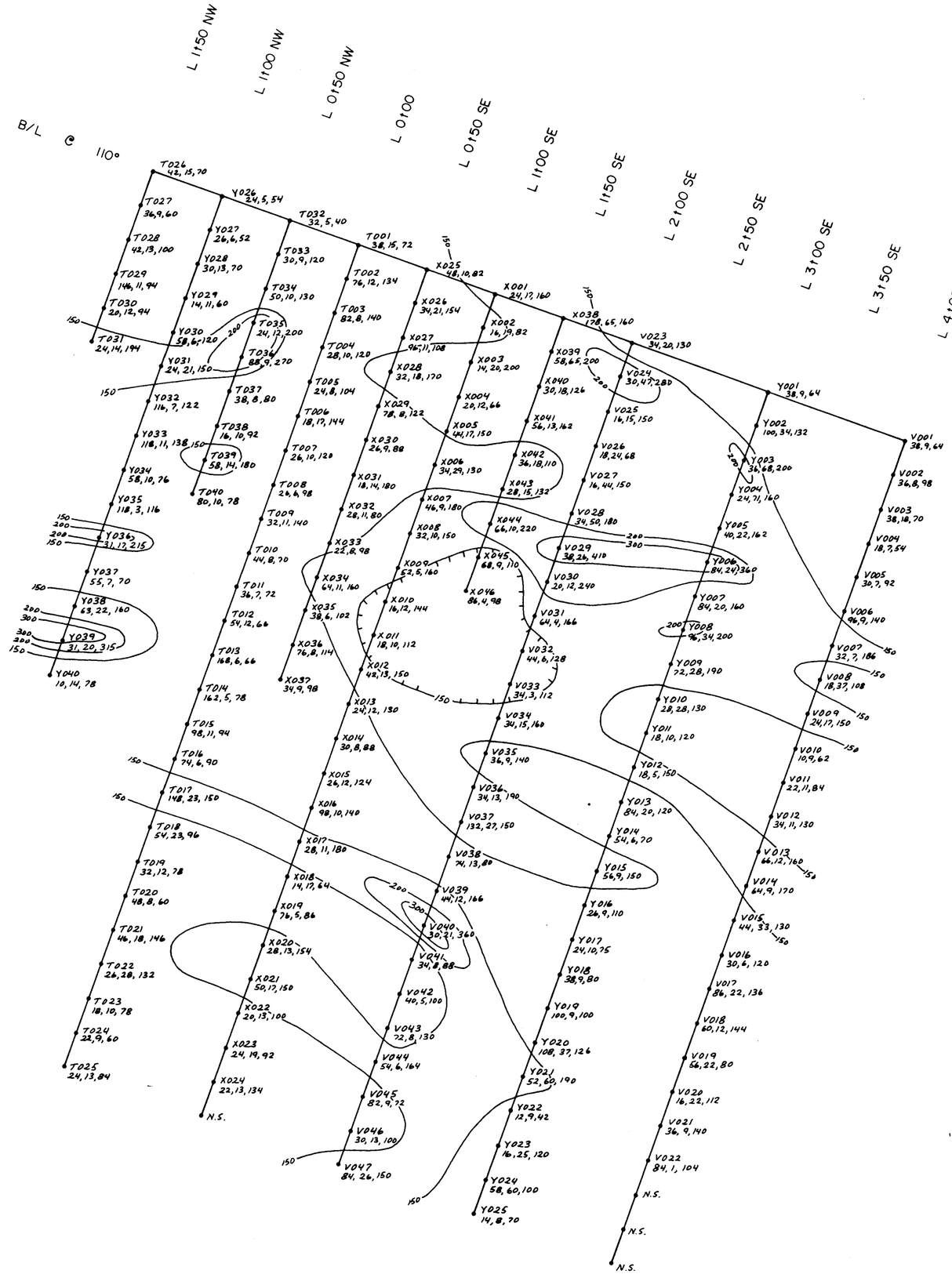
LEAD SOIL GEOCHEMISTRY

LUCKY JACK GRID

50 25 0 50 100 150 metres

Scale 1:2,500

Date: Dec. 1981	Drawn By: R. Ivany	FIGURE: 37



N

LEGEND

T001 38, 15, 72 — Sample Number & Result (Cu, Pb, Zn ppm)

N.S. No Sample

Contour Interval

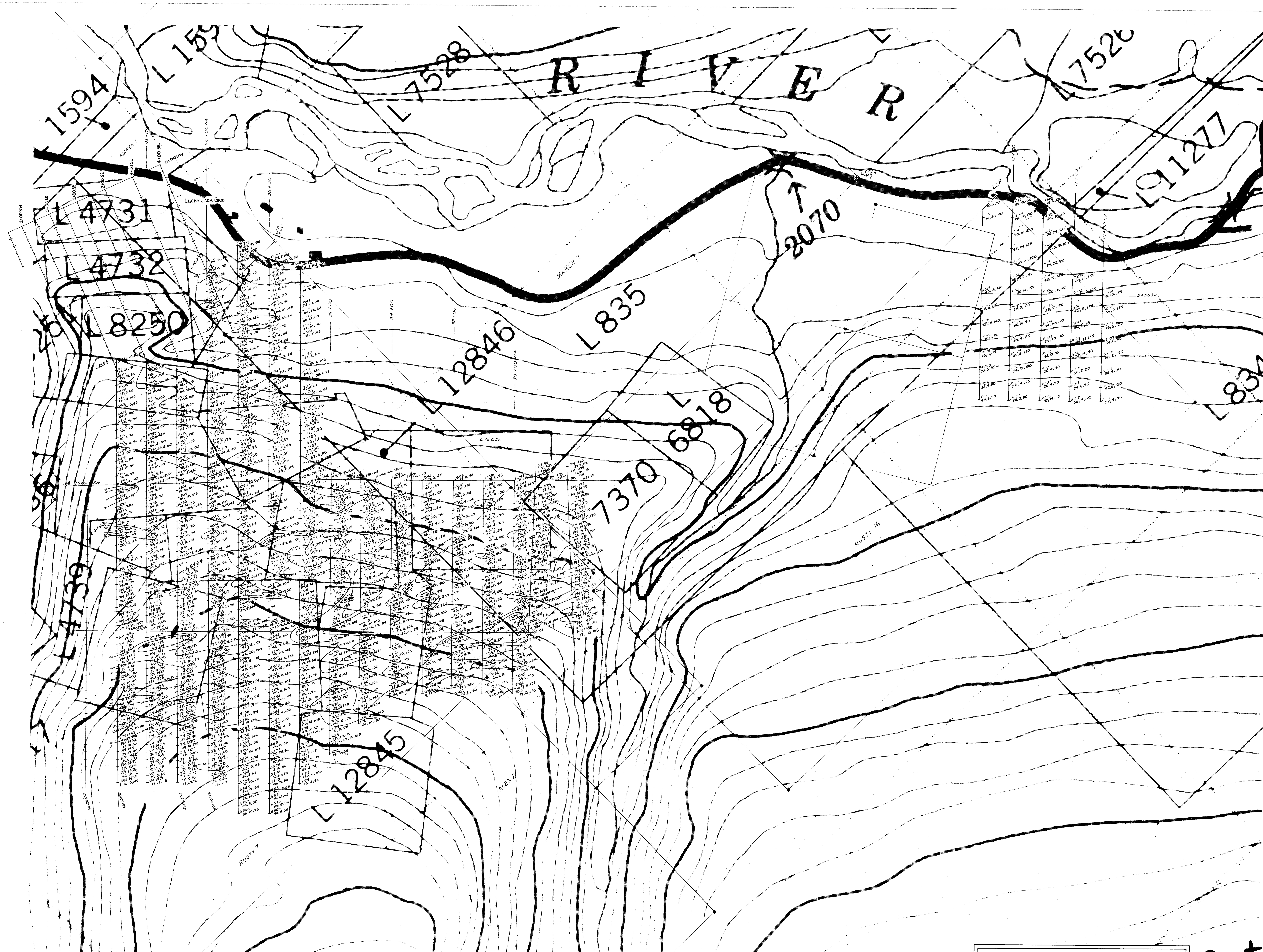
Zn

150 - 199 ppm
200 - 299 ppm
≥ 300 ppm

9801

Part 3 of 3

WESTMIN RESOURCES LTD.		
POPLAR PROJECT		
ZINC SOIL GEOCHEMISTRY		
LUCKY JACK GRID		
50 25 0 50 100 150 metres Scale 1:2,500		
Date: Dec. 1981	Drawn By: R. Ivany	FIGURE: 38



LEGEND

Symbol	Assay Information	Contour Interval
Corner Post and Claim Boundary	Cu, Pb, Zn-order of appearance	150-200
Legal Corner Post	Cu in ppm	>200-300
Sample Stations	Pb in ppm	>300
Sample Name Cu, Pb, Zn	Zn in ppm	
RUSTY 12 Claim Name		

part 3 of 3

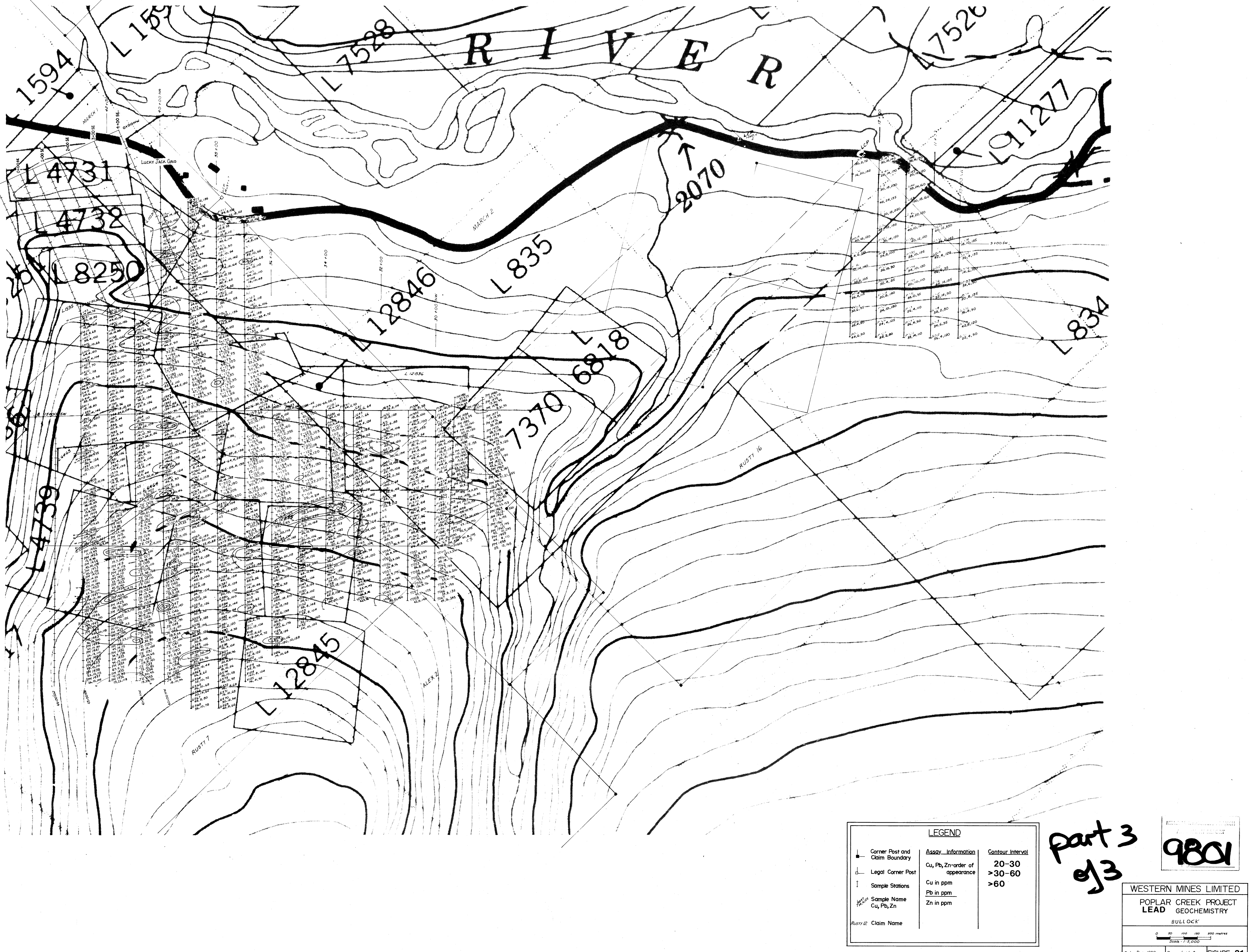
WESTERN MINES LIMITED

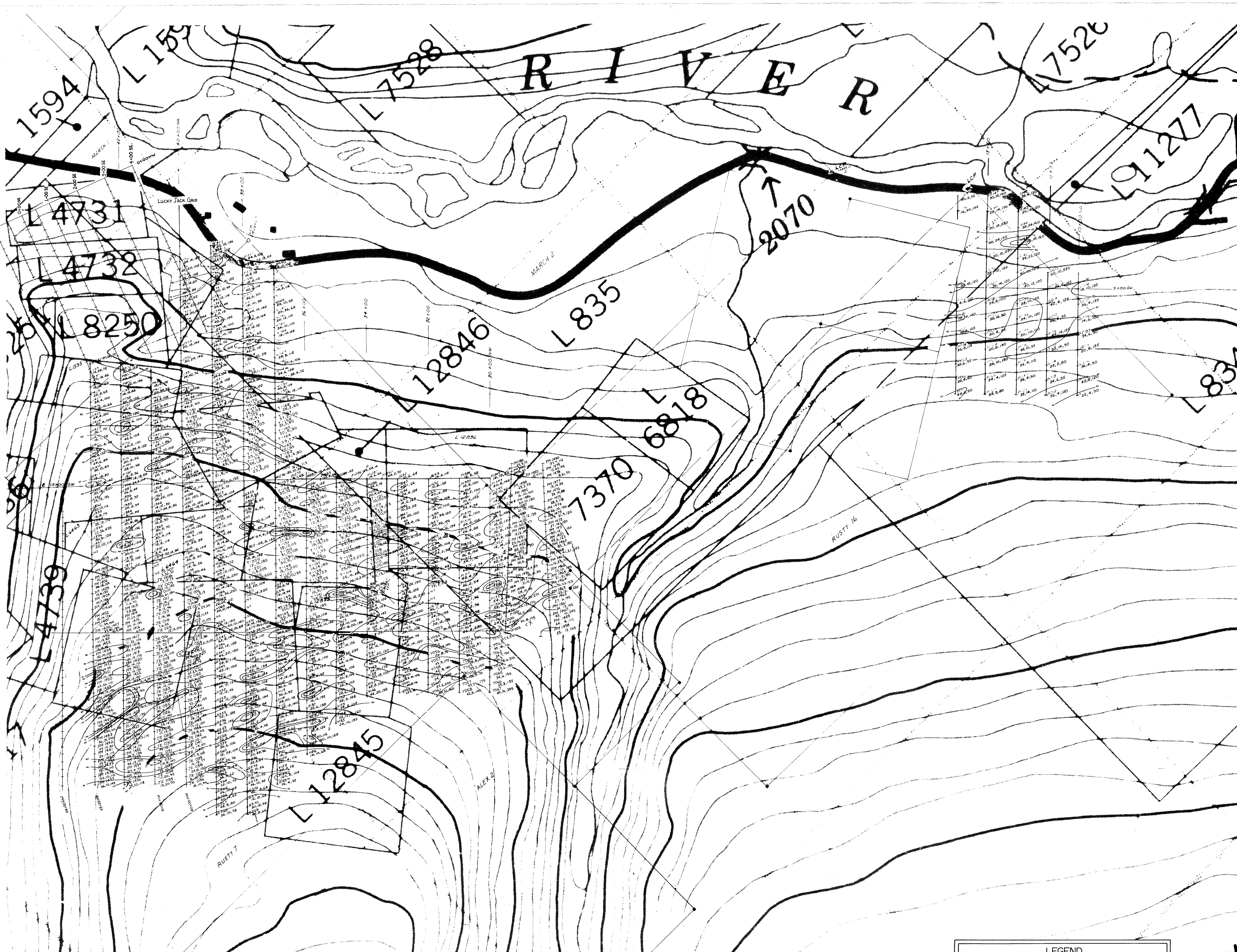
POPLAR CREEK PROJECT
ZINC GEOCHEMISTRY

BULLOCK

0 50 100 150 200 metres
Scale - 1:5,000

Date: Dec. 1980 | Drawn by: L. Connor | FIGURE-32


RIVER
L 1594
L 7528
L 7526
L 11277
L 4731
L 4732
L 8250
L 12846
L 835
L 834
L 6818
L 7370
L 2070
L 4739
L 12845
L 12836
LUCKY JACK GRID
MARCH 1
MARCH 2
RUSTY 16
RUSTY 7
ALEX 2
LCP
LEGEND
Corner Post and Claim Boundary
Legal Corner Post
Sample Stations
Sample Name Cu, Pb, Zn
RUSTY 12 Claim Name
Assay Information
Cu, Pb, Zn-order of appearance
Cu in ppm
Pb in ppm
Zn in ppm
Contour Interval
20-30
>30-60
>60
part 3 of 3
9801
WESTERN MINES LIMITED
POPLAR CREEK PROJECT
LEAD GEOCHEMISTRY
BULLOCK
0 50 100 150 200 metres
Scale - 1:5,000
Date: Dec. 1980
Drawn by: L. Connor
FIGURE-31



LEGEND

Symbol	Assay Information	Contour Interval
Corner Post and Claim Boundary	Cu, Pb, Zn-order of appearance	40-70
Legal Corner Post	Cu in ppm	>70-100
Sample Stations	Pb in ppm	>100
P1237 24,4,125 Sample Name Cu, Pb, Zn	Zn in ppm	
RUSTY 12 Claim Name		

part 3 of 3

9801

WESTERN MINES LIMITED

POPLAR CREEK PROJECT

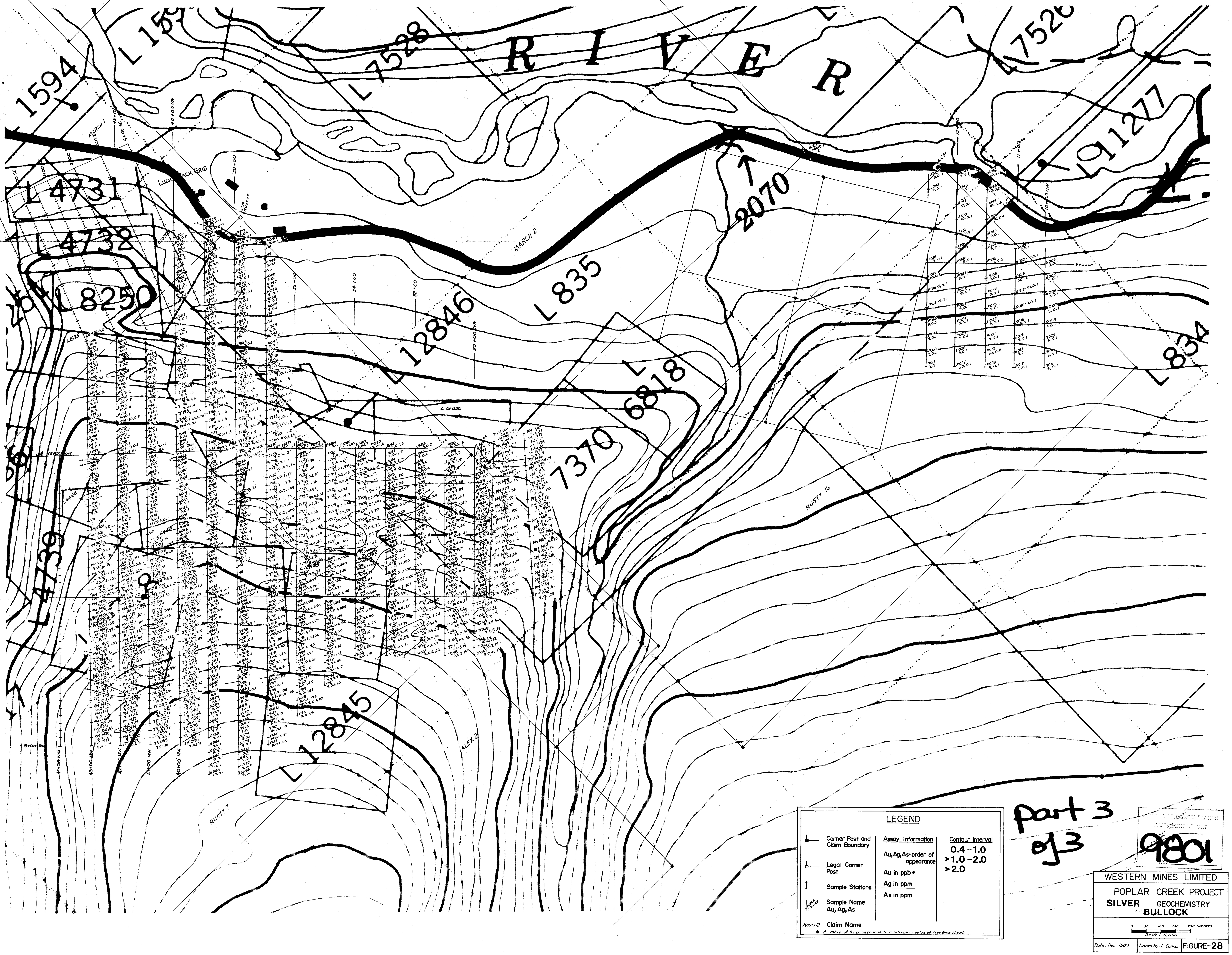
COPPER GEOCHEMISTRY

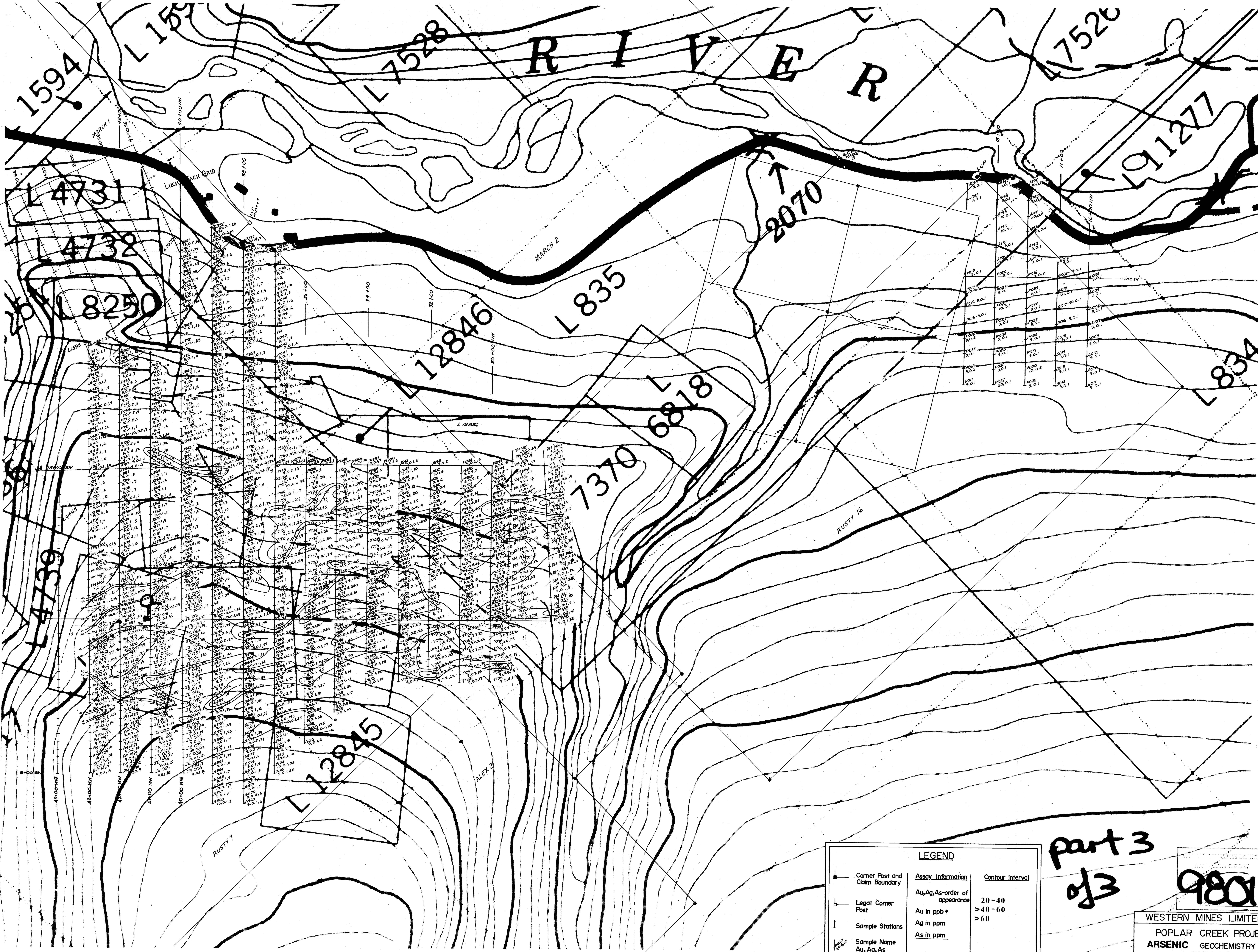
BULLOCK

0 50 100 150 200 metres

Scale - 1:5,000

Date: Dec. 1980 | Drawn by: L. Connor | FIGURE-30


RIVER
L 1594
L 7528
L 7526
L 11277
L 4731
L 4732
L 8250
L 835
L 12846
2070
L 6818
7370
L 834
L 12845
L 4739
L 12036
MARCH 2
LUCKY JACK GRID
RUSTY 16
RUSTY 7
ALEX 2
LEGEND
Corner Post and Claim Boundary
Legal Corner Post
Sample Stations
Sample Name Au, Ag, As
RUSTY 12 Claim Name
Assay Information
Au,Ag,As-order of appearance
Au in ppb *
Ag in ppm
As in ppm
Contour Interval
0.4 - 1.0
>1.0 - 2.0
>2.0
* A value of 9, corresponds to a laboratory value of less than 10ppb.
part 3 of 3
9801
WESTERN MINES LIMITED
POPLAR CREEK PROJECT
SILVER GEOCHEMISTRY
BULLOCK
0 50 100 150 200 METRES
Scale 1:5,000
Date: Dec. 1980
Drawn by: L. Connor
FIGURE-28



LEGEND

Symbol	Assay Information	Contour Interval
Corner Post and Claim Boundary	Au, Ag, As-order of appearance	20-40
Legal Corner Post	Au in ppb *	>40-60
Sample Stations	Ag in ppm	>60
Sample Name Au, Ag, As	As in ppm	
RUSTY12 Claim Name		

* A value of 9, corresponds to a laboratory value of less than 10ppb.

part 3 of 3

9801

WESTERN MINES LIMITED

POPLAR CREEK PROJECT

ARSENIC GEOCHEMISTRY

BULLOCK

0 50 100 150 200 METRES

Scale 1:5,000

Date: Dec. 1980 &81	Drawn by: L. Connor + A. Marr	FIGURE-29

RIVER

L 1594
L 7528
L 7526
L 9127
L 4731
L 4738
L 8250
L 4739
L 12846
L 835
L 6818
L 834
L 12845
2070
7370
MARCH 1
MARCH 2
LUCY BACK GRID
RUSTY 16
RUSTY 7
ALEX 2

LEGEND

	Assay Information	Contour Interval
Corner Post and Claim Boundary	Au, Ag, As-order of appearance	20-100
Legal Corner Post	Au in ppb *	>100-200
Sample Stations	Ag in ppm	>200
Sample Name Au, Ag, As	As in ppm	
RUSTY 12 Claim Name		

* A value of 9. corresponds to a laboratory value of less than 10ppb.

part 3 of 3

9801

WESTERN MINES LIMITED

POPLAR CREEK PROJECT

GOLD GEOCHEMISTRY

BULLOCK

0 50 100 150 200 METRES

Scale 1:5,000

Date: Dec. 1980 | Drawn by: L. Connor | FIGURE-27

SAMPLE	Length m	Au oz/t	Ag oz/t
MG 8 A	1.1	< .003	.01
8 B	2.6	.010	.12
8 C	1.9	.016	
8 D	1.6	.003	.03

SAMPLE	Length m	Au oz/t
MG 9	1.7	.005

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11	Argillaceous greywacke, minor graphitic argillite; grey.
10	Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.
9 9a	Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.
8	Quartzite, grit, minor argillite; may be facies equivalent of unit 6.
7	Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.
6	Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))
5	Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.
4 4a	Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.
3 3a	Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.
2	Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.
1	Mafic volcanics, dark green pillow basalt, chlorite schist.
A	Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MG1	Bulldozer / backhoe / hand trench
	Geologic contact; observed, approximate, inferred.
	Bedding
	Foliation
	Quartz vein
	Joint
	Minor fold axis
	Fault
×	Locally derived float

9801

part 3 of 3

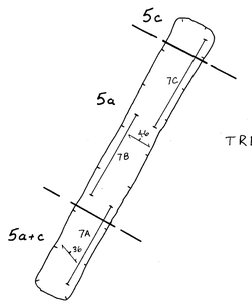
NOTE: GEOLOGY by A. MARR

WESTMIN RESOURCES LTD.

POPLAR PROJECT
GEOLOGY
MARQUIS - GUILBERT GRID
TRENCHES 8 & 9

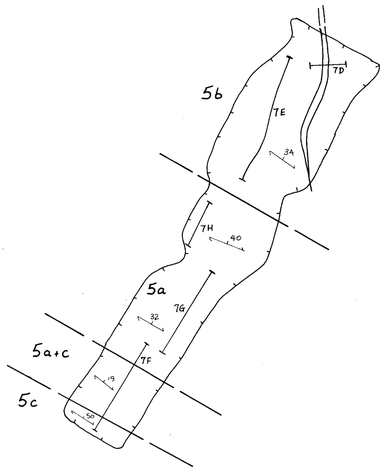
2 1 0 2 4 6 metres
Scale 1:100

Date: NOV. 1981 | Drawn By: H. H. | FIGURE: 26



TRENCH 7A

(true distance between trench 7A and 7B)



TRENCH 7B

SAMPLE	INTERVAL (m)	Au (oz/t)	Ag (oz/t)
MG-7A	2.7	<.003	–
7B	3.0	<.003	–
7C	3.1	<.003	.02
7D	1.6	0.005	.01
7E	4.4	0.005	.01
7F	3.4	0.003	.18
7G	3.1	<.003	–
7H	2.0	<.003	–

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

9 9a Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.

8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MGI — Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

part 3 of 3

Geology by A. Marr

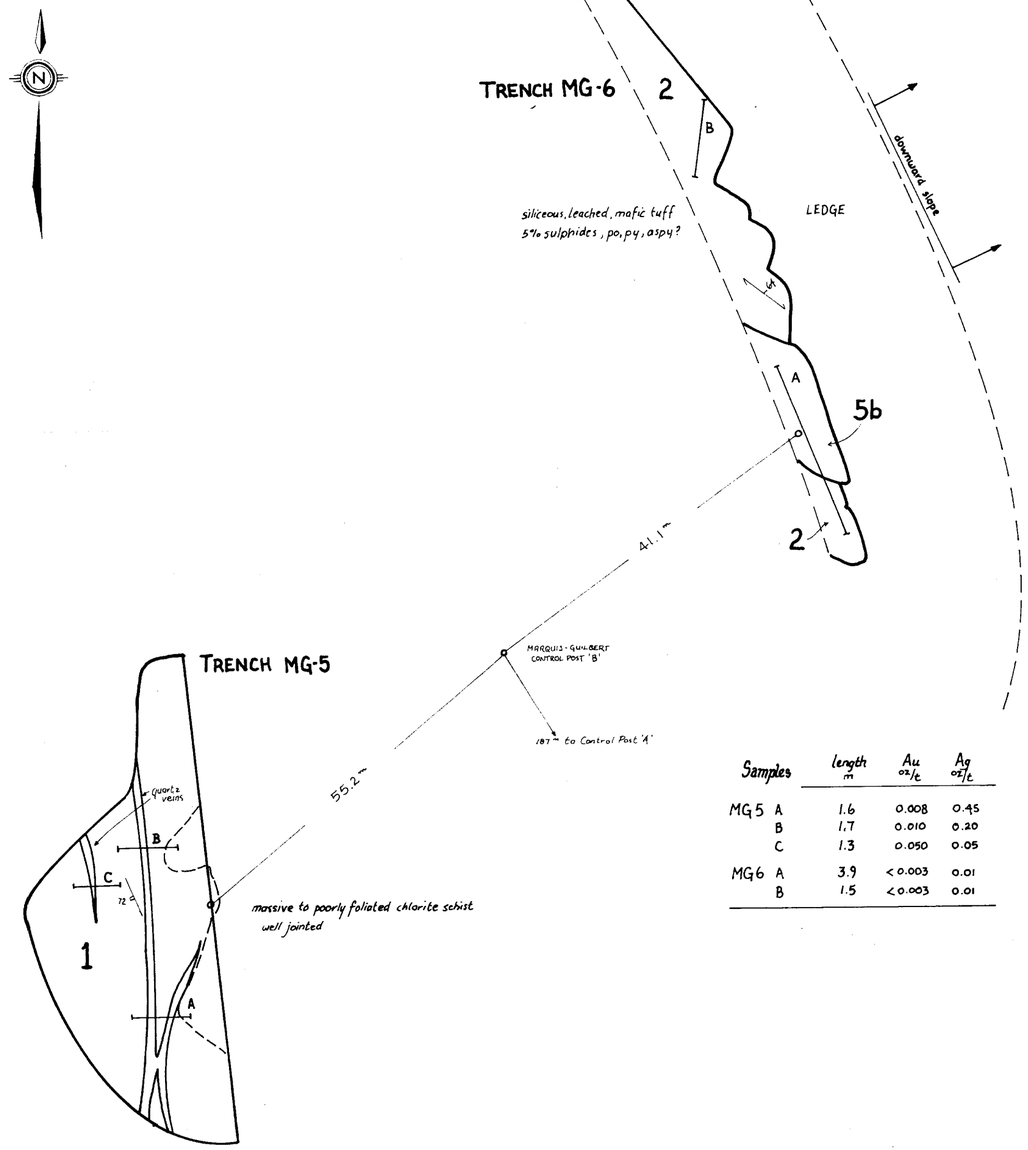
WESTMIN RESOURCES LTD.

POPLAR
MARQUIS—GILBERT
TRENCH 7

2 1 0 2 4 6 metres

Scale 1:100

Date: | Drawn By: | FIGURE: 25



Samples		length m	Au oz/t	Ag oz/t
MG5	A	1.6	0.008	0.45
	B	1.7	0.010	0.20
	C	1.3	0.050	0.05
MG6	A	3.9	<0.003	0.01
	B	1.5	<0.003	0.01

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

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8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanics, medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MG1 — Bulldozer / backhoe / hand trench
- Geologic contact, observed, approximate, inferred
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- Locally derived float

9801

part 3 of 3

Geology by: A.E.Marr

WESTMIN RESOURCES LTD.

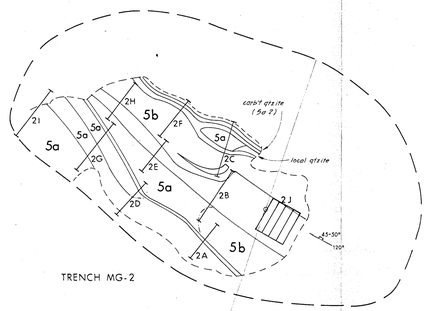
POPLAR

MARQUIS—GILBERT 5 & 6 —TRENCHES—

2 1 0 2 4 6 metres

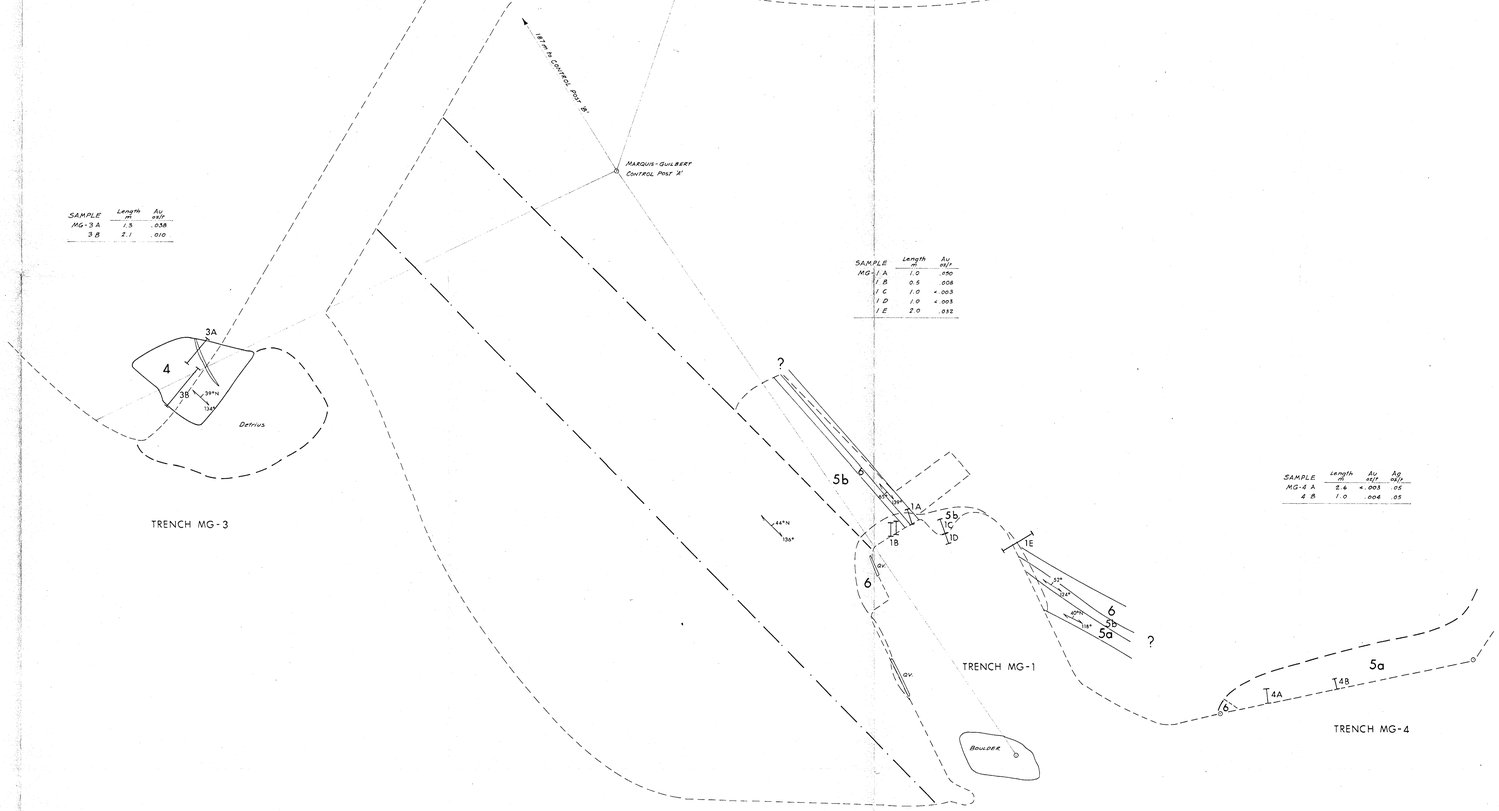
scale 1:100

DATE: Dec '81	Drawn by: AEM	Figure: 24



TRENCH MG-2

SAMPLE	Length m	Au oz/t	Ag oz/t
MG-2A	1.8	.005	.04
2B	2.4	.005	.04
2C	2.4	.028	.05
2D	1.6	.014	.03
2E	1.6	.004	.36
2F	1.9	.010	.07
2G	2.8	< .002	.02
2H	2.0	< .003	.01
2I	2.5	.048	.04
2J	Panel	.054	.17



SAMPLE	Length m	Au oz/t	Ag oz/t
MG-3A	1.5	.038	
3B	2.1	.010	

SAMPLE	Length m	Au oz/t	Ag oz/t
MG-1A	1.0	.030	
1B	0.5	.008	
1C	1.0	< .003	
1D	1.0	< .003	
1E	2.0	.032	

SAMPLE	Length m	Au oz/t	Ag oz/t
MG-4A	5.6	< .003	.05
4B	1.0	.004	.05

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

9 9a Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.

8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MG1 — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

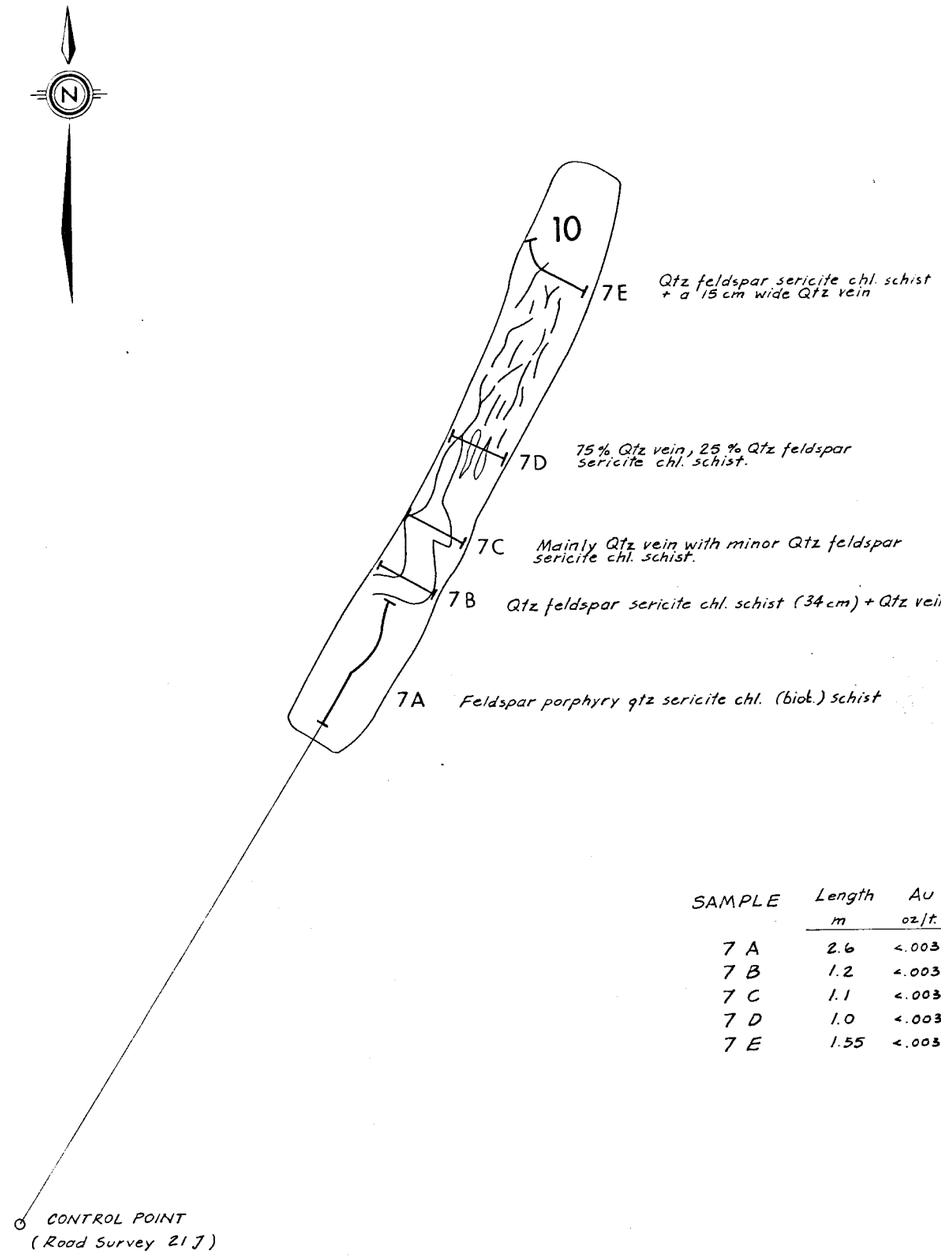
NOTE: GEOLOGY by A. MARR

WESTMIN RESOURCES LTD.

POPLAR PROJECT
GEOLOGY
MARQUIS - GUILBERT GRID
TRENCHES 1, 2, 3 & 4

2 1 0 2 4 6 metres
Scale 1:100

Date: DEC. 1981 | Drawn By: H. H. | FIGURE: 23



SAMPLE	Length m	Au oz/t.	Ag oz/t
7 A	2.6	<.003	.01
7 B	1.2	<.003	.01
7 C	1.1	<.003	.01
7 D	1.0	<.003	.07
7 E	1.55	<.003	.06

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite, ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

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8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanics, medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite, intercalated with limey chlorite schist (mafic tuffs(?)).

5 Carbonate Exhalite (?). 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite, intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - feldspar grit.

SYMBOLS

- Bulldozer / backhoe / hand trench (MGI 1-2)
- Geologic contact, observed, approximate, inferred
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- Locally derived float

9801

NO.

part 3 of 3

NOTE: GEOLOGY by D. DUDEK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

LUCKY JACK GRID

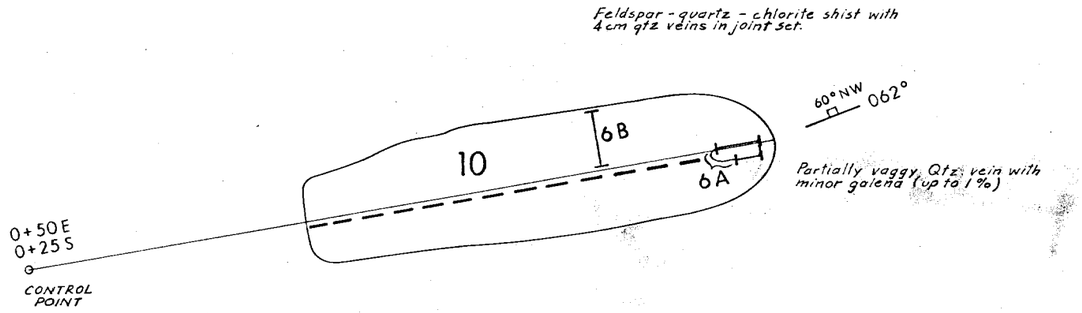
TRENCH No. 7

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981 | Drawn By: H.H. | FIGURE: 22

SAMPLE	Length m	Au oz/t	Ag oz/t
6 A	1.3	.005	.05
6 B	2.0	<.003	–



LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

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8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MGI } Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

NOTE: GEOLOGY by D. DUDEK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

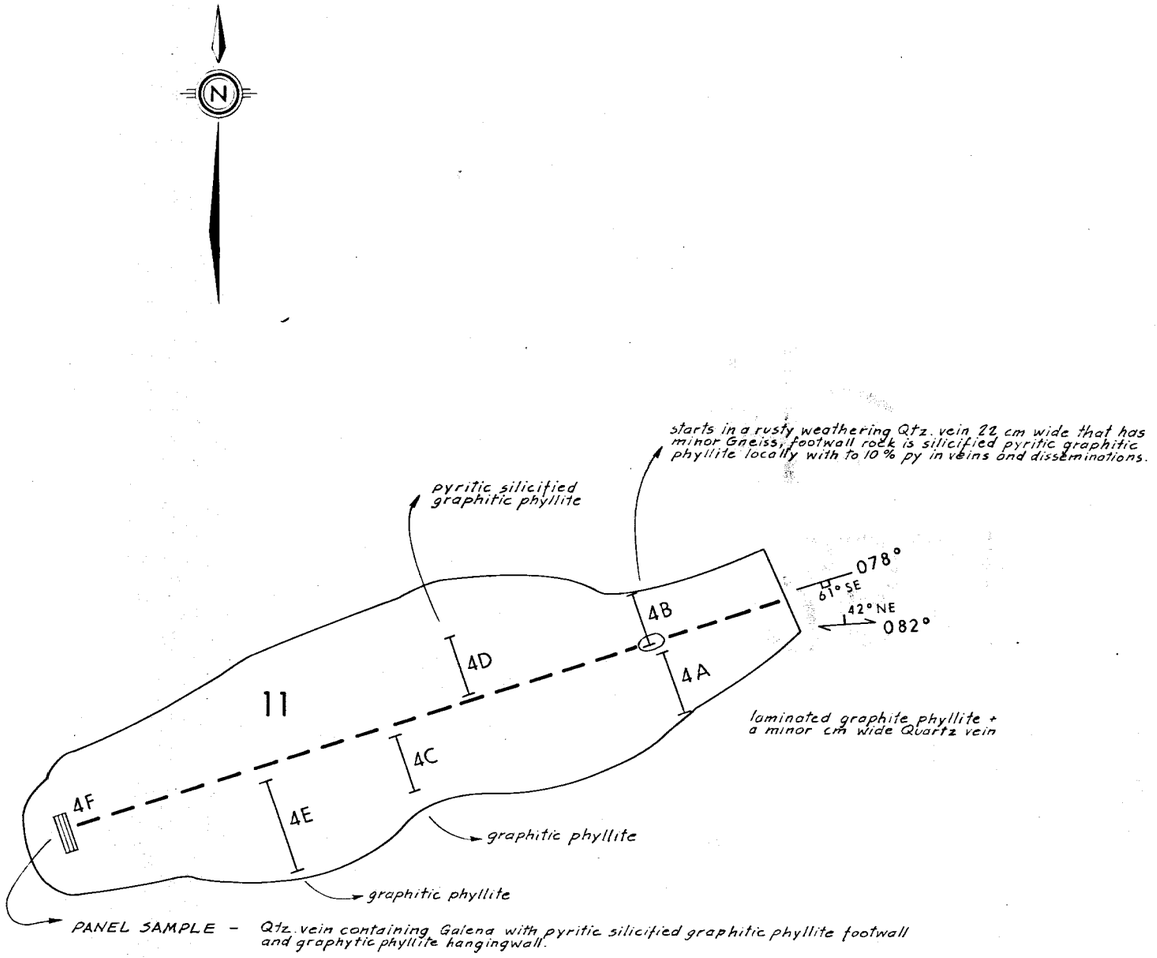
LUCKY JACK GRID

TRENCH No. 6

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981	Drawn By: H.H.	FIGURE: 21



SAMPLE	Length m	Au oz/t
4 A	2.3	<.003
4 B	1.9	<.003
4 C	2.0	.005
4 D	1.9	<.003
4 E	3.0	<.003
4 F	0.5×1.0	<.003

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

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8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

part 3

NOTE: GEOLOGY by D. DUDEK

93

WESTMIN RESOURCES LTD.

POPLAR PROJECT

LUCKY JACK GRID

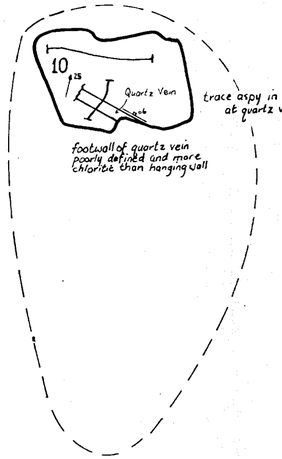
TRENCH No. 4

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981	Drawn By: H.H.	FIGURE: 19

LUCKY JACK TRENCH #5



Samples		length m	Au oz/t	Ag oz/t
5	A	2.42		
	B	1.50		

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

9 9a Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.

8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanics; medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?); 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist, similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light colpured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

Part 3 of 3

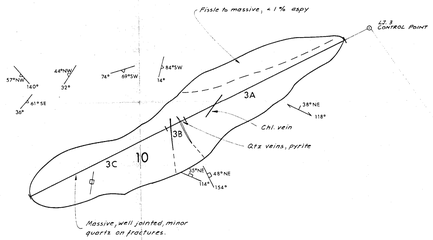
Geology by: D.Dudek

WESTMIN RESOURCES LTD.

POPLAR
LUCKY JACK TRENCH
No 5

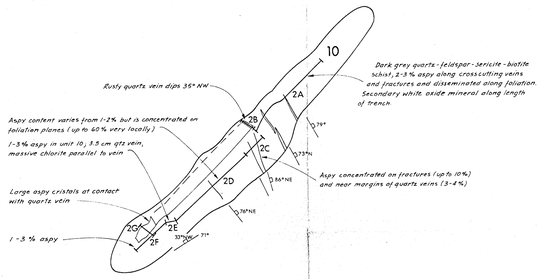
2 1 0 2 4 6 metres

Date: Dec '81	Drawn by: AEM	Figure: 20



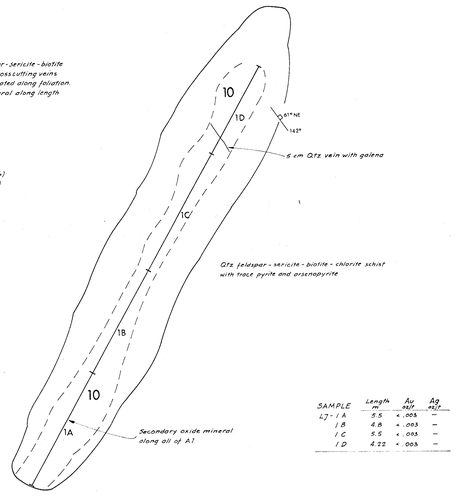
TRENCH LJ-3

SAMPLE	Length m	Au opt	Ag oz/t
LJ-3 A	9.5	.003	–
3 B	0.9	.010	–
3 C	7.6	.020	–



SAMPLE	Length m	Au opt	Ag oz/t
LJ-2 A	4.1	.028	–
2 B	0.7	.038	–
2 C	1.0	.070	–
2 D	4.1	.112	–
2 E	0.3	.488	–
2 F	3.0	.100	–
2 G	0.7	.116	–

TRENCH LJ-2



SAMPLE	Length m	Au opt	Ag oz/t
LJ-1 A	2.5	< .005	–
1 B	4.8	< .005	–
1 C	5.5	< .005	–
1 D	4.22	< .005	–

TRENCH LJ-1

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

9801 part 3 of 3

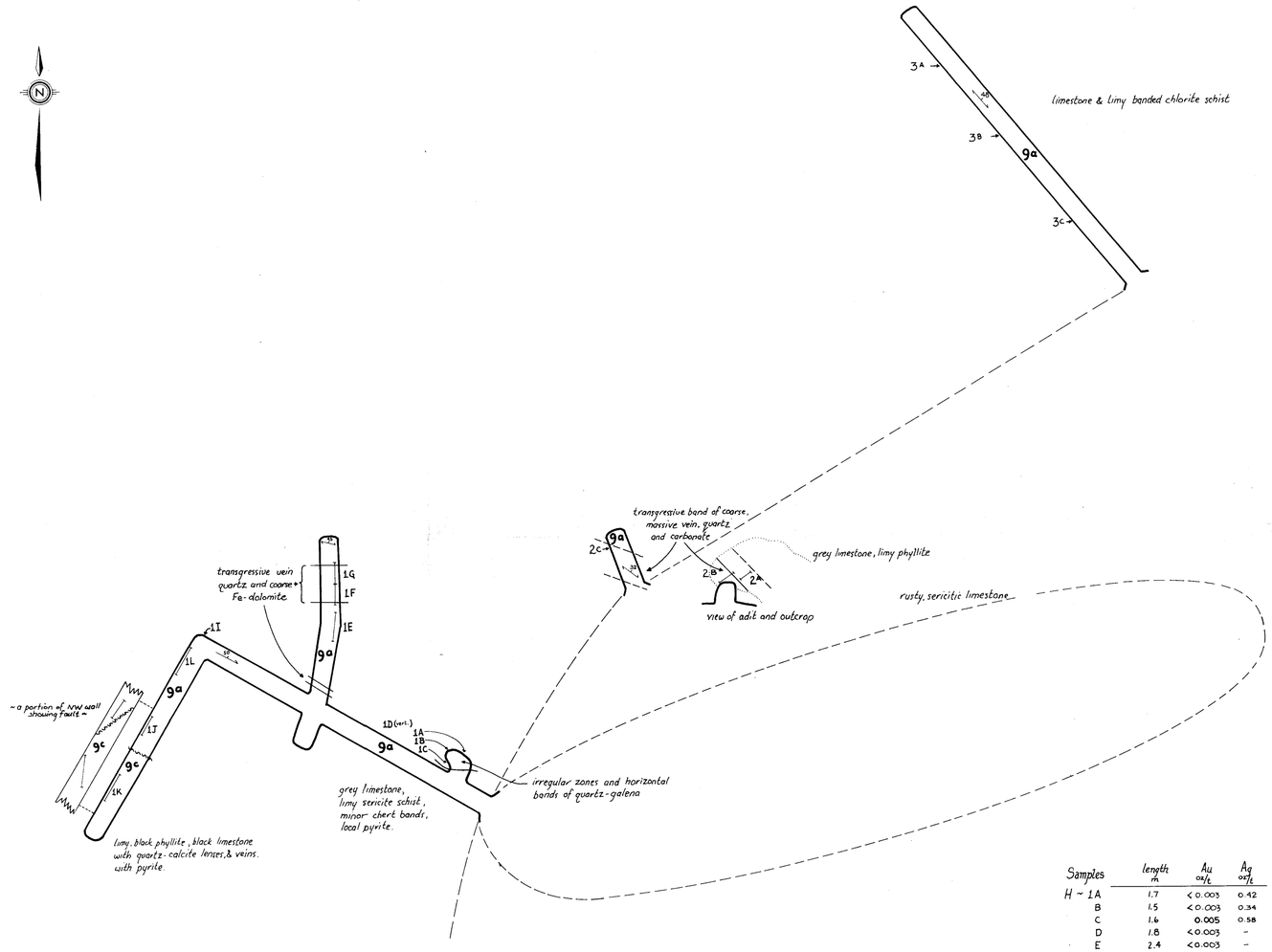
NOTE: GEOLOGY by D. DUDEK

WESTMIN RESOURCES LTD.

POPLAR PROJECT
GEOLOGY
LUCKY JACK GRID
TRENCHES 1, 2 & 3

2 1 0 2 4 6 metres
Scale 1:100

Date: DEC. 1981 | Drawn By: H.H. | FIGURE: 18



Samples		length m	Au oz/t	Ag oz/t
H ~ 1	A	1.7	< 0.003	0.42
	B	1.5	< 0.003	0.34
	C	1.6	0.005	0.58
	D	1.8	< 0.003	–
	E	2.4	< 0.003	–
	F	1.7	< 0.003	0.12
	G	1.7	< 0.003	0.52
	H	1.6	< 0.003	–
	I	1.7	< 0.003	–
	J	1.7	< 0.003	0.18
	K	2.4	< 0.003	0.10
	L	2.7	< 0.003	–
H ~ 2	A	1.1	< 0.003	–
	B	1.1	< 0.003	–
	C	2.1	< 0.003	–
H ~ 3	A	1.5	< 0.003	–
	B	1.5	< 0.003	–
	C	1.5	0.005	–

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

Part 3 of 3

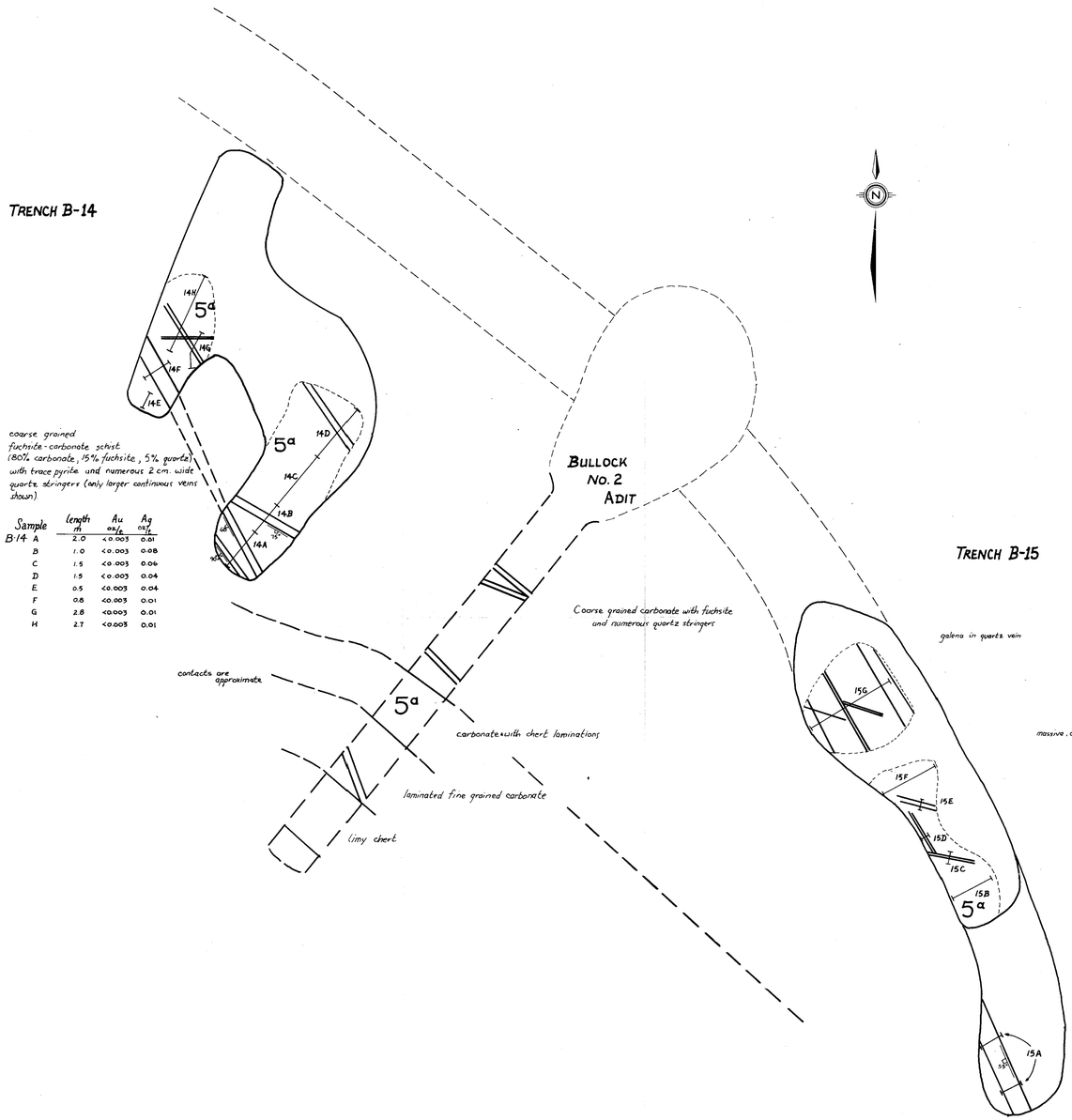
GEOLOGY BY P.J. WOJDAK

WESTMIN RESOURCES LTD.

BIG HOPE ADITS
1,2 & 3

2 1 0 2 4 6 metres
Scale 1:100

Date: Dec. 1981 | Drawn By: AEM | FIGURE: 17



Sample		length ft	Au oz/t	Ag oz/t
B-14	A	2.0	<0.003	0.01
	B	1.0	<0.003	0.08
	C	1.5	<0.003	0.06
	D	1.5	<0.003	0.04
	E	0.5	<0.003	0.04
	F	0.8	<0.003	0.01
	G	2.8	<0.003	0.01
	H	2.7	<0.003	0.01

Sample		length m	Au oz/t	Ag oz/t
B-15	A	0.5	< 0.003	0.06
	B	1.7	< 0.003	0.01
	C	0.4	< 0.003	0.01
	D	0.4	< 0.003	0.10
	E	0.5	< 0.003	0.06
	F	2.1	< 0.003	0.08
	G	3.3	< 0.003	0.20

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MGI — Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

Part 3 of 3

GEOLOGY BY P.J. WOJDAK

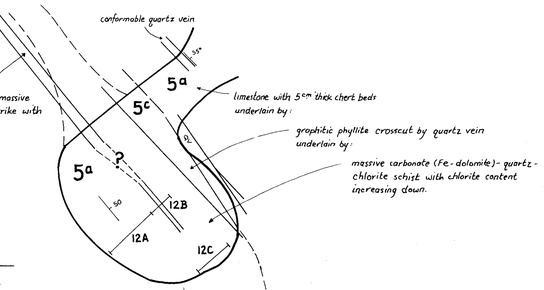
WESTMIN RESOURCES LTD.

POPLAR
BULLOCK TRENCHES 14&15

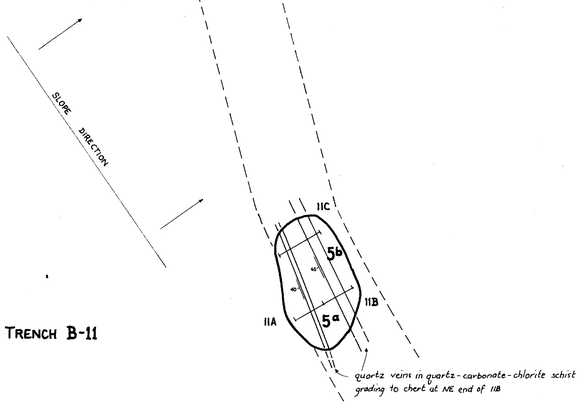
2 1 0 2 4 6 metres
Scale 1:100

Date: Dec. 1981 | Drawn By: AEM | FIGURE: 15

TRENCH B-12



Samples	length m	Au oz/t	Ag oz/t
B- 11A	1.3	<0.003	0.42
B	1.1	0.008	0.10
C	1.6	<0.003	0.01
B- 12A	1.9	<0.003	~
B	0.7	<0.003	0.01
C	1.4	0.022	~



TRENCH B-11

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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- 9 9a — Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.
- 8 — Quartzite, grit, minor argillite; may be facies equivalent of unit 6.
- 7 — Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.
- 6 — Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))
- 5 — Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.
- 4 4a — Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.
- 3 3a — Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.
- 2 — Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.
- 1 — Mafic volcanics, dark green pillow basalt, chlorite schist.
- A — Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × — Locally derived float

Part 3 of 3

GEOLOGY BY P.J. WOJDAK

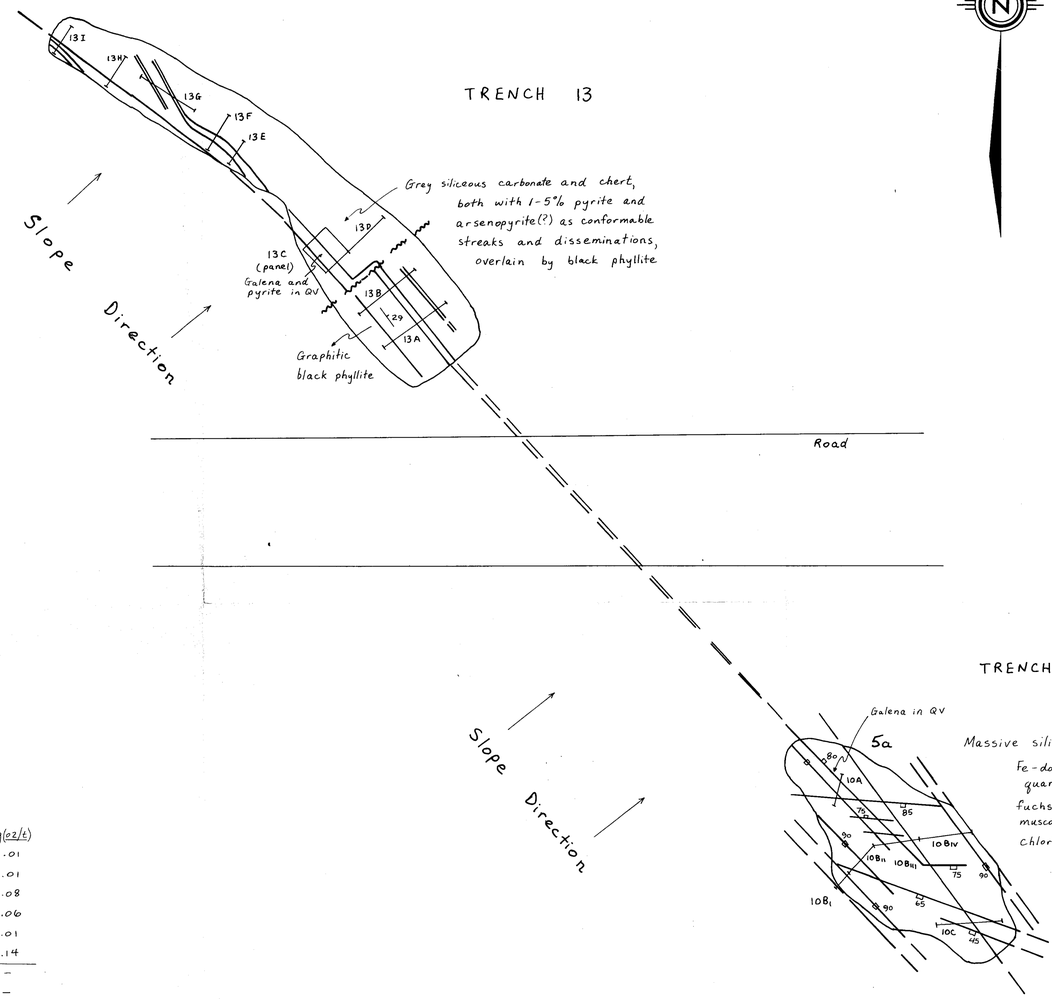
WESTMIN RESOURCES LTD.

POPLAR

BULLOCK TRENCHES 11 & 12

2 1 0 2 4 6 metres
Scale 1:100

Date: Dec '81 | Drawn By: AEM | FIGURE: 14



SAMPLES	LENGTH (M)	Au (oz/t)	Ag (oz/t)
10A	1.1	<.003	.01
10 B_I	0.8	<.003	.01
10 B_{II}	1.7	<.003	.08
10 B_{III}	1.4	<.003	.06
10 B_{IV}	1.6	<.003	.01
10C	1.9	.005	.14
13A	2.5	.008	–
13B	2.3	<.003	–
13C	1.0 (panel)	<.003	.08
13D	1.5	<.003	.08
13E	1.0	<.003	.01
13F	1.6	<.003	.08
13G	2.0	.005	.46
13H	1.7	<.003	.01
13I	1.6	<.003	.10

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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11 Argillaceous greywacke, minor graphitic argillite; grey.

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

part 3 of 3

Geology by P. Wojdak

WESTMIN RESOURCES LTD.

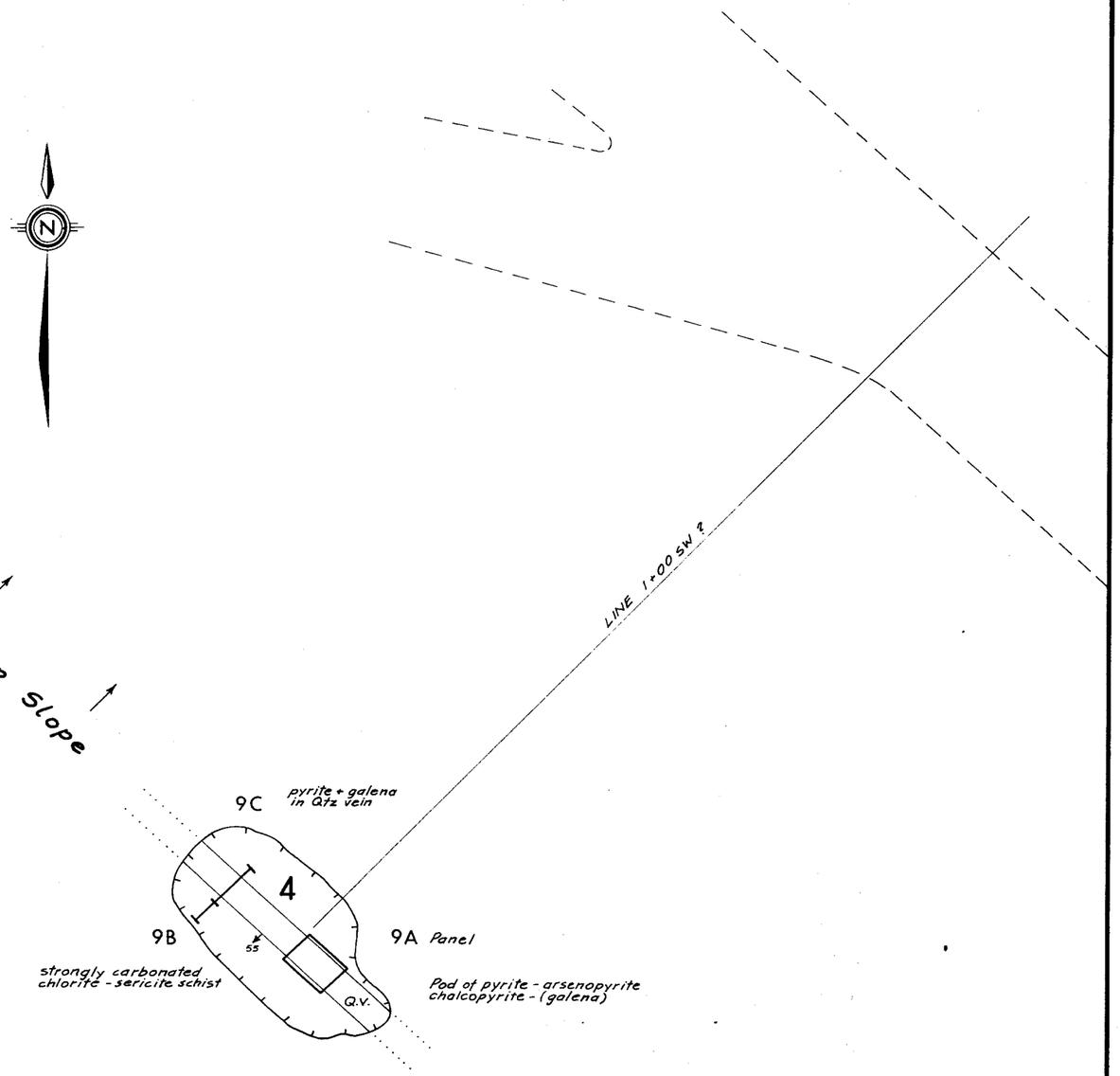
POPLAR

BULLOCK TRENCH 10 & 13

2 1 0 2 4 6 metres

Scale 1:100

Date: Sept. 1981 | Drawn By: PJW | FIGURE: 13



SAMPLE	Length m	Au oz/t	Ag oz/t	Cu %	Pb %
9 A	0.6×0.9	.018	.56	.23	.39
9 B	lost	—	—	—	—
9 C	0.9	< .003	.18	—	—

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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SYMBOLS

LJ-2 / MGI } Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

Locally derived float

part 3 of 3

NOTE: GEOLOGY by P. WOJDAK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

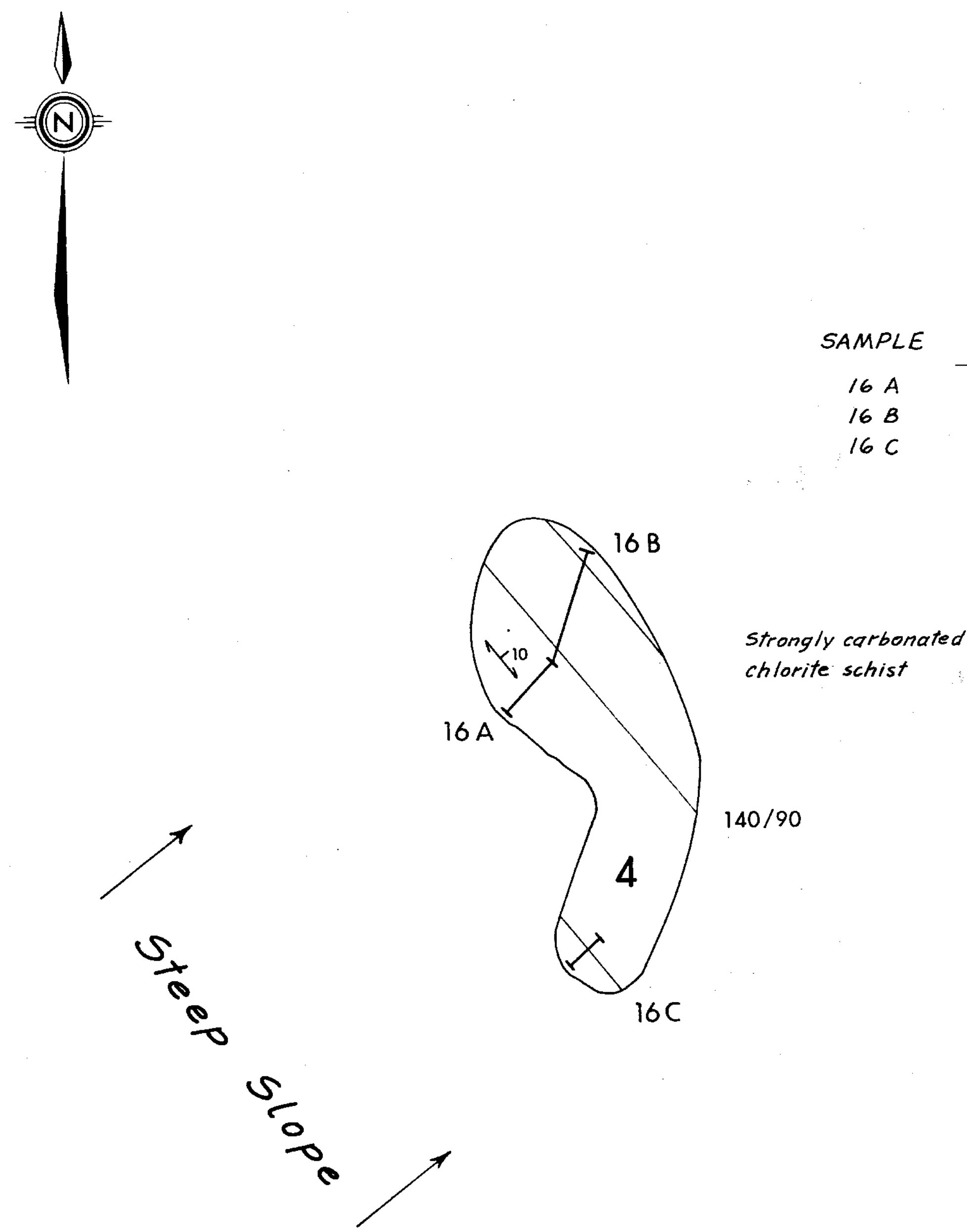
BULLOCK GRID

TRENCH No. 9

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981 | Drawn By: H. H. | FIGURE: 12



SAMPLE	Length m	Au oz/t	Ag oz/t
16 A	1.0	<.003	–
16 B	1.5	<.003	.06
16 C	.7	<.003	.12

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz – (feldspar) grit.

SYMBOLS

LJ-2, MGL – Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

Locally derived float

part 3 of 3

NOTE: GEOLOGY by P.WOJDAK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

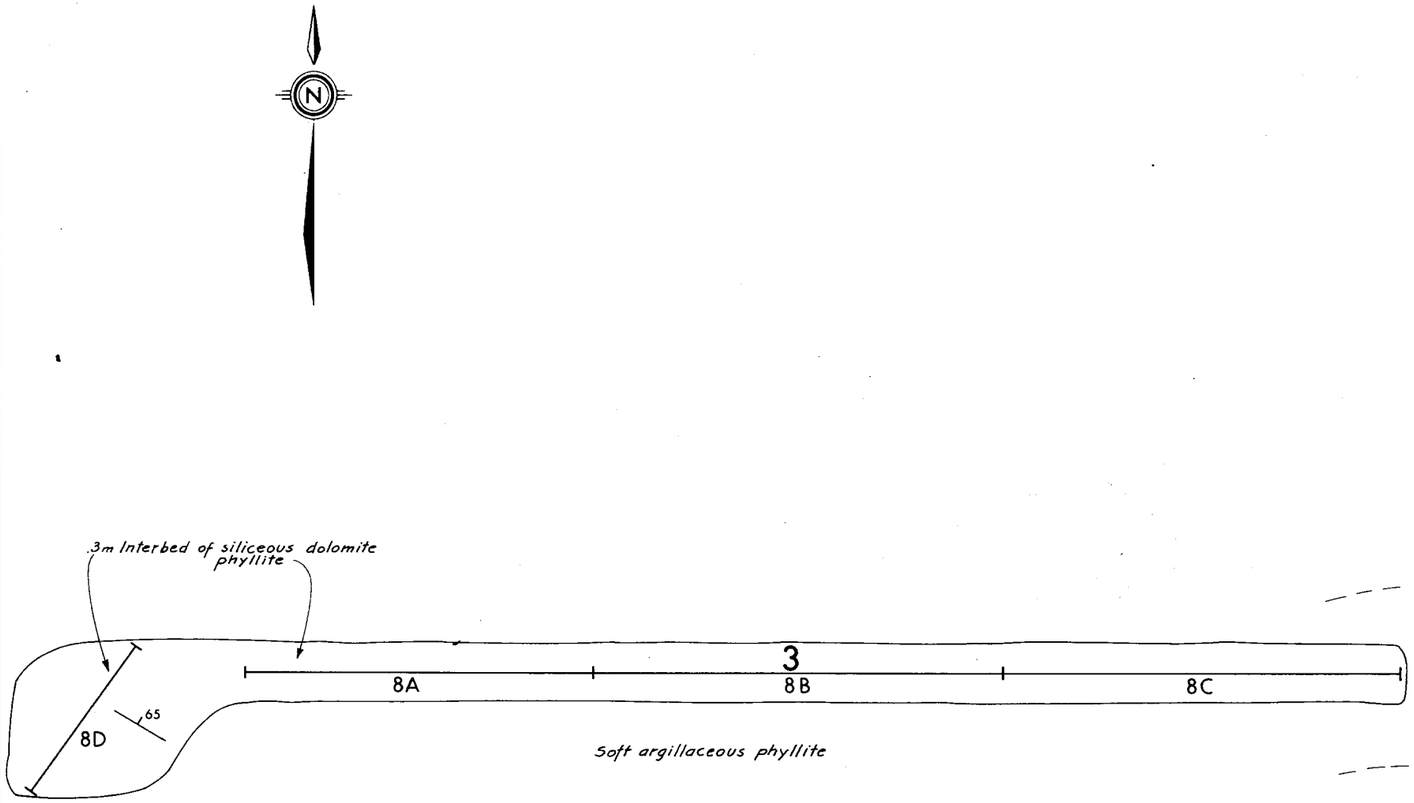
BULLOCK GRID

TRENCH No. 16

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981	Drawn By: H.H.	FIGURE: 16



SAMPLE	Length m	Au oz/t	Au o/o
8 A	5.8	—	10 ppb
8 B	6.9	—	150 ppb
8 C	6.6	—	10 ppb
8 D	3.1	< .003	—

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

9, 9a Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.

8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanics, medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite, intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist, similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 Bulldozer / backhoe / hand trench

MGI

Geologic contact, observed, approximate, inferred

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

x Locally derived float

ASSESSMENT REPORT

9801

NO.

part 3 of 3

NOTE: GEOLOGY by P. WOJDAK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

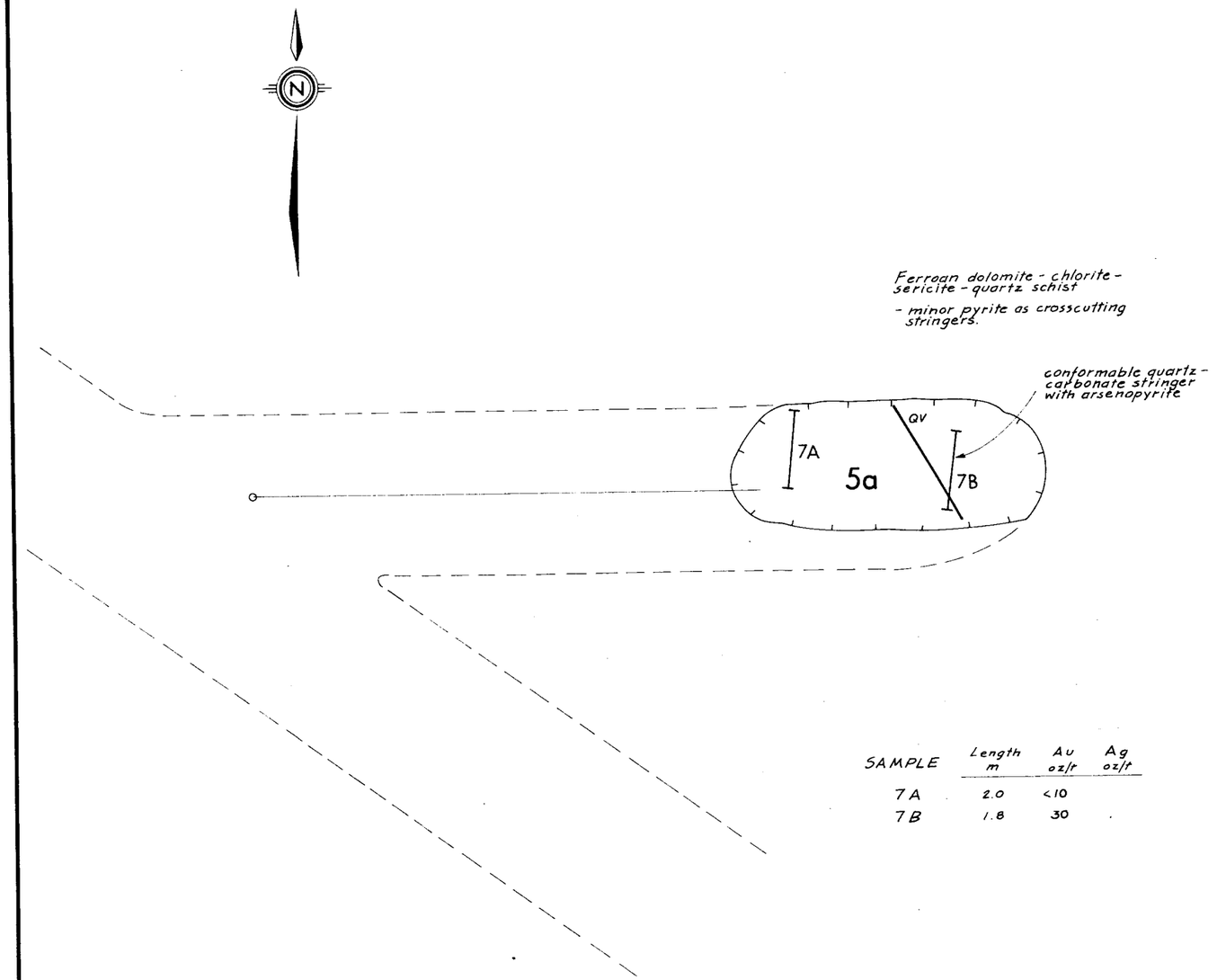
BULLOCK GRID

TRENCH No. 8

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981 | Drawn By: H. H. | FIGURE: 11



SAMPLE	Length m	Au oz/t	Ag oz/t
7A	2.0	<10	
7B	1.8	30	

L E G E N D

LARDEAU GROUP, Cambrian to Devonian

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MGI — Bulldozer / backhoe / hand trench

Geologic contact, observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

part 3 of 3

NOTES GEOLOGY by P. WOJDAK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

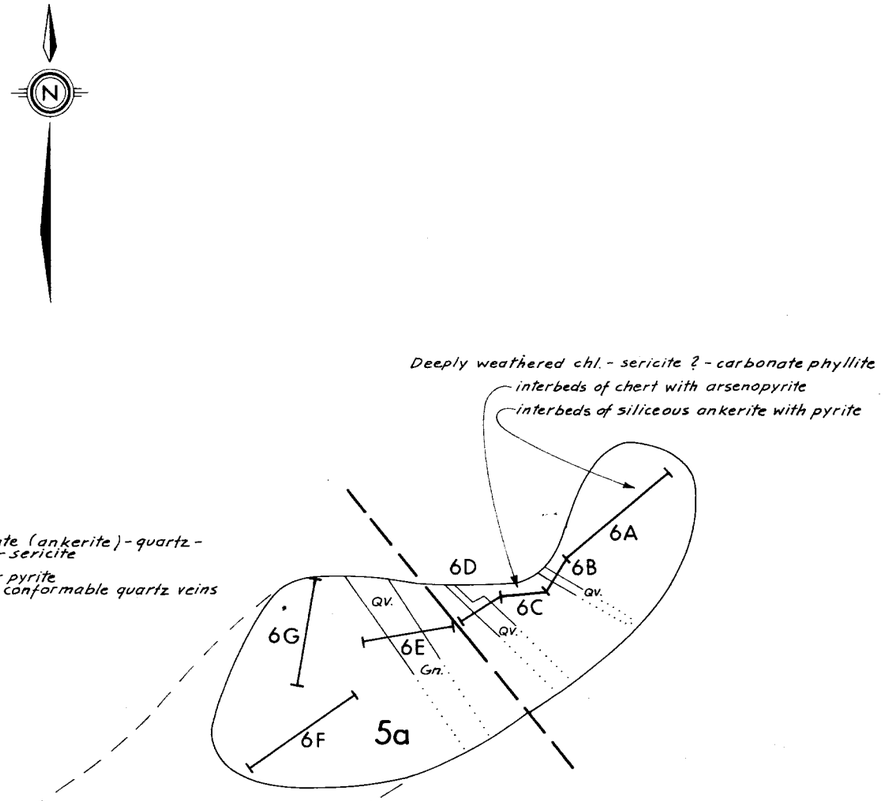
BULLOCK GRID

TRENCH No. 7

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981 | Drawn By: H. H. | FIGURE: 10



SAMPLE	Length m	Au oz/t	Ag oz/t
6A	2.0	.005	—
6B	0.6	.005	.01
6C	0.7	.003	—
6D	1.4	<.003	.05
6E	1.8	<.003	.01
6F	2.1	<.003	—
6G	2.4	<.003	—

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

ASSESSMENT REPORT

9801

NO.

Part 3 of 3

NOTE: GEOLOGY by P. WOJDAK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

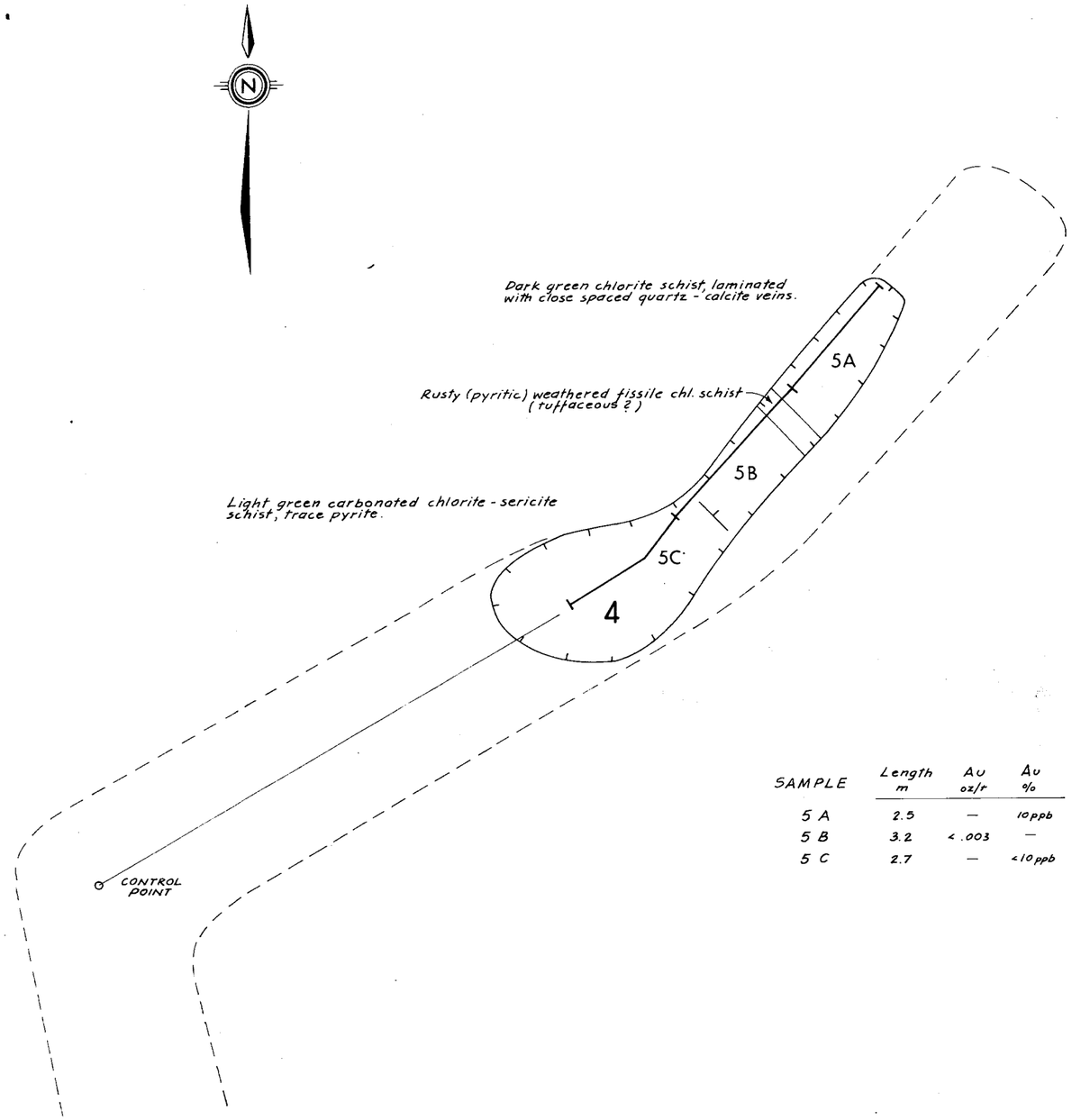
BULLOCK GRID

TRENCH No. 6

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981 | Drawn By: H.-H. | FIGURE: 9



SAMPLE	Length m	Au oz/t	Au %
5 A	2.5	—	10ppb
5 B	3.2	< .003	—
5 C	2.7	—	<10ppb

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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1. Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGi } Bulldozer / backhoe / hand trench
- Geologic contact, observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

NOTE: GEOLOGY by P. WOJDAK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

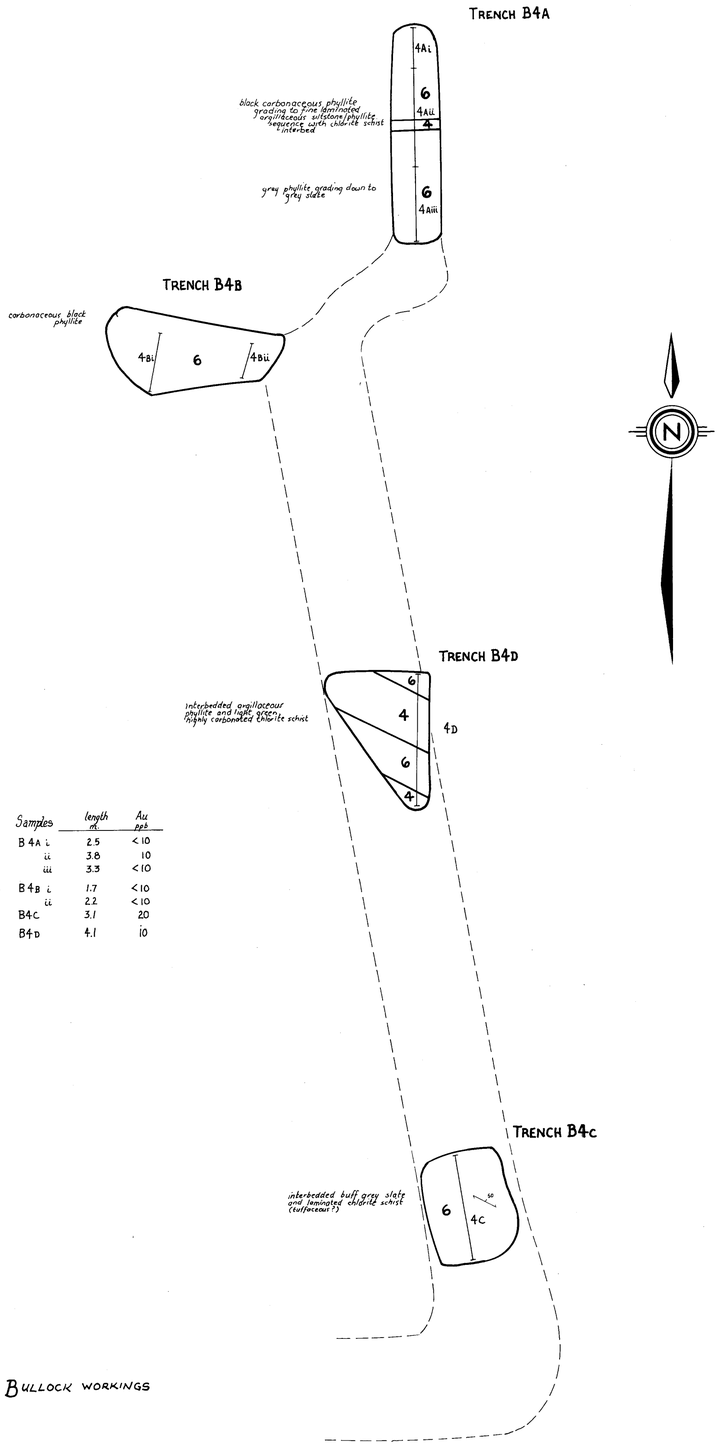
BULLOCK GRID

TRENCH No. 5

2 1 0 2 4 6 metres

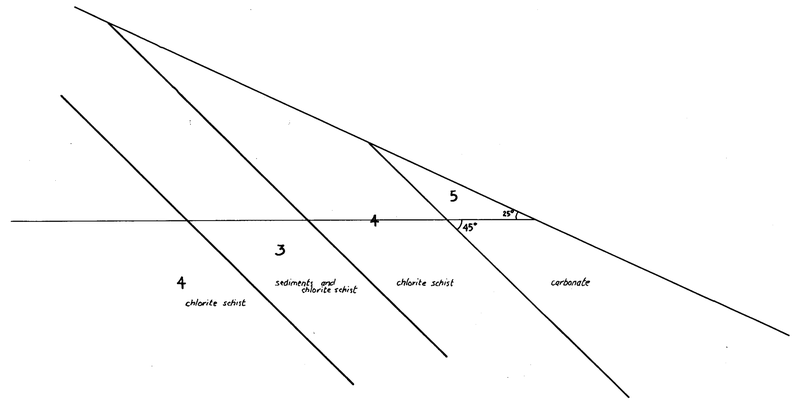
Scale 1:100

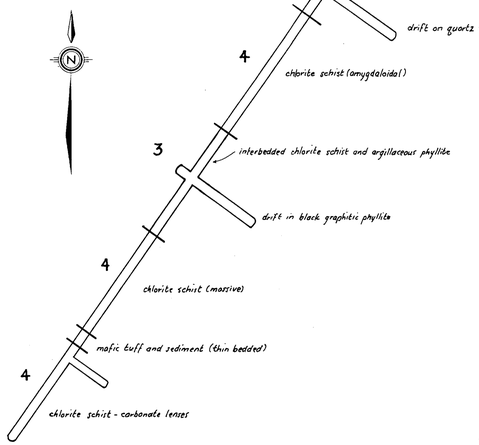
Date: NOV. 1981 | Drawn By: H. H. | FIGURE: 8



Samples	length m.	Au ppb
B 4A i.	2.5	< 10
ii.	3.8	10
iii.	3.3	< 10
B 4B i.	1.7	< 10
ii.	2.2	< 10
B4C	3.1	20
B4D	4.1	10

BULLOCK WORKINGS





PLAN OF
BULLOCK NO.1 ADIT
1:1,000

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MGI — Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

9801
NO.

Part 3 of 3

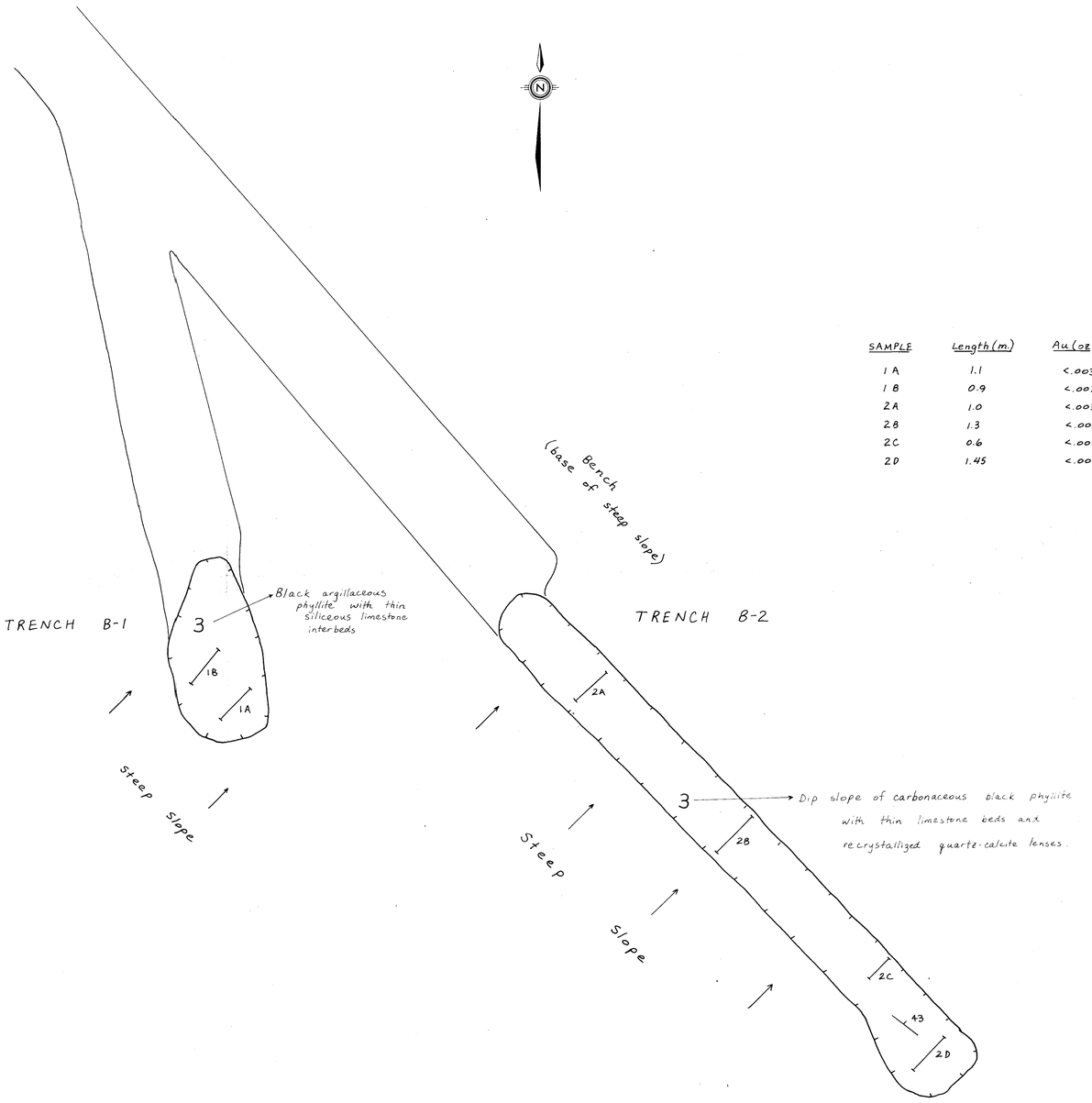
GEOLOGY BY P.J. WOJDAK

WESTMIN RESOURCES LTD.

POPLAR
BULLOCK: TRENCH 4, ADIT 1

2 1 0 2 4 6 metres
Scale 1:100

Date: Dec '81 | Drawn By: AEM | FIGURE: 7



SAMPLE	Length (m.)	Au (oz/ton)
1A	1.1	<.003
1B	0.9	<.003
2A	1.0	<.003
2B	1.3	<.003
2C	0.6	<.003
2D	1.45	<.003

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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A Quartz - (feldspar) grit.

SYMBOLS

LJ-2 / MGI — Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

Geology by P. Wojdak.

WESTMIN RESOURCES LTD.

POPLAR
BULLOCK TRENCH 1&2

2 1 0 2 4 6 metres
Scale 1:100

Date: | Drawn By: | FIGURE: 5

GOLDSMITH

RUSTY 7

BULLOCK 3 - PLUTO

CROWN KING

BULLOCK 2

BULLOCK 1

ALEX 2

ALEX 1

3+00 NE
2+50 NE
2+00 NE
1+50 NE
1+00 NE
0+50 NE
0+00
0+50 SE
1+00 SE
1+50 SE
2+00 SE
2+50 SE

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12 B-13 B-14 B-15 B-16

PLUTO ADIT

BULLOCK #1 ADIT

BULLOCK #2

BULLOCK #3

Bldg.

LEGEND

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SYMBOLS

LJ-2 / MG1 — Bulldozer / backhoe / hand trench

Geologic contact; observed, approximate, inferred.

Bedding

Foliation

Quartz vein

Joint

Minor fold axis

Fault

× Locally derived float

part 3 of 3

ASSESSMENT REPORT
9801

NOTE: GEOLOGY by D. DUDEK

WESTMIN RESOURCES LTD.

POPLAR PROJECT

GEOLOGY

BULLOCK GRID

20 10 0 20 40 60 metres
Scale 1:1,000

Date: NOV, 1981 | Drawn By: H. H. | FIGURE: 3

L 100 NW
L 000 SE
L 100 SE
L 200 SE
L 300 SE
L 400 SE
LITTLE PHIL
LUCKY JACK
MARCH 1
Hwy 31
N
Poplar Creek
shear zone
quartz lenses
LITTLE PHIL
BIG HOPE No. 2 FRACTION
LJ-1
LJ-2
LJ-3
LJ-4
LJ-5
LJ-6
LJ-7
LUCKY JACK
LUCKY THREE
BIG HOPE No. 2 FRACTION
BIG HOPE FRACTION
LUCKY THREE
BIG HOPE FRACTION
MARCH 1
QV. float
trench and shaft
MARCH 1
RUSTY 7
folded QV
complex minor fold
LUCKY JACK 3
LUCKY JACK 2
1+00S
2+00S
3+00S
4+00S
5+00S
6+00S
gn,QV
Py

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

NOTE: Geology by A. MARR, D. DUDEK and P. WOJDAK

part 3 of 3

ASSESSMENT REPORT
9801

WESTMIN RESOURCES LTD.

POPLAR PROJECT
GEOLOGY
LUCKY JACK GRID

20 10 0 20 40 60 metres
Scale 1:1,000

Date: Nov. 1981 | Drawn By: H.H. | FIGURE: 4

part 3 of 3

LEGEND

LARDEAU GROUP, Cambrian to Devonian

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1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- L1-2 / M91 — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

WESTMIN RESOURCES LTD.

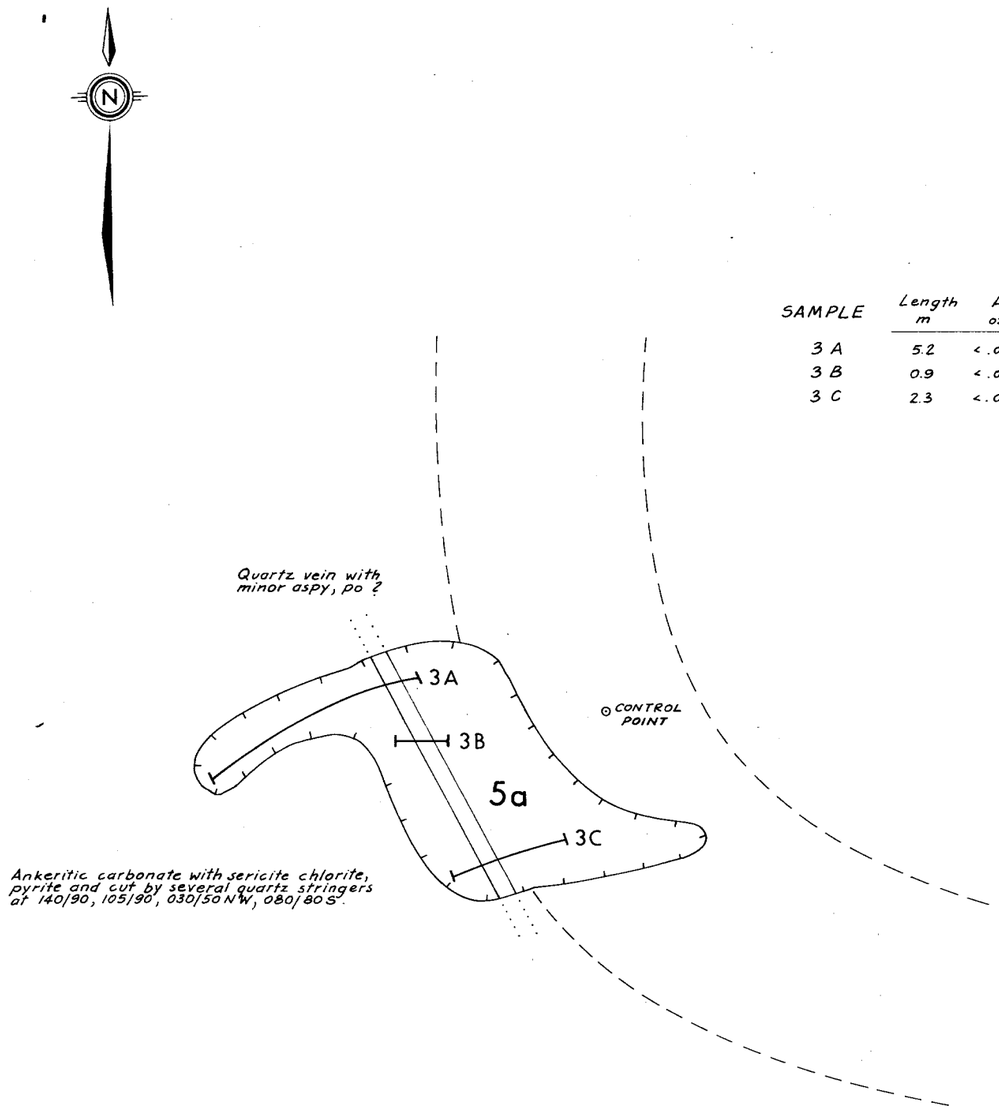
POPLAR PROJECT

GEOLOGY

100 50 0 100 200 300 metres

Scale 1:5,000

Date: Dec. 1981 | Drawn By: R. Ivany | FIGURE: 2



SAMPLE	Length m	Au oz/t
3 A	5.2	<.003
3 B	0.9	<.003
3 C	2.3	<.005

LEGEND

LARDEAU GROUP, Cambrian to Devonian

Jowett Formation - units represent an approximate lithologic sequence and may not be a stratigraphic succession. Some units may be equivalent and related by folding or faulting.

11 Argillaceous greywacke, minor graphitic argillite; grey.

10 Feldspar porphyry andesite; ranges from dark green massive, well jointed, with lens shaped mafic inclusions to grey or black, well foliated, crystal fragments and tuff appearance.

9 9a Limestone, dolomite, laminated chlorite-sericite phyllitic limestone, numerous quartz veins; 9b chert; 9c limy black phyllite. Associated with unit 7.

8 Quartzite, grit, minor argillite; may be facies equivalent of unit 6.

7 Carbonated mafic volcanic; medium to light green limy chlorite schist commonly with distinctive limestone lenses.

6 Siltstone, argillite; intercalated with limey chlorite schist (mafic tuffs(?))

5 Carbonate Exhalite (?), 5a massive coarse grained ferroan dolomite - fuchsite - quartz rock to schistose ferroan dolomite - sericite - chlorite - quartz schist. Deep rust weathering, minor pyrite, arsenopyrite, very numerous quartz veins. 5b pyritic chert. 5c graphitic argillite.

4 4a Carbonated mafic volcanics, light green chlorite schist. 4b mafic tuff.

3 3a Argillite, graphitic argillite; intercalated with limy chlorite schist; similar to unit 6 and where unit 5 is absent distinction of unit 3 and 6 is uncertain. 3b with intercalated chlorite schist.

2 Felsic volcanics; light coloured, rusty, quartz-sericite schist, with quartz eyes and amygdules near Mobb workings. Stratigraphic position variable.

1 Mafic volcanics, dark green pillow basalt, chlorite schist.

A Quartz - (feldspar) grit.

SYMBOLS

- LJ-2 / MGI — Bulldozer / backhoe / hand trench
- Geologic contact; observed, approximate, inferred.
- Bedding
- Foliation
- Quartz vein
- Joint
- Minor fold axis
- Fault
- × Locally derived float

NOTE: GEOLOGY by P. WOJDAK

part 3 of 3

WESTMIN RESOURCES LTD.

POPLAR PROJECT

BULLOCK GRID

TRENCH No. 3

2 1 0 2 4 6 metres

Scale 1:100

Date: NOV. 1981 | Drawn By: H.H. | FIGURE: 6