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GEOCHEMICAL AND GEOPHYSICAL
REPORT ON THE
BULKLEY 1 PROPERTY (16 units)
SMITHERS
OMINECA MINING DIVISION
BRITISH COLUMBIA

Latitude 54°31'N

Longitude 126°15'W

for

CANADIAN PREMIUM RESOURCES CORP.
Vancouver, B.C.

Stevenson and Associates

Vancouver, B.C.

R.E. Game, EIT

Geologist

January 20, 1985

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,843



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Jan. 20, 1985

The Directors
Canadian Premium Resources Corp.
809-675 W. Hastings St.
Vancouver, B.C.

Gentlemen:

At the request of Mr. J. P. Stevenson, I have prepared an updated report on your Bulkley 1 property located near Smithers, B.C. This report consolidates the results outlined in a previous geophysical report with those of the geochemical survey. Both these surveys were undertaken during a field investigation in August of this year.

This report, together with geochemical maps, geophysical maps and recommendations for future exploration, is attached.

Respectfully submitted

Richard E. Game

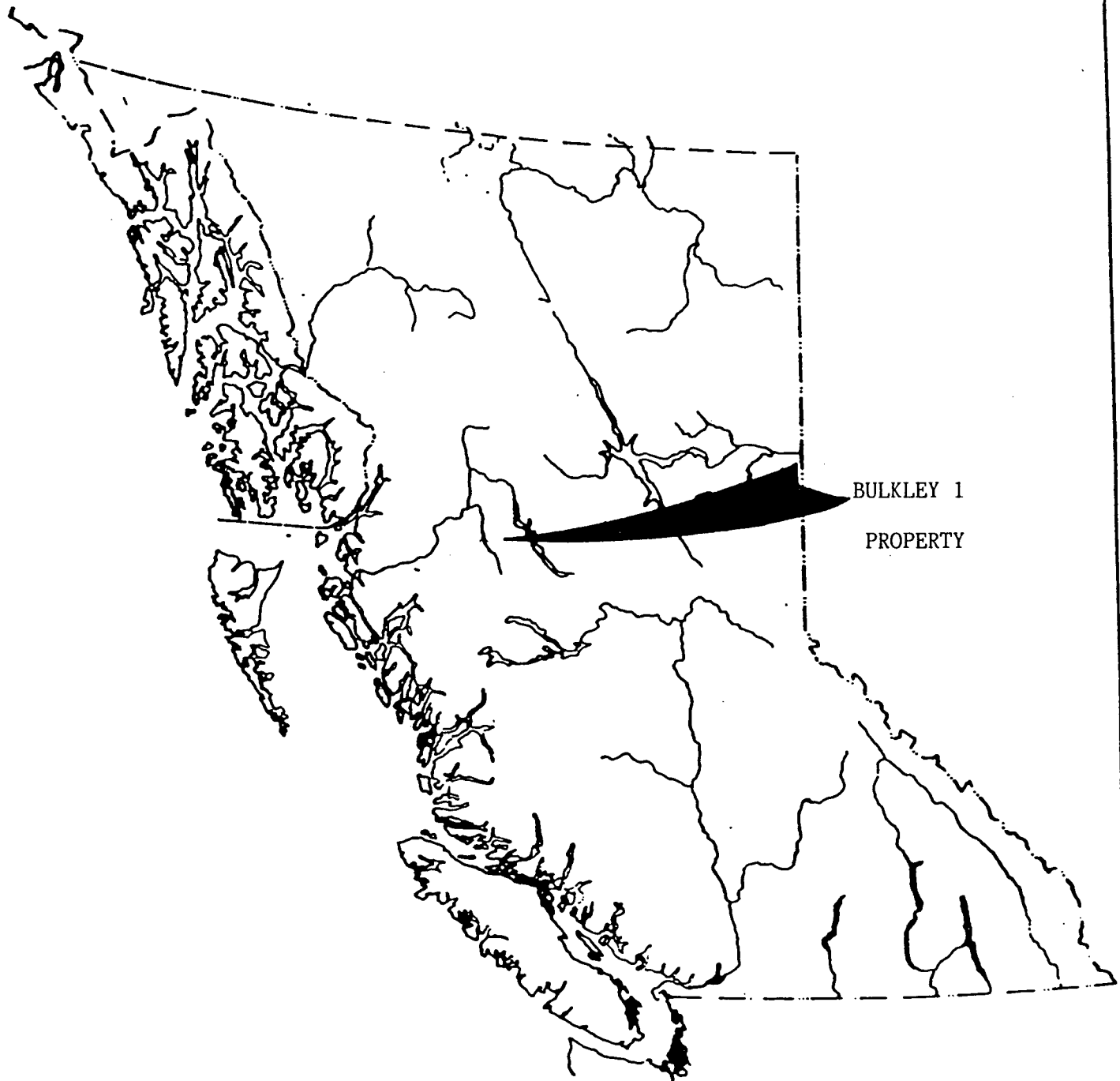
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BULKLEY 1
PROPERTY

CANADIAN PREMIUM RESOURCE CP.

B.C. LOCATION MAP

Sept 3, 1984 1

SUMMARY AND RECOMMENDATIONS

The Bulkley 1 property, located 17 kilometers north of Smithers, B.C., is centered in a mineralized environment on Early Cretaceous sediments. These sediments have attracted attention in the past for their deposits of silver, zinc and lead which were reported to have assayed 124.8 oz Ag, 20.4% Zn and 46% Pb.

Bulkley property displays a sequence of Early Cretaceous sediments. Grey metasediments, greywacke sandstones and polymictic conglomerates are the prevailing units. Sphalerite, galena, jamesonite, tetrahedrite, and pyrite can be found in quartz and siderite veins and veinlets within a reported 1.2 meter wide shear zone in the sediments. This zone is open to the east and west and at depth.

Geochemically, the property appears to be favorable for zinc and silver mineralization. The soil geochemistry (Zn, Ag) gave strong anomalous values within an irregular, sinuous northwesterly striking zone which extends across much of the surveyed area.

The electromagnetic survey outlined three promising conductors which appear to be, in part, related to geochemical anomalies.

Given the sufficiently encouraging results of the program, further work is warranted. The next phase of exploration should include:

1. Detailed geological mapping of the property.
2. Tightening the grid over anomalous zones and undertake additional geochemical and geophysical surveying.
3. Trenching and sampling of major anomalous zones
4. Diamond drilling

1.0 INTRODUCTION

1.1 General Statement

The silver bearing shear zone in the vicinity of the Bulkley River, near Smithers, B.C., has attracted some attention since the early nineteen hundreds.

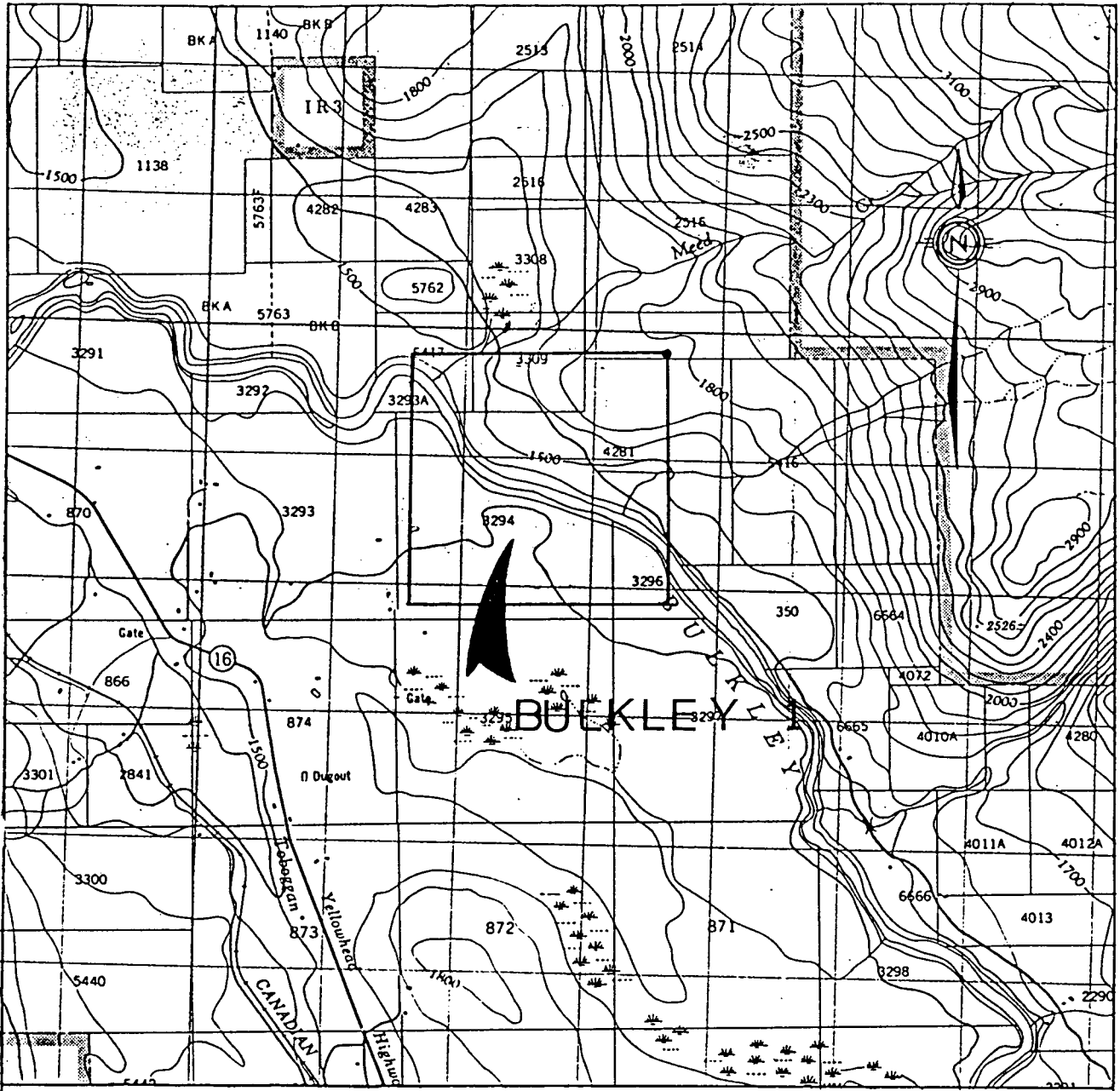
Canadian Premium Resources Corporation staked the Bulkley 1 property in May of 1984 with hopes of discovering rumored high grade silver mineralization.

During a short period in August of this year, a grid was flagged, a soil geochemical survey, and a VLF electromagnetic survey were undertaken. The objectives of this program were to determine location and extension to the shear zone.

1.2 Location and Access

The Bulkley 1 property, consisting of 16 mining claims which straddle the Bulkley River in the Omineca Mining Division, is about 17 kilometers north of Smithers, B.C. (Figure 2.). The claims are on map NTS 93L/14W near $54^{\circ} 56'$ north and $127^{\circ} 14'$ west.

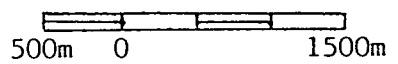
The north side of the property is accessible from the Telkwa Hi Road which exits off Highway # 16, two kilometers southeast of Smithers. Access to the south side is through country lanes and hay fields which exits off Highway # 16 seven kilometers northwest of Smithers.



to Smithers



Scale 1:50000



CANADIAN PREMIUM RESOURCES CP.

LOCATION MAP

K. E. J.

Jan 20, 1985

2.

1.3 Topography

The terrain generally consists of rolling rangeland with very thick undergrowth. Steep bank escarpments prevail in the vicinity of the Bulkley River, which may be up to 80 meters wide.

Some of the south side has been cleared for farming. However, the area of interest along the Bulkley River is uncultivated.

1.4 Land Status

The Bulkley 1 property, which was staked May 10, 1984, consists of the following mining claims (Figure 2.):

<u>Name</u>	<u>Record #</u>	<u>Units</u>	<u>Expiry</u>
Bulkley 1	6247	16	May 22, 1985

1.5 History

The claim area had attracted interest in the early 1900's and now a resurgence is underway.

In 1918, the Patriotic group undertook the development of a shaft, an adit, and several pits. Selected ore samples on the property assayed 124.8 oz / ton Ag, 46% Pb, and 20.4% Zn. The Cats Mining group held the ground in 1924 but little work was undertaken by them.

In 1980, S. Homenuke of Smithers held four, two post claims on the ground. Tri-Con Mining of Vancouver undertook a small geochemical survey along the bank of the Bulkley River. This survey outlined elevated values of copper, zinc, and mercury.

In 1983, the ground was staked by R. Holland, but no work was done. The present claims (Bulkley 1) were staked in May of 1984.

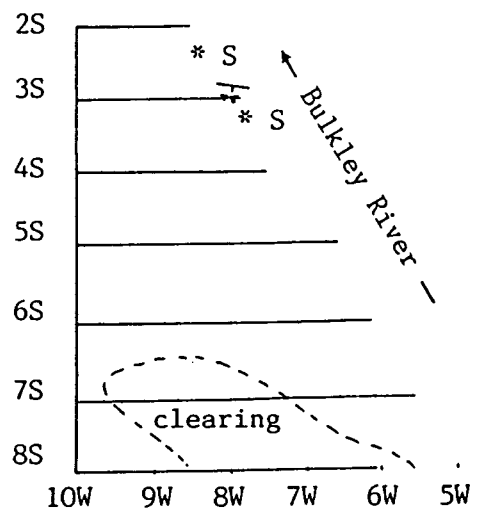
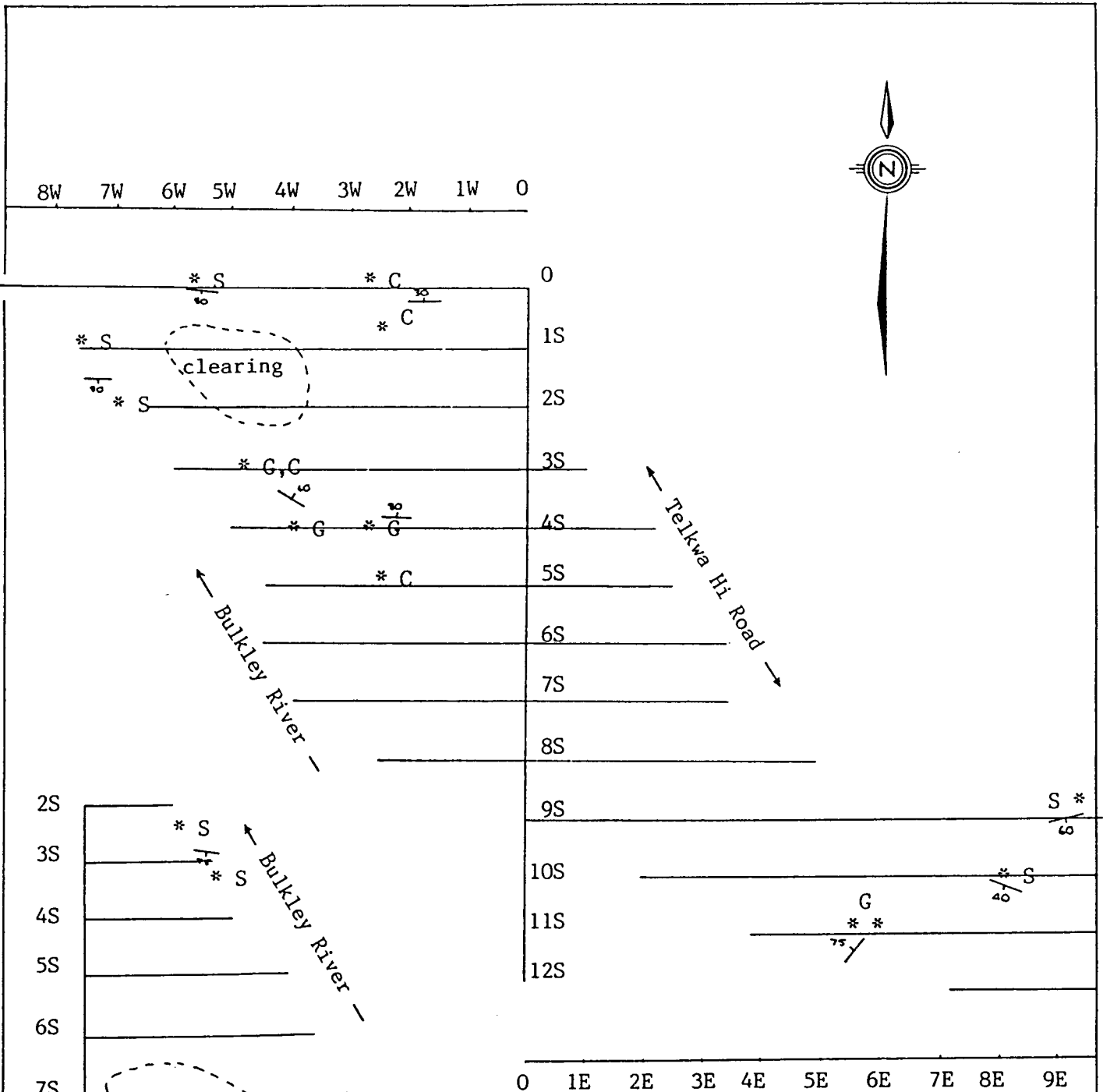
2.0 GEOLOGICAL SETTING

The consolidated rocks on the Bulkley property consist of Early Cretaceous sediments belonging to the Kitsum Creek formation of the Skeena group. These sediments range from a shale, to a graywacke, to a conglomerate. Although no attempt was made to map these interbedded units, the rock outcrops encountered within the survey grid were plotted on figure 3. River alluvium does, however, mask a great deal of the claim area.

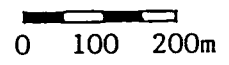
The conglomerate contains well rounded pebbles up to five centimeters in diameter, with a grey to light brown, coarse sand, arkosic matrix. The pebbles are of many varieties, thus a polymictic classification for the conglomerate, but cherts, quartzites, volcanics, and sandstone seem to prevail. This unit strikes generally to the east and dips moderately to the north.

The predominant rocks on the property are successions of grey, fine grained, greywacke sandstones and grey, medium grained shale metasediments. These units were also found to strike easterly with the sandstone dipping steeply to the north and the shale steeply to the south.

Mineralization on the property is associated with a 1.2 meter wide shear zone which is thought to open to the east and west and at depth. Quartz and siderite veins and veinlets within the zone contain sphalerite, galena, jamesonite, tetrahedite, and pyrite.



Scale 1:10000



LEGEND

- C Polymictic conglomerate
- S Shale metasediments
- G Graywacke Sandstone
- M Mineralization

CANADIAN PREMIUM RESOURCE	
Geology / Grid Map	
Sept 3, 1984	Figure 3.

3.0 GEOCHEMISTRY

3.1 Collection and Analysis

A total of 252 soil samples were taken at 50 meter intervals wherever possible along flagged grid lines (Fig. 3). A baseline was orientated north-south with east-west crosslines separated by 100 meters. The surveyed area on the north side of the Bulkley River is bordered by this river and the Telkwa Hi Road. The south side of the Bulkley River was surveyed along the western boundary only, in an attempt to intersect shear zones visible along the opposite river bank. Stations were marked with survey flagging and co-ordinates marked with felt pen.

The samples were taken from the 'B' soil horizon with a grub hoe, unless soil development was inadequate, in which case maximum depth was used. The soils were placed in standard kraft bags and dried prior to shipment to Min-En Laboratories Ltd. in North Vancouver, B.C.

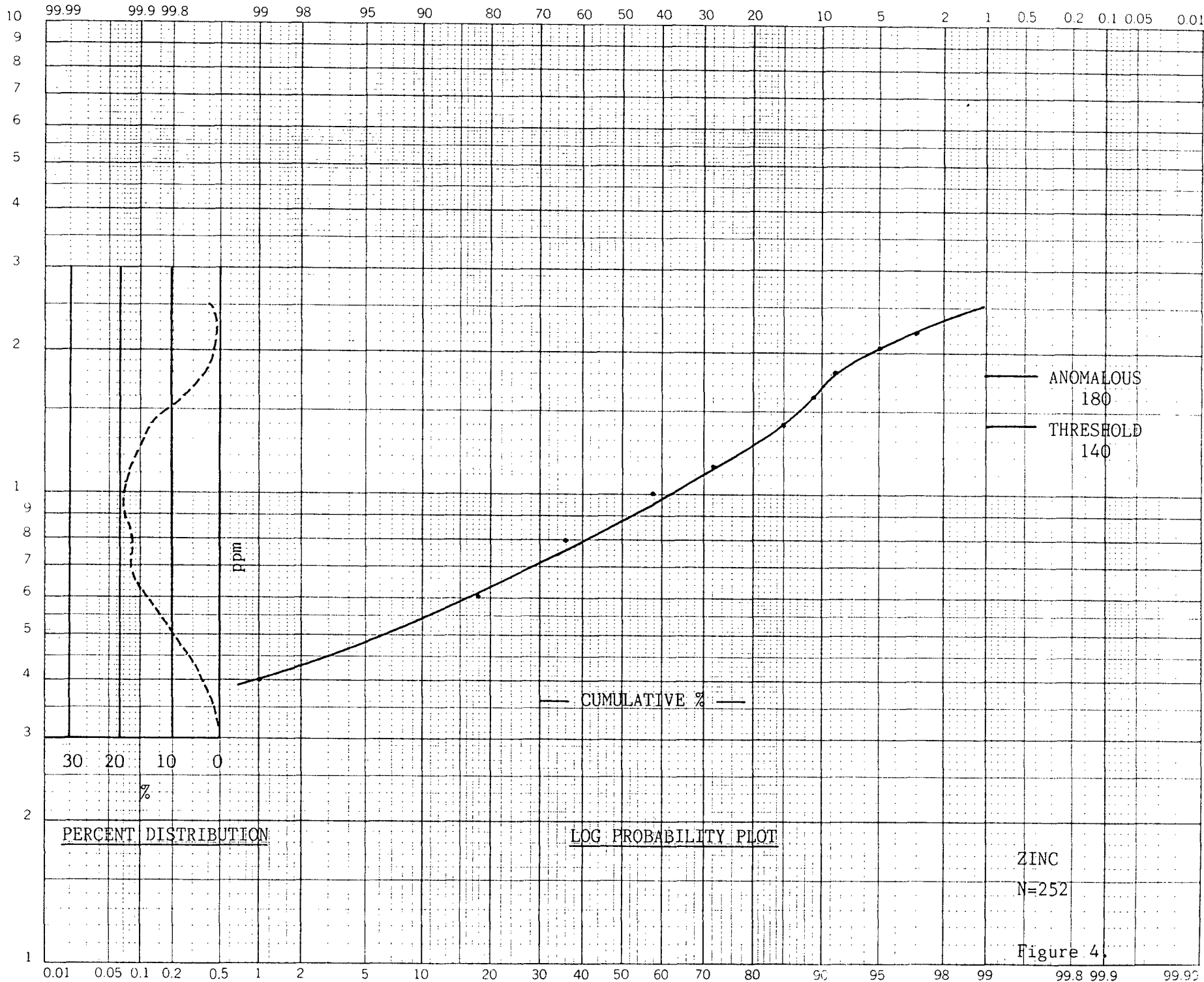
All samples were oven dried, screened to -80 mesh, and analysed for zinc and silver as follows:

Zn, Ag - nitric, perchloric digestion; A.A. analysis

3.2 Results of Survey

The percent distribution and log probability plots for the soil zinc values are shown in figure 4. The indicated threshold and anomalous levels are 140 and 180 ppm respectively.

Zinc soil values are plotted in plan on figure 6 (in pocket). The main zinc anomaly on the property is an irregular, sinuous northwesterly striking

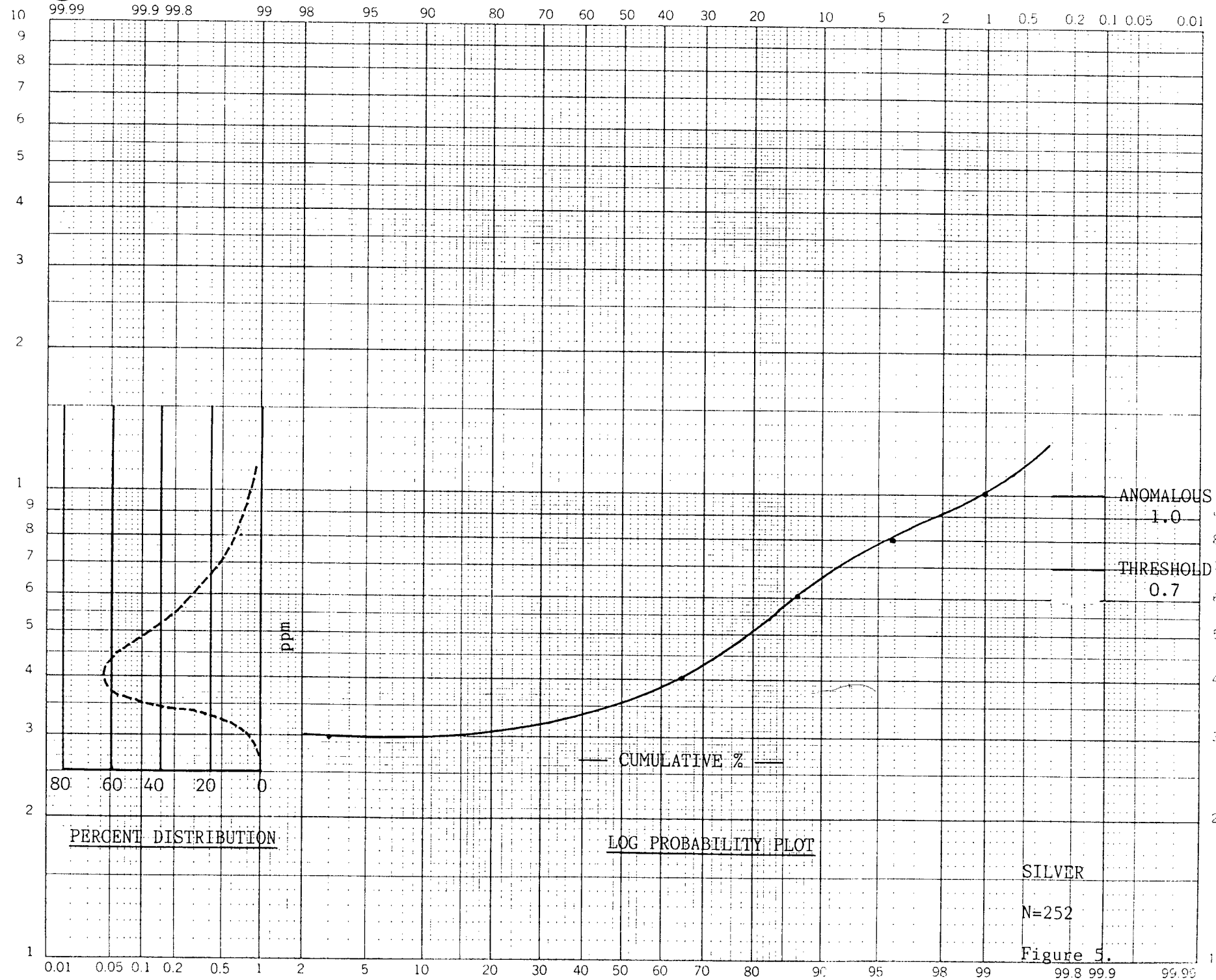


ZINC
N=252

Figure 4.

zone which extends across much of the surveyed area. This zone extends across lines 0000S to 8000S. Several smaller anomalies also exist, generally very close to the main zone. These anomalies may be related to a high trace zinc content in the sediments, comparatively thin overburden, or underlying zones of zinc mineralization; or a combination thereof.

Silver threshold and anomalous values are 0.7 and 1.0 ppm respectively (Fig 5.). Soil values are also plotted in plan on figure 7 (in pocket). The silver values generally mirror , to a lesser extent, the zinc values. This is evident with a number of silver values co-incident with the irregular main zinc anomaly. It is to be expected that the zinc anomalies are more prominent since its ions are much more mobile than those of silver's.



4.0 VLF ELECTROMAGNETICS

4.1 Survey Procedure

The VLF EM 16 survey readings were taken at 50 meter intervals wherever possible along flagged grid lines (Fig. 5). A baseline was orientated north-south with east-west crosslines separated by 100 meters. Stations were marked with flagging and co-ordinates marked with felt pen. The surveyed area on the north side of the Bulkley River is bordered by this river and the Telkwa Hi Road. This road has important implications because high capacity powerlines run along side it. These interfere with the survey and thus, electromagnetic surveying within the vicinity of the road was hampered. The south side of the Bulkley River was prospected along the western boundary only, in an attempt to intersect visible shear zones on the opposite river bank.

Care was taken in regard to technique to compensate for the steep terrain and powerlines prevalent in parts of the property. All readings were taken facing approximately perpendicular to the transmitting station at Seattle.

4.2 Compilation of Data

The readings were reduced by applying the Fraser Filter and plotted at a scale of 1:5000. Filtered data, as shown on the accompanying map, is plotted between reading stations. The positive filtered values were contoured at intervals of 10° , starting at 10° .

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low smoothing operator which reduces the inherent high frequency noise in the data. Therefore, the noisy, non-

conductive bodies results in a number of anomalies, many of them difficult to explain and, thus, VLF EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

4.4 Results of Survey

The VLF EM 16 survey results were plotted and contoured on figure 8 (in pocket). The primary purpose of the VLF EM survey was to locate potential veins and structures for localizing mineralization. As with most VLF EM 16 surveys, there is an abundance of minor conductors and topographical effects. The river and powerlines appear to account for some of these conductors. However, there are three zones which warrant interest, all striking north-westerly. Specifically, they are located at about 6000 W on lines 0000 S to 3000 S; at 1000 W on lines 4000 S to 6000 S; and at 8000 W on lines 7000 S to 8000 S.

All three of these anomalies are associated to some degree with geochemical anomalies, particularly those of the zinc results. This indicates that some of these anomalies may be associated with contact faults or mineralized shears, both of which are targets on this property.

5.0 REFERENCES

Cavey, G. and Helason, R. 1984. Report on the Bulkley 1 Claim: Private report for C.P.R.C.

Game, R. 1984. Geophysical Report on the Bulkley 1 Claim: Private report for C.P.R.C.

Homenuke, S. 1980. Assessment Report # 8940 on the BR Group.

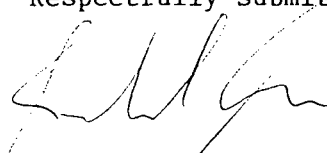
G.S.C. Openfile 351. 1979

6.0 CERTIFICATION

I, R. E. Game, of the City of Vancouver, Province of British Columbia,
hereby certify as follows:

- (1) I am a Geologist residing at 206-8636 Laurel St., Vancouver, B.C.,
and with office at 418-736 Granville St., Vancouver.
- (2) I am a graduate of the University of British Columbia with a Bachelor
of Applied Science in Geological Engineering (1984).
- (3) I have practiced mining exploration for three years, most of which
was based in the Province of British Columbia.
- (4) I am NOT a Professional Engineer; I am registered as an Engineer
in Training, and am a member of the Canadian Institute of Mining.
- (5) I have no interest, direct or indirect, in Canadian Premium Resource
Corp. or the Bulkley 1 property.
- (6) This report is based on an investigation of the Bulkley 1 property,
together with a review of pertinent data.

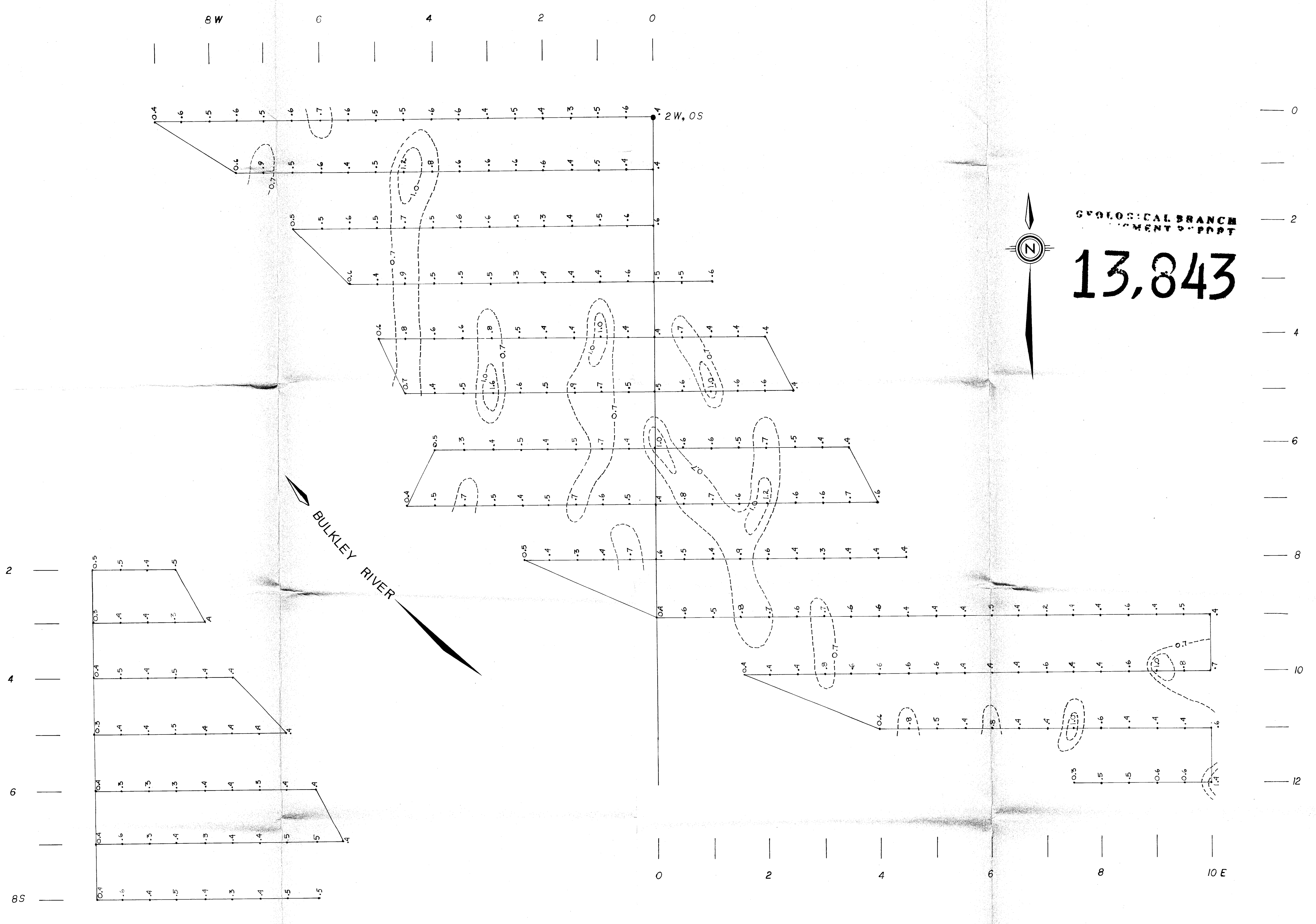
Respectfully submitted



R. E. Game, EIT

7.0 APPENDICIES

- 7.1 Zinc Soil Geochemical Map
- 7.2 Silver Soil Geochemical Map
- 7.3 VLF EM 16 Map

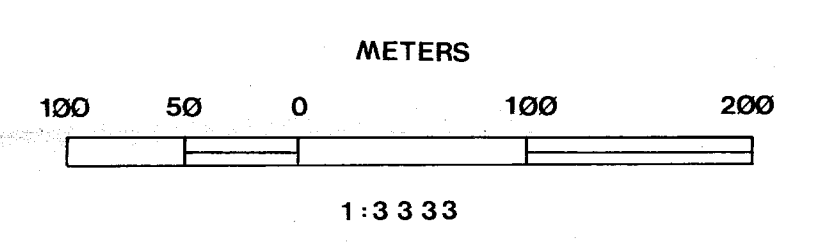


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FIGURE

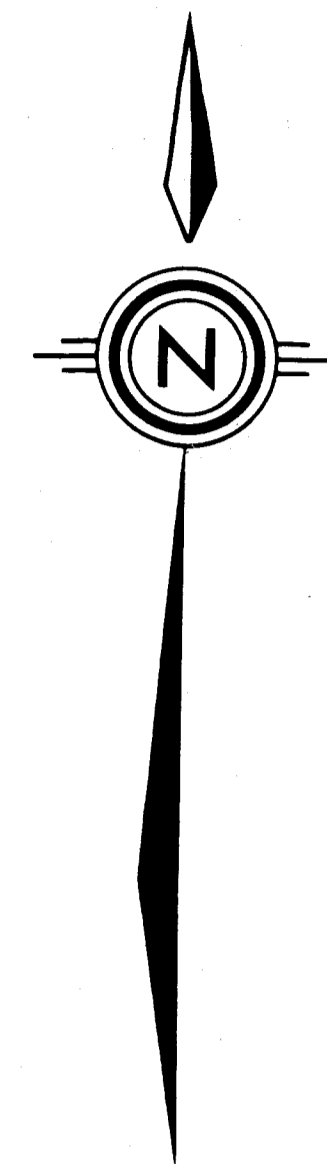
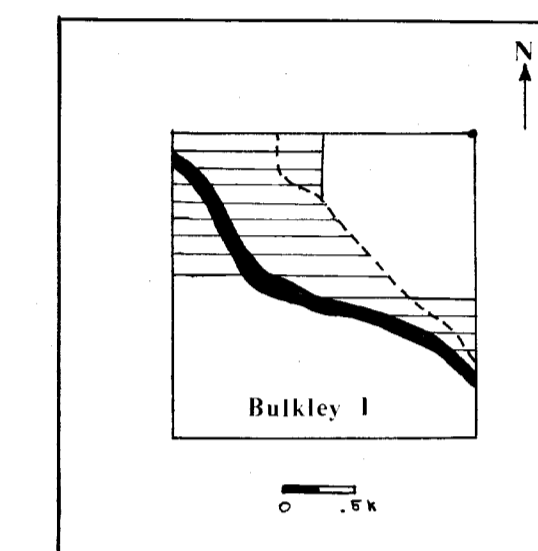


SILVER GEOCHEMISTRY

BULKLEY I CLAIMS SMITHERS, B.C.

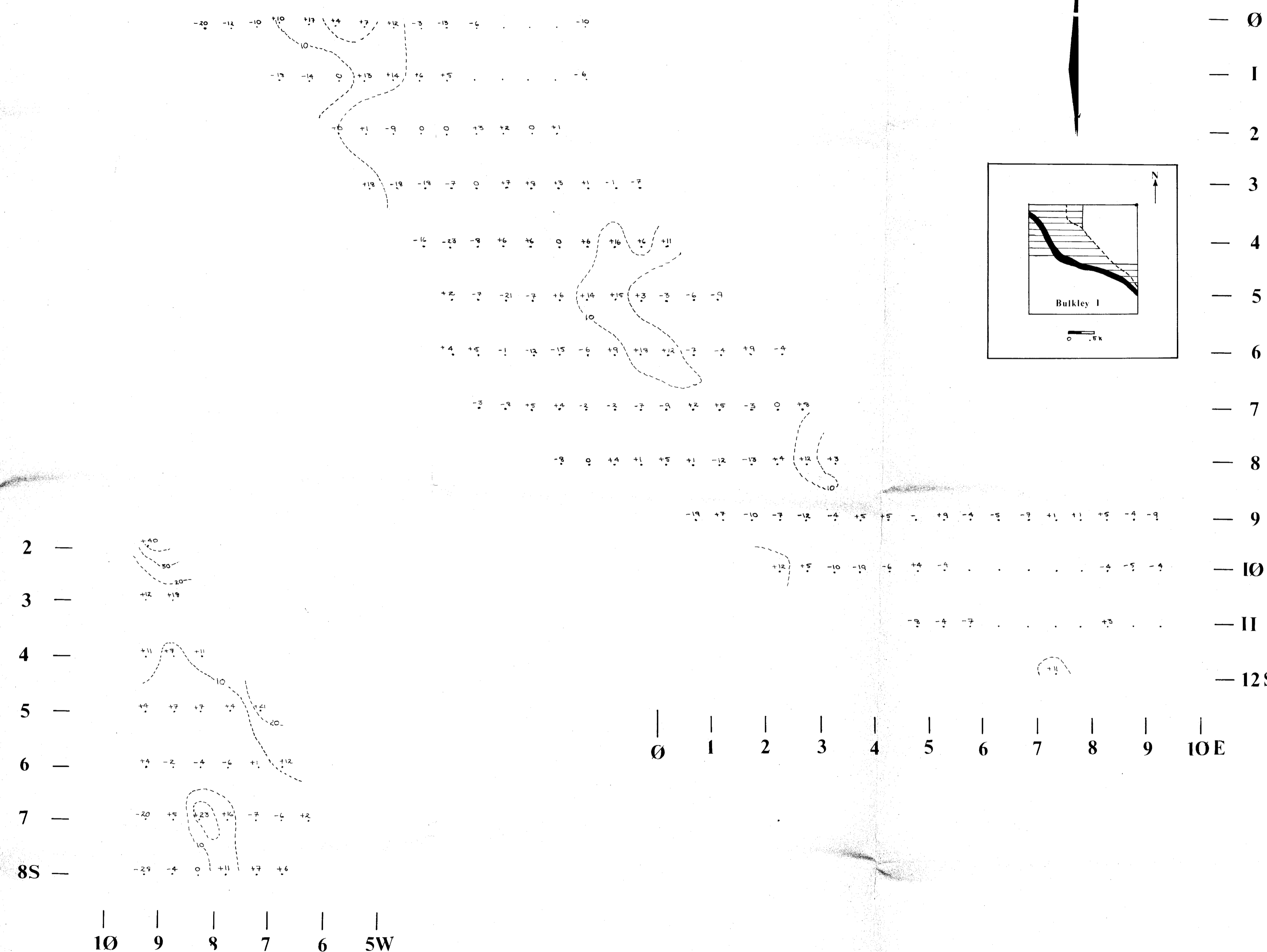
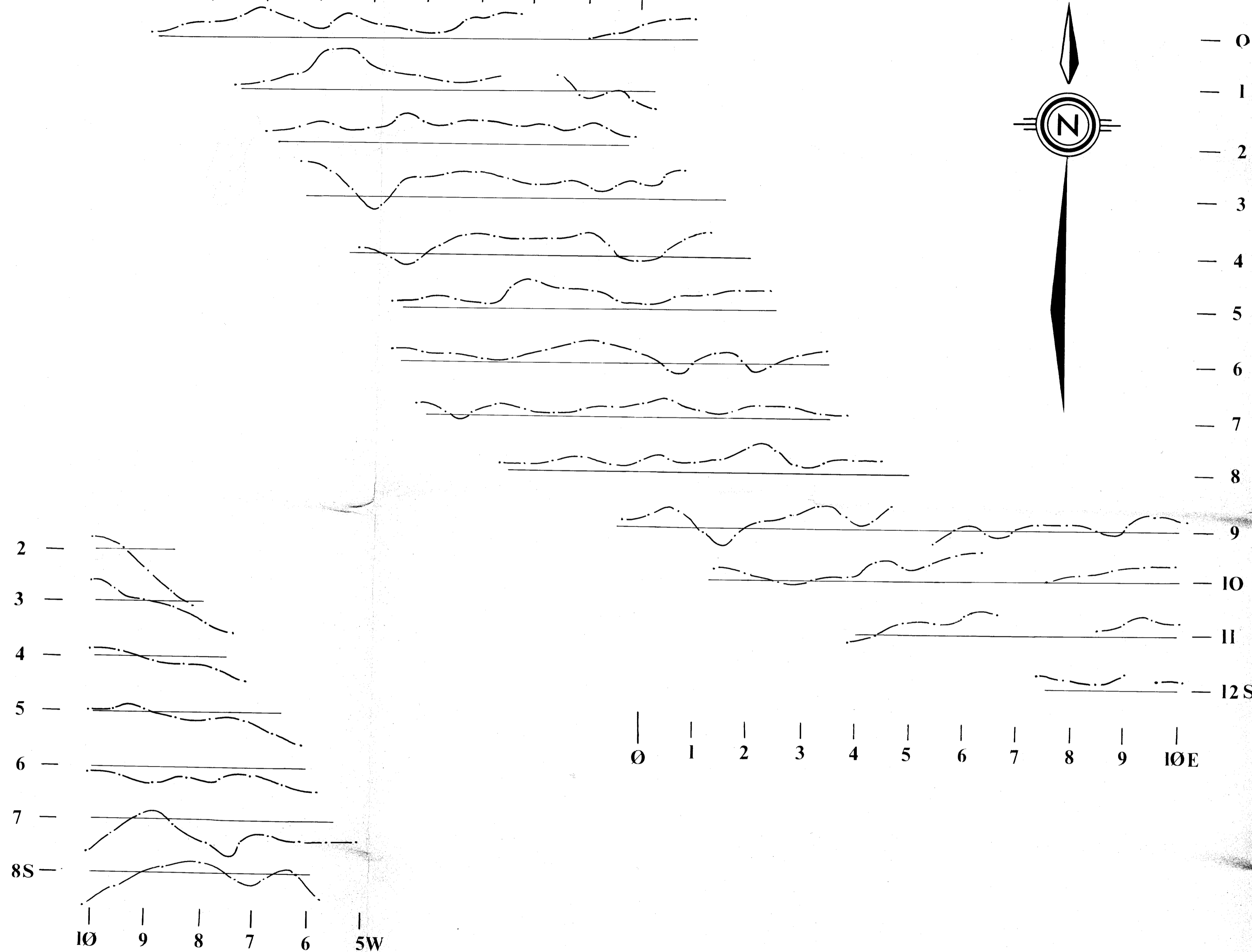
0.7 PPM - THRESHOLD	CANADIAN PREMIUM RES. CP.	
1.0 PPM - ANOMALOUS	R.E. GAME	JAN., 1985

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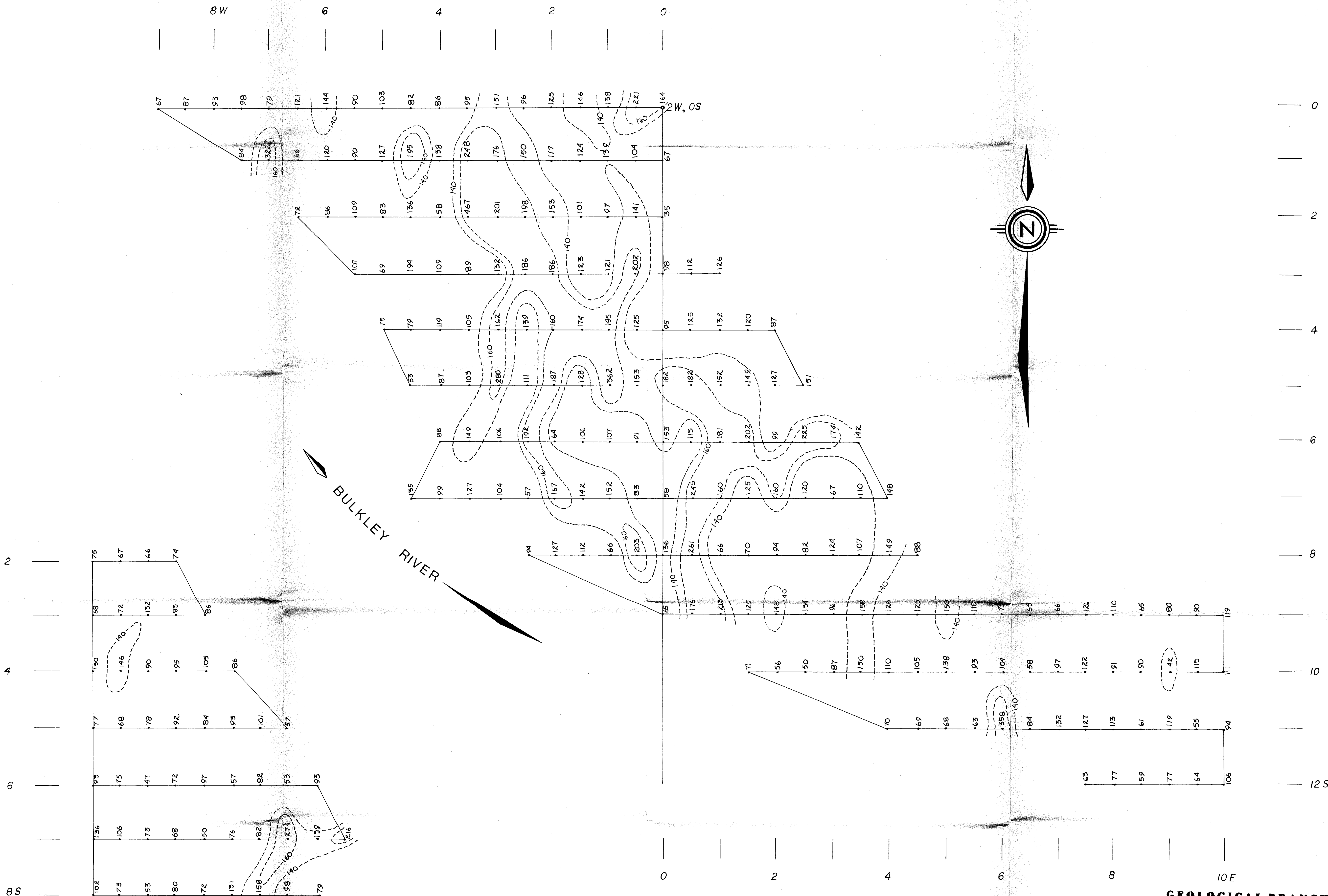
10W 9 8 7 6 5 4 3 2 1 0

10W 9 8 7 6 5 4 3 2 1 0



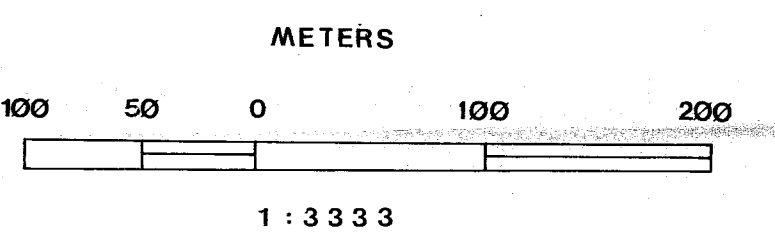
VLF TILT ANGLE	
	Vert. Scale 1cm = 10°

FILTERED VLF TILT ANGLE	
BULKLEY I PROPERTY	CANADIAN PREMIUM
VLF EM 16	Scale 1 cm = 50 m
	Contours 10°
	R. E. Game Sept., 1984



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ZINC GEOCHEMISTRY	
BULKLEY I CLAIMS	SMITHERS, B.C.
140 PPM-THRESHOLD	CANADIAN PREMIUM RES. CP.
160 PPM-ANOMALOUS	R. E. GAME
	JAN., 1985