

Report on the Heavy Mineral
Stream Geochemistry of the
Anderson Lake Project Area
Lat. 50°35' Long. 122°30'

NTS 92-J-9 & 10

Lillooet Mining Division, B. C.

for

X-Calibre Resources Ltd.,

Gold Bridge, B. C.

by

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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,876

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1.0 Summary and Conclusions

A heavy mineral stream sediment sampling programme conducted over the Anderson Lake Project Area for X-Calibre Resources Ltd. has outlined several areas of anomalous gold, silver, zinc, tungsten, arsenic and antimony content. Twenty gold anomalies ranging from 122 to 26,700 ppb gold have been identified along three major structures on the property;

- a) Cadwallader Shear Zone @ 160°
- b) 'J' Structure @ 045°
- c) 'C' Structure @ 090°

This geochemical evidence suggests that gold mineralization may occur along any one of these principal structures. A Bralorne-Pioneer model of gold deposition shows excellent potential on the Anderson Lake Property which has received little previous attention.

Aggressive exploration of the property has been recommended.

2.0 Introduction

A programme of heavy mineral stream sediment sampling was conducted by X-Calibre Resources Ltd. from September 9 - 24, 1983 over the Anderson Lake Project Claim Area. A total of 58 samples were collected and analyzed for gold, silver, tungsten, zinc, arsenic and antimony.

The results of this survey are illustrated on the accompanying maps at a scale of 1:25,000 over an 80 sq. km. area of the property. Interpretation of these results are supplemented by the geological

knowledge of the area as detailed in a previous report entitled "Phase I, Geology and Geochemistry of the Anderson Lake Project" dated August 26, 1983 by this author.

3.0 Location and Access

The Anderson Lake Project Area is located immediately west-northwest of Anderson Lake at Latitude $50^{\circ}35'$ and Longitude $122^{\circ}30'$ on NTS Map Areas 92-J-9 and 10 (Figure 1). The town of D'Arcy, B. C. is located 5 miles to the south of the centre of the claim group. McGillivray Creek drains south then east through the claim area.

The property is accessible by the power line road on the west shore of Anderson Lake which runs from Seton Portage to D'Arcy. Four wheel drive vehicles are recommended for travel on this road. A logging road goes 3.5 km. west from the mouth of McGillivray Creek to a point in the vicinity of the Anderson Lake Minesite. From there, a hiking trail exists along McGillivray Creek through and beyond the property to McGillivray Pass.

4.0 Current Claim Status

A total of 19 claims, forming the Anderson Lake Group, are held in good standing by X-Calibre Resources Ltd., Gold Bridge, B. C.

In addition, the Mac 1 and Mac 2 mineral claims are under option from Mr. Bill McConechy, forming part of the Anderson Lake Group as well. (Table I, Map I).



X-CALIBRE RESOURCES LTD.

ANDERSON LAKE
PROJECT
LOCATION

SCALE 1:250,000	NTS 92-J-15	FIGURE No. 1
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Table I Claim Status

<u>Claim</u>	<u>No of Units</u>	<u>Record No.</u>	<u>Anniversary Date</u>
X-Cal #1	20	2329	March 28, 1984
X-Cal #2	20	2330	March 28, 1984
X-Cal #3B	20	2331	March 28, 1984
X-Cal #4	10	2332	March 28, 1984
X-Cal #5	20	2333	March 28, 1984
X-Cal #6	20	2334	March 28, 1984
X-Cal #7	20	2335	March 28, 1984
X-Cal #8	20	2336	March 28, 1984
X-Cal #9	20	2337	March 28, 1984
X-Cal #10	12	2338	March 28, 1984
X-Cal #11	20	2339	March 28, 1984
X-Cal #12	20	2340	March 28, 1984
X-Cal #13	20	2341	April 5, 1984
X-Cal #14	20	2342	March 28, 1984
X-Cal #15	20	2343	March 28, 1984
X-Cal #16	20	2344	April 5, 1984
X-Cal #17	20	2345	April 5, 1984
X-Cal #18	20	2346	April 5, 1984
X-Cal #19	20	2347	April 5, 1984
Mac 1	10	1827	Aug. 13, 1984
Mac 2	10	1828	Aug. 13, 1984

5.0 Exploration History

The most significant gold occurrence in the area is the Anderson Lake Mine, located on the east side of Gold Creek approximately one half km. north of McGillivray Creek. A north trending quartz vein attaining widths of up to 4 metres was staked on the Yukon and Skeena claims by the Brett Brothers of Lillooet, B. C. in 1897. The Rosemont and White Rose crown grants were staked to the north of these claims at a later date. Mining of the veins was undertaken by the following companies until 1962;

1900-1910 - Anderson Lake Mining and Milling Co.

1929-1932 - McGillivray Creek Gold Mines Ltd.

1932- ? - National Gold Mines Ltd.

1947-1953 - Golden Contact Mines Ltd.

1960-1962 - Cassiar Copperfields Ltd.

Six adit levels from the 2,918 ft. to 3,650 ft. elevation were driven during this production history, all on the lapsed Skeena claim. A total of 688 ounces of gold was produced from 10,110 tons mined, the bulk of which was recovered in operations from 1900-1903 from the No. 1, 2 and 3 drifts.

The northern half of the Skeena claim and the Yukon claim are presently held by X-Calibre Resources Ltd. on the X-Cal #16 mineral claim. The No. 1, 2, 3, and Mac adit levels are on this ground. The southern half of the Skeena claim is held by Mr. Reg Brummell on the Reynaud Mineral Claim. The Rosemont (L 664) and

White Rose (L 669A) crown grants within X-Cal #16 are held by Mr. Terry Shorn.

During the gold rush of the early '30's, prospectors worked their way from Bralorne - Pioneer down the McGillivray Trail. Two occurrences, the Diorite and Gold Hill prospects, were developed underground during this time period.

The Diorite adit, located one half km. north of McGillivray Creek approximately 1.10 km. east of the forks of McGillivray Creek, is driven into a roof pendant of phyllite within Bralorne diorite. No gold assays have been reported.

The Gold Hill prospect, located one half km. south of the west fork of McGillivray Creek, approximately 1.2 km. southwest of the forks has adits driven into two prospects approximately 300 metres apart. A 9 metre wide pyritic quartz vein trending at 170°AZ intrudes phyllitic argillite at the west showing and a 1.3 metre quartz vein intruding granite at the east showing have reported assays up to 0.12 oz/ton.

6.0 Physiography

The property is characterized by steep, rugged mountains from 1,000 ft. ASL to 8,000 ft. ASL (Map II). The tree line is approximately at the 6,000 ft. elevation, with bare rock at the peaks and dense thickets on the lower sidehills and valleys.

McGillivray Creek, draining to the east into Anderson Lake,

divides the property into two main mountainous masses. Rock exposures are common along ridges and sporadic on sidehills and along the creeks. Pleistocene glacial till is draped along valley walls and recent alluvial deposits occur in the valley floors.

7.0 General Geology of the Bridge River Area

The geology and mineral deposit descriptions of the Bridge River Area are reported by McCann (1922), Cairnes (1937, 1943), Roddick and Hutchison (1973), Woodsworth (1977) and various government and assessment publications. (Figure 2).

The northeastern margin of the Coast Crystalline Belt trends northwesterly through the area. The northeastern flank of this belt of plutonic rocks is represented by granodiorite to quartz diorite of the Late Cretaceous Bendor Batholith which intrudes the southwestern flank of a paralleling antiform. The antiform has a maximum width of 45 km. and plunges gently northwest.

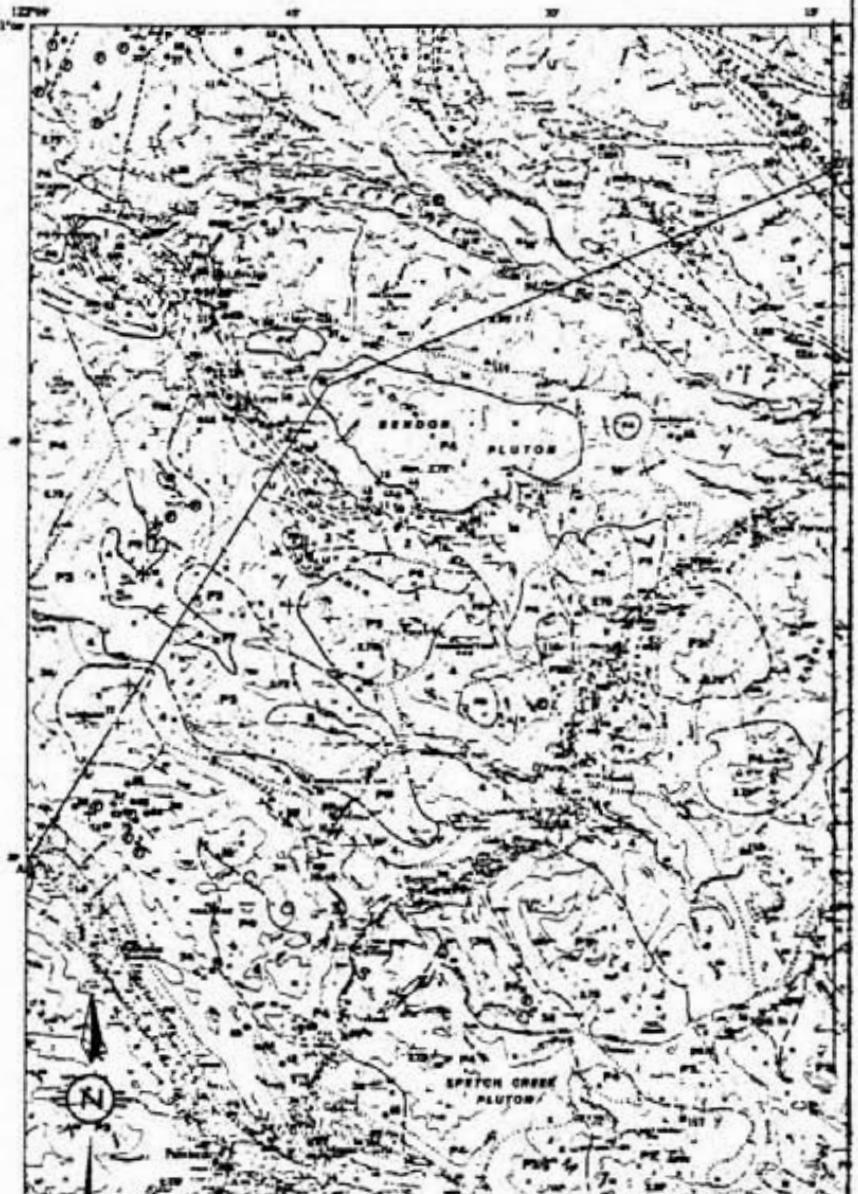
With the exception of some exposures of schist and gneiss, this antiformal structure consists of a package of complexly deformed Triassic volcanics and clastics, metamorphosed to a lower greenschist facies.

The most widespread formation which is exposed in the core of the antiform is the Middle Triassic Bridge River or Fergusson Group of chert, argillite and greenstone. Conformably overlying these rocks is the Upper Triassic Cadwallader Group consisting of the



Diagrammatic cross-section along A-B-C

- LEGEND**
- QUATERNARY**
 - PLEISTOCENE AND RECENT**
 - Q1** Unconsolidated alluvial and glacial deposits
 - TERTIARY**
 - Eocene (T)**
 - E1** Sand and siltstone facies
 - E2** Shale and mudstone facies, soft and friable
 - E3** Shale, mudstone, siltstone, sandstone and conglomerate
 - E4** Miscellaneous granulite facies and gneissites
 - LOWER TERTIARY**
 - T1** Sandstone facies and laminated sandstone and siltstone
 - T2** Shale, siltstone, sandstone, siltstone and conglomerate
 - CAMBRIAN**
 - UPPER CAMBRIAN**
 - P4** BEVIEY PLUTON (B-A, B, C, D) gneissites
 - SPRINGFALL GROUP**
 - S** Siltstone, sandstone, shale and siltstone conglomerate
 - LOWER CAMBRIAN**
 - TAYLOR CREEK GROUP**
 - T** Thin-bedded sandstone, siltstone and shale, green siltstone, siltstone lenses, siltstone and sandstone
 - JACMAN MOUNTAIN GROUP**
 - J** Thin-bedded to thick-bedded siltstone, sandstone and greenstone siltstone conglomerate and sandstone, siltstone, sandstone, conglomerate, argillite and grey mudstone, siltstone conglomerate and greenstone, siltstone, greenstone, argillite, grey mudstone and siltstone conglomerate
 - ARKANSAS AND CRYSTACAN**
 - UPPER ARKANSAS AND LOWER CRYSTACAN**
 - 8** Argillite, greenstone and siltstone conglomerate
 - ARKANSAS**
 - LOWER ARKANSAS**
 - 8** Argillite and siltstone siltstone conglomerate, siltstone and siltstone conglomerate
 - TRIASSIC**
 - UPPER TRIASSIC**
 - 4** Sandstone and shale
 - 4** STURLEY FORMATION Thin-bedded to medium bedded grey argillite, siltstone, sandstone, siltstone, sandstone, conglomerate, siltstone, sandstone and shale
 - 3** FERRIS FORMATION Greenstone derived from siltstone sandstone and greenstone rocks, siltstone, sandstone, shale and siltstone, greenstone, siltstone, sandstone and shale, siltstone, sandstone, conglomerate and siltstone
 - 2** HOEL FORMATION Thin-bedded argillite, siltstone, sandstone and greenstone
 - MIDDLE TRIASSIC AND (?) OLIGOCENE**
 - 1** BRIDGE UPPER GROUP (PERFORMER GROUP) Shale, argillite, siltstone and greenstone siltstone conglomerate, siltstone, siltstone, sandstone, shale and siltstone, siltstone and shale, siltstone, siltstone
 - METAMORPHIC AND PLUTONIC ROCKS**
 - (study of various maps)**
 - B** Intermediate grade, mostly medium to coarse, siltstone, sandstone, siltstone, sandstone, shale and siltstone siltstone conglomerate, siltstone and siltstone sandstone
 - A** Crystalline green, calcareous siltstone, siltstone, sandstone and shale siltstone
 - P8** Granite
 - P3** Granite xenoliths
 - P4** Gneissites facies, siltstone, sandstone and conglomerate
 - P3** Granite siltstone
 - P8** Shale, siltstone, sandstone, argillite, siltstone, siltstone, siltstone and shale, siltstone, siltstone, siltstone
 - P1** Quartzite
 - U** Ultrabasic rocks, siltstone, sandstone, siltstone, shale
- Map scale: 1:500,000
 Inset map: 1:100,000



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BRIDGE RIVER AREA
GEOLOGY

SCALE 500,000 NTS 92 J FIGURE No. 2

basal Noel Formation clastics, the middle Pioneer Formation volcanics and the upper Hurley Formation calcareous sedimentary rocks.

In the Cadwallader Creek Valley, northwest to Eldorado Creek and southeast to Anderson Lake is a belt of plutonic rocks collectively mapped as the Bralorne Intrusions. These intrusives occur along a belt of folded and faulted Cadwallader Group rocks and serpentine of the President Intrusives, forming the Cadwallader Structural Complex. The Bralorne Intrusives are extraordinarily complex and variable in composition from gabbro, augite diorite, hornblende diorite, "greenstone diorite", quartz diorite and soda granite to albitite. The phases of soda granite are of particular economic significance as they are related to the gold deposits of the Bralorne-Pioneer Mining District. Four million ounces of gold has been produced from these two mines since 1932, in ribboned quartz veins averaging 0.52 oz/ton gold.

8.0 Property Geology

A body of Bralorne diorite intrudes and, in part, is structurally emplaced between phyllites, argillites and volcanics of the Fergusson Group to the east and calcareous phyllites of the Hurley Formation to the west. To the north, a northeast trending tongue of granodiorite, forming a faulted contact with Bralorne Diorite at the southeast contact, intrudes a package of Fergusson Group argillites. North and northwest trending ultramafic

dike-like intrusions occur within the argillite and along the eastern border of the Bralorne Diorite. Two plugs of Quartz Diorite occur on the west margin of the property (Map III).

Geological mapping from Roddick and Hutchison (1973) and Woodsworth (1977) was incorporated into the map where outcrops were not visited by this author.

The geological package and five main structural trends in the area are interpreted to be related to an extension of the Cadwallader Structural Complex which hosts the Bralorne-Pioneer gold deposits. These structures are identified as;

- a) 'K' Structures - 150° trend of the Cadwallader Structural Complex
- b) 'M' Structures - 105° trend
- c) 'J' Structures - 045° trend of the Bralorne diorite-granodiorite contact
- d) 'H' Structures - N-S trend
- e) 'C' Structures - E-W trend.

Gold mineralization assays up to 4.88 oz/ton in the Anderson Lake Area. A "Bralorne-Pioneer" model of gold mineralization on the Anderson Lake Property has excellent potential.

9.0 Property Geochemistry

9.1 Introduction

Rock geochemical samples collected in the Anderson Lake Project Area outline a number of anomalous areas of gold, silver, arsenic, antimony and zinc content as reported in "Phase I, Geology

and Geochemistry of the Anderson Lake Project".

The subject of this report is the analysis and interpretation of 58 heavy mineral stream sediment samples collected over the project area from September 9 - 24, 1983.

9.2 Methods of Sample Collection and Sample Analysis

The programme was carried out by five samplers who are listed in Appendix I. Stream sample locations were accessed by road or trail where possible and remote locations by helicopter. Sample sites were chosen where channel bars or sediment accumulations could be panned. Pan samples of approximately 8 ounces each were collected for a total of 5 to 7 pounds of sample material at each location.

The samples were shipped to Chemex Labs Ltd., Vancouver, B. C. where they were sieved through a -10 mesh. The +10 mesh material was discarded. The -10 mesh sample material was sent to Terramin Research Labs Ltd., Calgary, Alta., where they were immersed in a solution of tetrabromethane to separate the fraction greater than 2.96 specific gravity. This heavy fraction was pulverized to -100 mesh and analyzed for gold (fire assay - AA), silver, zinc, tungsten, arsenic and antimony content.

Appendix II shows the specific analytical techniques for these elements.

9.3 Results

Appendix III tabulates the results of the geochemical analyses for sample weight, concentrate weight, Au, Ag, Zn, W, As

Table II Geochemical Anomalies

<u>Element</u>	<u>Background Value* (Mean)</u>	<u>Standard Deviation*</u>	<u>Threshold Value</u>		<u>1st Order Anomaly (Geochemical)</u>
			<u>Cumulative % of Population</u>	<u>Geochemical Value</u>	
Au	1036 ppb	2467 ppb	65.5	100 ppb	500 ppb
Au/gm	243 ppb/gm	882 ppb/gm	74.1	50 ppb/gm	150 ppb/gm
Ag	874 ppb	1604 ppb	65.5	600 ppb	1250 ppb
Zn	74 ppm	35.8 ppm	81.0	100 ppm	100 ppm
W	76 ppm	150 ppm	75.8	70 ppm	200 ppm
As	68 ppm	87.3 ppm	70.7	70 ppm	150 ppm
Sb	4.5 ppm	20.4 ppm	81.0	2.5 ppm	5.0 ppm

* Mean and Standard Deviation high due to inclusion of very high skew values in the calculation.

and Sb.

Appendix IV illustrates histograms of the heavy mineral stream sediment geochemical results for Au, Au/gm (Au corrected), Ag, Zn, W, As, and Sb. For Au (corrected), the raw analysis was divided by concentrate weight to check for a volume bias. Anomalous values are determined by examination of the distribution of results in the histogram. All elements form log normal or normal distributions. The point where the fitted curve begins to tail out is chosen as the threshold value. All values greater than the threshold value are considered to be anomalous (Table II).

Table III is a correlation matrix between Au, Ag, Zn, W, As and Sb analyses based on raw data and corrected (element/gram) data.

Table III Correlation Matrix

	WT/CONC	GOLD	SILVER	ZINC	TUNGSTEN	ARSENIC
GOLD	0.113					
SILVER	-0.168	0.445				
ZINC	-0.439	0.052	0.257			
TUNGSTEN	0.089	0.522	0.200	-0.056		
ARSENIC	-0.043	-0.147	0.140	0.070	-0.011	
ANTIMONY	-0.138	-0.064	-0.028	0.174	-0.074	0.124
	AU/GM	AG/GM	ZN/GM	W/GM	AS/GM	
AG/GM	0.461					
ZN/GM	0.263	0.498				
W/GM	0.181	0.186	0.168			
AS/GM	-0.062	0.278	0.360	0.321		
SB/GM	-0.032	-0.027	0.461	-0.057	0.232	

Maps IV - IX display the heavy mineral stream sediment sample results for Au, Ag, Zn, W, As and Sb respectively.

Map X is a compilation map outlining the anomalous drainages identified by the survey.

9.4 Interpretation of the Analytical Results

9.4.1 Analysis of Corrected Gold Values

Gold analyses were arithmetically divided by concentrate weight to examine the bias of larger volumes of sample material on the gold result. The resulting anomalies from the Au/gram histogram duplicated 15 of the 20 anomalies chosen by analysis of the raw data. Weight of concentrate showed poor correlation with gold in Table III. Therefore, the raw data results for gold are satisfactory for the selection of anomalous drainages.

9.4.2 Element Correlations

Table III shows a strong correlation between gold-silver and gold-tungsten on the basis of raw data correlations. Correlations in the +0.4 to +0.5 range are considered significant. Correlations based on corrected data suggest silver-zinc, gold-silver and zinc-antimony relationships. In general, correlations between the elements are stronger using the corrected data in comparison to the raw data.

In conclusion, tungsten, silver, zinc and antimony may act as geochemical pathfinders for gold mineralization whereas arsenic seems to be a broad geochemical characteristic of the area.

9.4.3 Primary vs. Secondary Drainages

In general, gold anomalies range an order of magnitude higher in McGillivray and Connel Creeks in comparison to secondary drainages. This observation can be interpreted in two ways:

a) these creeks represent major structures hosting gold mineralization,

or

b) better developed sediment accumulations were sampled in primary creeks with accompanying well developed heavy mineral separations in comparison to secondary creeks.

However, an equal number of samples collected in primary drainages did not show anomalous conditions which suggests that anomalies in McGillivray and Connel Creeks are significant.

9.5 Geological - Geochemical Interpretation

9.5.1 Introduction

Map III - Geology and Map X - Geochemical Compilation, draw attention to a number of structural explanations for anomalous heavy mineral drainages in the Anderson Lake Project Area. The property has excellent potential for economic concentrations of gold mineralization similar to the structurally-related vein deposits of the Bralorne-Pioneer Mine.

Three major structural trends may explain the pattern of anomalous drainages;

- a) Cadwallader Shear Zone
- b) 'J' Structure and X-Cal Flexure
- c) 'C' Structure.

9.5.2 Cadwallader Shear Zone

Area 1, along the north fork of McGillivray Creek and south to D'Arcy, is a zone of consistently anomalous Au, Ag, W, Zn and Sb trending approximately 160° AZ along the proposed extension of the

Cadwallader Shear Zone. An anomalous zone, approximately 2.5 km in width, is broadly outlined by drainages downstream to the east and west of its boundaries;

a) East Boundary - (Sample Numbers)

- i) 5297, 5298, 5299 - Au, W, As
- ii) 5300, 5303, 5304, 5305 - Au, Zn, As
- iii) 5329, 5331, 5348 in McGillivray Creek - Au, W, Ag
- iv) 5332 - Ag, Zn
- v) 5350 - Zn

b) West Boundary - (Sample Numbers)

- i) 5313 - Zn, Sb
- ii) 5317 - Au
- iii) 5319, 5320 - Au, Ag, Zn, W
- iv) 5322, 5339, 5337, 5333 - Au, Ag, Zn, W, Sb.

Examination of gold and zinc anomaly distributions together outline the extent of the Cadwallader Shear Zone on the Anderson Lake Property. The strongest anomalies occur on the west boundary, which is interpreted to be on the west side of North McGillivray Creek. Examination of the geology shows that two quartz diorite intrusives along the west boundary may mark the position of the Cadwallader Shear Zone in fault contact with Hurley sediments. Bralorne diorite occurs in fault contact with Hurley sediments on the east boundary of the Cadwallader Shear Zone.

The Gold Hill and Diorite showings with up to 0.12 oz

gold/ton reported, occur along the west and east boundaries respectively. The highest gold anomaly from the survey occurs in this zone at sample 5333 with a value of 26,700 ppb gold.

The strength and consistency of anomalous Au, Ag, Zn, W and Sb in Area 1, which has been interpreted from good geological evidence as the Cadwallader Shear Zone, suggests excellent potential for gold mineralization of the Bralorne-Pioneer type model.

9.5.3 'J' Structure and X-Cal Flexure

These two cross structures, trending at 045° AZ, have anomalous drainages related to them. Instead of the Cadwallader Shear Zone, the 'J' West Structure, which defines Area 2W, may alternatively explain anomalous gold sample numbers 5319, 5320 and possibly 5339. Area 2E contains three anomalous Au, Ag and W samples downstream from the 'J' East Structure (Sample Nos. 5356, 5357 and 5359). This structure bounds a contact of granodiorite with Bralorne diorite and Fergusson-Hurley volcanics and sediments. These areas are a major target for exploration due to the abrupt termination of major anomalies in North McGillivray and Connel Creeks.

The X-Cal Flexure, at the northern extremity of the property, trends through a drainage consisting of three Au, As and W anomalies at sample locations 5297, 5298 and 5299 (Area 3) which may alternatively explain their existence. Fergusson Group argillite intruded by ultramafic rocks occur upstream from this string of anomalies.

9.5.4 'C' Structure

The occurrence of strong Au, Ag and W anomalies (Sample Nos 5339, 5322, 5329, 5331 and 5348) along the west fork and main fork of McGillivray Creek suggest a possible association with the interpreted E-W trending, post Cadwallader 'C' Structure, following this creek course (Area 4). Further sampling of secondary and tertiary drainages entering McGillivray Creek is required to ascertain the source of gold accumulations in the main creek. More detailed sampling is required to determine if these anomalies represent downstream accumulations. This area also encompasses the drainage of Gold Creek (Sample No. 5330) at the site of the Anderson Lake Mine.

9.5.5 Area 5 - Hushem Creek

Sample Number 5347 in Hushem Creek is anomalous in gold only. A structure trending at 120° has been interpreted to run the length of this creek in Fergusson Group sediments.

10.0 Recommendations

The Cadwallader Shear Zone and related cross structures appear to be anomalous in gold on the basis of this heavy mineral stream sediment data. The methodology in further exploration of these geochemically anomalous drainages should utilize geological interpretations as a guide to exploration but not as a direction of exploration until a further geological understanding of the property is gained. Initially, exploration should concentrate on;

- a) more detailed heavy mineral stream sediment sampling to establish anomaly cut-offs and trends and,
- b) prospecting and mapping of anomalous creek drainages in order to assess each and every anomalous drainage area.

Complex structural conditions related to the Cadwallader Shear Zone within a package of sediments and volcanics similar to the Bralorne-Pioneer Mine area contain areas of highly anomalous gold in stream sediments collected within the Anderson Lake Project Area. It is recommended that the programme outlined in the "Report on the Geology and Geochemistry of the Anderson Lake Project Area" be initiated this upcoming summer.

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- Woodsworth, G. J., Geology, Pemberton (92J) Map Area, GSC O. F. 482, (1977).

Appendix I
List
of
Personnel

Appendix I

List of Personnel

- 1) Shawn Kennedy, Gold Bridge, B. C.
- 2) Dennis Wylie, Okanagon Falls, B. C.
- 3) Gary Cooney, Gold Bridge, B. C.
- 4) Steve Hall, Gold Bridge, B. C.
- 5) Wayne Kier, Gold Bridge, B. C.

Appendix II
Methods
of
Geochemical
Analysis



TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) 276-8668

FIRE ASSAY/AA METHOD FOR GOLD AND SILVER PLATINUM AND PALLADIUM

Approximately 1 assay ton of prepared sample is fused with a litharge flux charge to obtain a lead button. The button is cupelled down to a precious metal prill which is then dissolved in aqua regia. The resulting solution is analysed by atomic absorption spectrophotometry to determine the precious metals.



TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) 276-8668

ANALYTICAL METHOD FOR TUNGSTEN

A portion of the sample is fused with a flux at high temperature, then leached in acid. Tungsten is determined colorimetrically using the tungsten/dithiol complex procedure.

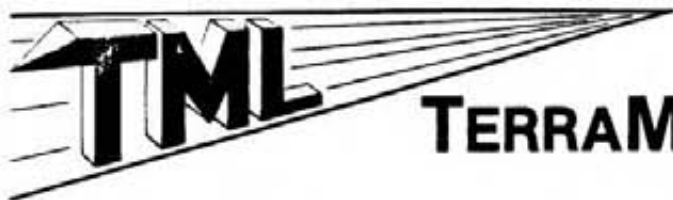


TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) 276-8668

ANALYTICAL METHOD FOR ARSENIC AND ANTIMONY

A portion of the prepared sample is digested in acid at low temperature. As and Sb are determined with a vapour generation accessory with atomic absorption.



TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) 276-8668

ANALYTICAL METHODS FOR BASE METALS

Cd, Cr, Co, Cu, Fe (soluble), Pb, Mn (soluble), Mo, Ni, Ag, Zn

A portion of the prepared sample is digested in hot nitric/perchloric acid mixture, or hot aqua regia (nitric/hydrochloric acids).

Elements are determined by atomic absorption spectrophotometry.

Appendix III
Heavy Mineral
Stream Sediment
Geochemical Results



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX 043-52597

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : X-CALIBRE RESOURCES LIMITED
TYAUGHTON LAKE ROAD
GENERAL DELIVERY
GOLD BRIDGE B.C.
V0K 1P0

** CERT. # : A8315188-001-
INVOICE # : I8315188
DATE : 3-OCT-83
P.O. # : NONE

SAMPLES WERE DRIED AND SIEVED TO -10 MESH

Sample description	Prep code	Weight grams						
5297	202	2621	--	--	--	--	--	--
5298	202	2645	--	--	--	--	--	--
5299	202	2847	--	--	--	--	--	--
5300	202	1553	--	--	--	--	--	--
5301	202	2476	--	--	--	--	--	--
5302	202	2154	--	--	--	--	--	--
5303	202	1032	--	--	--	--	--	--
5306	202	1255	--	--	--	--	--	--
5307	202	1247	--	--	--	--	--	--
5309	202	2017	--	--	--	--	--	--
5310	202	2818	--	--	--	--	--	--
5311	202	2244	--	--	--	--	--	--
5312	202	2203	--	--	--	--	--	--
5313	202	3352	--	--	--	--	--	--
5314	202	3435	--	--	--	--	--	--
5315	202	2510	--	--	--	--	--	--
5316	202	2595	--	--	--	--	--	--
5317	202	3551	--	--	--	--	--	--
5318	202	2222	--	--	--	--	--	--
5319	202	2164	--	--	--	--	--	--
5320	202	2647	--	--	--	--	--	--
5321	202	3034	--	--	--	--	--	--
5322	202	2537	--	--	--	--	--	--
5323	202	1548	--	--	--	--	--	--
5324	202	3016	--	--	--	--	--	--
5325	202	2406	--	--	--	--	--	--
5326	202	2739	--	--	--	--	--	--
5327	202	2638	--	--	--	--	--	--
5328	202	1915	--	--	--	--	--	--
5329	202	3346	--	--	--	--	--	--
5330	202	2512	--	--	--	--	--	--
5331	202	2645	--	--	--	--	--	--
5332	202	1715	--	--	--	--	--	--
5333	202	2928	--	--	--	--	--	--
5334	202	1931	--	--	--	--	--	--
5335	202	1108	--	--	--	--	--	--
5337	202	1477	--	--	--	--	--	--
5338	202	1074	--	--	--	--	--	--
5339	202	1672	--	--	--	--	--	--
5340	202	1637	--	--	--	--	--	--



Handwritten signature
.....
Registered Assayer, Province of British Columbia



CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604) 984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : X-CALIBRE RESOURCES LIMITED
TYAUGHTON LAKE ROAD
GENERAL DELIVERY
GOLD BRIDGE B.C.
V0K 1P0

** CERT. # : A8315188-002-
INVOICE # : I8315188
DATE : 3-OCT-83
P.O. # : NONE

SAMPLES WERE DRIED AND SIEVED TO -10 MESH

Sample description	Prep code	Weight grams					
5341	202	3581	--	--	--	--	--
5345	202	3543	--	--	--	--	--
5346	202	3619	--	--	--	--	--
5347	202	3360	--	--	--	--	--
5348	202	3981	--	--	--	--	--
5349	202	3501	--	--	--	--	--
5350	202	3339	--	--	--	--	--
5351	202	1772	--	--	--	--	--
5352	202	3178	--	--	--	--	--
5353	202	3115	--	--	--	--	--
5354	202	2804	--	--	--	--	--
5355	202	3741	--	--	--	--	--
5356	202	3171	--	--	--	--	--
5357	202	2937	--	--	--	--	--
5359	202	1897	--	--	--	--	--
5360	202	2261	--	--	--	--	--
5362	202	854	--	--	--	--	--
5364	202	2739	--	--	--	--	--

Stefano Amadori
.....
Registered Assayer, Province of British Columbia



MEMBER
CANADIAN TESTING
ASSOCIATION



TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-335

X-Calibre Resources

Date Nov.21, 1983

Client Project

Page 1/3

Sample No.	Weight of	Au	Ag	Zn	W	As	Sb
	Concentrate	ppb	ppb	ppm	ppm	ppm	ppm
	gm						
AYI 5297	14.16	720	570	70	5	175	2.7
5298	23.84	134	300	78	225	80	1.8
5299	9.62	857	220	95	240	105	1.7
5300	31.75	322	200	43	3	190	1.0
5301	6.91	8	160	49	2	95	1.0
5302	3.81	18	870	55	10	200	2.5
5303	7.47	8	40	108	1	7.0	0.3
5306	7.36	8	370	55	4	215	1.8
5307	7.62	8	140	152	30	70	0.7
5309	4.42	12	60	53	2	35	0.3
5310	13.39	4	100	56	24	40	-0.2
5311	21.59	2	420	72	46	180	2.3
5312	10.15	6	80	87	36	30	0.7
5313	1.22	N.D.	N.D.	125	-1	74	155
5314	12.25	4	40	45	19	25	0.7
5315	21.35	2	50	51	56	20	0.8
5316	4.04	28	210	80	55	45	3.5
5317	7.80	280	170	54	21	40	1.5
5318	4.05	N.D.	930	63	98	45	2.3
5319	3.01	5820	2320	175	99	50	1.8
5320	14.10	1600	180	67	4	20	1.3
5321	9.54	12	280	66	19	55	8.9
5322	27.94	6860	2140	36	76	55	1.0
5323	5.11	8	440	132	36	40	0.7
5324	6.70	8	610	55	56	15	1.3



TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-335

Date

Client Project

Page 2/3

Sample No.	Weight of Concentrate	Au	Ag	Zn	W	As	Sb
	gm	ppb	ppb	ppm	ppm	ppm	ppm
AYI 5325	1.96	N.D.	730	75	8	10	1.8
5326	4.46	8	820	51	14	40	1.0
5327	11.14	122	280	86	310	50	0.8
5328	10.00	6	160	54	2	7.0	1.0
5329	22.36	4430	830	45	290	12.5	0.8
5330	2.46	296	4220	75	74	560	23.0
5331	12.26	9140	5150	54	755	60	1.0
5332	2.63	8	8620	110	4	12.5	2.0
5333	1.91	26700	6000	125	1	200	2.5
5334	1.99	N.D.	2340	80	2	29	0.5
5335	1.57	N.D.	2200	195	5	45	0.5
5337	1.91	542	600	75	50	75	5.0
5338	8.15	34	1520	69	4	90	2.7
5339	52.98	1750	60	19	40	25	0.3
5340	12.77	4	370	30	1	30	0.5
5341	3.03	8	630	140	9	240	3.2
5345	7.98	6	30	51	145	55	0.7
5346	10.32	6	30	66	2	6.0	0.5
5347	3.80	580	70	60	5	23	2.5
5348	14.37	1150	670	38	4	30	2.0
5349	3.28	8	240	75	5	40	0.8
5350	2.49	8	120	140	9	38	2.0
5351	1.87	N.D.	N.D.	100	138	175	0.8
5352	3.52	8	80	80	231	100	1.8
5353	8.12	8	30	41	1	20	0.7



ANALYTICAL REPORT

Job # 83-335

Date

Client Project

Page 3/3

Sample No.	Weight of Concentrate	Au	Ag	Zn	W	As	Sb
		ppb	ppb	ppm	ppm	ppm	ppm
AYI 5354	6.24	8	40	40	36	60	0.8
5355	3.80	8	80	65	25	38	-0.2
5356	2.23	8740	550	70	138	25	0.5
5357	1.44	164	2460	70	225	100	0.8
5359	9.29	6300	810	65	740	20	1.0
5360	10.36	16	30	48	1	15	0.8
5362	1.77	N.D.	N.D.	60	2	21	1.2
5364	5.69	20	50	35	2	8.0	0.7

Note: Minus sign indicates less than figure given.

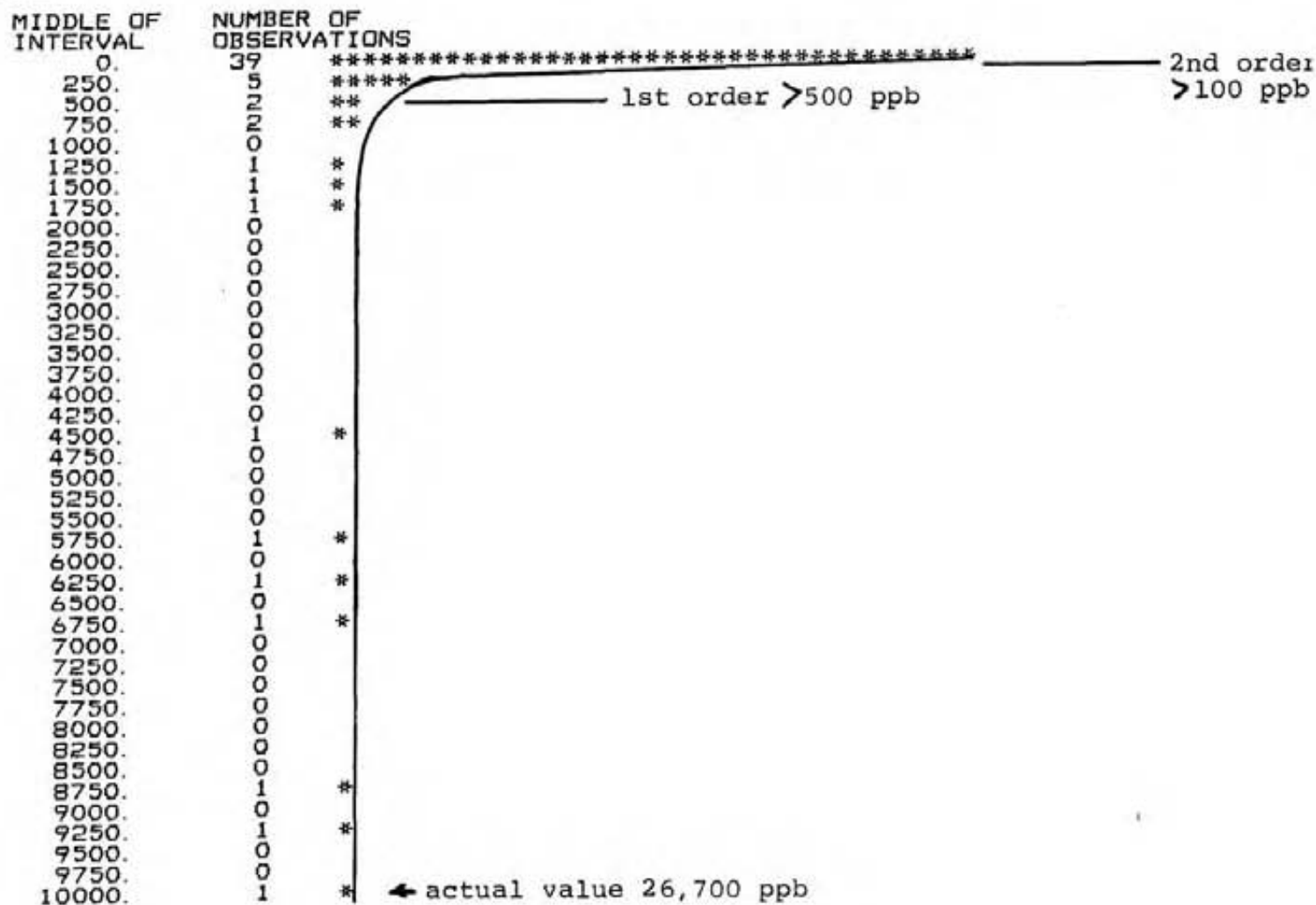
Appendix IV

Histograms

Au, Ag, Zn, W, As, Sb

WT/CONC	N =	58	MEAN =	9.0922	ST. DEV. =	9.06
GOLD	N =	58	MEAN =	1036.3	ST. DEV. =	2467.
SILVER	N =	58	MEAN =	874.48	ST. DEV. =	1604.
ZINC	N =	58	MEAN =	74.293	ST. DEV. =	35.8
TUNGSTEN	N =	58	MEAN =	76.647	ST. DEV. =	150.
ARSENIC	N =	58	MEAN =	68.414	ST. DEV. =	87.3
ANTIMONY	N =	58	MEAN =	4.4828	ST. DEV. =	20.4
AU/GM	N =	58	MEAN =	243.28	ST. DEV. =	882.
AG/GM	N =	58	MEAN =	286.85	ST. DEV. =	680.
ZN/GM	N =	58	MEAN =	20.374	ST. DEV. =	24.6
W/GM	N =	58	MEAN =	13.821	ST. DEV. =	27.4
AS/GM	N =	58	MEAN =	17.338	ST. DEV. =	34.4
SB/GM	N =	58	MEAN =	2.6734	ST. DEV. =	16.7

GOLD



AU/GM

MIDDLE OF
INTERVAL

NUMBER OF
OBSERVATIONS

0.	43
100.	6
200.	3
300.	1
400.	0
500.	0
600.	0
700.	2
800.	0
900.	0
1000.	0
1100.	0
1200.	0
1300.	0
1400.	0
1500.	0
1600.	0
1700.	0
1800.	0
1900.	1
2000.	0
2100.	0
2200.	0
2300.	0
2400.	0
2500.	0
2600.	0
2700.	0
2800.	0
2900.	0
3000.	0
3100.	0
3200.	0
3300.	0
3400.	0
3500.	0
3600.	0
3700.	0
3800.	0
3900.	1
4000.	0
4100.	0
4200.	0
4300.	0
4400.	0
4500.	0
4600.	0
4700.	0
4800.	0
4900.	0
5000.	0

*

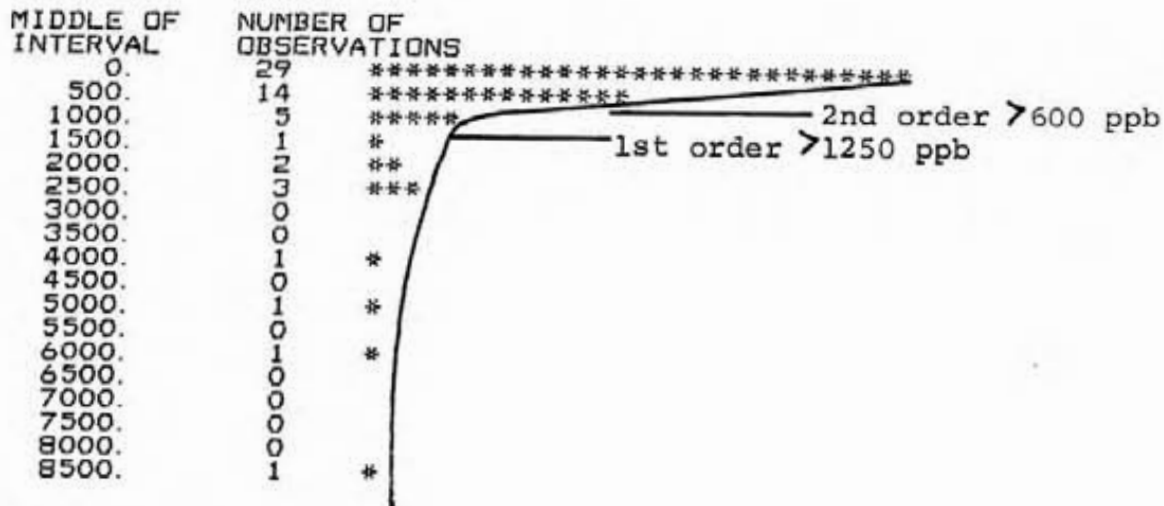
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*

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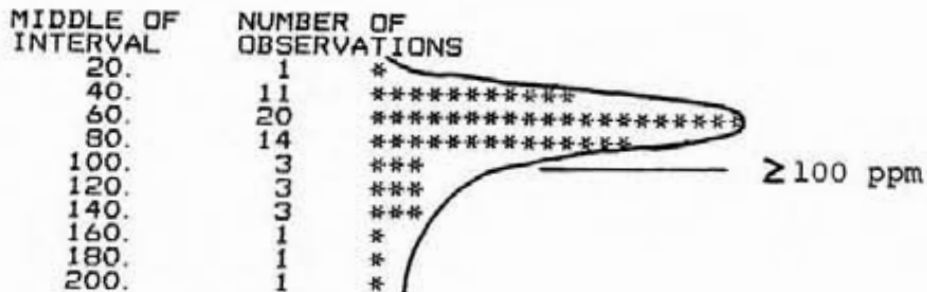
----- 1st order >150 ppb/gm ----- 2nd order >50 ppb/gm

SILVER

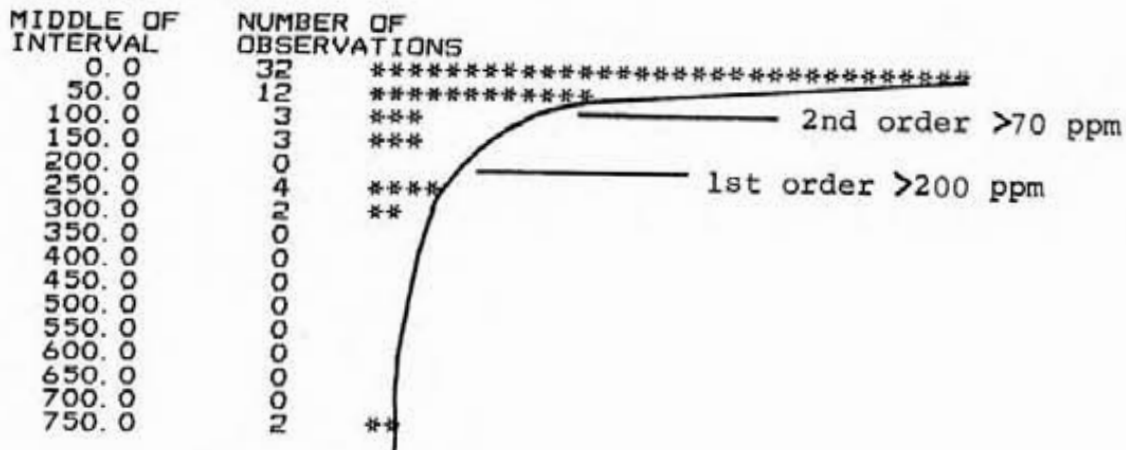


HIST C4

ZINC

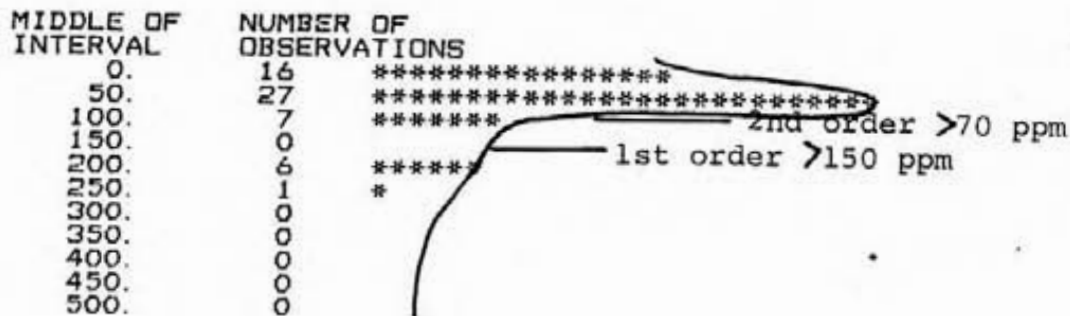


TUNGSTEN

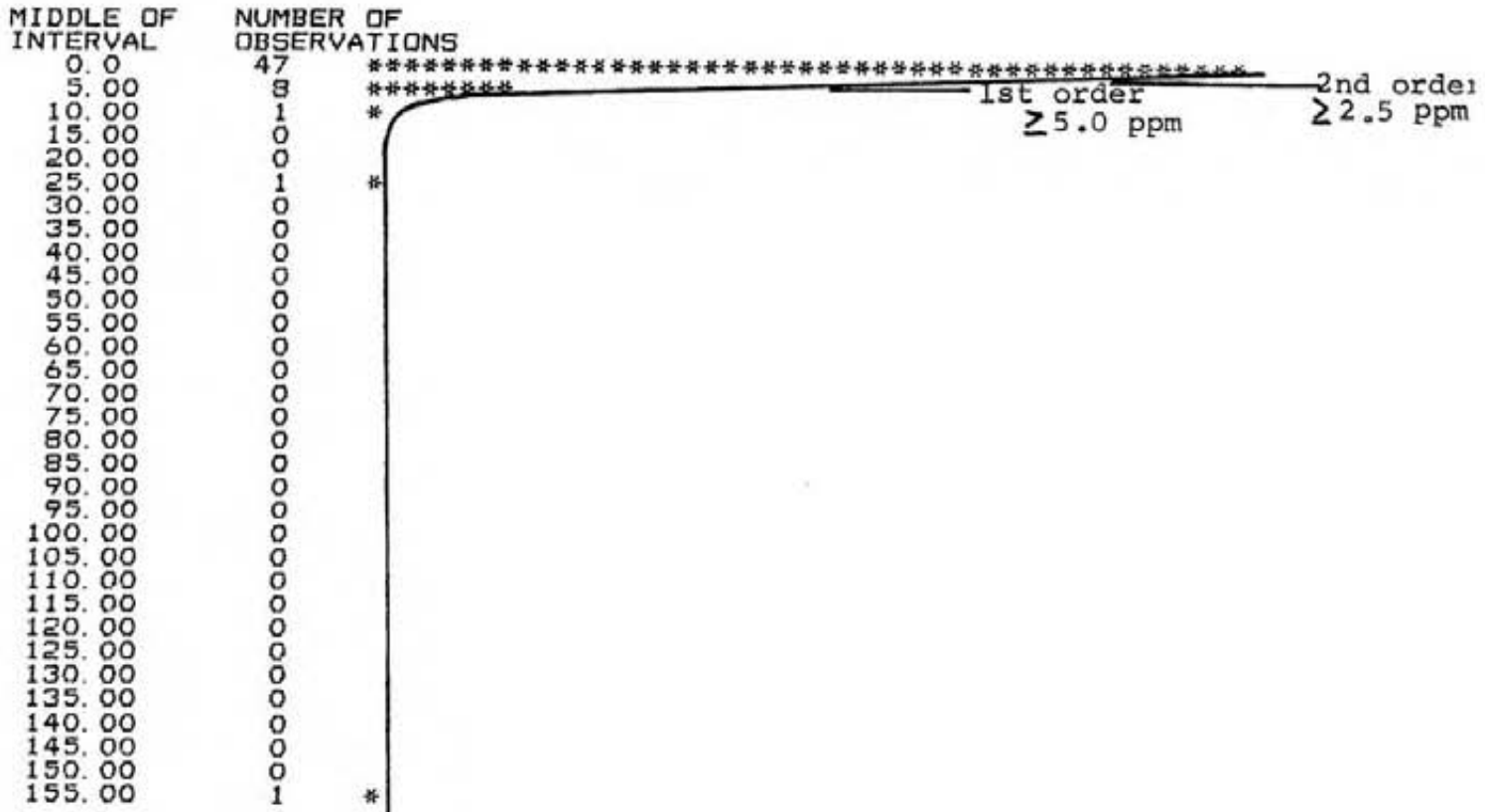


HIST C6

ARSENIC



ANTIMONY



Appendix V
Certificate
of
Qualification

Appendix V

Certificate of Qualification

I, Richard J. Mazur, hereby certify that;

1. I am a registered professional geologist residing at 586 Portsmouth Avenue, Kingston, Ontario.

2. I am a graduate of the University of Toronto, having been granted an Honours Bachelor of Science Degree in Geology in 1975.

3. I have primarily been employed in the mineral exploration industry since 1975.

4. I have been a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta continuously since 1980 to the present as a Professional Geologist.

5. I have no interest in the Anderson Lake Claim Group or X-Calibre Resources Ltd., nor have I been promised any interest. The only remuneration I expect for work leading to this report is the amount of my professional fee for performing such work.

6. I agree to keep all information documented in this report confidential.

7. I hereby grant X-Calibre Resources Ltd, permission to use this report for its corporate purposes.

Dated this 27th day of January, 1984 at Kingston, Ontario.

Richard J. Mazur

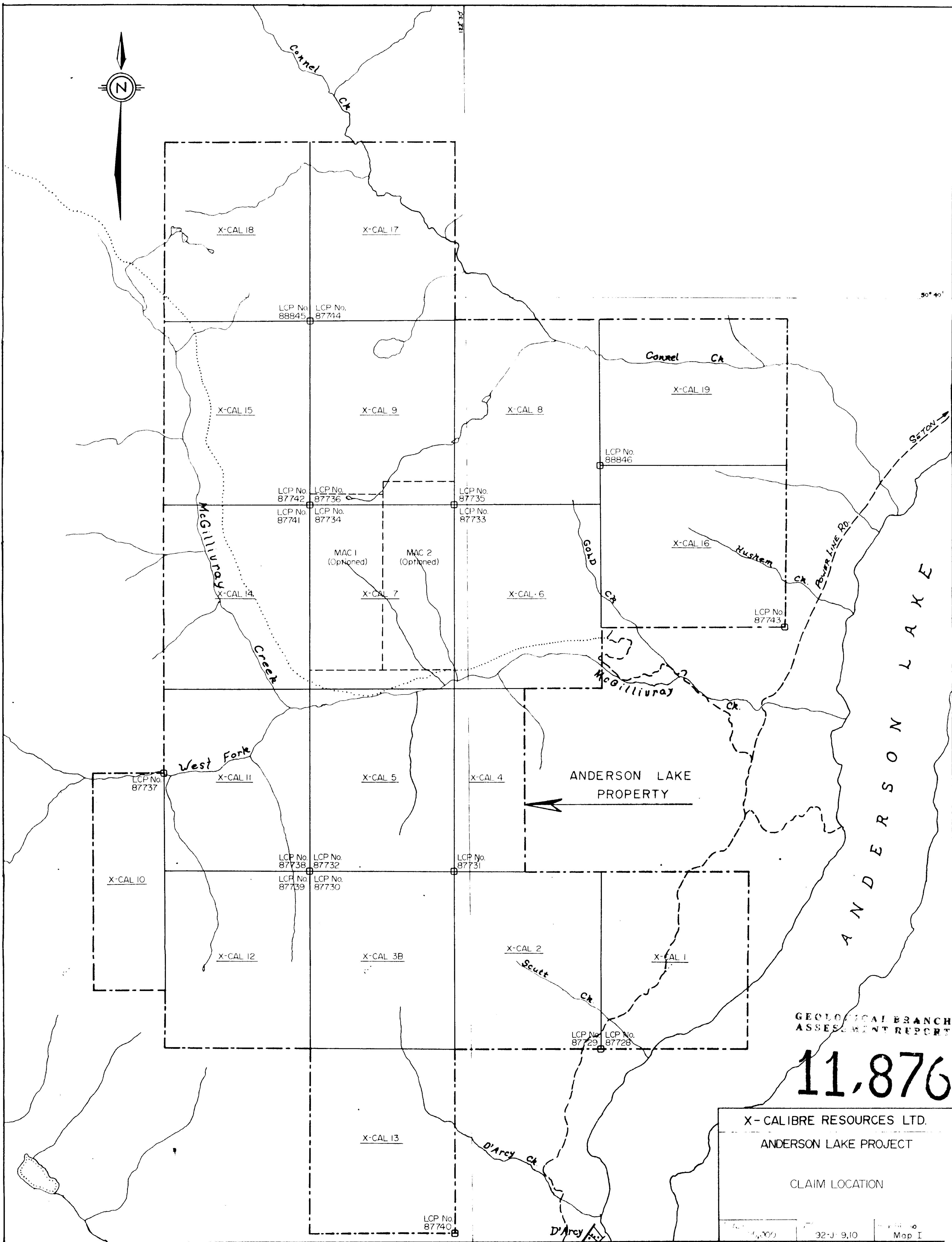
*P. Geol.

Itemized Cost Statement

X-Calibre Resources Ltd.

Heavy Mineral Stream Sampling Program 1983

Geologist 8 days @ \$200/day	* 1,600
Project Manager 14 days @ \$150/day	2,100
Labour 5 men x 10 days @ \$120/day	6,000
Food 50 man days @ \$10/day	500
Accommodation 50 man days @ \$35/day	1,750
Helicopter	2,500
Drafting & Reproduction	2,600
Analysis 58 heavy mineral samples @ \$50/sample	2,900
20 rock samples @ \$20/sample	400
Freight	150
Truck Rental 12 days @ \$40/day	480
Secretarial, Office Overhead, Misc.	<u>800</u>
	\$ 23,730



50° 40'

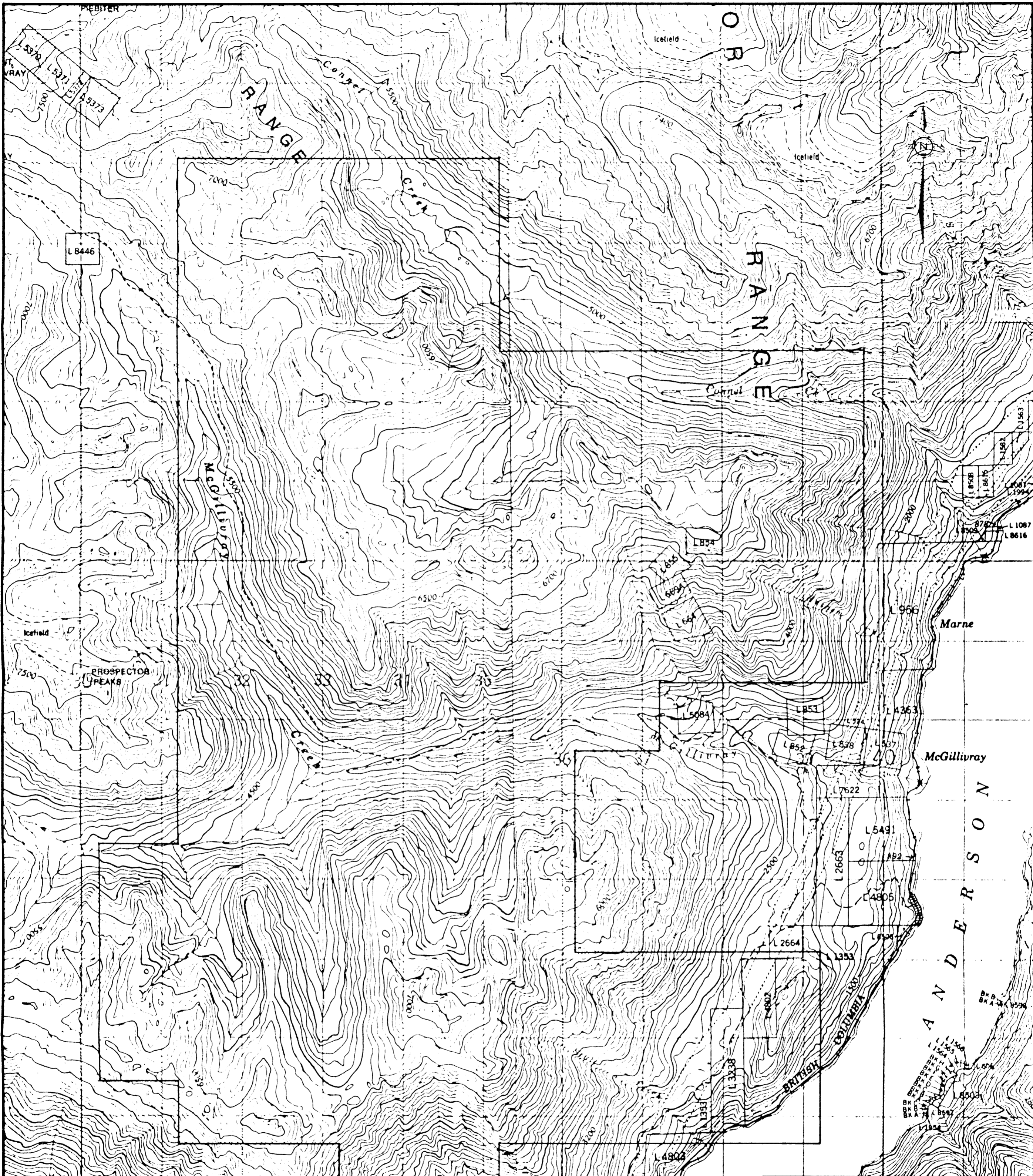
ANDERSON LAKE
PROPERTY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,876

X-CALIBRE RESOURCES LTD.
ANDERSON LAKE PROJECT

CLAIM LOCATION



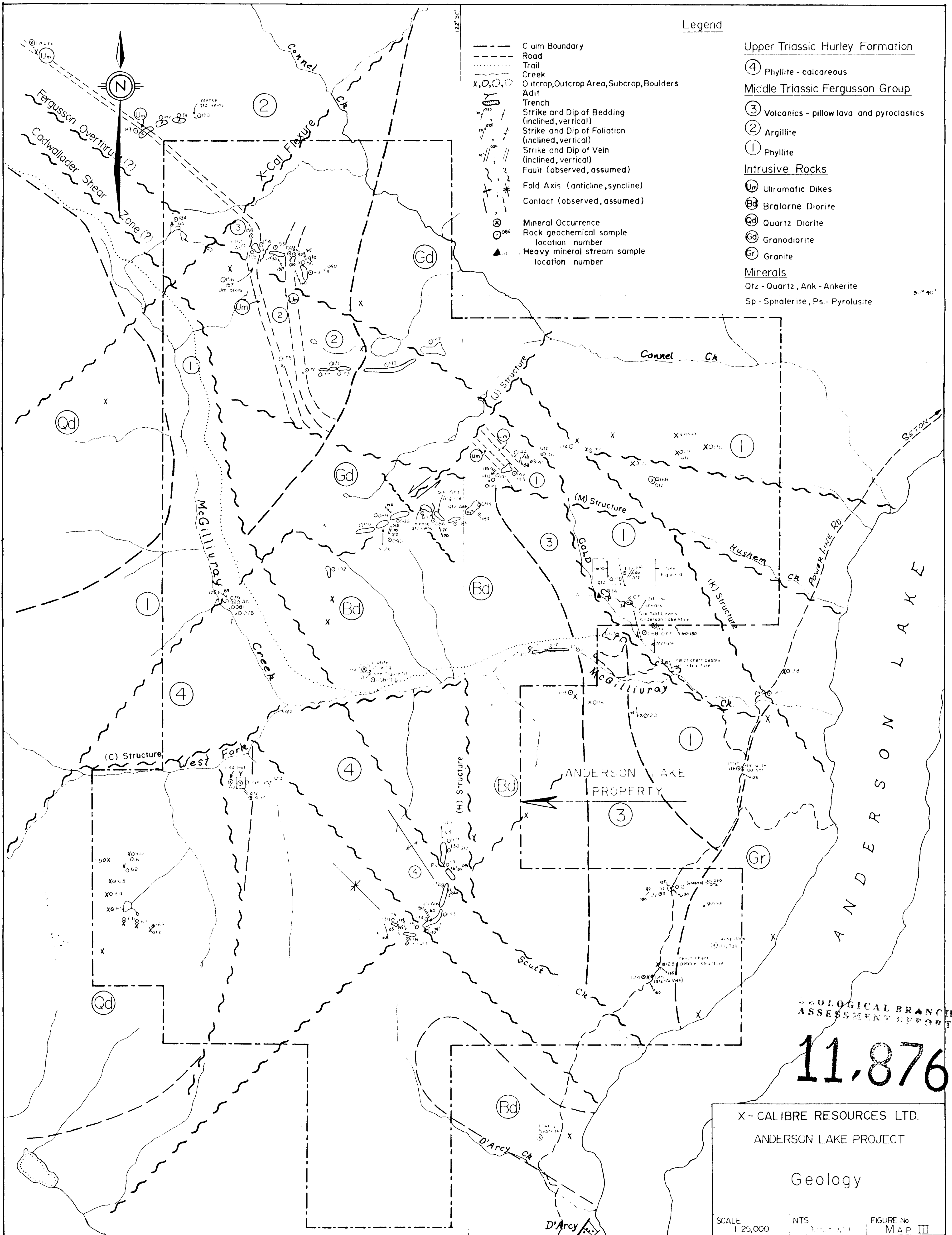
X-CALIBRE RESOURCES LTD.

GEOLOGICAL BRANCH
ASSESSMENT REPORT ANDERSON LAKE PROJECT

11,876

TOPOGRAPHY

SCALE 1:35,500 NTS 92-J-9,10 FIGURE No Map II



Legend

- Claim Boundary
- Road
- Trail
- Creek
- X, O, O, O Outcrop, Outcrop Area, Subcrop, Boulders
- Adit
- Trench
- Strike and Dip of Bedding (inclined, vertical)
- Strike and Dip of Foliation (inclined, vertical)
- Strike and Dip of Vein (inclined, vertical)
- Fault (observed, assumed)
- Fold Axis (anticline, syncline)
- Contact (observed, assumed)
- Mineral Occurrence
- Rock geochemical sample location number
- Heavy mineral stream sample location number

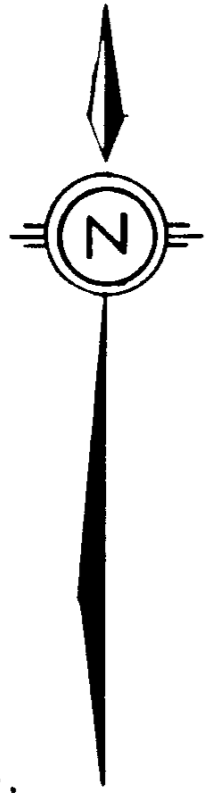
- Upper Triassic Hurley Formation**
- ④ Phyllite - calcareous
- Middle Triassic Fergusson Group**
- ③ Volcanics - pillow lava and pyroclastics
- ② Argillite
- ① Phyllite
- Intrusive Rocks**
- Um Ultramafic Dikes
- Bd Bralorne Diorite
- Qd Quartz Diorite
- Gd Granodiorite
- Gr Granite
- Minerals**
- Qtz - Quartz, Ank - Ankerite
- Sp - Sphalerite, Ps - Pyrolusite

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,876

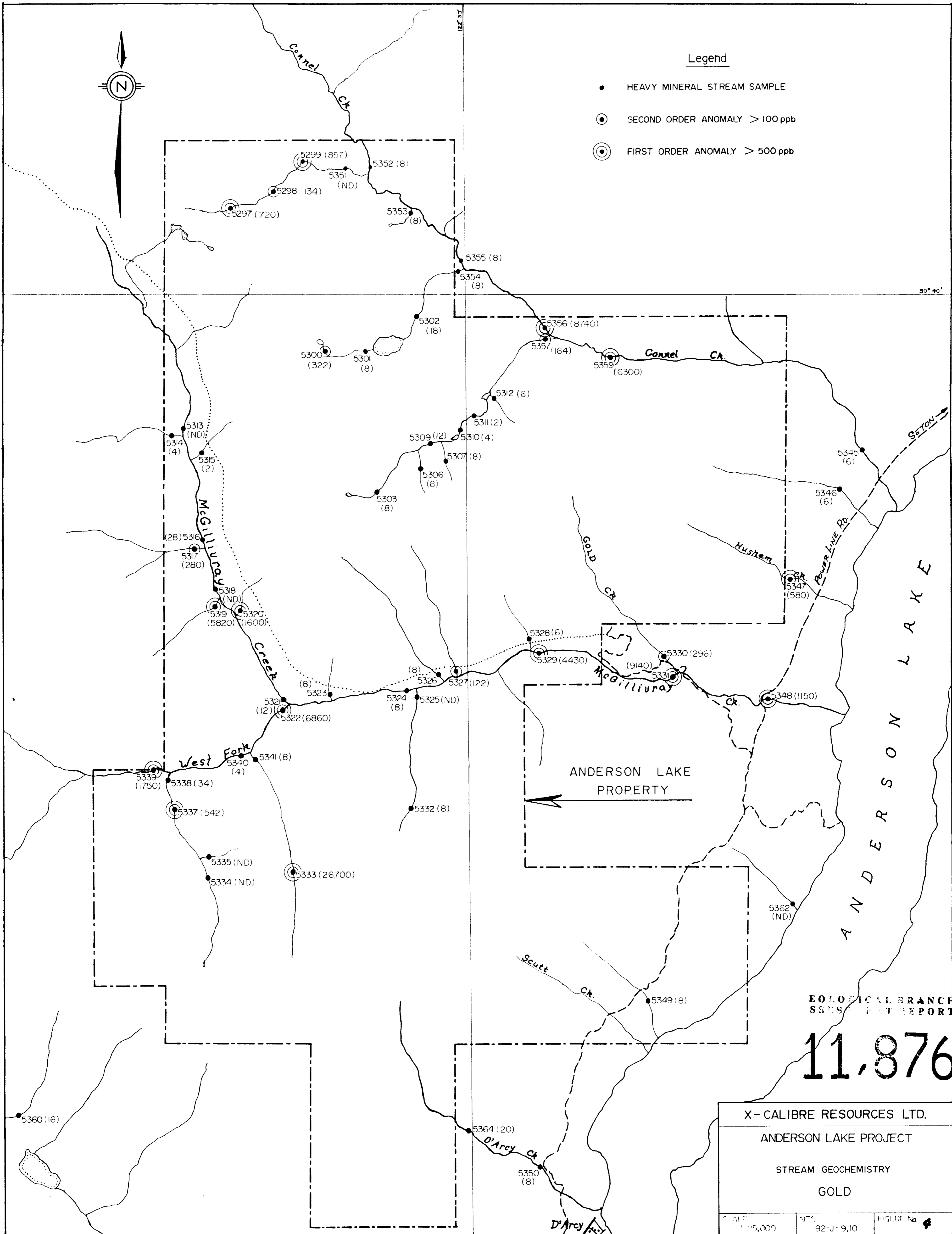
X-CALIBRE RESOURCES LTD.
ANDERSON LAKE PROJECT
Geology

SCALE 1:25,000 NTS 3.11:1.1 FIGURE No. MAP III



Legend

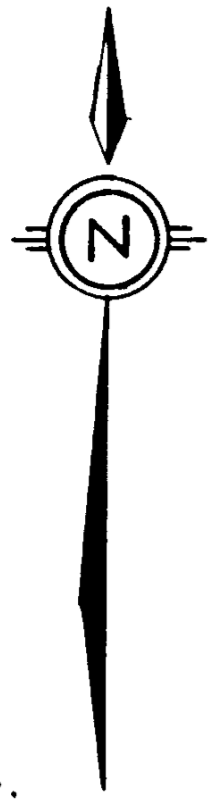
- HEAVY MINERAL STREAM SAMPLE
- ⊙ SECOND ORDER ANOMALY > 100 ppb
- ⊕ FIRST ORDER ANOMALY > 500 ppb



ECOLOGICAL BRANCH
SUSCEPTIBILITY REPORT

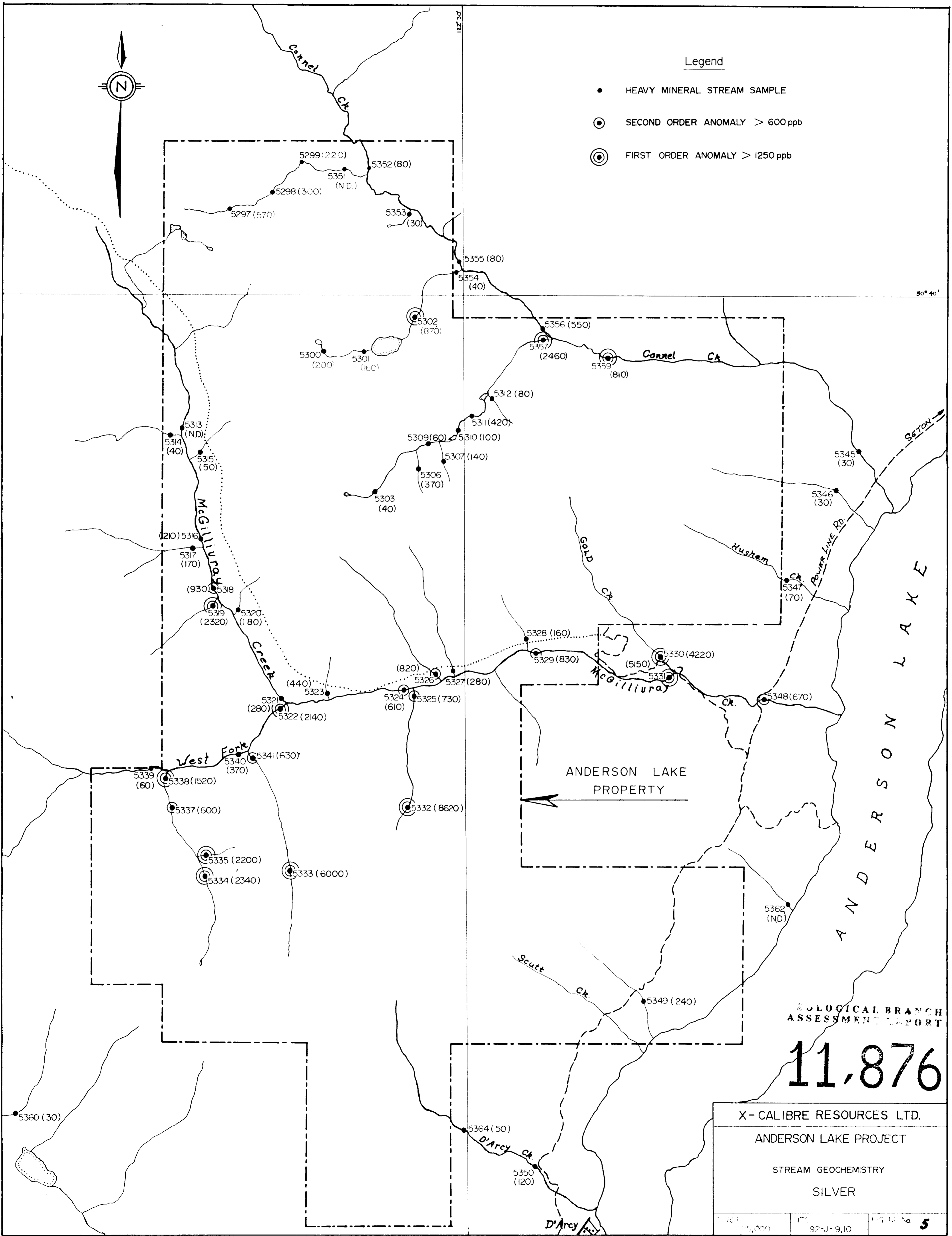
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X-CALIBRE RESOURCES LTD.		
ANDERSON LAKE PROJECT		
STREAM GEOCHEMISTRY		
GOLD		
SCALE 1:25,000	NTS 92-J-9,10	FIGURE No 4



Legend

- HEAVY MINERAL STREAM SAMPLE
- ⊙ SECOND ORDER ANOMALY > 600 ppb
- ⊛ FIRST ORDER ANOMALY > 1250 ppb

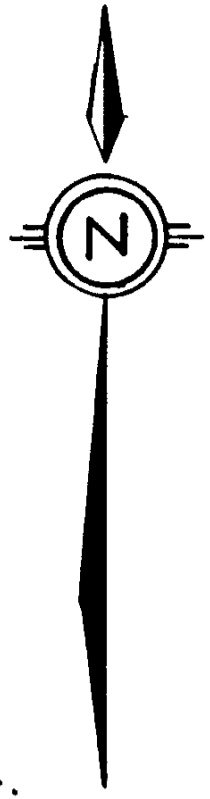


ANDERSON LAKE
PROPERTY

BIOLOGICAL BRANCH
ASSESSMENT REPORT

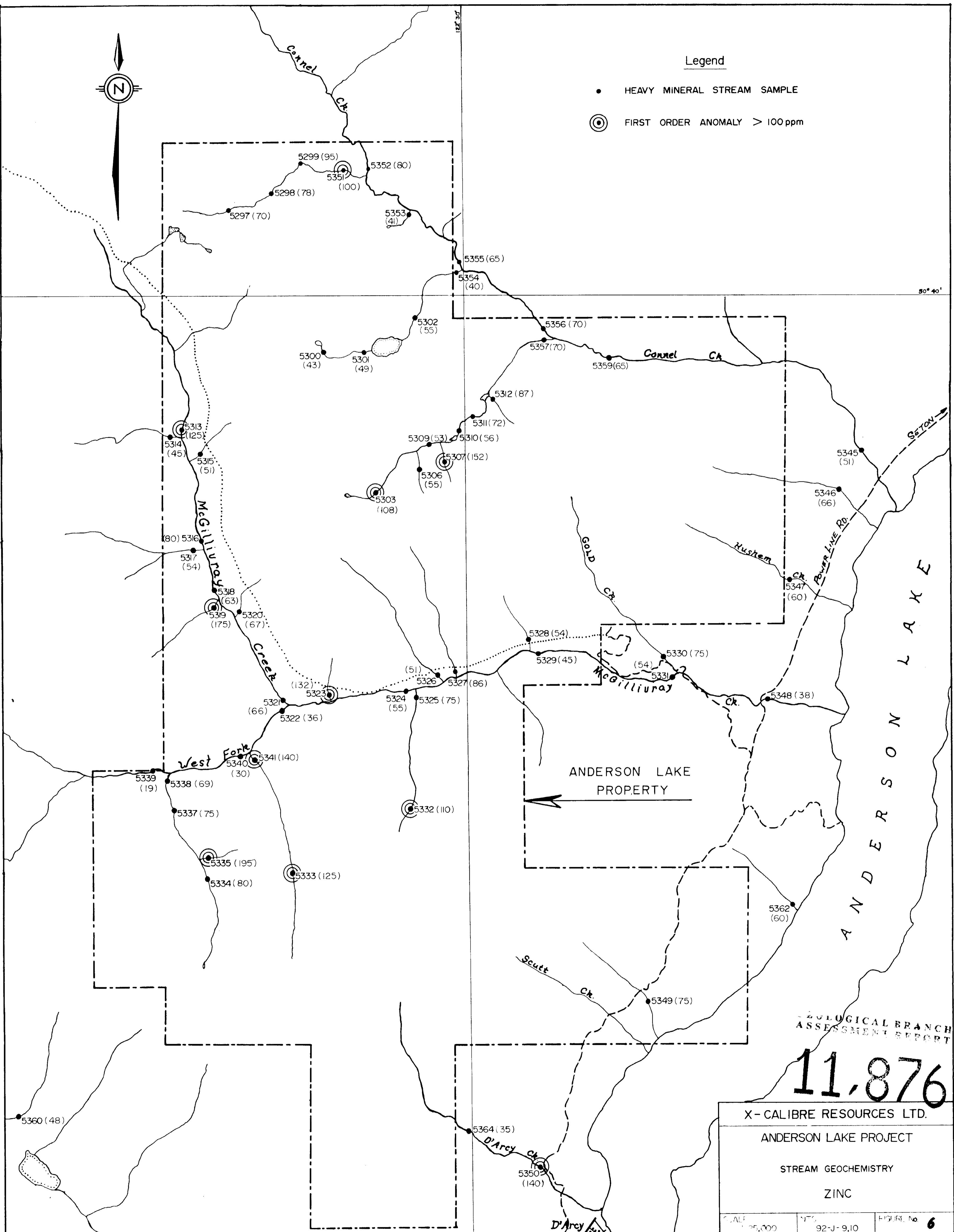
11,876

X-CALIBRE RESOURCES LTD.		
ANDERSON LAKE PROJECT		
STREAM GEOCHEMISTRY		
SILVER		
Scale 1:50,000	Date 92-J-9,10	Page No 5



Legend

- HEAVY MINERAL STREAM SAMPLE
- ⊙ FIRST ORDER ANOMALY > 100 ppm

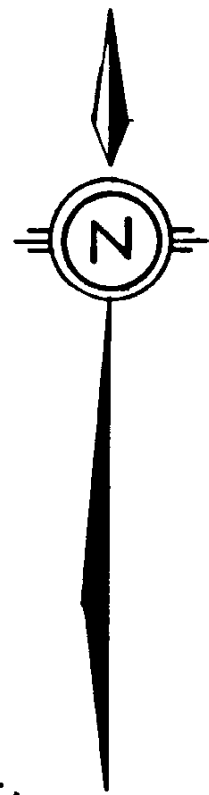


ANDERSON LAKE PROPERTY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

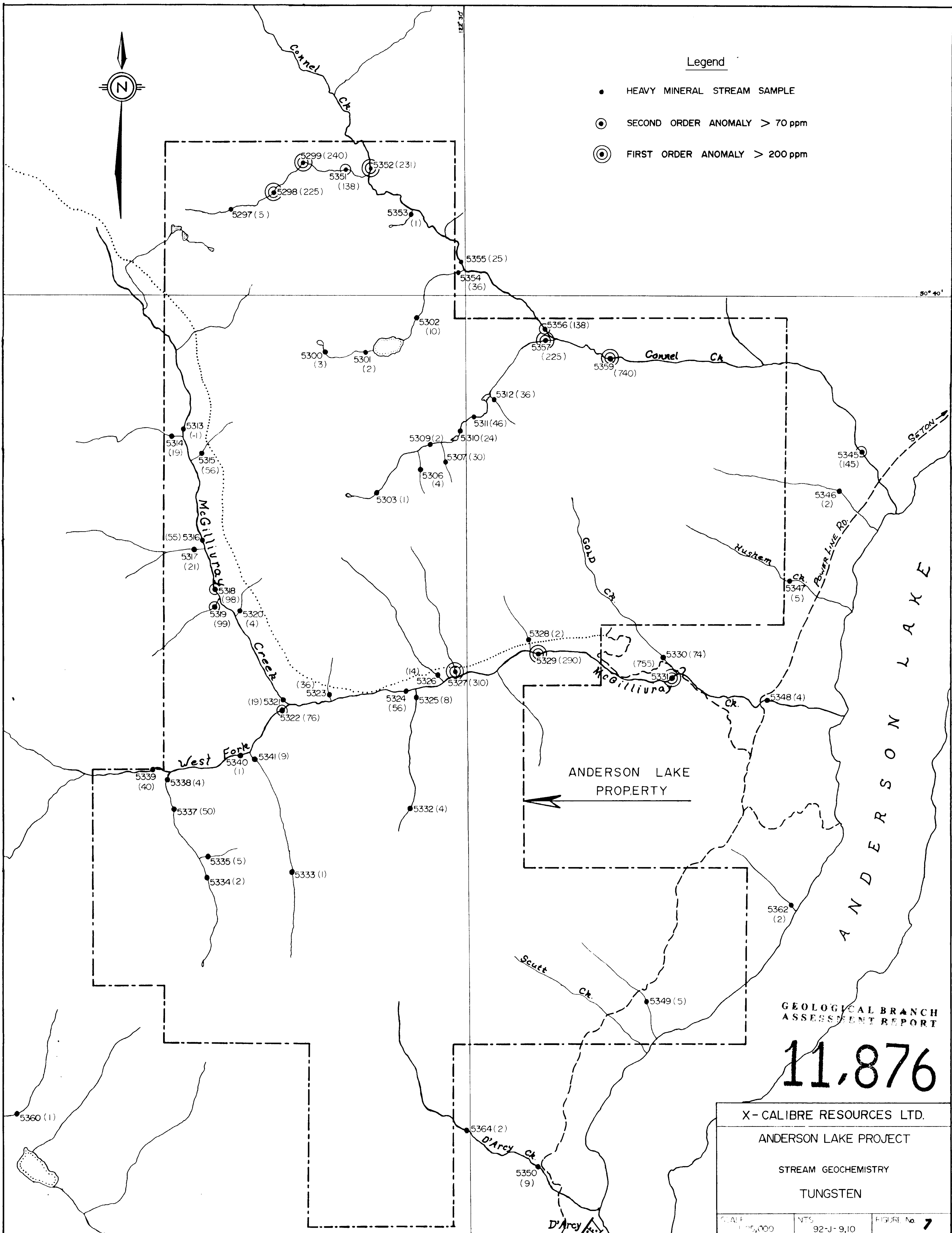
11,876

X-CALIBRE RESOURCES LTD.		
ANDERSON LAKE PROJECT		
STREAM GEOCHEMISTRY		
ZINC		
SCALE 1:25,000	DATE 92-J-9,10	FIGURE No 6



Legend

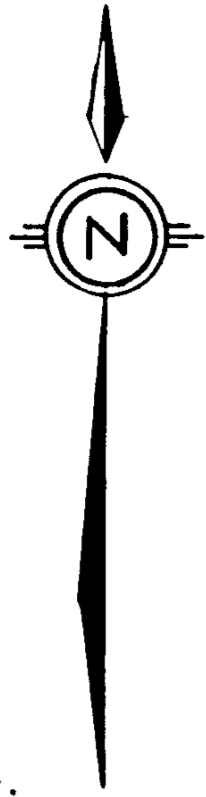
- HEAVY MINERAL STREAM SAMPLE
- ⊙ SECOND ORDER ANOMALY > 70 ppm
- ⊛ FIRST ORDER ANOMALY > 200 ppm



GEOLOGICAL BRANCH
ASSESSMENT REPORT

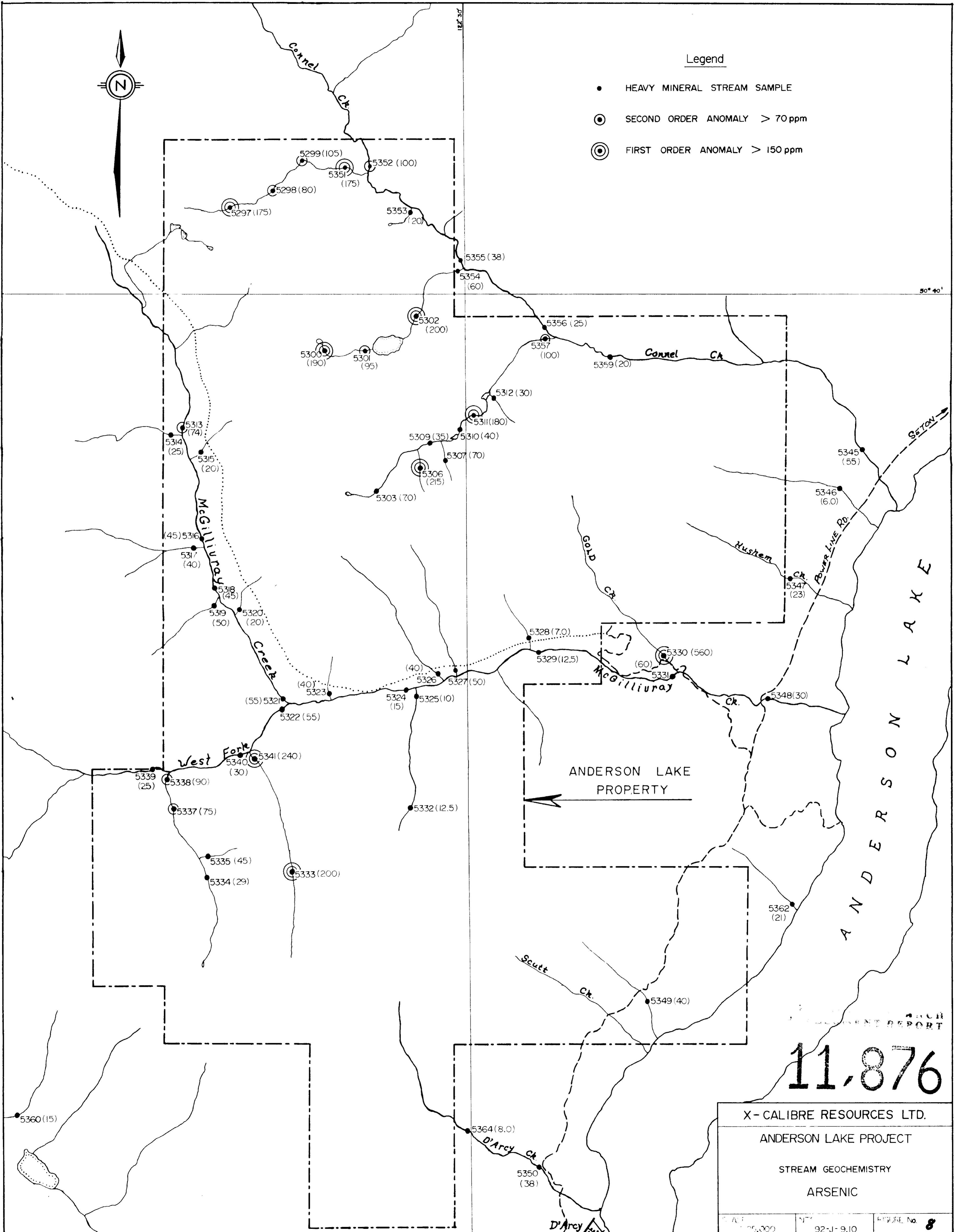
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X-CALIBRE RESOURCES LTD.		
ANDERSON LAKE PROJECT		
STREAM GEOCHEMISTRY		
TUNGSTEN		
SCALE 1:50,000	NTS 92-J-9,10	FIGURE No. 7



Legend

- HEAVY MINERAL STREAM SAMPLE
- ⊙ SECOND ORDER ANOMALY > 70 ppm
- ⊕ FIRST ORDER ANOMALY > 150 ppm



50' 40'

ANDERSON LAKE PROPERTY

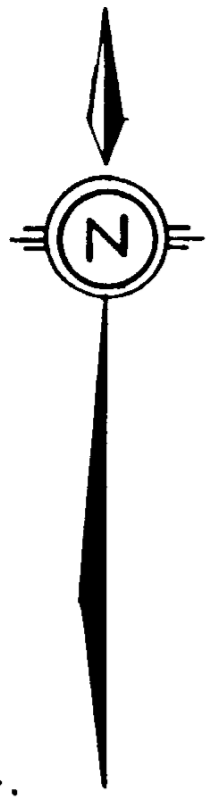
A N D E R S O N L A K E

TECH
REPORT

11,876

X-CALIBRE RESOURCES LTD.
ANDERSON LAKE PROJECT
STREAM GEOCHEMISTRY
ARSENIC

SCALE 1:25,000 NAD 92-J-9,10 FIGURE No. 8



Legend

- HEAVY MINERAL STREAM SAMPLE
- ⊙ SECOND ORDER ANOMALY ≥ 2.5 ppm
- ⊕ FIRST ORDER ANOMALY ≥ 5 ppm

