Paul / ~~Nelson~~ Cranbrook

004365 Amber claims 082K/06

SUPERINTENDENT OF BROKERS
AND
VANCOUVER STOCK EXCHANGE

STATEMENT OF MATERIAL FACTS (#46-94)

EFFECTIVE DATE: June 30, 1994

LUMBY RESOURCES CORPPORATION => 082KSW126
Suite 1500 - 789 West Pender Street
Vancouver, B.C. V6C 1H2
Telephone: 688-3304
NAME OF ISSUER, ADDRESS OF HEAD OFFICE, AND TELEPHONE NUMBER

Suite 1308, 999 West Hastings Street,
Vancouver, B.C. V6C 2W2
ADDRESS OF REGISTERED AND RECORDS OFFICES OF ISSUER

Montreal Trust Company of Canada,
510 Burrard St.,
Vancouver, B.C. V6C 3B8
NAME AND ADDRESS OF REGISTRAR AND TRANSFER AGENT FOR ISSUER'S SECURITIES IN BRITISH COLUMBIA

OFFERING: 900,000 SHARES 082KSW125 (Lower Juno Upper Juno

	PRICE TO PUBLIC(1)	COMMISSION(2)	NET PROCEEDS TO BE RECEIVED BY THE ISSUER (3)
Per share	$ 0.35	$0.035	$0.315
Total	$315,000.00	$31,500.00	$283,500.00

? Snowstorm ? 082KNE009T ? New Pine Tree Silver Sparrow

(1) the price to the public has been determined by the agent and the Issuer.
(1) the agent has been granted a warrant to purchase up to 225,000 shares for a period of two years from the Offering Day (Refer to heading "Plan of Distribution" herein).
(2) before deduction of the costs of this Offering estimated to be $ 25,000.00.

082KSW126 — White Eagle New? Lakeview

ADDITIONAL OFFERING The Agent has agreed to purchase (the "Guarantee") any of the shares offered hereby which have not been sold at the conclusion of the Offering Day. Any shares acquired by the Agent pursuant to their Guarantee will be distributed under this Statement of Material Facts through the facilities of the Vancouver Stock Exchange at the market price at the time of sale.

New? West Ridge

The common shares of the Issuer are listed on the Vancouver Stock Exchange, however, trading in the shares is currenlty suspended on the Vancouver Stock Exchange. Trading reinstatement shall be subject to completion of this offering and to confirmation that the Issuer has met the listing requirements of the Vancouver Stock Exchange.

THE SECURITIES OFFERED HEREUNDER ARE SPECULATIVE IN NATURE. INFORMATION CONCERNING THE RISKS INVOLVED MAY BE OBTAINED BY REFERENCE TO THIS DOCUMENT. FURTHER CLARIFICATION, IF REQUIRED, MAY BE SOUGHT FROM A BROKER.

AGENT:

MCDERMID ST. LAWRENCE CHISHOLM LTD.
Box 90, Suite 1000
601 West Hastings Street
Vancouver, B.C. V7B 5E2

NEITHER THE SUPERINTENDENT OF BROKERS NOR THE VANCOUVER STOCK EXCHANGE HAS IN ANY WAY PASSED ON THE MERITS OF THE SECURITIES OFFERED HEREUNDER AND ANY REPRESENTATION TO THE CONTRARY IS AN OFFENSE.

DATED: June 28, 1994.

TABLE OF CONTENTS

PF: 082KSW 126 White Eagle
082KSW 125 Euro

SUMMARY REPORT OF GEOLOGICAL AND GEOCHEMICAL EXPLORATION ON THE AMBER PROPERTY

? 082KNE009 Pine Tree Silver Spoon
? 082KNW 079 Snow Storm

Located Claims:

Amber 1	256357(7)
Amber 2	256358(7)
Amber 3	256359(7)
Amber 4	256360(7)

? NEW Lakeview
? NEW West Ridge

Slocan Mining Division

N.T.S. 82 K/6

50° 18' N., 117° 10' W.

Owner and Optionor:

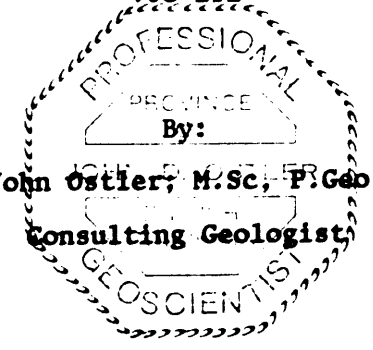
AMBERGATE EXPLORATIONS INC.

504-455 Granville Street
Vancouver, British Columbia
V6C 1T1

Optionee:

LUMBY RESOURCES CORPORATION

504-455 Granville Street
Vancouver, British Columbia
V6C 1T1



By:

John Ostler, M.Sc., P.Geo.

Consulting Geologist

August 14, 1993

with program revised
December 27, 1993

CONTENTS

SUMMARY REPORT OF GEOLOGICAL AND GEOCHEMICAL EXPLORATION ON THE AMBER PROPERTY

SUMMARY

The writer was retained by Lumby Resources Corporation of Vancouver, British Columbia through Cassiar East Yukon Expediting Ltd. to summarize recent exploration and report on the economic potential Amber Property.

The Amber Property occupies the upper part of the Cascade Creek valley located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia. It comprises four located claims that contain 64 claim-units covering about 1600 ha (3840 A). The property is centred on 50° 18' north latitude and 117° 10' west longitude in the Slocan Mining Division.

It is about 635 km (408 mi) from Vancouver via B.C. highways 1, 5 and 23 to Nakusp, the nearest adequate supply centre to the property. Direct access to the Amber Property from Nakusp is by helicopter; a 20 minute flight one way to the base camp-area at Blue Lake. Alternately, when a helicopter is available at Meadow Creek, located about 20 km (12 mi) southeast of the Amber Property, supplies can be purchased in Kaslo, trucked to Meadow Creek via B.C. Highway 31 and flown onto the property.

All major workings on the property are accessible by a series of recently renovated horse trails that radiate from the mine camp site at the northern end of Blue Lake.

The central part of the Amber Property straddles a moderately steep ridge southeast of Cascade Creek. The base-camp area is at the northern shore of Blue Lake, a glacial tarn occupying the mouth of a north-facing cirque that includes most of the southern part of the claim group. Elevations on the property range from 1365 m (4480 ft) to 2688 m (8820 ft).

A mixed forest of red cedar, hemlock and spruce extends up Cascade Creek across the northern part of the property. The southeastern part of the claim-area is above tree line.

Soils are sufficiently well-developed to produce reliable soil survey results.

The Amber Property is owned 100% by Ambergate Explorations Inc. Ambergate has an option agreement with Lumby Resources Corporation whereby Lumby can earn a 50% working interest in the claims by paying Ambergate a total of $40,000 and by contributing $85,000 to work on the claims by December 31, 1994.

Recently, the Amber Property has been included within northeastern corner of the Goat Range Protected Area Strategy Study Area. Such study areas are divided into 4 classes, class 1 being most sensitive and class 4 being least sensitive. This study area is designated as a class 3 area in which new claims can be staked and property development may proceed.

The area around the Amber Property is underlain by rocks that range in age from Early Palaeozoic to Jurassic. These rocks can be divided into two provenancal groups: the Lardeau Group, a eugeosynclinal assemblage and the Milford Group, a miogeosynclinal assemblage. Both assemblages are intruded by Mesozoic-age granitic rocks.

The claims are underlain by mafic metavolcanics and metasediments of the Triassic-age Broadview Formation which forms part of the Lardeau Group. This stratigraphic sequence progresses westward and up-section from andesitic volcanics through lithic sandstones and siltstones to variably carbonaceous slates and carbonates.

These rocks were folded by as many as four phases of deformation which resulted in a series of northwest-southeasterly trending folds that were subsequently thrusted in a northeasterly direction along local faults. The stratigraphy was later cut at oblique angles by long transverse faults.

Large veins were developed parallel with the dominant cleavage planes after thrusting during the second phase of deformation.

Many of these veins contain only milky quartz. However, some of them contain large amounts of sphalerite, argentiferous galena, stibnite,

and auriferous pyrite. All of the known economic mineral showings on the Amber Property occur in these veins.

The thrust faults in the Cascade Creek area seem to divide economic mineralization into three discrete zones as follows:

ECONOMIC MINERAL ZONATION AROUND THE AMBER PROPERTY

Zone	Minerals Present	Metals Present	Showings
1. Southeast of Amber Thrust	stibnite, galena tetrahedrite	Sb, Ag, Pb minor Cu, As	North Star West Ridge Lower Juno
2. Between Amber Thrust and Mobbs Fault	sphalerite, galena pyrite	Au, Ag, Pb, Zn	White Eagle Lakeview Pine Tree Upper Juno Snowstorm Silver Sparrow
3. Northeast of Mobbs Fault	galena, sphalerite	Ag, Pb minor Zn	Upper and Lower Comstock

The thrust faults in the Cascade Creek area may have acted as major conduits facilitating the migration of mineralizing fluids of different compositions upward from various depths.

The Amber Property-area was explored extensively from 1925 until 1931 when many of the mineral showings were developed by trenches and underground workings. Modern exploration comprising 1:10,000 scale geological mapping, soil survey and trenching was conducted by Ambergate Explorations Inc. from 1987 to 1988.

The most prospective mineral showings on the Amber Property are as follow:

082KSW126

WHITE EAGLE developed 1928 to 1930

Workings; Upper Level

18 m (59 ft) long adit on vein with 10 m (33 ft) long winze located 5 m (16 ft) in from portal
17 m (55 ft) long inclined shaft on vein located 3.5 m (10 ft) northwest of upper adit
7 surface trenches

Lower Level (37.5 m (123 ft) vertically below Upper Level)

152 m (500 ft) long crosscut with 24 m (80 ft) raise and 21 m (69 ft) of drift on mineralized vein at the end of the adit
mineralized veins are also cut at 143.5 m (471 ft) in lower adit and at top of raise

Mineralization;

at least two veins with massive galena-sphalerite ore shoots up to 0.6 m (2 ft) thick with pyritic margins
galena-sphalerite mineralization assays up to 61% lead, 33.8% zinc and 33.3 oz/ton silver
pyrite mineralization assays up to 2.182 oz/ton gold with minor silver and base metal values

NEW LAKEVIEW discovered 1988

Workings; 2 small hand trenches

Mineralization;

two veins up to 20 cm (0.6 ft) thick separated by sparsely mineralized sandstone
galena-sphalerite-pyrite mineralization looks similar to that at White Eagle, composite sample assays 6.04% lead, 3.47% zinc, 4.61 oz/ton silver and 4.22 oz/ton gold

82KNE009? ?

• SILVER SPARROW (SNOWSTORM SHAFT) developed 1930 to 1931

Workings; 6.1 m (20 ft) long inclined shaft on vein extending in from surface trench

Mineralization;

1 m (3.3 ft) thick vein with galena and pyrite in quartz assaying up to 56.2% lead, 0.55% zinc, 31.6 oz/ton silver and 0.802 oz/ton gold

?

• PINE TREE discovered 1988 (continuation of Silver Sparrow?)

Workings; 3 hand trenches located 70 m (230 ft) west of Silver Sparrow

Mineralization;

quartz vein up to 0.5 m (1.6 ft) thick with galena and pyrite assaying up to 18.5% lead, 0.10% zinc, 13.5 oz/ton silver and 11.885 oz/ton gold

082KNW079

SNOWSTORM developed 1930 to 1931

Workings; 26 old hand trenches, some up to 46 m (150 ft) long

Mineralization;

quartz veins up to 1.5 m (5 ft) thick with pyrite and galena assaying up to 22.4% lead, 0.06% zinc, 14.6 oz/ton silver and 0.082 oz/ton gold

New?

WEST RIDGE developed 1928 to 1930 ?

Workings; 2.4 m^2 (8 ft^2) shaft that extends about 15.2 m (50 ft) ? down from the ridge crest
150 m (492 ft) ? long adit on west slope of ridge
7 trenches

Mineralization;

massive stibnite-galena in quartz assaying up to 1.58% copper, 41.1% lead, 16.1% antimony and 44.9 oz/ton silver vein width is at least 1 m (3.3 ft)

082KSW125 JUNO developed 1925 to 1928

Workings and Mineralization not adequately explored during 1987 and 1988 exploration

The Amber Property is still very much in the discovery stage. Two of the mineral showings, the Pine Tree and Lakeview were discovered within four days of the end of the last exploration program conducted on the property. It seems certain that with more exploration will come the discovery of more economic mineralization.

A three-phase exploration program is recommended.

Phase 1: Prospecting and Mapping and Completing 1987-8 Soil Survey	$ 110,413
Phase 2: Mini-excavator trenching and drill site preparation	$ 87,000
Phase 3: Diamond drilling and site reclamation	$ 420,000
Total estimated cost of recommended exploration program	$ 617,413

SUMMARY REPORT OF GEOLOGICAL AND GEOCHEMICAL EXPLORATION ON THE AMBER PROPERTY

1.0 INTRODUCTION

1.1 Terms of Reference

The writer was retained by Lumby Resources Corporation of Vancouver, British Columbia through Cassiar East Yukon Expediting Ltd. to summarize recent exploration and report on the economic potential Amber Property.

1.2 Location and Access

The Amber Property is located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia (Figure 1). It comprises four located claims that contain 64 claim-units covering about 1600 ha (3840 A). The property is centred on 50° 18' north latitude and 117° 10' west longitude in the Slocan Mining Division of British Columbia (Figure 2).

It is about 635 km (408 mi) from Vancouver via B.C. highways 1, 5 and 23 to Nakusp, the nearest adequate supply centre to the property. Direct access to the Amber Property from Nakusp is by helicopter; a 20 minute flight one way to the base camp-area at Blue Lake (Figure 2). Alternately, when a helicopter is available at Meadow Creek, located about 20 km (12 mi) southeast of the Amber Property, supplies can be purchased in Kaslo, trucked to Meadow Creek via B.C. Highway 31 and flown onto the property. The Meadow Creek route would require much less helicopter time than flying in from Nakusp.

All major workings on the property are accessible by a series of recently renovated horse trails that radiate from the mine camp site at the northern end of Blue Lake (Figures 2 and 3).

During the 1920s, access to the property-area and its workings was by a 1.5 m wide pack trail that descended the Cascade Creek valley at a generally constant grade to the Lardeau River. There, it met a branch of the Canadian Pacific Railway. Subsequently, the rail road was abandoned and B.C. Highway 31 was built on the road bed.

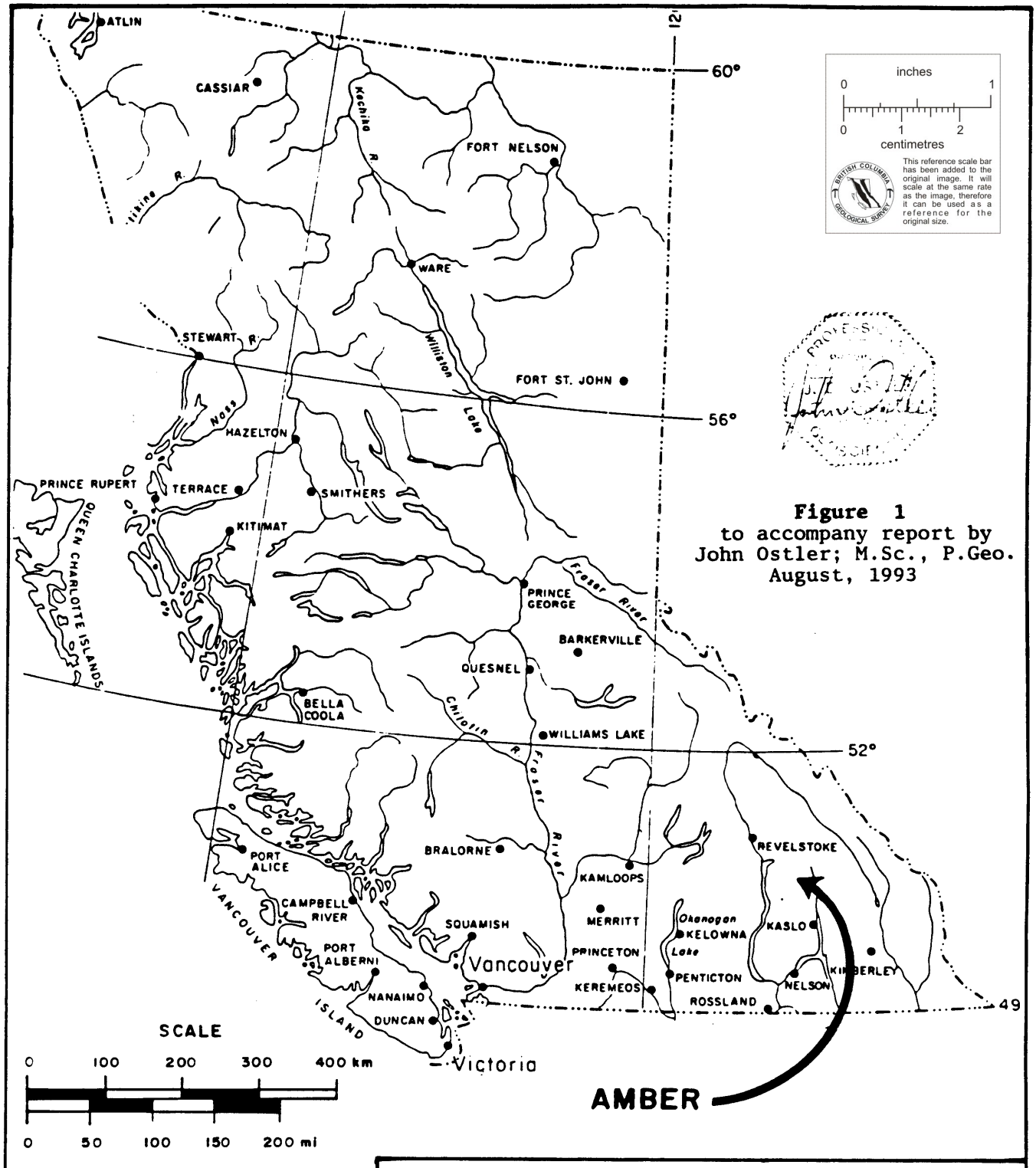


Figure 1
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

Figure 1

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

GENERAL LOCATION

AMBER PROPERTY
50°18'N., 117°10'W.

SLOCAN M.D.
C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol.

BRITISH COLUMBIA
NOVEMBER, 1988

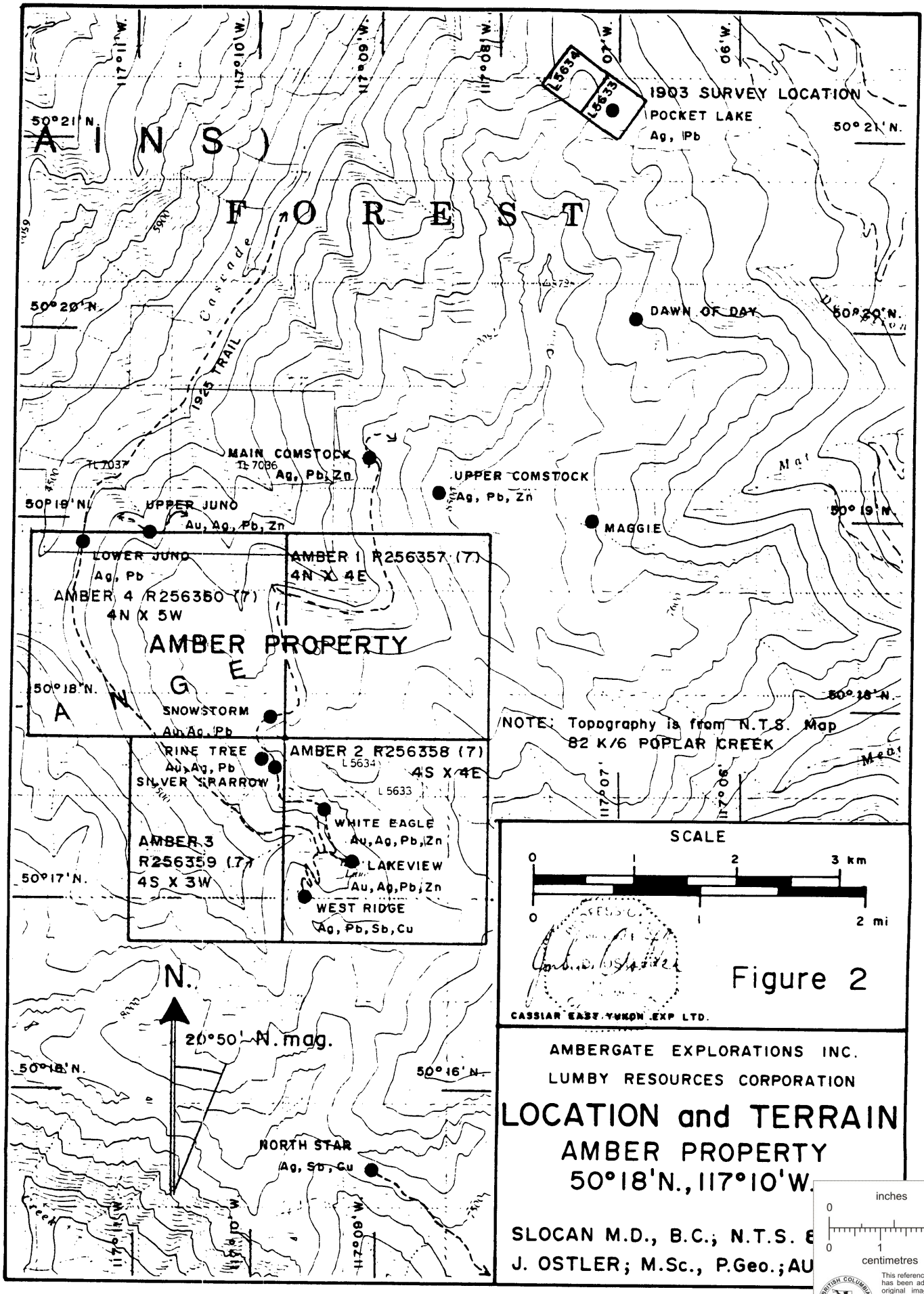


Figure 2

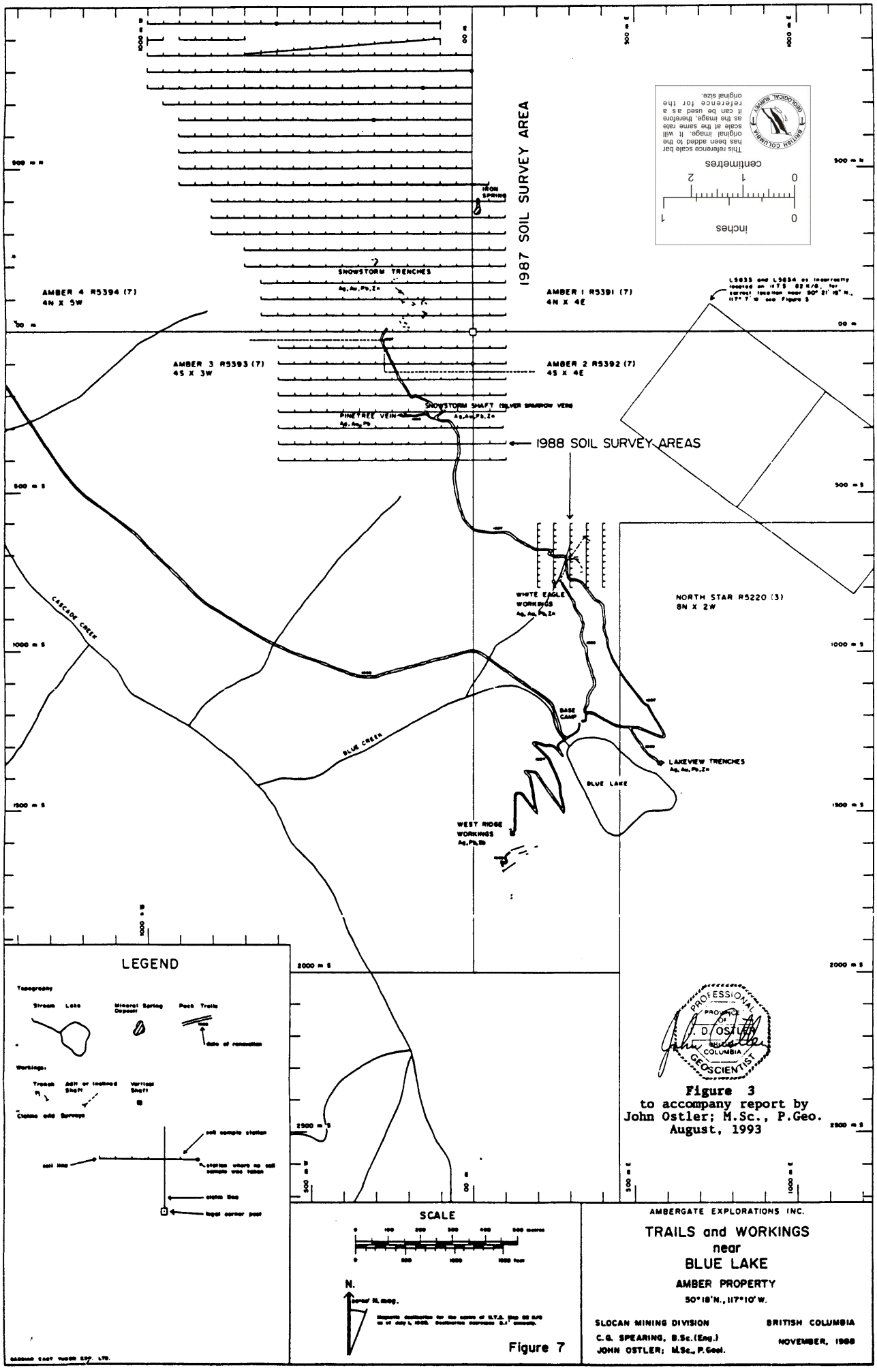
AMBERGATE EXPLORATIONS INC.

LUMBY RESOURCES CORPORATION

LOCATION and TERRAIN
AMBER PROPERTY
50°18'N., 117°10'W.

SLOCAN M.D., B.C.; N.T.S. 8

J. OSTLER; M.Sc., P.Geo.; AU



PROFESSIONAL GEOSCIENTIST
PROVINCE OF BRITISH COLUMBIA
J. D. OSTLER

Figure 3
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

The lower part of the Cascade Creek valley was logged during the early 1980s. At that time a truck road was maintained along the northwestern side of Cascade Creek from the highway to near the northwestern corner of the Amber 4 claim (Figure 2). Subsequently, that road was washed out in several places.

An acceptable mine road could be constructed by rebuilding the road from B.C. Highway 31 to the Amber 4 claim and extending it along the horse trail route to the workings near Blue Lake.

1.3 Terrain and Vegetation

The Amber Property is located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia Holland (1976).

Holland's description of the terrain of the Slocan Range around the Amber Property is as follows:

> South of Trout Lake the area is largely underlain by intrusive rocks, which Cairnes remarks in the Slocan Mountains "show the strong relief characteristic of a mountainous topography in a late adolescent stage of erosion. . . . The areas of Nelson granite and Kaslo series are normally more rugged and sharper in outline than those underlain by sediments of the Slocan series." The Slocan Ranges are characterized by long, uniformly steep, heavily timbered slopes rising through about 5,000 feet to angular peaks and sharp narrow interconnecting ridges. Cirque glaciers have sculptured the peaks, and high ridges and valley glaciers have faceted the spurs.
>
> Holland, S.S.; 1976: p. 80.

The central part of the Amber Property straddles a moderately steep ridge southeast of Cascade Creek (Figure 2). Cascade Creek flows northeastward into the Lardeau River east of Poplar Creek, about 12 km (7.3 mi) from the centre of the property. Adequate water for mining purposes is available on the property.

The base-camp area is located on the northern shore of Blue Lake at an elevation of about 2091 m (6860 ft) (Figure 2). Blue Lake is a glacial tarn occupying the mouth of a north-facing cirque that includes most of the southern part of the claim group. The highest peak around the rim of the cirque attains an elevation of about 2545 m (8350 ft) near the southern boundary of the Amber 2 claim. Elevations on the property range from 1365 m (4480 ft) at Cascade Creek near the northwestern corner of the

Amber 4 claim to 2688 m (8820 ft) at the northeastern corner of the Amber 1 claim.

A mixed forest of red cedar, hemlock and spruce extends up Cascade Creek across the Amber 3 and 4 claims to elevations of about 1676 m (5500 ft) above which, spruce becomes the dominant tree species. Above elevations of about 2134 m (7000 ft) a minor amount of pine grow among the spruce.

The valley covered by the Amber 3 and 4 claims contains the only timber on the property suitable for mining purposes. The timber supply is sufficient to sustain a moderate sized operation.

Average annual precipitation is moderate and has an even distribution throughout the year. Ridges on the property are covered with snow from October until June. At lower elevations the amount and annual duration of snow cover decreases perportionately.

1.4 Property

The Amber Property comprises the following claims located in the Slocan Mining Division of British Columbia (Figure 2):

Claim Name	Record No.	No. of Units	Record Date
Amber 1	256357(7)	16	July 13, 1987
Amber 2	256358(7)	16	July 13, 1987
Amber 3	256359(7)	12	July 13, 1987
Amber 4	256360(7)	20	July 13, 1987
		64	

These claims are owned 100% by Ambergate Explorations Inc. of Vancouver, British Columbia.

Lumby Resources Corporation and Ambergate Explorations Inc. entered into an option agreement dated July 29, 1993 whereby Lumby could earn a 50% working interest in the Amber Property by paying Ambergate a total of $40,000 by December 31, 1994 and by contributing $85,000 to work on the Amber Property during the same period.

During the option period, Ambergate will be the project operator. At the conclusion of the option, development of the property will be conducted by a joint venture with Lumby operating the project.

The writer personally supervised the staking of the property during 1987 and hereby certifies that these claims were staked in accordance with the laws and regulations of the Province of British Columbia.

On N.T.S. Map 82 K/6 and on the corresponding B.C. claim map, L5633 and L5634 are plotted atop a bald ridge near 50° 17' 40" N., 117° 9' W. in an area covered by the Amber 2 claim (Figure 2). This plotting is not correct (Ostler, 1987).

These claims were located and surveyed near 50° 21' 15" N., 117° 7' W. in a forest within sight of a surveyed rail road and the Lardeau River below (Figure 2). They appear in their correct location on Mineral Reference Map No.3 of Ainsworth, Trout Lake and Slocan Mining Divisions dated Sept. 1, 1928 and on 82 K/W, Sheet 4 printed by the B.C. Dept. of Lands and Forests on July 1, 1956.

Recently, the Amber Property has been included within northeastern corner of the Goat Range Protected Area Strategy Study Area. Such study areas are divided into 4 classes, class 1 being most sensitive and class 4 being least sensitive. This study area is designated as a class 3 area in which new claims can be staked and property development may proceed.

The area around the Amber Property is one of two highly mineralized areas that may possibly be considered for removal from this study area.

1.5 Previous Work

1.5(i) Early Previous Work: 1925 to 1931

The Amber Property covers four old known mineral properties that include five major showings-areas.

Two new mineral showings were discovered during the 1988 exploration program.

The upper Cascade Creek valley was explored extensively from 1925 until 1931. Reports from that period indicate that initial discoveries in the area may have been made as early as 1900. The White Eagle, Snowstorm (including the Silver Sparrow Vein) and probably the West Ridge were

acquired by Joe Gallo of Poplar, B.C. for Keene Mountain Gold and Silver Mines Ltd. of Calgary, Alberta. The Juno was owned by P.J. Shernan of Nelson, B.C. and explored by the Juno Syndicate which was concurrently developing the Comstock (Figure 2) (Ostler, 1988). The Juno Syndicate was comprised businessmen from Nelson, B.C.

The White Eagle was acquired by J. Gallo in 1928. Work that season comprised trail building, camp renovation at Blue Lake and surface stripping near mineral showings. Late that year, a 9.5 ton shipment of sulphide was made to the smelter at Trail, B.C. That work was recorded by a visiting provincial geologist as follows:

> White Eagle This group is situated at the head of Cascade creek at a distance of approximately 12 miles from the railway. The property, consisting of a group of five claims, was acquired during the latter part of the year by the Keene Mountain Gold and Silver Mines, Limited with a capitalization of 2,500,000 shares of no par value. J. Gallo, who was largely responsible for the incorporation of this company, is in charge of the mining operations. The head office of the company is at Calgary.
>
> The trail closely follows the creek-bed and, crossing the fan-like form of numerous snowslides, is only suitable for a pack-trail during certain periods of the year. These conditions could be improved by relocating the trail higher up, should developments be found to warrant the considerable expense that would be necessary. The camp consisted of two small cabins beautifully situated on the shore of a small lake nestled among the summit peaks, at an elevation of 6,800 feet above sea level.
>
> The formation in the vicinity of the workings consists of slate-schists and occasional bands of limestone. The vein on which the work was being confined, consisting of a quartz-filled fissure conforming to the dip and strike of enclosing rocks, could be traced for a considerable distance along the hillside, which it traversed at an oblique angle. A little prospecting had been done along the strike of the vein, but not sufficient to establish the continuity of the mineralization. The strongest showing had been laid bare by erosion at the side of a shallow draw, where a width of about 2 feet of massive sulphide ore was exposed, dipping at an angle of 25°.
>
> Here an old prospect-tunnel had been driven along the strike of the vein and was being continued at the time of examination, its total length being 69 feet. A short winze had also been sunk on the vein at a distance of 37 feet from the portal.
>
> These workings do not disclose anything of importance, but further surface work near the portal had exposed the vein for about 15 feet on the dip, where massive sulphides and milling-grade ore were exposed across a width of about 2 feet. A sample taken across 21 inches of what appeared to be the best grade of ore gave the following returns: Gold, 0.61 oz. to the ton; silver, 31.6 oz. to the ton; lead, 25.7 per cent.; zinc, 12.7 per cent. The ore showed strongly in the bottom of the cut and further work was planned to explore its downward continuation by means of a lower tunnel...
>
> During the latter part of the year a shipment of about 9 1/2 tons was made to the Trail smelter; returns showed this ore carried the following values: Gold, 0.27 oz. to the ton; silver, 21.1 oz. to the ton; lead, 32.6 per cent.; zinc, 21.3 per cent. The net value of the shipment after deduction of freight and smelter charges was $240.29. It is understood that a crew of eight or ten men will be employed during the winter months. The company is also interested in another group of claims in this vicinity which were not examined.

B.C. Min. Mines Ann. Rept., 1928; pp. C307-C308.

Gallo's crew continued work on the White Eagle throughout 1929. A crew of miners based at the Blue Lake camp explored the vein by extending the crosscut tunnel, by driving an inclined shaft down the vein beside the tunnel and by drifting in from surface 37.5 m (123 ft) below the upper workings to intersect the vein at depth.

The 1929 work on the White Eagle Vein was reported upon in detail by a provincial geologist as follows:

White Eagle This group is situated at the head of Cascade creek, at a distance of about 12 miles from the Lardeau-Gerrard branch of the Canadian Pacific Railway. The property was acquired in 1928 by the Keene Mountain Gold and Silver Mines, Limited, of Calgary, and exploratory work has since been carried on continuously by J. Gallo. The lower 7-mile section of the old trail, which leads to this and other prospects, follows the creek-bed and, crossing numerous snowslides where these spread out near the creek, is only suitable for a pack-trail during the summer and fall season. A new location has now been surveyed to provide a safe means of access for all-the-year-round operation and about 3 1/2 miles of new trail has been built along the new route.

The property is described in the Annual Report for 1928. Since then some further work has been done to explore the ore-shoot developed by the old prospect-tunnel at 6,923 feet elevation and surface showings to the west of it. This tunnel has been advanced to 85 feet in from the portal, showing the vein, up to 4 1/2 feet wide, to be well mineralized throughout. Ten feet westerly from the mouth of this tunnel a shaft has been sunk which, when the mine was visited in November, was down 30 feet. Samples taken in this working gave the following results:- Across 3 feet at the bottom: Gold, 0.04 oz. to the ton; silver, 12.65 oz. to the ton; lead, 4.4 per cent.; zinc, 2.35 per cent. A 4- to 12-inch streak adjoining the previous sample on the foot-wall side: Gold 0.06 oz. to the ton; silver, 8.3 oz. to the ton; lead, 18.1 per cent.; zinc, 5.7 per cent. Across 21 inches 3 feet down: Gold, 1.28 oz. to the ton; silver, 29.3 oz. to the ton; lead, 38.6 per cent.; zinc, 18.1 per cent.

To the west of this shaft, which has since been sunk to a depth of 55 feet, stripping has exposed massive sulphide ore 2 feet wide for a length of 18 feet. A sample across 2 feet of this ore assayed: Gold 0.16 oz. to the ton; silver, 21.8 oz. to the ton; lead, 36.9 per cent.; zinc, 26 per cent. The above-described workings, together with a winze situated in the tunnel, develop the vein for a length of about 103 feet and a depth of 55 feet. The samples quoted above were taken mainly to determine values in the several types of ore and systematic sampling would be necessary to determine the average values throughout the ore-shoot. A little prospecting has been done along the hillside above and to the east of the tunnel, but the work done is not sufficient to prove the continuity of the mineralization in that direction.

At 6,080 feet elevation, or 123 feet vertically lower than the upper tunnel-workings, a crosscut has been driven 500 feet to explore the downward continuation of the ore-body. This tunnel cut a narrow and sparingly mineralized quartz vein at 478 feet, which coincides roughly with the projected position of the upper tunnel lead. A drift was run on this vein for 50 feet to the east, but without much encouragement. The vein here is poor-looking and splits into stringers near the face. Since the property was examined a drift is reported to have been driven on the same vein for 14 feet west of the crosscut, in which direction it looked more promising. Following a theory, however, that this vein was not the one sought, an inclined raise was put up from near the face of the main tunnel or about 500 feet in from the portal. This raise is reported to have cut a promising quartz vein, containing disseminated lead, zinc, and iron sulphides, at 80 feet up from the level.

Including prospect-workings on other claims of the group not seen by the writer, the total footage of underground work on the property is understood to be about 1,070 feet. An average of twelve men was employed throughout most of the season. The crew was reduced latterly and towards the end of the year work had to be entirely suspended owing to difficulty of operating in winter under present conditions. The same company, represented by J. Gallo, has been active in taking up other properties in the vicinity of Poplar and these are mentioned under Trout Lake Mining Division, the boundary between the two Divisions being situated along the divide separating Cascade and Poplar creeks.

B.C. Min. Mines Ann. Rept., 1929; pp. C327-C328.

Work related to the White Eagle continued into 1930 on a reduced scale. It was confined to repairing the horse trail into the Blue Lake camp as was recorded by a provincial geologist:

White Eagle Minor exploratory activity occurred during the season at this property, which is situated at the head of Cascade creek, about 12 miles from the Lardeau-Gerrard branch of the Canadian Pacific Railway. J. Gallo has been in charge of work for the Keene Mountain Gold and Silver Mines, Limited, of Calgary, since this company acquired the property in 1928. References to the White Eagle are contained in the Annual Reports for 1928 and 1929. The ore contains values in gold, silver, lead, and zinc. Work has necessarily been of a seasonal nature owing to snowslides obstructing the old trail in winter and until late

in the spring. This condition is gradually being improved by the construction of a new trail which crosses the snowslides above where they fan out into the Cascade Creek valley.

B.C. Min. Mines Ann. Rept., 1930; p. A257.

During 1930, Gallo's work out of the Blue Lake camp seems to have been concentrated on the Snowstorm. The Snowstorm is not a well known property. There is only one reference to it in the B.C. Minister of Mines' annual reports. That is as follows:

Snowstorm At this property, comprising seventeen claims, situated on the divide between Cascade and Poplar creeks, three men were employed all summer under the direction of Joe Gallo, who acquired the Snowstorm from G. Green of Poplar. Exploratory work done includes a 14-foot shaft, a trench 150 feet long and 6 to 7 feet deep, and two other big trenches. Together these workings develop a quartz vein up to 24 feet wide, assays from which are said to give from $3.40 to 9.80 in gold to the ton.

B.C. Min. Mines Ann. Rept., 1930; p. A257.

The Snowstorm was not correctly located in the above description. An extensive search along the divide between Poplar and Cascade creeks revealed no workings at all (Spearing and Ostler, 1987). Along that open ridge it would be easy to see trenches as large as those reported on the Snowstorm.

However, trenches large enough to be those from the Snowstorm were located in an alpine meadow near the southwestern corner of the Amber 4 claim (Figures 2, 3 and 12). An inclined shaft sunk on a vein just south of the trenches in the meadow fits the description of the Snowstorm shaft (Figures 2, 3 and 13).

The West Ridge is located on the crest of the ridge west of Blue Lake (Figures 2, 3 and 14). It is suspected that the West Ridge contains the "prospect-workings on other claims" referred to in the B.C. Minister of Mines' annual report for 1929 on the White Eagle. The writer knows of no direct references to this showings-area anywhere in the old literature.

Workings at the West Ridge area include: a 2.4 m square shaft that is now caved and seven groups of trenches on top of the ridge as well as an adit on the western slope of the ridge (Figure 14).

There is enough material on the dump at the shaft to account for about 15.2 m of depth. The dump at the adit, also which is caved, contains enough material to account for about 152 m of drifting.

These workings explore quartz veins containing galena, stibnite and tetrahedrite.

The Juno Property was owned by P.J. Shernan of Nelson, B.C. during the 1920s. At that time, the property was developed by the Juno Syndicate, backed by business associates of Shernan. Work conducted at that time on several locations on the property was recorded by a provincial geologist as follows:

> Juno Group This property consists of the Reco, July, July 28th, and Juno claims, also owned by P.J. Shernan, and included in the property to be developed by the Juno Syndicate. This group is situated about 2 miles in a westerly direction from the Comstock property and the claims extend up to near the head of Cascade creek.
>
> The formation, ore, and character of mineralization are much the same as on the Comstock group. Scattered over the claims there are numerous showings of quartz of varying widths mineralized with bunches and disseminations of galena, with which pyrite is generally associated and in some places zinc-blende.
>
> The development chiefly consists of open-cuts, most of which have caved so that the width of the mineralization could not in most cases be measured. On the Reco, at an elevation of about 5,700 feet, two showings of quartz of undetermined width were examined, the mineralization consisting of disseminated galena and pyrite. Selected ore from the dumps of these showings assayed: Gold, 0.32 oz.; silver, 18.6 oz. to the ton; lead, 32.2 per cent.; zinc, nil.
>
> On the July 28th there is an old tunnel driven 40 feet in on a well-defined quartz vein from 12 to 26 inches in width mineralized with galena, zinc-blende, pyrite, and oxidation products. The strike of this vein is about east and west (mag.) and its dip about 45° to the north. Some 30 feet from the portal of this tunnel an open cut has been made exposing a width of 26 inches of ore which assayed: Gold, 0.04 oz.; silver, 17.6 oz. to the ton; lead, 29.1 per cent.; zinc, 29.8 per cent. Near the face of the tunnel an old winze, said to be 30 feet down, was full of water. About a quarter of a mile back along the trail from this tunnel and at a slightly higher elevation an open-cut exposes a quartz vein 2 to 3 feet wide mineralized with disseminated galena. Continuing farther back along the trail and on the July claim there is a big trench and some open-cuts showing quartz on the dumps more or less mineralized with disseminated galena and pyrite of the usual character.
>
> On the Juno claim the workings are at an elevation of about 4,700 feet. An open-cut exposes a 12-inch quartz vein, standing nearly vertical and striking N. 55° E. into the hill, in which the mineralization is disseminated galena and pyrite. Near the vein the soft and crushed argillites contain scattered seams of galena associated with stringers of quartz. Farther down the hill and 100 feet vertically below the open-cut there is an old tunnel driven about 20 feet in these argillites. Preparations were being made for building a cabin near this working with a view to continuing the tunnel to intersect the vein showing in the open-cut above.
>
> B.C. Min. Mines Ann. Rept., 1925; pp. A237-A238.

The Juno workings were not fully examined during the 1987 and 1988 exploration programs due to lack of time (Spearing and Ostler, 1987 and 1988). The July 28th tunnel and winze; currently referred to as the Lower Juno showings, are located on the main pack trail near the northwestern corner of the Amber 4 claim (Figure 2). The other workings described in the B.C. Minister of Mines annual report have not been positively identified and located yet.

The Upper Juno cabin was located during the 1988 exploration program between Cascade and Kiss creeks (Figure 2) at an elevation of about 1737 m (5700 ft) near the northern boundary of the Amber 4 claim. Some small trenches and quartz float were found just up hill from the cabin none of which contained economic mineralization. If these are the Reco showings then it is probable that the main trenches have not been located yet. Also, if these are the Reco showings, references to workings back along the trail in the 1925 annual report would refer to the upper trail that connected the Juno with the Comstock and not to the main pack trail down Cascade Creek (Figure 2).

1.5(ii) Recent Previous Work: 1987 and 1988

Ambergate Explorations Inc. of Vancouver, B.C. acquired the Cascade Creek mining camp through option and staking during 1987. Exploration of the area commenced that year and continued through 1988. When control of the company was sold to the current directors in 1989, exploration emphasis switched from the Kootenays to projects in the Sulphurets Creek area of northwestern British Columbia. Exploration of Cascade Creek was temporarily put on hold until funding could be found for it.

Ambergate's 1987-8 exploration program had three objectives. The first objective was to re-establish easy access to and within the area by renovation of the extensive pack trail system. The second objective was to locate, sample and assess all known mineral showings in the area in order to develop a comprehensive inventory of minable tonnage. The third objective was to diligently prospect, map and soil sample all relevant areas of the Cascade Creek mining camp to locate and understand the all significant mineral occurrence in the area.

A total of 6.805 km of pack trail was brushed out and renovated and an additional 301 m of trail was built to facilitate access to new discoveries (Figure 3). This resulted in the reopening of about half of the pack trails in the Amber Property-area which greatly facilitated mobility around the claims.

Almost all of the 1987 claim-area (2162 ha) was mapped at a scale of 1:10,000 during Ambergate's exploration program (Figure 7). This mapping was done in conjunction with mapping of the Comstock and Maggie areas (507 ha) located northeast of the Amber Property (Ostler, 1988) resulting in a greatly increased understanding of the relationship among stratigraphy, deformation and economic mineralization in the area.

There are many mineral showings and old workings in the Amber Property-area. With the exception of the Juno workings, most of the old showings-area have been located, described and sampled during the 1987-8 program. During the early part of this century this area was taken very seriously by miners. The locations of over 60 old major trenches and at least 300 m (1000 ft) of underground workings were confirmed during Ambergate's exploration program. As the relationship between geology and mineralization became clearer, new mineral showings were discovered (Spearing and Ostler, 1988).

An extensive soil survey was conducted over part of the gold-bearing area between the Amber Thrust and the Mobbs Fault (Figure 3, 8 and 9). By the end of the 1988 season, about half of this prospective area covering the Snowstorm, Silver Sparrow and Pine Tree showings-areas had been surveyed. Soil geochemistry between the Silver Sparrow and Lakeview showings, northward toward the Juno workings and around the West Ridge tunnels remains unsurveyed.

Continuation of exploration in the Cascade Creek area has awaited proper funding. Exploration on the property is still in the discovery stage. As more is learned about the area it is very likely that much more economic mineralization will be discovered.

1.6 History of Occupation and Reclamation on the Amber Property

During the 1920s, the upper Cascade Creek valley was a busy place. Mining camps were located at the Juno, Comstock and West Ridge showings and at the northern end of Blue Lake. The valley contained at least 40 km of pack trails to service these camps. The trails were an average of 1 m wide and descended along the hillsides at a fairly constant grade never

exceeding 6%. Cabins which served as way stations were maintained at regular intervals along the trails.

The largest of the mining camps seems to have been at Blue Lake. It comprised two cabins near the lake shore for the crew and a stable and repair shop located to the east of a large paddock area south of the crew cabins. Construction of a third cabin was under way when operations ceased in the early 1930s.

The whole top of the terminal moraine at the north end of Blue Lake was cleared of forest and grass was planted (Figures 2 and 3). The clearing was probably done to allow the wind to blow freely through the camp to keep the smell of the horses and the flies to a minimum. The westerly crew cabin was the cook shed; no doubt the centre of all social life in the area at that time. Water for the camp was taken from the lake and garbage from the kitchen went into the lake, into the trees or into the biffy, however the mood struck.

During the 1930s depression, activity in the valley ceased, the trails fell into disuse and the winter snow eventually collapsed all of the mine buildings.

Clear-cut logging was conducted in the Cascade Creek valley just north of the Amber Property during the 1980s. At that time the B.C. government maintained a truck road that ascended the north side of the valley. The road ended across a bridge located near the confluence of Cascade and Kiss creeks near the northwestern corner of the Amber Property.

The bridge deck was covered with about 1 m of soil which contributed to its subsequence collapse. The truck road is unusable at present.

Due to good construction and comparatively coarse permeable soil in the area, the trails and workings suffered surprisingly little damage since 1930. local forest ground cover was re-established over the trails below tree line ensuring preservation. Old trenches at lower elevations were covered with a dense growth of small trees and brush making them very

difficult to find. Trenches above tree line remained in much better condition. The ones on unvegetated slopes and ridge crests only partly sloughed in and took a minor amount of cleaning for proper examination and sampling.

The Snowstorm trenches were dug over a gently sloping alpine meadow. Most of them have sloughed in and have been partly revegetated with local alpine ground cover. They are visible from the air as a series of depressions on the hillside. The largest trenches remained partly bare.

Dumps from the underground workings of the White Eagle, Silver Sparrow and West Ridge showings are on steep slopes where it was difficult for any vegetation to establish itself. Most of the material from these dumps has moved down hill during subsequent re-establishment of natural slope forms.

During Ambergate's exploration program from 1987 to 1988 a significant effort was made to reclaim the area.

The foreshore from the water to the old crew cabins at the Blue Lake camp was cleared of second growth spruce to permit safe helicopter access. It was only then that the extent of the old garbage lying around in that area was discovered. It took several evenings to gather, crush and bury the junk. The wood from the clearing was cut into fire rounds for future use, slashed limbs were burned and the area was reseeded with Buckerfield's Kootenay high-angle highway mix.

The 1987-8 camp site comprised 4 tent sites located in the paddock area north of the old crew cabins. That area was brushed out but not cleared. It too was seeded. During the writer's last visit to that camp site in 1989, the ground was snow-covered it was not known how well the seed had taken. Small amounts of grass from planting during the late 1920s that survived among the spruce trees there, indicated that the seed should have done well.

According to government recommendations, all disturbed trenches and workings were seeded with the same grass mix. On some locations like

at the Lakeview and White Eagle it should have done well. However, at locations like the Silver Sparrow and Pine Tree showings there is no natural ground cover and it is unlikely that Buckerfields mix will grow where the local plants won't grow.

From 1987 to 1989, the Blue Lake camp site was used as a supply storage area for exploration in the region. Most of the supplies from those programs have been removed from the site.

At present, the spar poles for four tents are still up, a small cash of nails and plywood and a refrigerator remain stored in the cook-tent area. It was intended that these items would be used during a 1990 exploration program which was delayed due to lack of funding. These items will be removed from the property during the next phase of exploration.

Lastly, it must be noted that the ecosystems in the Cascade Creek area are changing rapidly themselves, due largely to global warming. During the 1920s, cirques in the Goat Range west of Cascade Creek were covered with alpine glaciers. Now the ice in that area has almost completely melted. The alpine meadows in the property-area is shrinking rapidly. For example, the meadow across the Amber 4 claim containing the Snowstorm showings is covered with immature spruce trees, all of which seem to be less that 20 years old. Forest communities that formerly grew at lower elevations are now ascending all of the hill sides.

2.0 GEOLOGY

2.1 Regional Geology

The area around Cascade Creek and the Amber Property is underlain by rocks that range in age from Early Palaeozoic to Jurassic. These rocks can be divided into two provenancal groups: the Lardeau Group, a eugeosynclinal assemblage and the Milford Group, a miogeosynclinal assemblage. Both assemblages are intruded by Mesozoic-age granitic rocks.

This stratigraphy forms part of the Kootenay Arc, which extends in southwestern British Columbia from the U.S. border to northeast of Revelstoke (Douglas et al; 1970).

Kootenay Arc sediments and volcanics were deposited at the western margin of proto-North America in the Cordilleran Geosyncline. Kootenay Arc deposition from Late Proterozoic until Middle Palaeozoic time was in a large eugeosyncline that segregated into smaller sub-basins during the Late Palaeozoic Era. The rocks underlying the Amber Property were deposited in one of those eugeosynclinal sub-basins. Mesozoic deposition was mostly miogeosynclinal.

Lithological mapping conducted by Read (1973) around the Amber Property reveals that this region is underlain by a succession of rocks that record the gradual filling of a basin (Figure 4). He later interpreted that stratigraphy within a regional context (Figure 5) (Read and Wheeler, 1976).

Northeast of the claims is a thick sequence of mafic to intermediate volcanics comprising the Index Formation (Figures 4 and 5). In the Cascade Creek area, these volcanics are accompanied by a minor amount of shale and phyllite. Farther north near Trout Lake, the Index Formation volcanics are accompanied by far more sediments. There, the volcanics are interpreted to have been deposited from basin-floor vents in deep water (Fyles and Eastwood, 1962).

Read (1973) mapped a contact between the Index Formation volcanics and the overlying sediments of the Broadview Formation northeast of the Comstock showings about 2 km north of the Amber claims (Ostler, 1988) (Figure 7). This location is about 1 km southwest of where Read (1973) mapped the contact (Figure 4).

Northeast of the Comstock showings, Ostler (1988) interpreted the contact between Index Formation volcanics and Broadview Formation sediments to have been originally conformable and gradational, defined by a facies change on the flank and top of a basin-floor volcanic pile. The main mass of the Index Formation volcanics then seems to have been decoupled from the overlying Broadview Formation sediments. Both thrusting and transverse movement probably took place along the Index-Broadview boundary fault.

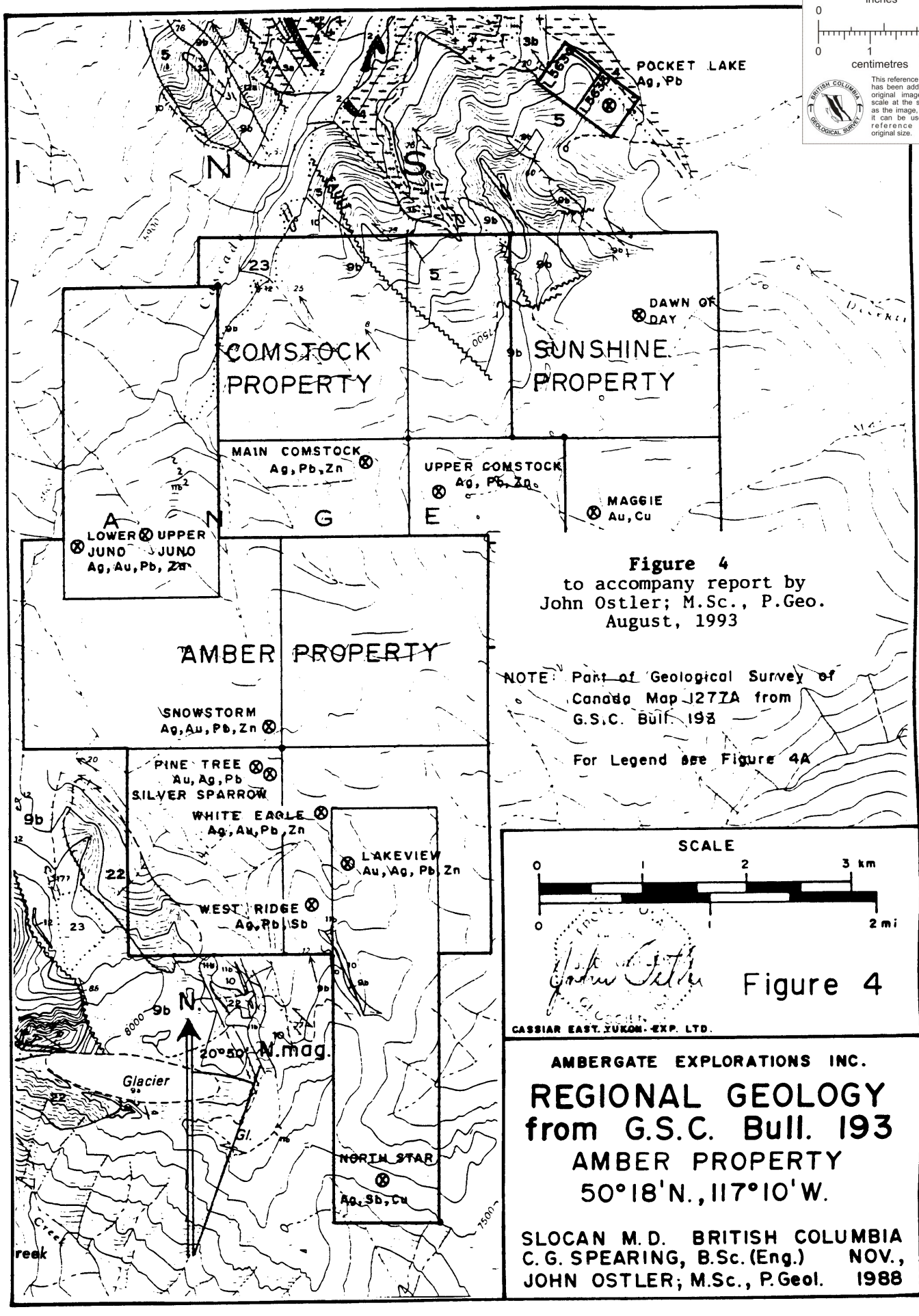


Figure 4
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

NOTE: Part of Geological Survey of Canada Map 1277A from G.S.C. Bull. 193

For Legend see Figure 4A

Figure 4

AMBERGATE EXPLORATIONS INC.

REGIONAL GEOLOGY from G.S.C. Bull. 193

AMBER PROPERTY

50°18'N., 117°10'W.

SLOCAN M.D. BRITISH COLUMBIA
C.G. SPEARING, B.Sc.(Eng.) NOV.,
JOHN OSTLER; M.Sc., P.Geol. 1988

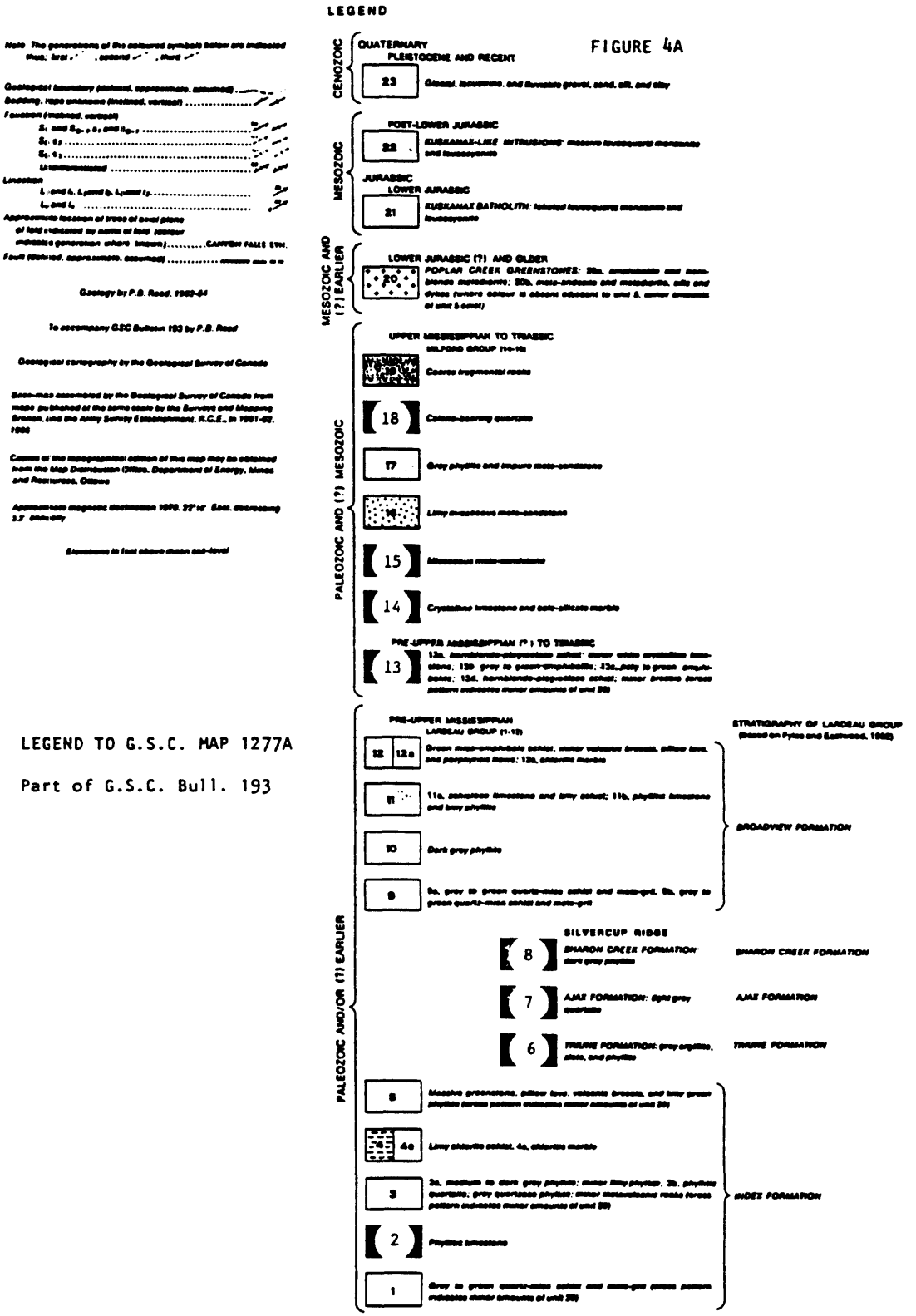


FIGURE 4A

Note: The components of the coloured symbols below are indicated thus: first ·´ , second ´´ , third ´´

Geological boundary (defined, approximate, assumed) .....

Bedding, traces (inclined, vertical) .....

Foliation (inclined, vertical)

S_1 and S_{D_1}, S_2 and S_{D_2} .....

S_1, S_2 .....

S_{D_1}, S_{D_2} .....

Undifferentiated .....

Lineation

L_1 and L_1, L_2 and L_2 .....

L_D and L_D .....

Approximate horizon of trace of axial plane of fold indicated by name of fold (letter indicates generation where known) .....CANYON FALLS SYN.

Fault (defined, approximate, assumed) .....

Geology by P.B. Read, 1962-64

To accompany GSC Bulletin 193 by P.B. Read

Geological cartography by the Geological Survey of Canada

Base map assembled by the Geological Survey of Canada from maps published at the same scale by the Surveys and Mapping Branch, and the Army Survey Establishment, R.C.E., in 1961-62, 1966

Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa

Approximate magnetic declination 1965, 27° 30' East, decreasing 3.7 minutes annually

Elevations in feet above mean sea-level

LEGEND TO G.S.C. MAP 1277A

Part of G.S.C. Bull. 193

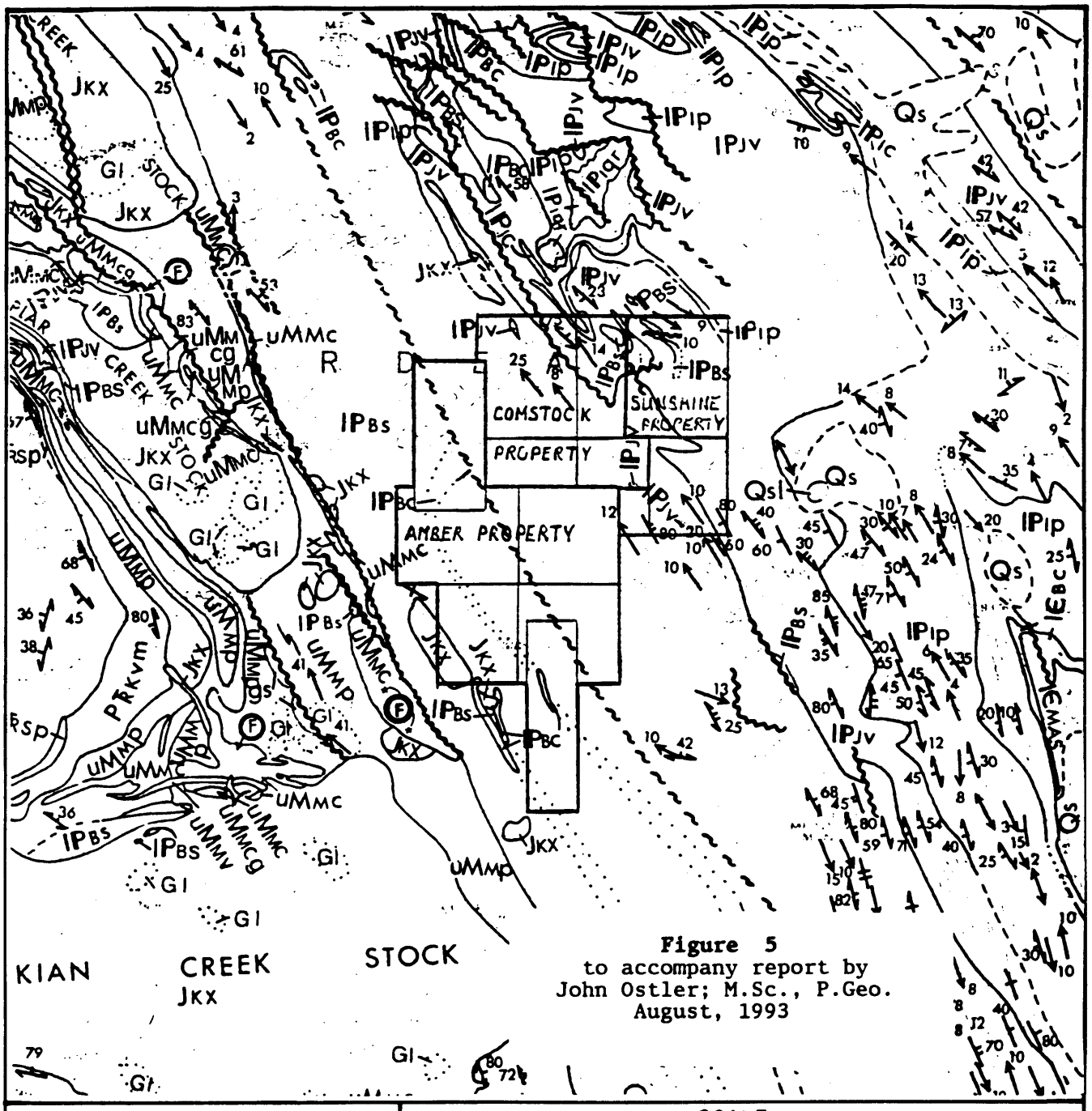


Figure 5
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

NOTE: Part of Geological Survey of Canada Open File 432

For Legend see Figure 5A

SCALE
0 1 2 3 4 5 6 7 8 9 10 km
0 1 2 3 4 5 6 mi

N.
20°30' N. mag.

Figure 5

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

REGIONAL GEOLOGY from G.S.C. O.F. 432

AMBER PROPERTY

50°18'N., 117°10'W.

SLOCAN M.D.
C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol.

BRITISH COLUMBIA
NOVEMBER, 1988

FIGURE 5A

LEGEND TO G.S.C. O.F. 432 Pg.1 of 3

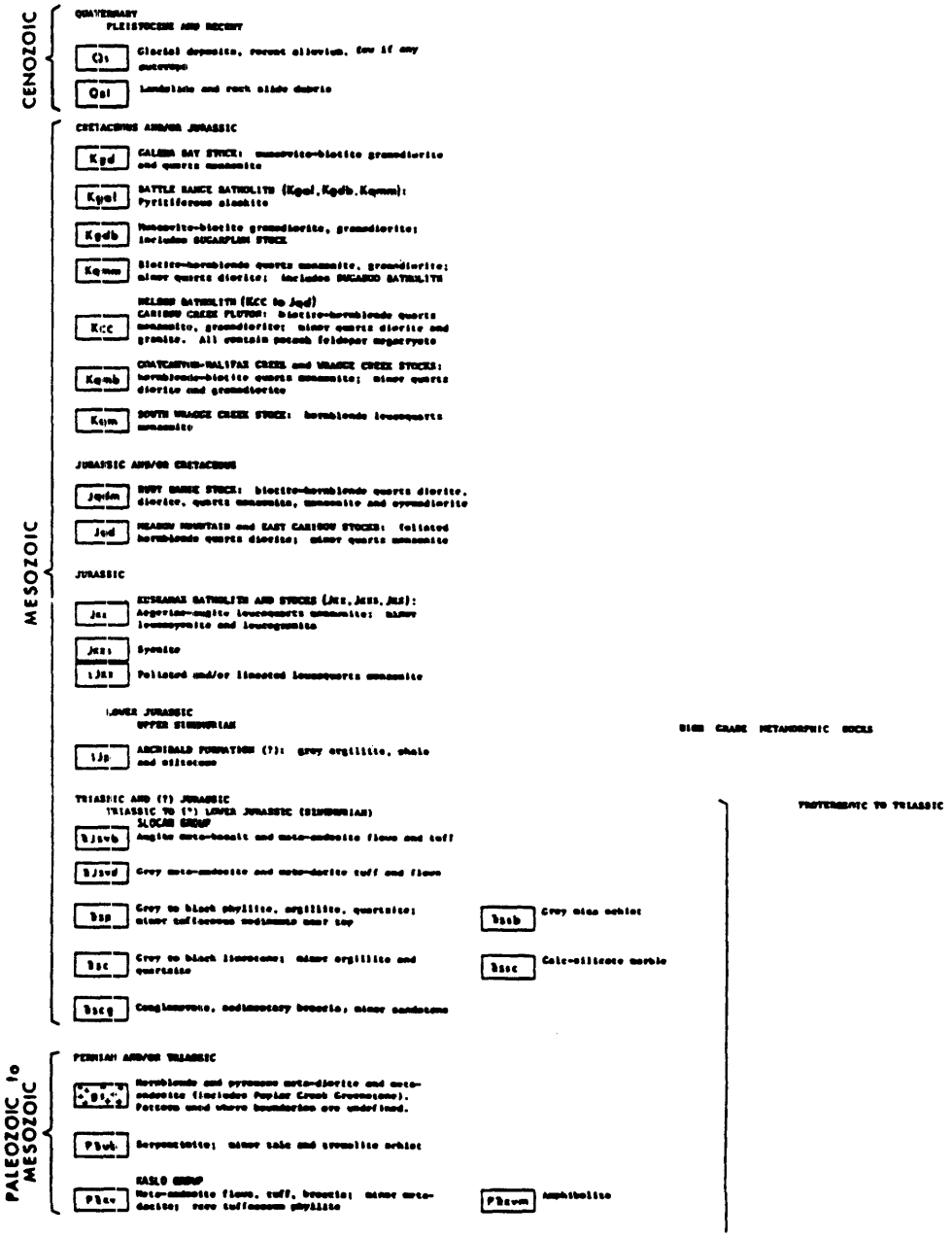


FIGURE 5A

LEGEND TO G.S.C. O.F. 432 Pg. 2 of 3

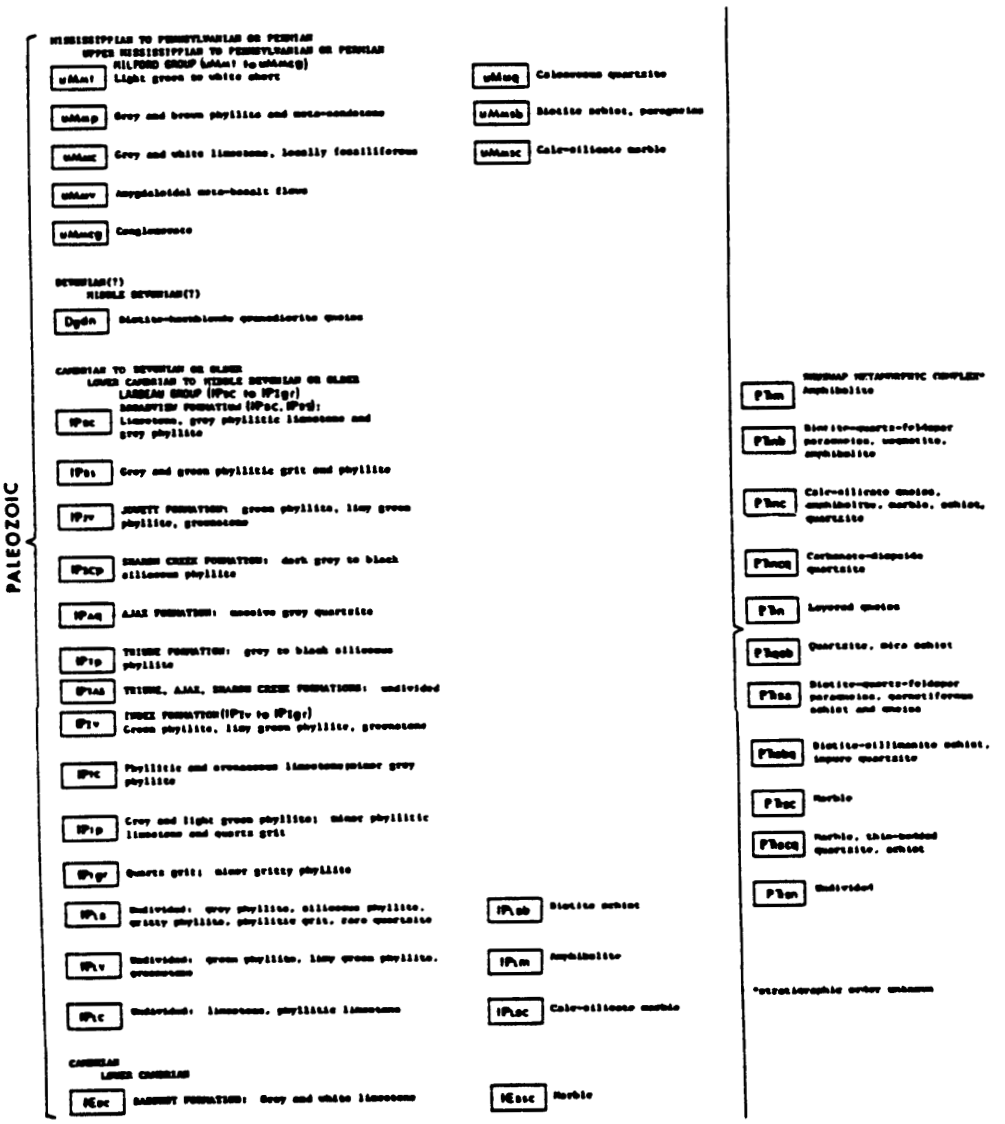
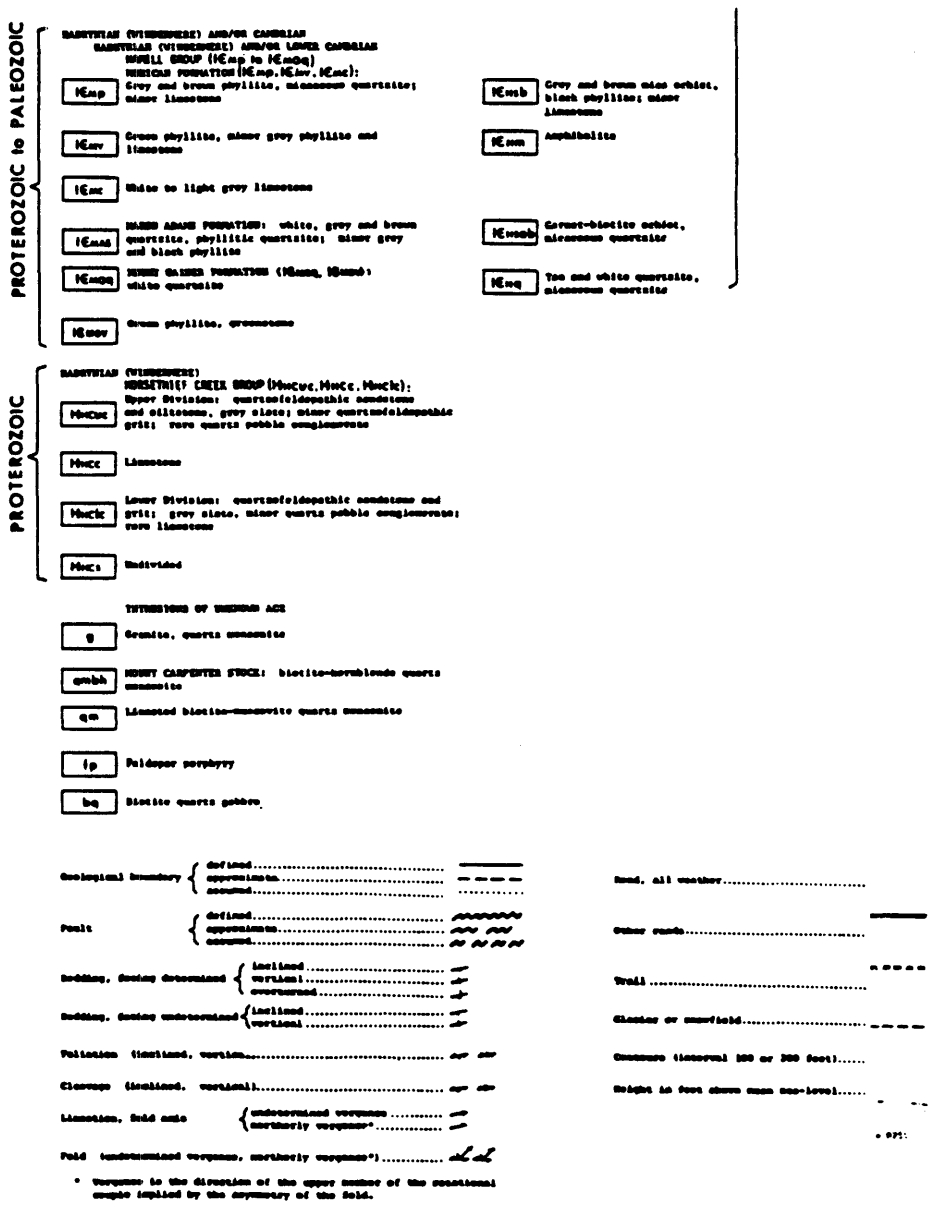


FIGURE 5A

LEGEND TO G.S.C. O.F. 432 Pg. 3 of 3



The Milford Group-Broadview Formation contact was also mapped by Read (1973) southwest of the Amber Property (Figure 4).

Read (1973) mapped across the Broadview Formation northwest of Cascade Creek; about 10 km northwest of the Amber Property. There, he found the Broadview Formation clastics to be overlain by a thin sequence of phyllites and phyllitic carbonates.

Two reconnaissance traverses into the Amber Property-area from the north and west (Figure 4) hinted that the area of distal basin sedimentation represented by phyllites and phyllitic carbonates increased significantly southeastward. This was confirmed by the writer's mapping (Spearing and Ostler, 1987). Later mapping revealed that the Broadview Formation was represented in the Cascade Creek area by a fining-upward sequence of turbidites beneath phyllitic carbonates and phyllites (Spearing and Ostler, 1988) (Figure 7).

The Broadview Formation clastics lie in fault contact with the sandstones of the Milford Group about 700 m southwest of the Amber 3 claim (Figures 4 and 5).

The Milford Group comprises a series of micaceous sandstones, phyllite and calcite-bearing quartzite that form a miogeosynclinal sequence above the Broadview Formation sediments (Read, 1973; Read and Wheeler, 1976) (Figures 4 and 5).

Rocks of the Milford Group and Broadview Formation were intruded during the Early Jurassic Period by leucoquartz monzonite and syenite of the Kuskanax Batholith. Batholithic intrusion was succeeded by the intrusion of small parasitic stocks of massive leucoquartz monzonite and syenite along the northeastern margin of the batholith (Read, 1973; Read and Wheeler, 1976). Some of these parasitic intrusions are exposed along the southwestern margin of the Amber 3 claim (Figures 4 and 5).

Read (1973) recorded three generations of coaxial folding in the rocks northwest of the Amber Property; and locally near intrusions, a fourth generation.

Regionally, the most important structures are second-generation folds that form northwest-southeast trending structures. First-generation folds are most commonly seen as isoclines within second-generation structures. Third-generation structures are most commonly large open warps or minor folds.

The area around Cascade Creek is regionally metamorphosed to the upper greenschist and lower amphibolite grades of metamorphism. Locally; near intrusive contacts, upper amphibolite and granulite grade metamorphism occurs.

The region is crossed by several long northwest-southeasterly trending faults. The Mount Emmens Fault southwest of the Amber Property and the Mobbs Fault which crosses the property are notable examples (Figures 4, 5 and 7).

The preceding geological history is summarized in a table of geological events and units that accompanies this report (Figure 6).

2.2 Property Geology

2.2(i) Stratigraphy

Almost all of the Amber Property was mapped by the writer at a scale of 1:10,000 during the 1987 and 1988 exploration programs (Figure 7).

The claims are underlain by mafic metavolcanics and metasediments of the Triassic-age Broadview Formation which forms part of the Lardeau Group. These rocks are interpreted by Read (1973) to be a eugeosynclinal sequence recording the infilling of a northwest-southeasterly trending trough.

Rocks of the Broadview Formation on the property were divided into five lithological units (Spearing and Ostler, 1988): andesitic volcanics; lithic sandstone and siltstone; siltstone, slate and phyllite; variably carbonaceous slate, phyllite and siltstone, and dolomitic siltstone and impure carbonate (Figure 7).

The andesitic volcanics of the basal Broadview Formation are identical to and interpreted to have been originally part of the volcanic

FIGURE 6

TABLE OF GEOLOGICAL EVENTS AND LITHOLOGICAL UNITS IN THE AMBER PROPERTY-AREA

Time	Formation or Event
Pleistocene to Recent	-valley rejuvenation and downcutting of the lower part of the Cascade Creek valley glacial erosion and till deposition
Eocene to Pleistocene	-erosion of the Slocan Range and creation of broad valleys, -deep weathering of rocks and oxidation of surface
Eocene	-**brittle deformation** and development of north-east striking fracture cleavage
Jurassic to Eocene	-erosion of stratigraphy above the Amber Property-area culminating in post-Eocene unroofing
Jurassic	-**deposition of Nelson and Kuskanax Batholiths** (164 m.y*) -anatexis and metasomatism of more permeable arenaceous Slocan Group rocks contact metamorphism
Triassic to Jurassic	-**folding and metamorphism of Slocan Group rocks** (173 to 164 m.y.*) resulting in: 1. development of structures and cleavages of the first and second phases of deformation; 2. middle greenschist regional metamorphism 3. thrust faulting and deposition of economic mineralization on the Amber Property
Triassic	-**deposition of the Slocan Group** a coarsening-upward, basin-filling sequence of variably carbonaceous pelite, variably calcareous siltstone and greywacke

* million years ago

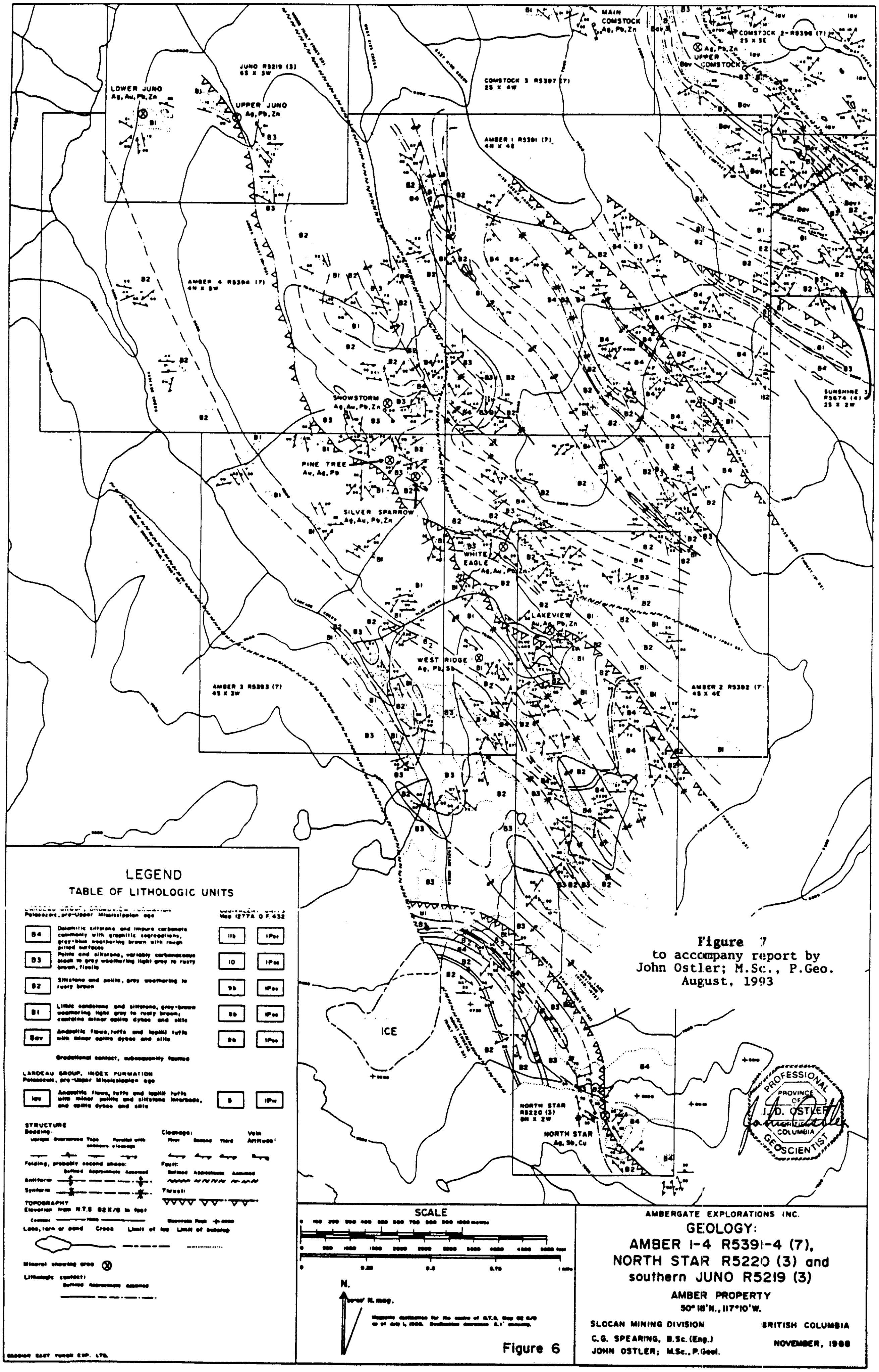


Figure 7
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

-28-

-29-

pile that now comprises the Index Formation which is exposed northeast of the property-area (Ostler, 1988). They were decoupled from the main mass of Index Formation volcanics during deformation. The two formations are now in fault contact.

The contact between the basal volcanics and overlying arenaceous sediments is gradational and very difficult to map accurately.

The lithic sandstones and siltstones that are exposed over most of the northeastern part of the claims are a sequence of turbidites with individual beds ranging up to 2 m thick. Textural maturity defined by a decrease in micaceous layers and interclast matrix, seems to increase southwestward.

The siltstones, slates and phyllites that overlie the sandstones are their distal equivalents. A progression from distal turbidites upward to carbonaceous slates records the development of a basin starved of sediments. This could be the result of either denudation of the source terrain or widening and deepening of the basin itself. It seems to the writer that denudation of the source terrain is most likely because the slates are overlain by carbonate rocks in the southwestern part of the property. The carbonates may have formed as shoals or reefs in shallow water.

2.2(ii) Deformation and Metamorphism

Read's (1973) mapping around the Cascade Creek area revealed that the rocks of the Index and Broadview formations were folded by as many as four phases of deformation in that region. This deformation resulted in a series of northwest-southeasterly trending folds that were subsequently thrusted in a northeasterly direction along local faults. The stratigraphy was later cut at oblique angles by long transverse faults.

On the Amber Property, first-phase folds are most commonly minor isoclines. Folding intensity seems to be related to ductility, being lowest in the andesitic volcanics and sandstones and highest in the carbonaceous slates and carbonates (Figure 7) (Spearing and Ostler, 1988).

Cleavages associated with the first and second phases of deformation are commonly sub-parallel and are indistinguishable in some outcrops.

The most important folds on the property are tight northwest-southeasterly trending second-phase folds (Figure 7). Third-phase structures are broad open warps.

Late during the second phase of deformation, major folds were broken through as stratigraphy was thrust northeastward along northwest-southeasterly trending southwesterly dipping faults.

Along most of these thrusts, competent strata have overridden incompetent strata. In the competent hanging wall rocks near the fault planes, pre-second-phase linear and planar structures are rotated into the second cleavage plane. Northeasterly verging second-phase minor folds are ubiquitous. Surprisingly, pre-second-phase structures in the footwall pelites are unaffected by thrusting.

It is presumed that the apparent lack of deformation in the footwall rocks is due to large vertical displacement along these faults. Such displacement would bring hanging wall rocks up from depths where high confining pressures would result in comparatively ductile deformation along the thrust plane and place them in contact with footwall rocks that have undergone more brittle deformation under lower confining pressure.

Two major post-deformational transverse faults are exposed in the upper Cascade Creek valley in the property-area; the Mobbs Fault and the Mount Emmens Fault (Figure 7). These faults trend northwest-southeastward across the claims displacing all stratigraphy and ductile deformation. Transverse displacement on these faults post-dates all regional deformation and metamorphism.

The Index-Broadview boundary fault located northeast of the Amber Property has a complex history (Ostler, 1988). Movement on that fault seems to have included an early period of thrusting followed by a period of transverse movement. It is not known if the Mount Emmens and Mobbs faults on the Amber Property had similar histories.

The rocks southeast of Cascade Creek were mapped by Read (1973) as belonging to the biotite zone of the upper greenschist facies of regional metamorphism. Staurolite and garnet phenocrysts observed near Blue Lake indicate that over parts of the property, metamorphic grade may be as high as the staurolite-almandine sub-facies of the lower amphibolite facies of regional metamorphism (Spearing and Ostler, 1988).

3.0 SOIL GEOCHEMISTRY

3.1 1987 and 1988 Soil Surveys

The legal common corner post of the Amber claim group was placed on a rounded treeless knob named the Snowstorm dome by the 1987 exploration crew (Figure 2). On the northern flank of the dome was the meadow containing the 26 Snowstorm trenches; on its western flank was the Silver Sparrow Vein. Everything in the area was soil-covered. It was considered prudent to conduct a soil survey over the area before going to the expense of opening all of the old trenches.

The 1987 soil survey extended from the area of the legal common corner post northward across the meadow containing the Snowstorm trenches (Figures 2, 3 and 8). The main 1988 soil survey adjoined the 1987 survey to the south to cover the area between the Snowstorm trenches and the Silver Sparrow Vein (Figures 2, 3 and 9). A local soil survey was conducted around the White Eagle workings during 1988 to test for unexposed veins that were crossed by the lower White Eagle adit.

The extent of the 1987 and 1988 soil surveys was as follows:

Survey	Total line Km	Line separation	Grid area	Sample site separation	No. of samples
1987	18.3 km	50 m	86.0 ha	50 m	383
1988	5.2 km	50 m	24.5 ha	50 m	104
1988 W.Eag.	1.2 km	50 m	4.0 ha	20 m	54

All of the 383 soil samples taken during 1987 were analyzed for copper, lead, zinc and silver; of these, 209 samples were analyzed for gold. All of the 1988 soil samples were analyzed for copper, lead, zinc, silver and gold.

A statistical analysis using the methods of Lepeltier (1969) resulted in the generation of the following contour intervals for the 1987 soil data (Spearing and Ostler, 1987):

	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb*
84th. Centile (sub-anomalous)	68.0	37.0	148.0	0.52	21.5
97.5th. Centile (anomalous)	121.7	62.2	292.1	0.95	25.5

* NOTE: gold was not contoured on maps due to nugget effect

Soil samples from the 1987 and 1988 surveys were taken from the same statistical population and had similar threshold values. For consistency, the threshold values from the 1987 survey were used in plotting all of the data on the maps (Figures 8 and 9).

3.2 Interpretation of Soil Survey Results

High soil-metal concentrations occurred in two different parts of the 1987 grid-area; in the northeastern part at the head of Kiss Creek and in the southern part near the Snowstorm trenches. It was interpreted that the two areas of high soil-metal concentrations occurred for very different reasons.

High concentrations of copper, lead and zinc occurred without associated gold or silver anomalies in a collection of basins near water-table level at the head of Kiss Creek (Figure 8). The high copper and low silver contents in soils of these areas indicated that these soil metal anomalies were caused by illuviation in soils down slope from weathering metasedimentary rocks.

The high silver and gold concentrations in soils in the southern part of the 1987 grid-area were accompanied by low concentrations of copper and only slightly elevated lead and zinc concentrations (Figure 8). These gold-silver anomalies were interpreted to have been caused by the development of soils over the Snowstorm veins which contained high concentrations of silver and gold with almost no copper.

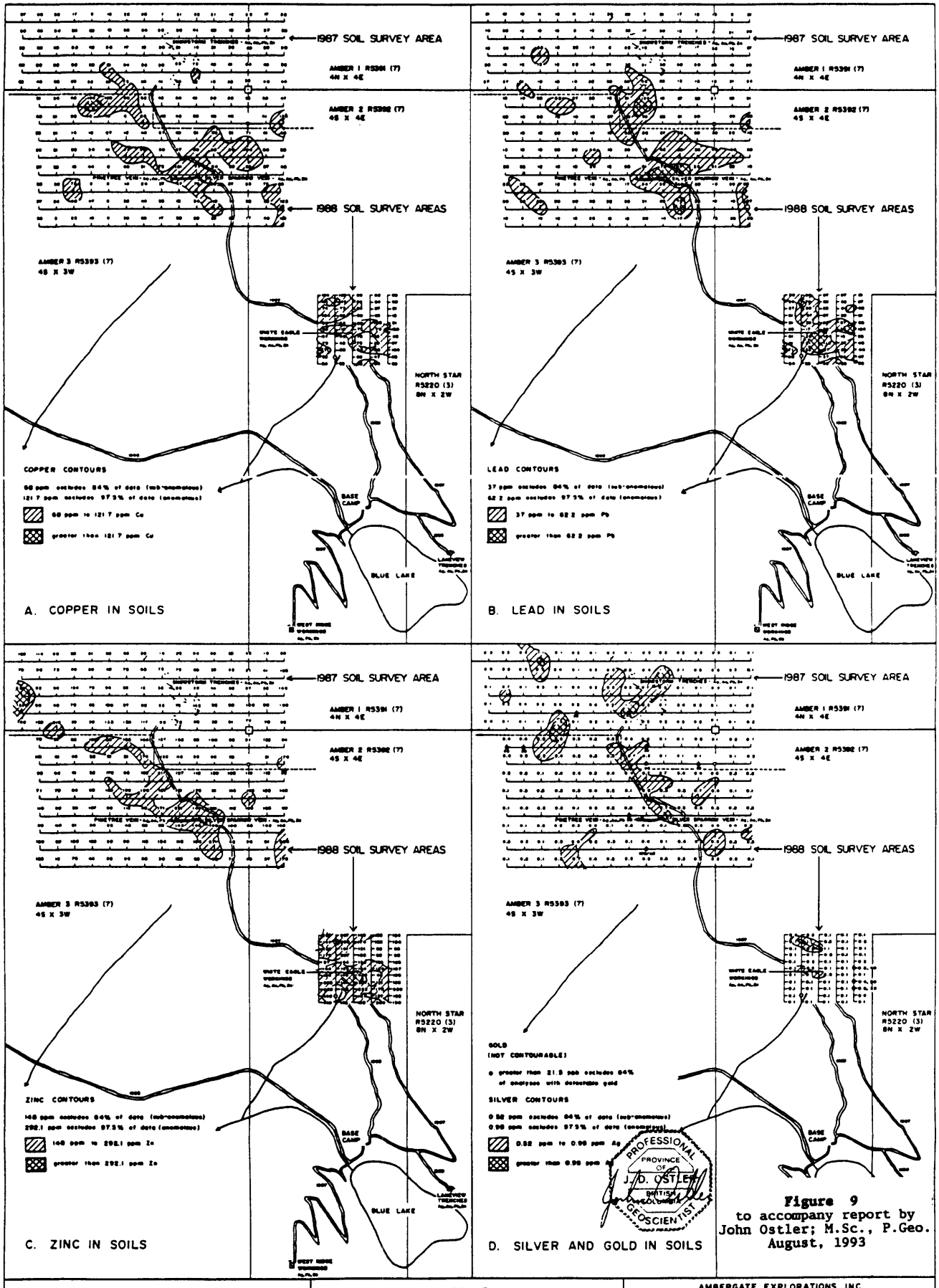


Figure 9
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

LEGEND

For locations of soil survey areas on the Amber Property see Figures 5, 6 and 7.

Topography

Stream Lake Trail Trenches Shaft

Soil Surveys and Claims

SCALE

N.

Figure 8

AMBERGATE EXPLORATIONS INC.

1988 SOIL SURVEY AREAS

AMBER 2-3 R5392-3 (7)

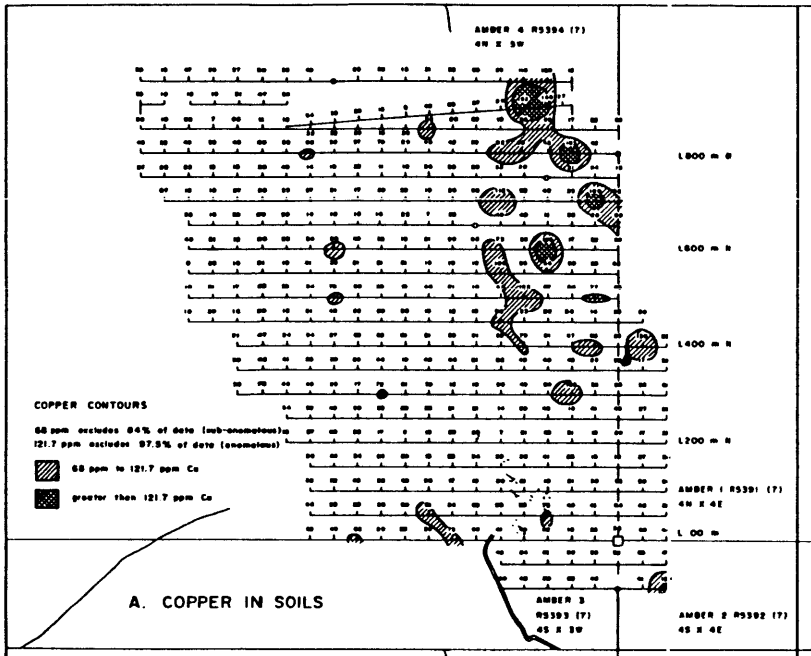
AMBER PROPERTY

50°18'N., 117°10'W.

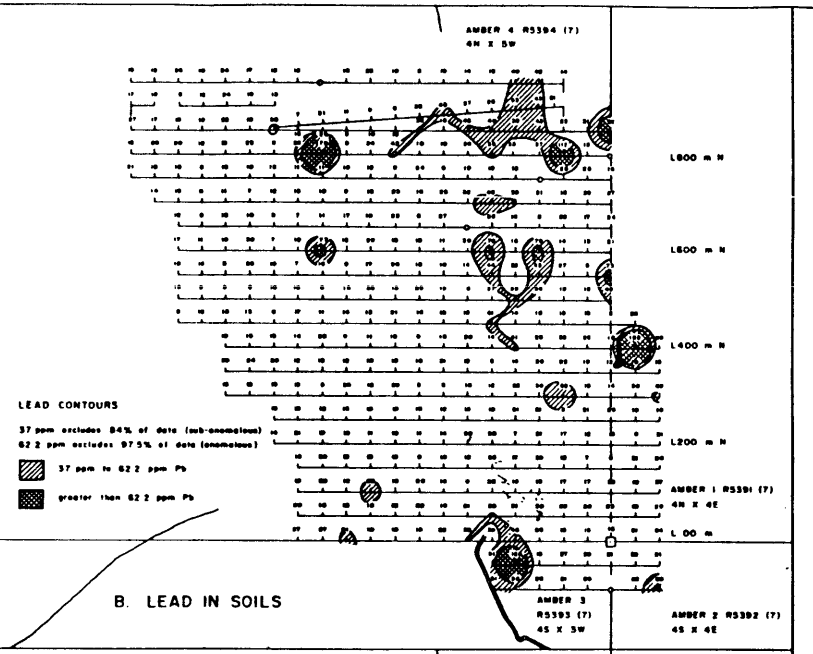
SLOCAN MINING DIVISION BRITISH COLUMBIA

C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol.

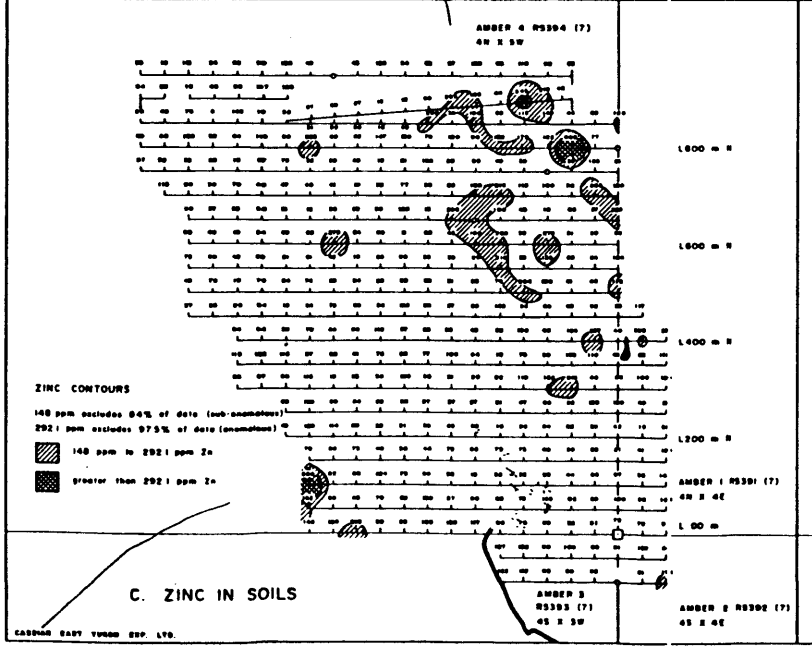
NOVEMBER, 1988



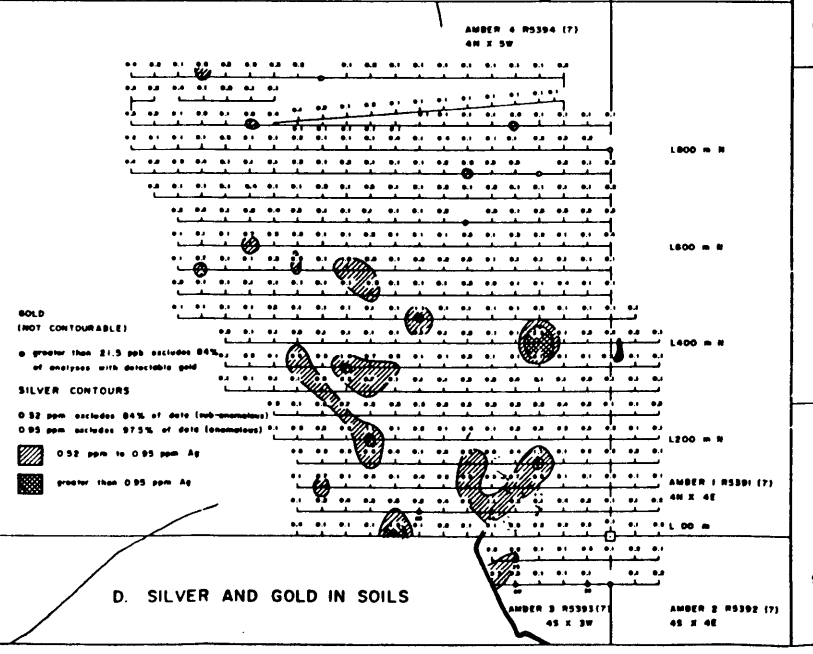
A. COPPER IN SOILS



B. LEAD IN SOILS



C. ZINC IN SOILS



D. SILVER AND GOLD IN SOILS

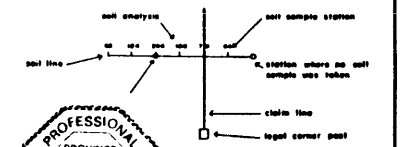
CASSIAR EAST YUKON EXP. LTD.

LEGEND

Topography

Trail Stream Trenches Iron Scinter

1987 Soil Survey and Claims



PROFESSIONAL GEOSCIENTIST PROVINCE OF BRITISH COLUMBIA J. D. OSTLER

Figure 8
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

NOTE For location of 1987 soil survey on the Amber Property see Figures 3, 4 and 7

SCALE

Figure 8

AMBERGATE EXPLORATIONS INC.

1987 SOIL SURVEY SNOWSTORM TRENCH-AREA AMBER 4 R5394 (7)

AMBER PROPERTY

50° 18' N., 117° 10' W.

SLOCAN MINING DIVISION BRITISH COLUMBIA

C.G. SPEARING, B.Sc (Eng.)
JOHN OSTLER; M.Sc., P.Geol.

OCTOBER, 1987

The 1988 main grid-area extended from the southern boundary of the 1987 grid to just south of the Silver Sparrow workings (Figures 3 and 9).

In the area between the Snowstorm and Silver Sparrow workings (Figure 9), an area of copper, lead and zinc enrichment in soils extended form 50 m S., 400 m W. to 350 m S., 100 m W. Because there was no significant copper mineralization in any of the veins in that area it was interpreted that this base-metal enrichment was generated by illuviation of soils near the break of slope below outcrops of carbonaceous pelite around the Snowstorm dome.

Of much more economic interest was a coincident gold and silver anomaly in soils located at about 00 m N., 400 m W. This may have been related to an unexposed vein that trends parallel with the Snowstorm veins (Figure 9).

A soil-gold anomaly located at 250 m S, 250 m W. just west of the Pine Tree Vein may be related to an unexposed extension of that vein.

A string of three soil-gold anomalies located along line 200 m E. near 740 m S. in the 1988 White Eagle survey may have been produced by weathering of the mineralized vein that was exposed in the lower White Eagle tunnel at the end of the raise (Figure 9) (Section 4.2(i), this report).

Lack of time and funds precluded extending the area of soil survey coverage southward from the Silver Sparrow workings, across the White Eagle workings to the Lakeview trenches. A soil survey in that area would probably result in the discovery of more mineral showings.

4.0 ECONOMIC MINERALIZATION

4.1 Relation of Economic Mineralization to Geology

Large veins were developed parallel with the dominant cleavage planes after thrusting during the second phase of deformation. Many of these veins contain only milky quartz. However; some of them contain large amounts of sphalerite, argentiferous galena, stibnite, and auriferous pyrite. All of the known economic mineral showings on the Amber Property occur in these veins.

The thrust faults in the Cascade Creek area seem to divide economic mineralization into three discrete zones as follows:

ECONOMIC MINERAL ZONATION AROUND THE AMBER PROPERTY

Zone	Minerals Present	Metals Present	Showings
1. Southeast of Amber Thrust	stibnite, galena tetrahedrite	Sb, Ag, Pb minor Cu, As	North Star West Ridge Lower Juno
2. Between Amber Thrust and Mobbs Fault	sphalerite, galena pyrite	Au, Ag, Pb, Zn	White Eagle Lakeview Pine Tree Upper Juno Snowstorm Silver Sparrow
3. Northeast of Mobbs Fault	galena, sphalerite	Ag, Pb minor Zn	Upper and Lower Comstock

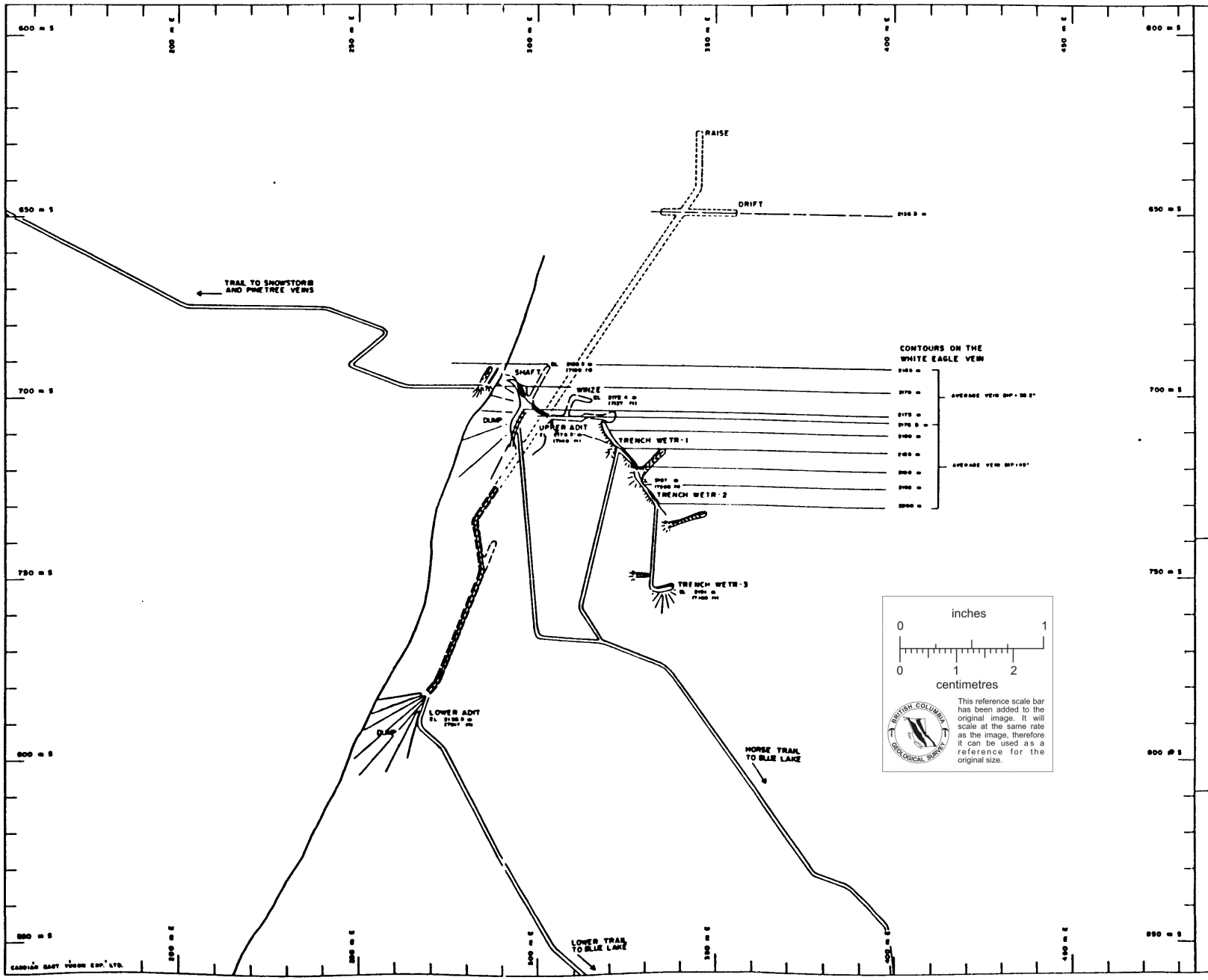
The thrust faults in the Cascade Creek area may have acted as major conduits facilitating the migration of mineralizing fluids of different compositions upward from various depths. These mineralizing fluids could have been produced during the emplacement of the Kuskanax Batholith exposed just southeast of the Amber Property.

4.2 Descriptions of Mineral Showings on the Amber Property

4.2(i) White Eagle Workings; Amber 2 R256358 (7)

The White Eagle workings are located on a westerly facing slope north of Blue Lake (Figures 2 and 3). They comprise upper and lower adits, an inclined shaft, a winze in the upper adit and surface trenches (Figure 10). The portal-area of the shaft and the upper adit; considered to be the centre of this workings-area, is at an elevation of about 2176 m (7140 ft). It is located approximately 700 m south and 300 m east of the Amber common corner post on the Amber 2 claim.

The upper White Eagle workings were sampled extensively by C.G. Spearing B.Sc(Eng.) and Don Tully, P.Eng. during the 1987 exploration program (Figure 11) (Spearing and Ostler, 1987; Tully, 1987). Channel samples were taken at roughly 2 m intervals along both walls of the inclined shaft, the upper adit and the winze. Channel samples were also



LEGEND

Topography

Trail Track Cut Fill Creek

Mineralized Vein

Outcrop Surface trace

Underground Workings

Compass survey (1987 and 1988) Configuration and location is estimated from old reports

Notes:

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. D. OSTLER GEOSCIENTIST

Figure 10
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

SCALE

N.

Figure 9

AMBERGATE EXPLORATIONS INC.

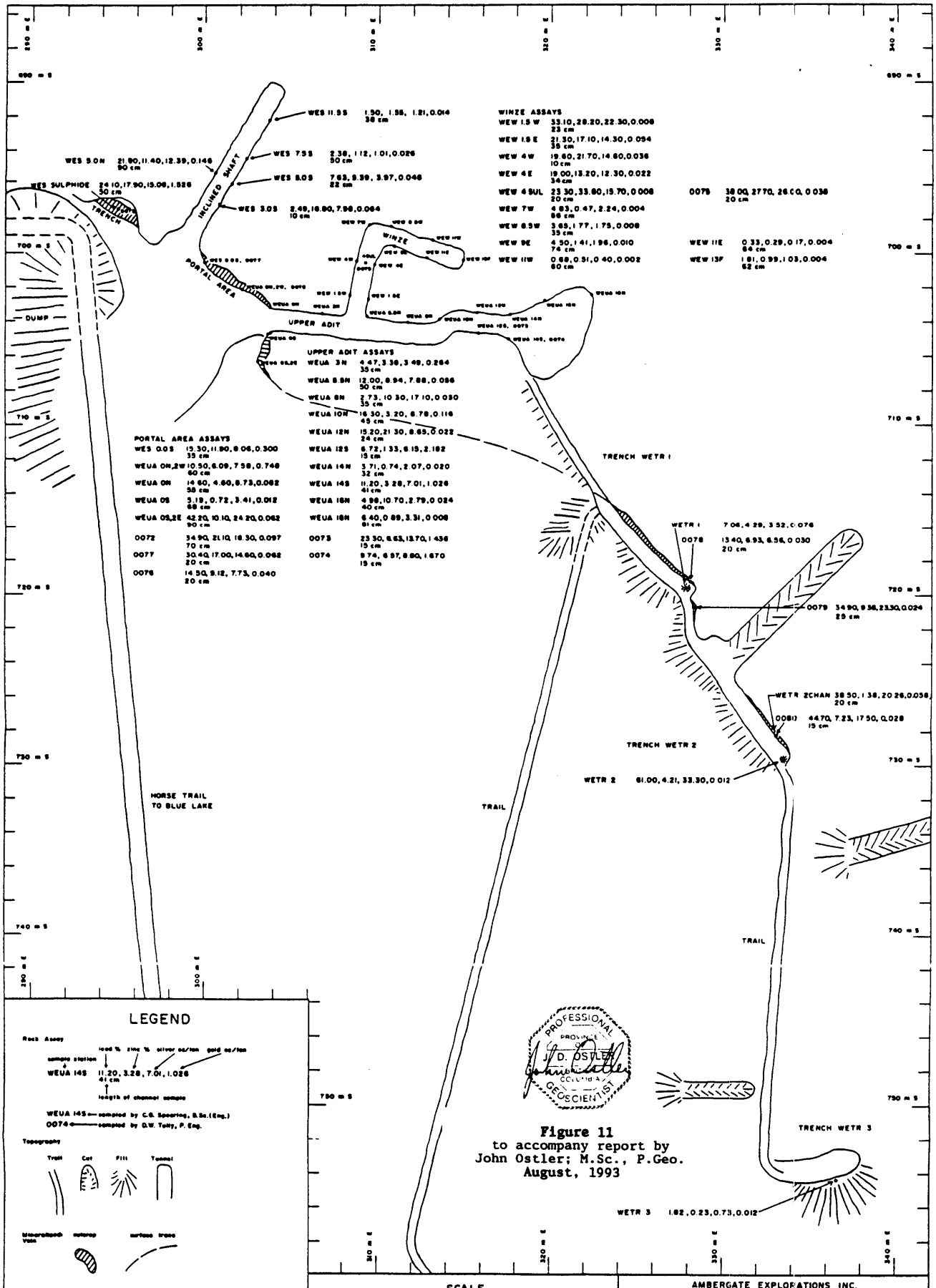
WHITE EAGLE WORKINGS:
AMBER 2 R5392 (7)

AMBER PROPERTY
50°18'N., 117°10'W.

SLOCAN MINING DIVISION BRITISH COLUMBIA

C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol.

NOVEMBER, 1988



LEGEND

Rock Assay

sample station — lead % — zinc % — silver oz/ton — gold oz/ton

WEUA 14S 11.20, 3.28, 7.01, 1.026 41 cm

length of channel sample

WEUA 14S — sampled by C.G. Spearing, B.Sc.(Eng.)

0074 — sampled by D.W. Tully, P. Eng.

Topography

Trail, Cat, Fill, Tunnel

Mineralized vein, outcrop, surface trace

Notes:

For location on property see Figures 3, 6 and 7

For area of White Eagle workings-area see Figure 8

PROFESSIONAL GEOSCIENTIST — PROVINCE OF BRITISH COLUMBIA — J.D. OSTLER

Figure 11
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

SCALE

N.

Figure 10

AMBERGATE EXPLORATIONS INC.

1987 SAMPLING PLAN
UPPER WHITE EAGLE WORKINGS
AMBER 2 R5392 (7)

AMBER PROPERTY

50° 18' N., 117° 10' W.

SLOCAN MINING DIVISION — BRITISH - COLUMBIA

C.G. SPEARING, B.Sc. (Eng.)
JOHN OSTLER, M.Sc., P.Geol.

OCTOBER, 1987

inches 0 1
centimetres 0 1 2

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

taken from surface vein exposures in the portal-area and in trenches southeast of the portal-area.

There is no appreciable copper, arsenic or antimony in the White Eagle Vein (Spearing and Ostler, 1987). Galena-rich samples have lead concentrations as high as 61% and silver concentrations as high as 33.3 oz/ton silver. Gold concentrations are as high as 2.182 oz/ton gold in quartz-pyrite vein material. Zinc occurs in sphalerite-bearing vein material in concentrations as high as 33.8%.

A weighted average of assays from 42 channel samples taken in the upper White Eagle workings are as follow:

lead	14.88%
zinc	7.58%
silver	8.69 oz/ton
gold	0.19 oz/ton

NOTES: Average vein width = 40 cm

$$\text{Weighted assay} = \frac{\Sigma \text{ assay x vein width at sample location}}{\Sigma \text{ vein widths}}$$

Spearing and Ostler, 1987: p. 36.

The silver/lead ratio calculated from all of the samples taken at the upper White Eagle workings is 0.59.

Economic mineralization is very unevenly distributed throughout the White Eagle Vein. Higher grade material is concentrated in pods and ore shoots that seem to have northerly rakes in the plane of the vein.

A major ore shoot occurs on surface as the massive sulphide lens west of the inclined shaft. Good-grade mineralization occurs from the sulphide pod along strike into the upper adit (Figures 10 and 11).

The central part of the ore shoot contains massive sulphide up to 0.6 m thick that is composed of galena, sphalerite and minor pyrite. Silver concentrations in this material commonly exceed 20 oz/ton. However, because of low pyrite concentrations, the massive galena-sphalerite mineralization generally has comparatively low gold contents. Gold seems to be concentrated near the lower eastern boundary of the ore shoot where mineralization is almost entirely pyrite (Figure 11).

The part of the ore shoot sampled in the upper adit probably breaks through to surface in trenches WETR-1 and 2. Lean material in the vein encountered in the winze and shaft may represent part of the vein below and east of the ore shoot exposed in the portal-area (Spearing and Ostler, 1987).

The upper White Eagle workings were developed from 1928 to 1930 to explore a vein that was an average of 0.6 m thick and was well mineralized.

To test the vein at depth, a lower adit was driven during 1929 and 1930 from a portal site about 90 m southwest and 38 m below the upper portal site (Figure 10).

Old reports indicate that the lower adit intersected a mineralized vein about 146 m in from the portal (Section 1.5(i), this report). A drift was extended for 15 m eastward along the vein with poor results. Another drift extended westward intersected good mineralization 4 m west of the adit.

There seemed to be considerable doubt that the vein encountered 146 m in the lower adit was the same as the vein explored in the upper workings. Because of that uncertainty, the lower adit was extended to a total length of 152 m and an inclined raise was driven 24.5 m upward from the end of the lower adit. A vein containing significant mineralization was encountered at the end of the raise. This second vein was interpreted to have been the vein encountered in the upper workings.

During the 1987 exploration program, Spearing and Ostler found that two parallel veins were exposed in the upper workings; the White Eagle Vein which was well-mineralized, and a parallel vein exposed only in trench WETR 3 which was sparsely mineralized (Figure 11).

During the 1988 program the lower adit was explored 51 m in from the portal. It was confirmed that the lower adit was driven directly beneath the upper workings-area. With that confirmation, Spearing and Ostler (1988) were able to speculate upon the veins encountered in the lower adit and the raise.

If, as was suspected in 1929, the vein encountered at the top of the raise in the lower adit was the same as that exposed in the upper workings, either its dip would have to flatten significantly or it would have to be faulted and displaced northeastward between the lower and upper workings. Also, for the vein encountered at the top of the raise to be the White Eagle Vein and for the vein encountered at 146 m in the adit to be the lower parallel vein exposed in trench WETR 3, the distance between these veins would have to increase greatly between the upper and lower workings indicating that they are not parallel. Finally, assuming constant dip and strike of the White Eagle Vein, it should have been intersected within a few metres of where it actually was intersected in the lower adit.

Spearing and Ostler (1988) concluded that the vein intersected at 146 m in the lower adit was the White Eagle Vein and that the vein intersected at the top of the raise in the lower adit was another vein not yet located on surface.

The soil-gold anomalies along the eastern margin of the White Eagle soil survey may be an expression of this unexplored vein (Figure 9) (Spearing and Ostler, 1988).

4.2(ii) Snowstorm Trenches; Amber 4 R256360 (7)

The Snowstorm Property was acquired by Joe Gallo in 1930 (Section 1.5(i), this report). During that year, exploration was conducted over several areas of the property. Two of these workings-areas; denoted in old reports as the Snowstorm trenches and shaft, were examined by the writer (Spearing and Ostler, 1987).

The Snowstorm trenches are located at elevations of about 2271 m (7450 ft) in an alpine meadow near the southeastern corner of the Amber 4 claim (Figures 2 and 3). There, 26 trenches, pits and cuts cover an area of about 7.5 ha. Most of the workings are shallow prospect diggings that were an attempt to trace a large mineralized quartz vein exposed in trench SS1 (Figure 12).

This trench exposes a vein comprised of milky quartz containing segregations of galena with minor sphalerite. Four selected grab samples taken from trench SS1 average 0.05 oz/ton gold, 10.80 oz/ton silver, 21.58% lead and 0.03% zinc (Figure 12).

Near trench SS1, the vein is about 1 m thick. It is oriented at 313°/39° NE.

No surface vein exposure is visible in any other part of this workings-area. However, by trench orientations and vein float scattered about, it is assumed that several parallel veins were sought in that area.

4.2(iii) Snowstorm Shaft and Silver Sparrow Vein; Amber 3 R256359 (7)

The Silver Sparrow Vein is exposed by a trench and penetrated by the Snowstorm shaft on a steep scree-covered slope. This working is located on the Amber 3 claim about 260 m south and 140 m west of the Amber common corner post (Figures 2, 3 and 13).

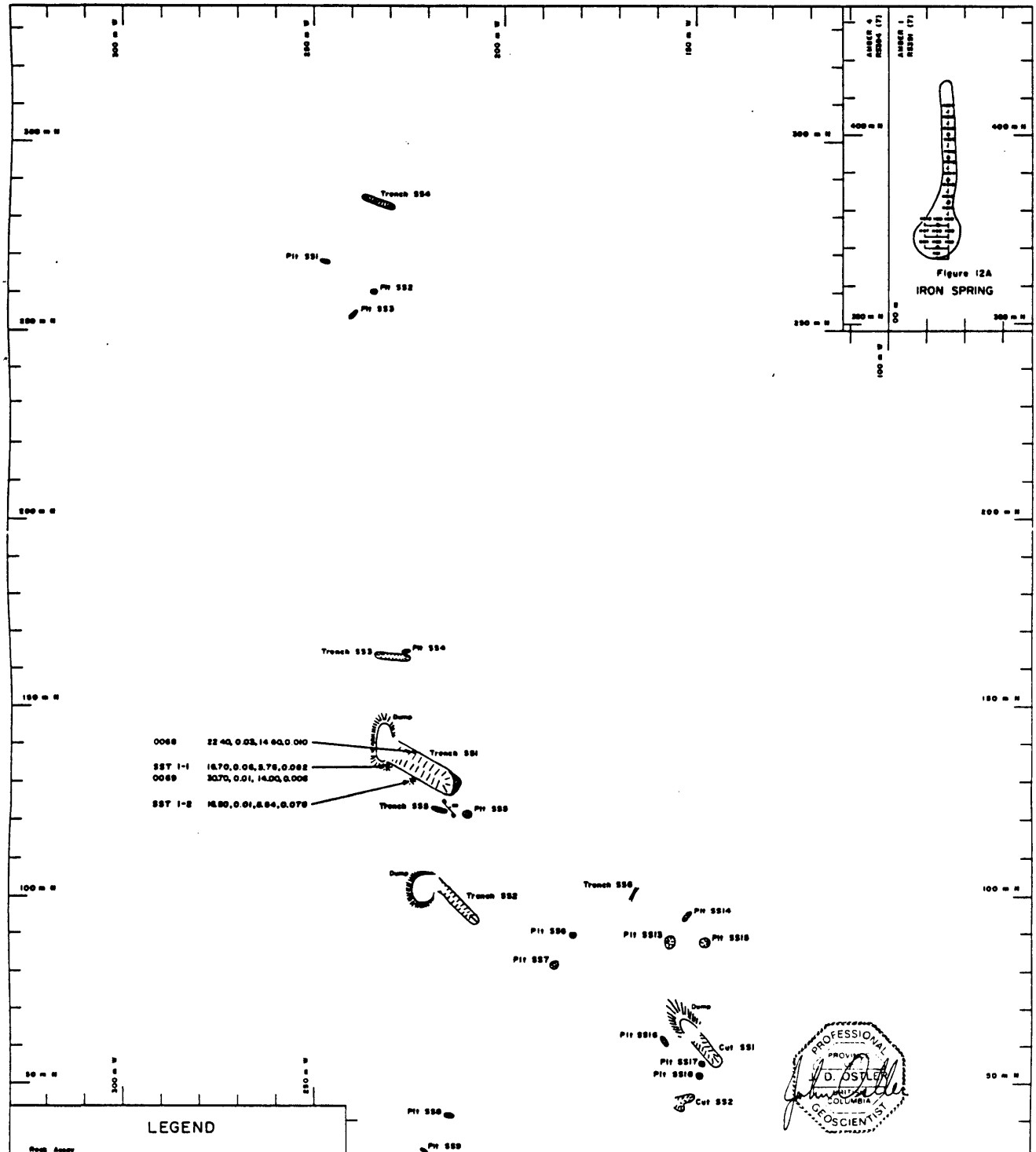
The Snowstorm shaft is 6.1 m long. It follows the footwall of the Silver Sparrow Vein, plunging 19° for 2 m and then levelling off. Subsequent caving has produced a chamber 2.4 m^3 just in from the portal. In the shaft, the vein orientation is 300°/31° NE and it is an average of 1 m thick.

Mineralization comprises stringers of auriferous pyrite and segregations of argentiferous galena. Samples of pyritic vein material assay up to 0.802 oz/ton gold, 31.60 oz/ton silver, 56.2% lead and 0.55% zinc. Galena-rich vein material assays up to 0.016 oz/ton gold, 42.6 oz/ton silver, 66.9% lead and 0.85% zinc (Figure 13) (Spearing and Ostler, 1987 and 1988).

4.2(iv) Pine Tree Vein and Trenches; Amber 3 R256359 (7)

The Pine Tree Vein was discovered during the 1988 exploration program (Spearing and Ostler, 1988).

It is located on the Amber 3 claim about 265 m south and 230 m west of the Amber common corner post, and about 70 m west of the Silver Sparrow Vein (Figures 2, 3 and 13).



LEGEND

Rock Assay

sample station | lead % | zinc % | silver oz/ton | gold oz/ton

SST 1-1 16.70, 0.06, 5.76, 0.062

SST 1-1 — sampled by C.G. Spearing, B.Sc. (Eng.)
0068 — sampled by D.W. Talby, P.Eng.

Topography

Pit Trench Cut Fill

Vein reserve attitude

Iron Spring, Figure 12A

sediment sample station, results in appendix B

sediment sampling grid

Notes

For location on property see Figures 3, 4 and 7

GOLDEN EAST YUKON EXP. LTD.

SCALE

0 10 20 30 40 50 metres

0 50 100 150 feet

Scale for Figure 12 and Figure 12A.

N.

Grid N. mag.

Magnetic declination for the centre of S.T.G. Zone 8S 5°E as of July 1, 1987. Declination decreases 0.1° annually.

Figure 12

AMBERGATE EXPLORATIONS INC.

SNOWSTORM TRENCHES

AMBER 4 R5394 (7)

AMBER PROPERTY

50°18'N., 117°10'W.

SLOCAN MINING DIVISION BRITISH COLUMBIA

C.G. SPEARING, B.Sc. (Eng.)
JOHN OSTLER; M.Sc., P.Geol.

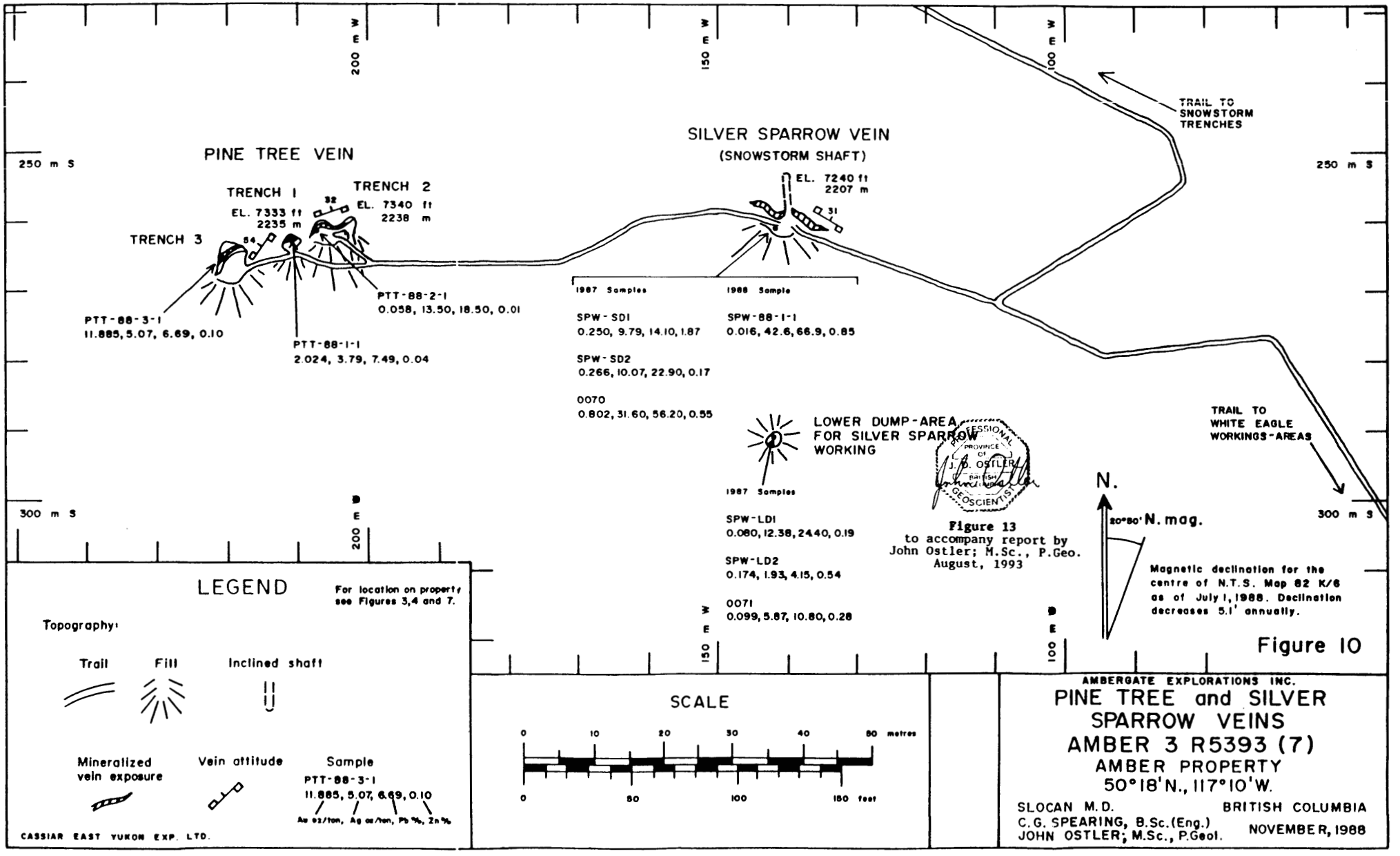
OCTOBER, 1987

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. D. OSTLER GEOSCIENTIST

Figure 12
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

AMBER 4 R5394 (7)

AMBER 3 R5393 (7)



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. B. OSTLER
GEOSCIENTIST

Figure 13
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

LEGEND

For location on property see Figures 3,4 and 7.

Topography

Trail | Fill | Inclined shaft

Mineralized vein exposure | Vein attitude | Sample

PTT-88-3-1
11.885, 5.07, 6.69, 0.10
Au oz/ton, Ag oz/ton, Pb %, Zn %

CASSIAR EAST YUKON EXP. LTD.

SCALE

0 10 20 30 40 50 metres
0 50 100 150 feet

Figure 10

AMBERGATE EXPLORATIONS INC.

PINE TREE and SILVER SPARROW VEINS
AMBER 3 R5393 (7)
AMBER PROPERTY
50°18'N., 117°10'W.

SLOCAN M.D. BRITISH COLUMBIA
C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol. NOVEMBER, 1988

The Pine Tree Vein is exposed for a total length of 20 m in three small hand trenches. In trench PTT 2, located about 68 m west of the Snowstorm shaft, the orientation of the Pine Tree Vein is 251°/31° NW. In trench PTT 3, 15 m to the west, the vein attitude rotates to a more southwesterly strike and a steeper dip. Vein thickness ranges from 7 cm to 0.5 m.

Mineralization in the Pine Tree Vein is similar to that in the Silver Sparrow Vein. The two exposures may represent parts of the same vein. Stringers of auriferous pyrite and segregations of argentiferous galena are disseminated throughout yellow to white quartz. Composite grab samples from this vein assayed up to 11.885 oz/ton gold and 13.5 oz/ton silver (Figure 13).

4.2(v) West Ridge Workings; Amber 2 R256358 (7)

The West Ridge workings-area was named by the 1987 exploration crew because it was atop the ridge west of Blue Lake. These workings were located at an elevation of about 2219 m (7280 ft) about 210 m east and 1500 m south of the Amber common corner post.

The workings include a 2.4 m^2 shaft, an adit and several trenches (Figure 14). The entrances to the shaft and adit are in poor condition.

The shaft is estimated from the size of its dump to have been about 15.2 m deep. The adit is located about 92.5 m south of the shaft on the western slope of the ridge. The adit seems to bear N 55° E into the ridge. It probably intersects the vein south of the shaft with connection to the shaft being made by a northward drift from the end of the adit. The volume of dump material at the portal indicates that these underground workings extend in for at least 150 m.

The writer could find no specific mention of these workings in any of the old reports. They may have been the "workings on other claims" developed by Joe Gallo during 1929 (Section 1.5(i), this report).

A group of trenches are located on the eastern slope of the ridge on the projected bearing of the adit (Figure 14). Cleaning of one of these trenches; WTR 7, uncovered massive galena-stibnite mineralization in

quartz that assayed up to 44.9 oz/ton silver, 1.58% copper, 41.1% lead and 16.1% antimony (Figure 14) (Spearing and Ostler, 1988). The amount of copper reported in the assay indicates the presence of fine-grained tetrahedrite with the galena and stibnite.

Trench WTR 7 is located near the upper end of a boulder dispersion train that can be traced for 137 m down slope. Blocks of massive galena-stibnite mineralization in the dispersion train are up to 1 m across, indicating the thickness of the unexposed mineralization above. Assays from the mineralization in the dispersion train are similar to those from trench WTR 7 above.

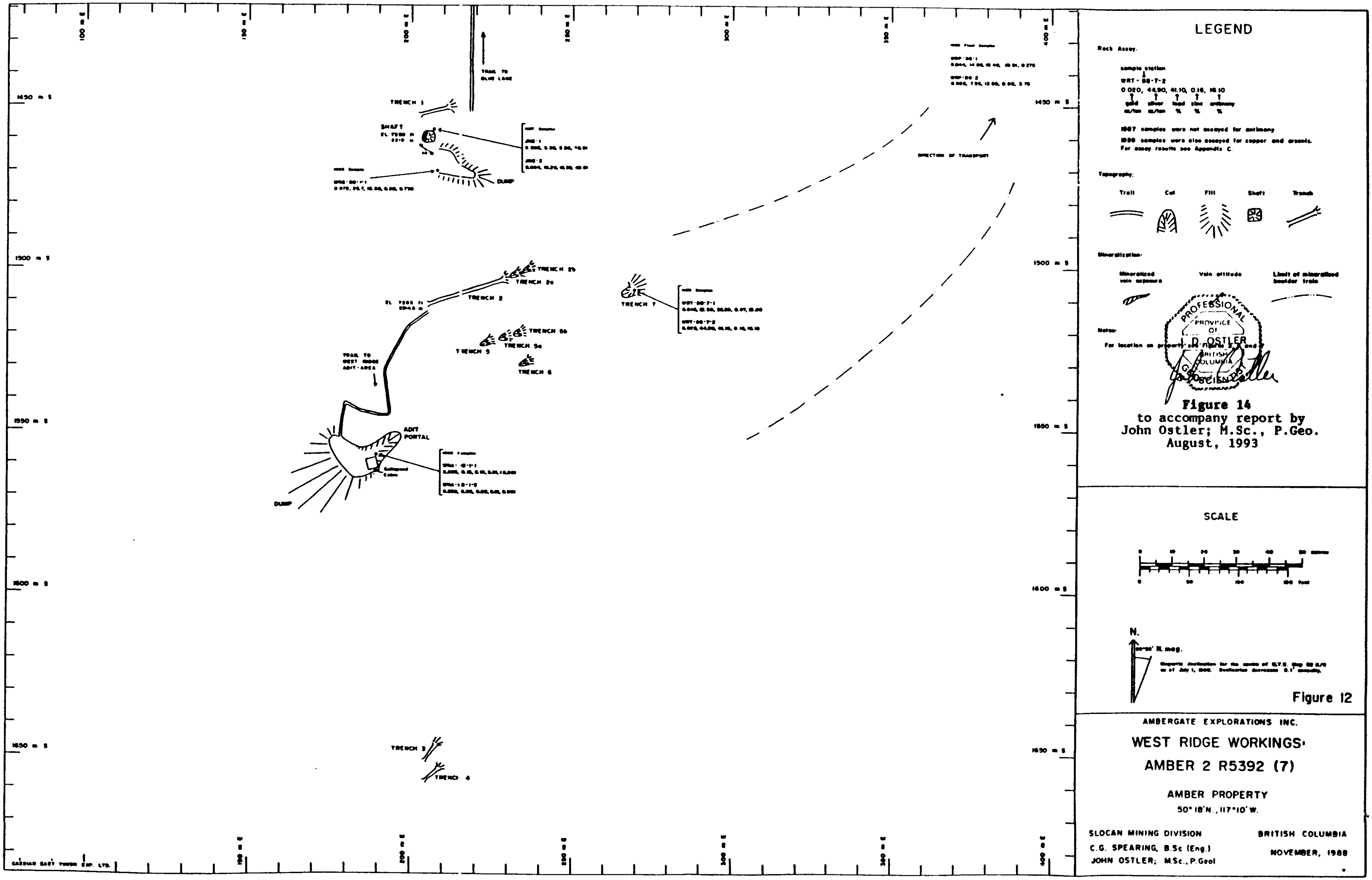
4.2(vi) Lakeview Trenches and Veins; Amber 2 R256358 (7)

The Lakeview showings were discovered during the 1988 exploration program. They were so named because they were located on a hillside overlooking Blue Lake.

These showings are at an elevation of 2106 m (6910 ft) on the Amber 2 claim about 1350 m south and 575 m east of the Amber common corner post (Figures 2 and 3).

At the Lakeview showings, two hand trenches expose sparsely mineralized metasandstone between two quartz veins (Figure 15) (Spearing and Ostler, 1988). The quartz veins are mineralized with disseminated and massive galena, pyrite and sphalerite. Some of the mineralization at the Lakeview showings closely resembles the massive mineralization at the White Eagle workings located about 500 m northwest of the Lakeview showings (Figures 2 and 3).

The No.1 Vein at the Lakeview strikes 128° and dips nearly vertically southwestward. It is 20 cm thick where it is exposed in place at the eastern end of trench LVT 1. There, two samples of disseminated mineralization yielded low assays (Figure 15). However, a composite chip sample from about 10 rotated blocks of vein material taken from the soil at the western end of trench LVT 1 assayed 4.22 oz/ton gold, 4.61 oz/ton silver, 6.04% lead and 3.47% zinc (Figure 15).


TRENCH 1
SHAFT
DUMP
TRENCH 2b
TRENCH 2a
TRENCH 2
TRENCH 5b
TRENCH 5a
TRENCH 5
TRENCH 6
TRENCH 7
TRAIL TO WEST RIDGE ADIT AREA
ADIT PORTAL
DUMP
TRENCH 3
TRENCH 4
DIRECTION OF TRANSPORT
1450 m S
1500 m S
1550 m S
1600 m S
1650 m S
LEGEND
Rock Assay:
Topography:
Trail
Cut
Fill
Shaft
Trench
Mineralization:
Mineralized vein exposure
Vein attitude
Limit of mineralized boulder train
Notes:
PROFESSIONAL
PROVINCE OF
J. D. OSTLER
BRITISH COLUMBIA
GEOSCIENTIST
Figure 14
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993
SCALE
N.
Figure 12
AMBERGATE EXPLORATIONS INC.
WEST RIDGE WORKINGS:
AMBER 2 R5392 (7)
AMBER PROPERTY
50° 18'N., 117°10'W.
SLOCAN MINING DIVISION
BRITISH COLUMBIA
C.G. SPEARING, B.Sc (Eng.)
JOHN OSTLER; M.Sc., P.Geol
NOVEMBER, 1988

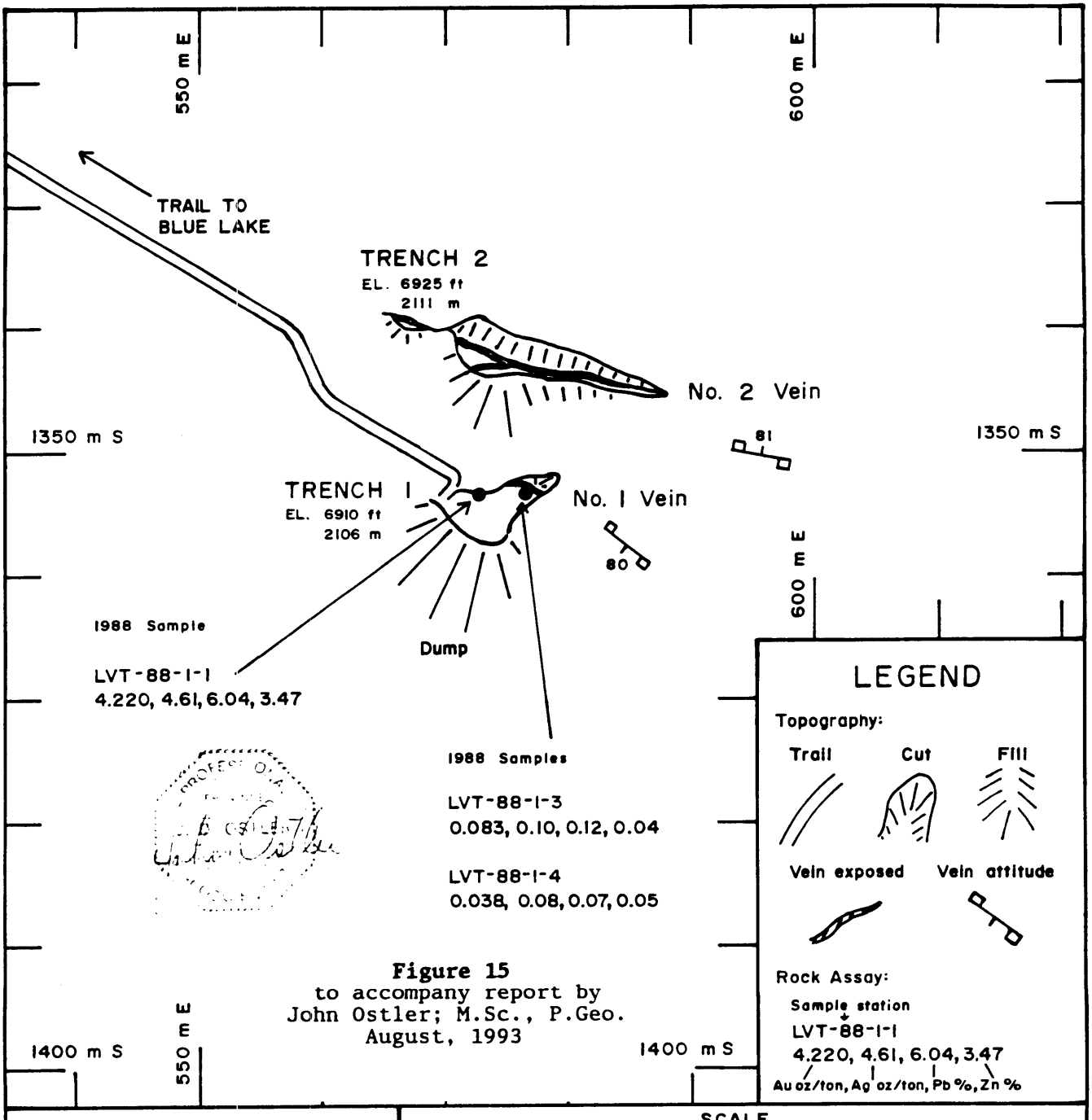


Figure 15
to accompany report by
John Ostler; M.Sc., P.Geo.
August, 1993

NOTE: For location on property, see Figures 3, 4 and 7.

SCALE
0 10 20 30 metres
0 50 100 feet

N.
20°50' N. mag.

Figure 11

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

LAKEVIEW VEINS
NORTH STAR R5220 (3)
AMBER PROPERTY
50°18'N., 117°10'W.

SLOCAN M.D.
C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol.

BRITISH COLUMBIA
NOVEMBER, 1988

The No.2 Vein is exposed in trench LVT 2 About 4.6 m vertically above the No.1 Vein. The No.2 Vein is exposed in a slit trench over a length of 22 m. This vein is oriented 281°/81° N. It splits into two veins at the western end of the trench (Figure 15).

Mineralization in the sandstone between the veins comprises thin sheets of pyrite and minor galena with sphalerite deposited in cleavage planes. It is possible that sufficient tonnage of this low-grade material may be present for bulk mining of the veins and the mineralized sandstone together.

4.2(vii) Juno Workings; Amber 4 R256360 (7)

The Juno Property was developed by the Juno Syndicate in the mid-1920s. Work on several locations on the property was recorded in the B.C. Minister of Mines' annual Report of 1925 (Section 1.5(i), this report).

Surface and underground workings comprising the lower Juno workings are located along the main Cascade Creek pack trail at elevations ranging from 1372 m (4500 ft) to 1530 m (5000 ft). The adit and winze discussed in the old reports are located on the trail at 1350 m elevation. They are on the Amber 4 claim about 2000 m north and 1850 m west of the Amber common corner post (Figures 2 and 3). The Juno cabin is assumed to be at the centre of the upper Juno workings-area. It is located on a creek between Cascade and Kiss creeks at an elevation of about 1737 m (5700 ft). It is on the Amber 4 claim about 2000 m north and 1300 m west of the Amber common corner post.

No significant mineralization has been found yet at any of the Juno workings.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

5.1(i) Geology

The area around Cascade Creek and the Amber Property is underlain by rocks that range in age from Early Palaeozoic to Jurassic. These rocks can be divided into two provenancal groups: the Lardeau Group, a

eugeosynclinal assemblage and the Milford Group, a miogeosynclinal assemblage. Both assemblages were intruded by Mesozoic-age granitic rocks.

The claims are underlain by mafic metavolcanics and metasediments of the Triassic-age Broadview Formation which forms part of the Lardeau Group. These rocks are interpreted to be a eugeosynclinal sequence recording the infilling of a northwest-southeasterly trending trough.

The Index and Broadview formations were folded by as many as four phases of deformation in that region. This deformation resulted in a series of northwest-southeasterly trending folds that were subsequently thrusted in a northeasterly direction along local faults. The stratigraphy was later cut at oblique angles by long transverse faults.

5.1(ii) Soil Survey

The 1987 soil survey extended from the area of the legal common corner post northward across the meadow containing the Snowstorm trenches. The main 1988 soil survey adjoined the 1987 survey to the south to cover the area between the Snowstorm trenches and the Silver Sparrow Vein. A local soil survey was conducted around the White Eagle workings during 1988 to test for unexposed veins that were crossed by the lower White Eagle adit.

The extent of the 1987 and 1988 soil surveys was as follows:

Survey	Total line Km	Line separation	Grid area	Sample site separation	No. of samples
1987	18.3 km	50 m	86.0 ha	50 m	383
1988	5.2 km	50 m	24.5 ha	50 m	104
1988 W.Eag.	1.2 km	50 m	4.0 ha	20 m	54

Copper-lead-zinc soil anomalies were interpreted to be due to illuviation of metals weathering out of country rocks.

Gold-silver anomalies were interpreted to have been from weathering of mineralized vein material. Gold-silver soil anomalies occurred between the Snowstorm and Silver Sparrow workings, and east of the White Eagle workings.

5.1(iii) Economic Mineralization

Large veins were developed parallel with the dominant cleavage planes after thrusting during the second phase of deformation. Many of these veins contain only milky quartz. However; some of them contain large amounts of sphalerite, argentiferous galena, stibnite, and auriferous pyrite. All of the known economic mineral showings on the Amber Property occur in these veins.

The thrust faults in the Cascade Creek area seem to divide economic mineralization into three discrete zones as follows:

ECONOMIC MINERAL ZONATION AROUND THE AMBER PROPERTY

Zone	Minerals Present	Metals Present	Showings
1. Southeast of Amber Thrust	stibnite, galena tetrahedrite	Sb, Ag, Pb minor Cu, As	North Star West Ridge Lower Juno
2. Between Amber Thrust and Mobbs Fault	sphalerite, galena pyrite	Au, Ag, Pb, Zn	White Eagle Lakeview Pine Tree Upper Juno Snowstorm Silver Sparrow
3. Northeast of Mobbs Fault	galena, sphalerite	Ag, Pb minor Zn	Upper and Lower Comstock

The thrust faults in the Cascade Creek area may have acted as major conduits facilitating the migration of mineralizing fluids of different compositions upward from various depths. These mineralizing fluids could have been produced during the emplacement of the Kuskanax Batholith exposed just southeast of the Amber Property.

The most prospective mineral showings on the Amber Property are as follow:

WHITE EAGLE developed 1928 to 1930

Workings; Upper Level

18 m (59 ft) long adit on vein with 10 m (33 ft) long winze located 5 m (16 ft) in from portal
17 m (55 ft) long inclined shaft on vein located 3.5 m (10 ft) northwest of upper adit
7 surface trenches

Lower Level (37.5 m (123 ft) vertically below Upper Level)

152 m (500 ft) long crosscut with 24 m (80 ft) raise and 21 m (69 ft) of drift on mineralized vein at the end of the adit
mineralized veins are also cut at 143.5 m (471 ft) in lower adit and at top of raise

Mineralization;

at least two veins with massive galena-sphalerite ore shoots up to 0.6 m (2 ft) thick with pyritic margins
galena-sphalerite mineralization assays up to 61% lead, 33.8% zinc and 33.3 oz/ton silver
pyrite mineralization assays up to 2.182 oz/ton gold with minor silver and base metal values

LAKEVIEW discovered 1988

Workings; 2 small hand trenches

Mineralization;

two veins up to 20 cm (0.6 ft) thick separated by sparsely mineralized sandstone
galena-sphalerite-pyrite mineralization looks similar to that at White Eagle, composite sample assays 6.04% lead, 3.47% zinc, 4.61 oz/ton silver and 4.22 oz/ton gold

SILVER SPARROW (SNOWSTORM SHAFT) developed 1930 to 1931

Workings; 6.1 m (20 ft) long inclined shaft on vein extending in from surface trench

Mineralization;

1 m (3.3 ft) thick vein with galena and pyrite in quartz assaying up to 56.2% lead, 0.55% zinc, 31.6 oz/ton silver and 0.802 oz/ton gold

PINE TREE discovered 1988 (continuation of Silver Sparrow?)

Workings; 3 hand trenches located 70 m (230 ft) west of Silver Sparrow

Mineralization;

quartz vein up to 0.5 m (1.6 ft) thick with galena and pyrite assaying up to 18.5% lead, 0.10% zinc, 13.5 oz/ton silver and 11.885 oz/ton gold

SNOWSTORM developed 1930 to 1931

Workings; 26 old hand trenches, some up to 46 m (150 ft) long

Mineralization;

quartz veins up to 1.5 m (5 ft) thick with pyrite and galena assaying up to 22.4% lead, 0.06% zinc, 14.6 oz/ton silver and 0.082 oz/ton gold

WEST RIDGE developed 1928 to 1930 ?

Workings; 2.4 m^2 (8 ft^2) shaft that extends about 15.2 m (50 ft) ? down from the ridge crest
150 m (492 ft) ? long adit on west slope of ridge
7 trenches

Mineralization;

massive stibnite-galena in quartz assaying up to 1.58% copper, 41.1% lead, 16.1% antimony and 44.9 oz/ton silver
vein width is at least 1 m (3.3 ft)

JUNO developed 1925 to 1928

Workings and Mineralization not adequately explored during 1987 and 1988 exploration

The Amber Property is still very much in the discovery stage. Two of the mineral showings, the Pine Tree and Lakeview were discovered within four days of the end of the last exploration program conducted on the property. It seems certain that with more exploration will come the discovery of more economic mineralization.

5.2 Recommendations

It is obvious that the area covered by the Amber Property hosts many mineral showings. What is not known yet is how these showings relate to each other and how much minable material is present in the area. The next exploration program on the Amber claims should help to fill in these gaps in the knowledge of the property's economic potential.

A three-phase program of exploration is recommended.

During the Phase 1 program, the soil geochemical survey conducted during 1987 and 1988 would be completed. The survey-area would include all of the area between the Amber Thrust and the Mobbs Fault, from the head of the cirque east of the Lakeview showing northwestward to the Juno showings-area and the ridge containing the West Ridge showings.

Also during this phase of exploration, intensive prospecting would be conducted between the Amber Thrust and the Mobbs Fault to locate any presently unknown mineral showings in the area. New mineral showings seem most likely to be found around the Pine Tree showings and between the White Eagle workings and the Lakeview showings. The area north and west

of the West Ridge showings would be intensively mapped and prospected to identify strike extensions off the ends of the old workings.

Reclamation from phase 1 would be minimal. Only a few hand trenches would be required.

With reasonable encouragement having been generated from the results of the first phase of exploration it is recommended that a program of mini-excavator trenching and diamond drilling be conducted on the most promising targets.

Phase 2 would comprise a program of trenching using a John Deere 15 mini-excavator. Trenching would be focused on testing soil anomalies cleaning out old trenches for sampling and building drill sites.

The recommended machine weighs a total of 1345 kg (2960 lb) and has a 91.5 cm (36 inch) wide track. Consequently, it can move about the property using the old horse trails with little renovation and can walk around the meadows on neoprene tracks without tearing up the ground cover.

Phase 3 includes 2000 metres (6560 ft) of BQ diamond drilling using a machine the size of a Longyear 38 mounted on skids. Drill moves would be made by helicopter. Access to the drill sites would be by the horse trails from the base camp at Blue Lake.

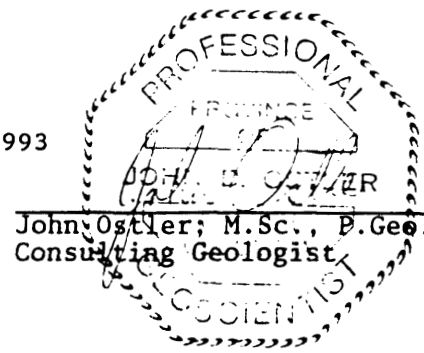
This phase of exploration includes a 20-day reclamation camp using the John Deere 15 to recontour the drill sites and trenches. Reseeding of disturbed areas would be conducted at that time.

The estimated costs of the three phases of exploration are as follow. Itemized cost estimates for each phase of exploration comprise Section 7 of this report.

Phase 1: Prospecting and Mapping and Completing 1987-8 Soil Survey	$ 110,413
Phase 2: Mini-excavator trenching and drill site preparation	$ 87,000
Phase 3: Diamond drilling and site reclamation	$ 420,000
Total estimated cost of recommended exploration program	$ 617,413

West Vancouver, British Columbia

August 14, 1993
with program revised December 27, 1993



John Ostler; M.Sc., P.Geo.
Consulting Geologist

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1925; pp. A237-A238.
1928: p. C309.

White Eagle;

1928: pp. C307-C308.
1929: pp. C327-C328.
1930: p. A257.

Snowstorm;

1930: p. A257.

7.0 ESTIMATED COST OF RECOMMENDED EXPLORATION PROGRAM

7.1 Estimated Cost of Phase 1: Soil Geochemical Survey, Geological Mapping and Target Identification

Wages:		
1 geologist		
80 days @ $300/day including field,		
data processing and reporting time	$24,000.00	
2 geological technicians		
2 x 53 days @ $225/day	$23,850.00	
	$47,850.00	$47,850.00
Transport:		
1, 1-ton pick-up		
2 months @ $2400/mo	$ 4,800.00	
Gasoline and oil	$ 600.00	
Highway tolls	$ 40.00	
Hughs 500 helicopter		
13 hours @ $700/hour	$ 9,100.00	
	$14,540.00	$14,540.00
Camp:		
1 base camp inc. power		
2 months @ $1000/mo	$ 2,000.00	
Chain saw: 2 months @ $150/mo	$ 300.00	
Traversing and survey equipment		
2 months @ $600/mo	$ 1,200.00	
Naphtha + propane	$ 75.00	
Camp and survey supplies	$ 640.00	
	$ 4,215.00	$ 4,215.00
Crew Costs:		
Hotel: 4 nights x $75/night	$ 300.00	
Meals in transit	$ 600.00	
Camp food 3 men x $15 x 52 days	$ 2,340.00	
	$ 3,240.00	$ 3,240.00
Assay and Analysis:		
Shipping and expediting	$ 1,200.00	
Rock assay; 55 samples @ $27.65/sample	$ 1,521.00	
Soil analysis; 1002 soils @ $14.55/soil	$14,579.00	
	$17,300.00	$17,300.00
Balance carried forward		**$87,145.00**

Estimated Cost of Phase 1 continued

Balance carried forward		**$87,145.00**
Communication:		
SBX11A radiotelephone		
2 months @ $450/month	$ 900.00	
Long distance calls	$ 100.00	
	$ 1000.00	$ 1000.00
Report Production:		
Drafting; 180 hours @ $25/hour	$ 4,500.00	
Copy of large maps, base maps and mylars	$ 950.00	
Copy of text and small diagrams	$ 250.00	
Report Covers	$ 40.00	
	$ 5,740.00	$ 5,740.00
Estimated Cost of Phase 1 work		**$93,885.00**
G.S.T.; 7% of $91,545.00		$ 6,408.00
Contingency (about 5%)		$ 5,000.00
Filing fees for 8 years of credit; 64 units x $10		$ 5,120.00
Total Estimated Cost of Proposed Phase 1		**$110,413.00**

7.2 Estimated Cost of Phase 2: Mini-excavator Trenching and Drill Site Development

Wages:		
1 geologist/blaster/machine operator		
55.0 days @ $300/day	$16,500.00	
2 geological technicians		
with drilling and blasting experience		
40 days @ $250/day	$20,000.00	
	$36,500.00	$36,500.00
Transport:		
Bell 204 helicopter		
for transport of camp and mini-excavator		
4 hours @ $1500/hour	$ 6,000.00	
Hughes 500 helicopter		
for weekly supply flights		
10 hours @ $750/hour	$ 7,500.00	
1, 1-ton pick-up		
1 1/3 months @ $2400/mo	$ 3,200.00	
Gasoline and oil	$ 300.00	
Highway tolls.	$ 80.00	
	$17,480.00	$17,480.00
Camp:		
1 base camp inc. power		
1 1/3 months @ $1000/mo	$ 1,333.00	
2 chain saws		
1 1/3 months @ $150/mo ea	$ 400.00	
Trenching, line cutting		
+ traversing equipment		
1 1/3 months @ $600/mo	$ 800.00	
Naphtha + propane	$ 50.00	
Camp + survey supplies	$ 400.00	
1 John Deere 15 Mini-excavator rental		
40 days x $160/day	$ 6,400.00	
1 Pionjar rock drill rental		
1 1/3 months @ $800/month.	$ 1,067.00	
Drill steel.	$ 600.00	
Insurance for excavator		
+ rock drill	$ 700.00	
1 drum of diesel fuel.	$ 90.00	
Explosives	$ 750.00	
Grease	$ 30.00	
	$12,620.00	$12,620.00
Crew Costs:		
Hotel:4 nights x $75/night	$ 300.00	
Meals in transit	$ 750.00	
Camp food 3 men x $15 x 36 days	$ 1,620.00	
	$ 2,670.00	$ 2,670.00
Balance carried forward		**$69,270.00**

Estimated Cost of Phase 2 continued

Balance carried forward		**$69,270.00**
Assay and Analysis:		
Rock assay, 100 samples @ $28/sample	$ 2,800.00	
Shipping of samples and supplies during camp	$ 200.00	
	$ 3,000.00	$ 3,000.00
Communication:		
SBX11A radiotelephone 1 1/3 months @ $400/month	$ 533.00	
Long distance calls	$ 40.00	
	$ 573.00	$ 573.00
Report Production:		
Drafting; 130 hours @ $25/hour	$ 3,250.00	
Copy of large maps	$ 500.00	
Copy of text and small diagrams	$ 250.00	
Report Covers	$ 40.00	
	$ 4,040.00	$ 4,040.00
Estimated Cost of Phase 2 work		**$76,883.00**
G.S.T.; 7% of $76,883.00		$ 5,382.00
Contingency		$ 4,735.00
Total Estimated Cost of Proposed Phase 2		**$87,000.00**

7.3 Estimated Cost of Phase 3: Drilling and Site Reclamation

Drilling		
2000 metres of BQ diamond drilling @ $150/metre, 80-day camp, transport and drill moves included	$300,000.00	$300,000.00
Engineering and Supervision		
1 geologist 95 days @ $300/day	$ 28,500.00	
Report production costs including drafting	$ 1,800.00	
Transport and costs in transit	$ 6,000.00	
	$ 36,300.00	$ 36,300.00
Reclamation		
2-man Mini-excavator camp operating for 20 days with costs per item similar to those in phase 2		
Wages: machine operator and swamper 20 days @ $550/day	$ 11,000.00	
Transport: helicopter	$ 7,400.00	
Truck 2/3 month @ $2400/month	$ 1,600.00	
John Deere 15 mini-excavator; 20 days @ $160/day	$ 3,200.00	
Camp, supply, fuel, seed and insurance	$ 2,000.00	
Crew costs in transit	$ 700.00	
	$ 23,900.00	$ 23,900.00
Estimated Cost of Phase 3 work		**$360,200.00**
G.S.T.; 7% of $360,200.00		$ 25,214.00
Contingency		$ 34,586.00
Total Estimated Cost of Proposed Phase 3		**$420,000.00**

APPENDIX D

CERTIFICATE OF QUALIFICATION

I, John Ostler, of 2224 Jefferson Avenue in the City of West Vancouver, Province of British Columbia do hereby certify:

That I am a consulting geologist with business address at 2224 Jefferson Avenue, West Vancouver, British Columbia;

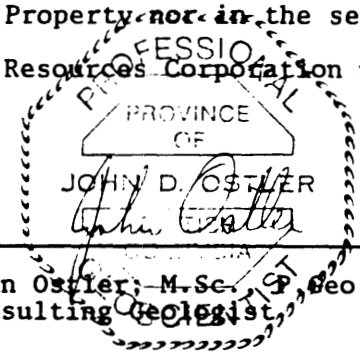
That I am a graduate of the University of Guelph in Ontario where I obtained my Bachelor of Arts degree in Geography (Geomorphology) and Geology in 1973 and that I am a graduate of Carleton University of Ottawa, Ontario where I obtained my Master of Science degree in Geology in 1977;

That I am licensed to practice as a Professional Geoscientist by the Association of Professional Engineers and Geoscientists of British Columbia and as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta, and that I am a Fellow of the Geological Association of Canada;

That I have been engaged in the study and practice of the geological profession for over 20 years;

That this report is based on data in literature and exploration of the Amber Claim Group located in the Slocan Mining Division of British Columbia personally conducted from July 7 to August 12, 1987; from May 23 to June 2, 1988, and from July 10 to 24, 1988;

That I have no interest in the Amber Property nor in the securities of Ambergate Explorations Inc. or Lumby Resources Corporation nor do I expect to receive any.



West Vancouver,
British Columbia
August 14, 1993 and
December 27, 1993

John Ostler, M.Sc., P.Geo.
Consulting Geologist