GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE COMSTOCK PROPERTY

Comstock 1 to 4 R5395 to 8 (7)

Claims

Slocan Mining Division

N.T.S. 82 K/6E

50°19'24" 117°09'24"

for

Owner/Operator: Ambergate Explorations Inc.

515-470 Granville Street

Vancouver, B.C.

V6C 1V5

by

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October 15, 1987

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Geological and Geochemical Report on the Comstock Property

SUMMARY

The writers were retained by Ambergate Explorations Inc. of Vancouver, B.C. through Cassiar East Yukon Expediting Ltd. to conduct a program of surface exploration on and around claims near Cascade Creek.

This report is a record of exploration conducted on the Comstock Property during the 1987 Cascade Creek Project. Work conducted on the adjoining Amber Property is recorded in a separate assessment report.

The Comstock Property is located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia. The property comprises the Comstock 1 to 4 claims with record numbers R5395 to 8 (7). These claims cover 38 claim-units; 950 ha (2280 A) including overlap. The property is centred on 50° 19.5' N. and 117° 9' W. in the Slocan Mining Division of B.C.

During the 1987 exploration program direct access to the Comstock Property was by helicopter from the town of Nakusp; a 20 minute flight one way.

Nakusp is the nearest expediting centre to the property. It is located south of Revelstoke and is about 635 km (408 mi) from Vancouver, B.C.

The Comstock Property straddles a ridge between Cascade and Mat creeks; both of which drain into the Lardeau River. Elevations on the property range from 1204 m (3950 ft) to 2667 m (8750 ft). The high local topographic relief provides a great variety of conditions for soil development and a diversity of plant communities across the property.

The northern part of the property has been burned over recently and now hosts a community of bushes and immature trees in the burn scar. On the western part of the claim group above Cascade Creek is a stand of mature

hemlock. The hemlock extends upslope to an elevation of about 1676 m (5500 ft) where it is gradually replaced by spruce with an extremely thick undergrowth of berry bushes. Spruce is the dominant tree species between 1676 m (5500 ft) and 2134 m (7000 ft) elevation. Pine is common in the spruce forest on dry south-facing slopes where the undergrowth thins.

During the mid-1920's, the Comstock Property was explored by the Juno syndicate of Nelson, B.C. It was developed in conjunction with the Juno Property located 3 km west of the Comstock. The Juno workings are now on the Amber Property, also controlled by Ambergate Explorations Inc.

The 1987 exploration on the Comstock Property included: geological mapping; location, exposure and sampling of veins in the Comstock workings-areas, and location and mapping of the lost workings-areas, trails and cabin sites themselves.

The northeastern part of the Comstock Property underlain by Index Formation volcanics was not mapped during the 1987 work program. However, terse examination of the Index Formation volcanics and intercalated sediments on the Pocket Lake crown grant northeast of the Comstock revealed that they were probably formed in a deep basin.

The southwestern part of the property was found to be underlain by the basal sandstones and siltstones of the Broadview formation.

Together, these formations form part of an eugeosynclinal sequence deposited in a trough that formed within the Cordilleran Geosyncline during the Early Palaeozoic Eon.

The workings-areas on the Comstock Property are contained in an area of approximately 18 ha (43.24 A) on the Comstock 3 and 4 claims.

The workings comprise six surface and underground diggings located

in two distinct areas; the main and upper workings areas. Diggings in the main workings-area include an open cut that exposes a milky quartz vein and two open cuts and two adits that are developed on a mineralized quartz vein. Mineralization in the quartz occurs as bunches and disseminations of galena and minor sphalerite. The upper workings-area reportedly contains a sloughed trench excavated on a quartz vein heavily mineralized with galena.

The main Comstock vein is best-exposed in open cut CW3 in the main workings-area. There the vein is 1.5 m thick and is composed of milky quartz with smokey grey bands. Within the quartz are bunches and disseminations of 2 mm wide crystals of galena with minor sphalerite. Selected grab samples from this working assayed up to 19.36 oz/ton silver and 33.1% lead. Gold values from this vein are insignificant.

The orientations and locations of vein exposures of quartz veins in the main workings-area indicate that there may be a series of mineralized veins of significant lateral extent in this area.

The Comstock Vein was emplaced into comparatively fine-grained clastic rocks of the Broadview Formation; a common association with mineralized quartz veins found on the Amber and Comstock properties. These rocks seem to have been deposited in a deep basin, during periods of low clastic input in euxinic water. In such an environment, a background deposition of metal-rich mud would be produced by metal-reducing bacteria consuming the effluent of submarine vents and pelagic sediments. This mud was probably the source of much of the metal sulphide that was concentrated in veins like the Comstock Vein.

Regional metamorphism, second-phase plastic deformation and then,

significant cooling of the country rock preceeded vein emplacement.

The mineralized veins on the property were emplaced late in the second phase of deformation, after the folding and before the intrusion of the Kuskanax Batholith at its present location southwest of the property. Heat from deformation and igneous intrusion was probably responsible for the mobilization of vein material.

Textures in the Comstock Vein indicate that sulphide and silicate exsolved from the same melt. There is no textural evidence for more than one generation of vein injection.

The Comstock Vein contains sulphides of the galena $\pm$ sphalerite mineral association; one of two mineral associations found by the writers in veins in the Cascade Creek area. Veins with this mineral association seem to have been emplaced in fine-grained rocks with low free carbon resulting in a low partial pressure of CO_2 during emplacement. Consequently, the Comstock Vein in the main workings-area contains silver and lead with a minor amount of zinc.

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE COMSTOCK PROPERTY

1.0 INTRODUCTION

1.1 Terms of Reference

The writers were retained by Ambergate Explorations Inc. of Vancouver, British Columbia through Cassiar East Yukon Expediting Ltd. to conduct a program of surface exploration on and around claims near Cascade Creek.

Ambergate owns or has under option claims comprising 136 claim-units southeast of Cascade Creek, B.C. These claims are grouped into two contiguous properties; the Comstock Property of 38 claim-units and the Amber Property of 98 claim-units.

Cascade Creek Project exploration was conducted from July 7 to August 12 and on August 21, 1987. Data compilation and processing continued until October 15, 1987.

This report is a record of exploration conducted on the Comstock Property during the Cascade Creek Project in 1987. Work conducted on the adjoining Amber Property is recorded in a separate assessment report (Spearing and Ostler, 1987).

Costs incurred during the Cascade Creek Project exploration were apportioned to the Amber and Comstock properties according to the amount of time spent on each property.

1.2 Location and Access

The Comstock Property is located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia (Figure 1). The property comprises 38 claim-units covering 950 ha (2280 A) centred on 50° 19.5' north latitude and 117° 9' west longitude in the Slocan Mining Division of B.C.

(Figures 2 and 3).

It is about 635 km (408 mi) by road from Vancouver to Nakusp, B.C., the nearest supply centre to the property (Figure 2). Travel time from Vancouver to Nakusp is about 10 hours via B.C. highways 5,1 and 23.

Direct access to the Comstock Property from Nakusp is by helicopter; a 20 minute flight one way (Figure 2) to the camp-area near the lower workings (Figure 3).

During the 1987 program, equipment and supplies were trucked from Nakusp to near Poplar Creek north of Kaslo and slung by helicopter onto camps located on the adjoining Amber Property (Figures 2 and 3).

The workings and camp-area on the Comstock Property could not be located through any reference in the literature. Part of the 1987 exploration program on the Comstock was an extensive search on the ground for the old workings.

Recent logging between Poplar and Cascade creeks opened access up to about the 1372 m (4500 ft) elevation. A log loading area at that elevation was used as a slinging area. This reduced helicopter transport costs by minimizing the vertical distance through which the helicopter lifted loaded slings.

The log loading area can be reached via 3.2 km (2 mi) of switchback logging road that diverges from B.C. Highway 31 just north of the bridge across the Lardeau River near Poplar Creek (Figure 2).

Slinging distance from the log loading area to the camp-area near the lower Comstock workings is about 8 km (5 mi).

During the 1920's, access to the property and its workings-areas was by a steep switchback trail that connected the Comstock and Juno properties.

The Comstock trail diverged from the main Cascade Creek horse trail near the lower Juno workings, now near the northwestern corner of the Amber 4 claim (Figure 3).

The main Cascade Creek horse trail was leveled to a width of 1.5 m. It descended the Cascade Creek valley at a generally constant grade to the Lardeau River. There, it met a branch of the Canadian Pacific Railroad. Subsequently, the railroad was abandoned and B.C. Highway 31 was built on the road bed.

Logging was conducted in the lower part of the Cascade Creek valley during the 1960's or 1970's. During logging, a truck road was built along part of the old horse trail from the highway up to the northwestern corner of the Amber 4 claim (Figure 3).

Now, the truck road is abandoned and washed out in several places.

An acceptable mine road could be built from B.C. Highway 31 to the workings on the Comstock Property by rebuilding the truck road up the valley to the Amber 4 calim and extending it back along the side-hill across the Juno and Comstock 3 claims to the Comstock workings.

1.3 Terrain and Vegetation

The Comstock Property is located in the Slocan Range of the Selkirk Mountains, one of four subdivisions of the Columbia Mountains of southeastern British Columbia (Holland, 1976).

Holland's description of the terrain of the Slocan Range near the Comstock 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 facetted the spurs.

The Comstock Property straddles a ridge between Cascade and Mat creeks; both of which drain eastward into the Lardeau River (Figure 3). Cascade Creek enters the Lardeau River about 8 km (5 mi) northeast of the centre of the property. Elevations on the Comstock Property range from about 1204 m (3950 ft) at Cascade Creek at the northwestern corner of the Comstock 4 claim to about 2667 m (8750 ft) at the summit of the ridge on the Comstock 2 claim (Figure 3).

Soil development on the Comstock Property is quite variable. Its character is related directly to local relief, elevation, slope angle and recent alpine glaciation.

Slopes on the Comstock Property can be divided into three distinct types that are related to location and paragenesis. They are: high alpine bluffs, cliffs and skree slopes; glaciated alpine slopes and lower erosional slopes.

High alpine bluffs, cliffs and skree slopes occur at elevations above 2134 m (7000 ft) most commonly on the northern side of the ridge. These features are formed by predominantly mechanical weathering associated with alpine glaciation.

Until the mid-20th century, permanent ice fields occupied most north-facing basins at these elevations in the Slocan Range.

No soil has been formed on these slopes yet. Regolith here is comprised entirely of unsorted angular pieces of rock.

Glaciated alpine slopes are located generally above 1829 m (6000 ft) elevation. These slopes are gentle to moderately steep. On the Comstock Property these slopes are confined to the eastern part of the Comstock 2 claim.

Their general shapes were carved by Pleistocene-age alpine glaciation. During ice retreat, a thin layer of ablation till was deposited on these slopes providing initial regolith for soil development. Periglacial processes such as frost heave have been instrumental in mixing local rock into the till resulting in soil profiles that are derived mostly from local parent rock below. On these slopes, soils have well-developed horizons and comparatively mature profiles.

Lower erosional slopes are located above Cascade Creek and generally below elevations of about 1829 m (6000 ft). This includes an area covering almost all of the Comstock 3 and 4 claims. They are presumed to have been formed by the down-cutting of Cascade Creek during local post-glacial isostatic rebound.

On these slopes, mass wastage, solifluction and debris slides are very active, locally resulting in immature and multiple soil profiles. Soil is locally much deeper on these slopes than on glaciated alpine slopes above.

The area on the Comstock Property covered by alluvial sediments is quite small. Alluvium is being transported by Cascade Creek across the northwestern corner of the Comstock 4 claim.

The high topographic relief on the Comstock Property provides a great variety of local physical environments resulting in a great diversity of plant communities across the property.

The northern parts of the Comstock 1 and 4 claims have been burned over recently by a fire that burned much of the lower Cascade Creek valley. There a community of bushes and immature trees is growing over the burn scar.

On the western part of the Comstock 4 claim above Cascade Creek is a stand of mature hemlock. Tree trunks in this forest are commonly over 1 m thick and there is very little underbrush except near streams and springs. There; willow, alder and devil's club grow in profusion. The hemlock extends upslope to an elevation of about 1676 m (5500 ft) where it is gradually replaced by spruce with an extremely thick undergrowth of berry bushes.

Spruce is the dominant tree species between 1676 m (5500 ft) and 2134 m (7000 ft) elevation. On north and westerly facing slopes on the Comstock 1 and 4 claims, the undergrowth of berry bushes makes traversing very difficult. On the south-facing rocky slope near the Comstock workings on the Comstock 3 claim, dry soil conditions prevent the development of thick undergrowth. Pine is common in the spruce forest on dry south-facing slopes.

A community of alpine grasses and flowers occupy the meadows between the spruce forest and the bare alpine peaks on the Comstock 2 claim.

Average annual precipitation is moderate and has an even distribution throughout the year. The main ridge on the property is covered with snow from October to June. At lower elevations, the amount and annual duration of snow cover decreases perportionately.

1.4 Property

The Comstock Property comprises the following mineral claims all located in the Slocan Mining Division of British Columbia:

Claim Name	Record No.	No. of Units	Record Date
Comstock 1	R5395 (7)	8	July 13, 1987
Comstock 2	R5396 (7)	6	July 13, 1987
Comstock 3	R5397 (7)	8	July 13, 1987
Comstock 4	R5398 (7)	16	July 13, 1987
		38	

The Comstock 1 to 4 claims are owned 100% by Ambergate Explorations Inc. (Figure 3).

1.5 Previous Work

The Comstock Property was owned by P.J. Shernan of Nelson, B.C. in 1925. During the mid-1920's, this property was developed by the Juno syndicate, backed by business associates of Shernan. This property was developed in conjunction with the Juno Property 3 km west of the Comstock Property (Figure 3).

The Juno workings are now on the Amber Property, also controlled by Ambergate Explorations Inc.

The Comstock workings were visited in 1925 by a provincial geologist who recorded the work as follows:

> **Comstock.*** This property, consisting of the *Comstock*, *Noonday*, and *Garrity* claims, and owned by P. J. Sheran, of Nelson, was being developed this summer with a small crew by the Juno Syndicate, composed of business-men of Nelson. The claims are situated on the steep mountain-slope on the south-eastern side of Cascade creek at elevations ranging from 6,000 to 7,500 feet. The trail leaves the railway at a point 2 miles below Poplar and follows an easy grade up the creek for a distance of about 6 miles to the lower cabin; then climbs steeply to the mine cabin situated on the timbered hillside at an elevation of about 6,000 feet.
>
> In the vicinity of the workings the formation consists of schists and argillites with intercalated aplite dykes. A few hundred feet above the mine cabin some open-cuts have been made along the outcrop of a quartz vein mineralized with bunches and disseminations of galena and small amounts of zinc-blende. The vein, the width of which was only partially exposed, apparently conforms to the stratification of the enclosing rocks, which have a general northwesterly strike and dip into the hill at about 40°. A sample from a small pile of ore from the surface assayed: Gold, trace; silver, 12 oz. to the ton; lead, 22.6 per cent.; zinc, 2 per cent.
>
> About 60 feet vertically below the open-cuts a tunnel 90 feet long cuts a few feet of mineralized quartz near the face. A sample of sorted ore from this tunnel assayed: Gold, 0.03 oz.; silver, 23.4 oz. to the ton; lead, 37.6 per cent.; zinc, *nil*. At a vertical distance of 97 feet below the upper tunnel a crosscut was being driven to intersect the vein. This tunnel was then in about 258 feet and the vein was expected to be cut in a short distance if its dip was maintained.
>
> The above workings are all on the *Noonday* claim, which is the lowest. The *Comstock* claim is situated on the summit of the ridge above the *Noonday* and *Garrity* claims. Just over the summit an open-cut has been made exposing a quartz vein the width of which, said to be 4 feet, could not be ascertained as it was partially covered with loose rock and drifted snow. A little digging disclosed a portion of the vein 12 inches wide well mineralized with galena, a sample of which assayed: Gold, 0.02 oz.; silver, 17.4 oz. to the ton; lead, 20.6 per cent.; zinc, 2 per cent. The strike of this vein is apparently easterly and westerly across the ridge.

B.C. Min. Mines, Ann. Rept., 1925; p. A237

Work continued sporadically until 1930. In 1928, a provincial geologist commented on work on the Comstock as follows:

> **Comstock.*** During the summer months a small crew was employed by P. J. Sheran on the *Comstock* and adjoining *Noonday* claim, which belong to a group of claims situated on the south-eastern side of Cascade creek. A steep switchback trail connects the cabin with the main trail at a point about 6 miles from the Lardeau-Gerrard Railway. A small amount of development has been done at intervals since the property was described in the Annual Report for 1925. The principal work done during the current year was the continuation of the lower crosscut tunnel on the *Noonday*. The vein had not been reached when the property was visited in August, apparently due to its dip into the hill being flatter than at first supposed.
>
> B.C. Min. Mines, Ann. Rept., 1928; pp. C308-C309.

No subsequent work has been done on the Comstock since 1930. The trails to the Comstock workings were obliterated at lower elevations by slides and consequently knowledge of the location of the Comstock was lost.

In the MINDEP files, the location of the Comstock was known to an accuracy of 0 (location unknown) and in Geological Survey of Canada, Open File 464, Read (1976) guessed at the location of the Comstock only within 1.6 to 6 km^2.

A major task for the 1987 field crew was to find the Comstock workings along the steep slopes with thick underbrush.

1.6 Summary of Present Work

Field work of the 1987 Cascade Creek Project was conducted from July 7 to August 12 and on August 21, 1987. The work was undertaken by:

C. Geoffery Spearing, B.Sc.(Eng.) North Vancouver, B.C.	Consulting Mining Engineer
John Ostler; M.Sc.,P.Geol. West Vancouver, B.C.	Consulting Geologist President, Ambergate Expl. Inc.
Don W. Tully, P.Eng. West Vancouver, B.C.	Consulting Geological Engineer

David R. Jones, B.Sc. Vancouver, B.C.	Geological Technician Camp Manager
Glenn R. Caulfield Vancouver, B.C.	Geological Technician
Andrew Biber Vancouver, B.C.	Geological Technician First Aid Attendant

Field work comprised restaking of the Amber and Comstock claim groups, surface exploration on the Amber and Comstock properties after restaking and travel to and from the Cascade Creek area. The work summarized hereinafter comprises surface exploration on the Comstock Property subsequent to restaking and that part of travel to and from the Cascade Creek area attributable pro-rata to the surface exploration on the Comstock Property.

Surface exploration on the Amber Property is contained in a separate assessment report (Spearing and Ostler, 1987).

The 1987 work program on the Comstock Property included the following:

A. Trail Work;	man-days
0.8 km of pack trail was located and flagged from the Juno-Comstock 4 claim boundary to the northern boundary of Comstock 4 1890 m of mine trail was located and mapped in the main workings area on Comstock 3 and 4 claims 445 m of trail was cut out 1 m wide to connect the workings with a helicopter landing site 100 m^2 of landing site was cleared south of the workings	10
B. Location, Mapping and Sampling of Workings	
The Comstock workings were located and identified from references in old provincial records the Main workings-area was mapped at a scale of 1:500 (figure 7) 3 open cuts were cleaned of roots and slough for sampling samples from the workings taken by C.G. Spearing, B.Sc, (Eng.) and D.W. Tully, P.Eng. were assayed for copper, lead, zinc, silver, gold and antimony	18
man-days carried forward	28

	man-days
C. Geological Mapping;	
the Comstock 3-4 boundary-area including the main workings-area was mapped at a scale of 1:10,000 (Figure 6);an area of 26.6 ha	28 bal. c.f. 2
D. Camp Mobilization and Supply;	
this time includes transport, expediting and camp construction time during the Cascade Creek project pro-rated to the time actually spent on the Comstock Property after restaking was completed	16
Total man-days on the Comstock Property	46

1.7 Claims Worked On

During 1987, work was done on the following claims:

Claim Name	Record No.	Current Expiry Date	No. of Units
Comstock 3	R5397 (7)	July 13, 1988	8
Comstock 4	R5398 (7)	July 13, 1988	16
			24

2.0 GEOLOGY

2.1 Regional Geology

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

These rocks form part of the Kootenay Arc, which extends in south-eastern 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.

The stratigraphy around the Comstock Property was deposited in one of several elongate sub-basins present in the Cordilleran Geosyncline during the Early Palaeozoic Era.

Lithological mapping conducted by Read (1973) around the Comstock 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 the rocks across the Comstock Property (Figure 5)(Read, 1976).

Extending across the northeastern part of the property is a thick sequence of mafic to intermediate volcanics comprising the Index Formation (Figures 4, 5 and 6). 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 Index Formation is interpreted to have been deposited from basin-floor vents in deep water (Fyles and Eastwood, 1962).

Read (1973) mapped a fault contact between the Index Formation volcanics and the basal grits of the overlying Broadview Formation across the northeastern part of the Comstock Property (Figure 4). Broadview Formation clastics were also mapped southwest of the Amber Property near the head of Cascade Creek, about 2 km southwest of the Comstock claims.

During traverses by the writers across the Amber and Comstock properties, it was found that the lower Broadview Formation clastics became finer-grained and better-sorted from east to west and up section.

The writers interpret these rocks to be turbidites. The increase in their maturity westward and upward may be related to the denudation of a source terrain east of the basin.

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

Two traverses into the upper Cascade Creek area from the north and southwest (Figure 4) hinted that the area of distal basin sedimentation represented by phyllites and phyllitic carbonates increased significantly southwestward. No new data on the property-area was added to Read's 1976 interpretation (Figure 5). The Broadview Formation on the Comstock Property remained essentially unmapped.

The Broadview clastics lie in fault contact with the sandstones of the Milford Group about 700 m southwest of the Amber 3 claim, 2 km southwest of the Comstock Property (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 Fromation sediments (Read, 1973 and 1976)(Figures 4 and 5).

Rocks of the Milford Group and Broadview Formation were intruded during the Lower 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, 1976). Some of these parasitic intrusions are exposed along the southwestern margin of the Amber 3 claim, about 3 km southwest of the Comstock Property (Figure 4).

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

fourth generation.

Regionally, the most important structures are second-generation folds which form northwest-southeasterly trending structures. First-generation folds are most commonly seen as isoclines within second-generation fold limbs. 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 which postdate ductile deformation.

2.2 Property Geology

The oldest rocks on the Comstock Property are andesitic volcanics of the Index Formation (Read, 1973)(Figures 4 and 6). These volcanics underlie most of the Comstock 1 claim and the northeastern part of the Comstock 4 claim. Across most of the Comstock Property, the Index Formation volcanics and the overlying Broadview Formation clastic sediments are in fault contact (Read, 1973).

This part of the property was not mapped by the writers during the 1987 exploration program.

Lithological mapping was conducted on some of the southwestern part of the Comstock Property at a scale of 1:10,000 during the 1987 program (Figure 6).

The southwestern part of the Comstock Property is underlain by

metasediments of the Broadview Formation; interpreted by Read (1973) as an eugeosynclinal sequence recording the infilling of a northwest-southeasterly trending trough.

Rocks of the Broadview Formation in the Cascade Creek area are divided by the writers into four lithological units: lithic sandstone and siltstone; siltstone, slate and phyllite; variably carbonaceous slate, phyllite and siltstone, and dolomitic siltstone and impure carbonate (Figure 6).

The lithic sandstone and siltstone are the oldest Broadview Formation rocks on the Comstock Property. They occupy the cores of anticlines and are in contact with the underlying Index Formation volcanics (Figures 4 and 6).

They are light grey to buff and weather grey to rusty brown. Textural maturity defined by a decrease in micaceous layers and interclast matrix, increases southwestward. This rock unit is comparatively resistant to erosion. It weathers into blocky cliffs and bluffs. This unit underlies most of the southwestern part of the Comstock Property.

The contact between the lithic sandstones of rock unit 1 and the phyllitic siltstones of rock unit 2 is gradational. It can be defined generally by a rapid decrease of sandy strata compared with silty and pelitic strata.

Siltstones and pelites of rock unit 2 are far less resistant to erosion than the sandstones of rock unit 1. They are grey, weathering to rusty brown. Micaceous development in the first- and second-phase cleavage planes form the most pervasive fabrics in these rocks. They are commonly very crumbly and fissile in weathered outcrops.

The siltstones and pelites are in contact with the lithic sandstones of rock unit 1 on both the Comstock and Amber properties (Figures 4 and 6).

Rock unit 2 probably conformably overlies rock unit 1.

Variably carbonaceous pelites and siltstones form rock unit 3 (Figure 6). They are grey to black depending on carbon content. The carbon in these rocks has been metamorphosed to graphite. Micaceous development in cleavage planes in this unit makes it very fissile. It weathers regressively.

Rock units 3 and 4 were mapped on the Amber Property near the southwestern margin of the Comstock Property. They are included in this report because they are part of the basin-filling sequence recorded on the Comstock Property and they are probably exposed in the unmapped area along the Comstock Amber property boundary.

On the Amber Property, the contact between the pelites of rock unit 3 and the siltstones of rock unit 2 is gradational. There, the transition between these two units can be defined by the predominance of pelitic layers over silty layers and the appearance of a significant amount of graphite.

The contact between these two units is assumed to be gradational on the Comstock Property. It is probably located near the Comstock 4-Juno claim boundary in an area of no outcrop.

Rusty-weathering dolomitic siltstones and impure carbonates comprise rock unit 4. They are blue-grey to grey where exposed on the Amber Property south of the Comstock 3 claim. They weather light brown. Black chips of carbonaceous pelite are obvious on the pitted weathered surfaces of this unit. The amount of pelite in the carbonate is quite variable.

Contacts between the carbonates and other units are comparatively distinct, due in part to differences in weathering surfaces.

Read's (1973) mapping around the Cascade Creek area revealed that the Broadview Formation rocks 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 cut at oblique angles by long faults. Structures on the Comstock Property seem to conform to Read's regional interpretation.

The most imporatnt folds on the property seem to be southeasterly trending upright second-phase folds.

First-phase folds are most commonly exposed in pelitic rocks in the southwestern part of the property as minor isoclines. The extent that first-phase folding has tectonically thickened stratigraphy on the property is not known.

Folding intensity seems to be related to ductility in the Broadview Formation rocks. Ductility is lowest in the arenaceous rocks of unit 1 and highest in the pelites of rock units 2 and 3. Consequently, folding is most intense in the pelites.

Cleavages associated with the first and second phases of folding are commonly sub-parallel. Commonly the second cleavage is indistinguishable from the first.

Several major faults are exposed in the Cascade Creek valley (Figure 5). Displacement on these faults post-dates all ductile deformation and metamorphism. One such fault extends along the contact between the Index and Broadview formations in the north-central part of the Comstock Property.

The rocks southeast of Cascade Creek were mapped by Read (1973) as belonging to the biotite zone of the upper greenschist facies of

metamorphism. Mineral assemblages of this zone are typical of the quartz-albite-epidote-biotite sub-facies of the greenschist facies of metamorphism.

South and east of Read's map-area, the writers have observed numerous staurolite porphyroblasts in sediments on the Comstock 4 claim. The presence of this mineral indicates that over part of the Comstock Property metamorphic grade may be as high as the staurolite-almandine subfacies of the lower amphibolite grade of metamorphism.

Micaceous mineral development during deformation is responsible for the development of pervasive cleavages in rocks across the property. The best-developed cleavage is from the first phase of deformation. It is commonly much more prevalent than bedding in pelitic strata on the property. A cleavage from the second phase of deformation is commonly sub-parallel with the first-phase cleavage. It is commonly difficult to see in outcrop.

The third-phase cleavage mapped regionally by Read (1973) is not obvious on the Comstock Property. The fracture cleavage observed by the writers probably post-dates Read's third-phase cleavage.

Large aplite dykes and quartz veins were developed parallel with the dominant cleavage planes during or after deformation. The aplite dykes pre-date the quartz veins.

Many of the veins contain only milky quartz. However; some of them contain large amounts of argentiferous galena with minor sphalerite. All economic mineral showings on the Comstock Property occur in these quartz veins.

2.3 Interpretation of Property Geology

The northeastern part of the Comstock Property underlain by Index Formation volcanics was not mapped during the 1987 work program. However, terse examination of the Index Formation volcanics and intercalated sediments by the writers on the Pocket Lake crown grant revealed that Fyles and Eastwood's (1962) interpretation of their deposition was probably correct. They seem to have been deposited in deep quiet water in an open basin.

Broadview Formation rocks mapped northwest of Poplar Creek were interpreted by Read (1973 and 1976) to have been deposited as an eugeosynclynal sequence. There, the arenaceous sedimentation formed a very large part of the sequence; perhaps over 90% of the Broadview Formation sedimentation.

Southeast of Cascade Creek, pelites and carbonates are far more extensive than farther northwestward. It is possible that these rocks represent a more distal part of the basin.

The rocks of the Broadview Formation southeast of Cascade Creek probably represent a single conformable sequence that was subsequently deformed by polyphase deformation.

The lithic sandstones and siltstones of rock unit 1 (Figure 6) were probably deposited as turbidites. This unit becomes increasingly finer-grained and better-sorted southwestward. During the deposition of this unit, a source terrain northeast of the map-area was being denuded. A general dominance of micaceous (lithic) clasts over feldspathic clasts in this unit indicates that the source terrain was probably composed mostly of volcanic and sedimentary rocks.

The siltstones and pelites of rock unit 2 (Figure 6) are a result of finer-grained material being dumped into the basin from a more severely eroded source terrain, or by deposition in a basin that was subsiding faster than it could be filled.

The carbonaceous pelites of rock unit 3 attest to a period when comparatively little detrital sediment was being deposited into quiet deep water. The presence of free carbon in these rocks may be related to euxinic conditions in the water near the basin floor.

The silty carbonates of rock unit 4 south of Cascade Creek also contain free carbon as graphite. These carbonates may have been deposited near the southwestern corner of the Comstock Property by turbidity currents sweeping basin-margin and reef detritus down into the central part of the basin.

The aplite dykes and sills exposed throughout rock unit 1 seem to have been formed by the local sweating out of material during the first two phases of deformation. The galena bearing quartz vein at the Comstock workings cuts cleanly across an aplite dyke and is thus younger than the dyke.

3.0 MINERALIZATION

3.1 Comstock Mineral Showings and Workings

The workings areas on the Comstock Property are contained in an area of approximately 18 ha (43.24 A) on the Comstock 3 and Comstock 4 claims (Figures 3 and 4).

The workings comprise six surface and underground diggings located

in two distinct areas; the main and upper workings areas. Diggings in the main workings-area include an open cut that exposes a milky quartz vein and two open cuts and two adits that are developed on a mineralized quartz vein (Figure 7). Mineralization in the quartz occurs as bunches and disseminations of galena and minor sphalerite. The upper workings-area reportedly contains a sloughed trench excavated on a quartz vein heavily mineralized with galena.

The showings areas are connected to a mine cabin by 2335 m of 1 m wide trail, most of which is in only moderate condition now. The mine cabin has collapsed.

The trail between the main workings-area and the mine cabin was cleaned out during the 1987 exploration program. During the program, the mine trail was extended to a nearby helicopter landing area which was cleared to allow easy access to the area. About 445 m of trail was cleared from the camp to the helicopter landing site. The landing site was located on a small plateau south of the main workings-area (Figure 7).

The most westerly of the main workings-area diggings is an open cut exposing a large block of milky quartz. This working is labelled CW1 by the writers (Figure 7). It is located about 500 m W. and 30 m S. of the Comstock legal corner post at an elevation of about 2243.3 m (7360 ft). This open cut extends about 10 m uphill from the trail. In it is an exposure of milky quartz. No significant mineralization is visible in this quartz exposure.

The vein attitude could not be determined with certainty because it could not be discerned whether the exposure was outcrop or subcrop. Also,

it was not apparent whether this vein was the same vein as that explored by the other diggings in the main workings-area.

About 143 m southeast of open cut CW1 is a well-mineralized quartz vein containing argentiferous galena and minor sphalerite. It is exposed in an open cut labelled CW3 by the writers.

Cut CW3 was excavated into the hillside at an elevation of 2249.4 m (7380 ft). In this cut, the mineralized quartz vein had a strike of 342° and a northeasterly dip of 24°.

The vein was intruded into fine-grained arenites and pelites of the Broadview Formation (Figure 6). Locally, the vein was emplaced beneath a metre thick aplite dyke which had cooled before vein deposition.

The vein, averaging about 1.5 m in thickness is composed of milky quartz with smokey grey bands. Within the quartz are bunches and disseminations of subhedral, 2 mm wide crystals of galena and accessory sphalerite. The galena commonly encloses 1 to 2 cm long blebs of white quartz.

Selected grab samples from this working assayed up to 19.36 oz/ton silver and 33.1% lead (Figure 7).

Presumably to explore the lateral contiguity of the vein exposed in CW3, a second open cut was made 30.7 m northwest and 6.1 m uphill from cut CW3. That digging was labelled CW2 by the writers. The vein exposed in cut CW3 did not seem to have been encountered in open cut CW2

Two exploration adits were driven southeast of open cut CW3 to test for the extension of the mineralized vein down dip (Figure 7).

The upper adit; located about 13 m below cut CW3, reportedly intersected the mineralized vein 27.4 m (90 ft) in from the portal. The vein intersection in this working was not confirmed by the writers. However,

selected samples from the adit dump contained silver concentrations as high as 13.70 oz/ton.

The lower adit is about 29.7 m downhill and southwest of the upper adit (Figure 7).

The lower adit was driven 78.6 m (250 ft) in from the portal and reportedly missed the Comstock Vein which was encountered in the workings above. Apparently, the dip of the vein was flatter than expected.

The Comstock Vein was reported as dipping 40° in the 1925 B.C. Minister of Mines' annual report (page 7 of this report). The writers measured the vein and found it to have a strike of 342° and a dip of 24° northeast. The difference of 16° between the dip reported in 1925 and that taken in 1987 was sufficient to ensure that the lower adit would not cross the vein where expected.

The total absence of mineralized vein material on the dump of the lower adit confirms that that working did not intersect the vein.

Midway between open cuts CW1 and CW3 is a steep switchback trail that leads eastward up to the ridge crest from the main trail (Figures 3 and 7). The upper workings-area referred to in the 1925 B.C. Minister of Mines' annual report (page 7 of this report) is probably near the upper end of this trail in the skree.

There, a 0.6 m wide vein with a 30 cm thick pay streak of galena running 17.4 oz/ton silver and 20.6% lead reportedly outcrops. That vein was not located during the 1987 exploration program. However, quartz float containing ribbons of galena and minor pyrite was located in a draw near the upper end of the trail.

The upper vein is probably located near the mineralized float.

3.2 Genesis of Economic Mineralization and the Comstock Vein

During the 1987 exploration program, the writers examined several mineralized veins on properties southeast of Cascade Creek. The Comstock Vein was typical of mineralized veins in the area.

The Comstock Vein was intruded into comparatively fine-grained clastic rocks of the Broadview Formation; a common association with mineralized quartz veins yet found on the Comstock and Amber Properties.

The association of economic mineralization with veins in pelitic rocks is very strong. Quartz veins found in other rock units are almost completely unmineralized.

The pelitic rocks of the Broadview Formation are interpreted by the writers to have been deposited in a deep basin, during periods of low clastic sedimentation in euxinic water. In such an environment, a background deposition of metal-rich mud would be produced by metal reducing bacteria consuming the effluent of submarine vents and pelagic sediments. Sediment metal concentrations would be comparatively high because the low-volume background sedimentation would not be diluted by a large inflow of detritus from the basin margin. Metal-rich pelagic sediments were probably the source of much of the metal sulphide that was concentrated in veins like the Comstock Vein.

The Comstock Vein is oriented near the first and second-phase cleavage planes, and contains late fracture cleavages. Its emplacement probably dates from the second phase of deformation.

Regional metamorphism, second-phase plastic deformation and then, significant cooling of the country rock preceeded vein emplacement. The vein

cut cleanly across both the country rocks and an aplite dyke recording cool brittle deformation.

Locally, there is no direct association between mineralized quartz veins like the Comstock Vein and Jurassic-age batholithic intrusion. However; regionally, there is an association between the granites and the veins in both time and space.

Mineralized quartz veins near the northeastern margin of the Kuskanax Batholith were intruded late in the second phase of deformation, after the folding and just before the intrusion of the batholith at its present level. Heat from deformation and igneous intrusion was probably responsible for the mobilization of vein material.

It is interesting to note that regionally, silver concentrations in galena seem to generally increase with proximity of the vein to the batholith.

The writers believe that mineralized quartz veins were formed where metal-rich pelites of the Broadview Formation contributed sulphides to migrating fluids that were deposited in veins.

The most common sulphide texture in these veins is one in which 2 mm wide sulphide crystals form a lattice around white quartz blebs. This texture is probably the result of the exsolution of sulphide and silicate from a common melt. There is no textural evidence in the Comstock Vein of more than one generation of vein injection.

There seem to be two sulphide mineral associations in mineralized quartz veins on properties southeast of Cascade Creek. They are; galena $\pm$ sphalerite, and galena + sphalerite + minor pyrite.

These two associations seem to be related to the amount of free carbon present in rocks enclosing the vein. Free carbon most commonly occurs as graphite in these rocks.

The galena ± sphalerite association is most commonly found in veins emplaced into low-carbon rocks and the galena + sphalerite + minor pyrite association is generally found in veins intruded into high-carbon rocks.

Translated into a chemical model; it seems that as the local partial pressure of CO_2 increased; sulphides of lead, zinc and iron were sequentially mobilized.

Assays clearly indicate that silver mineralization is closely associated with lead in galena and gold is closely associated with iron pyrite (Appendix B)(Spearing and Ostler, 1987).

The Comstock Vein contains the galena ± sphalerite mineral association, in a vein emplaced in low-carbon sedimentary rocks. Consequently, the Comstock contains silver and lead with a minor amount of zinc (Figure 7, Appendix B).

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Geological mapping was conducted over part of the Comstock Property during the 1987 exploration program.

The northeastern part of the property is underlain by andesitic volcanics of the Index Formation. The southwestern part of the property is underlain by the basal lithic sandstones and siltstones of the Broadview Formation. These rocks form part of an eugeosynclinal basin-filling sequence

deposited in an elongate trough (Figures 4, 5 and 6). The trough was part of the Cordilleran Geosyncline during the Palaeozoic Eon.

One of the major accomplishments of the 1987 exploration program on the Comstock Property was to locate and confirm the existance of the main workings-area on the property. Since the Comstock was reported upon in the B.C. Minister of Mines' annual reports during the 1920's, no work has been recorded on the property. Trails leading to the workings had been obliterated below the 1981 m (6500 ft) level and the workings were not discernable from the air. The location of the Comstock workings-area was guessed at in government files only within a 6 km^2 area.

Initial traverses revealed that the Comstock workings were not where they were reported to have been in the old annual reports. Significant effort was then spent on parallel traverses along steep, brush-covered slopes to locate the workings, cabin site and trails.

Through this effort, the existance of the main workings, cabin and trails were confirmed. Although the descriptions of the workings in the old reports were accurate, their reported elevation was out by about 1200 ft (366 m)(Figures 6 and 7).

The Comstock Vein was explored by a series of open cuts and two adits. The upper adit reportedly intersected the vein; the lower adit did not.

The attitudes of vein exposures in open cuts CW1 and CW3 indicate that they may be of two separate parallel veins. It is possible that there are several parallel mineralized quartz veins in the main workings-area on the Comstock Property.

The Comstock Vein is about 1.5 m thick where exposed in open cut CW3.

It is mineralized with argentiferous galena and minor sphalerite. Silver and lead concentrations in the vein assay as high as 33.1% lead and 19.36 oz/ton silver (Figure 7, Appendix B).

The Comstock Vein contains the galena ± sphalerite mineral association that seems to be related to vein emplacement in fine-grained rocks with low carbon content in the Palaeozoic-age Broadview Formation. Therefore; metal potential in the Comstock Vein is primarily in silver and lead.

The upper Comstock vein reported in the B.C. Minister of Mines' reports, was not located during the 1987 exploration program. Its general location was discerned through the discovery of a well-used trail which lead from the main Comstock workings to the crest of the ridge above.

The upper workings are probably skree-covered at present. According to old annual reports, the upper vein contains lead and silver contents similar with the main Comstock vein. Mineralized float found in the skree in a draw near the upper end of the trail may confirm this.

4.2 Recommendations

The writers recommend that future exploration on the Comstock Property include the following aspects in order to expand and develop the known economic mineral potential of the property;

A. The upper Comstock vein, reportedly located on the ridge above the main workings, should be located, mapped and sampled.

B. Veins in the main workings-area should be exposed, mapped and sampled to determine their extent, number, attitudes and mineral potential.

C. If enough encouragement results from surface work on the main workings area, these veins should be tested to depth by drilling or tunnelling.

D. Improved camp site, water supplies and land access to the property and its workings-areas should be investigated. An access route up Cascade Creek from B.C. Highway 31 to the Juno workings and thence to the Comstock Property may be the most practical land route (Figure 3).

E. Geological mapping should be conducted over the rest of the Comstock Property to explore for more ecomonic mineralization.

West Vancouver, British Columbia
October 15, 1987

C. Geoffrey Spearing, B.Sc.(Eng.)
Consulting Mining Engineer

John Ostler; M.Sc., P.Geol.
Consulting Geologist
President, Ambergate Explorations Inc.

5.0 REFERENCES

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_____; 1925: B.C. Minister of Mines', Ann. Rept., p. A237.

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6.0 ITEMIZED COST STATEMENT OF THE 1987 PROGRAM

Wages:	Total		Restaking Claims		Subsequent Exploration: Amber Prop. Exploration		Subsequent Exploration: Comstock Prop. Exploration	
C.G. Spearing, B.Sc.(Eng.)* Consulting Mining Engineer 69.75 days @ $200/day	$13950.00		$ 600.00		$10044.12		$ 3305.88	
John Ostler; M.Sc., P.Geol.* Consulting Geologist 16.75 days @ $250/day	$ 4187.50		$ 0.00		$ 2746.33		$ 1441.17	
David Jones, B.Sc. 25 days @ $150/day + 12 days @ $175/day	$ 5850.00		$ 450.00		$ 3891.18		$ 1508.82	
Glenn Caulfield 25 days @ $150/day + 12 days @ $175/day	$ 5850.00		$ 450.00		$ 3891.18		$ 1508.82	
Andrew Biber 26 days @ $150/day + 12 days @ $175/day	$ 600.00		$ 450.00		$ 3999.27		$ 1550.73	
* includes data processing	$35837.50	$35837.50	$1950.00	$ 1950.00	$24572.08	$24572.08	$ 9315.42	$ 9315.42
Transport:								
Helicopter transport Highland Helicopters hours + fuel and oil	$ 8404.94		$1877.12		$ 4703.88		$ 1823.94	
Truck transport 3/4 ton pick-ups @ $1800/mo. milage included 4X4 1.5 mo., 4X2 2 mo.	$ 6300.00		$ 360.00		$ 4280.29		$ 1659.71	
Gasoline + oil	$ 1273.82		$ 48.01		$ 883.31		$ 342.50	
	$15978.76	$15978.76	$2285.13	$ 2285.13	$ 9867.48	$ 9867.48	$ 3826.15	$ 3826.15
Balances carried forward		$51816.26		$ 4235.13		$34439.56		$13141.57

	Total		Restaking Claims		Subsequent Exploration: Amber Prop. Exploration		Subsequent Exploration: Comstock Prop. Exploration	
Balances carried forward		$51816.26		$ 4235.13		$34439.56		$13141.57
Camp:								
1 6-man base camp + power 1½ months @ $1000/mo.	$ 1500.00		$ 100.00		$ 1008.82		$ 391.18	
Chain saws + lin cutting equip. 1½ mo @ $600/mo.	$ 900.00		$ 60.00		$ 605.29		$ 234.71	
Jonsreds 920 saw destroyed	$ 500.00		$ 0.00		$ 360.29		$ 139.71	
Traversing Equipment	$ 315.00		$ 21.00		$ 211.85		$ 82.15	
Staking Supplies	$ 224.77		$ 224.77		$ 0.00		$ 0.00	
Camp Supplies	$ 1257.96		$ 0.00		$ 906.47		$ 351.49	
Camp Food	$ 2207.23		$ 236.91		$ 1419.79		$ 550.53	
Explosives	$ 509.10		$ 0.00		$ 509.10		$ 0.00	
	$ 7414.06	$ 7414.06	$ 642.68	$ 642.68	$ 5021.61	$ 5021.61	$ 1749.77	$ 1749.77
Communications:								
1 SBX11A radio 1½ months @ $300/month	$ 450.00		$ 30.00		$ 302.65		$ 117.35	
radiotelephone calls	$ 28.69		$ 0.00		$ 20.67		$ 8.02	
L.D. telephone calls	$ 35.92		$ 0.00		$ 27.73		$ 8.19	
	$ 514.61	$ 514.61	$ 30.00	$ 30.00	$ 351.05	$ 351.05	$ 133.56	$ 133.56
Crew in Transport:								
Meals	$ 459.48		$ 44.71		$ 298.88		$ 115.89	
Hotel	$ 461.00		$ 55.08		$ 292.50		$ 113.42	
	$ 920.48	$ 920.48	$ 99.79	$ 99.79	$ 591.38	$ 591.38	$ 229.31	$ 229.31
Balances carried forward		$60665.41		$ 5007.60		$40403.60		$15254.21

	Total		Restaking Claims		Subsequent Exploration: Amber Prop. Exploration		Subsequent Exploration: Comstock Prop. Exploration	
Balances carried forward		$60665.41		$ 5007.60		$40403.60		$15254.21
Shipping and Assay:								
Sample Shipping	$ 36.45		$ 0.00		$ 26.27		$ 10.18	
Rock Assay at Chemex Labs	$ 2869.00		$ 0.00		$ 2478.50		$ 390.50	
Sediment and Soil analysis at Chemex Labs	$ 4050.00		$ 0.00		$ 4050.00		$ 0.00	
	$ 6955.45	$ 6955.45	$ 0.00	$ 0.00	$ 6554.77	$ 6554.77	$ 400.68	$ 400.68
Survey, Data Compilation and Report:								
Air Photos	$ 158.41		$ 0.00		$ 79.21		$ 79.20	
Maps, Reports etc.	$ 151.73		$ 0.00		$ 88.41		$ 63.32	
Drafting; 1:10k base maps	$ 575.00		$ 191.67		$ 191.67		$ 191.66	
report maps	$ 7462.50		$ 0.00		$ 5085.00		$ 2377.50	
Typing	$ 520.00		$ 0.00		$ 300.00		$ 220.00	
Black Line copy; base maps	$ 39.05		$ 13.02		$ 13.02		$ 13.01	
report maps	$ 486.74		$ 0.00		$ 365.92		$ 120.82	
Photocopy	$ 389.48		$ 0.00		$ 269.94		$ 119.54	
	$ 9782.91	$ 9782.91	$ 204.69	$ 204.69	$ 6393.17	$ 6393.17	$ 3185.05	$ 3185.05
Totals of 1987 Program		$77403.77		$ 5212.29		$53351.54		$18839.94

West Vancouver, British Columbia
October 22, 1987

John Ostler; M.Sc., P.Geol.
President, Ambergate Explorations Inc.

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
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VANCOUVER, BC
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A8720254

Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

CERTIFICATE A8720254

AMBERGATE EXPLORATIONS INC.
PROJECT :
P.O.# : NONE

Samples submitted to our lab in Vancouver, BC.
This report was printed on 4-SEP-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	25	Assay: Crush, split, pulv -140

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	25	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0
312	25	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	25	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0
347	25	Sb %: Assay	NAA	0.001	100.0
383	25	Ag oz/T: 1/2 assay ton	FA-GRAVIMETRIC	0.01	20.00
396	25	Au oz/T: 1/2 assay ton	FA-GRAVIMETRIC	0.003	20.000

APPENDIX A

Chemex Labs Ltd.
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PHONE (604) 984-0221

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1205 - 555 13TH ST.
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Comments: CC: AMBERGATE RES.

CERTIFICATE A8721106

TULLY, DONALD W.
PROJECT :
P.O.# :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 1-OCT-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	16	Assay: Crush, split, pulv -140

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	16	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0
312	16	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	16	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0
330	16	As %: Assay	NAA	0.001	100.0
347	16	Sb %: Assay	NAA	0.001	100.0
385	16	Ag oz/T: Aqua regia digestion	AAS	0.01	20.0
398	16	Au oz/T: 1/2 assay ton	FA-AAS	0.002	20.00

APPENDIX A

Chemex Labs Ltd.
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PHONE (604) 984-0221

To : AMBERGATE EXPLORATIONS INC.

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VANCOUVER, BC
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Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

Date : 4-SEP-87
Invoice # : I-8720254
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720254

SAMPLE DESCRIPTION	PREP CODE		Cu %	Pb %	Zn %	Sb NAA %	Ag FA oz/T	Au FA oz/T	
CUA-1	207	---	< 0.01	5.17	0.04	0.009	2.74	< 0.003	COMSTOCK PROPERTY
CUA-2	207	---	< 0.01	8.93	0.03	0.014	2.90	< 0.003	
CUA-3	207	---	< 0.01	13.70	0.44	0.031	9.32	< 0.003	
CW3-1	207	---	< 0.01	10.40	0.05	0.020	6.00	< 0.003	
CW3-2	207	---	< 0.01	30.6	0.05	0.048	17.50	< 0.003	
CW3-3	207	---	< 0.01	33.1	1.02	0.054	19.36	< 0.003	
CW3-4	207	---	< 0.01	21.4	0.63	0.035	12.20	< 0.003	
J-50	207	---	< 0.01	1.33	0.02	0.002	0.64	< 0.003	
SPW-LD1	207	---	< 0.01	24.4	0.19	0.038	12.38	0.080	
SPW-LD2	207	---	< 0.01	4.15	0.54	0.006	1.93	0.174	
SPW-SD1	207	---	< 0.01	14.10	1.87	0.019	9.79	0.250	
SPW SD2	207	---	< 0.01	22.9	0.17	0.030	10.07	0.266	
SST-1-1	207	---	0.01	16.70	0.06	0.024	5.76	0.082	
SST-1-2	207	---	< 0.01	16.50	0.01	0.016	8.84	0.078	
WES-5.0N	207	---	< 0.01	21.8	11.40	0.043	12.39	0.146	
WES-0S	207	---	< 0.01	15.30	11.90	0.028	8.06	0.300	AMBER PROPERTY
WES-3.0S	207	---	< 0.01	24.9	16.80	0.052	7.98	0.064	
WES-5.0S	207	---	< 0.01	7.63	5.39	0.014	3.97	0.048	
WES-7.5S	207	---	< 0.01	2.38	1.12	0.004	1.01	0.026	
WES-11.5S	207	---	< 0.01	1.50	1.55	0.002	1.21	0.014	
WES-SULPHIDE	207	---	0.02	24.1	17.90	0.050	15.08	1.526	
WETR-1	207	---	< 0.01	7.06	4.29	0.012	3.52	0.076	
WETR-2	207	---	< 0.01	61.0	4.21	0.012	33.30	0.012	
WETR-2CHAN	207	---	< 0.01	38.5	1.38	0.070	20.26	0.058	
WETR-3	207	---	< 0.01	1.82	0.23	0.003	0.73	0.012	

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY B.C. CERTIFIED ASSAYERS

CERTIFICATION : B. Fowler

APPENDIX B

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: TULLY, DONALD W.

1205 - 555 13TH ST.
WEST VANCOUVER, BC
V7T 2N8

Project :
Comments: CC: AMBERGATE RES.

**Page No. : 1
Tot. Pages: 1
Date : 1-OCT-87
Invoice # : I-8721106
P.O. # :

CERTIFICATE OF ANALYSIS A8721106

SAMPLE DESCRIPTION	PREP CODE		Cu %	Pb %	Zn %	As NAA %	Sb NAA %	Ag oz/T	Au oz/T	
0067	207	---	< 0.01	0.04	0.01	< 0.001	< 0.001	0.13	< 0.002	
0068	207	---	< 0.01	22.4	0.03	0.002	0.047	14.60	0.010	
0069	207	---	< 0.01	30.7	0.01	< 0.001	0.043	14.00	0.006	
0070	207	---	0.01	56.2	0.55	< 0.001	0.120	31.6	0.802	
0071	207	---	< 0.01	10.80	0.28	0.001	0.018	5.87	0.099	
0072	207	---	< 0.01	34.9	21.1	< 0.001	0.080	18.30	0.097	
0073	207	---	< 0.01	23.3	6.63	< 0.001	0.044	13.70	1.436	
0074	207	---	0.02	9.74	6.57	< 0.001	0.016	8.80	1.670	▸ AMBER PROPERTY
0075	207	---	< 0.01	38.0	27.7	< 0.001	0.096	26.0	0.038	
0076	207	---	< 0.01	14.50	9.12	< 0.001	0.027	7.73	0.040	
0077	207	---	< 0.01	30.4	17.00	< 0.001	0.050	14.60	0.062	
0078	207	---	< 0.01	13.40	6.93	< 0.001	0.021	6.56	0.030	
0079	207	---	< 0.01	34.9	9.38	< 0.001	0.056	23.3	0.024	
0080	207	---	< 0.01	44.7	7.23	< 0.001	0.082	17.50	0.028	
0081	207	---	< 0.01	19.30	0.66	< 0.001	0.036	12.50	0.008	
0082	207	---	< 0.01	24.4	0.24	0.001	0.045	15.70	0.002	▸ COMSTOCK PROPERTY

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY B.C. CERTIFIED ASSAYERS

CERTIFICATION : B. Thwaites

APPENDIX B

APPENDIX C

CERTIFICATE OF QUALIFICATION

I, C. Geoffrey Spearing, of 503-2016 Fullerton Avenue in the City of North Vancouver, Province of British Columbia do hereby certify:

That I am a self-employed mining engineer with office at 1000-401 West Georgia Street, Vancouver, British Columbia;

That I am a graduate of Queen's University at Kingston, Ontario where I did obtain my Bachelor of Science degree in Mining Engineering in 1986;

That my principal employment since 1985 has been in the field of mineral exploration;

That this report is based on data in literature available for public inspection; and on work conducted and supervised by me as well as by John Ostler; M.Sc., P.Geol. and D.W. Tully, P.Eng. on the Comstock Property from July 7 to August 12 and on August 21, 1987;

That I have no interest in the Comstock Property nor in the securities of Ambergate Explorations Inc. nor do I expect to receive any.

Dated at West Vancouver, British Columbia this 15th day of October, 1987.

C. Geoffrey Spearing, B.Sc.(Eng.)
Consulting Mining Engineer

APPENDIX C

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 515-470 Granville Street, Vancouver, British Columbia;

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 licenced to practice as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta, and 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 15 years;

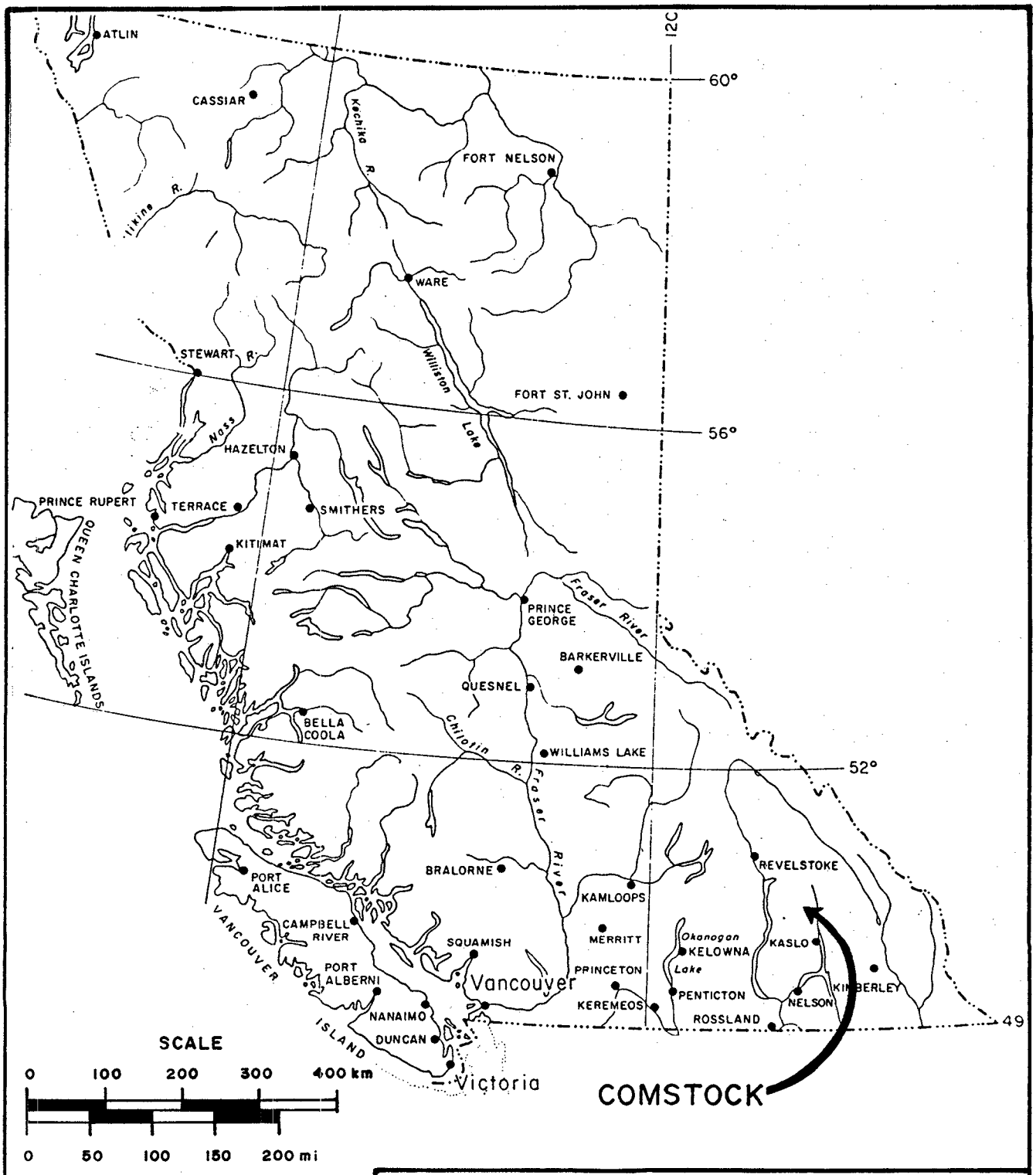
That this report is based on data in literature available for public inspection; and on work conducted and supervised by me as well as by C. Geoffrey Spearing, B.Sc.(Eng.) and D.W. Tully, P.Eng. from July 7 to August 12 and on August 21, 1987;

That I am President and a principal shareholder in Ambergate Explorations Inc. which owns the Comstock Property; thus to avoid possible conflict of interest, I did not conduct any sampling for assay nor were samples for assay under my control at any time;

Dated at West Vancouver, British Columbia this 15th day of October, 1987.

John Ostler

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



AMBERGATE EXPLORATIONS INC.

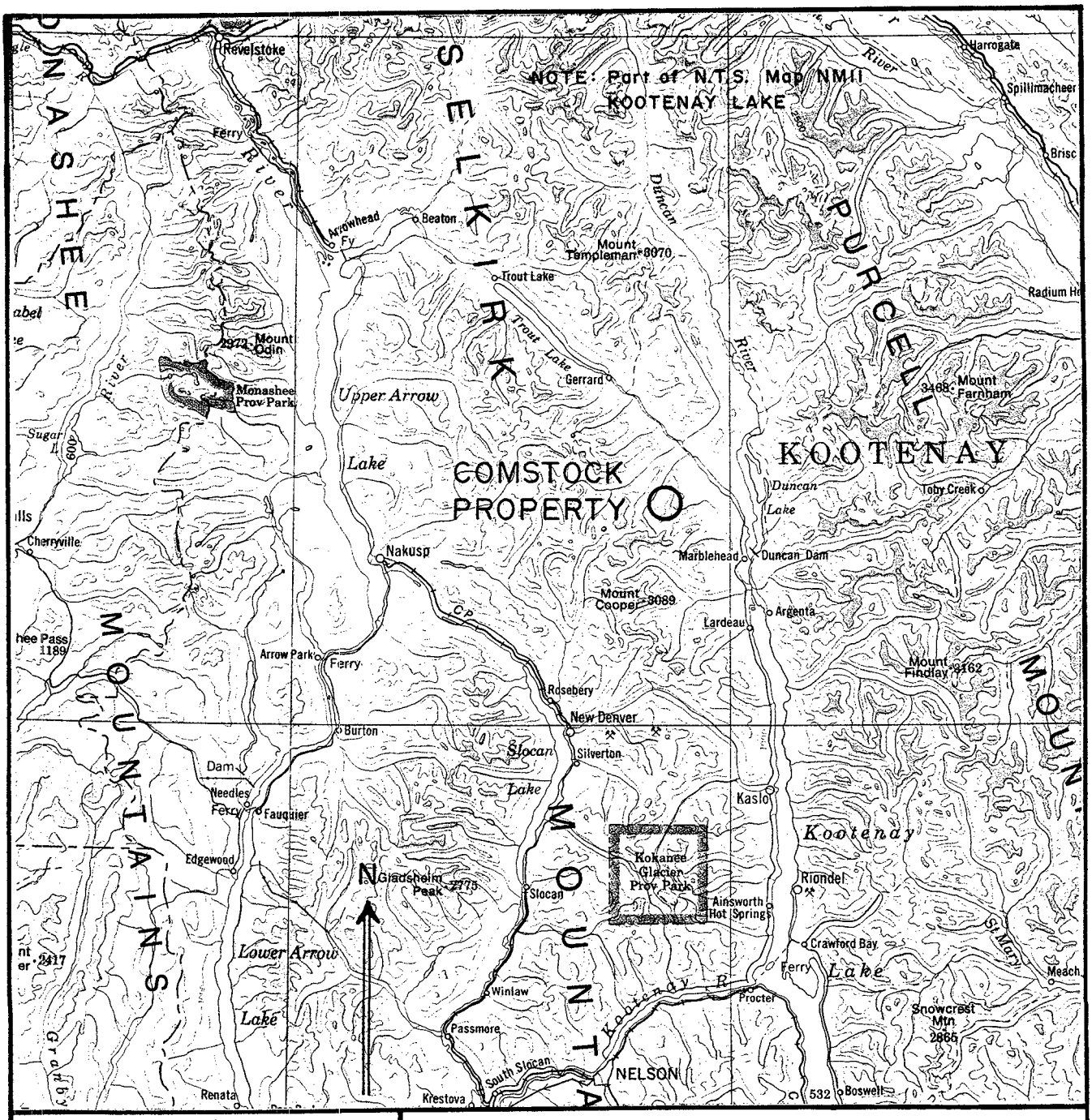
GENERAL LOCATION

COMSTOCK PROPERTY
50°19.5'N., 117°09'W.

SLOCAN M.D.
BRITISH COLUMBIA
C.G. SPEARING, B.Sc.(Eng.)
JOHN OSTLER; M.Sc., P.Geol.
OCTOBER, 1987

Figure 1

CASSIAR EAST YUKON EXP. LTD.



LOCATION

Figure 2

CASSIAR EAST YUKON EXP. LTD.

SCALE

0 10 20 30 40 50 60 km

0 10 20 30 40 mi

AMBERGATE EXPLORATIONS INC.

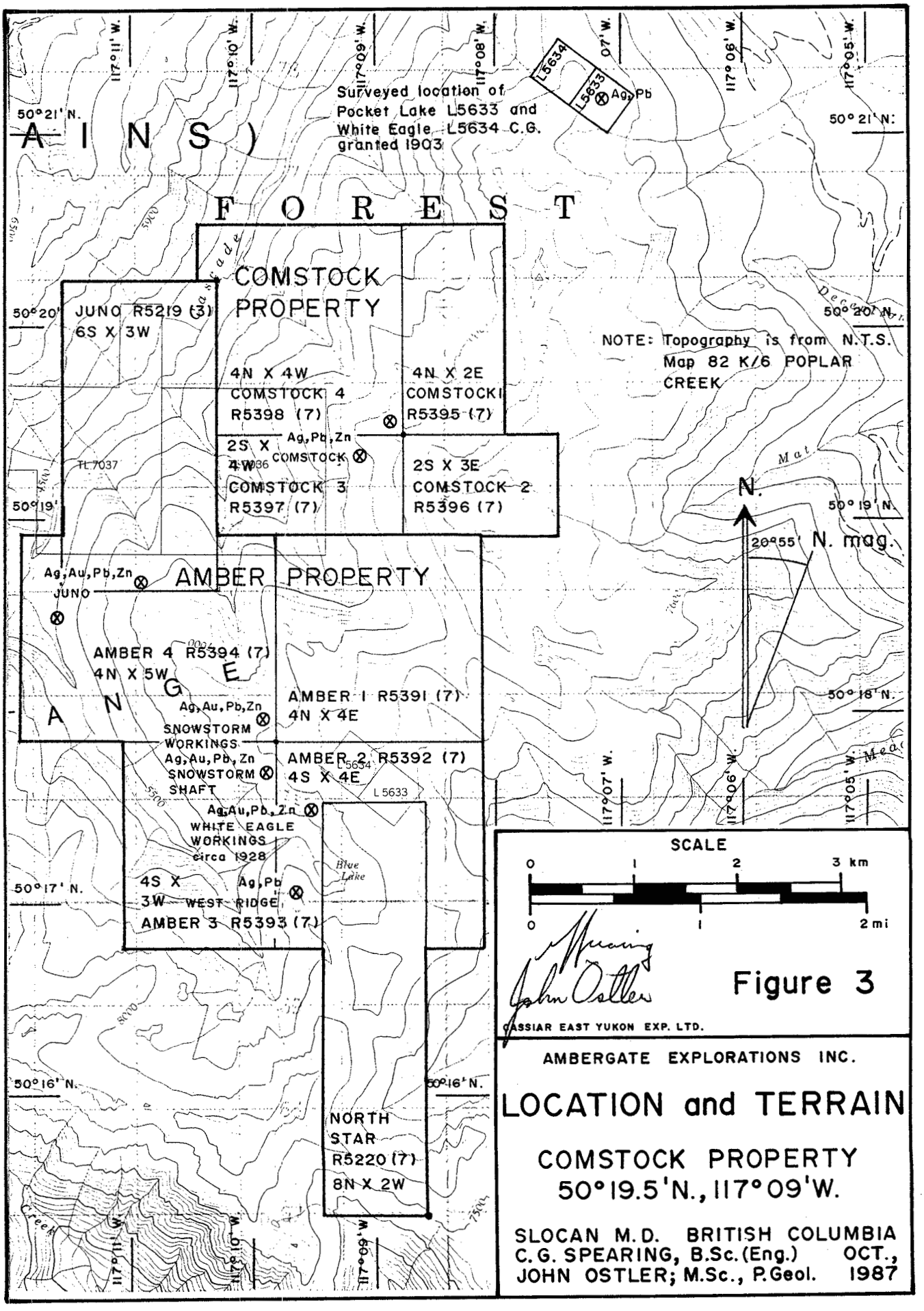
REGIONAL ACCESS

COMSTOCK PROPERTY
50°19.5'N., 117°09'W.

SLOCAN M.D.
BRITISH COLUMBIA

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

OCTOBER, 1987



SCALE

0 1 2 3 km

0 1 2 mi

John Ostler

CASSIAR EAST YUKON EXP. LTD.

Figure 3

AMBERGATE EXPLORATIONS INC.

LOCATION and TERRAIN

COMSTOCK PROPERTY
50°19.5'N., 117°09'W.

SLOCAN M.D. BRITISH COLUMBIA
C.G. SPEARING, B.Sc.(Eng.) OCT.,
JOHN OSTLER; M.Sc., P.Geol. 1987

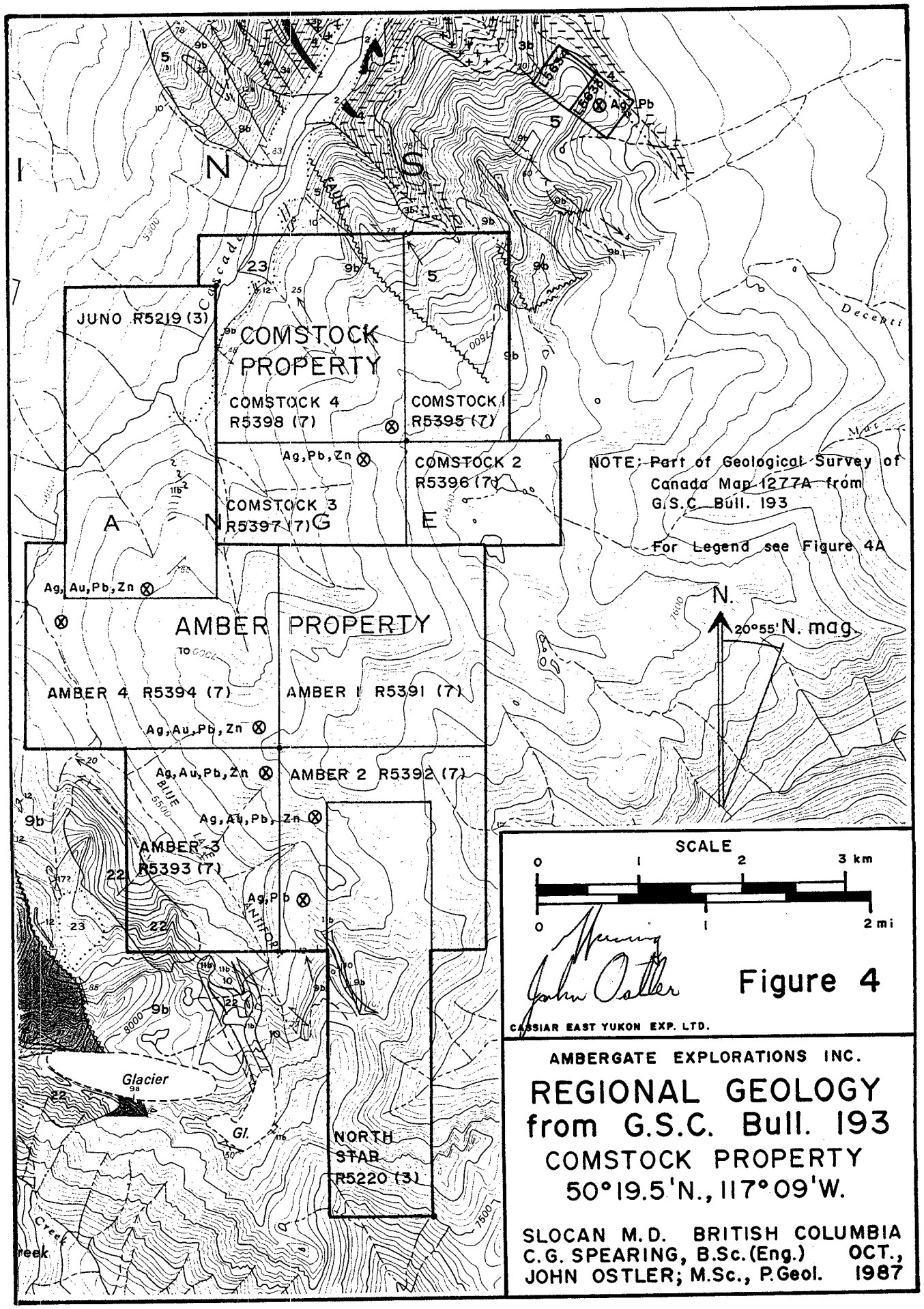


Figure 4

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

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

COMSTOCK PROPERTY

50°19.5'N., 117°09'W.

SLOCAN M.D. BRITISH COLUMBIA

C.G. SPEARING, B.Sc.(Eng.) OCT.,

JOHN OSTLER; M.Sc., P.Geol. 1987

LEGEND

FIGURE 4A

Note: The generations of the coloured symbols below are indicated thus; first ✓, second ✓, third ✓

Geological boundary (defined, approximate, assumed)

Bedding, tops unknown (inclined, vertical)

Foliation (inclined, vertical)

- S_1 and S_{0-1}, s_1 and s_{0-1}
- S_2, s_2
- S_3, s_3
- *Undifferentiated*

Lineation

- L_1 and l_1, L_2 and l_2, L_3 and l_3
- L_4 and l_4

Approximate location of trace of axial plane of fold indicated by name of fold (colour 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 1970, 22°16' East, decreasing 3.3' annually

Elevations in feet above mean sea-level

CENOZOIC

QUATERNARY
PLEISTOCENE AND RECENT

23 — *Glacial, lacustrine, and fluviatile gravel, sand, silt, and clay*

MESOZOIC

POST-LOWER JURASSIC

22 — *KUSKANAX-LIKE INTRUSIONS: massive leucoquartz monzonite and leucosyenite*

JURASSIC
LOWER JURASSIC

21 — *KUSKANAX BATHOLITH: foliated leucoquartz monzonite and leucosyenite*

MESOZOIC AND (?) EARLIER

LOWER JURASSIC (?) AND OLDER

20 — *POPLAR CREEK GREENSTONES: 20a, amphibolite and hornblende metadiorite; 20b, meta-andesite and metadiorite, sills and dykes (where colour is absent adjacent to unit 5, minor amounts of unit 5 exist)*

PALEOZOIC AND (?) MESOZOIC

UPPER MISSISSIPPIAN TO TRIASSIC
MILFORD GROUP (14-19)

19 — *Coarse fragmental rocks*

Calcite-bearing quartzite

17 — *Grey phyllite and impure meta-sandstone*

16 — *Limy micaceous meta-sandstone*

Micaceous meta-sandstone

Crystalline limestone and calc-silicate marble

PRE-UPPER MISSISSIPPIAN (?) TO TRIASSIC

13a, hornblende-plagioclase schist; minor white crystalline limestone; 13b, grey to green amphibolite; 13c, grey to green amphibolite; 13d, hornblende-plagioclase schist; minor breccia (cross pattern indicates minor amounts of unit 20)

PALEOZOIC AND/OR (?) EARLIER

PRE-UPPER MISSISSIPPIAN
LARDEAU GROUP (1-12)

STRATIGRAPHY OF LARDEAU GROUP (based on Fyles and Eastwood, 1962)

12 | 12a — *Green mica-amphibole schist; minor volcanic breccia, pillow lava, and porphyritic flows; 12a, chloritic marble*

11 — *11a, schistose limestone and limy schist; 11b, phyllitic limestone and limy phyllite*

10 — *Dark grey phyllite*

9 — *9a, grey to green quartz-mica schist and meta-grit, 9b, grey to green quartz-mica schist and meta-grit*

} BROADVIEW FORMATION

SILVERCUP RIDGE

SHARON CREEK FORMATION: dark grey phyllite — *SHARON CREEK FORMATION*

AJAX FORMATION: light grey quartzite — *AJAX FORMATION*

TRIUNE FORMATION: grey argillite, slate, and phyllite — *TRIUNE FORMATION*

5 — *Massive greenstone, pillow lava, volcanic breccia, and limy green phyllite (cross pattern indicates minor amounts of unit 20)*

4 | 4a — *Limy chlorite schist, 4a, chloritic marble*

3 — *3a, medium to dark grey phyllite; minor limy phyllite; 3b, phyllitic quartzite; grey quartzose phyllite; minor metavolcanic rocks (cross pattern indicates minor amounts of unit 20)*

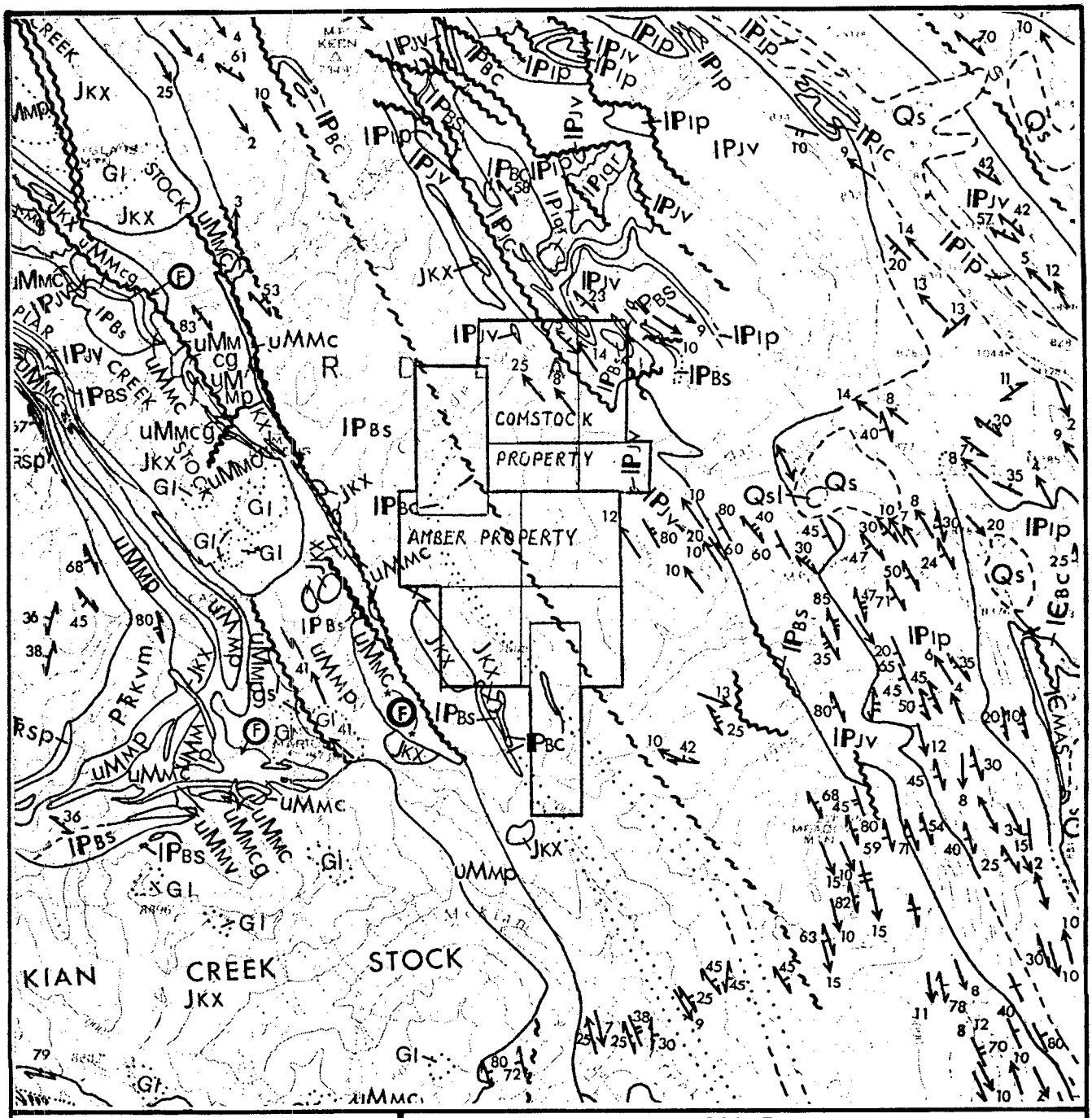
Phyllitic limestone

1 — *Grey to green quartz-mica schist and meta-grit (cross pattern indicates minor amounts of unit 20)*

} INDEX FORMATION

LEGEND TO G.S.C. MAP 1277A

Part of G.S.C. Bull. 193



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°55' N. mag.

Figure 5

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

REGIONAL GEOLOGY from G.S.C. O.F. 432 COMSTOCK PROPERTY 50°19.5'N., 117°09'W.

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

BRITISH COLUMBIA
OCTOBER, 1987

FIGURE 5A

LEGEND TO G.S.C. O.F. 432

CENOZOIC

QUATERNARY
PLEISTOCENE AND RECENT

- Qs — Glacial deposits, recent alluvium, few if any outcrops
- Qsl — Landslide and rock slide debris

MESOZOIC

CRETACEOUS AND/OR JURASSIC

- Kgd — GALENA BAY STOCK: muscovite-biotite granodiorite and quartz monzonite
- Kgal — BATTLE RANGE BATHOLITH (Kgal, Kgdb, Kqmm): Pyritiferous alaskite
- Kgdb — Muscovite-biotite granodiorite, granodiorite; includes SUGARPLUM STOCK
- Kqmm — Biotite-hornblende quartz monzonite, granodiorite; minor quartz diorite; includes BUGABOO BATHOLITH

NELSON BATHOLITH (Kcc to Jqd)

- Kcc — CARIBOU CREEK PLUTON: biotite-hornblende quartz monzonite, granodiorite; minor quartz diorite and granite. All contain potash feldspar megacrysts
- Kqmb — GOATCANYON-HALIFAX CREEK and WRAGGE CREEK STOCKS: hornblende-biotite quartz monzonite; minor quartz diorite and granodiorite
- Kqm — SOUTH WRAGGE CREEK STOCK: hornblende leucoquartz monzonite

JURASSIC AND/OR CRETACEOUS

- Jqdm — RUBY RANGE STOCK: biotite-hornblende quartz diorite, diorite, quartz monzonite, monzonite and syenodiorite
- Jqd — MEADOW MOUNTAIN and EAST CARIBOU STOCKS: foliated hornblende quartz diorite; minor quartz monzonite

JURASSIC

- Jkx — KUSKANAX BATHOLITH AND STOCKS (Jkx, Jkxs, Jkx): Aegerine-augite leucoquartz monzonite; minor leucosyenite and leucogranite
- Jkxs — Syenite
- tJkx — Foliated and/or lineated leucoquartz monzonite

LOWER JURASSIC
UPPER SINEMURIAN

- lJp — ARCHIBALD FORMATION (?): grey argillite, shale and siltstone

TRIASSIC AND (?) JURASSIC
TRIASSIC TO (?) LOWER JURASSIC (SINEMURIAN)
SLOCAN GROUP

- ℞Jsvb — Augite meta-basalt and meta-andesite flows and tuff
- ℞Jsvd — Grey meta-andesite and meta-dacite tuff and flows
- ℞sp — Grey to black phyllite, argillite, quartzite; minor tuffaceous sediments near top
- ℞sc — Grey to black limestone; minor argillite and quartzite
- ℞scg — Conglomerate, sedimentary breccia; minor sandstone

PALEOZOIC to MESOZOIC

PERMIAN AND/OR TRIASSIC

- gs — Hornblende and pyroxene meta-diorite and meta-andesite (includes Poplar Creek Greenstone). Pattern used where boundaries are undefined.
- P℞ub — Serpentinite; minor talc and tremolite schist

KASLO GROUP

- P℞kv — Meta-andesite flows, tuff, breccia; minor meta-dacite; rare tuffaceous phyllite

HIGH GRADE METAMORPHIC ROCKS

PROTEROZOIC TO TRIASSIC

- ℞ssb — Grey mica schist
- ℞ssc — Calc-silicate marble
- P℞kvm — Amphibolite

FIGURE 5A

LEGEND TO G.S.C. O.F. 432

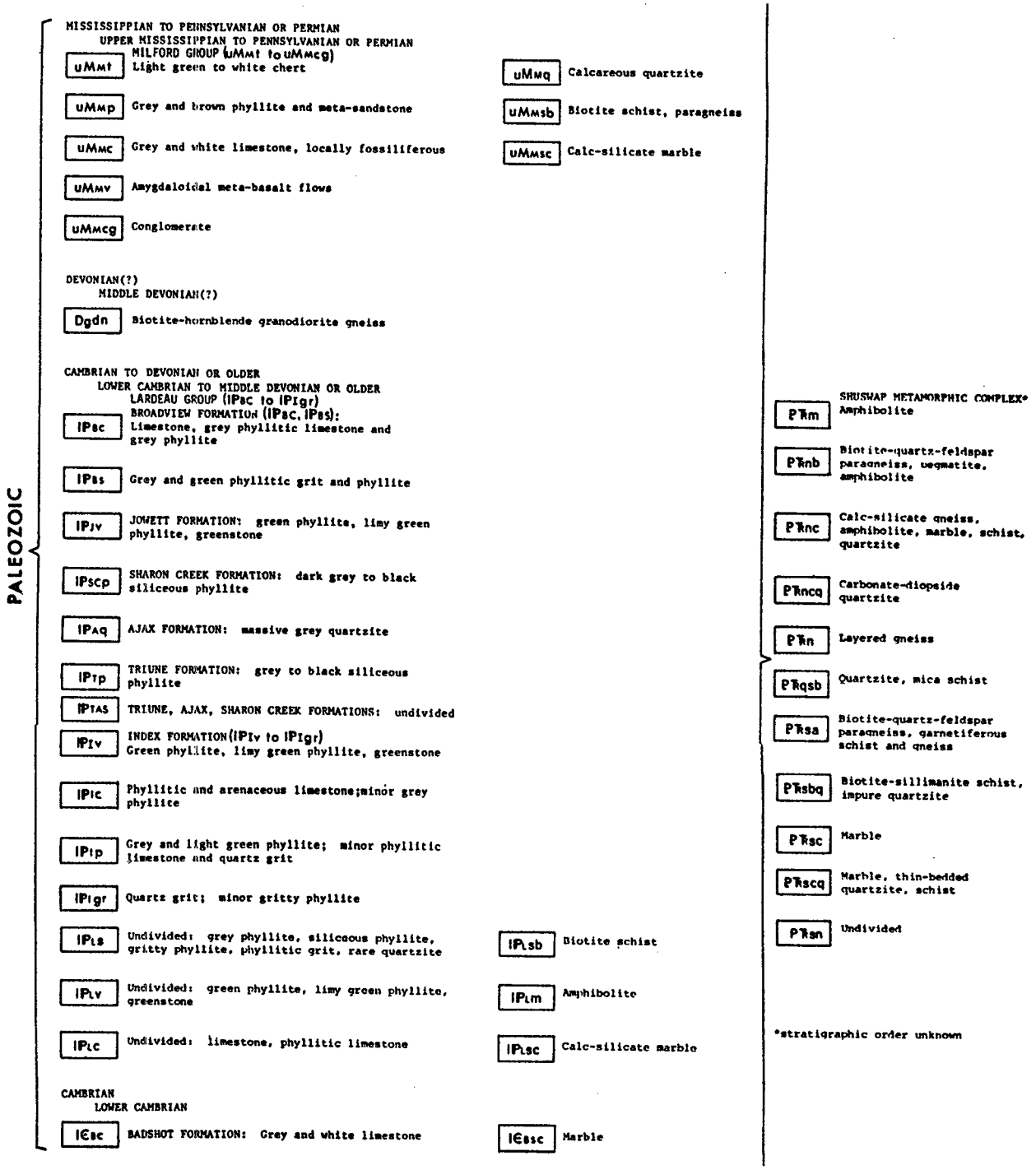
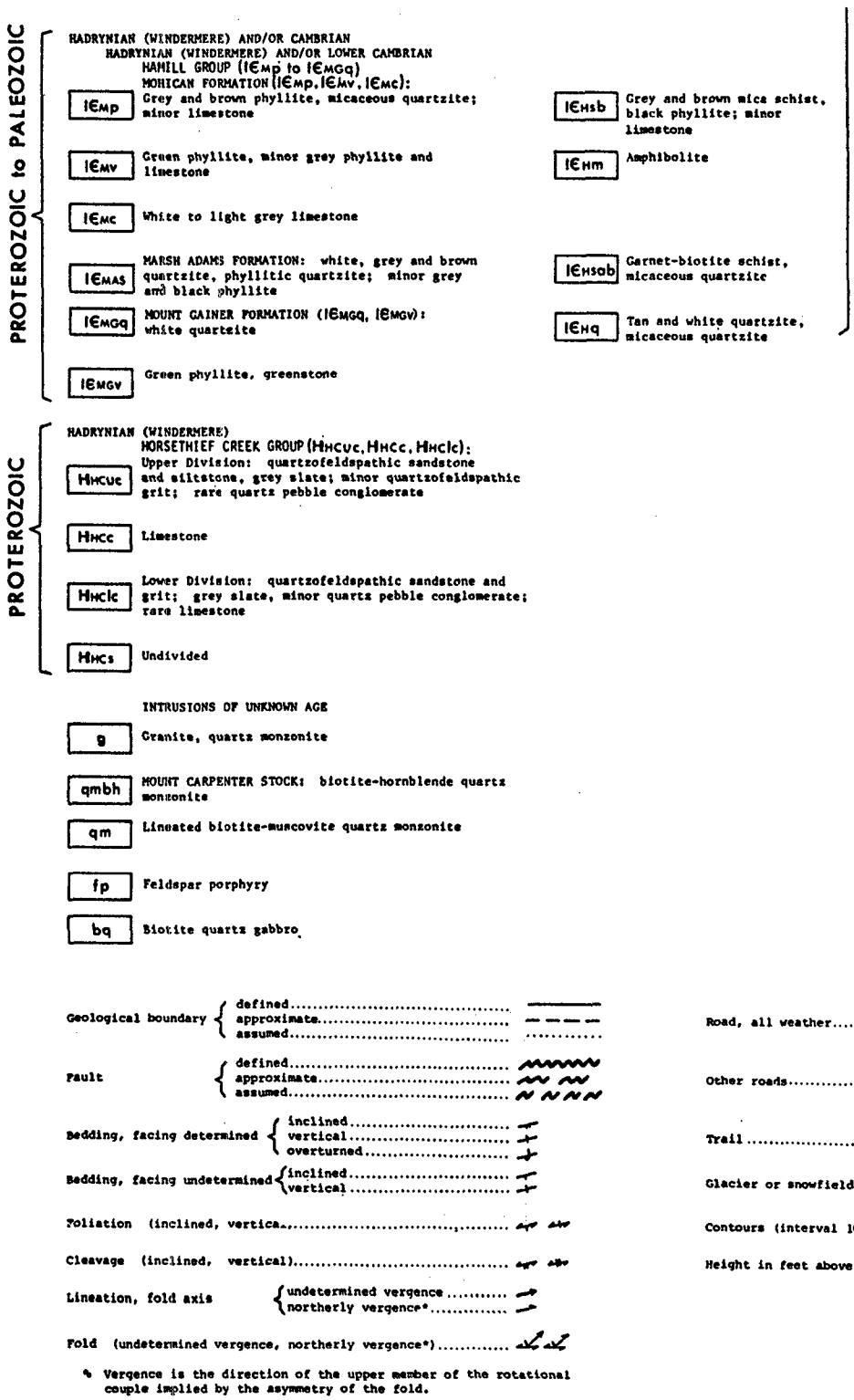
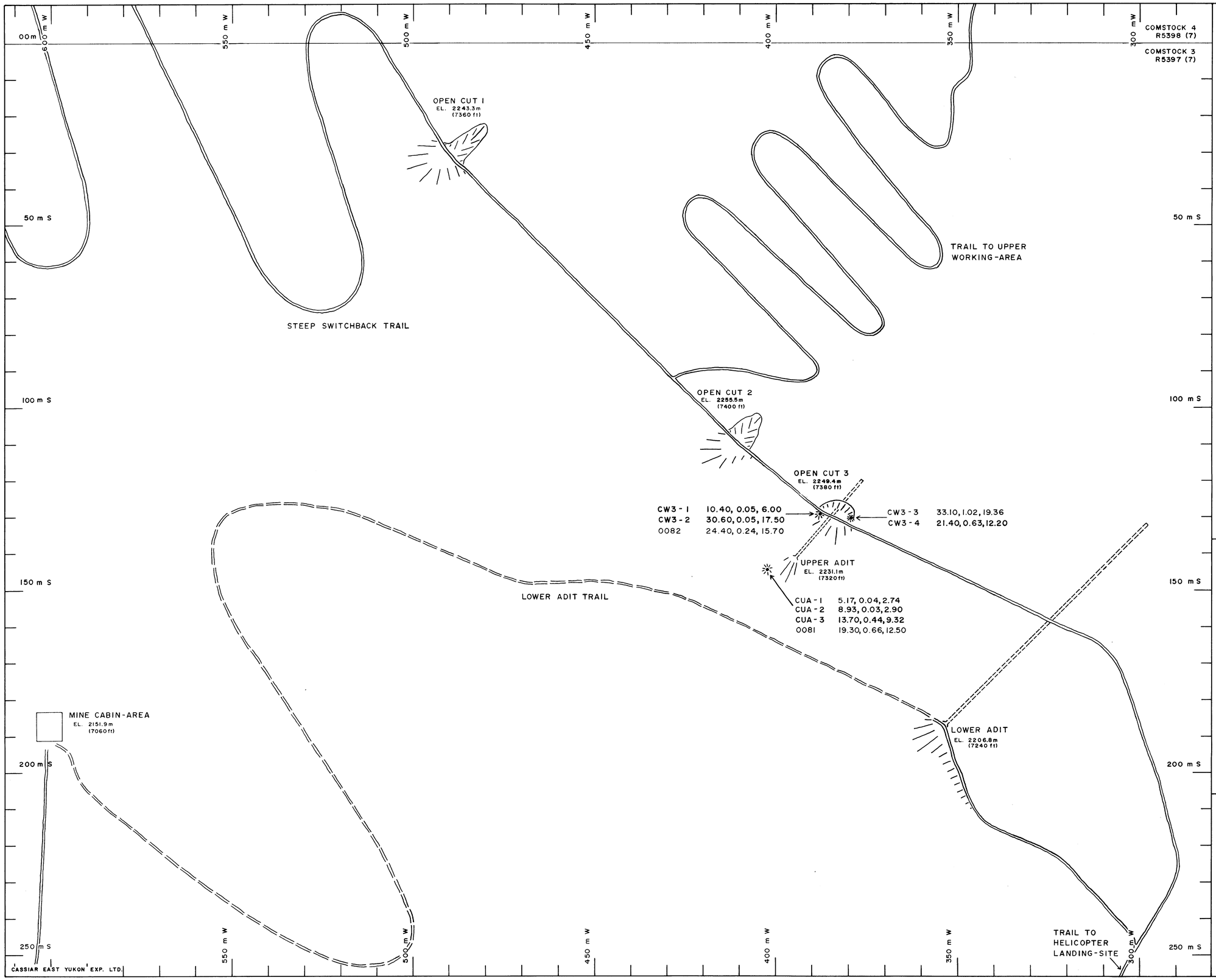


FIGURE 5A

LEGEND TO G.S.C. O.F. 432



* Vergence is the direction of the upper member of the rotational couple implied by the asymmetry of the fold.



LEGEND

Rock Assay

sample station ↓ lead % ↓ zinc % ↓ silver oz/ton

CW3-3 33.10, 1.02, 19.36

CW3-3 ← sampled by C.G. Spearing, B.Sc.(Eng.)

0081 ← sampled by D.W. Tully, P. Eng.

Topography

Trail: established ═══ approximate ═ ═ ═ ═

Cut Fill Tunnel

Notes:

For location on property see Figures 3 and 4

PROFESSIONAL GEOLOGIST ALBERTA JOHN OSTLER LICENSED TO PRACTICE

SCALE

0 10 20 30 40 50 metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,480

N. 20°55' N. mag

Magnetic declination for the centre of N.T.S. Map 82 K/6 as of July 1, 1987. Declination decreases 5.1' annually.

Figure 7

AMBERGATE EXPLORATIONS INC.

MAIN WORKINGS-AREA:
COMSTOCK 3 R5397 (7)

COMSTOCK PROPERTY

50°19.5'N., 117°09'W.

SLOCAN MINING DIVISION BRITISH COLUMBIA

C.G. SPEARING, B.Sc.(Eng.)

JOHN OSTLER; M.Sc., P.Geol. OCTOBER, 1987

← surveyed location of L5633 Pocket Lake and L5634 White Eagle

WHITE EAGLE L5634

POCKET LAKE L5633

POCKET LAKE WORKINGS Ag, Pb

POCKET LAKE

CASCADE CREEK

7505

7210

8050

8000

8728 SURVEYED ELEVATION

8710

8730

8750

← contact as mapped by Read on Geological Survey of Canada Map 1277A

INDEX FORMATION volcanics

BROADVIEW FORMATION sediments

JUNO R5219 (3) 6S X 3W

1987 CAMP

COMSTOCK 4 R5398 (7) 4N X 4W

COMSTOCK 1 R5395 (7) 4N X 2E

UPPER TRENCHES (approx. loc.) Ag, Pb

COMSTOCK WORKINGS 24 Ag, Pb, Zn

COMSTOCK 3 R5397 (7) 2S X 4W

COMSTOCK 2 R5396 (7) 2S X 3E

AMBER 4 R5394 (7) 4N X 5W

AMBER 1 R5391 (7) 4N X 4E

CASCADE CREEK

KISS CREEK

MAT CREEK

CASSIAR EAST YUKON EXP. LTD.

LEGEND

TABLE OF LITHOLOGIC UNITS

LARDEAU GROUP, BROADVIEW FORMATION
Palaeozoic, pre-Upper Mississippian age

EQUIVALENT UNITS Map 1277A O.F. 432

4	Dolomitic siltstone and impure carbonate commonly with graphitic segregations, grey-blue weathering brown with rough pitted surfaces	IIb	IPBc
3	Pelite and siltstone, variably carbonaceous black to grey weathering light grey to rusty brown, fissile	IO	IPBs
2	Siltstone and pelite, grey weathering to rusty brown	9b	IPBs
1	Lithic sandstone and siltstone, grey-brown weathering light grey to rusty brown Generally grain size decreases, sorting and purity increases southwestward; contains minor aplite dykes and sills	9b	IPBs

STRUCTURE

Bedding: Tops known; Tops unknown; Parallel with cleavage

Cleavage: First; Second; Third

Vein Attitude:

Folding, probably second phase: Defined; Approximate; Assumed

Antiform

Synform

Fault: Defined; Approximate; Assumed

TOPOGRAPHY

Elevation from N.T.S. 82 K/6 in feet

Contour — 7000 —

Mountain Peak + 8050

Lake, tarn or pond; Creek; Limit of ice; Limit of outcrop

Mineral showing area

COMSTOCK TUNNELS Ag, Pb, Zn (silver, lead, zinc)

Lithologic contact: Defined; Approximate; Assumed

PROFESSIONAL GEOLOGIST ALBERTA JOHN OSTLER LICENSED TO PRACTISE

SCALE

0 100 200 300 400 500 600 700 800 900 1000 metres

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 feet

0 0.25 0.5 0.75 1 mile

GEOLOGICAL BRANCH ASSESSMENT REPORT

16,480

N. 20°55' N. mag.

Magnetic declination for the centre of N.T.S. Map 82 K/6 as of July 1, 1987. Declination decreases 5.1' annually.

Figure 6

AMBERGATE EXPLORATIONS INC.

GEOLOGY:

COMSTOCK 1-4 R5395-8 (7)

COMSTOCK PROPERTY

50°19.5'N., 117°09'W.

SLOCAN MINING DIVISION — BRITISH COLUMBIA

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

OCTOBER, 1987