GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE AMBER PROPERTY

Amber 1 R5391 (7)
Amber 2 R5392 (7)
Amber 3 R5393 (7)
Amber 4 R5394 (7)
Juno R5219 (3)
North Star R5220 (3)

Claims

11/88

Slocan Mining Division

N.T.S. 82 K/6E

50°18' 117°10'

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

The Amber Property is located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia. The property comprises the: Juno R5219 (3), North Star R5220 (3), and Amber 1 to 4 R5391 to 4 (7) claims These claims cover 98 claim-units; 2225 ha (5340 A) including overlap. The property is centred on 50° 18' N. and 117° 10' W. in the Slocan Mining Division of B.C.

The Juno and North Star claims are held under option. Ambergate can earn 100% interest in them by paying $20,000 in payments concluding in 1990. Ambergate owns 100% of the Amber 1 to 4 claims.

During the 1987 exploration program, direct access to the Amber 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 Amber Property straddles a moderately steep ridge southeast of Cascade Creek, which flows into the Lardeau River about 12 km (7.3 mi) northeast of the centre of the property.

Elevations in the property-area range from 1234 m (4050 ft) to 2688 m (8820 ft). The high local topographic relief provides a great variety of conditions for soil development and diversity of plant communities across the property.

The claim-area northwest of Cascade Creek has been burned and logged off, and is now covered by brush and immature trees. In the valley southeast of Cascade Creek is a stand of mature hemlock that extends upslope to about 1676 m (5500 ft) where it is gradually replaced by spruce. On more sunny slopes, the hemlock are joined by cedar. Spruce is the only major tree species in the forest between elevations of 1676 m (5500 ft) and 2134 m (7000 ft). Above that, a minor amount of pine grow among the spruce. Alpine meadows and bare mountain peaks comprise that part of the property above the spruce forest.

The Pocket Lake L5633 and White Eagle L5634 crown-grants were erroneously put on the area covered by part of the Amber 2 claim on some recent government maps. These claims were actually surveyed in a location about 8 km (4.9 mi) north-northeast of there. These crown-grants appear in their correct location northeast of the Comstock Property on all other maps found by the writers. They are not on the Amber Property. The mistake on recent maps is probably due to the reuse of the name White Eagle.

The Amber Property covers four old properties; the White Eagle (circa 1928), Snowstorm, West Ridge and Juno.

These properties were explored from 1925 until 1930. The White Eagle, Snowstorm and Westridge were acquired by J. Gallo for Keene Mountain Gold and Silver Mines Ltd. of Calgary, Alta. The Juno was developed by the Juno Syndicate of Nelson, B.C. It was developed in conjunction with the

Comstock Property located 3 km east of the Juno. The Comstock Property is also controlled by Ambergate Explorations Inc.

The 1987 exploration on the Amber Property included geological mapping, soil sampling, location, exposure and sampling of most of the workings on the property, and location and mapping of the old workings, camp sites and trails themselves.

The Amber Property is underlain by the Palaeozoic-age Broadview Formation. Together with the underlying Index Formation volcanics; the Broadview Formation sediments form an eugeosynclinal sequence. They were deposited in a trough that formed within the Cordilleran Geosyncline during the Early Palaeozoic Eon.

The rocks on the property are complexly folded. Fold axial trends strike northwest-southeasterly. Second-phase structures are regionally most important.

Lithological mapping on the property revealed that the Broadview Formation sediments were a conformable series of lithic sandstones overlain by siltstones and variably carbonaceous pelites. Silty carbonates were interbedded with the pelites.

The White Eagle workings are located on a west-facing slope north of Blue Lake on the Amber 2 R5392 (7) claim. They comprise upper and lower adits, an inclined shaft, a winze in the upper adit and surface trenches.

In 1928, J. Gallo's crew extended the upper adit for 18 m along the White Eagle Vein on good mineralization and excavated surface trenches along the vein. A 9.5 ton shipment from that area graded 32.6% lead, 21.3% zinc, 21.1 oz/ton silver and 0.27 oz/ton gold.

A 14.5 m long inclined shaft was driven down the vein. It was collared between the upper adit and a surface showing of massive sulphide 0.6 m thick and 5.5 m long.

To test the vein at depth, a lower adit was driven from a portal site located 90 m southwest and 38 m below the upper workings. It intersected two veins that contained economic mineralization. This indicated that there was a series of mineralized veins in the White Eagle workings-area.

The upper workings were sampled during the 1987 exploration program. There is no appreciable copper, arsnic or antimony in the White Eagle Vein. Galena-rich samples have lead concentrations as high as 61% lead and silver concentrations as high as 33.3 oz/ton silver. Gold content is directly related to pyrite content. 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	average vein width
gold	0.19 oz/ton	40 cm

This sample included unmineralized as well as mineralized samples.

Higher-grade material is concentrated in ore shoots, one of which is exposed as the massive sulphide lens west of the inclined shaft and seems to have a northerly rake in the plane of the vein.

The central part of this ore shoot is massive sulphide up to 0.6 m thick containing high concentrations of silver, lead and zinc. The lower eastern margin of the shoot contains pyrite in quartz carrying high gold

concentrations.

The mineralization encountered by Gallo's crew in 1929 in the lower adit probably represents part of a second ore shoot on the White Eagle Vein. It is too far east to be part of the ore shoot encountered at surface and in the upper workings.

The lower adit crossed two mineralized veins. The upper was probably the White Eagle Vein and the lower was probably the vein exposed in trench WETR-3. The White Eagle workings-area possibly contain several mineralized veins, each containing several ore shoots.

In 1930 J. Gallo acquired the Snowstorm Property located north of the White Eagle. Two of the workings-areas on the Snowstorm were examined during the 1987 program. They were the Snowstorm trenches and the Snowstorm shaft on the Silver Sparrow Vein.

The Snowstorm trench -area contains 26 trenches, pits and cuts in an area of about 7.5 ha (18 A). The trenches are centred about 139 m N. and 230 m W. of the Amber common legal corner post on the Amber 4 claim.

Samples from a 1.5 m thick quartz vein exposed in the trenches assayed as high as 16.7 oz/ton silver with minor gold.

Most of the Snowstorm trenches were sloughed in and could not be sampled. However; vein float scattered about the area indicated that there was a series of veins exposed in the trenches.

The Silver Sparrow Vein; another showing on the old Snowstorm Property, is on the Amber 3 claim about 260 m S. and 140 m W. of the Amber common legal corner post. The vein is tested by the Snowstorm tunnel, an inclined shaft that extends down along the vein for 6.1 m.

The Silver Sparrow Vein is about 1 m thick and is mineralized with stringers of auriferous pyrite and segregations of argentiferous galena. Samples from the vein assayed as high as 31.6 oz/ton silver, 0.802 oz/ton gold and 56.2% lead.

A soil survey was conducted during the 1987 program covering an area that extended from just north of the Silver Sparrow Vein across the Snowstorm trenches to a point about 950 m north of the Amber legal corner post. Copper, lead and zinc soil metal concentrations were anomalously high in the northeastern part of the grid. This was deduced to have been the result of leaching and concentration of these metals from the underlying sedimentry rocks. These anomalies were of no economic significance. The anomalous gold and silver concentrations were very different. They were concentrated around the Snowstorm Trenches. All anomalous gold concentrations were at the southern margin of the soil survey between the Snowstorm trenches and the Silver Sparrow Vein.

The West Ridge workings are located atop the ridge west of Blue Lake. They include a 2.4 m^2 (8 ft^2) shaft and a series of trenches. Although caved, the shaft is estimated to have been 15.2 m (50 ft) deep. The vein at the West Ridge workings is about 0.3 m thick and is mineralized with pods and disseminations of argentiferous galena. Dump samples grade up to 10.2 oz/ton silver and 10.3% lead.

The Juno Property located north of the Snowstorm, was explored by the Juno syndicate during the mid-1920's. Reportedly, workings were excavated at several locations on the property. Old assays graded as high as 18.6 oz/ton silver and 0.32 oz/ton gold.

The Juno workings-areas were not explored during the 1987 exploration program. The Juno workings are located on the Juno and Amber 4 claims.

During the 1987 program, several mineralized veins were examined on the properties southeast of Cascade Creek.

With the exceptions of the West Ridge and Comstock veins, the mineralized veins are located within variably carbonaceous pelites in the Broadview Formation. 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 from submarine vents and pelagic sediments. This mud was probably the source of much of the metal sulphide that was concentrated in the veins on the Amber Property.

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 veins on the Amber Property indicate that sulphide and silicate exsolved from the same melt. There is no textural evidence for more than one generation of vein injection.

There are two mineral associations in the veins on the properties southeast of Cascade Creek.

The veins of the White Eagle, Snowstorm, Silver Sparrow and perhaps

the Juno are of the galena + sphalerite + minor pyrite mineral association. Veins of this mineral association seem to have been emplaced in fine-grained rocks with high free carbon contents.

The West Ridge and Comstock veins are of the galena $\pm$ sphalerite association and were emplaced into rocks with low carbon contents.

Translated into a chemical model; it seems that as the local partial pressure of CO_2 increased during vein emplacement; sulphides of lead, zinc and iron were sequentially mobilized. Silver was associated with lead in galena and gold was associated with iron pyrite.

Thus; the White Eagle, Snowstorm, Silver Sparrow and perhaps Juno veins contain lead, zinc, silver and gold. The West Ridge and Comstock veins contain lead, silver and minor zinc.

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE AMBER 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 Amber Property of 98 claim-units and the Comstock Property of 38 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 Amber Property during the Cascade Creek Project in 1987. Work conducted on the adjoining Comstock 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 Amber Property is located in the Slocan Range of the Selkirk Mountains of southeastern British Columbia (Figure 1). The property comprises 98 claim-units covering 2225 ha (5340.A) centred on 50° 18' north latitude and 117° 10' 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 Amber Property from Nakusp is by helicopter; a 20 minute flight one way (Figure 2) to the base camp-area at Blue Lake (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 the property (Figure 2).

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 base camp at Blue Lake is about 11.5 km (7.2 mi).

During the 1920's, access to the property and its workings-areas was by a 1.5 m wide horse trail. The trail 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 on 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 Amber Property by rebuilding the truck road up the valley 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, 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 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 facetted the spurs.

The Amber Property straddles a moderately steep ridge southeast of Cascade Creek (Figure 3). Cascade Creek flows northeastward into Lardeau River east of Poplar Creek, about 12 km (7.3 mi) from the centre of the property.

The Amber Property base-camp area is located on the northern shore of Blue Lake at an elevation of about 2091 m (6860 ft)(Figure 3). 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.

Amber 2 overlaps the northern part of the North Star claim which extends southward from the cirque along the eastern flank of a high, treeless ridge to Meadow Mountain at the southern boundary of the property.

Northwest of Blue Lake, the Amber Property extends over the shoulder of a broad ridge that forms the southeastern slope of the Cascade Creek valley. This ridge descends from an elevation of about 2315 m (7600 ft) near the centre of the property to 1234 m (4050 ft) at the creek on the northeastern part of the Juno claim (Figure 3).

Northeast of Blue Lake, slopes rise steeply to a northeasterly-trending ridge crest with a maximum elevation of about 2688 m (8820 ft) at the northeastern corner of the property.

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

Slopes on the Amber 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 north-facing slopes. These features

are formed by predominantly mechanical weathering associated with ice fields.

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

No soil has 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 moderately steep.

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 developed well-defined horizons and comparatively mature profiles.

Lower erosional slopes are located above Cascade Creek and generally below elevations of about 1829 m (6000 ft). 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 much deeper on these slopes than on the glaciated alpine slopes above.

Although soil profiles are commonly quite mature on these slopes, soil metal concentrations at any one location may be due more to down-slope transport than local sub-surface metal concentrations.

The area on the Amber property covered by englacial and alluvial sediments is quite small.

North of Blue Lake (Figure 3) soils are developed on a small flat terminal moraine that extends across the Blue Creek valley.

Alluvium is being deposited by Cascade Creek in its flatter sections below elevations of about 1646 m (5400 ft)(Figure 3).

Elevations on the Amber Property range from 1234 m (4050 ft) at Cascade Creek at the northeastern corner of the Juno claim, to 2688 m (8820 ft) at the northeastern corner of the Amber 1 claim.

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

The southeasterly facing slope north of Cascade Creek covered by the northwestern part of the Juno claim has been completely burned off within the last twenty years. That slope is now covered by immature brush and tall weeds growing among charred stumps. This brush extends across a narrow strip of valley bottom along the northwestern bank of Cascade Creek that was logged about the same time as the fire. This was the only logging on the property.

Southeast of Cascade Creek on the Juno claim is a large 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.

The hemlock forest is replaced to the south near the Juno-Amber 4 claim boundary by a mixed forest of red cedar, hemlock and spruce. Undergrowth in this plant community is diverse and dense, making traversing in this forest slow and difficult. The mixed cedar forest extends up Cascade Creek

accross the Amber 4 and 3 claims to elevations of about 1676 m (5500 ft).

At this elevation, spruce becomes the dominant tree species. However, unlike at similar elevations on the Juno claim, relatively dry soil conditions on southerly and westerly facing slopes prevent the development of an extremely thick undergrowth of berry bushes beneath the spruce forest.

Spruce is the only major tree species in the forest between elevations of 1676 m (5500 ft and 2134 m (7000 ft). Above that, a minor amount of pine grow among the spruce.

A community of alpine grasses and flowers occupy the meadows between the spruce forest and the bare mountain peaks on the southeastern part of the property.

Favourable climatic conditions are permitting a significant advance of the spruce forest up onto the alpine meadows. This advance is most prevalent on the southern part of the Amber 4 claim at elevations of about 2134 m (7300 ft).

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

1.4 Property

The Amber 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
Juno	R5219 (3)	18	March 9, 1987
North Star	R5220 (3)	16	March 9, 1987
Amber 1	R5391 (7)	16	July 13, 1987
Amber 2	R5392 (7)	16	July 13, 1987
Amber 3	R5393 (7)	12	July 13, 1987
Amber 4	R5394 (7)	20	July 13, 1987
		98	

The Juno and North Star mineral claims are owned by Mike Linn of Kaslo, B.C. On May 22, 1987 Mike Linn and Ambergate Explorations Inc. wrote an option agreement whereby Ambergate could earn a 100% interest in the Juno and North Star claims by paying to Mike Linn a total of $20,000 in payments terminating in 1990 and by keeping the claims in good standing during the option period.

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

1.5 Location of the Pocket Lake L5633 and White Eagle L5634 Claims

On N.T.S. 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. and 117° 9' W. in the area covered by the North Star and Amber 2 claims (Figure 3). This plotting is not correct (Ostler, 1987).

These claims were located and surveyed near 50° 21' 15" N. and 117° 7' W. in a forest within sight of the surveyed railroad and the Lardeau River below (Figure 3). They appear in their correct location on Mineral Reference Map No.3 of the 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.

The White Eagle and Pocket Lake claims were staked by J.D. Byrne and Adam Swencisky respectively on August 9, 1897 and recorded on August 19 the same year (Ostler, 1987). They were part of a group of four claims that also included the Tired and Comstock claims. The White Eagle and Pocket Lake were surveyed by Henry B. Warren, P.L.S. in 1901 and crown-granted in 1903 (B.C. Min. Mines, Ann. Rept., 1903 p. H244). Warren's survey notes are

very detailed and complete. They include terrain, tree species and heights and workings encountered along his survey traverses.

On a visit to the surveyed location of L5633 and L5634 by the writers accompanied by D.W. Tully, P.Eng. on August 21, 1987; old workings and cut trees dating from about the time of the survey were found exactly where Warren's 1901 notes indicated they should be. A significant amount of galena mineralization was found near the workings.

After the White Eagle and Pocket Lake claims were crown-granted in 1903, no further mention was made of them in the B.C. Minister of Mines Annual Reports.

However; 22 years later, the names Comstock and White Eagle were used again on totally unrelated groups of claims located over 4 km apart and several kilometers southwest of the Pocket Lake and White Eagle crown grants (Figure 3).

The later Comstock was developed by P.J. Shernan of Nelson, B.C. from 1925 until 1930. Details of this work appeared in the B.C. Minister of Mines , Annual Reports of: 1925, p. A237; 1928, pp. C308-C309 and 1930, p. A257. The later Comstock is now owned by Ambergate Explorations Inc. (Figure 3)(Spearing and Ostler, 1987).

The later White Eagle was developed by J. Gallo from 1928 until 1930. Details of work on the later White Eagle appeared in the B.C. Minister of Mines , Annual Reports of: 1928, pp. C307-C308; 1929, pp. C327-C328 and 1930, p. A257. That work is discussed in detail in the following section of this report.

Neither the terrain, vegetation nor workings described in Warren's

1901 survey notes of the White Eagle and Pocket Lake crown grants coincide with anything described in the B.C. Minister of Mines' Annual Reports on Gallo's White Eagle group. There were obviously two different groups of claims containing the name"White Eagle". One was surveyed in 1901 near 50° 21' 15" N. and 117° 7' W.. The other was never surveyed. It was located in the mid-1920's near 50° 17' N. and 117° 9' W. These two claim groups were confused by the compilers of N.T.S. Map 82/K6 and the corresponding claim map many years later.

1.6 Previous Work

The Amber Property covers four known mineral showings-areas; the White Eagle (circa 1928), Snowstorm, West Ridge and Juno.

These showings-areas were explored extensively from 1925 until 1930. The White Eagle, Snowstorm and West Ridge were acquired by J. Gallo of Poplar, B.C. for Keene Mountain Gold and Silver Mines Ltd. of Calgary, Alta. The Juno was owned by P.J. Shernan of Nelson, B.C. and explored by the Juno Syndicate along with the Comstock (Spearing and Ostler, 1987). The Juno Syndicate was composed of businessmen from Nelson, B.C.

The White Eagle Property was acquired by J. Gallo in 1928. Work that season comprised trail building, camp renovation and surface stripping near mineral showings. Late in the year, a 9½ ton shipment of sulphide was made to the smelter at Trail, B.C. That work was recorded by a visiting provincial geologist as follows:

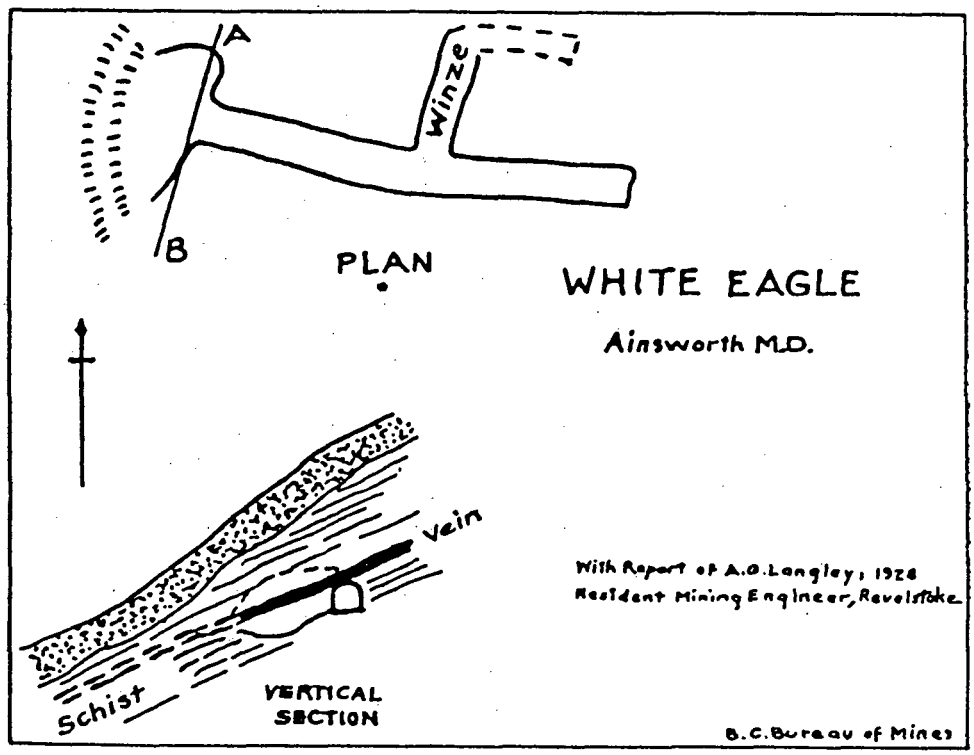
> **White Eagle.** **This group is situated at the head of Cascade creek at a distance of approximately 12 miles from the railway. The property, consisting of a group of five claims, was acquired during the latter part of the year by the Keene Mountain Gold and Silver Mines, Limited, with a capitalization 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 snow-slides, 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 the 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 60 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 particular 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, 0.01 oz. to the ton; silver, 31.6 oz. to the ton; lead, 39.8 per cent.; zinc, 23.2 per cent. A sample of about the average milling-grade ore assayed: Gold, 0.19 oz. to the ton; silver, 15.5 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 9½ 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, driving an inclined shaft down on the vein beside the tunnel and driving a long drift 123 ft below the tunnel 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 3½ 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 4½ 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 6,800 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 the 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 is recorded by the provincial geologist as follows:

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. It has no MINDEP reference and 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 C. 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 $0.80 in gold to the ton.

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

The writers do not believe that the Snowstorm was correctly located in the above description. An extensive search along the divide between

Poplar and Cascade creeks revealed no workings at all. 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 (Figure 3). An inclined shaft sunk on a vein just south of the trenches in the meadow fits the description of the Snowstorm shaft.

The writers believe that these workings are those reported in the B.C. Minister of Mines' annual report as the Snowstorm.

The West Ridge was named by the writers this year to distinguish it from other showings-areas on the Amber Property. It is located on the crest of the ridge west of Blue Lake (Figure 3).

There is no direct reference to this showing area anywhere in the literature. However, the authors suspect 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 (top of page 13 of this report). This showing-area has no MINDEP number.

Showings on the West Ridge include a 2.4 m (8 ft) square shaft that is now caved. There is enough dump material by the shaft to account for about 15.2 m (50 ft) of depth. Near the shaft are some large exploration trenches.

The workings explore a quartz vein mineralized with argentiferous galena.

The Juno 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. 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. Sheran, 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 areas were not fully examined during the 1987 exploration program due to lack of time.

The Juno trenches from which the 0.32 oz/ton gold assay was taken in 1925 is located on the southern part of the Juno R5219 (3) claim (Figure 3). The tunnel and winze were located along the main pack trail down Cascade Creek at an elevation of abput 1525 m (5000 ft)(Figure 3). Not all of the other Juno workings have been located yet.

1.7 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 Amber Property subsequent to restaking and that part of the travel to and from the Cascade Creek area attributable pro-rata to the surface exploration on the Amber Property.

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

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

A. Trail Work;

8 km of the 1925 Cascade Creek horse trail was located and flagged from Blue Lake down Cascade Creek to the Comstock 4-Juno claim boundary
2006 m of trail was cut and cleared from Blue Lake to the White Eagle and West Ridge workings

A. Trail Work continued; man-days

2 helicopter landing sites were cleared (400 m^2 area) at the Blue Lake camp site and adjacent to the West Ridge shaft
1244 m of trail was cut out, cleared and levelled with shovels and grub hoes between the White Eagle workings and the Snowstorm workings(Figure 7) 14.5

B. Soil Survey;

18.3 km of line were surveyed by hip-chain and compass comprising a 22-line grid covering 86 ha
soil samples were taken at 50 m intervals along the soil lines (Figures 7 and 8)
383 soil samples were analized for copper, lead, zinc, and silver; 209 of which were analized for gold 23.0

C. Sediment Sampling;

An iron scinter deposit covering 246 m^2 was sampled at 3 m burdens and spacings(Figure 7)
21 samples were taken of which 7 were subjected to 24 element analysis and gold analysis 1.0

D. Geological Mapping and Sampling;

1212 ha of the central part of the Amber claims was mapped at a scale of 1: 10,000 (Figure 6)
the White Eagle, Snowstorm, Juno and West Ridge workings-areas were located and identified from old reports on these properties (Figures 3 and 7)
the White Eagle, Snowstorm and West Ridge workings-areas were mapped at a scale of 1:500 and sampled as follows:
White Eagle: 42 channel samples from underground and surface vein exposures
5 dump samples
1 sample from shipping ore on trail
Snowstorm Shaft: 6 grab and composite samples
Snowstorm Trenches 4 grab and composite samples
West Ridge: 2 composite samples 16.25

E. Cleaning Off Workings;

80 m^2 of old trenches and surface showings were cleaned of roots brush and slough for sampling and identification using 40% dynamite and hand tools 15.75

man-days carried forward 70.50

	man-days
F. Location of Pocket Lake L5633 and White Eagle L5634 Claims	70.75 Bal. c.f.
the locations of these claims as surveyed and plotted on 82 K/6 map were visited and verified against the survey notes	0.75
G. 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 Amber Property after restaking was completed	19.00
Total man-days on the Amber Property	90.50

1.8 Calims Worked On

During 1987, work was done on the following claims:

Claim Name	Record No.	Current Expiry Date	No. of Units
Juno	R5219 (3)	March 9, 1988	18
North Star	R5220 (3)	March 9, 1988	16
Amber 1	R5391 (7)	July 13, 1988	16
Amber 2	R5392 (7)	July 13, 1988	16
Amber 3	R5393 (7)	July 13, 1988	12
Amber 4	R5394 (7)	July 13, 1988	20
			98

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 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 Amber 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 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 the rocks across the Amber Property (Figure 5)(Read, 1976).

Northeast of the property 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 Index Formation 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 basal grits of the overlying Broadview Formation on the northeastern part of the Comstock Property about 2 km north of the Amber claims (Figure 4). These clastics were also mapped southwest of the Amber Property near the head of Cascade Creek.

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 Amber Property. There, he found that the Broadview Formation clastics were overlain by a thin sequence of phyllites and phyllitic carbonates.

Two traverses onto the Amber Property-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 Amber Property-area 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 (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 and 1976)(Figures 4 and 5).

Rocks of the Milford Group and Broadview Formation were intruded during the Lower Jurassic Period by the 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 and 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 which form northwest-southeast 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. The Emmens Fault southwest of the Amber Property (Figure 6) and the Mobbs Fault which crosses the Amber Property are two notable examples. Gold and antimony mineralization on the Isle Property, 6 km south of the Amber Property may be related to fluid migration along the Mobbs Fault (Mike Linn pers. comm.). However, economic mineralization on the Amber Property does not seem to be related to this fault.

2.2 Property Geology

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

The property-area is almost completely covered 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 on the property 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 probably comprise the oldest rocks on the property. They occupy the cores of anticlines and seem to correlate with grits exposed to the northeast on the Comstock Property (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 forms the core of the ridge west of Blue Lake and the eastern slope of the Cascade Creek valley on the Amber 4 claim.

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 of rock unit 2 are always in contact with the lithic sandstones and siltstones of rock unit 1 (Figure 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.

The contact between the pelites of rock unit 3 and the siltstones of rock unit 2 is gradational. 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.

Rusty-weathering dolomitic siltstones and impure carbonates comprise rock unit 4 (Figure 6). They are blue-grey to grey on fresh surfaces and weather to 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 low angles by long faults. Structures on the Amber Property conforms to Read's regional interpretation.

The most important folds on the property are a series of northwest-southeasterly trending upright second-phase folds (Figure 6). Second-phase

folding is best-exposed on the ridge south of Blue Lake.

First-phase folds are most commonly exposed in pelitic rocks on 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 these rocks. Ductility is lowest in rock unit 1; the sandstones and siltstones, progressing to highest in rock unit 4; the carbonates. Consequently folding is most intense in the pelites and carbonates (Figure 6).

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

Two major faults are exposed in the upper Cascade Creek valley; the Mobbs Fault and the Emmens Fault (Figures 4, 5 and 6).

The Mobbs Fault trends southeastward across the Amber Property displacing all stratigraphy and ductile deformation. Displacement on this fault post-dates regoinal deformation and metamorphism. On the ground, the fault trace is a shallow depression about 3 m wide that looks like a road when viewed from the air.

On the Amber 1 claim about 367 m north of its southwestern corner, hematite scinter is being deposited in mounds up to 1 m high and 3 m in diameter. These are the result of perculation along the Mobbs Fault. No significant economic mineralization is associated with these deposits.

The Emmens Fault is exposed west of Cascade Creek forming bluffs on the western slope of the valley.

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 phenocrysts in impure carbonates of rock unit 4 (Figure 6). They are most numerous on the peak south of Blue Lake and near the centre of the Amber 1 claim.

Also minute garnet phenocrysts of assumed to be almandine garnet were observed by the writers in rock unit 2 on the southern part of the Amber 1 claim.

The presence of these minerals indicates that over parts of the Amber Property metamorphic grade may be as high as the staurolite-almandine subfacies of the lower amphibolite facies of metamorphism.

An elongate area of pervasive gneissic development was mapped near the Amber 1-4 claim boundary. It may be related to the near-surface emplacement of a granitic stock.

Micaceous mineral growth 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 rocks 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 Amber Property. The fracture cleavage observed by the writers

probably post-dates Read's third-phase cleavage.

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

2.3 Interpretation of Property Geology

Broadview Formation rocks mapped northwest of Poplar Creek were interpreted by Read (1973 and 1976) to have been deposited as an eugeosynclinal 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 southeast of Cascade Creek probably represent a single conformable sequence within the Broadview Formation, that was subsequently deformed by polyphase deformation.

The lithic sandstones and siltstones of rock unit 1 (Figure 6) were probably deposited as distal turbidites. In some outcrops on the Amber 4 claim, graded beds about 10 cm thick are visible.

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 (Figure 6) also contain free carbon as graphite. These carbonates may have been deposited by turbidity currents sweeping basin-margin and reef detritus down into the central part of the basin.

3.0 GEOCHEMISTRY

3.1 1987 Soil Survey

The 1987 soil survey was conducted on the southeastern part of the Amber 4 claim and on adjacent parts of the Amber 1-3 claims.

Soil lines were run east-west at 50 metre intervals from the Amber 1-4 claim line. A total of 18.3 km of line-kilometres were surveyed by hip-chain and compass comprising a 22-line grid covering 86 ha. Soil stations were located at 50 metre intervals along the lines (Figures 7 and 8).

Soil survey results comprise Appendix B. These results are contoured on Figure 8.

At most sample stations, soils were sufficiently developed to collect a sample from an illuviated "B" horizon. Sampling depths varied from 0.2 m to 0.5 m.

Soils in the grid-area are typical of glaciated alpine slopes where a thin layer of ablation till formed the initial regolith for soil development. Periglacial processes such as cryoturbation caused mixing with underlying rock. This resulted in well-defined soil horizons and comparatively mature soil profiles derived mostly from local parent rock.

Soil samples were shipped in undyed kraft paper envelopes to Chemex Labs Limited of North Vancouver, B.C. All 383 samples were analized for copper, lead, zinc and silver. Of these, 209 samples were analized for gold. The method of analysis is summarized in Appendix A.

A statistical analysis using the methods of LePeltier (1969) was performed on the soil geochemical data. Through this method, graphic representations of cumulative frequency curves resulted in the separation of data into common and anomalous populations.

Accepting the assumption that the logs of the soil data form a normal distribution, these populations represent the elimination of data below the 50th, 84th and 97.5th centiles. Geochemical contour intervals for copper, lead, zinc and silver reflected the upper first and second standard deviations derived from the graphic analysis as follow:

	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

* gold was not contoured

Graphic representations of copper, lead, zinc, silver, and gold confirm this. Their shapes (Figures 14 to 18) are similar to LePeltier's (1969) type curves for single and complex populations. Copper, lead and zinc are characterized by single lognormal populations, the diagramatic representation of which are straight lines (Figures 14, 15 and 16).

The fliction of the silver curve indicates an excess of low concentrations within a single population due primarily to the absence of appreciable silver concentrations in the northern part of the survey-area (Figures 8D and 17).

Conversely; the gold curve is positively skewed, indicating an excess of high concentrations in the sample population. This is due to the exclusion of data below 5 ppb (the assayer's detection limit) from the analysis.

3.2 Interpretation of 1987 Soil Survey Results

High soil metal concentrations occur in two different parts of the grid-area; at the northeastern part of the grid-area at the head of Kiss Creek, and on the southern part of the grid-area near the Snowstorm trenches (Figure 8). These two areas of high soil metal concentrations occur for two very different reasons.

In the northeastern part of the soil grid-area are high concentrations of copper, lead and zinc (Figures 8A to C). They occur in collection basins near the water table level at the head of Kiss Creek (Figure 6).

It is interesting to note that copper is concentrated in soils here and that there is no significant copper in the vein samples at the Snowstorm trenches (Figures 8A and 12; Appendix C). Also, there is no significant silver concentration in soils in the northeastern part of the grid-area as

would be expected if these high soil metal concentrations were derived from underlying silver-bearing veins.

The writers interpret these high soil metal concentrations to be the result of metal transport from the underlying siltstones and pelites to an area of illuviation near the head of Kiss Creek.

The silver and gold concentrations in the southern part of the soil grid-area are not accompanied by large concentrations of copper, lead and zinc (Figure 8). The concentrations of silver and gold are interpreted to be directly related to weathering of vein material from the Snowstorm trench-area.

Because gold commonly travels through soils as physical particles, gold soil concentrations can not be contoured reliably. A single high soil gold concentration is usually dismissed as being due to the "nugget effect". However; where several high gold readings occur together in the same area they are significant. They can be treated as a fine-grained "boulder train" pointing upslope to a gold-bearing source.

Such a gold-bearing source may be located at the southern margin of the 1987 soil grid-area.

3.3 Iron Spring Sediment survey

Cold iron-bearing mineral springs commonly occur along the trace of the Mobbs Fault where it transects the Amber Property (Figures 6 and 7).

Sediment deposited by these springs forms mounds up to 1 m high that are composed of hematite, limonite and goethite. Mineral grains average 1 to 2 cm in width and form fenestral masses through which the cold spring water perculates.

A well-developed iron-bearing cold mineral spring is located 367.5 m north and 10.5 m east of the Amber legal corner post. It occupies about 246 m^2 (Figure 12). It is 11.5 m wide at its southern end and tapers to 3.7 m in width at its northern end. The total length of this iron deposit is about 47.5 m.

A sediment-sampling program was undertaken to test for precious and base metal concentration in this iron deposit. A hip-chain and compass survey grid was constructed over the deposit in which, sampling stations were located at 3 m spacings (Figure 12). A total of 21 samples were taken during the survey. Sampling depths varied from 0.2 to 1.0 m.

Seven sediment samples were shipped in undyed kraft paper envelopes to Chemex Labs Ltd. fo North Vancouver, B.C. and analyzed for a suite of 24 elements as well as for antimony and gold. D.W. Tully, P.Eng. subsequently sent one sample to Chemex to be assayed for a suite of base and precious metals. The metods of analysis and assay are recorded in Appendix A. Analyses are in Appendix B and the Assay is in Appendix C.

The results of all of the sampling were the same. The iron spring sediments were found to be composed almost entirely of oxides of iron and mangenese with no significant base or precious metal concentrations.

4.0 ECONOMIC MINERALIZATION

4.1 White Eagle Workings; Amber 2 R5392 (7)

The White Eagle workings are located on a west-facing slope north of Blue Lake (Figures 3, 4 and 7). They comprise upper and lower adits, an inclined shaft, a winze in the upper adit and surface trenches (Figures 9 and 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 approximately 700 m south and 300 m east of the Amber common legal corner post on the Amber 2 claim (Figures 7, 9 and 10).

The White Eagle was explored by J. Gallo for Keene Mountain Gold and Silver Mines Ltd. from 1928 to 1930 (Section 1.6, this report). Gallo's work began with the extension of the upper adit 18 m along the vein and the excavation of surface trenches south of the adit (Figure 9).

A 9.5 ton shipment made by Gallo in 1928 was probably from the upper adit-area.

Work continued until 1930. A 14.5 m long inclined shaft was driven down the vein at an angle of 48°. The shaft was driven between the upper adit and a surface showing of massive sulphide that was 0.6 m thick and 5.5 m long. The massive sulphide was located in the vein just north of the upper adit (Figures 9 and 10).

To test the vein at depth, a lower adit was driven from a portal site about 90 m southwest and 38 m below the upper portal site.

Old reports indicate that the lower adit intersected a mineralized vein about 146 m in from the portal. A drift was extended along the vein for 15 m with poor results. Another drift was extended about 4 m westward. There, good mineralization was encountered.

However; there seemed to have been 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 (Figure 9). 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.

The writers agree with this interpretation. It is probable that the two veins encountered in the lower adit are exposed in trenches WETR-2 and WETR-3 southeast of the upper workings (Figures 9 and 10). Vein showing WETR-3 is downslope from, and dips beneath WETR-2, indicating that they are exposures of two different veins.

Established and potential mineral reserves in the White Eagle Vein are divided into four reserve blocks (Figure 9). All blocks are bounded by surface exposure or old workings. They represent proven mineralization in reserve block 'A', probable mineral reserves in block 'B' and possible reserves in blocks 'C' and 'D'.

Reserve block 'A' can be considered to be established mineral reserves. It is bounded on its upper side by the surface trace of the White Eagle Vein from the massive sulphide lens to the upper adit face (Figure 9). This represents a horizontal cord through the vein at an elevation of 2176.3 m (7140 ft). The base of reserve block 'A' is defined by the elevation at the bottom of the shaft; 2165.5 m (7105 ft). The lateral boundaries of this reserve block are vertical cords through the vein extending from elevations of 2176.3 to 2165.5 m at the western end of the massive sulphide lens and the eastern end of the upper adit.

Between the upper adit and the bottom of the inclined shaft, the White Eagle Vein has an average dip of 48° and an average thickness of 0.4 m. Therefore; reserve block 'A' contains about 162 m^3 of vein material.

Reserve block 'A' is comparatively accessable and well-sampled (Figure 10) and can be considered to contain proven mineral reserves. This is the block of mineralization discussed in the 1929 B.C. Minister of Mines' annual report (page 12, this report). Most of the 1987 sampling of the White Eagle Vein is from reserve block 'A'.

Reserve block 'B' adjoins reserve block 'A'(Figure 9). Its upper boundary is defined by the surface exposure of the vein from south of the upper adit face to the eastern end of trench WETR-2 at an elevation of 2197 m (7208 ft). Its lower boundary is at the elevation at the bottom of the inclined shaft and its eastern boundary is a vertical cord extending downward from the eastern end of trench WETR-2 to 2165.5 m elevation.

The information on the average dip and thickness of the vein in reserve block 'B' is much less accurate than for reserve block 'A'. Reserves from this part of the vein may be classified as probable reserves at best, until more information is obtained. However; with some assumptions, a volume calculation can be made for reserve block 'B'.

Assuming that dip angle and vein thickness are constant for a short distance along strike; the White Eagle Vein would have a dip of 48% and an average thickness of 0.4 m in that part of reserve block 'B' below the upper adit. Therefore, the volume of vein material in the lower part of reserve block 'B' would be 84 m^3.

In the trenches above the upper adit, the average vein width is 0.2 m and the average dip is 44°. From this it can be calculated that the upper part of reserve block 'B' contains 40 m^3 of vein material.

Reserve block 'B' probably contains about 124 m^3 of vein material.

Reserve block 'C' is defined as the area on the White Eagle Vein above the raise in the lower adit and east of reserve block 'B' (Figure 9). Reserve block 'D' is that part of the White Eagle Vein north of reserve blocks 'A', 'B' and 'C' above the end of the lower-adit raise. Volumes can not be calculated for these reserve blocks because the exact position of the lower-adit raise is not known and it is not known for certain which vein in the lower adit is the White Eagle Vein. At present, reserve blocks 'C' and 'D' represent exploration targets and not established reserves.

The upper White Eagle workings were sampled by C.G. Spearing, B.Sc. (Eng.) and D.W. Tully, P.Eng. during the 1987 exploration program (Figure 10). Reserve block 'A' was extensively sampled. Sampling was extended southeastward to the surface exposures of reserve block 'B' (Figures 9 and 10).

Channel samples were taken at roughly 2 m intervals along both walls of the inclined shaft, the upper adit and winze. Channel samples were also taken from surface vein exposures in the portal-area and in trenches southeast of the portal-area.

A total of 34 channel and 3 dump samples were taken and shipped to Chemex Labs Limited of North Vancouver, B.C. The samples were assayed for: copper, lead, zinc, antimony, silver and gold. One composite sample taken from a block of shipping ore found on the main pack trail north of Blue Lake was assayed. The aforementioned samples were taken by C.G. Spearing, B.Sc. (Eng.).

D.W. Tully, P.Eng. took 9 samples from the area and also had them assayed at Chemex Labs Ltd. for copper, lead, zinc arsnic, antimony, silver and gold.

Assay methods are included in Appendix A. Assay results are included in Appendix C.

There is no appreciable copper arsnic or antimony in the White Eagle Vein. Galena-rich samples have lead concentrations as high as 61% lead and silver concentrations as high as 33.3 oz/ton silver. Gold content is directly related to pyrite content. 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	average vein width =
gold	0.19 oz/ton	40 cm

The above weighted average was arrived at through the equation:

$$\text{Weighted Assay} = \frac{\Sigma \text{ Assay X vein width at sample location}}{\Sigma \text{ vein widths}}$$

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 seems to occur 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 9 and 10).

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 (Figure 10). Gold seems to be concentrated in a pyritic phase near the lower eastern boundary of the ore shoot where mineralization is almost entirely pyrite.

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 and the upper adit.

If ore shoots in the White Eagle Vein do rake north in the plane of the vein then the good-grade mineralization encountered in the end of the raise in the lower adit represents another ore shoot that has not yet been located on surface. This second ore shoot would be located below and to the east of the one in the upper workings.

It is also interesting to note that a second vein was encountered in the lower adit in 1929. The second vein was below the White Eagle Vein. That second vein is probably exposed in trench WETR-3.

The old records indicate that mineralization encountered in the lower vein in the northern drift of the lower adit was quite good. It is possible that the White Eagle workings-area contains several mineralized veins, each containing several ore shoots.

4.2 Snowstorm Trenches; Amber 4 R5394 (7)

The Snowstorm Property was acquired by J. Gallo in 1930 (page 13, this report). During that year, Gallo conducted an exploration program in several areas on the property. Two of these workings-areas were examined during the 1987 exploration program. They were the Snowstorm trenches and the Snowstorm shaft.

The Snowstorm trenches are located in an alpine meadow near the southeastern corner of the Amber 4 claim (Figures 3, 4, 7 and 12).

During the 1930 exploration program, the meadow was reached by a 1119 m long pack trail that connected it with the White Eagle workings-area. Extensive work was required on the pack trail to make it usable during the 1987 work program.

The Snowstorm workings-area contains 26 trenches, pits and cuts that cover an area of about 7.5 ha (18 A)(Figure 12). Most of the workings are shallow prospect diggings that were an attempt to trace a large mineralized quartz vein exposed in trench SS1.

Trench SS1 is located approximately 138.8 m north and 230 m west of the Amber common legal corner post (Figures 7 and 12).

This trench exposes a vein comprised of milky quartz containing segregations of galena, minor sphalerite and very fine-grained grey mineralization that is assumed to be the same. A selected grab sample taken from the dump of trench SS1 assays 16.7 oz/ton silver with minor gold.

The average silver/lead ratio from the Snowstorm trench samples is 0.44.

Near trench SS1, the vein is about 1 m thick. It strikes at 313°

and dips 39° to the east.

No surface vein exposure is visible in any other part of this workings-area. However; by trench orientations and vein float scattered about this area, the writers assume that several parallel veins were saught in this area.

4.3 Snowstorm Shaft and the Silver Sparrow Vein; Amber 3 R5393 (7)

The Silver Sparrow Vein is exposed by a trench and penetrated by the Snowstorm shaft on a steep skree-covered slope. This working is located on the Amber 3 claim about 260 m south and 140 m west of the Amber common legal corner post. Access to this area is by the pack trail that connects the White Eagle workings with the alpine meadow (Figures 7 and 11).

The Snowstorm shaft is 6.1 m in length (Figure 11). It follows the footwall of the Silver Sparrow Vein, plunging at 19° for 2 m and then levelling off. Subsequent caving has produced a chamber 2.4 m^3 just in from the portal.

The Silver Sparrow Vein has a strike of 300° and a dip of 31° to the east near the tunnel portal. It is about 1 m thick.

Mineralization comprises stringers of auriferous pyrite and segregations of argentiferous galena. A selected sample of mineralized vein material taken from near the shaft portal assayed 22.9 oz/ton silver and 0.266 oz/ton gold (Figure 11, Appendix C).

The average silver/lead ratio from this area is 0.53.

The location and orientation of this vein indicates that it is not one of the veins explored in the Snowstorm trench-area. It is interesting to note that most of the anomalous soil gold concentrations in the 1987

soil survey were encountered near the southern margin of the grid between the Snowstorm trenches and the Silver Sparrow Vein (Figures 7 and 8).

4.4 West Ridge Workings; Amber 2 R5392 (7)

The West Ridge workings-area was named by the 1987 exploration crew because it was located atop the ridge west of Blue Lake. The workings of this area are located at an elevation of 2219.7 m (7280 ft).

These workings are connected to the camp site at the northern end of Blue Lake by a 1053 m long switchback trail.

Workings of the West Ridge area include a 2.4 (8 ft) square shaft that is presently caved and a series of trenches. Although the shaft is now caved, a close estimate of its depth is obtainable from a calculation based on the size of the dump. The shaft is probably about 15.2 m (50 ft) deep.

A milky quartz vein is exposed in the shaft. The vein is mineralized with disseminations and pods of argentiferous galena. A selected grab sample of mineralized vein material from the shaft dump assays 10.2 oz/ton silver with a silver/lead ratio of 0.93. This vein is about 0.3 m thick. It strikes 119° and dips 45° to the west.

Adjacent to the north wall of the shaft is a shallow trench that is 8.6 m in length. Three other trenches cut across the crest of the ridge south of the shaft. None of these cuts is open at present.

4.5 Juno Workings; Juno R5219 (3) and Amber 4 R5394 (7)

The Juno Property was developed by the Juno Syndicate in the mid-1920's. Work conducted on several locations on the property was recorded

in the B.C. Minister of Mines' annual report of 1925 (page 15, this report).

The Juno workings-areas were not examined fully during the 1987 exploration program due to budgetary constraints.

Surface and underground workings are located along the main pack trail near Cascade Creek at elevations ranging from 1371.6 m (4500 ft) to 1530.1 m (5000 ft). This area is on the Amber 4 claim near its boundary with the Juno claim (Figures 3 and 4).

These workings include an adit, believed to be the Juno tunnel and winze, and several trenches. The workings at this location are all sloughed in. A sample taken from the waste dump at the tunnel contained 0.64 oz/ton silver (Appendix C). It may be from a quartz vein mineralized with galena that is intersected by the tunnel.

East of the underground workings on the trail and approximately 213 m (700 ft) higher upslope is the Juno cabin. Clearings along the ridge above the cabin (Figures 3 and 4) possibly mark the locations of the upper Juno workings.

These workings reportedly comprise trenches that explore a quartz vein of undetermined width. An assay taken at these workings in 1925 yielded 18.6 oz/ton silver and 0.32 oz/ton gold.

4.6 Genesis of Economic Mineralization

During the 1987 exploration program, the writers examined several mineralized veins on properties southeast of Cascade Creek.

With the exceptions of the West Ridge Vein on the Amber 2 claim and the Comstock Vein on the Comstock 3 claim (Figures 3 and 4); the mineralized veins southeast of Cascade Creek are located within the variably carbonaceous

pelites of rock unit 3 in the Broadview Formation (Figure 6).

The West Ridge Vein is exposed in the sandstones of rock unit 1 within a few metres of its contact with rock unit 3 and the Comstock Vein is located within siltstones and pelites of rock unit 2 (Spearing and Ostler, 1987).

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 the mineralized veins in the Broadview Formation southeast of Cascade Creek.

The mineralized veins on the Amber Property are oriented near the first and second-phase cleavages, and contain late fracture cleavages. Their 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.

Locally, there is no direct association between mineralized quartz veins on the Amber Property and Jurassic-age batholithic intrusion. However; regionally, there is an association between the granites and the veins in both time and space. In general, mineralized veins along the northeastern margin of the Kuskanax Batholith from Trout Lake southeastward to Meadow

Mountain were intruded late in the second phase of deformation. They seem to have been emplaced after the folding and 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 generally seem to 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 exsolution of sulphide and silicate from the same common melt. In massive sulphide vein material, the textural relationship between the sulphides and silicate material is the same. The only difference is that silicate blebs are fewer and farther between. There is no conclusive evidence of more than one generation of vein injection in the veins of the Amber Property. However; it seems that pyrite exolved from a galena-sphalerite-pyrite phase and crystallized later than the galena and sphalerite.

In the ore shoot in the White Eagle Vein, pyrite occurs as blebs and stringers in the galena-sphalerite phase in the central part of the shoot. Pyrite also is concentrated at the periphery of the ore shoot in a separate pyrite-quartz sub-phase. Pyrite is concentrated in blebs and on secondary fracture planes in the Silver Sparrow Vein at the Snowstorm tunnel.

There seem to be two sulphide mineral associations in mineralized

quartz veins on the properties southeast of Cascade Creek. They are; galena ± sphalerite, and galena + sphalerite + minor pyrite.

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

The galena ± sphalerite association seems to be found in veins emplaced into low-carbon rocks. The West Ridge and Comstock veins (Figures 3, 4 and 6) contain the galena ± sphalerite association. The West Ridge Vein occurs in sandstones of rock unit 1 in the Broadview Formation (Figure 6). The Comstock Vein is emplaced in the siltstones and pelites of rock unit 2 (Spearing and Ostler, 1987).

The galena + sphalerite + minor pyrite association is found in veins that are emplaced in the variably carbonaceous pelites of rock unit 3 in the Broadview Formation (Figure 6). Examples of veins containing this mineral association are: the White Eagle Vein, the Silver Sparrow Vein, the Snowstorm veins and probably the Upper veins on the Juno claim.

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 C)(Spearing and Ostler, 1987).

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Geological mapping was conducted over the central part of the Amber Property at a scale of 1:10,000. This mapping confirmed Read's (1976) regional mapping that indicated that the Amber Property was underlain entirely by sedimentary rocks 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.

Basal lithic sandstones and siltstones of the Broadview Formation are exposed near the northeastern and southwestern parts of the property. Variable carbonaceous pelites and interbedded impure carbonates are exposed near the centre of the property. In general, these sediments become texturally mature from northeast to southwest and up section. This indicates that they were deposited in a basin from a denuding source terrain northeast of the Cascade Creek area.

The Amber property covers four old properties and contains several showings of economic mineralization. Mineralization occurs as massive and disseminated sulphides in large quartz veins. The veins are generally closely associated with the variably carbonaceous pelites exposed in the central part of the Amber Property.

The Amber Property contains: the White Eagle, Snowstorm, West Ridge and Juno Properties; all of which were explored between 1925 and 1930. No work has been recorded on any of these properties since 1930.

The White Eagle workings are located on a west-facing slope, north of Blue Lake (Figures 3, 4 and 7).

When topographic map 82 K/6 was produced, two crown grants dating from 1901; the Pocket Lake L5633 and the White Eagle L5634 were confused with the White Eagle claim group. The crown grants were erroneously placed in the area covered by part of the Amber 2 claim. The crown grants appear in their correct location northeast of the Comstock Property on most other maps of the area (Figure 3)(Ostler, 1987). The error on the topographic map was probably because of confusion resulting from the reuse of the name White Eagle in 1928.

The White Eagle (circa 1928) workings include an upper adit, an inclined shaft, one trench north of the shaft and five trenches; three of which are open, south of the shaft (the upper workings) and a lower adit. The upper workings were mapped and sampled during the 1987 program.

The portal-area of the shaft and upper adit; considered to be the centre of this workings area, is at an elevation of about 2176 m (7140 ft). It is approximately 700 m south and 300 m east of the Amber common legal corner post.

Two mineralized quartz veins are tested in the White Eagle workings The White Eagle Vein is exposed in the upper workings and at the end of the raise in the lower adit. A lower vein is exposed in the drifts of the lower adit and at surface in trench WETR-3.

The White Eagle Vein was sampled extensively during the 1987 work program (Figure 10). Four reserve blocks of variably well-proven mineral reserves were deliniated in the workings-area including 286 m^3 of that vein

(Figure 9).

Channel samples were taken throughout the upper workings by C.G. Spearing, B.Sc.(Eng.) and D.W. Tully, P.Eng. during the 1987 program (Figure 10).

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

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 is exposed from the trench north of the inclined shaft along strike into the upper adit. Good mineralization in the upper adit probably breaks through to surface in trenches WETR-1 and 2.

The central part of this ore shoot contains massive galena and sphalerite with minor pyrite up to 0.6 m thick. The lower eastern margin of the ore shoot hosts a pyritic phase. The central massive sulphide commonly assays above 20 oz/ton silver with moderate gold values. The pyritic phase has gold concentrations up to 2.182 oz/ton gold with moderate silver values.

Good grade material encountered at the end of the raise in the lower adit probably represents a second ore shoot on the White Eagle Vein. It is too far east to be part of the ore shoot sampled on that vein in the upper workings. Good-grade mineralization reported from the lower vein in the lower

adit is not exposed at surface.

This workings-area seems to host a series of mineralized quartz veins, each of which may contain several ore shoots.

Locating the old Snowstorm Property took a little detective work. It was referred to only once, in the 1930 B.C. Minister of Mines' annual report. Two large trenches and a shaft were well-documented in a workings-area reported to be between Cascade and Poplar creeks. The Snowstorm workings were found in two workings-areas south of Cascade Creek (Figure 3).

The Snowstorm trenches are located in an alpine meadow near the southwestern corner of the Amber 4 claim.

That workings-area contains 26 trenches, pits and cuts that cover an area of about 7.5 ha (18 A)(Figure 12). Most of the diggings are shallow prospect diggings that attempt to trace a large mineralized quartz vein exposed in trench SS1. Trench SS1 is located about 138.8 m north and 230 m west of the Amber common legal corner post.

Samples from the 1.5 m thick quartz vein exposed in trench SS1 assayed as high as 16.7 oz/ton silver with minor gold.

Most of the Snowstorm trenches were sloughed in; however, vein float scattered about the area indicated that there was a series of veins exposed in the trenches.

The Snowstorm shaft was driven on the Silver Sparrow Vein on a skree-covered slope on the Amber 3 claim (Figures 3, 4, 7 and 11). It is about 260 m south and 140 m west of the Amber common legal corner post.

The Silver Sparrow Vein is about 1 m thick and is mineralized with stringers of auriferous pyrite and segregations of argentiferous galena.

Samples from the vein assayed as high as 31.6 oz/ton silver, 0.802 oz/ton gold and 56.2% lead.

A soil survey was conducted during the 1987 program covering an area that extended from just north of the Silver Sparrow Vein across the Snowstorm trenches to a point about 950 m north of the Amber legal corner post.

Soils were analized for copper, lead, zinc, silver and gold. The survey was successful. All five metals were interpretable and an area of high mineral potential was outlined at the southern side of the grid (Figure 8). Copper, lead and zinc concentrations in the northeastern part of the soil grid are interpreted to be the result of leaching and illuviation of these metals from underlying sedimentary rock. The high concentrations of silver and gold near the southern end of the grid are interpreted to be related to the presence of gold and silver-bearing veins in the southern part of the survey-area and between the Snowstorm trenches and shaft.

The West Ridge showings are tested by a 2.4 m^2 shaft that may be over 15 m deep and a series of trenches. These workings are located atop a ridge west of Blue Lake on the Amber 3 claim (Figures 3, 4 and 13).

The Vein at the West Ridge workings is about 0.3 m thick and is mineralized with pods and disseminations of argentiferous galena. Dump samples grade up to 10.2 oz/ton silver and 10.3% lead.

The old Juno Property is located north of the Snowstorm workings on the Juno and Amber 4 claims. Reportedly, workings were located at several locations across the property. Old assays graded as high as 18.6 oz/ton silver and 0.32 oz/ton gold.

The lower Juno tunnel and some of the upper trenches were located during the 1987 program. Budgetary constraints limited exploration on the Juno.

With the exceptions of the West Ridge and Comstock veins, the mineralized veins examined during the 1987 program are located in variably carbonaceous pelites of the Broadview Formation.

There are two mineral associations in the veins southeast of Cascade Creek.

The veins of the White Eagle, Snowstorm, Silver Sparrow and perhaps the Juno are of the galena + sphalerite + minor pyrite mineral association. Veins of this mineral association seem to have been emplaced in fine-grained rocks with high free carbon contents.

The veins of the West Ridge and Comstock areas are of the galena $\pm$ sphalerite mineral association and were emplaced into rocks with low free carbon contents.

Chemically; as local partial pressure of CO_2 increased during vein emplacement, sulphides of lead, zinc and iron were sequentially mobilized. Silver was associated with lead in galena and gold was associated with iron pyrite.

Thus; the White Eagle, Snowstorm, Silver Sparrow and perhaps Juno veins contain lead, zinc, silver and gold. The West Ridge and Comstock veins contain lead, silver and minor zinc.

Textural evidence indicates that there was only one generation of vein injection; late during the second phase of metamorphism.

In general, it is concluded that the Juno, Snowstorm, White Eagle

and West Ridge workings are all located on the Amber Property. Within the vein systems there is a significant inventory of economic mineralization. It is possible that enough tonnage of good-grade material is present to justify putting the property into production.

5.2 Recommendations

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

A. Road access to the Amber Property and its workings-areas should be developed to improve the cost and reliability of transport to and around the property.

B. Geological mapping at a scale of 1:10,000 should be completed in the southern and peripheral areas of the property. This would aid understanding of the geology of the property and assist in the exploration of these areas for more workings.

C. The Juno workings should be located, mapped and sampled. If sufficient encouragement results from surface exploration on these workings they should be trenched and drilled to test for mineralization at depth.

D. In the White Eagle workings-area, the White Eagle and lower veins should be exposed and sampled at length by trenching. From data obtained by trenching, a drill program should be designed and undertaken to test these veins in depth. Drilling should concentrate on blocking out sufficient tonnage to commence small-scale production as soon as possible.

E. The Snowstorm trench-area should be opened by trenching to test for a system of multiple mineralized veins. With reasonable encouragement,

the Snowstorm trench-area should be drilled to test for mineralization at depth. The possibility of obtaining preliminary production by open pit methods should be investigated.

F. The soil survey should be extended southward over the Silver Sparrow Vein-area to investigate the continuation of areas of high soil gold and silver values located at the southern end of the soil grid. Areas of high gold and silver content in soils should be prospected, mapped, trenched and sampled.

G. The Silver Sparrow Vein should be trenched to expose its surface mineral potential. If reasonable encouragement results, it should be drilled to test for mineralization at depth.

H. The area around the West Ridge workings-area should be mapped and prospected.

I. The Blue Lake camp-area should be developed with regard to establishing it as a central camp area and mill site.

J. All showings-areas and roads on the property should be surveyed to assist in further exploration and development.

West Vancouver, British Columbia
October 15, 1987.

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President, Ambergate Explorations Inc.

6.0 REFERENCES

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Spearing, C.G. and Ostler, John; 1987: Geological and Geochemical Report on the Comstock Property; Assessment Report filed with the B.C. Ministry of Energy, Mines and Petr. Res.

_____; 1925: (Juno) B.C. Minister of Mines', Ann. Rept., pp. A237-A238.

_____; 1928: (White Eagle) B.C. Minister of Mines', Ann. Rept., pp. C307-C308.

_____; 1928: (Juno) B.C. Minister of Mines', Ann. Rept., p. C309.

_____; 1929: (White Eagle) B.C. Minister of Mines', Ann. Rept., pp. C327-C328.

_____; 1930: (Snowstorm and White Eagle) B.C. Minister of Mines', Ann. Rept., p. A257.

7.0 ITEMIZED COST STATEMENT OF THE 1987 PROGRAM

			Subsequent Exploration			
Wages:	Total		Restaking Claims		Amber Prop. 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
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

A8720252

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

CERTIFICATE A8720252 and A8719391

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

Samples submitted to our lab in Vancouver, BC.
This report was printed on 28-AUG-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	249	Dry, sieve -80 mesh; soil, sed.
203	5	Dry, sieve -35 mesh and ring

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2	254	Cu ppm: HNO3-aqua regia digest	AAS	1	10000
4	254	Pb ppm: HNO3-aqua regia digest	AAS-BKGD CORR	1	10000
5	254	Zn ppm: HNO3-aqua regia digest	AAS	1	10000
6	254	Ag ppm: HNO3-aqua regia digest	AAS-BKGD CORR	0.1	200
100	216	Au ppb: Fuse 10 g sample	FA-AAS	5	10000

APPENDIX A

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

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

A8719395

Comments: CC: C GEOFFREY SPEARING

CERTIFICATE A8719395

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

Samples submitted to our lab in Vancouver, BC.
This report was printed on 19-AUG-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	6	Dry, sieve -80 mesh; soil, sed.
232	6	Total ICP digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
554	6	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
556	6	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	6	Zn ppm: 24 element, rock & core	ICP-AES	1	10000
559	6	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	6	Pb ppm: 24 element, rock & core	ICP-AES	2	10000
561	6	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
562	6	Cd ppm: 24 element, rock & core	ICP-AES	0.5	10000
563	6	Co ppm: 24 element, rock & core	ICP-AES	1	10000
564	6	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
565	6	Ba ppm: 24 element, rock & core	ICP-AES	1	10000
566	6	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
568	6	Mn ppm: 24 element, rock & core	ICP-AES	1	10000
569	6	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
570	6	Mg %: 24 element, rock & core	ICP-AES	0.01	25.0
572	6	V ppm: 24 element, rock & core	ICP-AES	1	10000
573	6	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
575	6	Be ppm: 24 element, rock & core	ICP-AES	0.5	10000
576	6	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
577	6	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
578	6	Ag ppm: 24 element, rock & core	AAS	0.5	500
579	6	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
582	6	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
583	6	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
584	6	K %: 24 element, rock & core	ICP-AES	0.01	20.0

APPENDIX A

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER,
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PHONE (604) 984-0221

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

A8721163

Comments: CC: G SPEARING

CERTIFICATE A8721163

AMBERGATE EXPLORATIONS INC
PROJECT :
P O # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 8-SEP-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	6	Received sample as pulp

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
22	6	Sb ppm: HCl-KClO3 digest, extrac	AAS-BKGD CORR	0.2	1000
100	6	Au ppb: Fuse 10 g sample	FA-AAS	5	10000

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

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

A8720253

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

CERTIFICATE A8720253

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

Samples submitted to our lab in Vancouver, BC.
This report was printed on 31-AUG-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	1	Rock & core: Ring
232	1	Total ICP digestion

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
554	1	Mo ppm: 24 element, rock & core	ICP-AES	1	10000
556	1	W ppm: 24 element, rock & core	ICP-AES	10	10000
558	1	Zn ppm: 24 element, rock & core	ICP-AES	1	10000
559	1	P ppm: 24 element, rock & core	ICP-AES	10	10000
560	1	Pb ppm: 24 element, rock & core	ICP-AES	2	10000
561	1	Bi ppm: 24 element, rock & core	ICP-AES	2	10000
562	1	Cd ppm: 24 element, rock & core	ICP-AES	0.5	10000
563	1	Co ppm: 24 element, rock & core	ICP-AES	1	10000
564	1	Ni ppm: 24 element, rock & core	ICP-AES	1	10000
565	1	Ba ppm: 24 element, rock & core	ICP-AES	1	10000
566	1	Fe %: 24 element, rock & core	ICP-AES	0.01	25.0
568	1	Mn ppm: 24 element, rock & core	ICP-AES	1	10000
569	1	Cr ppm: 24 element, rock & core	ICP-AES	1	10000
570	1	Mg %: 24 element, rock & core	ICP-AES	0.01	25.0
572	1	V ppm: 24 element, rock & core	ICP-AES	1	10000
573	1	Al %: 24 element, rock & core	ICP-AES	0.01	25.0
575	1	Be ppm: 24 element, rock & core	ICP-AES	0.5	10000
576	1	Ca %: 24 element, rock & core	ICP-AES	0.01	25.0
577	1	Cu ppm: 24 element, rock & core	ICP-AES	1	10000
578	1	Ag ppm: 24 element, rock & core	AAS	0.5	500
579	1	Ti %: 24 element, rock & core	ICP-AES	0.01	10.00
582	1	Sr ppm: 24 element, rock & core	ICP-AES	1	10000
583	1	Na %: 24 element, rock & core	ICP-AES	0.01	10.00
584	1	K %: 24 element, rock & core	ICP-AES	0.01	20.0

APPENDIX A

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

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

A8719394

Comments: CC: C. GEOFFRY SPEARING

CERTIFICATE A8719394

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

Samples submitted to our lab in Vancouver, BC.
This report was printed on 17-AUG-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	28	Assay: Crush, split, pulv -140

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	28	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0
312	28	Pb %: HClO4-HNO3 digestion	AAS	0.01	100.0
316	28	Zn %: HClO4-HNO3 digestion	AAS	0.01	100.0
347	3	Sb %: Assay	NAA	0.001	100.0
383	28	Ag oz/T: 1/2 assay ton	FA-GRAVIMETRIC	0.01	20.00
396	28	Au oz/T: 1/2 assay ton	FA-GRAVIMETRIC	0.003	20.000

APPENDIX A

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

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

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

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

A8720997

Comments:

CERTIFICATE A8720997

AMBERGATE EXPLORATIONS INC.
PROJECT :
P.O.# :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 30-SEP-87.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
207	2	Assay: Crush, split, pulv -140

ANALYTICAL PROCEDURES

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

APPENDIX A

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

A8721106

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

To: AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

*Page No. : 1
Tot. Pages: 7
Date : 28-AUG-87
Invoice # : I-8720252
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
T 0+50 SW	201	--	69	448	415	0.2	5
T 1+00 SW	201	--	88	55	182	0.2	5
T 1+50 SW	201	--	76	47	190	0.2	< 5
T 2+00 SW	201	--	54	38	164	0.2	< 5
T 2+50 SW	201	--	45	36	142	0.1	< 5
T 3+00 SW	201	--	81	46	182	0.2	< 5
T 3+50 SW	201	--	58	28	137	0.1	< 5
0N 050 E	201	--	40	21	78	0.1	< 5
0N 100 E	201	--	44	24	93	0.2	10
0N 000 W	201	--	35	16	72	0.1	< 5
0N 050 W	201	--	33	15	81	0.2	< 5
0N 100 W	201	--	18	13	32	0.2	< 5
0N 150 W	201	--	62	26	98	0.2	< 5
0N 200 W	201	--	40	46	76	0.3	< 5
0N 250 W	201	--	41	30	85	0.1	< 5
0N 300 W	201	--	58	38	117	0.1	< 5
0N 350 W	201	--	75	22	133	0.2	< 5
0N 400 W	201	--	39	18	103	0.1	< 5
0N 450 W	201	--	33	15	55	1.6	< 5
0N 500 W	201	--	29	10	59	0.1	< 5
0N 550 W	201	--	83	61	218	0.1	20
0N 600 W	201	--	45	27	125	0.1	< 5
0N 650 W	201	--	52	27	142	0.4	5
0+50N 0+50E	201	--	46	19	86	0.1	< 5
0+50N 1+00E	201	--	52	29	108	0.2	5
0+50N 0+00W	201	--	64	25	100	0.1	10
0+50N 0+50W	201	--	41	20	80	0.2	< 5
0+50N 1+00W	201	--	46	20	82	0.4	< 5
0+50N 1+50W	201	--	75	30	143	0.1	< 5
0+50N 2+00W	201	--	33	31	75	0.2	5
0+50N 2+50W	201	--	28	38	63	1.1	45
0+50N 3+00W	201	--	52	21	96	0.2	< 5
0+50N 3+50W	201	--	34	18	57	0.4	< 5
0+50N 4+00W	201	--	81	22	130	0.2	25
0+50N 4+50W	201	--	50	12	82	0.6	< 5
0+50N 5+00W	201	--	55	13	78	0.2	5
0+50N 5+50W	201	--	23	12	48	0.4	< 5
0+50N 6+00W	201	--	23	16	66	0.2	< 5
0+50N 6+50W	201	--	66	29	152	0.1	10
50S 50 E	201	--	63	30	132	0.2	5

CERTIFICATION : Hewitt Bichler

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 : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

Date :28-AUG-87
Invoice # :I-8720252
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
50S 100E	201	--	47	21	84	0.1	< 5
50S 000W	201	--	32	21	91	0.1	< 5
50S 050W	201	--	38	20	86	0.5	< 5
50S 100W	203	--	36	27	100	0.1	< 5
50S 150W	201	--	41	19	88	0.1	< 5
50S 200W	201	--	54	126	132	0.6	25
50S 250W	201	--	42	51	127	0.5	< 5
100N 050E	201	--	20	12	35	0.1	< 5
100N 100E	201	--	68	37	148	0.1	< 5
100N 000W	201	--	52	33	97	0.5	< 5
100N 050W	201	--	36	17	66	0.1	< 5
100N 100W	201	--	21	17	44	0.1	< 5
100N 150W	201	--	16	18	28	0.5	< 5
100N 200W	201	--	21	16	32	0.7	< 5
100N 250W	201	--	20	22	35	0.3	< 5
100N 300W	201	--	18	6	12	0.8	< 5
100N 350W	201	--	17	16	36	0.2	< 5
100N 400W	201	--	56	28	94	0.4	15
100N 450W	201	--	42	13	79	0.1	< 5
100N 500W	203	--	22	53	124	0.3	< 5
100N 550W	201	--	45	12	66	0.1	< 5
100N 600W	201	--	52	20	82	0.7	10
100N 650W	201	--	32	10	600	0.1	5
1+00S 0+50E	201	--	41	22	91	0.1	5
1+00S 1+00E	201	--	138	68	176	0.2	5
1+00S 0+50W	201	--	46	20	85	0.1	35
1+00S 1+00W	201	--	62	21	88	0.1	20
1+00S 1+50W	201	--	50	26	85	0.1	10
1+00S 2+00W	201	--	42	36	112	0.3	90
1+00S 2+50W	201	--	40	51	122	0.7	5
1+50N 0+50E	201	--	27	21	41	0.3	< 5
1+50N 1+00E	201	--	50	26	105	0.1	10
1+50N 0+00W	201	--	19	8	21	0.5	< 5
1+50N 0+50W	201	--	16	7	23	0.5	< 5
1+50N 1+00W	201	--	23	12	38	0.1	< 5
1+50N 1+50W	201	--	41	20	60	1.1	5
1+50N 2+00W	201	--	36	17	73	0.4	10
1+50N 2+50W	201	--	35	35	73	0.5	10
1+50N 3+00W	201	--	34	16	65	0.6	10
1+50N 3+50W	201	--	35	18	72	0.3	5

CERTIFICATION : Hawt Buchler

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 : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

*Page No. : 3
Tot. Pages: 7
Date : 28-AUG-87
Invoice # : I-8720252
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
1+50N 4+00W	201	--	18	8	46	0.1	< 5
1+50N 4+50W	201	--	20	13	36	0.4	10
1+50N 5+00W	201	--	24	15	49	0.6	< 5
1+50N 5+50W	201	--	54	13	73	0.3	< 5
1+50N 6+00W	201	--	44	30	86	0.2	< 5
1+50N 6+50W	201	--	26	16	70	0.5	< 5
200N 050E	201	--	17	8	16	0.1	< 5
200N 100E	201	--	35	21	59	0.1	< 5
200N 000W	201	--	29	18	42	0.5	< 5
200N 050W	201	--	18	12	35	0.3	< 5
200N 100W	201	--	31	17	92	0.2	< 5
200N 150W	201	--	53	21	84	0.3	< 5
200N 200W	201	--	21	7	26	0.2	< 5
200N 250W	201	--	7	20	16	0.1	< 5
200N 300W	201	--	28	20	59	0.4	10
200N 350W	201	--	28	14	65	0.1	< 5
200N 400W	201	--	18	11	50	0.2	< 5
200N 450W	201	--	9	10	21	0.1	< 5
200N 500W	201	--	17	11	25	1.1	< 5
200N 550W	201	--	36	10	68	0.2	< 5
200N 600W	201	--	68	19	114	0.3	< 5
200N 650W	201	--	57	21	120	0.3	< 5
200N 700W	201	--	15	14	43	0.1	< 5
2+50N 0+50E	201	--	27	10	40	0.1	< 5
2+50N 1+00E	201	--	20	16	59	0.3	< 5
2+50N 0+00W	201	--	46	25	100	0.1	< 5
2+50N 0+50W	201	--	41	21	138	0.5	< 5
2+50N 1+00W	201	--	16	9	23	0.4	< 5
2+50N 1+50W	201	--	46	21	65	0.2	< 5
2+50N 2+00W	201	--	20	21	47	0.2	< 5
2+50N 2+50W	201	--	14	10	21	0.2	< 5
2+50N 3+00W	201	--	21	13	27	0.3	< 5
2+50N 3+50W	201	--	21	12	37	0.2	< 5
2+50N 4+00W	201	--	36	16	87	0.3	< 5
2+50N 4+50W	201	--	28	13	58	0.5	< 5
2+50N 5+00W	201	--	33	15	65	0.2	< 5
2+50N 5+50W	201	--	20	16	54	0.7	< 5
2+50N 6+00W	201	--	40	12	88	0.2	< 5
2+50N 6+50W	201	--	52	13	105	0.1	< 5
2+50N 7+00W	201	--	34	15	63	0.5	< 5

CERTIFICATION : Ian Bucklen

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: AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

*Page No. :4
Tot. Pages: 7
Date :28-AUG-87
Invoice # :I-8720252
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
3+00N 050E	201	--	55	30	100	0.1	< 5
3+00N 100E	201	--	62	40	120	0.1	< 5
3+00N 000W	201	--	25	14	36	0.1	< 5
3+00N 050W	201	--	32	15	40	0.5	< 5
3+00N 100W	201	--	105	62	210	0.1	< 5
3+00N 150W	201	--	59	30	152	0.1	< 5
3+00N 200W	201	--	46	22	110	0.4	< 5
3+00N 250W	201	--	20	12	22	0.2	< 5
3+00N 300W	201	--	10	16	26	0.2	< 5
3+00N 350W	201	--	16	8	21	0.1	< 5
3+00N 400W	201	--	30	9	55	0.1	< 5
3+00N 450W	201	--	61	20	106	0.1	< 5
3+00N 500W	201	--	72	12	30	0.7	< 5
3+00N 550W	201	--	17	20	32	0.2	< 5
3+00N 600W	201	--	25	5	19	0.8	< 5
3+00N 650W	201	--	49	15	113	0.1	< 5
3+00N 700W	201	--	49	13	98	0.1	< 5
3+00N 750W	201	--	75	13	57	0.1	< 5
3+00N 800W	201	--	38	15	85	0.1	< 5
350N 050E	201	--	17	10	22	0.1	< 5
350N 100E	201	--	38	18	110	0.1	< 5
350N 000W	201	--	22	12	43	0.2	< 5
350N 050W	201	--	28	18	110	0.1	< 5
350N 100W	201	--	43	22	102	0.1	< 5
350N 150W	201	--	40	20	90	0.1	10
350N 200W	201	--	45	14	75	0.1	< 5
350N 250W	201	--	22	8	18	0.1	< 5
350N 300W	201	--	21	13	64	0.3	< 5
350N 350W	201	--	44	31	105	0.1	< 5
350N 400W	201	--	40	18	77	0.1	< 5
350N 450W	201	--	19	13	28	0.6	< 5
350N 500W	201	--	44	18	75	0.7	< 5
350N 550W	201	--	26	12	41	1.0	< 5
350N 600W	201	--	39	12	62	0.3	< 5
350N 650W	201	--	35	12	57	0.9	< 5
350N 700W	201	--	41	20	115	0.1	< 5
350N 750W	201	--	42	24	122	0.3	< 5
350N 800W	201	--	38	20	115	0.1	< 5
400N 0+50E	201	--	138	195	326	0.2	< 5
400N 1+00E	201	--	25	20	38	0.1	< 5

CERTIFICATION : Ian R. Bucklen

APPENDIX B

Chemex Labs Ltd.
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212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN:JOHN OSTLER CC: C. GEOFFREY SPEARING

Date : 28-AUG-87
Invoice # : I-8720252
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
4+00N 0+00W	201	--	25	15	40	0.2	< 5
4+00N 0+50W	201	--	93	25	207	0.5	<< 5
4+00N 1+00W	201	--	67	33	106	0.1	< 5
4+00N 1+50W	201	--	21	23	46	2.5	5
4+00N 2+00W	201	--	79	41	150	0.1	< 5
4+00N 2+50W	201	--	30	14	52	0.1	< 5
4+00N 3+00W	201	--	21	20	43	0.2	<< 5
4+00N 3+50W	201	--	53	16	85	0.1	<< 5
4+00N 4+00W	201	--	21	9	20	0.3	< 5
4+00N 4+50W	201	--	61	15	97	0.1	5
4+00N 5+00W	201	--	62	11	110	0.1	10
4+00N 5+50W	201	--	62	9	95	0.1	10
4+00N 6+00W	201	--	27	20	44	0.1	< 5
4+00N 6+50W	201	--	34	14	70	0.5	15
4+00N 7+00W	201	--	24	13	38	0.1	5
4+00N 7+50W	201	--	47	15	94	0.1	< 5
4+00N 8+00W	201	--	21	10	64	0.2	5
450N 050E	201	--	50	29	117	0.1	<< 5
450N 000W	201	--	25	2	35	0.1	<< 5
450N 050W	201	--	14	18	52	0.1	< 5
450N 100W	201	--	36	15	68	0.1	< 5
450N 150W	201	--	26	16	60	0.5	<< 5
450N 200W	201	--	23	14	56	0.1	< 5
450N 250W	201	--	90	41	145	0.1	5
450N 300W	201	--	16	18	20	0.1	< 5
450N 350W	201	--	12	13	27	0.1	<< 5
450N 400W	201	--	19	16	28	1.1	< 5
450N 450W	201	--	56	21	106	0.1	5
450N 500W	201	--	20	13	56	0.1	< 5
450N 550W	201	--	22	14	66	0.1	5
450N 600W	201	--	45	11	75	0.1	< 5
450N 650W	201	--	31	17	54	0.1	<< 5
450N 700W	201	--	16	6	16	0.3	<< 5
450N 750W	201	--	39	13	54	0.1	<< 5
450N 800W	201	--	16	15	26	0.1	< 5
450N 850W	201	--	29	12	55	0.1	< 5
450N 900W	201	--	10	5	27	0.1	<< 5
5+00N 0+00W	201	--	65	40	172	0.1	<< 5
5+00N 0+50W	201	--	77	18	48	0.1	<< 5
5+00N 1+00W	201	--	56	16	41	0.4	< 5

CERTIFICATION : Stewart Bichler

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: AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN:JOHN OSTLER CC: C. GEOFFREY SPEARING

Date :28-AUG-87
Invoice # :I-8720252
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
5+00N 1+50W	201	--	57	36	130	0.1	10
5+00N 2+00W	201	--	122	39	204	0.1	5
5+00N 2+50W	201	--	40	27	76	0.5	< 5
5+00N 3+00W	201	--	16	6	23	0.3	< 5
5+00N 3+50W	201	--	21	13	31	0.1	< 5
5+00N 4+00W	201	--	46	28	83	0.1	15
5+00N 4+50W	201	--	19	13	33	0.1	< 5
5+00N 5+00W	201	--	20	33	25	0.8	< 5
5+00N 5+50W	201	--	58	15	94	0.1	< 5
5+00N 6+00W	201	--	76	6	38	0.1	< 5
5+00N 6+50W	201	--	34	10	74	0.1	< 5
5+00N 7+00W	201	--	35	10	54	0.1	< 5
5+00N 7+50W	201	--	35	8	76	0.1	< 5
5+00N 8+00W	201	--	17	9	19	0.1	< 5
5+00N 8+50W	201	--	31	9	70	0.1	< 5
5+00N 9+00W	201	--	19	18	48	0.2	< 5
5+50N 000W	201	--	62	73	106	0.1	-----
5+50N 050W	201	--	25	8	24	0.1	-----
5+50N 100W	203	--	39	27	68	0.1	-----
5+50N 150W	201	--	56	45	135	0.1	-----
5+50N 200W	201	--	25	22	35	0.1	-----
5+50N 250W	201	--	105	44	210	0.1	-----
5+50N 300W	201	--	18	14	29	0.5	-----
5+50N 350W	201	--	19	10	30	0.2	-----
5+50N 400W	203	--	19	18	36	0.2	-----
5+50N 450W	203	--	51	26	96	0.1	-----
5+50N 500W	201	--	21	17	25	0.6	-----
5+50N 550W	201	--	21	8	19	1.0	-----
5+50N 600W	201	--	30	16	42	0.1	-----
5+50N 650W	201	--	41	7	61	0.6	-----
5+50N 700W	201	--	18	10	21	0.2	-----
5+50N 750W	201	--	51	25	90	0.1	-----
5+50N 800W	201	--	19	9	42	0.1	-----
5+50N 850W	201	--	23	16	60	0.7	-----
5+50N 900W	201	--	8	10	75	0.1	-----
6+00N 0+00W	201	--	50	21	85	0.4	-----
6+00N 0+50W	201	--	22	13	29	0.1	-----
6+00N 1+00W	201	--	17	14	31	0.1	-----
6+00N 1+50W	201	--	195	78	270	0.2	-----
6+00N 2+00W	201	--	28	16	38	0.2	-----

CERTIFICATION : Stewart Bachlen

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 : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN:JOHN OSTLER CC: C. GEOFFREY SPEARING

*Page No. : 7
Tot. Pages: 7
Date : 28-AUG-87
Invoice # : I-8720252
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720252

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R	Au ppb FA+AA
6+00N 2+50W	201	--	73	70	200	0.1	-----
6+00N 3+00W	201	--	65	30	180	0.5	-----
6+00N 3+50W	201	--	28	11	43	0.1	-----
6+00N 4+00W	201	--	21	15	28	0.1	-----
6+00N 4+50W	201	--	13	13	11	0.1	-----
6+00N 5+00W	201	--	32	22	60	0.2	-----
6+00N 5+50W	201	--	48	12	84	0.1	-----
6+00N 6+00W	201	--	89	77	275	0.1	-----
6+00N 6+50W	201	--	34	10	62	0.5	-----
6+00N 7+00W	201	--	23	7	49	0.3	-----
6+00N 7+50W	201	--	26	30	34	0.7	-----
6+00N 8+00W	201	--	12	10	19	0.1	-----
6+00N 8+55W	201	--	21	11	40	0.1	-----
6+00N 9+00W	201	--	43	17	95	0.1	-----

CERTIFICATION : Hart Bichler

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 : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

Date : 11-AUG-87
Invoice # : I-8719391
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8719391

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
650N 000W	201	---	80	24	225	0.3
650N 050W	201	---	20	17	37	0.3
650N 100W	201	---	35	25	85	0.5
650N 150W	201	---	11	5	18	0.5
650N 200W	201	---	40	14	43	0.1
650N 250W	201	---	43	26	100	0.3
650N 350W	201	---	55	27	205	0.2
650N 400W	201	---	7	6	15	0.1
650N 450W	201	---	22	23	125	0.1
650N 504W	201	---	16	10	36	0.1
650N 550W	201	---	18	17	33	0.1
650N 600W	201	---	18	11	36	0.1
650N 650W	201	---	14	7	12	0.3
650N 700W	201	---	20	8	31	0.4
650N 750W	201	---	28	10	50	0.2
650N 800W	201	---	39	13	93	0.1
650N 850W	201	---	16	8	37	0.4
650N 900W	201	---	33	12	59	0.2
7+00N 0+00W	201	---	92	27	130	0.2
7+00N 0+50W	201	---	160	29	255	0.1
7+00N 1+00W	201	---	29	16	30	0.1
7+00N 1+50W	201	---	48	21	100	0.1
7+00N 2+00W	201	---	53	39	113	0.1
7+00N 2+50W	201	---	112	46	218	0.2
7+00N 3+00W	201	---	63	32	185	0.1
7+00N 3+50W	201	---	25	25	25	0.2
7+00N 4+00W	201	---	19	15	38	0.1
7+00N 4+50W	201	---	32	23	77	0.1
7+00N 5+00W	201	---	20	13	32	0.3
7+00N 5+50W	201	---	17	9	19	0.1
7+00N 6+00W	201	---	21	10	41	0.3
7+00N 6+50W	201	---	27	13	48	0.1
7+00N 7+00W	201	---	23	12	47	0.1
7+00N 7+50W	201	---	25	7	40	0.4
7+00N 8+00W	201	---	27	11	70	0.1
7+00N 8+50W	201	---	18	11	30	0.1
7+00N 9+00W	201	---	19	18	28	0.1
7+00N 9+50W	201	---	67	14	115	0.2
750N 00	201	---	13	16	21	0.2
750N 50W	201	---	54	25	135	0.1

CERTIFICATION : Heinz Buchler

APPENDIX B

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
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PHONE (604) 984-0221

To: AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

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

Date :11-AUG-87
Invoice # :I-8719391
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8719391

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
750N 100W	201	---	31	20	38	0.2
750N 200W	201	---	20	13	30	0.5
750N 250W	201	---	35	15	49	0.3
750N 300W	203	---	20	18	53	0.6
750N 350W	201	---	20	8	28	0.2
750N 400W	201	---	35	24	130	0.1
750N 450W	201	---	10	8	21	0.1
750N 500W	201	---	11	12	19	0.1
750N 550W	201	---	25	15	45	0.2
750N 600W	201	---	19	11	30	0.1
750N 650W	201	---	14	11	32	0.3
750N 700W	201	---	40	15	75	0.1
750N 750W	201	---	30	10	57	0.1
750N 800W	201	---	13	15	15	0.1
750N 850W	201	---	13	6	23	0.4
750N 900W	201	---	22	10	32	0.5
750N 950W	201	---	23	10	32	0.2
750N 1000W	201	---	37	21	57	0.4
8+00N 0+50W	201	---	42	18	77	0.2
8+00N 1+00W	201	---	183	112	600	0.3
8+00N 1+50W	201	---	42	27	122	0.2
8+00N 2+05W	201	---	95	35	170	0.1
8+00N 2+50W	201	---	92	39	185	0.1
8+00N 3+00W	201	---	38	28	90	0.1
8+00N 3+50W	201	---	42	19	120	0.4
8+00N 4+00W	201	---	40	10	70	0.1
8+00N 4+50W	201	---	29	42	130	0.4
8+00N 5+00W	201	---	70	24	147	0.1
8+00N 5+50W	201	---	37	9	68	0.1
8+00N 6+00W	201	---	36	170	60	0.1
8+00N 6+50W	203	---	80	38	222	0.2
8+00N 7+00W	201	---	50	8	90	0.1
8+00N 7+50W	201	---	65	23	118	0.1
8+00N 8+00W	201	---	46	15	84	0.3
8+00N 8+50W	201	---	35	12	82	0.1
8+00N 9+00W	201	---	45	20	105	0.1
8+00N 9+50W	201	---	22	20	46	0.1
8+00N 10+00W	201	---	40	15	83	0.2
850N 000W	203	---	50	92	160	0.1
850N 050W	203	---	22	31	68	0.1

CERTIFICATION : Kurt Bichler

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 : AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

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

Date : 11-AUG-87
Invoice # : I-8719391
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8719391

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
850N 100W	201	--	17	22	44	0.1
850N 150W	201	--	85	43	145	0.1
850N 200W	201	--	65	38	115	0.6
850N 250W	203	--	19	40	58	0.1
850N 300W	201	--	68	43	190	0.1
850N 350W	201	--	20	18	35	0.1
850N 400W	201	--	92	38	200	0.1
850N 450W	201	--	20	10	49	0.1
850N 500W	201	--	13	18	18	0.1
850N 550W	201	--	20	9	36	0.1
850N 600W	203	--	32	29	85	0.1
850N 650W	201	--	22	16	31	0.1
850N 700W	201	--	16	38	55	0.4
850N 750W	201	--	11	10	19	0.6
850N 800W	201	--	65	25	145	0.1
850N 850W	201	--	7	10	8	0.5
850N 900W	201	--	62	18	78	0.1
850N 950W	201	--	19	17	46	0.3
850N 1000W	201	--	20	27	28	0.3
9+00N 1+20W	201	--	27	21	42	0.1
9+00N 1+50W	201	--	148	43	210	0.1
9+00N 2+00W	201	--	182	53	345	0.1
9+00N 2+50W	201	--	29	26	44	0.1
9+00N 3+00W	201	--	57	27	185	0.1
9+00N 3+50W	201	--	65	45	203	0.1
9+00N 4+00W	201	--	40	25	82	0.1
9+00N 4+50W	201	--	8	8	18	0.1
9+00N 5+00W	201	--	13	9	15	0.2
9+00N 5+50W	201	--	39	11	27	0.1
9+00N 6+00W	201	--	39	21	60	0.3
9+00N 6+50W	201	--	54	7	87	0.1
9+00N 7+00W	201	--	58	13	120	0.1
9+00N 7+50W	201	--	47	18	117	0.1
9+00N 8+00W	201	--	31	24	55	0.2
9+00N 8+50W	201	--	15	12	40	0.1
9+00N 9+00W	201	--	15	6	13	0.4
9+00N 950W	201	--	10	10	25	0.2
9+00N 1000W	201	--	35	17	64	0.3
950N 100W	203	--	15	14	53	0.2
950N 150W	201	--	108	42	52	0.1

CERTIFICATION : Ian Ostler

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 : AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

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

Date :11-AUG-87
Invoice # :I-8719391
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8719391

SAMPLE DESCRIPTION	PREP CODE		Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
950N 200W	201	--	118	40	118	0.1
950N 250W	201	--	29	15	83	0.1
950N 300W	203	--	53	14	105	0.1
950N 350W	203	--	33	19	97	0.1
950N 400W	201	--	31	8	82	0.1
950N 450W	201	--	13	10	34	0.1
950N 500W	201	--	50	25	123	0.2
950N 550W	201	--	23	18	43	0.1
950N 650W	201	--	40	12	48	0.2
950N 700W	201	--	38	12	125	0.3
950N 750W	201	--	50	17	90	0.3
950N 800W	201	--	27	24	62	0.3
950N 850W	201	--	26	10	24	0.6
950N 900W	201	--	47	26	113	0.1
950N 950W	201	--	16	12	18	0.2
950N 1000W	201	--	30	15	35	0.4

CERTIFICATION : Ian R. Bucholz

APPENDIX B

Chemex Labs Ltd.
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212 BROOKSBANK AVE. NORTH VANCOUVER.
BRITISH COLUMBIA. CANADA V7J-2C1
PHONE (604) 984-0221

To : AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

Project :
Comments: CC: C. GEOFFREY SPEARING

*Page No. : 1-A
Tot. Pages: 1
Date : 19-AUG-87
Invoice # : I-8719395
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8719395

SAMPLE DESCRIPTION	PREP CODE		Mo ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	P ppm (ICP)	Pb ppm (ICP)	Bi ppm (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Ni ppm (ICP)	Ba ppm (ICP)	Fe % (ICP)	Mn ppm (ICP)	Cr ppm (ICP)	Mg % (ICP)
HS 03	201	232	5	< 10	38	190	52	< 2	< 0.5	59	34	1340	>25.0	>10000	< 1	0.24
HS 09	201	232	39	< 10	320	1180	66	126	< 0.5	96	574	1220	6.71	>10000	13	0.57
HS 12	201	232	< 1	< 10	73	360	14	< 2	1.5	43	59	540	>25.0	>10000	8	0.37
HS 14	201	232	11	< 10	96	970	52	10	< 0.5	56	75	990	12.45	>10000	27	0.49
HS 16	201	232	10	< 10	92	1120	38	4	< 0.5	62	76	1280	17.55	>10000	15	0.44
HS 18	201	232	31	< 10	233	1850	54	12	< 0.5	56	307	1190	6.20	>10000	33	0.48

CERTIFICATION :

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 : AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

Project :
Comments: CC: C. GEOFFREY SPEARING

•Page No. : 1-B
Tot. Pages: 1
Date : 19-AUG-87
Invoice # : I-8719395
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8719395

SAMPLE DESCRIPTION	PREP CODE		V ppm (ICP)	Al % (ICP)	Be ppm (ICP)	Ca % (ICP)	Cu ppm (ICP)	Ag ppm AAS	Ti % (ICP)	Sr ppm (ICP)	Na % (ICP)	K % (ICP)				
HS 03	201	232	< 1	0.16	10.5	1.49	< 1	0.5	< 0.01	280	0.07	0.09				
HS 09	201	232	< 1	2.16	0.5	2.86	< 1	0.5	0.07	718	0.44	0.50				
HS 12	201	232	18	3.82	15.0	1.48	< 1	0.5	0.16	213	0.98	0.51				
HS 14	201	232	20	4.07	8.5	1.66	< 1	0.5	0.15	283	0.85	0.81				
HS 16	201	232	12	3.25	11.0	1.72	< 1	0.5	0.12	359	0.80	0.62				
HS 18	201	232	26	5.67	5.0	1.37	35	0.5	0.20	245	0.92	0.95				

CERTIFICATION :

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212 BROOKSBANK AVE., NORTH VANCOUVER
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: CC: G SPEARING

*Page No. : 1
Tot. Pages: 1
Date : 8-SEP-87
Invoice # : I-8721163
P.O. # :

CERTIFICATE OF ANALYSIS A8721163

SAMPLE DESCRIPTION	PREP CODE		Sb ppm	Au ppb FA+AA
HS 03	214	--	0.1	< 10
HS 09	214	--	0.1	< 10
HS 12	214	--	0.1	< 5
HS 14	214	--	0.1	< 5
HS 16	214	--	0.1	< 5
HS 18	214	--	0.1	< 5

CERTIFICATION : Stewart Buchan

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 : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

*Page No. : 1-A
Tot. Pages: 1
Date : 31-AUG-87
Invoice # : I-8720253
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720253

SAMPLE DESCRIPTION	PREP CODE		Mo ppm (ICP)	W ppm (ICP)	Zn ppm (ICP)	P ppm (ICP)	Pb ppm (ICP)	Bi ppm (ICP)	Cd ppm (ICP)	Co ppm (ICP)	Ni ppm (ICP)	Ba ppm (ICP)	Fe % (ICP)	Mn ppm (ICP)	Cr ppm (ICP)	Mg % (ICP)
HS3 1M DEEP	205	232	3	20	53	520	126	< 2	< 0.5	46	83	1260	>25.0	>10000	13	0.28

CERTIFICATION :

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 : AMBERGATE EXPLORATIONS INC.

515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5

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

*Page No. : 1-B
Tot. Pages: 1
Date : 31-AUG-87
Invoice # : I-8720253
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8720253

SAMPLE DESCRIPTION	PREP CODE		V ppm (ICP)	Al % (ICP)	Be ppm (ICP)	Ca % (ICP)	Cu ppm (ICP)	Ag ppm AAS	Ti % (ICP)	Sr ppm (ICP)	Na % (ICP)	K % (ICP)				
HS3 1M DEEP	205	232	< 1	0.80	2.0	1.42	< 1	1.5	0.01	329	0.12	0.32				

CERTIFICATION : BC

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 : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: CC: C. GEOFFRY SPEARING

*Page No. : 1
Tot. Pages: 1
Date : 17-AUG-87
Invoice # : I-8719394
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8719394

SAMPLE DESCRIPTION	PREP CODE		Cu %	Pb %	Zn %	Sb NAA %	Ag FA oz/T	Au FA oz/T				
JNS 1	207	--	< 0.01	5.56	< 0.01	0.010	5.20	0.006	WEST RIDGE VEIN			
JNS 2	207	--	< 0.01	10.30	< 0.01	0.014	10.20	0.004				
WE-ORE	207	--	< 0.01	33.5	23.2	0.076	20.70	0.092				
WEW-1.5E	207	--	< 0.01	21.3	17.10	-----	14.30	0.054				
WEW 4E	207	--	< 0.01	19.00	13.20	-----	12.30	0.022				
WEW 9E	207	--	< 0.01	4.50	1.41	-----	1.96	0.010				
WEW 11E	207	--	< 0.01	0.33	0.29	-----	0.17	0.004				
WEW 11E-SUL	207	--	< 0.01	40.1	23.4	-----	25.40	0.006				
WEW 13F	207	--	< 0.01	1.81	0.99	-----	1.03	0.004				
WEW 4W	207	--	< 0.01	19.60	21.7	-----	14.60	0.036				
WEW 4-SUL	207	--	< 0.01	23.3	33.8	-----	15.70	0.008				
WEW 7W	207	--	< 0.01	4.83	0.47	-----	2.24	0.004				
WEW 8.5W	207	--	< 0.01	3.65	1.77	-----	1.75	0.008				
WEW 11W	207	--	< 0.01	0.68	0.51	-----	0.40	0.002	WHITE EAGLE VEIN			
WEW 15W	207	--	< 0.01	33.1	28.2	-----	22.30	0.008				
WEUA 0N	207	--	0.05	14.60	4.60	-----	8.73	0.082				
WEUA 0N, 2W	207	--	< 0.01	10.50	6.09	-----	7.58	0.748				
WEUA 3N	207	--	< 0.01	4.47	3.38	-----	3.49	0.264				
WEUA 5.5N	207	--	< 0.01	12.00	8.94	-----	7.88	0.056				
WEUA 8N	207	--	< 0.01	27.3	10.30	-----	17.10	0.030				
WEUA 10N	207	--	< 0.01	16.30	3.20	-----	8.78	0.116				
WEUA 12N	207	--	< 0.01	15.20	21.3	-----	8.65	0.022				
WEUA 14N	207	--	< 0.01	3.71	0.74	-----	2.07	0.020				
WEUA 16N	207	--	< 0.01	4.98	10.70	-----	2.79	0.024				
WEUA 18N	207	--	< 0.01	6.40	0.89	-----	3.31	0.008				
WEUA 0S	207	--	< 0.01	5.19	0.72	-----	3.41	0.012				
WEUA 12S	207	--	< 0.01	6.72	1.33	-----	6.15	2.182				
WEUA 14S	207	--	< 0.01	11.20	3.28	-----	7.01	1.026				

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

CERTIFICATION :

APPENDIX C

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

To : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments: ATTN: JOHN OSTLER CC: C. GEOFFREY SPEARING

*Page No. : 1
Tot. Pages: 1
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	VEIN ON BLUE LAKE TRAIL
SPW-LD1	207	---	< 0.01	24.4	0.19	0.038	12.38	0.080	SILVER SPARROW VEIN
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	SNOWSTORM MAIN VEIN
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-50N	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	WHITE EAGLE VEIN
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. Fleming

APPENDIX C

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

To : AMBERGATE EXPLORATIONS INC.
515 - 470 GRANVILLE ST.
VANCOUVER, BC
V6C 1V5
Project :
Comments:

**Page No. : 1
Tot. Pages: 1
Date : 30-SEP-87
Invoice # : I-8720997
P.O. # :

CERTIFICATE OF ANALYSIS A8720997

SAMPLE DESCRIPTION	PREP CODE		Pb %	Zn %	Ag FA oz/T	Au FA oz/T	Cu %	Sb NAA %				
PLCG. L5633	207	--	34.3	2.88	8.75	0.010	-----	-----	-POCKET LAKE C.G. L5633			
WEVA 0S 2E	207	--	42.2	10.10	24.20	0.062	< 0.01	0.084	-WHITE EAGLE VEIN			

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

CERTIFICATION : B. Ewarts

APPENDIX C

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	IRON SPRING
0068	207	--	< 0.01	22.4	0.03	0.002	0.047	14.60	0.010	SNOWSTORM TRENCH
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	SILVER SPARROW VEIN
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	
0075	207	--	< 0.01	38.0	27.7	< 0.001	0.096	26.0	0.038	WHITE EAGLE VEIN
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	COMSTOCK PROPERTY
0082	207	--	< 0.01	24.4	0.24	0.001	0.045	15.70	0.002	

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

CERTIFICATION : B. Swaites

APPENDIX C

APPENDIX D

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 Amber Property from July 7 to August 12 and on August 21, 1987;

That I have no interest in the Amber 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 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 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 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 15 years;

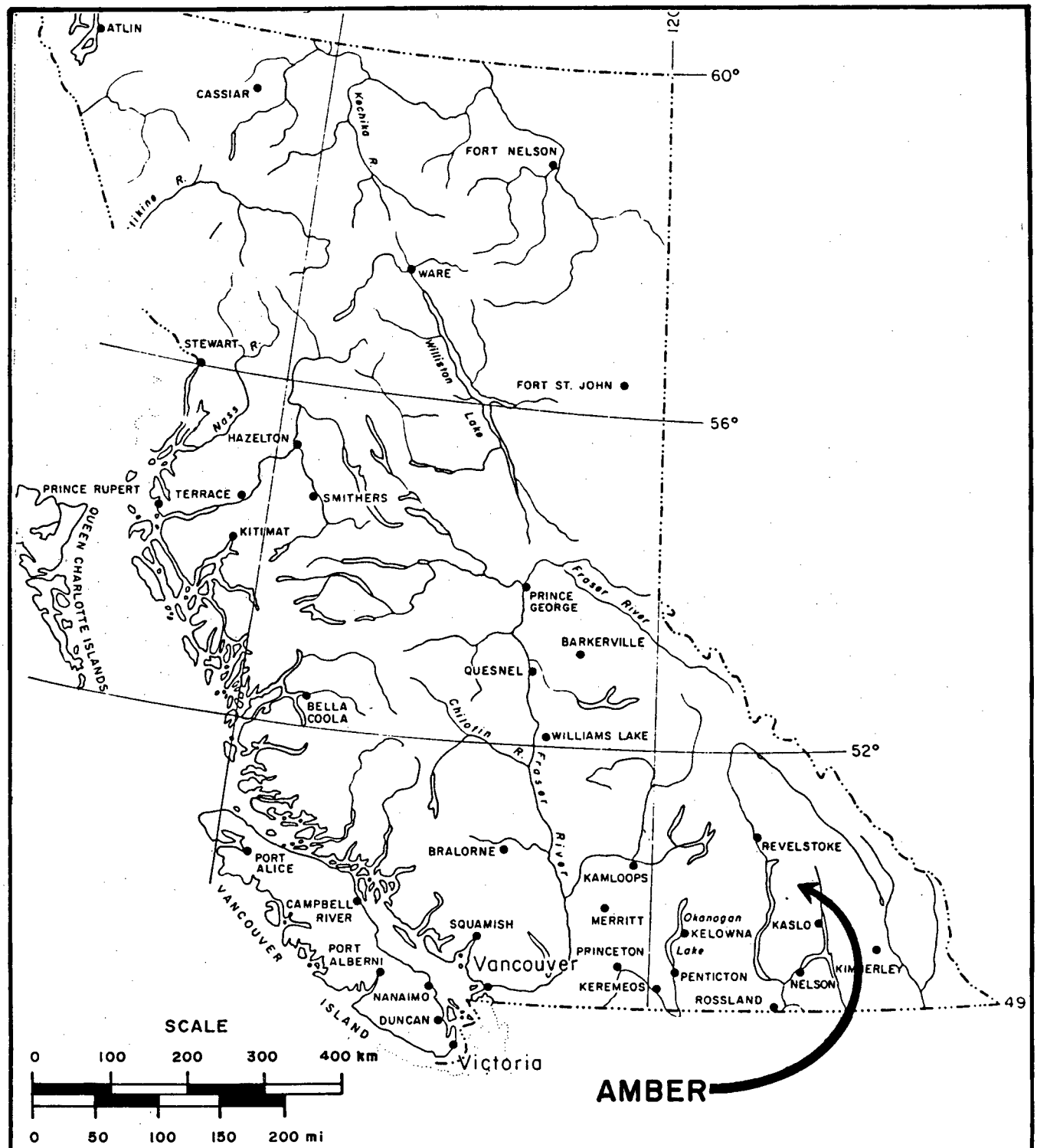
That this report is based on data in literature available for public inspection; and on work conducted and supervised by me as well as by C. Geoffrey Spearing, B.Sc.(Eng.) and D.W. Tully, P.Eng. from July 7 to August 12 and on August 21, 1987;

That I am President and a principal shareholder in Ambergate Explorations Inc. which controls the Amber 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

AMBER PROPERTY
50°18'N., 117°10'W.

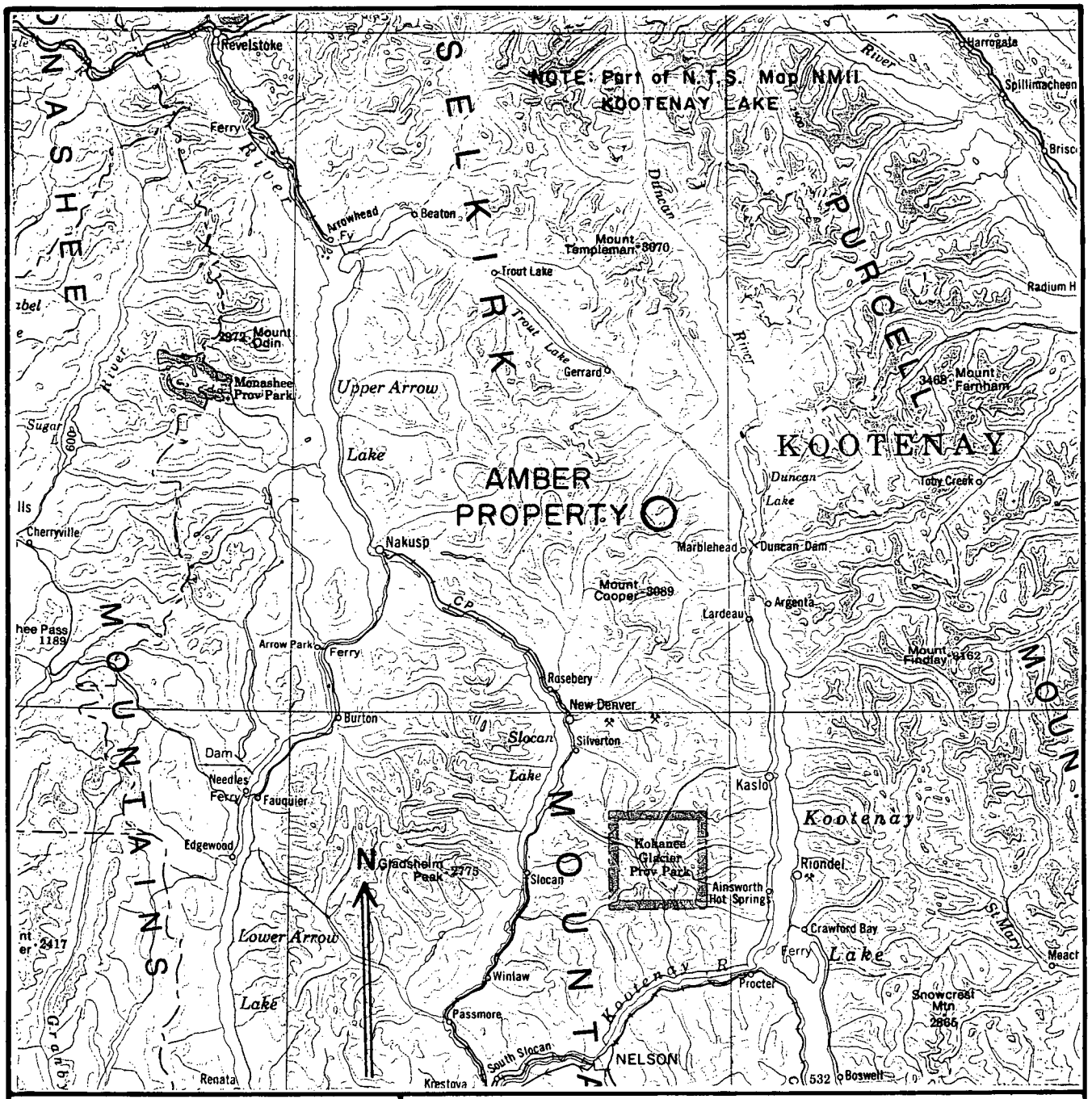
SLOCAN M.D.
BRITISH COLUMBIA

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

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.

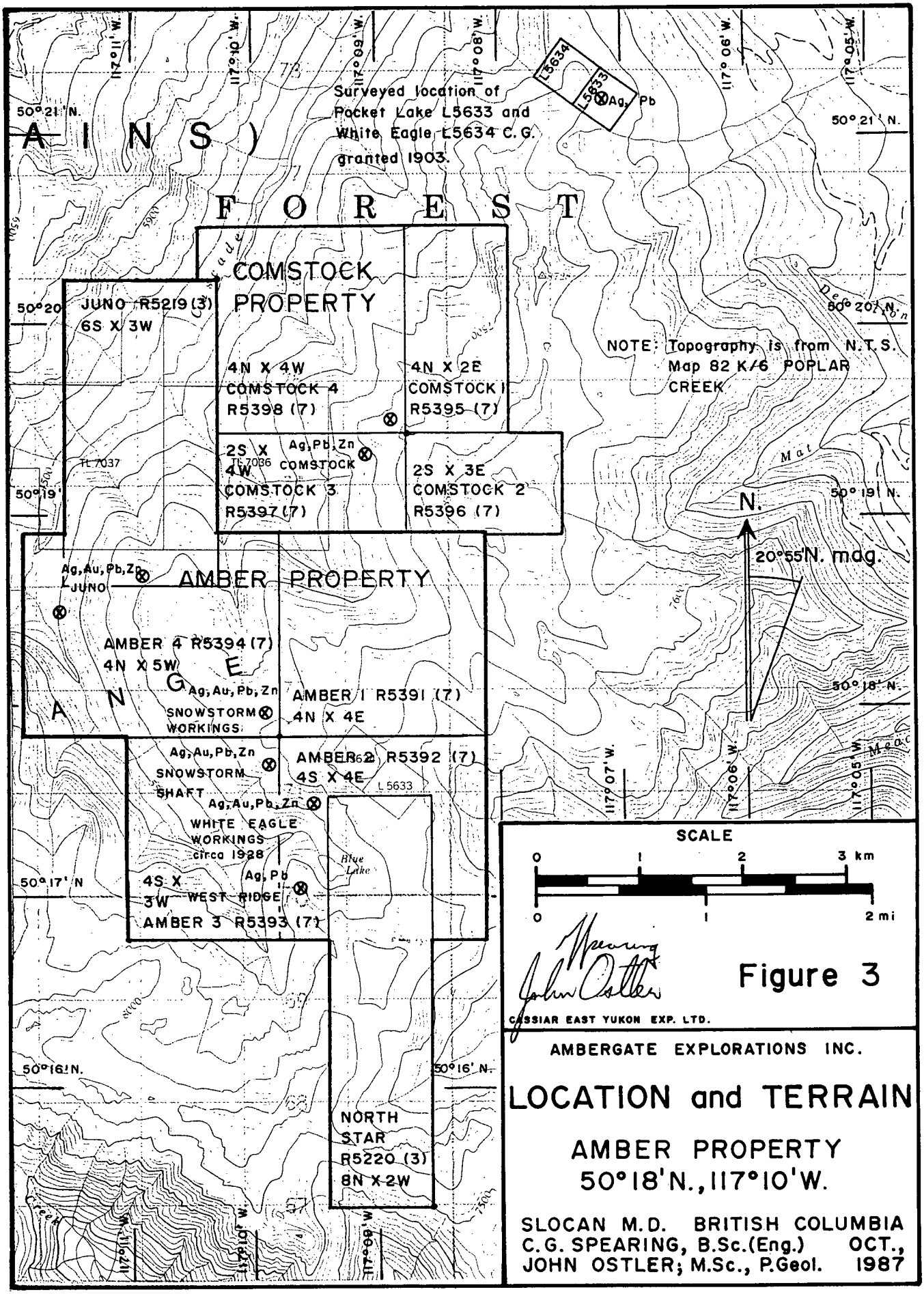
REGIONAL ACCESS

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.

OCTOBER, 1987


A I N S)
F O R E S T
Surveyed location of Pocket Lake L5633 and White Eagle L5634 C.G. granted 1903.
L5634
L5633
Ag, Pb
COMSTOCK PROPERTY
JUNO R5219 (3)
6S X 3W
4N X 4W
COMSTOCK 4
R5398 (7)
4N X 2E
COMSTOCK 1
R5395 (7)
2S X 4W
COMSTOCK 3
R5397 (7)
Ag,Pb,Zn
COMSTOCK
2S X 3E
COMSTOCK 2
R5396 (7)
NOTE: Topography is from N.T.S. Map 82 K/6 POPLAR CREEK
AMBER PROPERTY
Ag,Au,Pb,Zn
JUNO
AMBER 4 R5394 (7)
4N X 5W
Ag,Au,Pb,Zn
SNOWSTORM WORKINGS
AMBER 1 R5391 (7)
4N X 4E
Ag,Au,Pb,Zn
SNOWSTORM SHAFT
AMBER 2 R5392 (7)
4S X 4E
Ag,Au,Pb,Zn
WHITE EAGLE WORKINGS circa 1928
Ag,Pb
4S X 3W
WEST RIDGE
AMBER 3 R5393 (7)
NORTH STAR
R5220 (3)
8N X 2W
Blue Lake
N.
20°55'N. mag.
50°21' N.
50°20'
50°19'
50°18' N.
50°17' N
50°16' N.
117°11' W.
117°10' W.
117°09' W.
117°08' W.
117°07' W.
117°06' W.
117°05' W.
SCALE
0 1 2 3 km
0 1 2 mi
Figure 3
CASSIAR EAST YUKON EXP. LTD.
AMBERGATE EXPLORATIONS INC.
LOCATION and TERRAIN
AMBER PROPERTY
50°18'N., 117°10'W.
SLOCAN M.D. BRITISH COLUMBIA
C.G. SPEARING, B.Sc.(Eng.) OCT.,
JOHN OSTLER; M.Sc., P.Geol. 1987

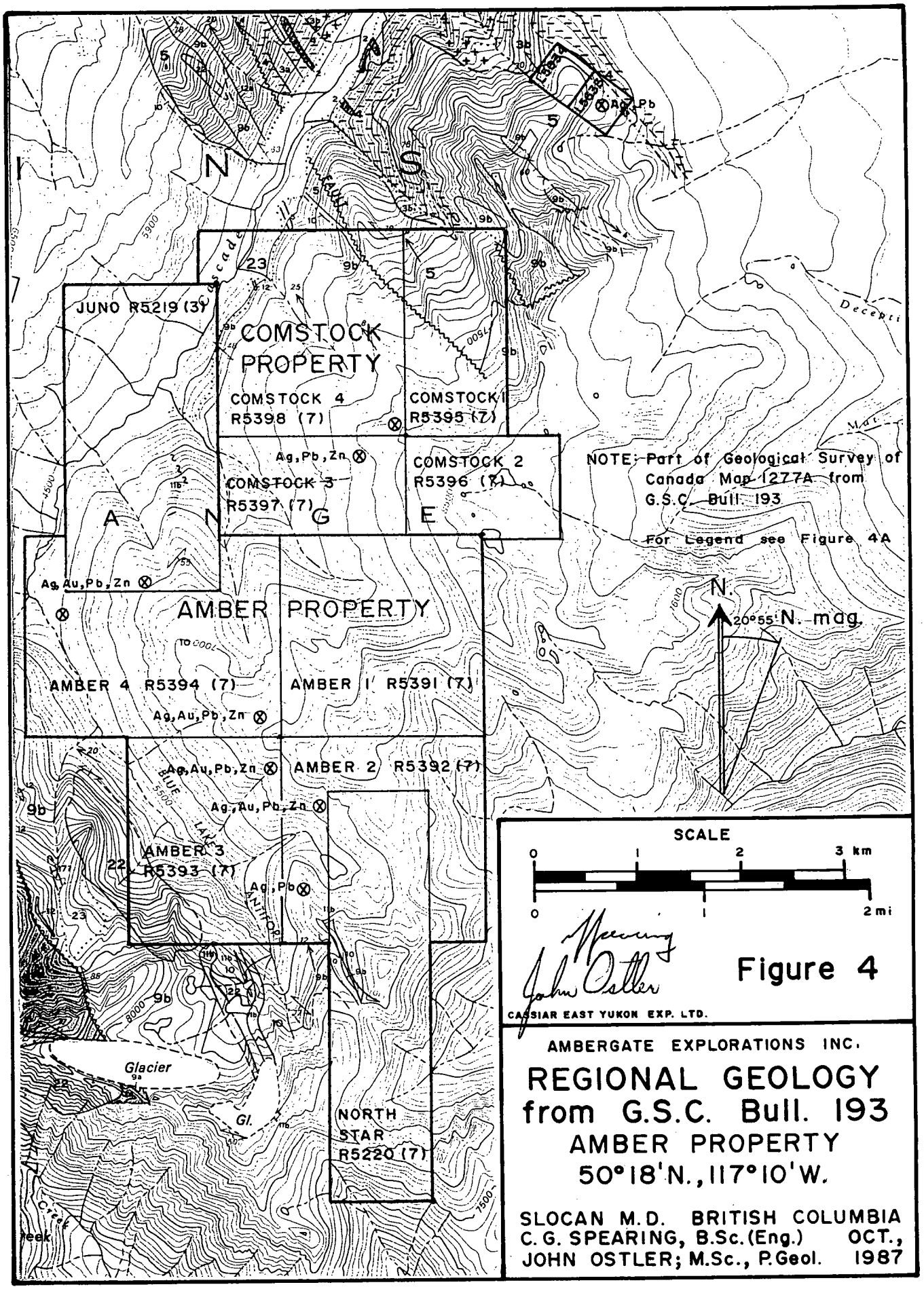


Figure 4

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

REGIONAL GEOLOGY from G.S.C. Bull. 193 AMBER PROPERTY 50°18'N., 117°10'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_{0-2}, 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*

6 — *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)*

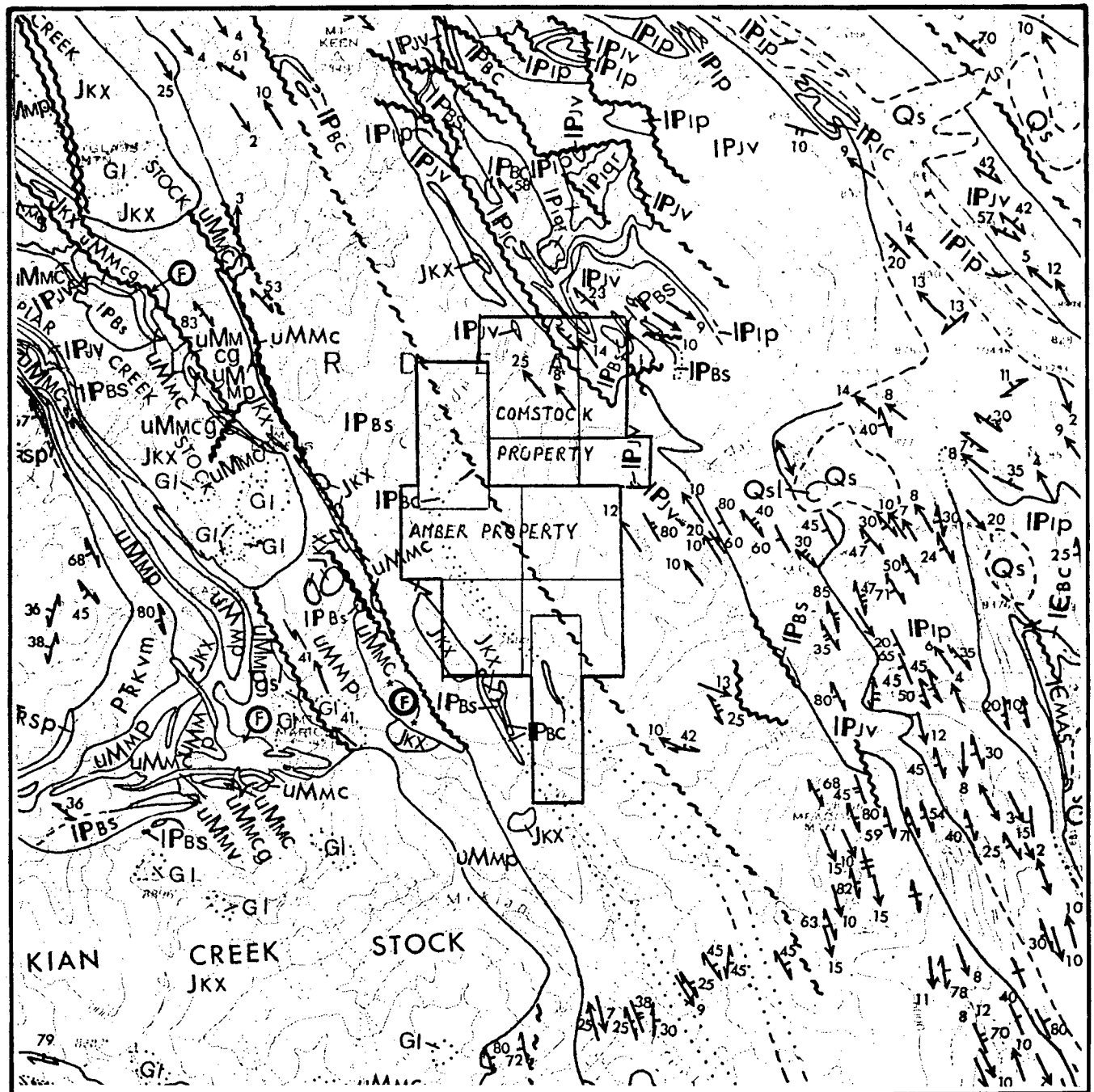
Phyllitic limestone

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

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.

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

LJKx — 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

RJsvb — Augite meta-basalt and meta-andesite flows and tuff

RJsvd — Grey meta-andesite and meta-dacite tuff and flows

Rsp — Grey to black phyllite, argillite, quartzite; minor tuffaceous sediments near top

Rssb — Grey mica schist

Rsc — Grey to black limestone; minor argillite and quartzite

Rssc — Calc-silicate marble

Rscg — 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.

PRub — Serpentinite; minor talc and tremolite schist

KASLO GROUP

PRKv — Meta-andesite flows, tuff, breccia; minor meta-dacite; rare tuffaceous phyllite

PRKvm — Amphibolite

HIGH GRADE METAMORPHIC ROCKS

PROTEROZOIC TO TRIASSIC

FIGURE 5A

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

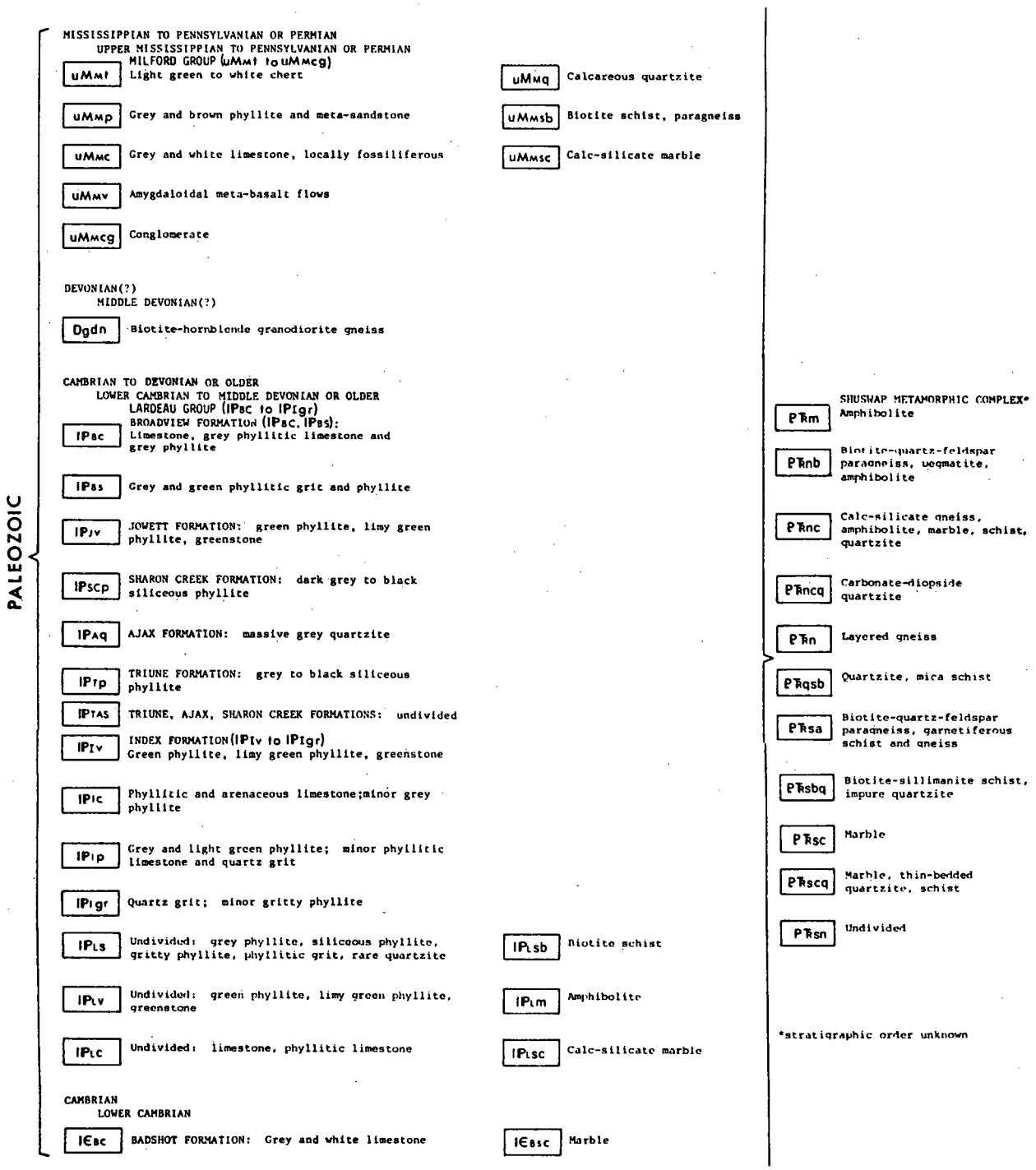
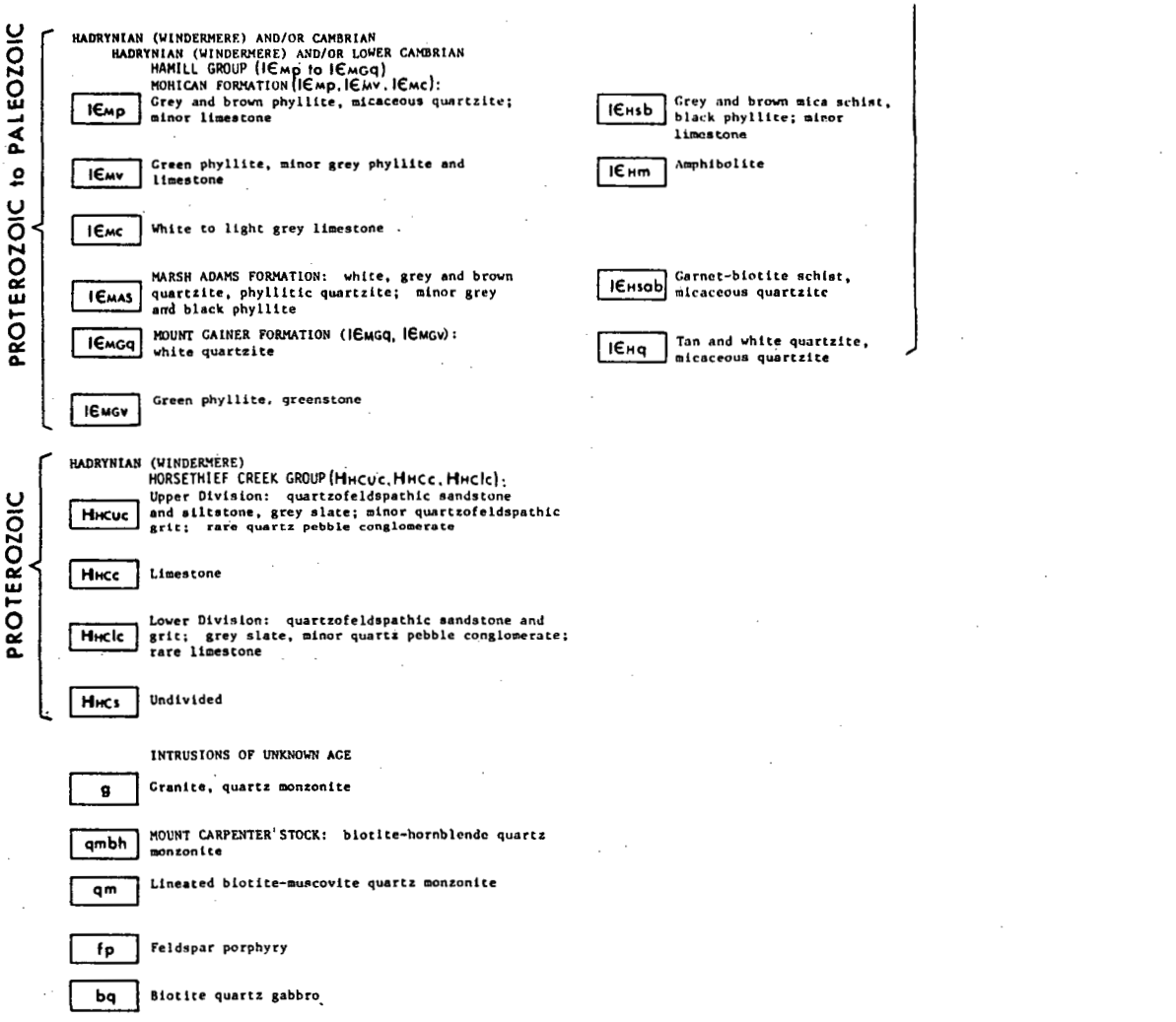
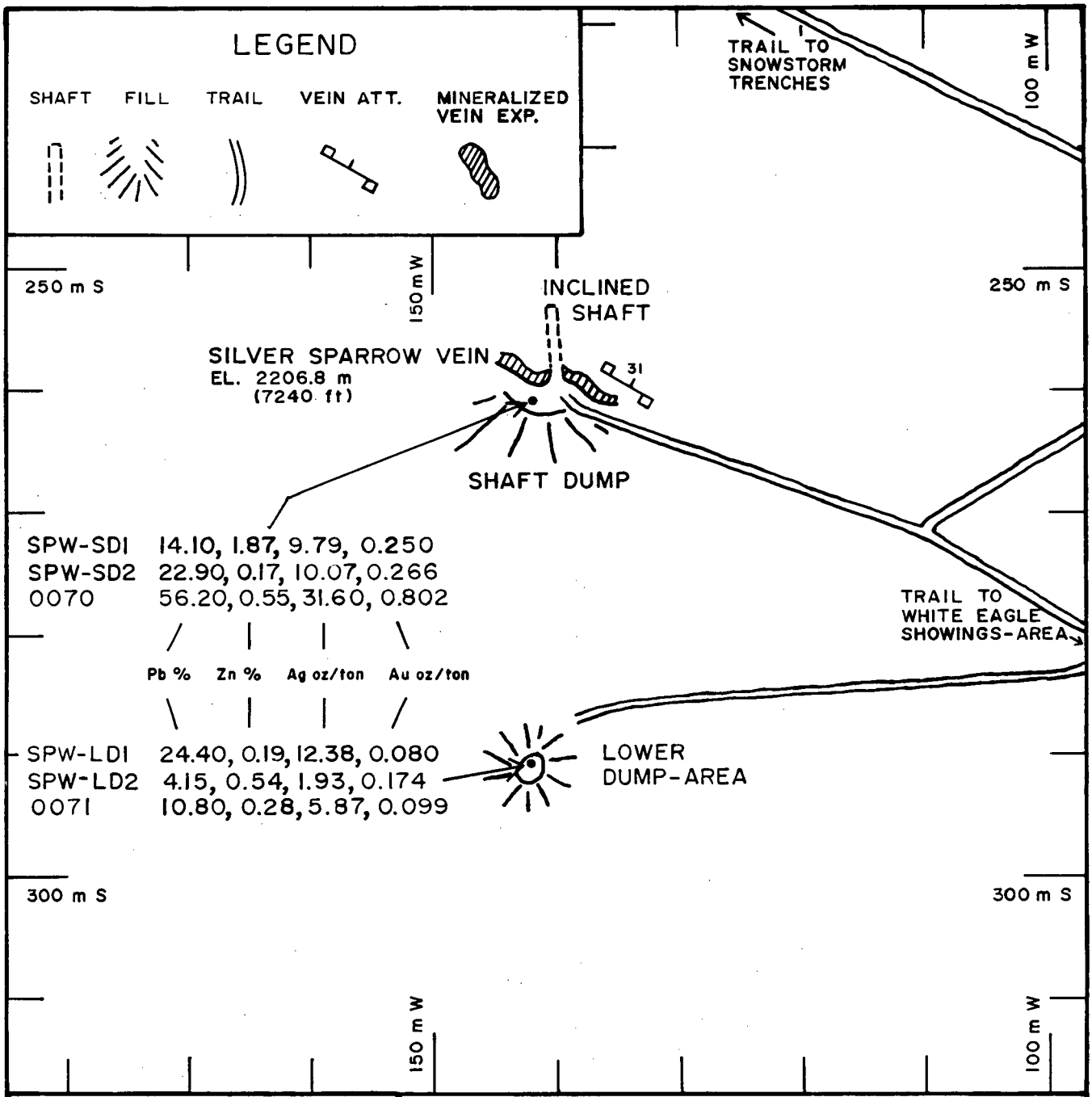


FIGURE 5A

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.



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

SCALE

0 10 20 30 metres

0 50 100 feet

N.

20°55' N. mag.

Figure 11

CASSIAR EAST YUKON EXP. LTD.

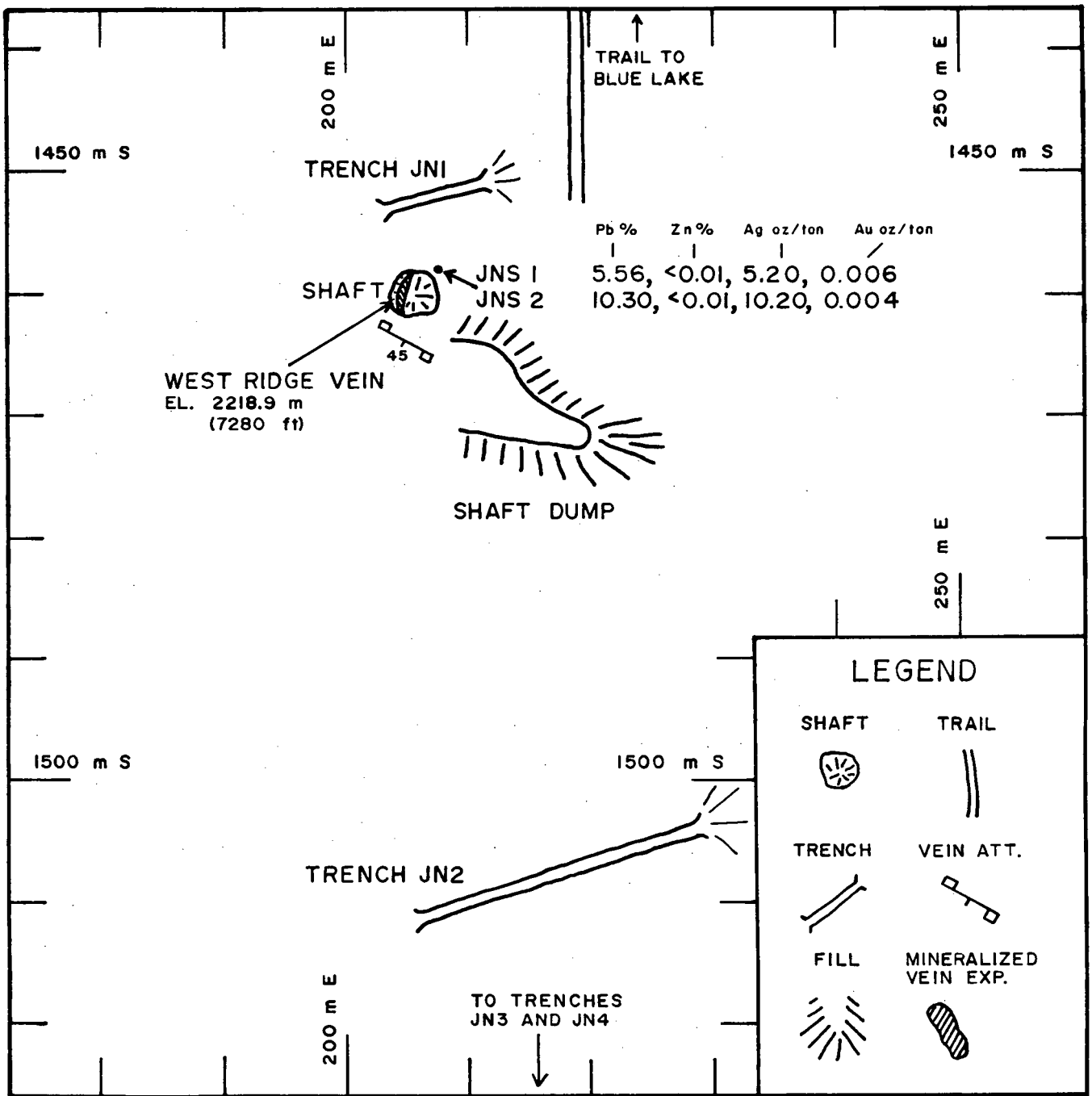
AMBERGATE EXPLORATIONS INC.

SNOWSTORM SHAFT
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.

OCTOBER, 1987



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

SCALE

0 10 20 30 metres

0 50 100 feet

N.

20°55' N. mag.

Figure 13

CASSIAR EAST YUKON EXP. LTD.

AMBERGATE EXPLORATIONS INC.

WEST RIDGE SHAFT
AMBER 2 R5392 (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.

OCTOBER, 1987

FIGURE 14

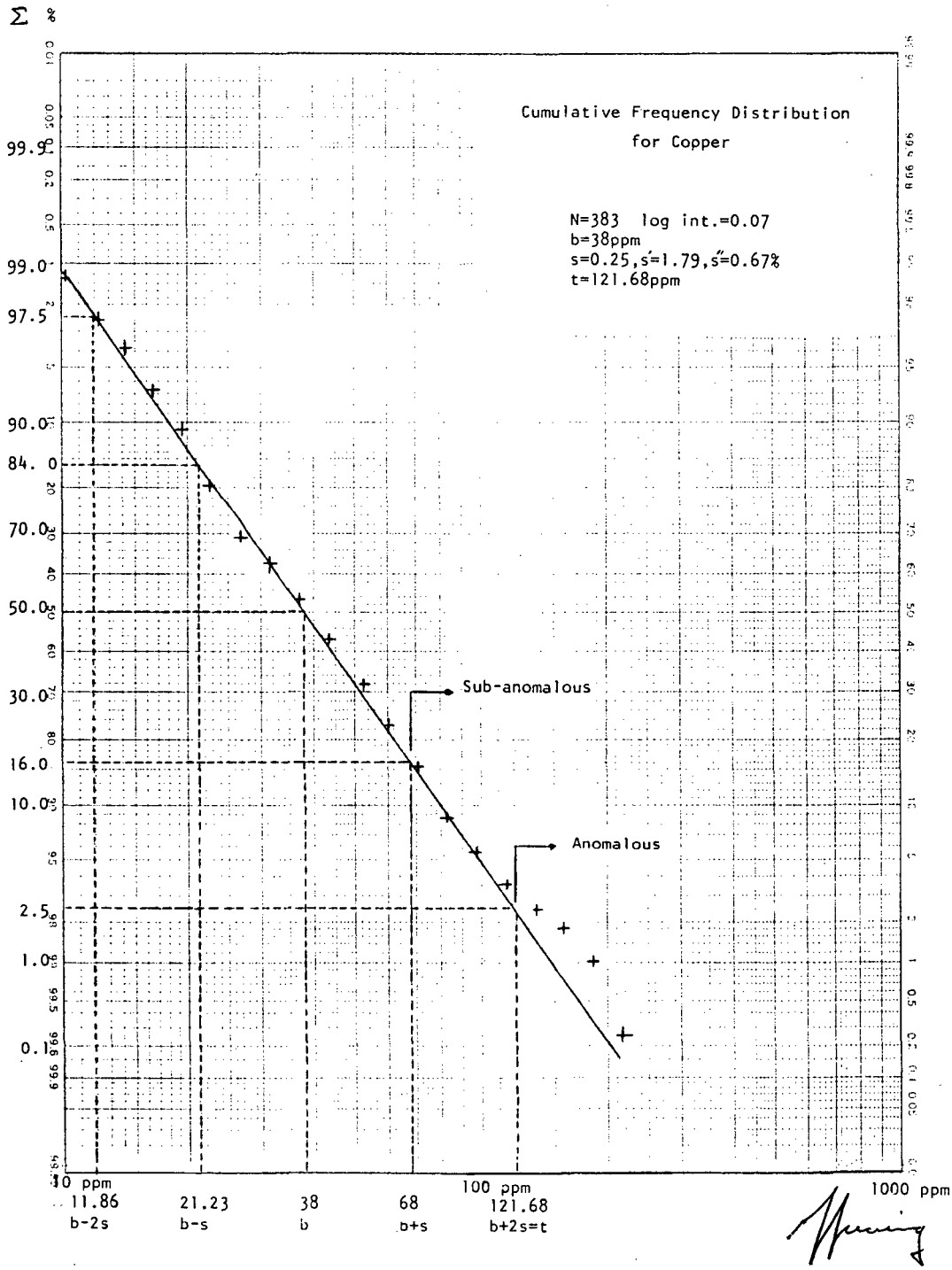

Σ %
Cumulative Frequency Distribution
for Copper
N=383 log int.=0.07
b=38ppm
s=0.25,s'=1.79,s"=0.67%
t=121.68ppm
99.9
99.0
97.5
90.0
84. 0
70.0
50.0
30.0
16.0
10.0
2.5
1.0
0.1
Sub-anomalous
Anomalous
10 ppm
100 ppm
1000 ppm
11.86
b-2s
21.23
b-s
38
b
68
b+s
121.68
b+2s=t

FIGURE 15

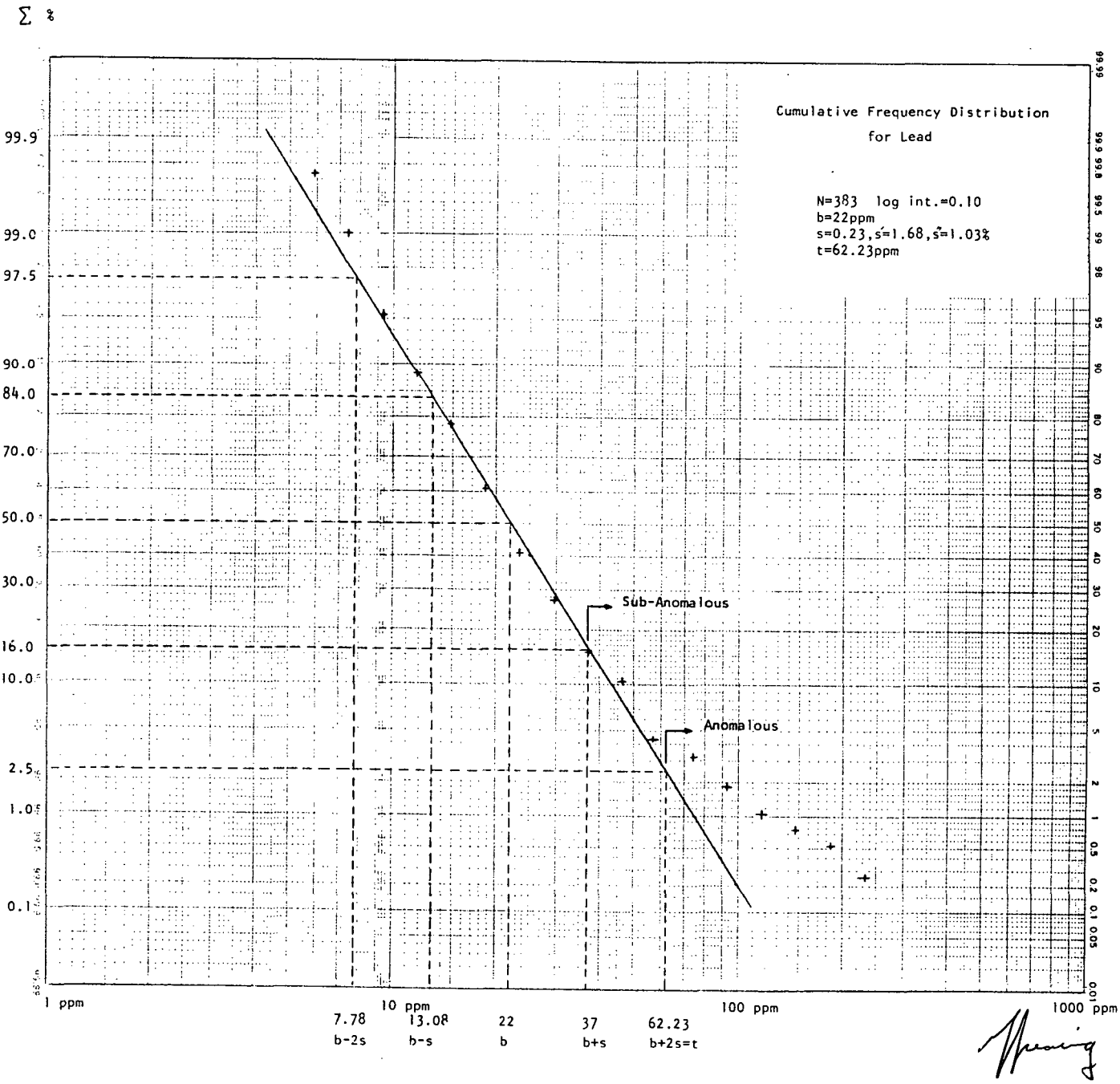

Σ %
Cumulative Frequency Distribution
for Lead
N=383 log int.=0.10
b=22ppm
s=0.23, ś=1.68, s*=1.03%
t=62.23ppm
99.9
99.0
97.5
90.0
84.0
70.0
50.0
30.0
16.0
10.0
2.5
1.0
0.1
Sub-Anomalous
Anomalous
1 ppm
10 ppm
100 ppm
1000 ppm
7.78
b-2s
13.08
b-s
22
b
37
b+s
62.23
b+2s=t

FIGURE 16

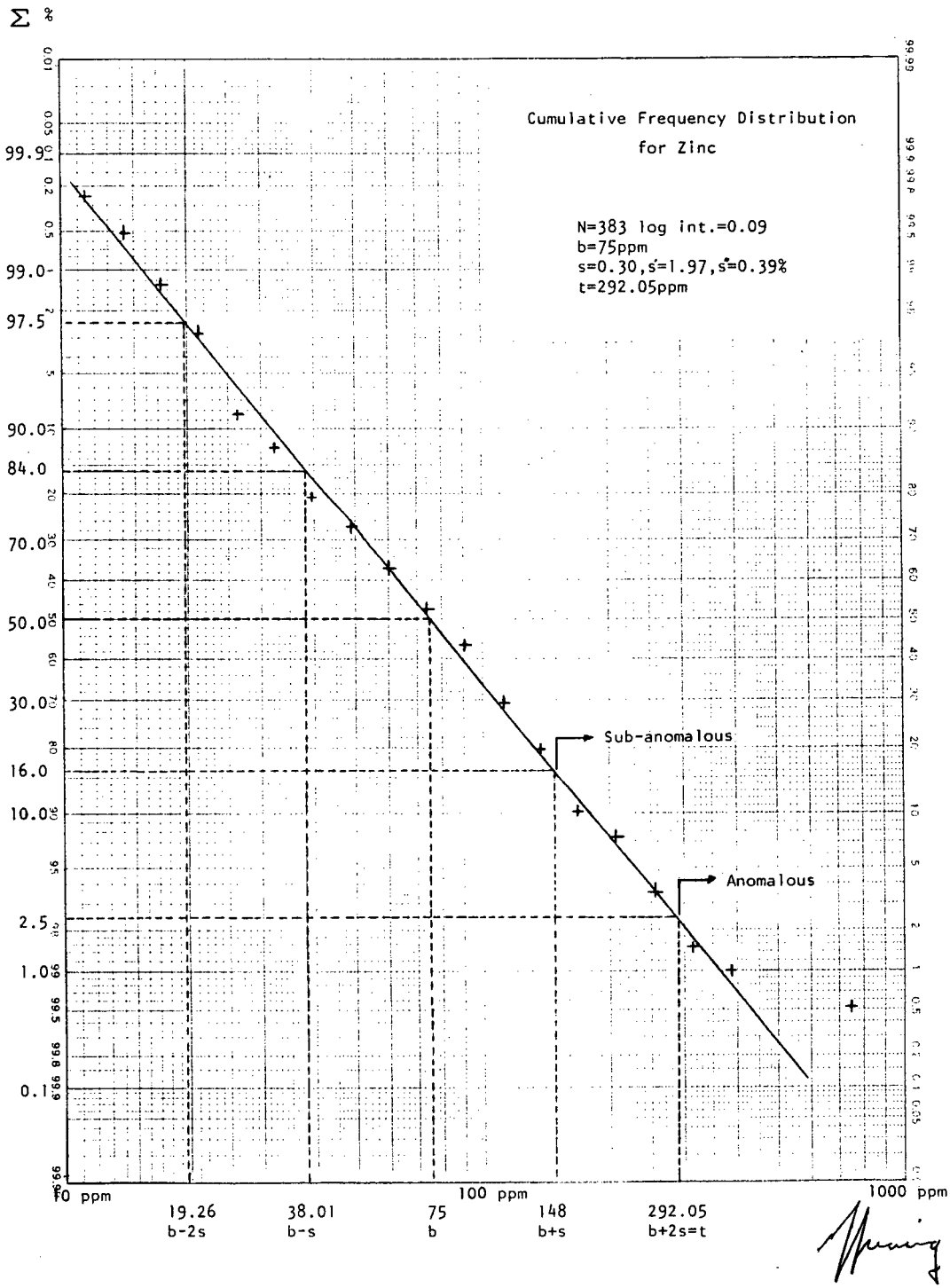

Σ %
Cumulative Frequency Distribution
for Zinc
N=383 log int.=0.09
b=75ppm
s=0.30, s*=1.97, s*=0.39%
t=292.05ppm
99.9
99.0
97.5
90.0
84.0
70.0
50.0
30.0
16.0
10.0
2.5
1.0
0.1
Sub-anomalous
Anomalous
10 ppm
100 ppm
1000 ppm
19.26
b-2s
38.01
b-s
75
b
148
b+s
292.05
b+2s=t

FIGURE 17

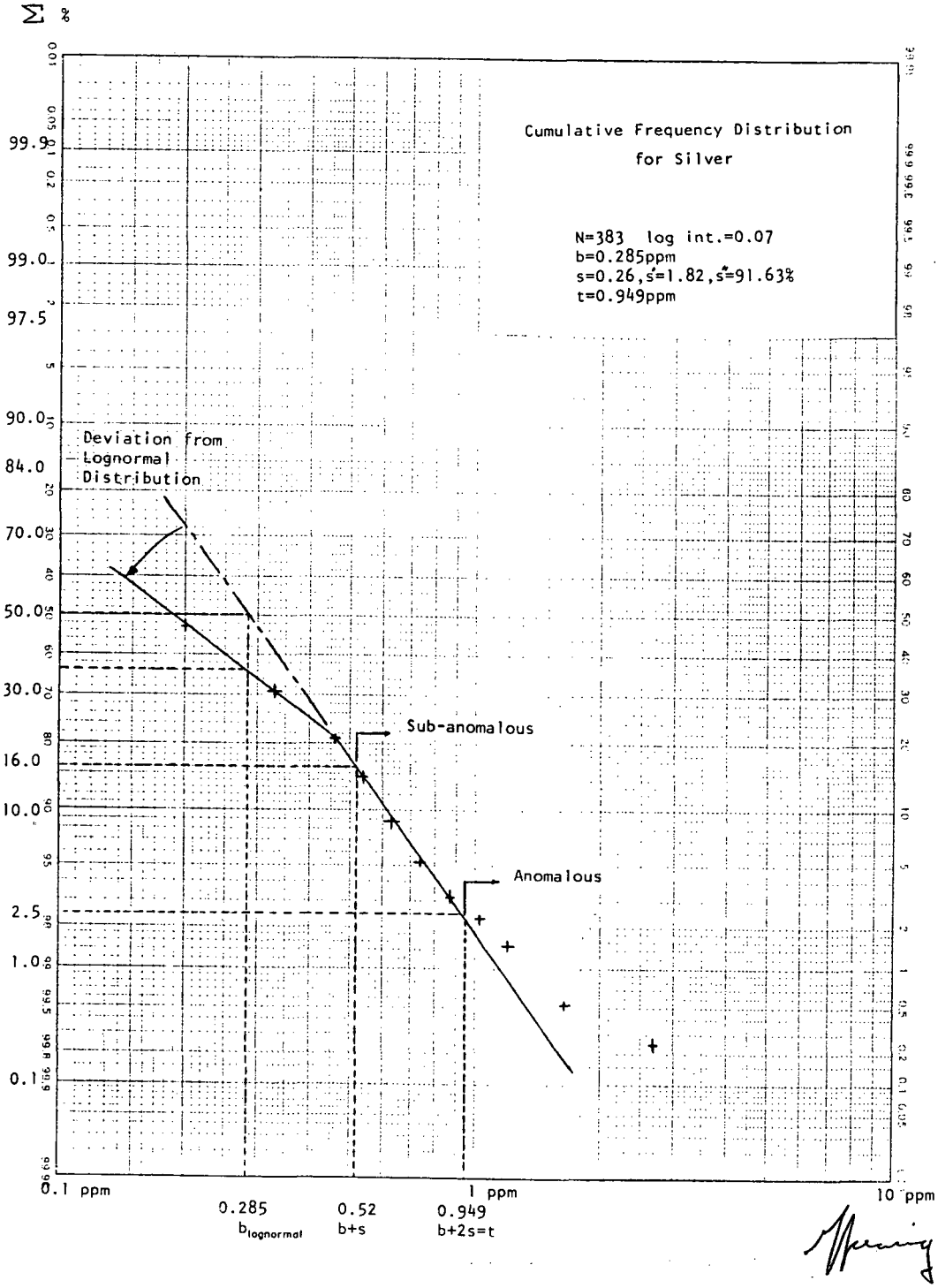
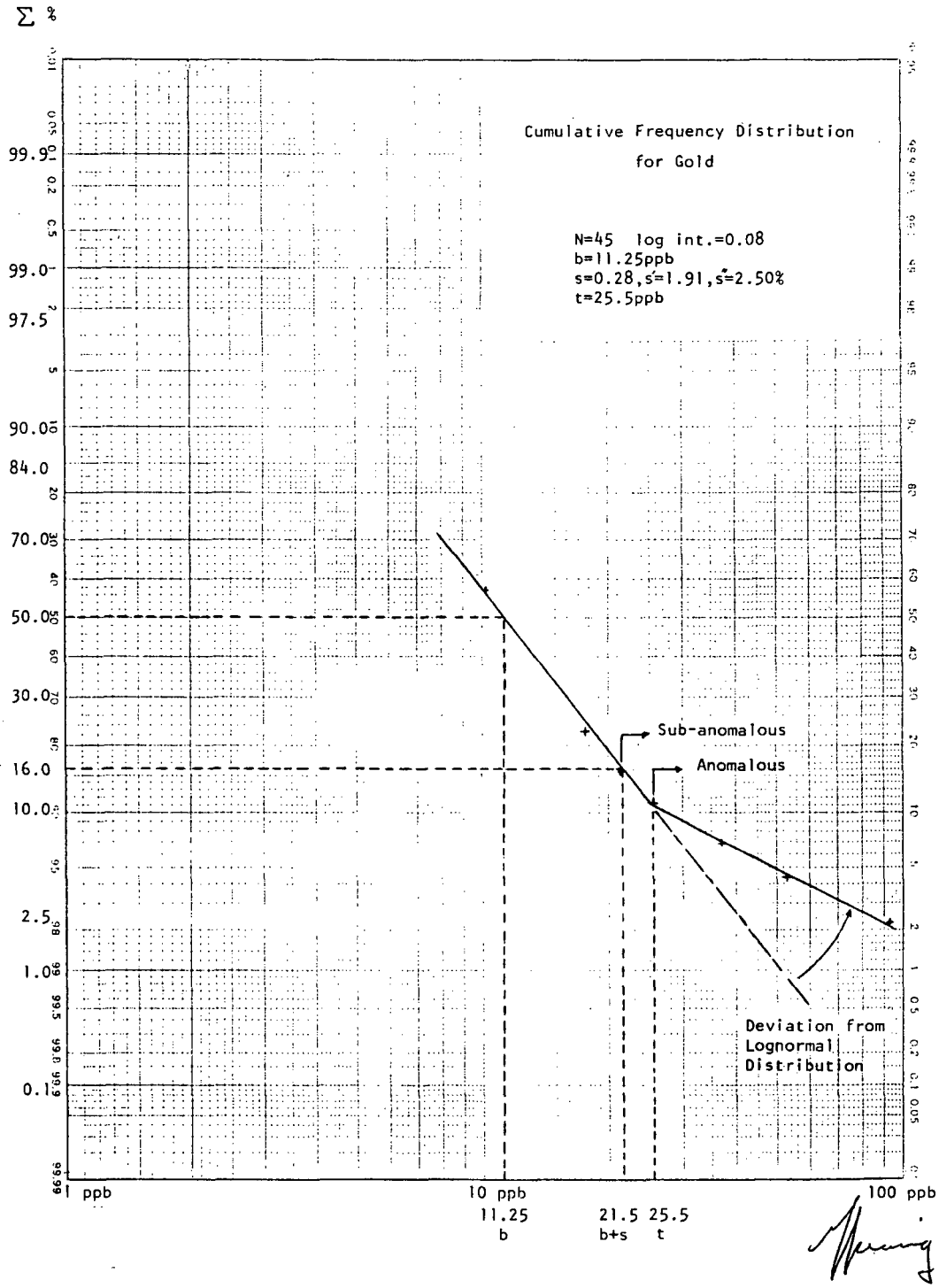
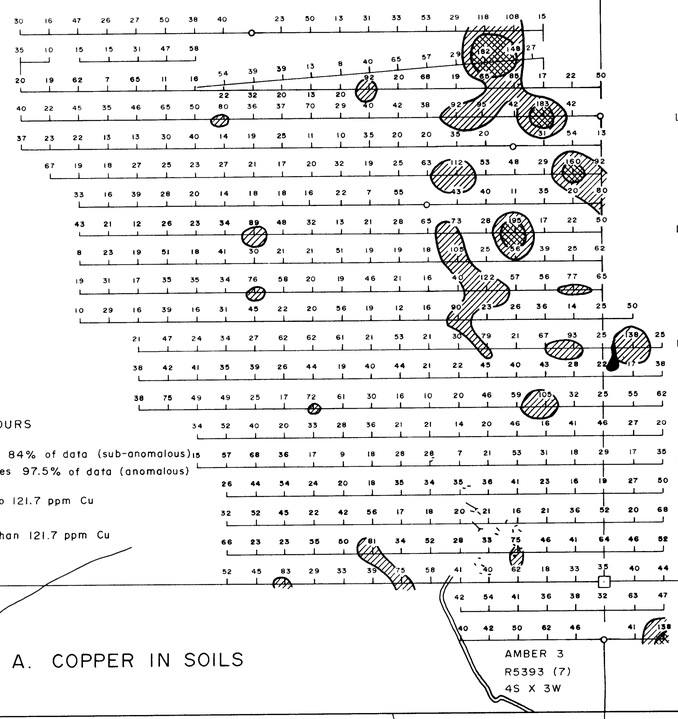

Σ %
Cumulative Frequency Distribution
for Silver
N=383 log int.=0.07
b=0.285ppm
s=0.26, s*=1.82, s*=91.63%
t=0.949ppm
Deviation from
Lognormal
Distribution
Sub-anomalous
Anomalous
99.9
99.0
97.5
90.0
84.0
70.0
50.0
30.0
16.0
10.0
2.5
1.0
0.1
0.1 ppm
1 ppm
10 ppm
0.285
b lognormal
0.52
b+s
0.949
b+2s=t

FIGURE 18


Σ %
Cumulative Frequency Distribution
for Gold
N=45 log int.=0.08
b=11.25ppb
s=0.28, s=1.91, s=2.50%
t=25.5ppb
99.9
99.0
97.5
90.0
84.0
70.0
50.0
30.0
16.0
10.0
2.5
1.0
0.1
Sub-anomalous
Anomalous
Deviation from
Lognormal
Distribution
1 ppb
10 ppb
11.25
b
21.5
b+s
25.5
t
100 ppb



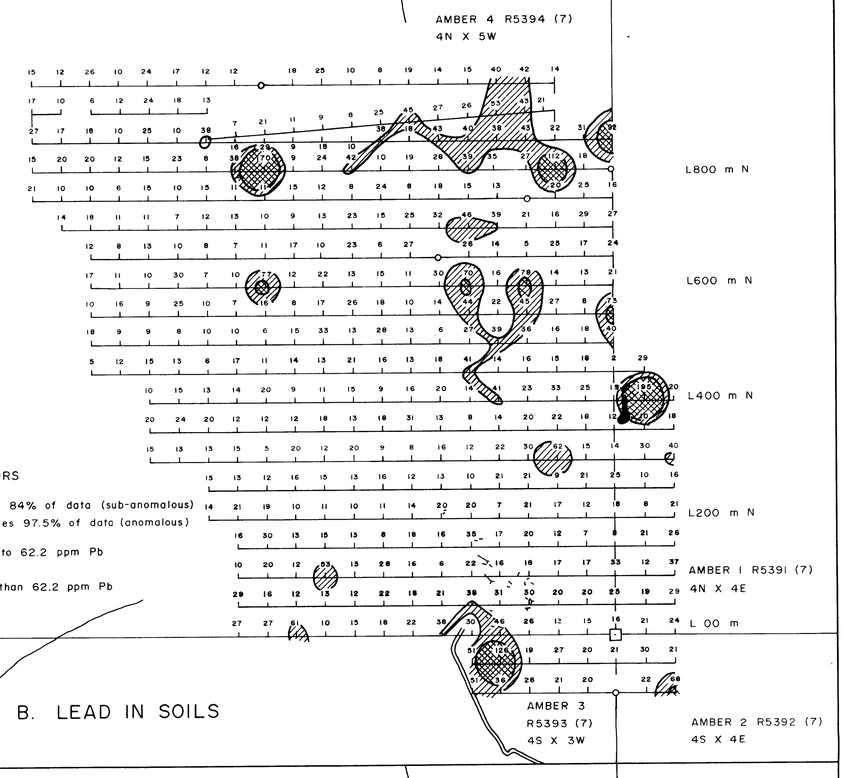
COPPER CONTOURS

68 ppm excludes 84% of data (sub-anomalous)
121.7 ppm excludes 97.5% of data (anomalous)

68 ppm to 121.7 ppm Cu

greater than 121.7 ppm Cu

A. COPPER IN SOILS



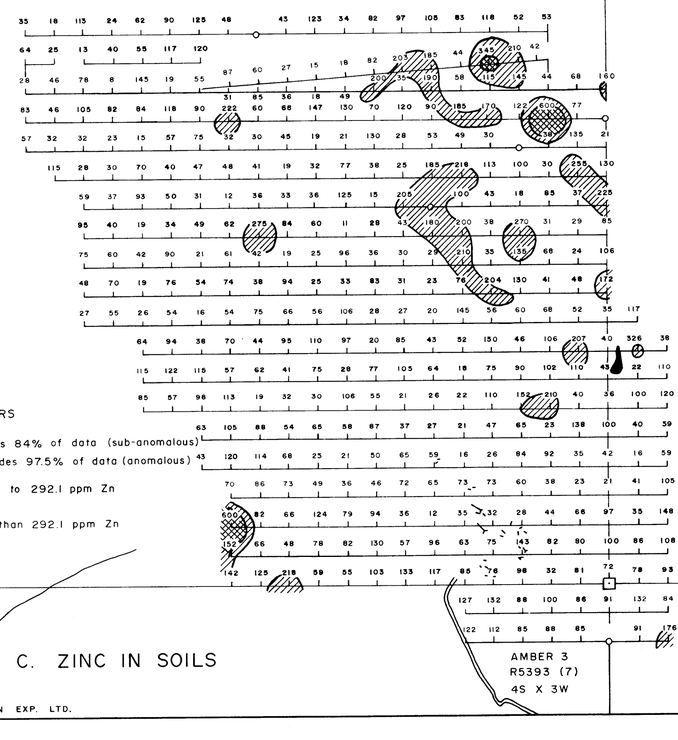
LEAD CONTOURS

37 ppm excludes 84% of data (sub-anomalous)
62.2 ppm excludes 97.5% of data (anomalous)

37 ppm to 62.2 ppm Pb

greater than 62.2 ppm Pb

B. LEAD IN SOILS



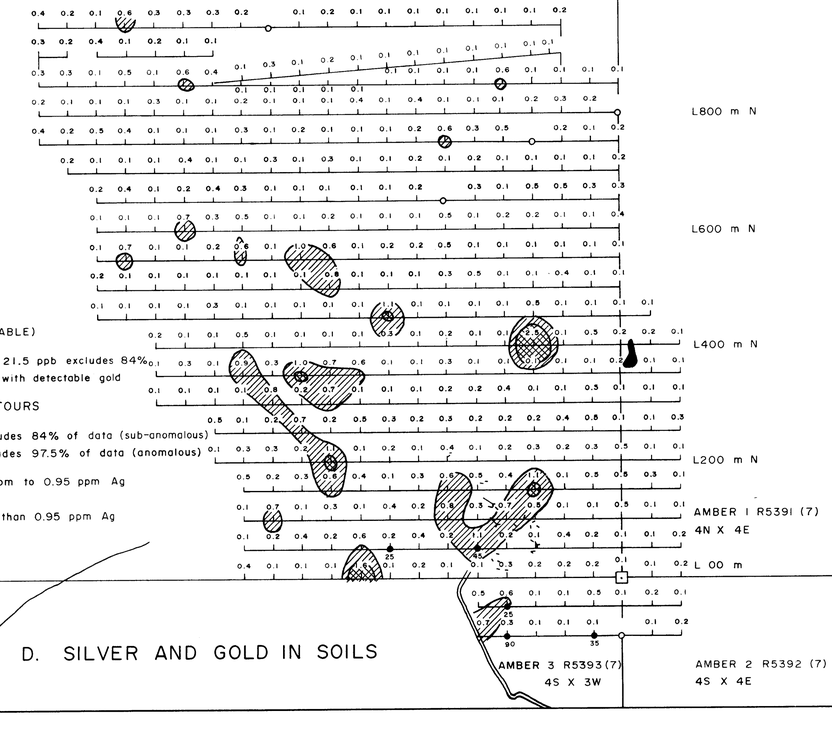
ZINC CONTOURS

148 ppm excludes 84% of data (sub-anomalous)
292.1 ppm excludes 97.5% of data (anomalous)

148 ppm to 292.1 ppm Zn

greater than 292.1 ppm Zn

C. ZINC IN SOILS



GOLD
(NOT CONTOURABLE)

● greater than 21.5 ppb excludes 84% of analyses with detectable gold

SILVER CONTOURS

0.52 ppm excludes 84% of data (sub-anomalous)
0.95 ppm excludes 97.5% of data (anomalous)

0.52 ppm to 0.95 ppm Ag

greater than 0.95 ppm Ag

D. SILVER AND GOLD IN SOILS

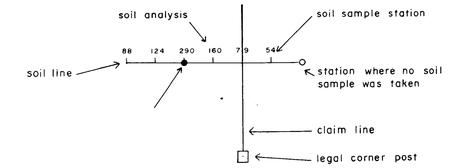
CASSIAR EAST YUKON EXP. LTD.

LEGEND

Topography

Trail | Stream | Trenches | Iron Scinter

1987 Soil Survey and Claims



PROFESSIONAL GEOLOGIST ALBERTA
JOHN OSTLER
REGISTERED TO PRACTISE

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

SCALE

0 100 200 300 400 500 metres
0 500 1000 feet

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

BRITISH COLUMBIA
OCTOBER, 1987

1000 m W
00 m
500 m E
1000 m E
1500 m E
500 m N
00 m
500 m S
1000 m S
1500 m S

1987 SOIL SURVEY AREA

IRON SPRING

SNOWSTORM TRENCHES
Ag, Au, Pb, Zn

AMBER 4 R5394 (7)
4N X 5W

AMBER 1 R5391 (7)
4N X 4E

AMBER 3 R5393 (7)
4S X 3W

AMBER 2 R5392 (7)
4S X 4E

L5633 and L5634 as incorrectly located on N.T.S. 82 K/6, for correct location near 50° 21' 15" N., 117° 7' W. see Figure 3.

SNOWSTORM SHAFT
(SILVER SPARROW VEIN)
Ag, Au, Pb, Zn

WHITE EAGLE WORKINGS
Ag, Au, Pb, Zn

NORTH STAR R5220 (3)
8N X 2W

CASCADE CREEK

BLUE CREEK

BASE CAMP

BLUE LAKE

WEST RIDGE WORKINGS
Ag, Pb

CASSIAR EAST YUKON EXP. LTD.

LEGEND

Topography

Stream
Lake
Mineral Spring Deposit
Pack Trails
unimproved since 1930
opened during 1987 exploration

Workings:

Trench
Adit or Inclined Shaft
Vertical Shaft

Claims and Surveys

soil sample station
soil line
station where no soil sample was taken
claim line
legal corner post

PROFESSIONAL GEOLOGIST ALBERTA
JOHN OSTLER
REGISTERED TO PRACTISE

SCALE

0 100 200 300 400 500 metres
0 500 1000 1500 feet

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,433

N.
20°55' E. 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.

TRAILS and WORKINGS near BLUE LAKE

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

JUNO R5219 (3)
6S X 3W

COMSTOCK 3 R5397 (7)
2S X 4W

COMSTOCK 2 R5396 (7)
2S X 3E

JUNO TRENCHES

JUNO TUNNEL

AMBER 4 R5394 (7)
4N X 5W

AMBER 1 R5391 (7)
4N X 4E

KISS CREEK

AREA OF ISOCLINAL FOLDING AND PERVASIVE GNEISSOSITY

SNOWSTORM TRENCHES
Ag, Au, Pb, Zn

SNOWSTORM SHAFT
Ag, Au, Pb, Zn

L5633 and L5634 as incorrectly located on N.T.S. 82 K/6, for correct location near 50°21'15"N., 117°7'W. see figure 3

CASCADE CREEK

WHITE EAGLE
Ag, Au, Pb, Zn

MOBBS FAULT

WEST RIDGE
Ag, Pb

BLUE LAKE

AMBER 3 R5393 (7)
4S X 3W

AMBER 2 R5392 (7)
4S X 4E

EMMENS FAULT

ICE

NORTH STAR R5220 (3)
8N X 2W

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	10	IPBS
2	Siltstone and pelite, grey weathering to rusty brown 2a is gneissic equivalent	9b	IPBS
1	Lithic sandstone and siltstone, grey-brown weathering light grey to rusty brown Generally grain size decreases, sorting and purity increases southwestward 1a is gneissic equivalent	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 + 8330

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

Mineral showing area

SNOWSTORM TRENCHES
Ag, Au, Pb, Zn
silver gold lead zinc

Lithologic contact: Defined; Approximate; Assumed

CASSIAR EAST YUKON EXP. LTD.

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

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:

AMBER 1-4 R5391-4 (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

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,433

600 m S
650 m S
700 m S
750 m S
800 m S
850 m S
200 m E
250 m E
300 m E
350 m E
400 m E
450 m E

TRAIL TO SNOWSTORM SHOWINGS - AREAS

RAISE

CONFIGURATION AND LOCATION OF LOWER WORKINGS IS ESTIMATED FROM OLD REPORTS.

RESERVE BLOCK D

DRIFT

EL. 2165.5 m (7105 ft)

SHAFT

RESERVE BLOCK A

RESERVE BLOCK B

WINZE

EL. 2172.4 m (7127 ft)

DUMP

UPRER ADIT
EL. 2176.3 m
(7140 ft)

TRENCH WETR-1

RESERVE BLOCK C

EL. 2197 m (7208 ft)

TRENCH WETR-2

TRENCH WETR-3
EL. 2191 m
(7188 ft)

LOWER ADIT
EL. 2138.8 m
(7017 ft)

HORSE TRAIL TO BLUE LAKE

CONTOURS ON THE WHITE EAGLE VEIN

2165 m
2170 m
2175 m
2176.5 m
2180 m
2185 m
2190 m
2195 m
2200 m

AVERAGE VEIN DIP = 38.2°

AVERAGE VEIN DIP = 45°

CASSIAR EAST YUKON EXP. LTD.

LEGEND

Topography

Trail | Track | Cut | Fill | Tunnel | Creek

Mineralized Vein:

Outcrop | Surface trace | Reserve block boundary

Notes:

For location on property see Figures 3, 4 and 7

For Sampling Plan of Upper White Eagle Workings see Figure 10

PROFESSIONAL GEOLOGIST ALBERTA
JOHN OSTLER
LICENSED TO PRACTICE

SCALE

0 10 20 30 40 50 metres

0 50 100 150 200 250 feet

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,433

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 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.

OCTOBER, 1987

Trench SS4

Pit SS1

Pit SS2

Pit SS3

Trench SS3

Pit SS4

0068 22.40, 0.03, 14.60, 0.010

SST 1-1 16.70, 0.06, 5.76, 0.082

0069 30.70, 0.01, 14.00, 0.006

SST 1-2 16.50, 0.01, 8.84, 0.078

Dump

Trench SS1

Trench SS5

Pit SS5

Dump

Trench SS2

Trench SS6

Pit SS14

Pit SS6

Pit SS13

Pit SS15

Pit SS7

Dump

Pit SS16

Cut SS1

Pit SS17

Pit SS18

Cut SS2

Pit SS8

Pit SS9

Pit SS10

Pit SS11

Pit SS12

AMBER 4 R5394 (7)

AMBER 1 R5391 (7)

HS20 HS19 HS18 HS17 HS16 HS15 HS14 HS13 HS12 HS11 HS10 HS9 HS8 HS7 HS6 HS5 HS4 HS3 HS2 HS1

Figure 12A

IRON SPRING

300 m W 250 m W 200 m W 150 m W 100 m E

300 m N 250 m N 200 m N 150 m N 100 m N 50 m N 00 m

400 m N 350 m N

AMBER 3 R5393 (7)

LEGEND

Rock Assay

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

SST 1-1 16.70, 0.06, 5.76, 0.082

SST 1-1 ← sampled by C.G. Spearing, B.Sc.(Eng.)

0068 ← sampled by D.W. Tully, P.Eng.

Topography

Pit Trench Cut Fill

Vein: outcrop attitude

Iron Spring, Figure 12A

HS7 HS6 HS5 HS4 HS3 HS2 HS1 ← sediment sampling grid

sediment sample station, results in appendix B

Notes:

For location on property see Figures 3, 4 and 7

GEOLOGICAL BRANCH ASSESSMENT REPORT

16,433

CASSIAR EAST YUKON EXP. LTD.

PROFESSIONAL GEOLOGIST ALBERTA JOHN OSTLER LICENSED TO PRACTISE

SCALE

0 10 20 30 40 50 metres

0 50 100 150 feet

Scale for Figure 12 and Figure 12A.

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 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

WES 11.5 S 1.50, 1.55, 1.21, 0.014
38 cm

WES 7.5 S 2.38, 1.12, 1.01, 0.026
50 cm

WES 5.0 N 21.80, 11.40, 12.39, 0.146
90 cm

WES 5.0 S 7.63, 5.39, 3.97, 0.048
22 cm

WES SULPHIDE 24.10, 17.90, 15.08, 1.526
50 cm

WES 3.0 S 2.49, 16.80, 7.98, 0.064
10 cm

INCLINED SHAFT

TRENCH

0072

WEW 7W WEW 8.5W WEW 11W WEW 13F

WINZE

WEW 4W 4SUL WEW 9E WEW 11E

0075 WEW 4E

WES 0.0S, 0077

PORTAL AREA

WEUA 0N,2W, 0076

WEW 1.5W WEW 1.5E

WEUA 0N WEUA 3N WEUA 5.5N WEUA 8N WEUA 10N WEUA 12N WEUA 14N WEUA 16N WEUA 18N

UPPER ADIT

WEUA 12S, 0073

WEUA 14S, 0074

WEUA 0S

WEUA 0S,2E

DUMP

WINZE ASSAYS

WEW 1.5 W	33.10, 28.20, 22.30, 0.008 23 cm		
WEW 1.5 E	21.30, 17.10, 14.30, 0.054 35 cm		
WEW 4 W	19.60, 21.70, 14.60, 0.036 10 cm		
WEW 4 E	19.00, 13.20, 12.30, 0.022 34 cm		
WEW 4 SUL	23.30, 33.80, 15.70, 0.008 20 cm	0075	38.00, 27.70, 26.00, 0.038 20 cm
WEW 7W	4.83, 0.47, 2.24, 0.004 56 cm		
WEW 8.5W	3.65, 1.77, 1.75, 0.008 35 cm		
WEW 9E	4.50, 1.41, 1.96, 0.010 74 cm	WEW 11E	0.33, 0.29, 0.17, 0.004 64 cm
WEW 11W	0.68, 0.51, 0.40, 0.002 60 cm	WEW 13F	1.81, 0.99, 1.03, 0.004 62 cm

UPPER ADIT ASSAYS

WEUA 3N	4.47, 3.38, 3.49, 0.264 35 cm		
WEUA 5.5N	12.00, 8.94, 7.88, 0.056 50 cm		
WEUA 8N	2.73, 10.30, 17.10, 0.030 35 cm		
WEUA 10N	16.30, 3.20, 8.78, 0.116 45 cm		
WEUA 12N	15.20, 21.30, 8.65, 0.022 24 cm		
WEUA 12S	6.72, 1.33, 6.15, 2.182 15 cm		
WEUA 14N	3.71, 0.74, 2.07, 0.020 32 cm		
WEUA 14S	11.20, 3.28, 7.01, 1.026 41 cm		
WEUA 16N	4.98, 10.70, 2.79, 0.024 40 cm		
WEUA 18N	6.40, 0.89, 3.31, 0.008 81 cm		
0072	34.90, 21.10, 18.30, 0.097 70 cm	0073	23.30, 6.63, 13.70, 1.436 15 cm
0077	30.40, 17.00, 14.60, 0.062 20 cm	0074	9.74, 6.57, 8.80, 1.670 15 cm
0076	14.50, 9.12, 7.73, 0.040 20 cm		

PORTAL AREA ASSAYS

WES 0.0S	15.30, 11.90, 8.06, 0.300 35 cm
WEUA 0N,2W	10.50, 6.09, 7.58, 0.748 60 cm
WEUA 0N	14.60, 4.60, 8.73, 0.082 55 cm
WEUA 0S	5.19, 0.72, 3.41, 0.012 68 cm
WEUA 0S,2E	42.20, 10.10, 24.20, 0.062 90 cm
0072	34.90, 21.10, 18.30, 0.097 70 cm
0077	30.40, 17.00, 14.60, 0.062 20 cm
0076	14.50, 9.12, 7.73, 0.040 20 cm

TRENCH WETR 1

WETR 1 7.06, 4.29, 3.52, 0.076

0078 13.40, 6.93, 6.56, 0.030
20 cm

0079 34.90, 9.38, 23.30, 0.024
25 cm

WETR 2CHAN 38.50, 1.38, 20.26, 0.058
20 cm

0080 44.70, 7.23, 17.50, 0.028
15 cm

TRENCH WETR 2

WETR 2 61.00, 4.21, 33.30, 0.012

TRENCH WETR 3

WETR 3 1.82, 0.23, 0.73, 0.012

TRAIL

HORSE TRAIL
TO BLUE LAKE

TRAIL

690 m S
700 m S
710 m S
720 m S
730 m S
740 m S
750 m S

290 m E
300 m E
310 m E
320 m E
330 m E
340 m E

LEGEND

Rock Assay

sample station ↓ WEUA 14S 11.20, 3.28, 7.01, 1.026 41 cm
lead % zinc % silver oz/ton gold oz/ton
↑ length of channel sample

WEUA 14S ← sampled by C.G. Spearing, B.Sc.(Eng.)
0074 ← sampled by D.W. Tully, P. Eng.

Topography

Trail Cut Fill Tunnel

Mineralized Vein: outcrop surface trace

Notes:

For location on property see Figures 3,4 and 7
For plan of White Eagle workings-area see Figure

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,433

PROFESSIONAL GEOLOGIST ALBERTA
JOHN OSTLER
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CASSIAR EAST YUKON EXP. LTD.

SCALE

0 5 10 metres
0 5 10 15 20 25 30 feet

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 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