



GEOLOGICAL, GEOCHEMICAL and GEOPHYSICAL

REPORT

on the

STANDARD CREEK PROPERTY

Lillooet Mining Division - British Columbia

Lat. $50^{\circ} 42'$ N.

Long. $122^{\circ} 37'$ W.

N.T.S. 92J/10E

for

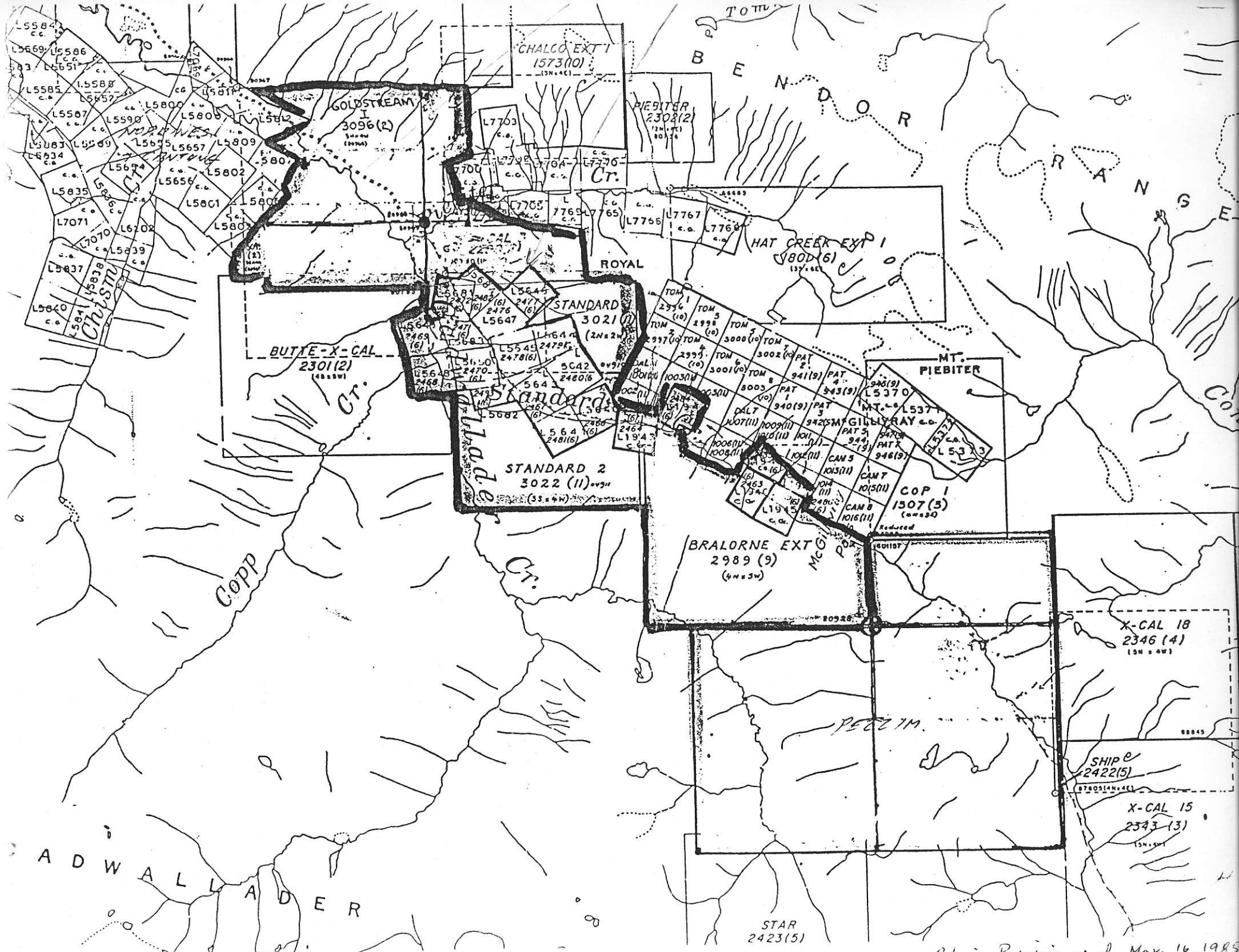
TRANS ATLANTIC RESOURCES INC.

by

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November 28, 1984

Vancouver, B. C.



Claim Position as of May 16, 1985

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*Figures 7 to 9, 11 and 12 are summarized in part on three page-size maps in this report for the purpose of a prospectus.

SUMMARY

Trans Atlantic Resources Inc. holds 57 claim units at the southern end of the Bridge River gold camp of southwestern British Columbia. The claims are situated 15 kilometres southeast of the Bralorne-Pioneer Mine, the largest gold mine, in terms of past production (4.93 million tonnes grading 18 grams gold per tonne) in the province. Exploration activity in the camp recently has been intense. E and B Explorations Inc. has announced additional ore at Bralorne-Pioneer, and Veronex and Levon Resources have announced a new find on their Congress Property.

The Standard Creek property includes the Royal tungsten and Standard gold prospects. Both lie along the southeast extension of the Cadwallader Break, a prominent fault structure with which the Bralorne-Pioneer Mine is also associated. The property is underlain by sedimentary rocks of the Bridge River and Cadwallader groups which are intruded by a variety of intrusive rocks including diorite of the Bendor intrusions, diorite-greenstone of the Bralorne intrusions, and altered ultramafic rocks of the President intrusions.

The mineral occurrences on the Standard Creek property have not been well documented. They were discovered and worked in the 1930's. Gold values and tungsten mineralization occur on the Royal prospect and visible gold and

0.125 ounces per ton over a width of 70 feet from underground workings on the Standard prospect have been reported. Workings are now caved and hence could not be sampled, but moderately anomalous gold values and highly anomalous arsenic values were obtained on dump material from the latter. The property was examined by Hillside Energy Corporation in 1980 to 1982. They identified a number of gold geochemical anomalies and prominent zinc and arsenic anomalies in soils, but did not carry out follow-up evaluation of these anomalies.

In 1984, Trans Atlantic funded an exploration program comprising soil geochemical sampling, magnetometer, horizontal loop, VLF-electromagnetic, and induced polarization surveys on the property. Geochemical work confirmed and extended the anomalies previously outlined and also identified a number of significant arsenic, zinc, molybdenum, nickel and cobalt anomalies. Magnetic and VLF electromagnetic surveys were somewhat successful in defining the distribution of ultrabasic rocks and their related fault structures. The horizontal loop electromagnetic survey detected several conductive zones but due to the limited program detailed information was not obtained and therefore we were unable to define the depth, dip or conductivity of the conductors located. The induced polarization and resistivity surveys were very effective in outlining the altered serpentinites and apparently detected an anomalous zone which corresponds with the gold mineralized section reported in the Standard adit.

"The Royal Adit extends 13.6 m into sheared diorite at a bearing of 040°. Ten meters from the portal, the tunnel intersects a shear zone that strikes 240° and dips 60°N. The shear and accompanying tension gashes are filled with milky white quartz containing 2mm-long euhedral scheelite (CaWO₄) crystals. Small rusty pits, probably from weathered pyrite are common on vein surfaces exposed in the adit.

At the working face; 13.6 m from the portal, is a 5cm-thick quartz vein that strikes 031° and dips 68°SE. The vein contains up to 0.5% scheelite identified by a U.V. lamp.

Samples from the shear zone and the vein at the working face were taken and assayed:

	WO ₃	oz/t	Ag gm/mt	oz/t	Au gm/mt
Portal + 10m vein	0.25	0.10	2.58	0.003	0.08
Portal + 10m shear	0.08	0.20	5.15	0.003	0.08
Portal + 13.6 vein	0.01	0.12	3.09	0.003	0.07

A 20m-long trench was dug just up the hill from the portal. It exposed a large milky quartz vein. The adit may have been an attempt to cross-cut to the vein below surface. The writer suspects that the adit came close but did not intersect the vein exposed in the trench above."

Butte-I.X.L.

The Butte-I.X.L. workings lie off the north edge of the Royal 9 claim (Lot 5649). They are undoubtedly associated with the structure that strikes southwesterly and includes the Royal and possibly the Standard prospects. The property as described by Cairnes is as follows:

"The property is underlain, mainly, by banded, argillaceous, and tuffaceous sediments of the Noel formation and by substantial bodies of greenstone and associated, Bralorne dioritic rocks, most of which appear to be intrusive into the Noel. There are, also, sediments and greenstones of the Fergusson series and bodies of serpentine and peridotite.

Standard Prospect

The Standard prospect is situated at the eastern part of the property. An attempt was made to open the lower adit by hand trenching without success because of thick deposits of glacial till. The mineralization as described by Cairnes is as follows:

"For nearly 400 feet from the portal the principal adit cuts across interbedded argillaceous and cherty sediments of the Fergusson series. These strike northwesterly across the adit and dip northerly at about 65 degrees. At 100 feet from the portal the sediments are sheared and are intersected by a quartz vein, a few inches wide, with some attendant pyritic mineralization in the wall-rocks. At 150 feet a well-defined fault-fissure crosses the level and dips southwesterly at 75 degrees. At about 250 feet a strong, talcose shear crosses the adit in a more northerly direction, dipping 70 degrees easterly. Beyond this shear, the sediments, for about 25 feet, contain a network of quartz veins and veinlets, and the intervening wall-rock is sparsely mineralized with pyrite; below the shear a lot of iron oxide on the walls of the adit testify to the presence of more iron sulphides. The course and continuity of this mineralized vein zone are uncertain and no attempt has been made to follow it. At about 350 feet another shear, or fault, crossed the adit in an east-west direction and stands nearly vertical. Its relation to the talcose shear is not disclosed.

Between 400 and 620 feet the adit crosses highly altered rocks, which for much of this distance are intensely sheared and talcose. They appear to be mainly igneous types including altered serpentine, with some greenstone about midway of the section. At different places in this section the crosscut exposes considerable widths of quartz across zones up to several feet wide and striking apparently about northwesterly. Both quartz and wall-rocks carry pyrite and a little arsenopyrite. The section, too, includes a conspicuous amount of the bright green mineral, mariposite.

"Beyond this belt of highly altered rocks the crosscut again enters Fergusson sediments which persist to near the face where a rather coarse-textured, talc-carbonate rock, probably formed from serpentine, appears.

No sampling was attempted by the writer, but the management reports assays in gold ranging from less than a dollar to as much as \$240 a ton (with gold at \$30 an ounce) and visible gold is stated to have been seen in some crushed samples. Average values are not known, but channel samples across sections of the widest vein zone, about 250 feet from the portal, are reported to have assayed as high as \$5.10 in gold a ton.

At a point on the surface about 150 feet above and midway of the length of the adit is an open-cut or trench 30 feet long, exposing near the centre 4 feet of quartz lying between sediments to the southwest and probably altered serpentine to the northeast. The latter is sheared and carries an abundance of mariposite. Fifty feet or so higher and apparently about vertically above the face of the crosscut adit is an open-cut or short-caved adit, exposing sheared, talcose carbonate rock. Similar rock is exposed in a small creek bed about 50 yards to the southeast.

Over 100 feet higher up the slope on the east bank of the same creek and about 1,300 feet northeast of the portal of the crosscut adit is an open-cut across a narrow, but well-defined ridge, exposing a width of 15 to 20 feet of highly sheared rocks containing numerous quartz veinlets and spotted with mariposite. The ridge itself is a noticeable topographic feature and can be followed northwesterly for about 2,000 feet.

Trenching in the valley bottom to the southeast of the crosscut adit has exposed a width of about 30 feet of a mineralized zone striking northwesterly and standing nearly vertical. The zone is flanked to the southwest by serpentine and appears to be an altered, mineralized phase of this rock. It is composed mainly of talc and carbonate with an abundance of mariposite. The zone contains a network of quartz veinlets including many irregular, small masses of crystalline and chalcedonic quartz. In places it is liberally impregnated with pyrite and samples containing visible free gold are reported to have been found.

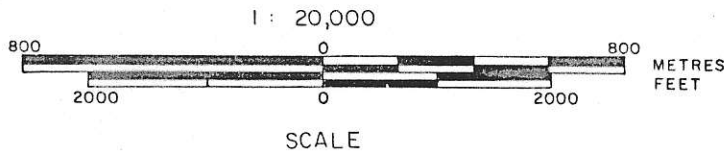
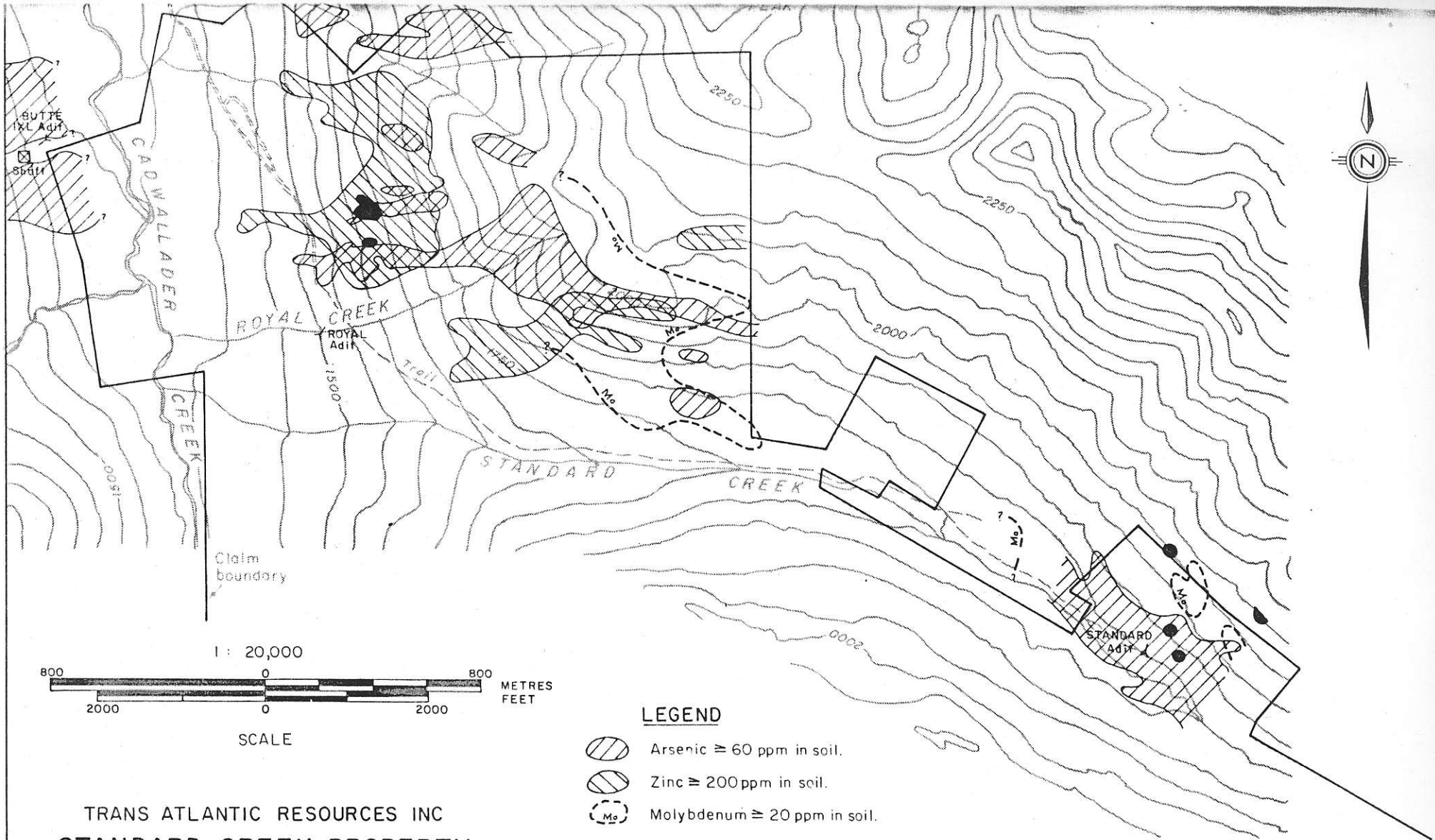
The short adit and open-cuts near the Standard camp expose sheared and altered sediments, containing veinlets of quartz along numerous slips and fractures which, in places, are coated with pyrite.

The foregoing description of the Standard workings indicates a series of shear zones, striking northwesterly and associated with vein quartz deposits and a disseminated, pyrite mineralization. It seems probable that both sulphide mineralization and quartz deposition are related to the serpentine alteration to talc and carbonate and have been affected by thermal solutions originating with the underlying Bendor batholith."

Mapping and sampling the dump by the writer revealed phyllitic argillite, talc-altered serpentinite containing mariposite and much quartz vein material. Samples of dump material were found to contain significant amounts of arsenic (up to 1310 ppm or 0.13%) and minor gold values (up to 0.008 ounces per ton in a panned concentrate). The talc altered serpentinite also contained significant nickel values (up to 1120 ppm or 0.11% - see Table 1).

Other

Elsewhere on the property, the sedimentary rocks of the Bridge River series are locally quartz-veined and contain variable amounts of pyrite. Distribution of the quartz-veined sedimentary rocks appears to have some relationship to the distribution of molybdenum in soil (see below). Quartz-veined rocks contain molybdenum values ranging from 4 to 13 ppm suggesting that the centre of quartz stockwork mineralization may be present but this has not been proven by mapping, nor has geochemical sampling fully outlined the zone.







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STANDARD CREEK PROPERTY
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GEOCHEMICAL MAP

Jan. 9, 1985

Figure 8

LEGEND

-  Arsenic \geq 60 ppm in soil.
-  Zinc \geq 200 ppm in soil.
-  Molybdenum \geq 20 ppm in soil.
-  Anomalous Gold.

Contour interval = 50metres.

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Results

Soil sample sites and selected results are plotted on Figures 8a to c and results presented in Appendix I. Some of the geochemical results of interest are summarized below:

Arsenic Geochemistry

Much of the Standard Creek area has a high arsenic background. Prominent arsenic anomalies ($> 60\text{ppm}$) with values ranging up to 4160 ppm (0.41%) in soils, occur in a number of east-west trenching belts across the property. The most prominent anomalies are on the Royal claims and in the vicinity of the Standard prospect. The former is about 1500 metres long by $50\text{ to }200\text{ metres}$ wide and the latter is 700 metres long by $200\text{ to }300\text{ metres}$ wide (open to the south-east).

Gold and Silver Geochemistry

Scattered gold anomalies occur throughout the grid area, the best value being 350 ppb to the north of the Standard prospect. Anomalous silver values ($0.8\text{ to }1.6\text{ ppm}$) are also scattered.

Zinc Geochemistry

Moderately to strongly anomalous ($> 200\text{ ppm}$) zinc values occur mainly in the western part of the property. Work by the Hillside Energy outlined a prominent $+500\text{ ppm}$ zinc anomaly north of the Royal prospect.

Molybdenum Geochemistry

Molybdenum values are usually high ($10\text{ to }35\text{ ppm}$)

GEOPHYSICAL RESULTS

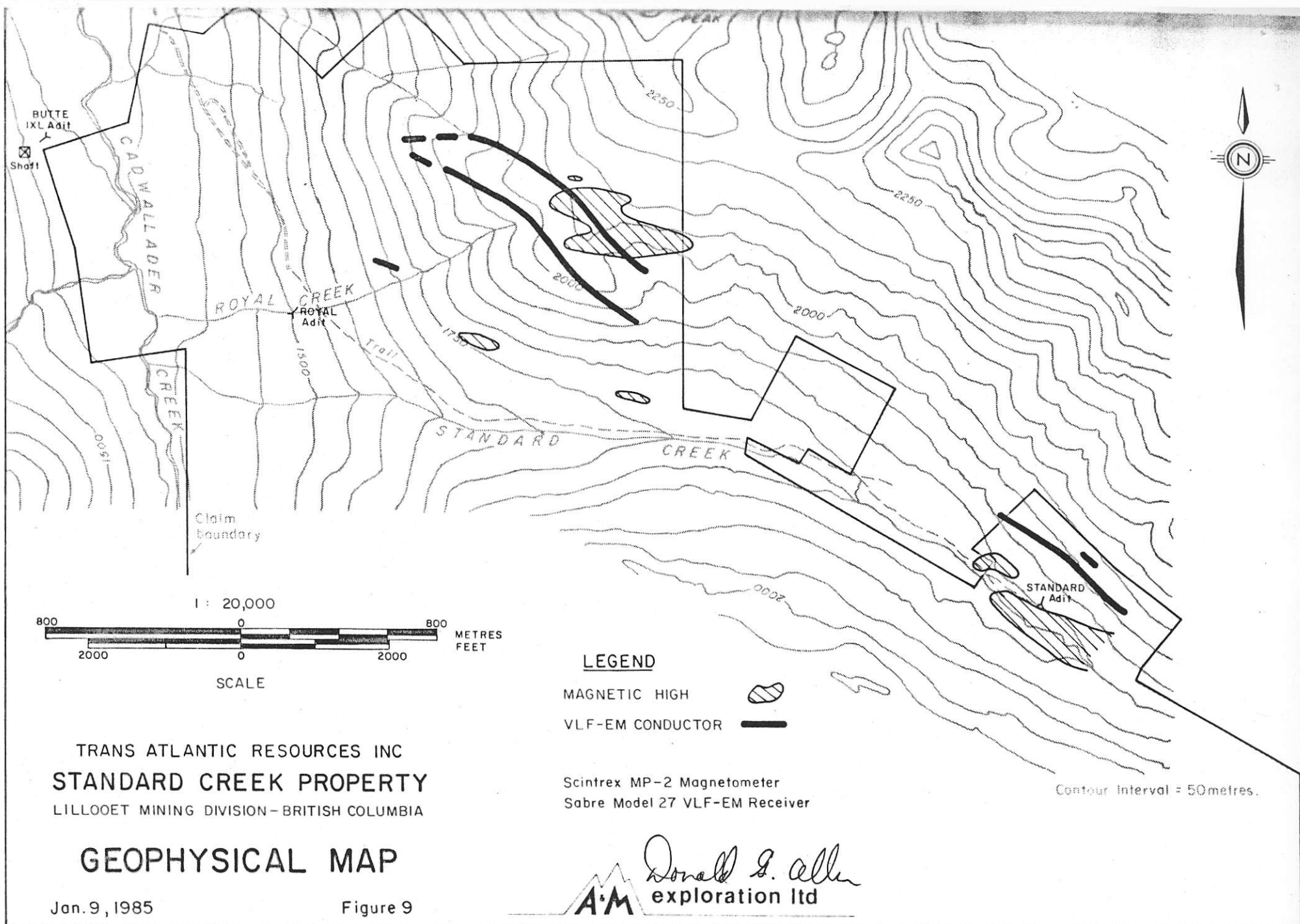
A program of very low frequency electromagnetic and magnetic surveys were completed over a large portion of the survey grid. In some areas, induced polarization and horizontal loop electromagnetic surveys were also completed.

A Scintrex MP-2 proton magnetometer, and a Sabre Model 27 VLF-EM receiver were used for the surveys. Readings were taken at 25 metre intervals on lines generally spaced 100 metres apart. Detailing was performed in selected areas with a Scintrex Genie SE88 horizontal loop electromagnetic system. A Sabre frequency domain induced polarization system was used for the I.P. survey.

Standard Adit Area

In the vicinity of the Standard adit all four techniques were employed in order to geophysically "fingerprint" the responses of the various rock types and the mineralized zone, reported by Clothier (1933), (Figures 9 to 11 and 13).

The induced polarization and resistivity surveys were most effective in outlining potential mineralized zones of the type reported in the Standard adit between 214 and 284 feet from the portal (70 feet of 0.125 oz/ton Au). The vertical projection of this zone is marked by a pronounced apparent resistivity high (greater than 400 ohm metres) with a co-incident weak relative high I.P. response (greater than 3% frequency effect). The responses obtained could





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GEOPHYSICAL MAP

Jan. 9, 1985

Figure 9

LEGEND
 MAGNETIC HIGH 
 VLF-EM CONDUCTOR 
 Scintrex MP-2 Magnetometer
 Sabre Model 27 VLF-EM Receiver

Contour interval = 50metres.

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be accounted for by an introduction of silica in the form of quartz stringers carrying the minor amounts of pyrite into the talcose vein zone as reported by Clothier. The zone of high resistivity is approximately 75 metres wide, strikes parallel to the 16S baseline, and extends from station 15 + 15S on L37E to 15 + 50S on L35E.

The talc-altered serpentinite bodies are characterized by very distinct I.P. highs (from 10-40 p.f.e.) and marked apparent resistivity lows (from 50 to 250 ohm metres). There is a local 50 gamma magnetic high in the vicinity of the talc-altered serpentinite outcrop located at 14 + 00S on L37E. The unaltered serpentinites located just south of the baseline between L38 and 39E corresponds with a marked magnetic high, with values exceeding 1200 gammas above background (Figure 9). The talc alteration would therefore appear to have removed the magnetite from the serpentinite bodies.

A linear VLF-electromagnetic conductor occurs immediately north of the talc-altered serpentinite at 13 + 50S between Lines 35 and 39E. The response could be caused by a near surface shear zone, as is further evidenced by a co-incident strong, topographic linear feature. This shear is believed to represent the extension of the Cadwallader fault.

Further induced polarization and resistivity surveys will be required to fully outline the resistivity high zone detected by the present survey. Readings should be obtained

for a minimum of $n=2$ to 3, in order to allow sufficient depth penetration to detect any unoxidized sulphides present.

Royal Creek Area

Very low frequency electromagnetic and magnetic surveys were completed over the grid in the Royal Creek area (Figures 12 and 13). Horizontal loop electromagnetic profiles were also completed on lines 7 and 12E.

The magnetometer survey outlined a 400 gamma east-west trending high zone located between lines 16 and 20E from 5 + 00 to 10 + 00S. This anomaly is probably caused by an underlying serpentinite body. Two other lower level magnetic anomalies were also detected at between lines 16 and 20E at 14 + 00S and between L12E, 13 + 00S and L7E, 10 + 00 to 14 + 00S. These lower level anomalies may outline the more highly altered serpentinite rocks.

The 400 gamma magnetic high anomaly is separated from the lower level anomalies by a weak but continuous VLF-electromagnetic conductive zone. This conductor is trending approximately northwesterly co-incident with a marked topographic linear. It strikes from approximately 3 + 00 to 4 + 00S on L7E to 9 + 00 to 12 + 00S on L18E. It probably represents a major shear zone, perhaps a splay of the Cadwallader fault.

A forty metre wide weakly conductive zone was detected by the Genie SE88 horizontal loop electromagnetic system, centred at 7 + 50S on L7E. This weak conductor is flanked on each side by anomalous arsenic soil anomalies and will therefore require further evaluation.

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