EM-16 \& TRENCHINGon the
AMERICAN BOY GROUP(Cindy Lou, Janelle Claims)
Omineca Mining Division

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$55^{\circ} 19^{\prime} \mathrm{N} 127^{\circ} 38^{\prime} \mathrm{W}$(Northeast of Hazelton, B.C.)
OWNER \& OPERATOR: TRI-CON MINING LTD.
WRITER:
SUBMITTED:
A.M. HOMENUKE, P. Eng.APRIL 9, 1981


Tri-con Mining Ltd.
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## I. INTRODUCTORY NOTES

## Location and Access

The American Boy Group is located on the southwest flank of Nine Mile Mountain, 10km N.N.E. of Hazelton, B.C. (Fig. 1). Access is provided by a gravel road which branches off the Silver Standard Mine Road 2 km north of Two Mile and follows the valley of Two Mile Creek. A four-wheel drive road servicing a microwave station on the top of the mountain passes through the claims. Local access is provided by old cat trails.

## Physical Features

The claims are located on a steep westerly slope between elevations of 700 meters ( $2300 \mathrm{ft}$. ) and 1000 meters ( 3300 ft ). Most of the showings are on a relatively flat bench which trends northerly through the center of the property.

Virgin stands of cedar and fir, with little undergrowth, create a park-like setting on the bench. The slopes are more densely forested with smaller timber and heavier undergrowth. Two small creeks flow westerly across the claims.

## Property Description

The American Boy Group consists of the Cindy Lou (4 units), and the Janelle ( 2 units) mineral claims. The record numbers are 320 and 319 , respectively. The record date is June 8.

The claims were staked in 1976 and Tri-Con Mining Ltd. is the present owner and operator.

## History

The property was first staked by D.A. Harris in 1910, following completion of a railway line through Hazelton. From 1911 to 1916, Harris Mines Limited carried out surface trenching and underground development on five veins. Small shipments of crude ore were made to the Trail Smelter. In 1917, 254 tons of lower grade development ore and reject


LOCATION MAP
FIG. $I$
from the above shipments were hauled to the Silver Standard gravity mill on Two Mile Creek.

Minor underground work was done in 1927 and G.S.C. Memoir 223 mentions some work done by Viking Mining Company in 1937.

The property was acquired by American Standard Mines Limited in 1950, followed by a program of stripping, diamond drilling and underground work. A new ore shoot on a sixth vein was discovered in 1951. In 1952, Pioneer Gold Mines of B.C. Limited carried out additional surface stripping.

In 1955, Joe Gallo shipped 21 tons of crude ore highgraded from the No. 6 vein.

The property remained idle until 1967 , when it was restaked by George Braun. The Northwestern Midland Development Co. Ltd. shipped 10.35 tons of Wilfley Table concentrate, stockpiled by previous owners. Some stripping and minor trenching were done in 1968 and 1971.

In 1976, the property was restaked by the writer for Tri-Con Mining Ltd. In 1978, some trenching and assaying were done on the No. 4 vein. The present program, done in the Fall of 1980, included EM-16 surveying, trenching and assaying.

## Economic Assessment

There are six known gold-silver-base metal veins on the property. Some small, but very high grade ore shoots led to the production of several hundred ton of ore. Considerable underground development was done in the course of exploration, which would considerably lower the future cost of mining. It is felt that employment of careful mapping and surface exploration techniques may lead to determination of ore controls and location of further and perhaps larger deposits.

## Present Work and Distribution

The exploration program in 1980 consisted of EM-16 surveying, 800 meters on the Cindy Lou Claim and 1800 meters on the

| $=ニ=$ | Access road |
| ---: | :--- |
|  | $=$ Cat trail |
| $=$ Vein |  |
| - Shaft |  |



Janelle Claim, a backhoe pit on the Cindy Lou and 150 meters of trenching on the Janelle. The latter trenching exposed a vein which was mapped and sampled.

## II. ELECTROMAGNETIC SURVEY

## Instrumentation and Procedure

The survey was conducted with a Geonics "Ronka EM-16", which is a VLF-EM receiver using submarine communications stations as transmitter source. The station for this survey was Seattle, Washington. Readings were taken facing east at 50 -foot ( 15 meter) intervals along the grid lines. This allows the actual dipmeter angle to be recorded in the correct sign for reading the profile from left to right. The Fraser Filter Method was applied to allow contouring of the data.

## Survey

Two lines were run across the known veins on the north part of the property and four lines were run across the south part. The relationships of the surveys to the veins and claim boundaries are shown on Fig. 2. The surveys were run to determine if the veins could be traced by VLF-EM methods.

## Discussion of Results

No. 1-4 Vein Area (Fig. 3)
On the north grid area, three conductors were found that correlated with known veins or projections thereof. On the No. 1 vein, and on the projection of the No. 2 vein, the conductor axes strike north and are contained within a larger, lower value anomaly trending apparently northeast.

A weaker conductor to the east is coincident with the projection between Veins 3 and 4 , which may be on the same structure.

No. 6 Vein Area (Fig. 4)
There is a strong conductor coincident with the No. 6 vein. There are several other strong conductors which may represent veins or faults. There is also a disruption of conductor trends which may


represent a fault. It will be necessary to survey the entire area in which the veins occur, to make a more complete interpretation. Hopefully, this will also lead to the discovery of further veins.
III. TRENCHING, MAPPING AND ASSAYING

A backhoe pit was dug on the conductor on the No. 2 vein to a depth of 5 meters, however, bedrock was not reached. A sample of basal till from the bottom of the pit was analyzed geochemically at Chemex Labs, with the following results:

| copper | 56 ppm | arsenic | 29 ppm |
| :--- | ---: | :--- | :--- |
| zinc | 108 ppm | mercury | 80 ppb |

silver $\quad 0.1 \mathrm{ppm}$
From the writer's experience in the area, it would appear that only mercury is higher than background. As the basal till is relatively impermeable, it is possible that this represents a gaseous diffusion from a mineralized source, however, the data are too limited to permit more than speculation.

Most of the backhoe time was spent trenching along the No. 6 vein, to permit mapping and sampling. The results are shown on Fig. 5. The vein consists of massive white quartz, averaging about 20 centimeters wide, with occasional sections of 40 centimeters, or more, in width. The vein was mineralized in two stages, the first being gold-bearing arsenopyrite, and the second, silver-rich galena, sphalerite and tetrahedrite. The arsenopyrite generally occurs as a well-defined band a few centimeters wide on the hanging wall or foot wall of the vein, with occasional disseminations. The galena-sphalerite-tetrahedrite is less common and occurs in patches, limited bands and minor disseminations. Total sulfide content is perhaps $5 \%$ of the exposed vein and is discontinuous along strike. Within the argillite, the vein itself is discontinuous and quite variable in width. In the sandstone, the width of the vein is quite consistent.

A shaft was sunk on the offset portion of the vein in the early $1950^{\prime}$ s. A relatively thick (over 1 meter), but short, ore shoot was developed. In 1955, 21 tons of hand sorted ore from this shaft yielded 1567 ounces of silver (B.C. Minister of Mines, Annual Report).


Prepared by: A.M. Homenube , P.Eng


It is apparent that the vein is complexly faulted and that the fault interesections may be the major ore control.
IV. PHOTOINTERPRETATION (Fig. 6)

A study was undertaken of photolinear features in the area of the property. Major features thought to be block faults, were determined from correlation with G.S.C. Open File Map 720. These are shown separately from the lesser features. The property is situated at the intersection of north-trending and northeast-trending sets of block faults. A northwest-trending set occurs to the south of the claims. The known veins parallel the north and northeast fault sets. The offsetting faults parallel the northwest set. Several linear features are on strike with known veins, indicating possible continuations, and other linears in the offsetting direction indicate structural complexity. Mapping and literature study show that ore shoots are probably controlled by cross cutting faults. The photolinear study indicates that many more of these situations may be present than have been discovered to date.

## V. CONCLUSIONS

Mapping, sampling and a study of available literature shows that high grade silver ore occurs in six veins, generally at the intersections with cross cutting faults. VLF-EM surveying appears to be capable of discerning structures, including the ore-bearing veins. Photolinear interpretation indicates that there may be targets available for further exploration.

Respectfully submitted,
TRI-CON MINING LTD.

A.M. Homenuke, P. Eng.

## REFERENCES

B.C. MINISTER OF MINES; various annual reports.

KINDLE, E.D., 1954, Mineral Resources, Hazelton and Smithers Areas Geol. Sur. of Can., Memoir 223.

HOMENUKE, A.M., 1978, Trenching and Assay Report on the American Boy Group (Assessment Report).

RICHARDS, T.A., 1980, Geology of Hazelton Map Area, Geol. Sur. of Can., Open File 720 (Map)

## COST STATEMENT

A. Homenuke, P.Eng. (2.6 km EM-16, mapping, sampling)
Oct. 24, 25, 26, 30, Nov. 6, 1980
Total: 4 days @\$250./day $\$ 1,000.00$
Backhoe Trenching
Oct. 30 - Nov. 2, 1980
per contractor's invoice; 3 days @\$200./day ..... 600.00
Assaying
5 samples - gold \& silver
3 samples - copper, lead, zinc ..... 98.50
Geochem
1 sample $\mathrm{Cu}, \mathrm{Zn}, \mathrm{Ag}, \mathrm{As}, \mathrm{Hg}$ ..... 10.05
Truck
7 days @\$40./day ..... 280.00
Photointerpretation, maps, report
3 days @\$250./day ..... 750.00
Secretarial ..... 60.00
Miscellaneous materials, copying ..... 20.00

## CERTIFICATE OF QUALIFICATION

I, ALEXANDER M. HOMENUKE, DO HEREBY CERTIFY:
1.

THAT I am a member in good standing of the Association of Professional Engineers of British Columbia.
2. THAT I received the Degree of Bachelor of Science in Geological Engineering from the Colorado School of Mines in 1974. 3.

THAT I received a diploma of Technology in Mining from the B.C. Institute of Technology in 1969.
4. THAT I have been employed in various aspects of mining exploration for twelve years and am presently employed by Tri-Con Mining Ltd., of 2580 - 1066 West Hastings Street, Vancouver, British Columbia.
5. THAT I presently reside at 29825 Harris Road, Mt. Lehman, British Columbia.
6. THAT this Report is based on work supervised or conducted by myself.

DATED at Vancouver, British Columbia this 9th day of April, 1981.

A.M. HOMENUKE, P. Eng. Geological Engineer

