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**AVINO
MINES
& RESOURCES
LIMITED**

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A Summary of

**THE BRALORNE PIONEER GOLD
MINES PROJECT**

By

STONER ENGINEERING CONSULTANTS LTD.

M.G. STONER, P.ENG

August, 1992

BRALORNE PIONEER GOLD MINES LTD.

This project summary is generated from a personal site inspection May 11 & 12 1992 and from research and reading of documents and reports on the area.

The Bralorne/Pioneer mines were Western Canada's richest and most profitable gold producers. It is planned to bring them back into production at 300 to 400 tons per day with the potential to produce 50,000 oz of gold per year.

SUMMARY.

The Bralorne Pioneer gold mines established reserves form the core of the vein system between the King and Pioneer mines (over Two miles). This structure has the potential to produce in excess of a million ounces of gold. The blocked out tonnage is now 322,000 tons @ 0.35 oz/ton. This will soon be increased by current exploration.

Capital costs to production are estimated at \$5,000,000 with mine operating cash costs at \$250/oz .

It is proposed to bring this property into production at 300 to 400 tons per day.

LOCATION.

The Bralorne Mine is in the Bridge River District of British Columbia, some 100 miles north of Vancouver. It is accessible by two road routes and floatplane.

The Bralorne mine 800 ft.level portal is 3,350 ft above sea level.

The climate is moderate, in the west coastal mountain range.

HISTORY.

Gold was first discovered in the Bralorne area in 1863, initially as Placer Gold, with the underground lode development following in 1928 at the Pioneer Mine. The Bralorne Mine started in 1932.

The Companies merged in 1959 and continued to operate until 1971, when the then current economics of gold mining caused them to be shut down.

It is reported that over 4,100,00 oz of gold was produced from Bralorne/Pioneer mines during their 39 years of mining.

The average grade of ore mined at Bralorne/Pioneer over 39 years is quoted at 0.53 oz/ton

A historic statistic from all the miles of tunnelling in the Bralorne /Pioneer mines was for every 100 ft of drift on vein they developed 20 ft of ore grade material.

The Bralorne/Pioneer mines were some of the deepest in Western Canada. The Bralorne was mined to the 4,577ft level. The lower levels of the mine were accessed by internal shafts from the 800 ft level.

In 1991 Avino Mines & Resources Ltd. acquired the Bralorne/Pioneer property to combine with the blocks of claims already held abutting the Bralorne property to the north.

These adjoining Avino claims cover the area of the recently discovered extensions of the of the vein systems mined by the Bralorne/Pioneer companies.

GEOLOGY.

The Bridge River camp geology is a complex of Permian Age rocks overlain with series of Triassic Age rocks, both which have been folded and intruded. This has produced two major vein systems, one with a north/south strike @ a 45 to 60 degrees and the other east/west @ 60 to 80 degrees West dip.

The veins mostly consist of quartz with sulfides and occurrences of gold. Thirty five veins were traced in the old Bralorne workings.

The mining by the previous operators concentrated in following the veins to depth, south of the Fergusson thrust fault. This was due to both their belief that the Fergusson was a cutoff to the vein systems and that previous miners did not have title to the claims to the north of the fault.

Recent surface exploration by Bralorne/Pioneer Mines has shown that the vein system does extent to the north of the Fergusson fault and that there is continuity with the previously mined veins and the recent surface discoveries of Avino. This has opened up a new area of potential, and is "Elephant Country" that was previously believed to be barren. It is also accessible from surface without deep shafts.

EXPLORATION.

Avino Mines & Resources Ltd. hold a 21 claim block to the north of Bralorne mine. Avino has explored this area by soil sampling, trenching, diamond drilling and underground development. An adit was driven in 1989 on the Peter vein developing an ore shoot of 215 ft. @ 0.38 oz/ton over 3.4 ft.

The Peter vein has been traced on the Avino property for a strike length of 2000 ft and extends across the boundary into the Bralorne for a further 2000 ft. it is still open to the S.E..

The Millchuck vein has also been discovered on the Avino property this has a strong surface expression and significant values.

There are also relatively unexplored blocks of ground between the Bralorne and Pioneer mines and the Bralorne and King mines which contain vein systems that have never been fully exploited on the surface or underground. These areas have an equal potential to produce ore as the previously mined reserves.

The ownership of the Bralorne mine allows unincumbered underground access on the 800 ft. level for development and underground diamond drilling to confirm the projections of these Avino veins

ORE RESERVES.

Current calculations based on diamond drill holes both from surface and underground and from underground exposures show a reserve of 322,000 tons proven and possible, at 0.35 Oz/ton with a cut off grade of 0.14 oz/ton.

The distribution of these reserves are as follows :-

	TONS & GRADES	
	PROVEN & PROBABLE	POSSIBLE
Above 800 level	182,000 @ 0.35	74,000 @ 0.43
800 to 1000 level	49,000 @ 0.24	17,000 @ 0.25
TOTAL above 1000	231,000 @ 0.33	91,000 @ 0.40
	322,000 tons @ 0.35 oz/ton	

There are also reserves, proven and possible, below the 1000 level to the 2600 ft level of 742,000 tons @ 0.24 oz/ton. These can be accessed by dewatering the shaft.

The present reserves should be increased by the current surface exploration programme being conducted North of the Fergusson fault, that have extended the vein systems.

MINING.

The initial mining will be above the 800 ft. level to avoid the expense of having to de-water the flooded workings and re-equipment of the shafts.

The mining will be selective with appropriate methods of stoping for narrow vein mining. The majority of the broken

ore would be hauled out on the 800 level track to the mill bin, with some development ore being hauled on surface by truck down to the mill.

A recent personal inspection of the old upper level workings found them to be in relatively good condition with few falls of ground or other conditions detrimental to production.

As all the work in the initial stages will be above the 800 level, there would be no capital or operating cost for the shafts, pumping and hoisting.

Stoping productivity is estimated at 15 tons per manshift with a two man work crew per stope and two shifts per day. 450 tpd through the mill would require 8 stopes. To provide a steady feed 10 stopes should be active. These plus any development muck that was of ore grade would be sufficient to feed the mill 450 tons per day.

METALLURGY.

The original Pioneer mill had a 100 tpd capacity that was increased to 400 tpd in 1934. The Bralorne mill eventually had a capacity of 550 tpd. When the milling of the ores from the two mines were combined at Bralorne a cyanide circuit was introduced.

The mill machinery has been removed from the Bralorne concentrator but the pre-engineered metal clad mill building is in good condition and is of a size that could house a 1000 tpd gold concentrator. This building would be used for the new mill.

The proposed mill process is a gravity and floatation circuit, with avoidance of the cyaniding extraction to gain environmental acceptability.

The concentrate that would be produced is within trucking range to a smelter or tide water for oversea shipping.

The present economic conditions have made a buyer's market for used mill equipment, which would make savings in the purchase of this equipment if completed in a current time frame.

Site selection, soils testing and design have been completed for a tailings impoundment that would sustain the project for 14 years of storage. A select part of the tailings would be returned underground as backfill.

Previous milling operations ground to 55% minus 200 mesh. Recent tests confirm that the ore has a Bond Work Index of 13.54 kWhr/ton.

The previous operators achieved recoveries of 96% to 97% per ton for both gravity/cyanide and gravity/float circuits, with 65% of the gold being recovered from the gravity circuit.

There is no reason why these % recoveries should not be maintained in a new operation.

FEASIBILITIES AND COSTS.

Detailed feasibilities were prepared for E & B Explorations Inc. in 1982/3 and updated 1988 to the stage of being submitted to the B.C. Government for production permits and approvals.

These studies can be readily up dated and adapted to the revised philosophy for a new operation and filed with the Government. An estimate of today's cost to bring the Bralorne in to production is approximately \$ 5,000,000. This is low by today's standards to bring a gold mine into production but the majority of the required infra structure, underground mining access by adits and tunnels and preproduction studies for a mining operation are in place. This reduces the capital cost.

It is expected that \$ 3,000,000 would be expended on the mill, tailings pond, environment and mining equipment. The other \$2,000,000 would be used for underground development and working capital.

The project has acquired the infra structure built by the past mining operations. The Project is serviced with Hydro Electric power, telephone and Provincially maintained highways with more than two routes to Vancouver. There is a fifty man camp on site complete with cookhouse and all necessary facilities, an office and warehouse building.

There are established towns (Gold Bridge and Bralorne) in the area that have established local businesses, hotels and other necessities.

Operating costs in the range of a cash cost of \$250 / oz are anticipated with a 450 tpd production.

ENVIRONMENTAL.

The underground workings are producing water (at a pH of 8.5) that would probably provide sufficient volume for the mill operation when combined with re-circulation from the tailings pond with supplements from the creek if required.

A short time span analysis of the Cadwallader creek water above and below the Bralorne Mine and from the mine water discharge were performed showing that the quality was better than the Provincial drinking water standard. It is

significant that the old rock dumps around the mine site have not contributed any significant heavy metals or lowered the pH, eliminating any implied hazard of acid mine drainage.

Inflow of ground water into the mine varies seasonally between 70 to 200 gpm.

SOCIAL IMPACT.

The bringing of the Bralorne back into production would provide an on site payroll in excess of 100 persons. It would provide an economic base to an area that currently only has a weak tourist trade for income.

The area has already been disturbed by the previous miners who made no attempts at reclamation. The visual impact would be slight and the only major new structure would be the tailings dam, until it was reclaimed.

THE FUTURE.

- 1.0 Continue exploration to block out ore tonnage to 500,000 tons at similar grade.
- 2.0 Revise the studies and complete the permitting and approval process with the Provincial Government.
- 3.0 Complete a marketing study for the sale of the floatation concentrate, evaluate any alternative extraction procedure.
- 4.0 Obtain project financing.

M.G.Stoner, P.Eng.
Vancouver
July 30 1992.
rev iii

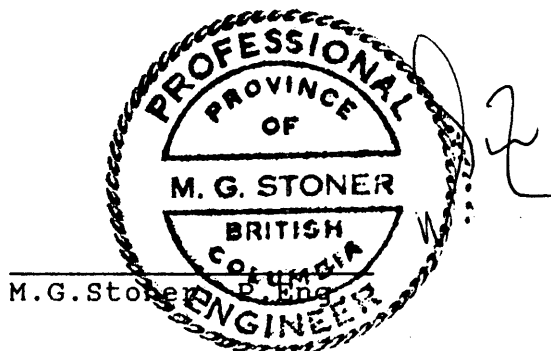


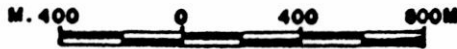
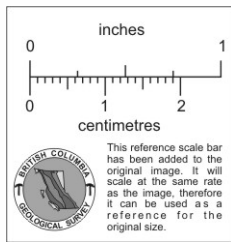
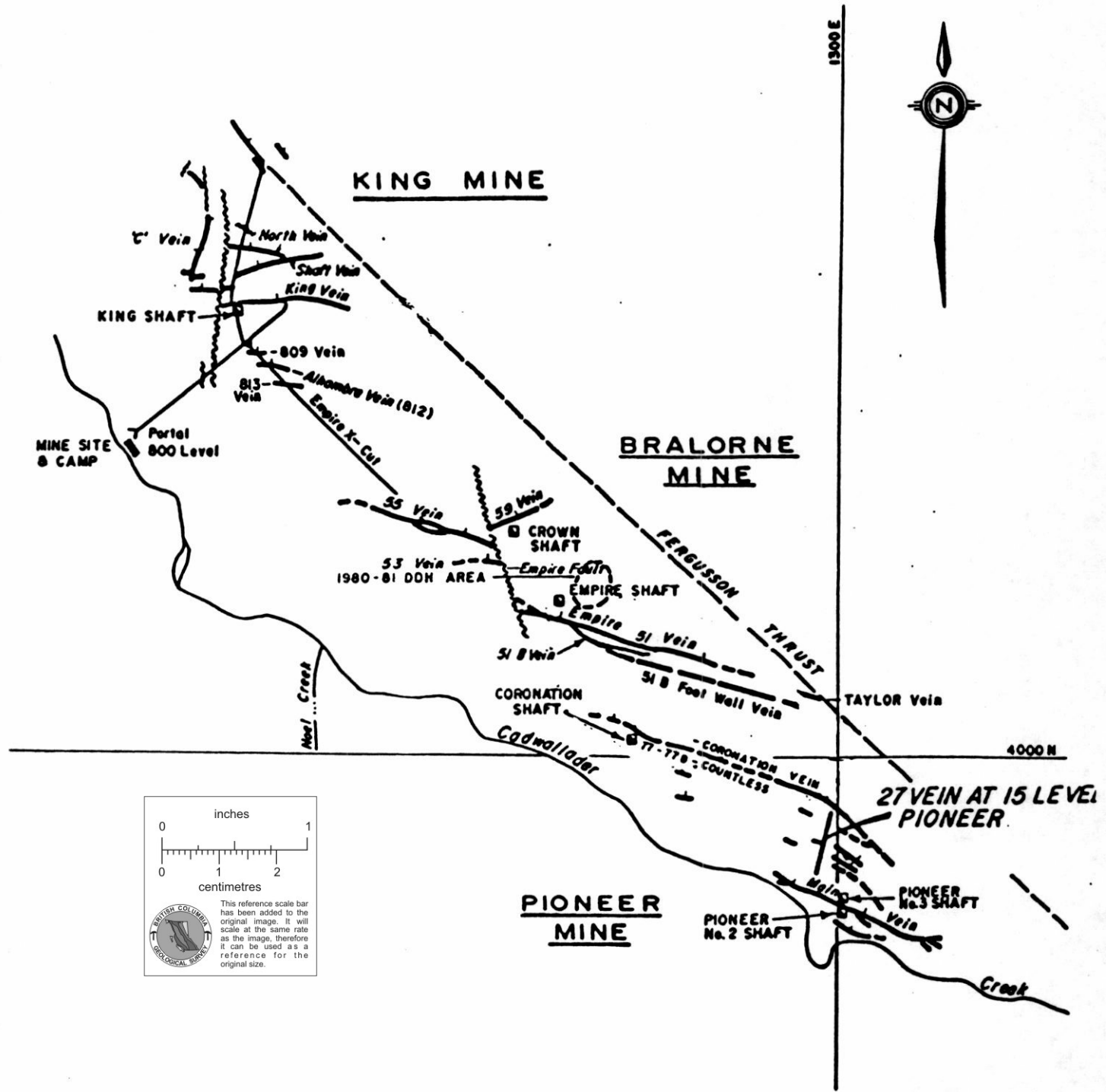
CERTIFICATE.

I, Michael G. Stoner, of Suite 407 - 455 Granville Street, Vancouver, British Columbia, V6C 1T1. hereby do certify that:

- 1 I am a graduate (1951) of the School of Metalliferous Mining, Camborne, Cornwall, England. with an associateship in mining engineering.
- 2 I have practised my profession of mining engineering for the past 40 years in Canada, United States, Australia and Nigeria West Africa.
- 3 I am a consulting Mining Engineer. I am a registered member in good standing of the Association of Professional Engineers of British Columbia and the same in the Yukon Territory. I was also accredited in Manitoba and Saskatchewan.
- 4 The report is based on knowledge gained from visits to the property and study of various published and unpublished reports and data.
- 5 I have not received nor do I expect to receive any interest, direct or indirect, in the properties or securities of or those of any associated companies.
- 6 Bralorne Pioneer Gold Mines Ltd. and its affiliates are hereby authorized to use this report, unedited in , or in conjunction with any prospectus or statement of material facts.
- 7 I have no interest in any other property or Company holding property within 10 kilometers of this property.

Dated in Vancouver, British Columbia, this 21 day of August 1992.





AVINO MINES.

**BRALORNE/PIONEER
SURFACE PROJECTION OF VEINS**

DATE: 10-7-92

SCALE: 1:24,000

FIGURE

Newmont Expl.



Staked

Levon Res.

Levon Res.

Levon Res.

Gray Rock Mining

Banquest Resources

Unicorn Res.

Golden Slipper

X - Cal Resources

AVINO MINES LOCO PROPERTY

PETER VEIN



millchuck

KING MINE AREA

BRALORNE MINE
BRALORNE TOWNSITE

□ Crown shaft
□ Queen shaft

□ Empire shaft

□ Carondelet shaft

PIONEER MINE AREA

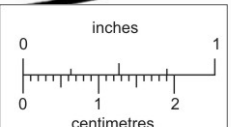
CADWALLADER CO.

PROPOSED TAILINGS POND

MURLEY RIVER

TO MILES TO LILLOOET →

TO MILES TO LILLOOET



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

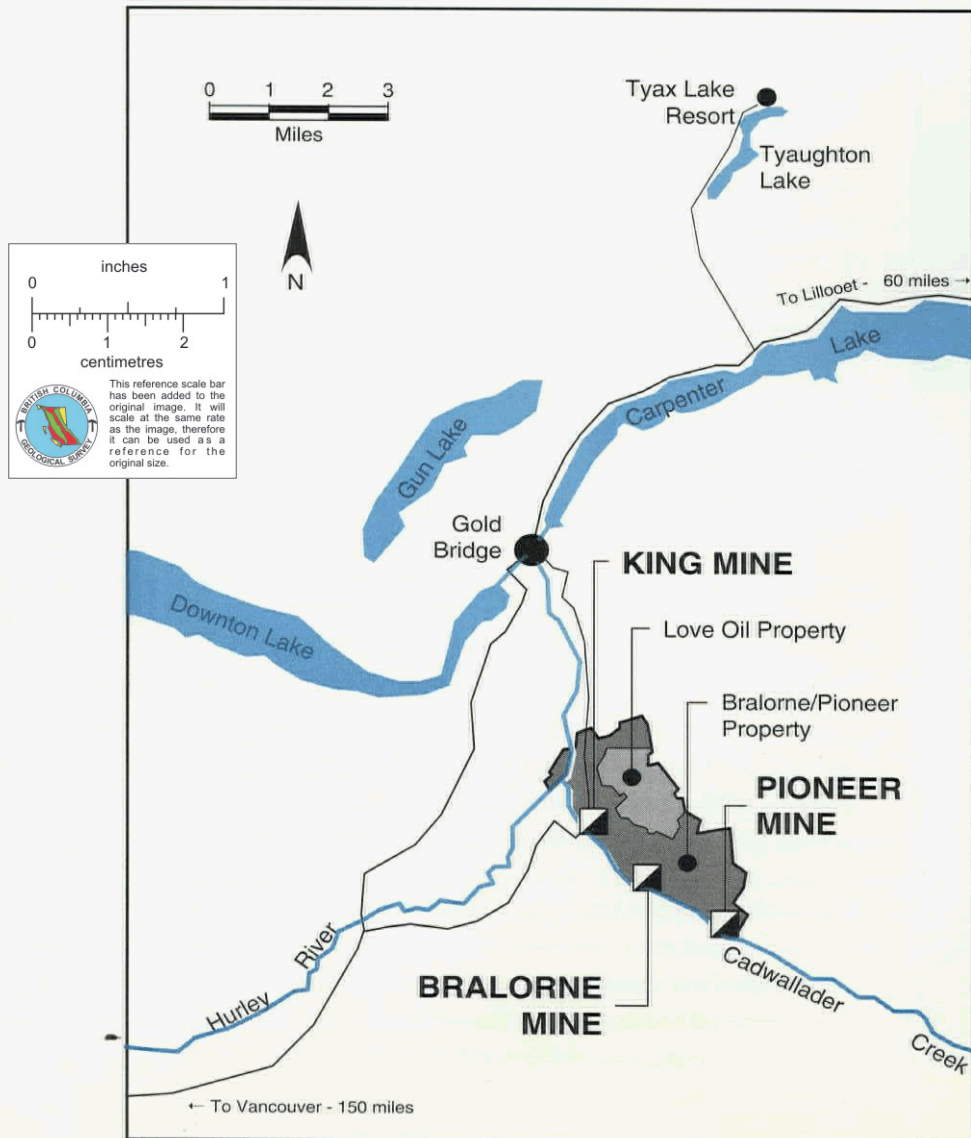


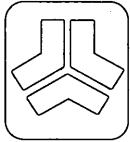
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**AVINO
MINES &
RESOURCES
LIMITED**

**THE BRALORNE PIONEER
GOLD MINES PROJECT**





**AVINO
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**PROJECT SUMMARY
BRALORNE - PIONEER MINE**

PROPERTY

Bralorne Gold Project; 154 Crown granted mineral claims, 5 reverted Crown granted claims, 1 located mineral claim and 2 placer leases.

**OWNER/
OPERATOR**

Avino Mines & Resources Limited
Suite 400 - 455 Granville Street
Vancouver, B.C. V6C 1T1

Head Office Phone: (604) 682-3701; Fax: 682-3600

Contact: Louis Wolfin, President & Director
Ernest Calvert, Vice-President & Director
William Glasier, Secretary & Director
Jim Miller-Tait, Geologist



SUMMARY

The Bralorne-Pioneer Mines were Western Canada's richest and most profitable gold producers. Full-scale operations at Pioneer opened in 1928, followed by Bralorne in 1932. The projects merged in 1959, and before shutting down in 1971 due to low gold prices they produced over 4.1 million ounces of gold. In 39 years of mining, grades averaged 0.53 oz/ton.

Bralorne-Pioneer Gold Mines Ltd. of Vancouver plans to re-open the mines at a rate of 300 to 400 tons per day. Annual gold production could reach 50,000 ounces. Production would come from remaining reserves in the core of the primary vein system and from new discoveries made over the past three years on adjoining property. Capital costs to bring the mine on-stream are estimated at \$5,000,000 with operating cash costs projected at \$250 per ounce. Re-opening the Bralorne mine would provide an on-site payroll exceeding 50 persons and provide a greatly improved economic base to an area that presently relies on a weak tourist trade for income.

LOCATION

50°45.5N, 123°48.5W; NTS 92 G/14 - The Bralorne project is located in the Bridge River District of British Columbia, some 100 air miles north of Vancouver. It is accessible by two roads and floatplane.

EXPLORATION

Avino Mines & Resources conducted most of the recent exploration on a 21-claim block to the north of the Bralorne Mine. Soil sampling, trenching, diamond drilling and underground development have located several high-grade vein systems believed to be extensions of Bralorne veins.

An adit driven on the Peter vein developed an ore shoot of 215 feet grading 0.38 oz/ton gold over a width of 3.4 feet, of which a 105-foot section assayed .611 oz/ton. The Peter vein has been traced on Avino ground for a strike length of 2,000 feet, extending across the boundary into the Bralorne property to the northwest and southeast. A parallel vein, Millchuk, has been traced for 2,200 feet and is open in both directions. Both veins are open down dip.

The ground between the Bralorne and Pioneer mines and Bralorne and King mines contains a significant number of vein systems that have not been fully exploited on surface or underground. These areas have significant potential for ore production. The ownership of the Bralorne Mine allows unencumbered underground access on the 800 level for development and underground drilling to confirm the projections of the Avino veins.



RESERVES

Current calculations based on diamond drill holes (both from surface and underground) and from underground exposures in the Bralorne and King mines show a reserve of 322,000 tons proven and possible grading 0.35 oz/ton using a cut-off grade of 0.14 oz/ton. The reserve distribution is calculated as follows:

	Tonnage & Grade (Bralorne & King mines only)	
	Proven/Probable	Possible
Above 800 level	182,000 @ 0.35	74,000 @ 0.43
800 to 1000 level	49,000 @ 0.24	17,000 @ 0.25
Total above 1000	231,000 @ 0.33	91,000 @ 0.40
Total Resource	322,000 tons @ 0.35 oz/ton	

There are also reserves, proven and possible, below the 1000 level to the 2600 level of 742,000 tons @ 0.24 oz/ton. These can be accessed by de-watering the shaft. Geologically indicated reserves in the two "new" veins (Peter and Millchuk) are 333,200 tons grading .50 oz/ton gold to the 800 level only. These veins are open in all directions.

MINING

The present reserves will increase with the current surface exploration program being conducted north of the Fergusson fault that has extended the vein systems.

Initial mining will take place above the 800 level to avoid the expense of de-watering and re-equipping the shafts. Mining will be selective, with appropriate methods of stoping to allow for narrow-vein mining. The majority of the ore would be hauled on the 800 level track to the mill bin, with some development ore hauled on surface by truck to the mill. All the work in the initial stages will be above the 800 level, eliminating capital and operating costs associated with shaft construction and maintenance, pumping and hoisting.

FEASIBILITY

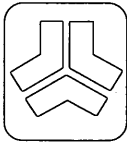
Stoping production is estimated at 15 tons per manshift with a two-man crew per stope and two shifts per day. A through-put of 450 tpd would require 8 stopes. To provide a steady feed, 10 stopes should remain active. These stopes, plus any development muck of ore grade, would be sufficient to feed the mill 450 tpd.

Detailed feasibilities were prepared for E & B Explorations Inc. in 1982/83 and updated in 1988 to the stage of being submitted to the B.C. government for production permits and approvals.

Of the total \$5,000,000 budget, costs for the mill, tailings pond, environment safeguards and mining equipment have been projected at \$3,000,000. The remaining \$2,000,000 would be used for underground development and working capital.

The project will assume the infrastructure built by past mining operations. It is serviced with hydro-electric power, telephone and provincially-maintained highways with more than two routes to Vancouver. Two towns in the immediate area (Gold Bridge, Bralorne) provide hotels and essential services.

The underground workings are producing water (pH of 8.5) that, when combined with re-circulation from the tailings pond, would probably provide sufficient volume for the mill operation. The creek can supply supplemental water if needed.



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LIMITED**

PROJECT SUMMARY - cont'd

ENVIRONMENTAL

A short time span analysis of the Cadwallader creek water above and below the Bralorne Mine and from the mine water discharge demonstrated that the water quality exceeded the provincial drinking water standard. Of particular note is the fact that the old rock dumps around the mine site have not contributed any significant heavy metals or lowered the pH, eliminating any implied hazard of acid mine drainage.

HEAD OFFICE

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**SHARES
TRADED**

Vancouver Stock Exchange - Symbol AVO
NASDAQ - Symbol AVMRF

OFFICERS

President, Louis Wolfin
Vice-President, Ernest Calvert
Secretary, William Glasier

DIRECTORS

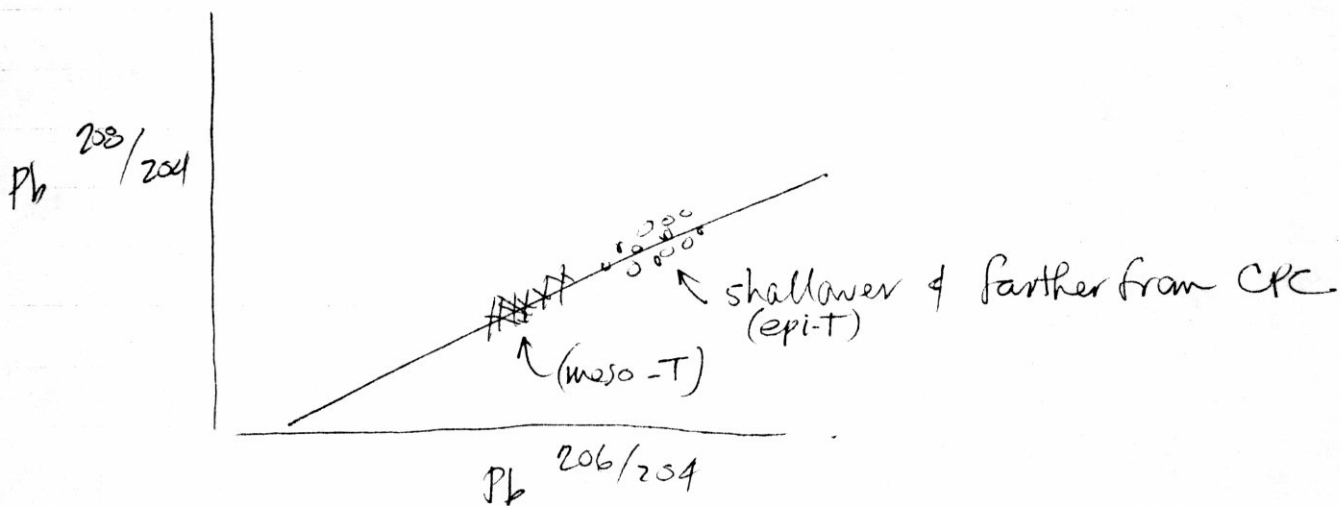
Louis Wolfin
William Glasier
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Michael Baybak
Pierre Labelle

**CORPORATE
CONTACT**

Jim Baylis
Louis Wolfin
(604) 682-3701

CORPORATE INFORMATION

Pb from Cadwalder arc, U. mantle etc.



	Bralorne			Blacklane
	Meso T	,	,	epithermal
Distance from CPC	8	,	,	60 km.
Age	85	,	,	45 Ma
T _H °C #	300	,	,	275°

IMPORTANT LITHOLOGIES

Bralorne diorite - actually Qtz dio (10% Qtz) - little augite.

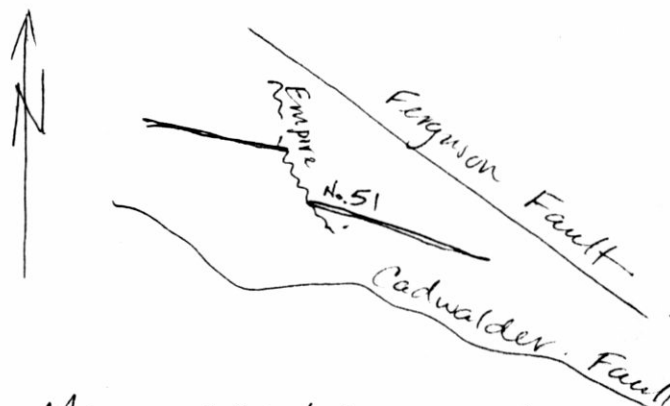
- px's mantled by hbl.
- contain xenos of greenstone + andesite.
- x-cut by sodagranite.

Albite dykes - flow banded + sheared margins.

- plag + hbl altered. in **most** instances.
- 1° plag + Qtz.

hornblende TP - hbl fresh through altered in transition to compo → albite dykes.

Au-Qtz veins - Au in septa of slickensided altered wall rock - milky Qtz v. low grade.
- extension veins barren to rich in Au.



Veins dip steeply 70° N.
4 are continuous for 2000m+.

- Main vn. orientation 100° azimuth.
- Dips 70° to N - reverse motion.

ALTERATION

zonation: Qtz - ser - carb. → destructive ^{(chl[±]-ep) + rutile.} ab-ser →
carb after hbl (texture preserved) → chl. →
"fresh"

Fe-carbonate (Fe-calcite) common.

in Soda granite - "crackle" veining sparse →
pervasive (where thoroughly silicified ± albitized (meta-somatic))

UM? chromite cores to fersite.

SULPHIDE MINERALOGY.

Sulphides confined to ribbons - Py - aspy - Po.
to 3% ; minor Th, cpy, ga (assoc w/ higher
Au grades) ; reported but rare Sb -
Au free-milling but rarely w/in ga, sph, cpy.

Fluid inclusions 1° generally $\leq 1 \mu\text{m}$.

- clusters of large F.I have T_h - 300-400°C
primary w/ 2° $\geq 100-300^\circ\text{C}$.
- $\uparrow T_h$ w/ depth. Geot gradient $30^\circ\text{C}/\text{km}$.
- wt % NaCl equiv. 1° w/ NaCl + w/ $\text{CO}_2 \rightarrow$
relatively low 2-3 wt %.
- CO_2 melting < -56.6 indicates CH_4 .
- 2° incl no CO_2 or CH_4 1-2% NaCl + KCl.

SULPHUR ISOTOPES. - cluster $\sim 0\text{‰}$. range -7 to +9
ga - sph 2 temps ① $\sim 350^\circ\text{C}$ related to 1°
F.I's. ② relates to 2° F.I.

CONCL

Au in septa \therefore related to wall rk.

Au w/ py \rightarrow mechanic mixing during brittle deforma of py

Leitch + Godwin (1988) paper 1987-1 p.35 - 38

" " (1987) " 1986-1 p.311 - 316

church paper 1987-1 p.23 - 29

Separates Cadwallader — R

Fergusson — Paleozoic [Bridge R tossed out]
argues greenstones in here are feeders to
Cadwallader

- [PROBLEM] - says ~~the~~ President 4/M rx are Jura-Cret.

(Paleozoic) — Diorite — (or) — said to cut Hurley (Sp R)
Solid emplacement in faults?

[PROBLEMS] - Leitch et al see Diorite cutting Cadwallader and
Serpentine