Larry Ovington Ront 312-5154 Phone: 250-372-5794 1559 Mt. Dufferin Drive Kamloops, B.C. V2E 1A3 Al Hambra (sp?) Dot Property OR? Gang Stewart Tanco Oil+ Ges 400 933 17th ave SW ? Calgory T2T5R6

Par Mc Candless Frex 687-4030

676678

20 March, 1998

Mr. Gary Stewart Tarco Oil & Gas Ltd. 500-717 7<sup>th</sup> Avenue SW Calgary, Alberta T2P 0Z3

Dear Gary:

I have reviewed the samples you sent me some time ago and also two samples that I collected when we looked at the drill core in Merritt. I apologize for the delay in completing this review, it has been a busy.

Notes on the individual samples are appended. I also compared my findings with those from Vancouver Petrographics. In summary, five of the samples are porphyritic granitic rocks that are probably dikes or small intrusions; six are quartz diorite to granodiorites of various types (Guichon batholith); four are ?Tertiary volcanics or tuffs. The mineralized sample has chalcopyrite, bornite and molybdenite mineralization and Vancouver Petrographics reported a grain of electrum in one sample. Judging from the thin section data, moderate hydrothermal alteration is widespread, and it is strong in some samples.

The regional mapping indicated that the granitic country rock should be dominantly fine grained Guichon granodiorite and a granodiorite with a transitional texture (generally more leucocratic and coarser). The thin sections are compatible with these rock types but textures are masked somewhat by alteration. Outcrop is poor on the property and we did not see porphyry dike rocks during the regional mapping. The Tertiary rocks, based on the maps we saw during the property visit, seem to be in a fault-bounded area. Elsewhere in the Highland Valley camp such faults have been reactivated structures, for example, the Lornex fault bounds a small Tertiary basin adjacent to the Valley mine. During regional mapping of the area, we found a small ?Tertiary volcanic center northeast of Gypsum Lake, which is the likely source area for these rocks.

Overall, the presence of altered porphyry dikes, which are important at Bethlehem Copper for example, the widespread hydrothermal alteration and the mineralization cut during drilling are all positive indicators that the property is worthy of more work. I would suggest you relog the existing core with the purpose of identifying porphyry dikes and their relationship, if any, to mineralized intervals.

Sincerely,

#### W.J.McMillan.

Appended: rock description notes; under separate cover - rock samples

Copy 2 Overpton

## **ROCK SAMPLES EXAMINED**

#### A. Probable dikes:

• 97C-02-01: 110.3m

Texture is sub-aplitic, phenocrysts are salmon pink (hematite?) and strongly altered to sericite and carbonate. The matrix feldspar is also shows strong carbonate-sericite alteration. Mafic minerals are variably altered. Biotite is partly to completely chloritized; amphibole is replaced by chlorite, carbonate and clay or sericite. Local muscovite grains are either alteration minerals or are pseudomorphs after biotite. There is no potassic feldspar in the rock. Accessory minerals are sphene, apatite and magnetite.

Name: altered sub-aplitic Biotite amphibole plagioclase porphyry.

Vancouver Petrographics: describe plagioclase phenocrysts in a fine matrix and clay as well as sericite alteration in plagioclase

## • 97C-05-2: 109.6m

Plagioclase porphyritic rock that staining shows to be free of potassic feldspar. The fine grained matrix consists of quartz and plagioclase, which looks zoned. In thin section, the feldspar is strongly altered to sericite and carbonate. Alteration is 30% of the crystal in places. Everywhere, alteration masks plagioclase zoning patterns. Alteration in the matrix is to sericite, ?hydromica (clay?) carbonate and an amorphous yellow-brown mixture (iron oxide).

Name: altered plagioclase porphyry

Vancouver Petrographics: describe feldspar crystals in a matrix of small quartz grains and interpret the rock to be a dacite dike

## • 97C-05-3: 245.3

A nearly seriate textured porphyritic rock crowded with plagioclase phenocrysts in a quartz-potassic feldspar matrix. Mafic minerals (amphibole) are locally altered to leucoxene. In thin section, plagioclase is seen to be altered to sericite and epidote and mafic minerals to chlorite (biotite) and tremolite, carbonate and iron oxide or epidote and chlorite (amphibole). Plagioclase zoning is relatively strong and normal with alteration more intense along the boundary between the older core than the younger more sodic overgrowth of the rim. Locally there are small fresh-looking biotite crystals. There is accessory magnetite and sphene.

Name: Crowded biotite amphibole plagioclase porphyry.

Vancouver Petrographics: describe larger plagioclase and hornblende in finer potassium feldspar and quartz matrix but call the rock quartz monzonite

## • McMillan sample: Dot 96-11: 59.1m

The hand sample is porphyritic with about 25% plagioclase phenocrysts in the 2 to 6 mm size range and 5% chloritized mafic phenocrysts in a matrix of quartz and potassic feldspar. Cut by carbonate veins (2 generations). In thin section, plagioclase crystals are 30 to 80\$+% sericitized and biotite, which forms clumps of small crystals (possibly secondary after amphibole?) is 25 to 100% chloritized. Quartz-potassic feldspar intergrowths comprise the matrix. Potassic feldspar is dusted with alteration. Accessory minerals are apatite and magnetite. Carbonate-chlorite zones intergrown with chloritized biotite may be replacing amphibole.

Name: Altered crowded mafic plagioclase porphyry

## • McMillan sample 96-16: 194m

Similar texturally to 96-11:59.1m. Cut by quartz-carbonate veins and with bleaching adjacent to veins and fractures. Plagioclase has a greenish cast (sericitized?). In thin section, plagioclase is variably sericitized and carbonate altered. Quartz in the matrix is coarser than that in 96-11 and deformed. Potassic feldspar in the matrix is also locally sericite-altered. Sericite as relatively coarse mats locally. Mafics are altered to sericite and chlorite. Veins are quartz, carbonate and green acicular crystals (tremolite-actinolite?).

Name: Altered crowded mafic feldspar porphyry

## **B. Granodiorites:**

## • 97C-01-2: 119.6m

Gray biotite amphibole quartz plagioclase granodiorite. Quartz is interstitial and angular between plagioclase crystals; potassic feldspar is minor and interstitial. In thin section, biotite is slightly chloritized with ragged edges; it seems partly resorbed by quartz. Amphibole is probably hornblende with inclusions of plagioclase, apatite, magnetite and sphene; it is subhedral and partially chloritized. Plagioclase is subhedral and weakly to moderately sericitized. It has weak normal zoning. **Name:** Mafic Guichon quartz diorite

Vancouver Petrographics: call it biotite hornblende quartz diorite

## • 97C-01-1: 48.9m

Relatively leucocratic-looking quartz mafic granodiorite (color index about 15). The stained slab shows angular to ameboid interstitial quartz and interstitial potassic feldspar. Plagioclase is slightly yellowed by the stain (sericite). In thin section biotite is intergrown with amphibole. Biotite is strongly chloritized and the amphibole is altered to chlorite +/- epidote. Plagioclase is normally zoned and moderately to strongly sericite altered. Potassic feldspar is weakly altered; it locally replaces plagioclase. Accessory minerals are apatite, sphene and magnetite. Locally, biotite replaces amphibole, then is itself replaced by chlorite.

Name: Altered biotite amphibole granodiorite

Vancouver Petrographics: describe primary muscovite (I did not see it) and call the rock hornblende quartz monzonite

## • 97C-02-02: 112.7m

Clouded zoned plagioclase with salmon pink alteration (not potassic feldspar) and green chloritic mafic mineral in hand specimen with interstitial potassic feldspar and quartz. Quartz veins carry chalcopyrite with intergrowths and rims of ?bornite or chalcocite and have potassic feldspar alteration envelopes. Sulphides are also disseminated in the altered mafics. Locally plagioclase is bleached adjacent to mafic minerals. In thin section biotite is chloritized or locally sericitized. Quartz grains clump together to form ameboid shapes and are intergrown with potassic feldspar. Plagioclase crystals, with local normal zoning, and to a lesser extent potassic feldspar are altered to sericite and carbonate. The opaque minerals are associated with quartz, chlorite and sericite. Apatite, sphene and zircon are accessory minerals.

Name: altered mineralized biotite granodiorite with potassic alteration on quartz veins

Vancouver Petrographics: call the rock silicified and sericitized hornblende granodiorite. They describe copper sulphide mineralization with the quartz veins and a grain of electrum

## • 97C-02-5: 191.5m

The rock has a dominantly grey-green color. Staining show relatively abundant interstitial quartz and potassic feldspar. It also reveals multiple zones in the plagioclase. Plagioclase and some quartz are relatively euhedral (early phases). In thin section, plagioclase is altered and normally zoned; crystals have sodic rims. Amphibole is pleochroic from almost turquoise to pale green; it is relatively unaltered and encloses opaque (magnetite) and apatite grains. Biotite is generally one-third altered to chlorite but alteration intensely varies to complete replacement by chlorite and epidote. **Name:** Biotite hornblende granodiorite - *this could be a dike rock*: the texture is somewhat porphyritic, quartz is relative abundant and poikilitic potassic feldspar encloses other components.

Vancouver Petrographics: call the rock chloritized, intensely sericitized hornblende biotite quartz monzonite

## • 97C-04-1: 206.3m

The specimen looks porphyritic but alteration blurs the texture. Plagioclase grains have white rims due to weak argillic alteration and biotite and hornblende? look chloritized. In thin section, plagioclase crystals have altered cores and more sodic much less unaltered rims. Cores are sericitized with local chlorite(?) alteration; they *may have oscillatory zoning*. Quartz is interstitial and ameboid. Potassic feldspar is interstitial and intergrown with quartz. Quartz-potassic feldspar poikilitically enclose plagioclase locally. Biotite is 60% chloritized and amphibole is completely replaced by chlorite, epidote, carbonate, magnetite and apparently biotite (earlier than the others). Accessory minerals are apatite, sphene and magnetite.

**Name:** altered granodiorite that may have Chataway affinities (textures indicate not Border or Guichon phases)

Vancouver Petrographics: called it altered hornblende biotite quartz monzonite

#### • 97C-05-1: 48.3m

The slab was not stained but is granodiorite with relatively fresh-looking but partly chloritized amphibole and chlorite-magnetite altered biotite. In thin section, plagioclase crystals are sericitized. especially adjacent to quartz +/- carbonate veinlets. Potassic feldspar is interstitial, relatively coarse and less altered than the plagioclase. Mafics (amphiboles) are partly altered to actinolite? and locally epidote; biotite is partly altered to chlorite. Quartz is crackled, and ameboid to angular between plagioclase crystals. It is intergrown with potassic feldspar.

Name: altered biotite amphibole granodiorite that may be Guichon variety

Vancouver Petrographics: called it altered hornblende granodiorite

#### C. Mineralization:

• 97C-02-3: 113.4m

A large bleb of chalcopyrite and small apparently disseminated chalcopyrite grains. The small amount of rock seen looks sericitized and has molybdenite mineralization. In thin section, relatively coarse sericite (muscovite) is intergrown with the sulphide and locally replaces biotite. It also occurs as radial crystals in veins. Remnants of narrow prisms are now Fe-carbonate and quartz - may have been rutile

Vancouver Petrographics: describe chlorite alteration, bornite and a trace of sphalerite in an uncertain host rock

# **D.** ?Tertiary Volcanics:

# • 97C-02-4: 145.3m

The fine grained rhyolitic-looking hand specimen has disseminated and networks of potassic feldspar. In thin section, fine grained plagioclase is dusted with alteration and zoned, but the pattern of zoning is unclear. The matrix is very fine grained with carbonate and lesser sericite alteration. Potassic feldspar partly replaces plagioclase. Accessory minerals are sphene and a ragged opaque mineral. Fractures have sericite coatings.

**Conclude:** altered Tertiary plagioclase porphyritic felsic volcanic rock or dike Vancouver Petrographics: called it a carbonate-altered felsite dike.

## • 97C-03-1: 28.5m

Pebbly fault gouge, or possibly ?Tertiary fragmental volcanic rock.. The "clasts" are angular to rounded and consist of quartz and rock fragments. In thin section, the clasts are seen to be quartz, fine spherulitic volcanics, plagioclase phyric basalts (carbonate altered), quartz-plagioclase intergrowths (granitic rocks) with weak sericite alteration, and some plagioclase clasts. The matrix is very fine and carbonate altered. Clasts are derived from the Guichon batholith and ?Tertiary volcanic sources,

Conclude: probably an altered Tertiary multilithic volcaniclastic rock. (tuff)

Vancouver Petrographics: called it slightly reworked altered tuff

# • 97CC-03-2: 62.6m

Pinkish brown, finely plagioclase porphyritic dacite?; probably Tertiary. In thin section, plagioclase forms microlites and fine grained phenocrysts. Fractures show carbonate and iron oxide alteration. The groundmass has local carbonate alteration. Altered mafic minerals are now carbonate and iron oxide but may have been pyroxene.

**Name:** Altered Tertiary porphyritic dacitic volcanic rock (but could be a high level shallow intrusive).

Vancouver Petrographics: called it an altered microporphyritic tuff

# • 97C03-3: 149.4m

Hand specimen is crumbly and carbonate-cemented gray-tan rock with no mafics remaining that looks like multilithic volcanic breccia under the hand lens. In thin section, clasts partly devitrified plagioclase phyric mafic volcanic rock, quartz fragments (vein material?), amygdaloidal mafic volcanic clasts, carbonate-altered felsic-looking clast (volcanic?), and partially carbonate-altered, normally zoned plagioclase crystals within a granitic clast. The matrix is fragmental, fine grained and carbonate altered.

Conclusion: Tertiary fragmental lithic crystal volcaniclastic rock (tuff)

Vancouver Petrographics: called it altered pebbly tuff

\*\*file share\clients\dotrocks

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Dave Do you see any problems \*\* with this is promotional mesure. Acres. Bull

Re: Rock samples from the Dot property

I have reviewed the samples you sent me \*\*date and also two samples that I collected when we looked at the drill core in Merritt.

Notes on the individual samples are appended. I also compared my notes with those from Vancouver Petrographics (after I had looked at the thin sections).

In summary, five of the samples are porphyritic granitic rocks that are probably dikes; six are quartz diorite to granodiorites of various types (Guichon batholith); four are ?Tertiary volcanics or tuffs. The mineralized sample has chalcopyrite, bornite and molybdenite mineralization and Vancouver Petrographics reported a grain of electrum in one sample. Judging from the thin section data, moderate hydrothermal alteration is widespread, and it is strong in some samples.

The Tertiary rocks, based on the maps we saw during the property visit, seem to be in a faultbounded area. Elsewhere in the Highland Valley camp such faults have been reactivated structures, for example, the Lornex fault bounds a small Tertiary basin adjacent to the Valley mine. During regional mapping of the area, we found a small ?Tertiary volcanic center northeast of Gypsum Lake, which is the likely source area for these rocks.

The regional mapping indicated that the granitic country rock should be dominantly fine grained Guichon granodiorite and a granodiorite with a transitional texture (generally more leucocratic and coarser). The thin sections are compatible with these rock types but textures are masked somewhat by alteration. Outcrop is poor on the property and we did not see porphyry dike rocks during the regional mapping.

Overall, the presence of altered porphyry dikes, the widespread hydrothermal alteration and the mineralization cut during drilling are all positive indicators that the property is worthy of more work. I would start by relogging the existing core with the purpose of identifying porphyry dikes and their relationship, if any, to mineralized intervals. That done, further holes could be laid out to test for extensions of the known mineralized intervals.

Sincerely,

W.J.McMillan.

Appended: rock description notes under separate cover - rock samples (including the ones I collected).

CC/Mike Conthro

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#### MINFILE / pc MASTER REPORT GEOLOGICAL SURVEY BRANCH ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	09215E024		NATIONAL	NATIONAL MINERAL INVENTORY: 09217 Cu6			
NAME(S):	ABERDEEN (L.960), AN PLYMOUTH QUEEN (L.9	BERDEEN MINE, CRO 97}	), NWN				
STATUS: REGIONS: NTS MAP: LATITUDE: LONGITUDE: ELEVATION: LOCATION ACCURACY:	Past Producer 092I07W 50 18 13 N 120 51 31 W 1036 Metres Within 500M		Underground	MINING DIVISION: UTM ZONE: NORTHING: EASTING:	Nicola 10 (NAD 83) 5574366 652596		
COMMENTS: COMMODITIES:	Shaft Copper	Silver	Gold				
MINERALS							
SIGNIFICANT:	Chalcocite	Specularite	Copper	Chalcopyrite	Pyrite		
ASSOCIATED: MINERALIZATION AGE:	Bornite Tourmaline Unknown	Malachite Quartz	Hematite		-		
DEPOSIT CHARACTER: CLASSIFICATION: TYPE: L04 Porphy: DIMENSION: COMMENTS:	Podiform Hydrothermal ry Cu ± Mo ± Au Lenses dip steeply	Concordant Epigenetic to the northeast	STRIKE/DIP: 310/	TREND	/PLUNGE :		
HOST ROCK	Plutonic						
DOMINANI HOSI ROCK:	FILCONIC						
STRATIGRAPHIC AGE	GROUP	FORM	ATION	IGNEOUS/METAM	ORPHIC/OTHER		
Unknown Lower Jurassic ISOTOPIC AGE: DATING METHOD: MATERIAL DATED:	Unnamed/Unknown Gro 190 +/- 8 Ma Potassium/Argon Biotite	up Unnar	ned/Unknown Formation	Guichon Creek	Batholith		
LITHOLOGY:	Quartz Monzodiorite Greenstone						
HOST ROCK COMMENTS:	Age date from Bulle	tin 56.					
GEOLOGICAL SETTING TECTONIC BELT: TERRANE:	Intermontane Quesnel		PHYSI	OGRAPHIC AREA: Tho	mpson Plateau		
CAPSULE GEOLOGY	The Aberdeen mine is located immediately west of Broom Creek approximately 2 kilometres northwest of its confluence with Guichon Creek. The area is underlain by rocks of the Lower Jurassic Guichon Creek batholith which are covered for the most part by extensive glacial overburden. Near the mine, Broom Creek parallels the contact between two varieties of the older Highland Valley phase of the Guichon Creek batholith. To the west is the Chataway granodiorite (190 Ma +/- 8 Ma). To the east, rocks previously designated by Northcote (1969) as fine-grained granodiorite belonging to the Witches Brook phase (199 Ma +/- 8 Ma) have been remapped by McMillan (1978) as quartz monzodiorite of the older Guichon variety. The Aberdeen deposit lies along a mass of greenstone between two coarse joint planes_striking 300 degrees in the plutonic rocks. A series of high-grade, en echelon lenses, striking 310 degrees and dipping steeply to the northeast, occur in a fracture zone to a depth of 30 metres. Mineralization consists of chalcocite, specularite, minor native copper, chalcopyrite, pyrite and bornite in a gangue of tourmaline, quartz and hematite. Malachite staining is also present. The mine was developed by a vertical shaft from which levels have been run at depths of 15.2, 30.5, 45.7 and 61 metres. Several of these drifts are stated to be 125 metres long.						
BIBLIOGRAPHY	EMPR AR 1899-734; 1 1915-232,446; 19 1924-136; 1925-1 1959-34; 1960-41 EMPR GEM 1969-269; EMPR EXPL 1981-10 EMPR MAP *30 EMPR BULL 1, p. 77;	900-892; 1901-11 16-262,429,518; 82,365; 1926-199 1971-346; 1972-1 *56; 62	86; 1903-181; *1905-2 1917-233,450; 1919-18 ; 1928-223; 1956-46; 3 60	04; 1906-255; 9; 1923-162; 1957-28;			
	EMPR ASS RPT 1557,	1826, *3454, 918	1	MINE	TILE NUMBER: 0921SE024		

7

DATE REVISED: 880210

MINFILE / pc MASTER REPORT GEOLOGICAL SURVEY BRANCH ENERGY AND MINERALS DIVISION

#### BIBLIOGRAPHY

GSC MEM \*249, p. 123 GSC OF 980 GSC MAP 44-20A; 886A; 887A EMR MP CORPFILE (Merritt Mines Ltd.; Aberdeen Mines 1928 Ltd.; EMR MP CORPFILE (Merritt Mines Ltd.; Aberdeen Mines 1928 Ltd.; Bethlehem Copper Corp. Ltd.; Torwest Resources 1962 Ltd.; Aselo Industries Ltd.; Highmont Mining Corp.) EMPR EXPL 1989-119-134 EMPR BC METAL MM00306 EMPR PF (see 092ISE063, numerous maps and reports) CODED BY: GSB DATE CODED: 850724 REVISED BY: LKW

FIELD CHECK: N FIELD CHECK: N

RUN DATE: 10/20/97 RUN TIME: 09:07:33

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MINFILE NUMBER:	09215E024	NAME :	ABERDEEN (L.	960)	STATUS: Pa	ast Producer
Production <u>Year</u>	Tonne <u>Mine</u>	s Tonnes d Milled		Commodity	Grams Recovered	Kilograms Recovered
1960	3	4		Silver Copper	560	2,631
1926	3	9		Silver Copper	498	3,901
1925	7	5		Silver Copper	1,928	8,404
1917	33	0		Silver Gold Copper	5,816 218	19,790
1916	1,15	0		Silver Copper	10,108	73,270
1915	з	6		Silver Gold Copper	4,976 62	2,540
1907	3	0		Silver Copper	435	1,173
SUMMARY TOTALS:	092ISE024	NAME :	ABERDEEN (L.	.960)		
		Metric		Imperial		
-	Mined: Milled:	1,674	tonnes tonnes	1,845	tons tons	
Recovery:	Silver: Gold: Copper:	24,321 280 111,709	grams grams kilograms	782 9 246,276	ounces ounces pounds	

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MINFILE NUMBER:	0921SE023		NATIONAL	NATIONAL MINERAL INVENTORY: 09217 Cu7			
NAME (S) :	VIMY, DOT, VIMY MIN UPPER VIMY, LOWER V VIMY RIDGE, LOT 186 LOT 2004, LOT 2005	E, IMY, IXL, 4, LOT 2003,					
STATUS: REGIONS: NTS MAP: LATITUDE: LONGITUDE:	Past Producer British Columbia 092I07W 50 19 18 N 120 50 58 W		Underground	MINING DIVISION: UTM ZONE: NORTHING: EASTING:	Nicola 10 (NAD 83) 5576392 653191		
ELEVATION: LOCATION ACCURACY: COMMENTS:	1071 Metres Within 500M Shaft, located sout Creek, about 20 kil	h-southwest of Mar ometres south of 1	nit Lake and west of Logan Lake.	Guichon			
COMMODITIES:	Copper	Gold	Silver	Molybdenum			
MINERALS	Describe	<b>G</b>	Chalassita	Challen and the	Gaussilita		
SIGNIFICANT:	Cuprite	Copper Specularite	Chalcocite	Chalcopyrite	Covellite		
ALTERATION:	Hematite	Sericite	Kaolinite	K-Feldspar	Carbonate		
ALTERATION TYPE: MINERALIZATION AGE:	Argillic	Potassic	Oxidation				
DEPOSIT CHARACTER: CLASSIFICATION:	Disseminated Porphyry	Stockwork Hydrothermal	Breccia				
TYPE: L04 Porphy DIMENSION: COMMENTS:	ry Cu ± Mo ± Au 450 x 100 Southeast zone.	Metres	STRIKE/DIP:	TREND	/ PLUNGE :		
HOST ROCK DOMINANT HOST ROCK:	Plutonic						
STRATIGRAPHIC AGE	GROUP	FORMA	FION	IGNEOUS/METAM	ORPHIC/OTHER		
LOWER JURASSIC	Guichon Creek Batholith Granodiorite Quartz Monzodiorite						
HOST ROCK COMMENTS:	Guichon variety, Hig	ghland Valley phas	se.				
GEOLOGICAL SETTING TECTONIC BELT: TERRANE:	Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau Quesnel						
INVENTORY							
ORE ZONE:	NORTHWEST		REPORT ON: Y				
	CATEGORY: Indicated YEAR: 1992 QUANTITY: 2930000 Tonnes COMMODITY GRADE						
COMMENTS : REFERENCE :	Copper 0.5000 Per cent A preliminary geological resource based on current and past drilling. Assessment Report 22839.						
CAPSULE GEOLOGY							
	<pre>which flows southward into Broom Creek. The area is underlain by the Early Jurassic Guichon Creek batholith which intrudes Upper Triassic Nicola Group volcanic rocks in the east. North of the property, near Gypsum Mountain, the intrusive rocks are unconformably overlain by Eocene Kamloops Group volcanic flows. The Vimy property is underlain primarily by the Guichon variety of the Highland Valley phase of the Guichon Creek batholith. This unit is comprised of fine to medium-grained quartz monzodiorite to granodiorite. Outcrops of coarser grained granodiorite (Chataway variety) are found in the vicinity of the mine. Younger porphyry intrusions are also present. The granodiorite is strongly altered (chlorite, sericite and kaolinite alteration mineralogy). Mineralization is structurally controlled. Disseminations and</pre>						
	veinlets of bornite, native copper, chalcorite, chalcopyrite and minor covellite and cuprite are concentrated in a zone of intense brecciation and alteration at the intersection of north and northwest trending faults. Intense alteration adjacent to mineralization consists of potassium feldspar, sericite, kaolinite, chlorite, carbonate and oxidation of specular hematite. Associated silver values range up to 6.8 grams per tonne.						

#### CAPSULE GEOLOGY

The two main showings on the property are designated as the Upper and Lower Vimy. The Upper Vimy showing consists of a shaft and a short crosscut west of the Gypsum Mountain road. About 300 metres to the east, two short adits develop the Lower Vimy. A small shipment of high-grade ore was made in 1925.

Indicated reserves of the main copper zone are estimated at 819,188 tonnes grading 0.35 per cent copper (Assessment Report 9699).

The main or Northwest copper zone, explored by surface trenches and drillholes, has been traced for approximately 270 metres with a width of up to 55 metres and a depth of 100 metres. The zone strikes at 140 degrees. The deposit remains open along strike and to depth. Previous drilling by various companies and drilling by Zappa Resources Ltd. in 1992 have outlined a preliminary geological resource of 2.93 million tonnes grading 0.5 per cent copper (Assessment Report 22839).

The Southeast zone is a new discovery by Alhambra Resources Ltd. in 1996, and is located about 200 metres along strike from the Northwest zone. The zone of bornite-rich porphyry copper mineralization was discovered beneath 20-30 metres of overburden. It has been intersected by 13 angle holes over a strike length of 450 metres and is still open to the southeast. It varies in width up to about 100 metres, however, no drilling has been done off the main trend so it is not known if a more widespread stockwork zone is present. The best hole, #15, cut 119.8 metres grading 0.58 per cent copper which included a high-grade zone of about 40 metres with numerous assays in the 1-3 per cent copper range. Local kicks of gold (to 2.49 grams per tonne), silver (to 149.8 grams per tonne) and molybdenum (to 0.29 per cent molybdenum over 5 metres in hole 11) occur but are very sporadic (M. Cathro, personal communication, 1997).

The Southeast zone is hosted by a fine to medium-grained granodiorite of Guichon or Chataway variety. Alteration consists of moderate to intense phyllic and intense pervasive potassic zones which are associated with the better mineralization. Bornite is predominant over chalcopyrite and is associated with specular hematite in many intersections. There are fairly large zones of gouge and sericitized fault breccia in some of the holes, however, it is too early to know which way these faults are trending. The degree of alteration suggests this may be a fairly large mineralizing system (M. Cathro, personal communication, 1997).

#### BIBLIOGRAPHY

EMPR AR 1901-1186: 1903-182: 1905-204: 1923-161: 1924-136: 1925-183: 1926-199; 1927-213; 1928-211; 1956-46; 1957-28; 1959-35; 1962-50; 1963-48; 1964-90; 1965-149; 1966-164; 1967-159; 1968-194 EMPR GEM 1970-371; 1971-347; 1972-159 EMPR EXPL 1979-167; 1981-94 EMPR ASS RPT 737, 749, 764, \*1790, 4043, \*4056, 7494, 9187, \*9699, \*22839, 24884 EMPR PF (A Compilation of the Geology, Mineralization and Exploration, Southeast Quarter - Highland Valley Property for Chataway Exploration Co. Ltd., February 1971; Geological plans; Reports by S.F. Kelly, 1979 and R.H. Seraphim, 1979, 1980; Drill hole plan; see 092ISE063, numerous maps and reports) EMPR EXPL 1989-119-134 EMPR BC METAL MM00307 GSC MEM 249, p. 124 GSC MAP 886A; 887A GSC OF 980 GCNL #216, 1980; #79, #80, #85, #119, #157, #163, #179, #181, #203, 1981; **#7, #72, #142, 1982; #99, 1983** N MINER Aug.27, Sept.10, 1981; Jan.21, Mar.4, 1982

DATE CODED: 850724 DATE REVISED: 970423 CODED BY: GSB REVISED BY: MC FIELD CHECK: N FIELD CHECK: Y RUN DATE: 10/20/97 RUN TIME: 09:09:08

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MINFILE NUMBER:	0921SE023	NAME :	VIMY		STATUS:	Past Producer
Production <u>Year</u>	Tonnes <u>Mined</u>	Tonnes <u>Milled</u>		Commodity	Grams <u>Recovered</u>	Kilograms Recovered
1925	77			Silver Copper	1,866	8,409
SUMMARY TOTALS:	092ISE023	NAME :	VIMY			
		Metric		Imperial		
Recovery:	Mined: Milled:	77	tonnes tonnes	85	tons tons	
	Silver: Copper:	1,866 8,409	grams kilograms	60 18,539	ounces pounds	