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**OVERVIEW OF THE**  
**DEBBIE-YELLOW PROPERTY**  
**ALBERNI & NANAIMO MINING DISTRICTS**  
**PORT ALBERNI, B.C.**  
**NTS 92F/2E**

**By**

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## I. INTRODUCTION

The Debbie property is in an advanced stage exploration for gold related to faults that cut basalt and chert. Alteration patterns are similar to many Archean gold deposits. Potential for volcanogenic massive sulphide deposits attracted Westmin to the area but exploration is at an early stage.

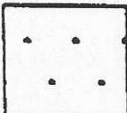
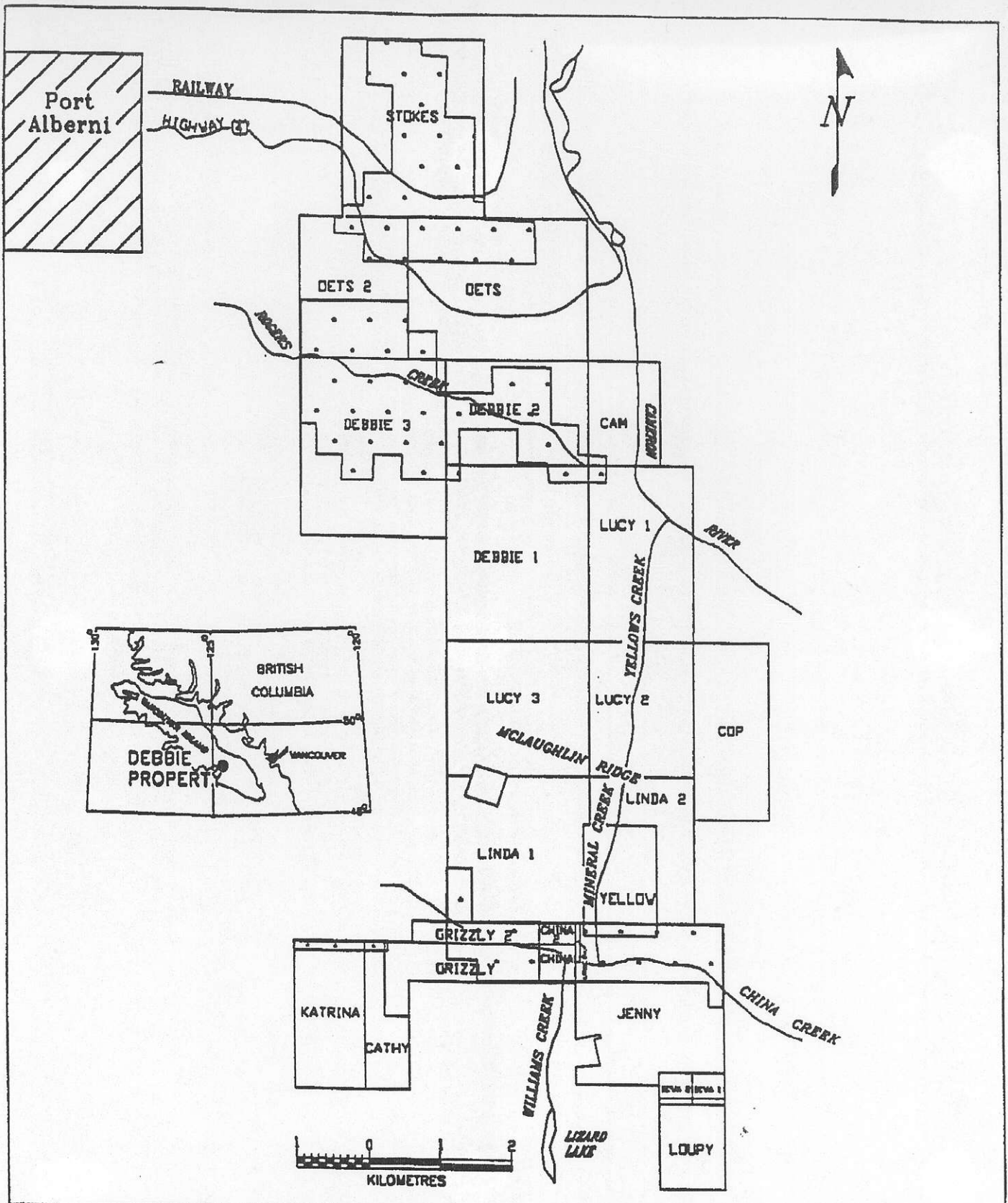
The property lies 7 km east of Port Alberni, B.C. (see Figure 1). Logging roads provide ready access to most areas. The Debbie Property consists of 250 units covering about 60 km<sup>2</sup> while the Yellow Property is a six-unit claim entirely surrounded by the Debbie Property.

Exploration of the property is governed by the Debbie and Yellow Joint Venture agreements between Westmin Resources Limited and Pacific Gold Corp. (formerly Nexus Resources Corp.). Presently, the Debbie joint venture is approximately 65% Westmin and 35% Pacific Gold with Westmin as operator. However, the joint venture on the Yellow claim is approximately 75% Pacific Gold and 25% Westmin with Pacific Gold as operator.

## II. MINERAL INVENTORY

In 1988-89, a mineral inventory was calculated for the Mineral Creek, 900, and Linda Zones. The traditional method of sections was used and mineralized blocks were defined using a cut off grade of 1.71 g Au/T and a minimum true thickness of 2 metres. A series of 1:500 scale cross sections, at a 10m spacing, was constructed for each gold zone. Gold values used were selected according to priority of; metallics fire assays over ½ assay ton fire assays over 10 gram geochemical analyses. The mineral inventory is summarized in the following table. The approximate dimension of each zone is as follows:

Mineral Creek Zone:	500m long, 20m wide, and 200m high.
900 Zone:	100m long, 40m wide, 20m high and open at depth.
Lower Linda Vein:	200m long, 2m wide, and 20m high.



AREAS WHERE BASE METAL RIGHTS ARE OWNED BY MacMILLAN BLOEDEL LTD. UNDER OPTION TO NORANDA

Westmin Resources Ltd.

DEBBIE PROPERTY  
CLAIM MAP

Feb. 1991

Figure 1

<b>SUMMARY TABLE                      MINERAL INVENTORY                      @ 1.71 g Au/Metric Ton Cutoff</b>			
	Probable (metric tons)	Probable Grade (g/T)	Possible (metric tons)
Mineral Creek Zone	172,082	3.26	451,246
900 Zone	28,294	11.69	17,488
Linda Veins	51,871	8.40	68,350

2.5 2.247 2.335 537,084

**III. MINERALIZATION**

Targets:

- (1) Epigenetic gold zones associated with Tertiary quartz veins and carbonate-sericite-pyrite altered faults include the 900 Zone, Linda Zone, Mineral Creek Zone, and 1050 Zone (see Figure 2).
- (2) Volcanogenic massive sulphide systems are indicated by sulphidic zones associated with felsic volcanic and siliceous altered volcanic rocks in the Regina workings, Rogers Creek Zinc showing, and the Stokes and Oets claims.

(A) Gold

The Mineral Creek Zone is contained within a steep, east dipping, fault consisting of mineralized breccia and gouge with lenses of altered wall rock up to 20m wide. Gold occurs in the fault zone and in the hanging wall. It has been systematically explored over 900 metres of strike length and to a depth of 200m although it has

been tested over 1.4 km and to 250 metres below surface. Typical gold grade is in the range of 1.7 to 6.2 g Au/T over widths to 10m. Sporadic higher values to 13.37 g Au/T are present. The nature of gold mineralization ranges in style from visible gold in discrete quartz veins to fine gold distributed uniformly through the altered host rock.

Gold also occurs in quartz-calcite +/- sulphide veins east of the Mineral Creek Fault Zone in the Dunsmuir, Mac, and Belcher veins. Gold grades in the veins are erratic and range from 1.7 to over 85.7 g Au/T.

Finally, gold occurs in pyritized argillaceous cherts north of the Mineral Creek Zone, some drill intersections are: 89DU199 - 49.03 g Au/T over 2.0m; 89DU196 - 3.08 g Au/T over 4.4m; and 87DM124 - 27.84 g Au/T over 1.94m. Further drilling is required to test the continuity of the gold-bearing chert horizons, particularly as here they are intersected by faults.

The Linda Zone includes three and possibly four moderately east dipping quartz-rich vein systems located east of the Mineral Creek Fault. Structures are named the Upper, Middle, and Lower veins, the Lower being the widest, most mineralized and continuous. The lower Linda vein has been traced over 250 metres of strike length. Grades range from 4.10 to >34.20 g Au/T over 2m widths in the lower vein. The Upper and Middle structures are less continuous but drill intersections returned gold values up to 99.12 g Au/T (0.2m) and 4.01 G Au/T (0.53m).

The 900 Zone is a new discovery resulting from Westmin's work. Gold occurs in:

1. Quartz veins and stockwork veins with trace galena, pyrite and minor calcite strike east and dip moderately steeply north. Drill intersections to 14.4m of 139.82 g Au/T (D118-87) contain visible gold. Strong, rusty weathering carbonate alteration envelopes sharply defined quartz veins. The stockwork is localized near the intersection of two faults.

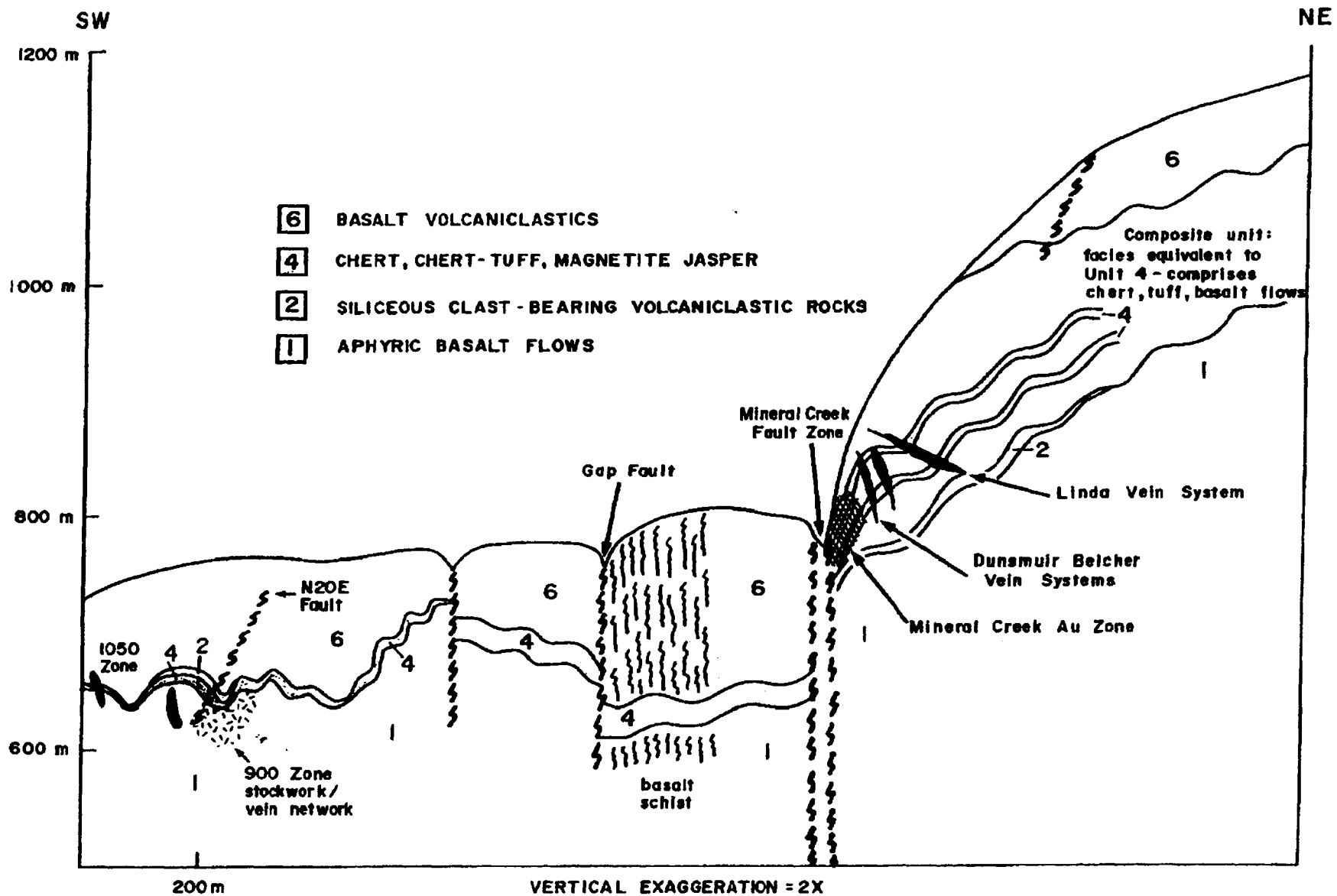


FIGURE 3. SCHEMATIC CROSS SECTION OF 900 ZONE - UPPER MINERAL CREEK AREA

2. Steeply dipping, narrow quartz +/- carbonate veins with minor arsenopyrite, pyrite and gold strike 020°; they contain native gold. Variable ankerite-sericite alteration envelopes the veins. Grades of 8.57 to 51.43 g Au/T over 1-2 metres are common.
3. Pyritized magnetite-bearing chert and subordinate jasper overlying an aphyric basalt sequence carries 2.74 to 8.57 g Au/T with 5-15% disseminated to stringer pyrite with quartz veinlets over widths to 3-4 metres. Pyrite is secondary and is the result of sulphidization of magnetite.

Trenching during the 1990 program in the 1050 Zone exposed a 3 to 4 metre moderately carbonate altered fault zone with two 0.1 metre quartz veins. The fault strikes east and dips moderately north. Grab samples from each of the veins returned 6.86 and 89.14 g Au/T. Drilling revealed that the fault zone appears to widen to 8m at depth. A drill intersection returned 286.29 g Au/T over 1.7m; however, core recovery was only 30 percent. This mineralized zone within the fault is untested on strike to the east and west and down dip. When projected to the east, the fault could connect with the gold bearing east-west fault on the 900 Zone.

(B) Base Metals

Sulphide zones occur at the transition from arc tholeiitic basalt to overlying calc alkaline basalt. Exhalative chert including magnetite bearing grey chert, jasper and pyritic black chert also mark the favourable stratigraphic zone. Massive sulphide prospects include a 3 km long conformable pyritic horizon on the Stokes and Oets claims, a zinc showing and pyritic stringer zone at Rogers Creek, and occurrences of disseminated, stringer, and semi-massive bands of pyrite with anomalous Cu, Pb, Zn, Au, and Ag in the Regina workings area.

The Stokes and Oets claims host a three kilometer long, conformable, pyritic horizon that locally contains 1.8% Cu, 901 ppm Pb, 2774 ppm Zn, 11.7 ppm Ag, and 76 ppb Au which provides a focal point for further work.

The Rogers Creek area contains two, probably related, mineral occurrences pointing to massive sulphide potential. The Rogers Creek showing comprises several thin lenses of fine-grained, weakly schistose, massive sulphide lying conformably in chlorite schist. The thickest lens contains 0.12% Cu, 0.87% Pb, 14.10% Zn, 3.41 g Ag/t and 0.17 g Au/t over a 20 cm thickness. Lead isotopic analysis indicates the lead is old, of probable Sicker Group age. A zone of pyritic quartz-sericite-chlorite-Fe carbonate schist containing trace gypsum is exposed 300 metres west of the Rogers Creek showing and strikes NNW under a geophysical anomaly tested in drillhole RC1. This hole crossed a pyritic alteration zone about 300m thick in which a few to 20% pyrite occurs as disseminations, stringers, and semi-massive bands within quartz-sericite-chlorite-Fe carbonate schist. This zone contains minor gypsum in the central part. A 3 cm band of schistose, fine-grained, massive sulphide and associated disseminations produced an assay over 0.6m of 0.32% Cu, 0.04% Pb, 2.06% Zn, 0.07 g Ag/t, and 5.83 g Au/t. This pyritic schist zone resembles the footwall altered rocks of the Lynx mine at Westmin's Myra Falls Operations.

The Regina Workings area is prospective for both massive sulphide deposits and epigenetic gold. A large area of siliceous volcanic rocks is thought to include both low potassium rhyolites and quartz-albite altered volcanics. The felsic rocks include both massive and volcanoclastic phases ranging to very coarse breccia. Approximately eight old adits ranging from 2 to 20m in length were driven on massive pyrite with base metal sulphides and on north-south trending quartz-sulphide veins. The sulphides are coarse and include pyrite, chalcopyrite, sphalerite and galena. Grab samples contain up to 2% Cu, 1.5% Pb, 20% Zn, 11 g Ag/Ton and 0.7 g Au/Ton. Based on limited exposure, the style of mineralization in the old workings is best described as a stringer zone. Drillhole D17-87 was drilled 600m south of the workings and intersected over 300m of



variably pyritic rock. This zone contained up to 2% Cu, 2.4% Zn, 0.14% Pb, 67.3 ppm Ag and 995 ppb Au.

#### IV. HISTORY

The China Creek area, which forms the core of the property, was placer mined for gold beginning with the Chinese in 1862. By 1895, at least 2000 oz of gold had been reported although actual production is unknown. In 1895, placer mining was again active with substantial development of hydraulic methods. Bedrock claims were staked along the area now covered by the 900 and Mineral Creek Zones. The consolidated Alberni Gold Mining Co., owned by Dunsmuir interests, ran an 8-stamp mill from underground mining on the current Yellow claim in 1898. Several cleanups were recorded.

In 1933-36, Vancouver Island Gold Mines Ltd. operated and expanded the old Consolidated Alberni workings, building a 35 ton per day mill in 1936. Total production was 403 tons containing 303 oz Au and 52 oz Ag.

The Alberni Gold Development Syndicate developed some 10 adits and trenches on "silicified andesites" 2.5 km south of the Consolidated Alberni Gold Mining Co. workings. A bulk sample is reported to have assayed 0.64 oz Au/ton and trace Ag (Stevenson, 1944, Report of the Minister of Mines). This area, called the Regina workings, has potential for hosting Au-Cu-Zn volcanogenic massive sulphide deposits.

Western Mines staked the Mineral Hill-Regina area in 1973-76. After reconnaissance mapping and soil geochemistry, the claims were allowed to lapse. In 1979, the area was restaked by Western Mines as the Debbie property. Between 1979 and 1982, Westmin conducted a program of reconnaissance geological mapping, detailed sampling and mapping of old workings, base metal and some gold soil geochemical surveys, and VLF, pulse EM, and IP geophysical surveys on selected areas. In 1983-84, negotiations to enter a joint venture with MacMillan Bloedel and Noranda (MacMillan Bloedel owning base metal rights over some of the claims) were conducted. An agreement was not concluded,

however, three holes (744.6m total) were jointly drilled at the Rogers Creek showing on the Debbie Property.

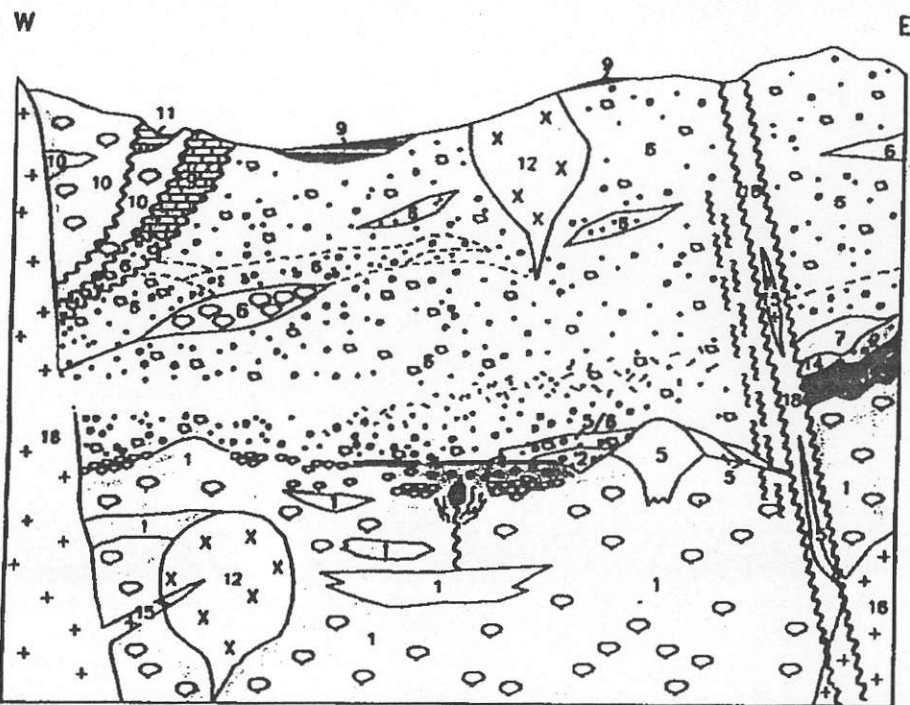
In 1986, a joint venture with Nexus Resource Corp. (now Pacific Gold Corp.) and Westmin Resources Limited was completed. Stronger gold prices and flow-through shares prompted an aggressive gold exploration program between 1987 and 1989. Detailed soil geochemical sampling, ground geophysics (IP), surface prospecting, especially around old workings, and drilling followed with encouraging results: the 900, Linda, and Mineral Creek gold zones were discovered.

In February 1989, an exploration tunnel, 2085m long including two crosscuts into the mineralized Mineral Creek Fault, was completed. It was designed as a drill platform to test the Mineral Creek Fault at depth and along strike. In addition, the crosscuts and raises in the Fault zone were sampled. Most of the mineralized rounds are stored in the remuck stations along the main tunnel.

In 1990, follow-up work of a coincident Au-As soil anomaly led to the discovery of a gold bearing structure 650m west of the 900 Zone. Trenching in the soil anomaly uncovered a 3.8m wide altered zone with two 10cm quartz veins that carried gold. Technical difficulties with drilling did not allow this structure to be fully tested but one intersection of 286.29 g Au/Ton over 1.7m was obtained. Core recovery in this intersection was 30 percent.

## V. STRATIGRAPHY

The Debbie-Yellow properties lie in the Horne Lake Cowichan Uplift. Bedrock geology is comprised of three principal units of Paleozoic Sicker Group volcanics. Figure 4 illustrates the general stratigraphic setting for the property.



- |  |  |  |                                      |
|--|--|--|--------------------------------------|
|  | CHERT/JASPER                                     |  | MASSIVE FLOW/PILLOWED FLOW/PILLOW BX |
|  | LIMESTONE (MARBLE)                               |  | CHERT OR JASPER PILLOW INTERSTICES   |
|  | FELSIC AND INTERMEDIATE/MAFIC AND U/M INTRUSIVES |  | TUFF/CHERT-TUFF                      |
|  | PYROXENE/PLAG PHENOCRYSTS                        |  | LAPILLI TUFF                         |
|  | QUARTZ VEIN/STOCKWORK/STRINGER ZONE              |  | AGGLOMERATIC LAPILLI TUFF            |
|  |  |  | SILTSTONE/SANDSTONE/CONGLOMERATE     |

LITHOLOGIC UNITS

- |                     |     |   |                                    |
|---------------------|-----|---|------------------------------------|
| TERTIARY            | 18  | CATACLASITE/FAULT BRECCIA                 |                                    |
|                     | 17  | CHLORITE +/- SERICITE SCHIST              |                                    |
|                     | 16  | DIORITE/TONALITE                          |                                    |
|                     | 15  | PLAG and/or HB-PHYRIC DYKE                |                                    |
| JURASSIC & TERTIARY | 14  | 'MOTTLED DYKE'                            |                                    |
|                     | 13  | FINE-GRAINED BASALT DYKE                  |                                    |
|                     | 12  | GABBRO/DIABASE                            |                                    |
| CRETACEOUS          | 11  | NANAIMO GROUP SEDIMENTS                   |                                    |
| TRIASSIC            | 10  | KARLUITSEN FM BASALT                      |                                    |
|                     | 9   | BASALT/TUFF CHERTS with minor LMSN        | BUTTE LAKE CAMERON RIVER FORMATION |
|                     | 7   | PYROXENE-PHYRIC BASALT (<3% PX PHENOS)    | MYRA FORMATION ? SICKER GROUP      |
|                     | 6   | BASALT VOLCANICLASTICS (mainly PHYRIC)    |                                    |
|                     | 5/6 | PSEUDO-FELSIC VOLCANICS (ALTERED BASALT?) |                                    |
|                     | 5   | FELSIC VOLCANICS                          |                                    |
| PALEOZOIC           | 4   | CHERT with minor TUFF and ARGILLITE       |                                    |
|                     |     | JASPER                                    |                                    |
|                     | 2   | SILICEOUS CLAST-BEARING VOLCANICLASTICS   |                                    |
|                     | 1   | APHYRIC BASALT (MAINLY FLOWS)             |                                    |

**Westmin Resources Limited**  
Debbie-Yellow Project

Debbie-Yellow Project Area  
Stratigraphic Section  
(horizontal scale exaggerated)

WORK BY:	DATE REVISED:	FILE REFERENCE:	FIGURE
JR Bartlett		STRATSCT	
DATE DRAFTED:	REVISD BY:		
July 1989			
DRAFTED BY:	N.T.S. NUMBER		
H Oye	927 /21		

The basal unit is aphyric pillowed basalt flows with intercalated pillow breccia and tuffs. Chert interstices are common, especially near the top. Hematitic alteration, expressed as "purple and green" clastics and jasperoidal cherts, occur within tens of metres of the upper contact. Wholerock geochemistry indicates the basalts have a rock composition of an arc tholeiite. An extrusive ultramafic rock, averaging 23% MgO (komatiitic), has been recognized within the aphyric basalt unit.

The transitional contact between the aphyric basalt and the overlying basalt volcanoclastic is marked by a heterogeneous assemblage of: chert and cherty tuff; magnetite-bearing jasper; argillaceous cherts and tuffs; lenses of tuffs and discontinuous flows of low potassium rhyolite (quartz keratophyre); blanket-like deposits of silica-albite altered basalt clastics ("pseudofelsics"); and basalt-rhyolite heterolithic tuffs, lapilli-tuffs and coarse breccia, rarely including sulphide and jasper clasts. The stratigraphic thickness is typically 5-20m, however, thicknesses exceeding 100m have been observed. This unit is a transition zone between the underlying and overlying volcanic cycles.

Overlying the heterolithic facies is a thick (~250m) sequence of basalt laminated tuffs to coarse matrix-supported debris flow deposits. This unit is dominantly aphyric basalt tuff at the base with increasing amounts of plagioclase crystals then pyroxene crystals upward. The uppermost part interfingers to coarse pyroxene-phyric basalt debris flows with minor isolated pillow breccias and flows of pyroxene-phyric basalt. The largest pyroxene euhedra are up to 12mm. Wholerock geochemistry indicates the basalts have a calc-alkaline composition.

## VI. STRUCTURE

Major folding throughout the area forms primarily gentle, open anticlines and synclines of low (<50m) amplitude, developed upright axial planes striking approximately 340°. Subsequent deformation resulted in gentle crossfolds with axial traces trending 060°. Disharmonic folding is demonstrated in the chert beds. High-strain zones, up to 300m wide, generated penetrative foliation; one such zone runs from the Rogers Creek showing southeast through 900 Zone and on through the Regina area.