5/86

ASSESSMENT REPORT

MCLAUGHLIN RIDGE PROPERTY

TITLE:	1984 Diamond Drill Program Rogers Creek Area, Port Alberni, B.C.
CLAIMS WORKED:	Debbie 3, 453
WORK APPLIED TO:	Debbie 1, 451; Debbie 2, 452; Debbie 3, 453; Lucy 1, 372; Cam, 930
LOCATION:	Alberni and Nanaimo Mining Divisions NTS: 92F/2E Latitude: 49°14'N Longitude: 124°42'W Rogers Creek Area, 7 km east of port Alberni, Vancouver Island, B.C.
OWNER OF CLAIMS:	Westmin Resources Limited
OPERATOR OF CLAIMS:	Noranda Exploration Co. Ltd.
AUTHORS:	Richard Walker Dr. Gary Benvenuto (Drill logs)
DATED SUBMITTED:	July 31, 1985

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,758

TABLE OF CONTENTS

FIGURES

INTRODUCTION

Location: (92F/2E)

A diamond drill program which is the subject of this report was conducted in the Rogers Creek area on claim Debbie 3, 453. This site is 7 km due east of Port Alberni, B.C. near the junction of MacMillan Bloedel's logging roads, Cameron Main and Summit Main. This junction is reached by following Highway 4 8 km east from Port Alberni to the Summit Main Road (also called the Mt. Arrowsmith turn-off). The junction with Cameron Main Road (Figure 1) is 2.4 kms south along Summit Main Road.

Property:

This assessment work is applied to the "Debbie Group" of five contiguous claims staked on the modified grid system as listed below:

Claim	Record No.	Units	Date Recorded
Debbie 1	451 (5)	20	May 2, 1979
Debbie 2	452 (5)	12	May 2, 1979
Debbie 3	453 (5)	20	May 2, 1979
Lucy 1	372 (5)	15	May 2, 1979
Cam	930 (6)	6	June 20, 1980

The Debbie Group comprises part of a larger group of contiguous claims owned by Westmin Resources Limited which is called the McLaughlin Ridge property. This assessment work was conducted by Noranda Exploration Company Ltd. and Westmin Resources Limited.

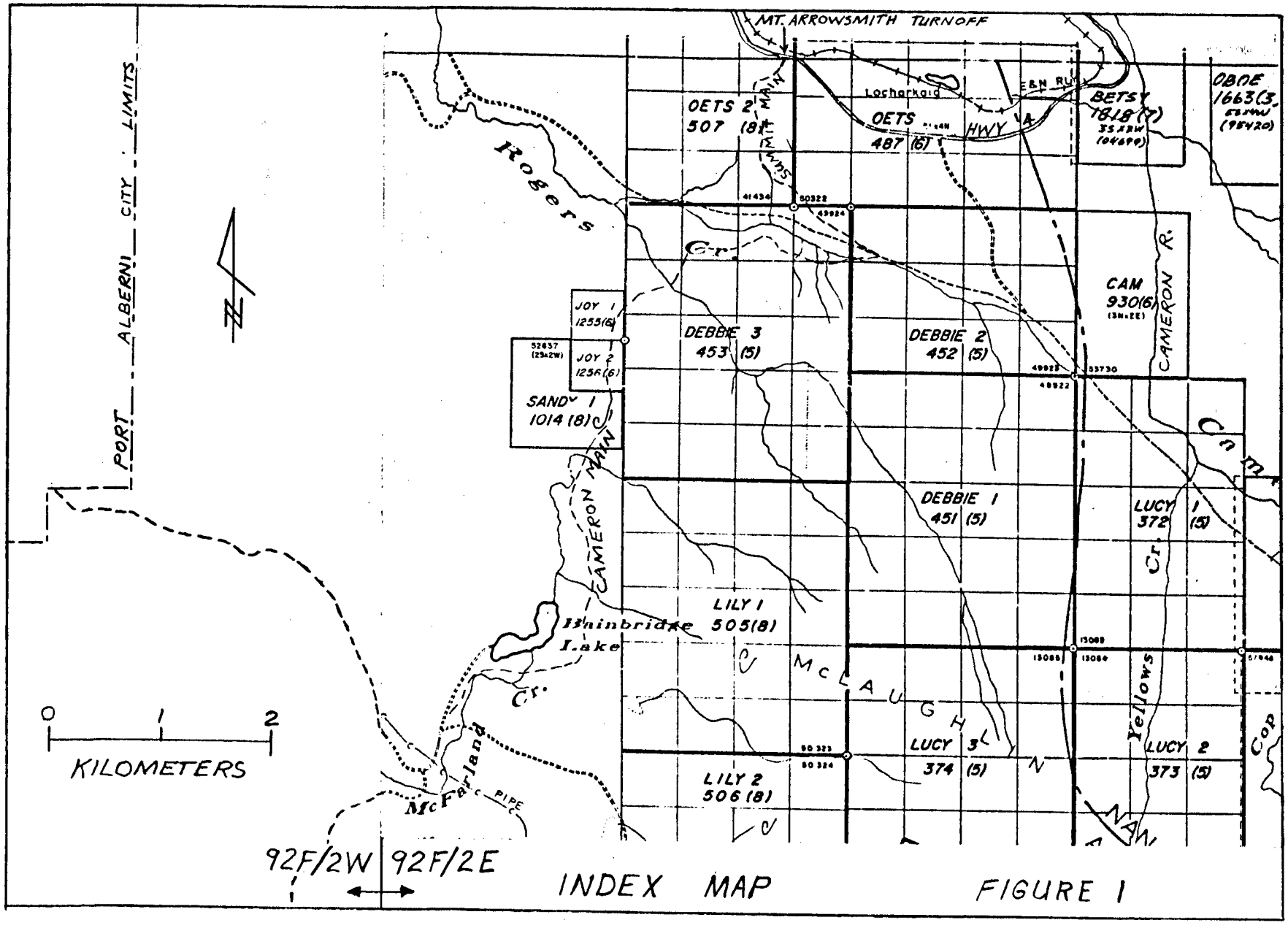
General Geology:

The area of the Debbie Group is underlain by rocks of the Paleozoic Sicker Group. Porphyritic mafic volcanic rocks predominate and include massive and pillowed phases, pillow breccia and resedimented volcaniclastics. Subordinate felsic volcanics and volcaniclastics as well as cherty and argillaceous sediments are intercalated in the mafic sequence. These rocks have been metamorphosed and folded under conditions close to the lower greenschist facies. Post-metamorphic block faults are common.

The area exhibits potential for volcanic hosted massive sulfide deposits similar to those at Buttle Lake, 75 km to the northwest. Additional potential exists for volcanogenic gold deposits which may be related to massive sulfide systems. Epigenetic gold deposits are also known in the area as exemplified by the past productive Vancouver Island Gold Mine located 7 km southeast of the work area.

Work History:

Westmin Resources Limited (formerly Western Mines Ltd.) has held claims in the area of the Debbie Group for various periods since 1973. The current program began in 1979 and has included geological mapping, soil geochemistry, rock geochemistry, induced polarization surveys and Crone pulse electromagnetic surveys. These surveys are detailed in a previous assessment report by G. Benvenuto submitted February, 1982.



INDEX MAP

FIGURE 1

Diamond Drill Program:

A program of three holes totalling 744.6 meters of diamond drilling was completed between December 14 and December 22, 1984. One hole of 508.1 m recovered NQ core and two holes totalling 236.5 m recovered BQ core.

DRILLING REPORT

Three holes totalling 744.6 meters were drilled on claim Debbie 3 in the Rogers Creek area as illustrated on Figure 2. Hole locations, attitudes and technical details are provided on the cover pages of the attached logs. These holes have not yet been sampled for assay. Assay results will be provided in a subsequent assessment report when the core has been analysed. The core is stored at Westmin Resources's Discovery Terminal, Spit Road, Campbell River.

Geological Setting and Target Definition:

The Rogers Creek area is underlain by a sequence of volcanic rocks composed predominantly of aphyric basalt and pyroxene and feldspar porphyritic basalt which occurs as massive, pillowed and volcaniclastic phases. The volcaniclastics are predominantly poorly sorted, with a significant proportion of agglomerate sized clasts mixed with lapilli sized clasts in a tuffaceous matrix. These clastics are matrix supported and are thought to represent pillow breccia. A subordinate amount of bedded, sorted basaltic tuff with or without cherty layers appears to represent reworked sediment. A few outcrops reveal the presence of minor thin (up to 9 m) siliceous rock units described as feldspar porphyritic quartz keratophyre (low k-rhyolite). A few exposures indicate the presence of thin beds of jasper-magnetite $\pm$ pyrite $\pm$ black chert in pillowed basalt on the west side of the Rogers Creek area. The volcanic sequence is crudely stratified, strikes NNW and dips moderately east. The sequence contains narrow to broad zones of schistosity conformable with stratification. Chlorite schist is most common and represents metamorphosed and deformed mafic rock.

A prominent zone of pyritic sericitic schist about 200 m wide strikes through the center of the Rogers Creek area. Within this zone carbonate-bearing, sericite-chlorite schist predominates and may represent metamorphosed hydrothermally altered mafic volcanic. Within this are narrow zones (to several meters) of more siliceous pyritic sericite-quartz $\pm$ carbonate schist which may represent metamorphased altered felsic volcanic or else zones of silicification. Pyrite varies from minor to several percent as disseminated fine to medium grains plus locally thin stringers. Traces of gypsum have been recognized locally in this schist on surface. The projection of this sericitic schist zone where it crosses Rogers Creek under overburden coincides with a geophysical anomaly defined by induced polarization surveys, a Crone pulse EM survey and a Geoterrx airborne EM survey. The data suggests a zone of higher chargeability, lower resistivity and a possible poor conductor. This zone was the target of drill hole R.C. 84-1.

About 30 m east along Cameron Main Road from the pyritic, sericitic schist zone is a base metal showing called the Rogers Creek showing. Here, banded, fine grained sphalerite occurs with minor chalcopyrite and galena in four lenses 4 to 20 cm thick exposed in the road-cut through schistose

LEGEND

- ⊡ CORNER POST
- LCP LEGAL CORNER POST
- (POSTS LOCATED IN FIELD ON TOPO. MAP)
- OUTCROP
- DRILL HOLE

OETS 2

DEBBIE 3

ROGERS CREEK

CAMERON MAIN ROAD

11+00N

9+00N

7+00N

5+00N

3+00N

1+00N

0+00N

ROGERS CREEK GRID
BASE LINE 0+00E

PORPHYRITIC BASALT TUFF TO AGGLOMERATE

GEOPHYSICAL ANOMALY

508.1M

OETS 2 TO LCP

OETS LCP

LCP

DEBBIE 3

RC.84-1
-55°
QTZ.-ASPY. COBBLE
0.412 oz Au/T

SUMMIT

MAIN ROAD

RC84-3
-60°
91.4 M

RC84-2
-100°
145.1 M

ROGERS CK SHOWING
14.1% Zn, 0.87% Pb, 0.12% Cu/20 CM

PILLOWED PORPHYRITIC BASALT

PORPHYRITIC BASALT TUFF TO LAPILLI TUFF MINOR AGGLOMERATE

PILLOWED BASALT

STRONG SCHISTOSITY

PYRITIC SERICITE-CHLORITE-CARBONATE SCHIST ZONE

PORPHYRITIC BASALT TUFF TO AGGLOMERATE

0 100 200 300 400
METERS

RRW JULY 1985

ROGERS CREEK DRILL HOLE PLAN PROJECTION : FIGURE 2

porphyrytic basalt clastics. The thickest lens contained 14.1% Zn, 0.87% Pb and 0.12% Cu over 20 cm without significant Au or Ag. These lenses are conformable with schistosity at 160° - 49° E. Lineation on schistosity plunges 14° SSE. No geophysical anomaly was recorded over this showing. The SSE trend projection of the showing was the target of hole R.C. 84-2. The dip projection below R.C. 84-2 was the target of R.C. 84-3.

Drill Results:

Detailed results are provided in the attached drill logs.

Hole R.C. 84-1 was collared on Summit Main Road 220 m ENE of the target geophysical anomaly and was inclined at -55° towards the anomaly. This hole, after passing through basaltic clastics and pillowed(?) basalt entered a broad zone of carbonate bearing sericitic, chloritic, pyritic schist of locally variable character. This zone was intersected from 215.6 m to the end of the hole at 508.1. Pyrite content is mostly in the range of 1 to 5 volume percent with locallized zones containing up to 10%. Minor to 3% gypsum occurs between 265.8 and 398.6 m. Only minor amounts of sphalerite and chalcopyrite occur locally in very thin bands and associated disseminations. This pyritic schist zone correlates well with the geophysical anomaly and may represent a major hydrothermal alteration zone of a massive sulfide system.

Hole R.C. 84-2 was collared on Cameron Main Road 83.3 m east of the Rogers Creek zinc showing and was inclined -10° towards the strike projection of the showing at a point 50 m SSE of the showing. Hole R.C. 84-3 was inclined -60° under R.C. 84-2. Both holes drilled basaltic rocks of variable texture including some bedded tuff. The only sulfide present is pyrite as very fine disseminations up to 2% and minor thin stringers. The most notable pyrite enrichment is a 2.4 cm thick band of very fine massive pyrite at 87.92 m in R.C. 84-3. Thse two holes failed to identify an extension of the Rogers Creek showing.

DIAMOND DRILL HOLE R.C. 84-1
SUMMARY LOG

LOCATION: Rogers Creek Area, approximately 7 km east of Port Alberni, B.C.
Hole Collar is on Summitt main road 683 meters northwest of intersection with Cameron main road as measured along road.
Hole Collar is 9.9m at 211° true azimuth from geodetic survey of Canada benchmark 84C031.

N.T.S.: 92F/2E U.T.M. COORDINATES: 5455000N, 376730E

MINING DIVISION: Alberni

PROPERTY: Westmin Resources Limited Claim "Debbie 3, 453 (5)"
MacMillan Bloedel Block 82

DRILLED BY: F. Boisvenu Drilling Ltd. as contacted by Noranda Exploration Company, Ltd.

STARTED: Dec 16, 1984 COMPLETED: Dec 21, 1984

ELEVATION: 310m (from 1:5000 topographic map)

ROGERS CREEK GEOPHYSICS GRID: 3+45N, 0+75E (Westmin Grid)
103+75N, 100+15E (Noranda Grid)

CORE SIZE: NQ HOLE DEPTH: 508.1m

COLLAR AZIMUTH: 236° true COLLAR DIP: -55°SW

DOWNHOLE SURVEY:

DEPTH	AZIMUTH	DIP
106.7m	240°	-53°
213.4m	245°	-52°
320.0m	248°	-49°
411.5m	250°	-47°
502.9m	251°	-46°

Note: Survey by Tropari

LOGGED BY: G. Benevenuto, Westmin Resources Ltd., March 1985

CASING: Left in, cut off, covered and buried in road bed

CORE STORAGE: Westmin Resources Ltd., Discovery Terminal, Spit Road, Campbell River.

SUMMARY DRILL LOG OF R.C. 84-1

INTERVAL (Meters)	LITHOLOGY
0 - 3.1	Overburden
3.1 - 71.2	Basaltic A.L.T.* (to L.T.) to A.L.T. interlayered w/T.L.A. (starting at 28m) to T.L.A. (to A.L.T. to T.A.L.) (starting at 46.8m), with 23 intervals of basaltic tuff. Complexly intergradational succession.
71.2 - 215.6	Pillowed? basalt: schistose, completely sericite-chlorite-calcite altered (to locally epidote? altered, Fsp., (Maf.) P. matavitric basalt, to Fsp., (Maf.) microporphyry, metavitric to very finely crystalline basalt, to amygdaloidal, Fsp.? microporphyry?, metavitric basalt, to locally, highly amygdaloidal, metavitric basalt. Weakly graded to graded and layered appearing (5 main intervals, 3 to 15m long) (layering parallel to schistosity).

In A.L.T. to T.L.A., clasts: variations of strongly epidote-sericite altered, augite, feldspar porphyry, feldspar microporphyry, (amygaloidal), metavitric basalt (to locally, highly amg'l., metacitric basalt).

Basaltic tuff: 23 intervals between 3.9 - 52.3m, 1 to 80 cm (to 200 cm) wide (average of 30 cm; total of intervals = 8.71m); consists of massive to weakly graded, Fsp., (maf.) P. basaltic crystal tuff to locally thin-bedded to laminated basaltic fine to very fine crystal tuff (to basaltic chert).

Grading: at 13.1 -18.5m 2 graded beds suggest tops point downhole, at 34.7-43.3m, 5 graded beds suggest bed tops point uphole.

Bedding: at 55^{o} to core axis (C.A.) (16 measurements), parallel to schistosity.

Schistosity: weak at 3.1-65m; moderate at 65-71.2m.

Pyrite: 4 intervals between 149.5 and 215.6m, 19.5, 8, 1.3 and 5m long, with generally 0.5 to 1% (locally to 3 %) disseminated pyrite.

"Purple & Green": pillowed? basalt at 185.7 - 196.6m: 2.4m with 1-3% purple, 5.1m with 85-90% purple and 5.8m with 25 to 2 % purple.

Schistosity: generally strong, locally moderate to very strong. At 204.6-210.6m, no schistosity.

215.6 - 338.5 Pillowed?? basalt with intervals sericite- Fe carbonate-(pyrite-quartz) alteration: basalt appears to vary from amygdaloidal, feldspar? microporphyry?, metavitric to locally, very finely crystalline, to feldspar porphyry and microphyry, amygdaloidal, metavitric. Amygdaloidal basaltic A.L.T. or broken pillow breccia at 320.0-338.5m.

Alteration:

1. Sercite-Fe carbonate-(pyrite-quartz) alteration in 5 main intervals, 2.9, 1.4, 7.3, 1.8 and 55.8m (282.7 - 338.5m) long; generally with 0.5 to 2 volume % pyrite, but 4m with 4 to 5% (282.7 - 286.7m); pyrite may be alteration product (with Fe-carb. and quartz) of chlorite-filled amygdules. Occurs in 2 main intervals: 215.6 - 218.5m and 262.4 - 338.5m (as 4 intervals totalling 66.3m). Very locally minor to 1-2% fuchsite? patches.

2. Sercite-Fe carbonate-quartz-pyrite (to quartz-Fe carbonate- (sericite - chloride-calcite) alteration zones. Occurs in 7 intervals, 9.4m (at 218.5-227.0m), 1.2, 0.7, 2.0, 0.7, 2.7 and 0.4m (at 281.3 - 281.7m) long (totalling 17.1m). Occurs downhole from (1 interval), within (3 intervals), uphole from (1 interval) alteration type #1, and as 2 isolated intervals. Rock generally appears patchy altered, brecciated or pseudomylonitic with stringer like sericite forming irregular second? schistosity - Pyrite: generally 3 to 5 volume %, very fine to fine grained, disseminated, but 5 to 8% at 263.8 - 256.8m and 8 to 10% at 276.8 - 279.5m. Pyrite may be alteration product of chlorite-filled amygdules, and occur in lensy, Fe-carbonate altered, calcite + quartz + pyrite veinlets. These intervals may result from Fe-carbonate alteration of zones with extensive brecciation and shearing and a high % of pyrite, calcite (originally) + quartz veinlets - Relatively

abundant clay-weathered schistosity surfaces and gouge seams in alteration types #1 and 2 may account for conductivity of schists.

3. Sercite - chlorite - (calcite-leucoxene?) altered, schistose, pillowed? basalt; as 8 intervening intervals, 1.2 to 7.8m long (totalling 3.63m), in interval 227.9 to 276.8m. Generally, 0.5 to 1% disseminated pyrite. Contacts with alteration types #1 and 2 gradational over 10 to 140 cm in 6 cases, sheared or brecciated in 2 cases, and sharp in 1 case.
Veinlets: sericite - chlorite - (calcite) altered basalts generally contain 1 to 2% quartz-, quartz + calcite-, and locally calcite with 1-5% disseminated pyrite-filled veinlets. Fe carbonate-altered basalts contain 1 to 2%, quartz-, and quartz + calcite veinlets (locally with few % disseminated pyrite), down to about 266m, and 1 to 2%, Fe carbonate (+ quartz + few % disseminated pyrite)-, and quartz-filled veinlets between 266 and 338.5m. Gypsum locally forms a few patches (very locally to 100%) in Fe-carbonate veinlets between 265.8 and 338.5m (gypsum + Fe-carbonate veinlets more common at 286.7 to 338.5m).

Pyrite + Sphalerite? + Chalcopyrite + Galena + Fe carbonate + Quartz Veinlets?:
At 270.1m, 2 cm thick, Fe-carbonate + quartz (+ gypsum) veinlet? with 3% pyrite, 1-2% cpy., minor? to 1% Sph.? + Gn.?, in pyritic, quartz, quartz-sericite altered schist.

At 336.2, 2 to 3 cm thick band (altered veinlet?) of quartz (80%), Fe-carbonate (5%), pyrite (7%), Sph.? (5%), Cpy. (2%) and Gn.? (1%), in Fe-carbonate - sericite-quartz - pyrite altered, basaltic A.L.T.

338.5 - 363.0 — Amygdaloidal?, feldspar? microporphry, metavitric basalt grades down to feldspar porphyry and microporphyry, metavitric? to very finely crystalline? basalt: moderately to strongly schistose; completely sericite-chlorite-(calcite-leucoxene?- (Fe-carbonate -)) altered; 0.5 to 1% disseminated pyrite.

363.0 - 508.1m — Variably Fe-carbonate altered, pillowed basalt: basalt generally strongly schistose, amygdaloidal, feldspar? microporphyry, metavitric, grading to feldspar porphyritic, very finely crystalline, to locally highly amygdaloidal metavitric.

1. Intervals of sericite - Fe carbonate-pyrite (+ chlorite + quartz) alteration: Strong Fe-carbonate alteration at 363.0 - 367.9m and 377.0 + 419.4m (strong to weak Fe-carbonate alteration at 377.0 - 383.1m and 398.6 - 401.8m). moderate to weak Fe-carbonate alteration at 439.2 - 455.3m and 473.5 - 508.1m (E.O.H.). Clay weathered schistosity and gougey seams relatively common.

Pyrite: commonly 3 to 5%, disseminated, locally up to 8% (5 to 7% at 363.0 - 367.0m; 4 to 8% at 401.8 - 407.9m). Pyrite % generally increases in % and grain size with increasing degree of Fe-carbonate alteration; appears to be alteration product (along with Fe-carbonate and quartz + chlorite) of chlorite filled amydules. Pyrite over about 3% may occur where significant % of Fe-carbonate altered, pyritic calcite (originally?) veinlets.

Veinlets: generally 1 to 3% of rock, with variable proportions of Fe-carbonate, calcite, quartz and locally gypsum, pyrite and chlorite.

Gypsum: 3% gypsum to gypsum + Fe-carbonate veinlets at 363.0 - 367.0m; few patches of gypsum in veinlets at 367.0 - 367.9m and 377.0 - 383.1m; 1 to 2% gypsum veinlets at 383.1 - 398.6m. Gypsum not observed below 398.6m.

Sphalerite?: at 364.4m, 1.5m interval of sheared and/or brecciated Fe-carbonate + sericite + gypsum, with few % pyrite and 0.5 - 1% wisps of sphalerite. At 366.06m, 3m interval, strongly brecciated. Fe-carbonate + gypsum + quartz veinlet?? with 0.5% sphalerite? and minor very fine grained galena?

Stibnite?: at 414.1 - 415.4m, minor, very, very, fine grained stibnite? in very thin stringers within Fe-carbonate veinlets, and locally disseminated in small patches within schist. at 414.8, 8 to 11mm thick, massive, finely to very coarsely? crystalline stibnite? filled veinlet with 5 to 10%, disseminated grains of quartz.

2. Intervals of strongly schistose, completely sericite-chlorite-calcite- (leucoxene? - pyrite + Fe-carbonate) altered, pillowed basalt: at 367.9 - 377.0m, 419.4 - 439.2m and 455.3 - 473.5m (weakly to non Fe-carbonate altered).

Pyrite: generally 0.5 to 2%, except 3 to 5% at 419.4 - 422.5m, disseminated.

Veinlets: generally 1 to 2%, calcite-, to calcite + quartz-, to quartz (+ calcite) - filled, very locally with a few %, disseminated pyrite.

SCHISTOSITY

3.1 to 65m downhole: weak
65 to 71m: moderate
71.2 to 215.6m: generally strong, locally moderate, locally very strong.
215.6 - 508.1m: generally strong, appears to be increasingly overgrown with increasing Fe-carbonate and quartz alteration, accompanied by appearance of anastomotic, stinger-like zones of sericite that imparts an incipient, second? schistosity.

Average angle between schistosity and core axis is 60^{o} (average of 510 measurements). Mineral elongation generally with a pitch of 90^{o} on schistosity surfaces. Where schistosity most strongly developed, kink bands at low angles to core axis, fairly common.

Gary Benvenuto July 31, 1985

Gary Benvenuto
Project Geologist
Westmin Resources Limited
April 10, 1985

* A = Agglomerate; L. = lapilli; T. = tuff
** C.A. = core axis

DIAMOND DRILL HOLE R.C. 84-2
SUMMARY LOG

LOCATION: Rogers Creek Area, approximately 7.5 km east of Port Alberni, B.C.
Hole Collar is on Cameron Main road (south shoulder) 295 meters west of intersection with Summit Main road as measured along road. This is 83.3m east of the Rogers Creek zinc showing (main lens).

N.T.S.: 92F/2E U.T.M. COORDINATES: 5454680N, 376970E

MINING DIVISION: Alberni

PROPERTY: Westmin Resources Limited Claim "Debbie 3, 453 (5)"
MacMillan Bloedel Block 82

DRILLED BY: Longyear Canada Ltd. as contacted by Noranda Exploration Company, Ltd.

STARTED: Dec 18, 1984 COMPLETED: Dec 19, 1984

ELEVATION: 295m (from 1:5000 topographic map)

ROGERS CREEK GEOPHYSICS GRID: 0+55S, 0+55E (Westmin Grid)
99+73N, 100+04E (Noranda Grid)

CORE SIZE: BQ HOLE DEPTH: 145.1m

COLLAR AZIMUTH: 225^{o} true COLLAR DIP: -10^{o}SW

DOWNHOLE SURVEY: none

LOGGED BY: G. Benevenuto, Westmin Resources Ltd., April 1985

CASING: No casing, collared in outcrop.

CORE STORAGE: Westmin Resources Ltd., Discovery Terminal, Spit Road, Campbell River.

SUMMARY DRILL CORE LOG OF R.C. 84-2

INTERVAL (Meters)	LITHOLOGY
0 - 3.1	Overburden
0 - 28.7	Basaltic A.L.T.* to L.A.T. to T.L.A. to L.T. (to crystal T. to cherty T.), or broken pillow breccia.

Complexly intergradational (size and % of clasts) succession.

Clasts: very strongly epidote-sericite-altered, augite?, (feldspar) porphyritic, feldspar, (augite?) microporphyritic, amygdaloidal, metavitric basalt. Few clasts of highly amygdaloidal feldspar microporphyritic, metavitric basalt.

Matrix: strongly sericite-epidote-altered, crystal (and ash) T. derived from augite? and feldspar porphyritic and microporphyritic, metavitric basalt.

Baslatic T. intervals: at 12.2m, 22.1m and 23.6m, 3 cm, 9-14cm and 35 cm wide (respect) intervals of weakly graded, basaltic fine to very fine crystal tuff to cherty, very fine tuff (to basaltic chert). Grading suggests bed tops point uphole. Bedding at 65^{0}, 80^{0} and 45^{0} to core axis.

Schistosity: at 24.8 - 26.2m, start of very weak foliation, grades downhole to weak to moderate schistosity at $75-80^{0}$ to C.A.*.

28.7 - 132.1: Baslatic flows (pillowed?) with 2 intervals of flow breccia?.

Moderately to strongly schistose, completely sericite-chlorite-(epidote ± calcite - leucoxene?-) altered (at 104.8 - 125.8m, very weakly to weakly (to strongly) Fe-carbonate altered), intergradational succession of basaltic flows comprising (feldspar porphyritic), feldspar microporphyritic, (amygdaloidal), metavitric basalt to (hornblende, feldspar porphyritic, amygdaloidal), very finely, to very finely crystalline basalt, with flow selvages of amygdaloidal, metavitric basalt or feldspar porphyritic, metavitric to feldspar microporphyritic, metavitric, to metavitric basalt. Flow selvage apparent at 65.6 - 92.6m.

Flow breccia? intervals at 55.7 - 61.8m and 92.6 - 93.9m.

Bedded? to laminated, basaltic, very fine to ultrafine grained tuff? interval at 93.9 - 95.7m.

Pyrite:	generally trace minor (locally to 0.5%), very, very, finely disseminated; 1% disseminated and 1-2% hairline fracture-pyrite at 96.3 - 97.1m.
Veinlets:	1%, epidote-, quartz-, quartz + calcite-, and calcite-filled veinlets. 1-2%, Fe-carbonate veinlets at 104.4 - 125.8m.
Schistosity:	grades downhole from moderate to strong intensity within 28.7 - 89.1m; moderate schistosity at 8.91 - 99m; moderate to strong schistosity at 99 - 132.1m. Schistosity (and layering and bedding? at 93.9 - 95.7m) at 70^{o} to C.A. (average of 63 measurements.

132.1 - 145.1 Basaltic flow breccia grades downhole into basaltic A.L. to T.A.L.:

Moderately to very weakly (grading downhole) schistose, variable sericite-chlorite-calcite-epidote?-altered, grading downhole to moderately to strongly sericite-epidote-((chlorite-calcite-)) altered.

Clasts: amygdaloidal, feldspar microporphyritic, metavitric basalt (uphole) to variations of (feldspar, mafic, porphyritic, amygdaloidal), feldspar microporphyritic, metavitric basalt (downhole)

Matrix: in T.A.L., to 5%, "glass" coated feldspar microporphyroclasts and highly flattened, highly amygdaloidal?, metavitric basalt fine L. clasts?.

Veinlets: 2-3%, epidote + calcite filled veinlets and few quartz + calcite veinlets.

Schistosity: moderate (1m) grades downhole to weak to very weak; at 80^{0} to C.A. (average of 6 measurements).

Gary Benvenuto July 31, 1985

Gary Benvenuto
Project Geologist
Westmin Resources Ltd.
April 10, 1985

* A = Agglomeratic; L. = lapilli; T. = tuff
** C.A. = core axis

DIAMOND DRILL HOLE R.C. 84-3
SUMMARY LOG

LOCATION: Rogers Creek Area, approximately 7.5 km east of Port Alberni, B.C.
Hole Collar is on Cameron main road (south shoulder) 295 meters west of intersection with Summit main road (same as RC2) as measured along road. This is 83.3m east of the Rogers Creek zinc showing.

N.T.S.: 92F/2E U.T.M. COORDINATES: 5454680N, 376970E

MINING DIVISION: Alberni

PROPERTY: Westmin Resources Limited Claim "Debbie 3, 453 (5)"
MacMillan Bloedel Block 82

DRILLED BY: Longyear Canada Ltd. as contacted by Noranda Exploration Company, Ltd.

STARTED: Dec 20, 1984 COMPLETED: Dec 21, 1984

ELEVATION: 295m (from 1:5000 topographic map)

ROGERS CREEK GEOPHYSICS GRID: 0+55S, 0+55E (Westmin Grid)
99+73N, 100+04E (Noranda Grid)

CORE SIZE: BQ HOLE DEPTH: 91.4m

COLLAR AZIMUTH: 225° true COLLAR DIP: -60°SW

DOWNHOLE SURVEY:

DEPTH	AZIMUTH	DIP
91m	Acid Test	-55° uncorrected

Acid tube = 21mm inside diameter

LOGGED BY: G. Benevenuto, Westmin Resources Ltd., April 1985

CASING: Casing left in protruding above ground

CORE STORAGE: Westmin Resources Ltd., Discovery Terminal, Spit Road, Campbell River.

SUMMARY DRILL CORE LOG OF R.C. 84-3

INTERVAL (Meters)	LITHOLOGY
0 - 1.5	Overburden
1.5 - 27.3	Basaltic A.L.T.* to A.T.L. to L.A.T. to T.L.A.

Clasts: variations of: very strongly epidote-sericite-altered, (augite?, feldspar porphyritic), feldspar microporphyritic, (amygdaloidal), metavitric basalt.

Matrix: very strongly epidote-sericite-altered, crystal tuff derived from feldspar, (augite?) porphyritic feldspar microporphyritic, (metavitric) basalt, and large % of poorly distinct fine L. to tuff-sized clasts as described above.

Schistosity: at 22.2 - 27.3m, weak foliation, grades downhole through very weak to weak schistosity (with increase in chlorite + calcite alteration); schistosity at 70^{0} to core axis.

27.3 - 47.3: Basaltic flow breccia or lapillistone or (T.) L.A.:

Fragments: moderately epidote-sericite-calcite- weakly chlorite-altered, amygdaloidal, (feldspar, mafic porphyritic), feldspar microporphyritic, metavitric basalt.

Matrix: similar to fragments but higher % of chlorite-filled amydgules; moderate to strongly chlorite-calcite-weakly sericite-epidote altered.

Pyrite: trace very, finely disseminated; very locally, minor to 1% disseminated and few pyrite stringers.

Schistosity: moderate at 27.3 - 30.9m; weak at 30.9 - 47.3m; at 70^{0} to core axis (average of 14 measurements.

47.3 - 52.9 Basaltic ((A.L.)) crystal tuff:

Weakly to moderately schistose, completely sericite-chlorite-calcite-((epidote?-)) altered, fine to very fine grained; mostly "glass" coated, feldspar crystals, locally with to 7%, chlorite-altered mafic porphyroclasts and few % feldspar porphyroclasts.

Clasts: 3%, coarse to fine lapilli (uphole), to medium to coarse tuff-sized (downhole), very strongly sericite-epidote??-clacite-(chlorite-) altered, amygdaloidal, feldspar microporphyritic, metavitric basalt.

Pyrite: minor, very, very finely disseminated.

Schistosity: weak to moderate, at 70^{0} to C.A. 7 measurements).

52.9 - 53.7: Bedded, graded, (pyritic), (cherty), basaltic tuff:

Weakly schistose, very thin bedded to laminated, weakly graded, very strongly sericite-(chlorite-(epidote-)) altered, very fine to very, very fine tuff to cherty, very, very, fine tuff (to basaltic chert).

Pyrite: overall approximately 2-3%, very, very finely (to finely) disseminated, locally concentrated to 10% in bands to 1.5 cm wide.

Bedding: 55 to 30° to core axis (folded); grading in two places suggest tops point uphole.

53.7 - 91.44 (E.O.H.): Basaltic flows (pillowed??) with 2 intervals of basaltic flow breccia and 2 intervals of bedded, basaltic tuff.

Weakly to strongly schistose (increasing intensity downhole), completely sericite-chlorite-(epidote ± calcite - leucoxene?-) altered, intergradational succession of variations of (feldspar, mafic?, porphyritic), feldspar microporphyritic, (amygdaloidal), metavitric basalt to metavitric to very, very finely to very finely crystalline basalt. Layering could be approximately 15-25 cm to 1m + wide.

Basaltic flow breccia intervals: at 67.5 - 69.1 (apprx.) m and at 89.3 - 91.44m (E.O.H.). 10-15% fragments of strongly sericite-(epidote?-) altered, (amygdaloidal), feldspar? microporphyritic), metavitric basalt in groundmass of amygdaloidal, (feldspar? microporphyritic), metavitric basalt that is strongly schistose and completely sericite-chlorite- altered.

Basaltic tuff intervals: at 78.0m, 82.9m and 87.8m, 30 cm, 15 cm and 10cm wide intervals (respectively) of very thin bedded to laminated, colour banded and laminated, variably chlorite-sericite-, and epidote-altered, weakly to moderately schistose, basaltic very fine to very, very fine tuff (to locally weakly cherty tuff). Bedding contorted and folded; where more regular, at 75° and 65° to core axis (and parallel to schistosity).

Pyrite: generally trace to minor, very, very finely disseminated, very locally to 1% disseminated in intervals to 15 cm wide.

At 62.8m, 18 cm of banded, metavitric to very finely crystalline basalt with 9 bands, 2-5 mm thick with 5-10%, very, very finely disseminated (and fracture) pyrite. Pyritic bands parallel basaltic bands and weak schistosity.

At 87.92m, 2-2.4 cm thick layer of massive pyrite: 75-85%, very, very, fine grained pyrite (patches and very delicate wispy laminations) with weakly hemitite?-strained, very, very fine grained quartz (or chert) matrix. Band occurs within 6 cm interval of basalt with 25%, lensy, Fe-carbonate veinlets 1-10 mm thick (parallel schistosity and pyrite layer at 70^{0} to core axis). Immediately uphole, 10 cm of laminated to very thin bedded?, basaltic, very, very fine tuff?.

Veinlets: 1-2%, calcite-, clacite + quartz-, and quartz veinlets.

Schistosity: weak at 53.7 - 64.7m, moderate at 64.7 - 66.6m, strong at 66.6 - 72.8m, moderate to strong at 72.8 - 91.44m; schistosity at 70^{0} to core axis (average of 39 measurements).

Gary Benvenuto July 31, 1985

Gary Benvenuto
Project Geologist
Westmin Resources Ltd.
April 10, 1985

* A = Agglomeratic; L. = lapilli; T. = tuff
** C.A. = core axis

COST STATEMENT

1)	Diamond Drilling Contractors Invoice 508.1 m of NQ hole, December 14 to December 22, 1984 F. Boisvenu Drilling Ltd., Vancouver.	$34,697.55
2)	Diamond Drilling Contractors Invoice 236.5 m of BQ hole, December 16 to December 22, 1984 Longyear Canada Inc., Vancouver.	$17,530.92
3)	Core logging by G. Benvenuto (Westmin) 20 days in period March 1 to March 29, 1985 at $173/ day.	$ 3,460.00
	TOTAL	$55,688.47

CLAIM FOR ASSESSMENT WORK CREDIT $55,000.00

WESTMIN RESOURCES LIMITED

R. R. Walker
Exploration Manager
Vancouver Island

STATEMENT OF QUALIFICATIONS

I, Gary Louis Benvenuto of the City of Vancouver, British Columbia hereby certify that:

(1) I am a geologist residing at 2683 Panorama Drive, North Vancouver, B.C.

(2) I graduated with a B.Sc. degree in geology from California State University at Los Angeles in 1972 and with a Ph.D. degree in geology from Queens University Kingston, Ontario in 1978.

(3) I am an associate member of the Geological Association of Canada.

(4) I have practiced exploration geology with Cominco Ltd. from May to October 1979 and with Westmin Resources Limited from January 1980 to April 1985.

Gary Benvenuto July 31, 1985