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1992 ASSESSMENT REPORT

IDEAL 9 CLAIM HARMONY GROUP, DOVE PROJECT GEOLOGICAL MAPPING AND LITHOGEOCHEMICAL SURVEY

NANAIMO MINING DIVISION NTS 92F/14 E LATITUDE 49° 47', LONGITUDE 125° 12'

CLAIM OWNER JOSEPH L. PAQUET

SUB-RECORDER RECEIVED JAN 1 9 1993

M.R.# _____\$ _____

OPERATOR WESTMIN RESOURCES LIMITED

REPORT BY

MURRAY I. JONES WESTMIN RESOURCES LIMITED AND ROBERT L. WRIGHT R. L. WRIGHT AND ASSOCIATES

JANUARY 18, 1993 GEOLOGICAL BRANCH ASSESSMENT REPORT

22,762

RPT/93-002

TABLE OF CONTENTS

Page

1.0	SUMMARY	1
2.0	INTRODUCTION2.1Objectives2.2Location and Access2.3Physiography and Vegetation2.4Exploration History2.5Claims	1 2 2 5
3.0	REGIONAL GEOLOGY	5
4.0	PROPERTY GEOLOGY4.1Geology4.2Structure4.3Alteration and Mineralization4.4Ideal 9 Claim	9 9 9 11 11
5.0	LITHOGEOCHEMISTRY	14
6.0	CONCLUSION	15
7.0	RECOMMENDATIONS	16
8.0	REFERENCES	17
9.0	STATEMENT OF EXPENDITURES	18
10.0	STATEMENT OF QUALIFICATIONS	19

APPENDIX A

Rock Sample Descriptions

APPENDIX B

Geochemical Analyses

LIST OF FIGURES

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Page

Figure 1	Location Map, Dove Project	3
Figure 2	Road Access to Dove Property	4
Figure 3	Claim Map, Ideal and Harmony Claims	6
Figure 4	Dove Property Geology and Mineralization, Central Sheet	10
Figure 5	Geology, Ideal 9 Claim Area, Scale 1:5,000	12
Figure 6	Geology of Lower Murex Creek Area, Scale 1:1,000	13

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1.0 SUMMARY

A limited lithogeochemical survey and structural mapping program was carried out on the Ideal 9 claim in 1992. The purpose of the survey was to provide detailed structural and lithogeochemical information in an area which indicated the potential to host significant mineralization in previous work. The Dove property is presently being explored for high grade, epithermal precious metal deposits.

The survey was not able to determine with absolute certainty that a major structure was present in the area of lower Murex Creek. Also, the lithogeochemical sampling (3 samples) did not identify a significant alteration zone. One sample (D92-19) of an angular float boulder contained anomalous values of Ag, As, Cr, Pb and Zn in a sulphide-rich, drusy quartz vein. Despite this, several points of evidence suggest that a structure may be present under overburden cover, along strike from a major structure, the Murex Creek Lineament.

As a result of the 1992 survey, it is recommended that the potential for mineralization along the projection of the Murex Creek Lineament be tested by a pole-dipole induced polarization survey. Any significant targets generated by this survey may be tested by a limited diamond drilling program.

2.0 INTRODUCTION

2.1 Objectives

Previous work on the Dove project in the lower Murex Creek area (Ideal 9 claim) (Wright, 1990) resulted in the discovery of mineralized float in the creek. The float consisted of pyrite and sphalerite-rich drusy quartz vein material. This sample assayed 4.347 oz. Au/ton and 2.7 oz. Ag/ton. Followup led to the discovery of similar mineralized quartz veins controlled by flat-lying fractures which were exposed in the banks of Murex Creek. These fractures were found close to the unconformity between the underlying Karmutsen Formation volcanic rocks and conglomerate of the overlying Nanaimo Group. A vertical drillhole was collared in the area to test for mineralization controlled by these flat-lying features. The results of this initial test were generally negative. However, due to the poor bedrock exposure in the area, it was thought that there may be other controls on mineralization not previously recognized.

The objectives of the 1992 work program were twofold: to determine the structural control on the mineralization which has been located in previous work, and to identify, by lithogeochemical sampling, any other mineralized or altered zones in the vicinity which also have potential. Robert L. Wright, assisted by E. Radcliffe, was contracted to carry out the survey under the supervision of Murray I. Jones,

Project Geologist, Westmin Resources Limited. The work was completed between the May 25 and 31, 1992.

2.2 Location and Access

The Dove property is located approximately 15 km northwest of Courtenay, B.C. (Figures 1 and 2). The Ideal 9 claim is located near the centre of the property in NTS Map Sheet 92F/14E, just northwest of the north end of Wolf Lake. Access to the property is by paved and gravel roads from Courtenay (20 minutes) or from Campbell River (30 minutes). Within the property access is provided by numerous all-weather logging roads, which form a network throughout the area. As all the property has been logged at some point, there are trails to almost every corner of the claims.

2.3 Physiography and Vegetation

The property lies on the east and north flanks of Mt. Washington, at elevations between 100 and 790 metres. Slopes are low to moderate except for the banks of deeply incised creeks. The area is covered by an extensive glacial till blanket, up to 20 metres thick. Rock exposures are mostly confined to creeks and in low lying areas to the east. Several outcrop ridges do occur in the western part of the property separated by drift filled valleys. The entire property is covered by second growth fir, hemlock and cedar. Alder has overgrown old roads and cleared areas.

In the Ideal 9 claim area, topography is generally subdued, especially to the east which is part of the Wolf Lake valley. Murex and McKay creeks form steep, narrow gulleys locally, and their beds provide most outcrop exposures. Elevations in this area range from 150 to 300 metres.

2.4 Exploration History

The history of exploration in the area of the Dove claims began in the 1940's and has continued to the present day. Early exploration concentrated on high grade Au-bearing quartz veins. For the next three decades the area received intensive exploration for low grade or porphyry-style copper deposits with little attention given to the high grade veins. This work led eventually to the formation of the Mt. Washington Copper Co. Ltd. which mined close to 400,000 tons of ore from two small pits, 4.5 km west of the Dove property. This ore had an average recovered grade of 1.16% Cu, 0.01 oz. Au/ton and 0.5 oz. Ag/ton. In the mid 1970's, Esso Minerals began work on the Meadows Zone, also on Mt. Washington, and by 1982 they had outlined 0.5 to 1.0 million tons of material grading 0.5% Cu.





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The 1980's saw a return to exploration for epithermal, high grade precious metal deposits. Better Resources Ltd. approached the Meadows Zone (now called the West Grid Zone) as such a target. In 1987, they had outlined almost 980,000 tons of drill indicated reserves at 0.142 oz. Au/ton and 0.67 oz. Ag/ton in the Lakeview-West Grid and Domineer zones. This project included some underground development consisting of 300 metres of adits and cross-drifts.

Better Resources also drilled the upper Murex Creek Breccia, a magnetite-Cu body, located just west of the Dove property. They drilled one intersection of 15.9 m of 0.178 oz. Au/ton, plus 2.7 m of 0.08 oz. Au/ton and 3.0 m of 0.11 oz. Au/ton.

The Dove property itself has had sporadic exploration throughout the history of exploration in the area. Since 1987 Westmin Resources Ltd. (previously in joint venture with Visible Gold Inc.) has conducted several exploration programs on the property. These programs have involved airborne geophysical surveys, systematic geological mapping, linecutting, induced polarization, VLF-EM ground surveys, soil geochemistry and diamond drilling. The Ideal 9 claim was examined cursorily in this initial pass, with one diamond drilling, have concentrated on specific areas of interest, the McDonald Creek (NS Grid) and Tailings Pond (Main Grid) areas (Wright, 1990). In general, the diamond drilling has turned up narrow zones of reasonable grade precious metal mineralization. Enhancement of these zones has been frustrated by the lack of information on the structural controls on the mineralization. The bedrock exposure necessary to develop an appreciation of the important structures in the drilled areas is not available due to the extensive glacial drift cover on the property.

2.5 Claims

The Dove property currently consists of two groups of claims: the Harmony and the Ideal (Figure 3), both having been optioned from Joseph L. Paquet of Campbell River, B.C. The Harmony Group consists of 7 claims for a total of 95 units. The Ideal Group consists of 23 claims for a total of 222 units. The claims, mineral tenure numbers, number of units, record and expiry dates (on approval of this report) are listed in Tables 1 and 2 respectively.

3.0 REGIONAL GEOLOGY

The geology of the area of the Dove property has been mapped and described by Muller and Carson (1969) and Carson (1973) with revisions and detailing by



Figure 3. Claim Map: Ideal and Harmony Claims.

TABLE 1 HARMONY CLAIMS						
Claim	Tenure No.	No. of Units	Record Date	Expiry Date		
Harmony 3 Harmony 4 Harmony 6 Harmony 7 Harmony 9 Harmony 16 Harmony #17	230029 230032 230092 230094 230102 230177 230782	10 10 20 18 12 5 <u>20</u>	September 2, 1986 September 10, 1986 March 16, 1987 April 3, 1987 April 16, 1987 August 4, 1987 October 21, 1989	September 2, 1994 September 10, 1994 March 26, 1994 April 3, 1996 April 16, 1996 August 4, 1994 October 21, 1993		
		95				

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TABLE 2 IDEAL CLAIMS						
Claim	Tenure No.	No. of Units	Record Date	Expiry Date		
Ideal 1	229976	16	June 2, 1986	June 2, 1993		
Ideal 2	229977	20	June 3, 1986	June 3, 1995		
Ideal 3	229978	20	June 3, 1986	June 3, 1994		
Ideal 4	229979	20	June 3, 1986	June 3, 1994		
Ideal 5	229980	9	June 3, 1986	June 3, 1993		
Ideal 6	229981	9	June 4, 1986	June 4, 1993		
ideal 7	229999	6	June 13, 1986	June 13, 1994		
Ideal 8	230023	20	August 6, 1986	August 6, 1995		
Ideal 9	230011	12	July 29, 1986	July 29, 1993		
Ideal 10	230075	20	February 20, 1987	February 20, 1995		
Ideal 11	230076	20	February 13, 1987	February 13, 1995		
Ideal 12	230098	20	April 7, 1987	April 7, 1994		
Ideal 13	230103	1	April 16, 1987	April 16, 1995		
Ideal 14	230104	1	April 16, 1987	April 16, 1995		
Ideal 15	230105	1	April 16, 1987	April 16, 1995		
Ideal 16	230106	1	April 16, 1987	April 16, 1995		
ldeal 17	230107	1	April 16, 1987	April 16, 1995		
Ideal 20	230178	2	August 4, 1987	August 4, 1993		
Ideal 21	230179	4	August 4, 1987	August 4, 1993		
Ideal 22	230290	12	June 17, 1988	June 17, 1995		
Ideal #23	231336	2	April 11, 1991	April 11, 1993		
Ideal #24	230896	4	February 28, 1990	February 28, 1993		
Ideal #25	231427	1	November 23, 1990	November 23, 1992		
		222				

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Benvenuto (1986) and Wright (1987). The area is underlain by tholeiitic basalts of the Triassic Karmutsen Formation of the Vancouver Group, which is unconformably overlain by sediments (including coal measures) of the Upper Cretaceous Nanaimo Group. The Nanaimo Group consists of the basal Benson Conglomerate, the Comox Formation (sandstones, siltstones, shales, coal measures) and the Trent River Formation. The Quatsino Limestone normally overlies the Karmutsen basalts but is absent in the area surrounding the Dove property. This indicates a long period of erosion preceded by the deposition of the Nanaimo Group sediments. There is evidence for significant topographic relief on the unconformable contact. As well, where intersected in drillholes, the unconformable contact as an alteration feature, but may in fact represent regolith (Wright, 1990).

All of these formations are intruded by Tertiary subvolcanic igneous rocks (dacite porphyry, quartz diorite) and diatreme breccias containing clasts of intrusive and country rocks. The intrusives occur as dykes, small stocks, sills and laccoliths. K-Ar dating of a late quartz diorite on Mt. Washington has given an age of 35 Ma.

Several mineral deposits occur in the area of the Dove project. The Mt. Washington Copper Mine, as mentioned in the exploration history, occurs just west of the property and is associated with the Mt. Washington igneous system, Mineralization consisted of a flat-lying drusy quartz-sulphide vein, up to 7.6 m thick, containing chalcopyrite, bornite, arsenopyrite, pyrite, realgar and molybdenite. Host rock is biotite altered, quartz diorite sills interlayered with Nanaimo Group sediments. Late sericite-chlorite alteration is also evident. A low grade, disseminated sulphide zone, 600 by 150 metres, is associated with the mine as well but reserves have not been estimated. The Domineer-West Grid-Lakeview zones of Better Resources represent various exposures of a prominent, shallowdipping vein on the east ridge of Mt. Washington. The vein occupies fault zones locally and lies within igneous rocks and sedimentary rocks of the Comox Formation. Pyrite and arsenopyrite are the principle minerals in auriferous veins but numerous other sulphide minerals are reported. The Murex Breccia Zone is a low grade Cu deposit consisting of disseminated pyrite, chalcopyrite and pyrrhotite and is estimated to contain 2 million tons of 0.40% Cu within brecciated Karmutsen basalt.

Several other showings are present in the region, mostly having mineral assemblages indicative of epithermal, precious metal mineralization. These showings are characterized by realgar, orpiment, calcite and sulphides such as sphalerite, galena, arsenopyrite and pyrite. The showings generally occur in narrow structures with various attitudes.

On Mt. Washington and elsewhere, the unconformity between the Karmutsen basalts and the Nanaimo Group sediments seems to be important for the localization of mineralization. This is particularly true where the unconformity coincides with a major structural element, such as a fault.

4.0 **PROPERTY GEOLOGY** (Figure 4)

4.1 Geology

The oldest unit on the Dove property is the Karmutsen Formation basalt. These rocks are primarily composed of commonly porphyritic, massive to pillowed basalt and andesite flows (Wright, 1990), indicative of the lower part of the Karmutsen Formation. This evidence confirms the deep level of erosion of the Quatsino-Karmutsen succession prior to deposition of the Nanaimo Group sediments. Interbedded with the flows are andesitic lapilli tuff. Finally, the sequence has been intruded by gabbros. The rocks of the Karmutsen Formation generally have greenschist facies metamorphic mineral assemblages.

Within the property, the Karmutsen Formation is generally overlain by the Comox Formation. The basal Benson Conglomerate of the Nanaimo Group is present mostly in the north part of the property. The Comox Formation sedimentary rocks occur primarily in the low lying areas in the east part of the claims. These rocks are usually fresh appearing, with local alteration related to structures and mineralized zones.

There are two types of Tertiary intrusions present on the Dove property: a quartz diorite and a dacite porphyry. They generally occur in small stocks in the south half of the property. A large quartz diorite laccolith occurs along the east side of the property, and as far west as the Paquet Showing where it is in fault contact with the Karmutsen volcanic rocks. A fluidized contact breccia occurs on the margin of one of the smaller quartz diorite stocks, on the west side of the Ideal 7 claim.

4.2 Structure

There is evidence in airphoto interpretations and landforms of several large scale lineaments occurring on the Dove property. These large structures seem to be exclusive to the Karmutsen terrane and are dominantly northwest-southeast in orientation. There are also crosscutting structures, the more obvious examples generally oriented north-south. Local evidence of faults and shear zones is plentiful



Figure 4. Dove Property Geology and Mineralization - Central Sheet

on the outcrop scale. The orientation of these features is quite varied. They are commonly shallow-dipping structures.

4.3 Alteration and Mineralization

Numerous sulphide showings occur throughout the Dove property, but in particular seem to be concentrated around a large mag high feature in the central part of the claims. In general, the showings are related to structural elements, such as faults and joints. The mineralized zones are definitely later features, crosscutting the Karmutsen Formation and Nanaimo Group rocks. The mineralization seems to be approximately coeval with the Tertiary intrusive events. There may be a zoning of elements away from the mag feature near the centre of the property, from more base metal-rich to more precious metal-rich showings. The showings of most interest tend to have anomalous concentrations of Au, Ag, As and Sb.

The presence of structural complexities at the mineralized showings makes extrapolation and interpretation of the zones difficult. As well, the lack of good exposure of bedrock in most areas adds to the problems of evaluating the showings. It is for these reasons that followup lithogeochemical and structural mapping work was done on those showings deemed to have the best potential.

4.4 Ideal 9 Claim (Figures 5 and 6)

The Murex Creek Lineament forms a prominent feature, easily visible on airphotos, striking north through the Ideal 9 claim area. The feature loses its distinctiveness in the area around the confluence of Murex and McKay creeks which join Rossiter Creek immediately downstream to form the South Tsolum River. It is possible that the Murex Creek Lineament encounters an important northwest-southeast trending, or other, structure in this area.

Figure 5 shows the geology in the area of the projection of the Murex Creek Lineament. The outcrops occur predominantly in the creek beds, with the surrounding area being drift covered. A section of Nanaimo Group conglomerate, possibly Comox Formation, occurs in the central and eastern part of the map, bounded on the east and west by Karmutsen Formation basalt. Bedding within the conglomerate varies between 080°, dipping shallowly north and 105° to 130°, dipping 60° south. The conglomerate is unconformably overlying Karmutsen Formation basalt, with an apparently flat lying contact. The contact occurs along Murex Creek on the east edge of the map area, where previous mapping uncovered mineralization in flat-lying fractures. In general, the Karmutsen basalt in

LEGEND FOR GEOLOGY PLANS

(to accompany Figures 5 and 6)

KN	Cretaceous Nanaimo conglomerate.	Groupsand	stone, siltstone,	shale,	coal,
	Unconformity				
Ϝ Κ	Triassic Karmutsen Forma breccias, hyaloclastite.	ntionbasalt/a	ndesite massive flov	vs, pillow i	lavas,
~~~	Fault	D92-1	8 1992 Lithogeoch	nemical Sa	ample
	Geological Contact	×	Float (F)		

## ABBREVIATIONS

congl.	=	conglomerate	В	=	basalt
SS	=	sandstone	a	=	amygdaloidal
sst	=	siltstone	h	=	hyaloclastic
sh	=	shale	m	=	massive
ss (m)	=	metasandstone	р	=	porphyritic
Ank	=	Ankerite	Mn	=	Manganese
Во	=	Bornite	Ро	=	Pyrrhotite
Ca	=	Calcite	Py	=	Pyrite
Ср	=	Chalcopyrite	Qtz	=	Quartz
I	=	Intrusive	v	=	vein
Lm	=	Limonite			



## LEGEND FOR GEOLOGY PLANS

(to accompany Figures 5 and 6)

KN	Cretaceous Nanaimo conglomerate.	Groupsandstone,	siltstone,	shale,	c <b>oal,</b>
	Unconformity				
τ̈κ	Triassic Karmutsen Forma breccias, hyaloclastite.	ationbasalt/andesite	massive flov	vs, pillow	lavas,
~~~	Fault	D92-18 199	2 Lithogeoch	nemical S	ample
	Geological Contact	× Float	(F)		

ABBREVIATIONS

congl.	=	conglomerate	В	₽	basalt
SS	=	sandstone	а	=	amygdaloidal
sst	=	siltstone	h	=	hyaloclastic
sh	=	shale	m	=	massive
ss (m)	=	metasandstone	р	=	porphyritic
Ank	=	Ankerite	Mn	=	Manganese
Во	=	Bornite	Po	=	Pyrrhotite
Ca	=	Calcite	Py	=	Pyrite
Ср	=	Chalcopyrite	Qtz	=	Quartz
1	=	Intrusive	v	Ξ	vein
Lm	=	Limonite			



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	Westmin Resources Limited
Work By R.L.W Date Draftasi	GEOLOGY OF LOWER
Drafted By R.L.W Date Reveal	MUREX CREEK AREA
Reviews by	modified after Wright (1988).
N.I.B. Namper 92.F//4E	0 10 20 30 m 6

this area is massive. The mapping along lower Murex Creek is shown in more detail on Figure 6.

The previous mapping found some evidence of north-south structures, in particular one fault (008°/90°) to the west along Rossiter Creek near the Rossiter Main crossing (Figure 5). A quartz-calcite altered bleached zone, as well as calcite veining, was found in the vicinity of the fault. This program's mapping along Rossiter Creek and the South Tsolum River closer to the projection of the lineament did not find structural evidence to suggest the presence of a large fault, in that area.

Near the confluence of Murex and McKay creeks, mineralized float was found in the course of mapping. The angular boulder (D92-19) consisted of vuggy quartz, pyrite and very fine grey sulphides in a matrix of bleached and silicified rock of unknown origin. The boulder was found on the projection of the Murex Creek Lineament, and its angular shape suggests that it may be local.

Figure 6 shows the geology along lower Murex Creek, an area which was drilled in 1987 to test for mineralization in flat-lying structures close to the unconformable contact. The recent mapping identified additional outcrops of the conglomerate, including one occurrence on the east side of the creek not previously noted. The conglomerate outcrop on the east of Murex Creek (near the north edge of the figure) precludes the presence of a large normal fault along the creek, at least with any substantial vertical offset. Further upstream, about 60 m north of the Murex Creek bridge on the Rossiter Main, the conglomerate outcrops are cut by numerous close-spaced joints (20 to 100 per metre), some with strongly bleached wall rocks. These joints have an attitude of 022°/80° E-90°, which is close to the general trend of the Murex Creek Lineament. A grab sample (D92-18) was taken from altered rock associated with this joint set.

5.0 LITHOGEOCHEMISTRY

Ideal 9 claim area are listed in Appendix A and analyses are in Appendix B. Sample D92-18 is a sample of altered rock from the close spaced, north-trending joint set on Murex Creek. The geochemical analysis indicates that the alteration is quite weak with no significant enrichment in any of the elements analyzed. It is possible that the bleaching is the result of silica addition.

Sample D92-19 is the only sample which is significantly mineralized and the results reflect this fact. The rock contains anomalous concentrations of Ag, As, Pb, Zn and

Cd. Interestingly, the rock also has a high Cr content (308 ppm). This may reflect a mafic host rock for the mineralization.

Sample D92-20 is from an outcrop on Rossiter Creek, west of the projection of the Murex Creek Lineament. The sample mostly consists of carbonate veining and this is reflected in the very high content of Ca. However, the presence of a strong carbonate stockwork has not contributed any enrichment in other elements.

6.0 CONCLUSION

The survey was not able to determine with certainty that there is a strong structural control in the area not previously recognized. However, there is some evidence that a major structure exists along strike from the Murex Creek Lineament. This evidence is:

- The presence of close spaced jointing, oriented at 022°/90°, in a conglomerate outcrop north of the bridge on Murex Creek. This trend is approximately that of the Murex Creek Lineament.
- A vertical drillhole, DDH 87-08, which was collared just west of the fractured outcrop, contains abundant veins and fractures oriented parallel to the core axis. These structures may be related to a vertical feeder structure.
- An angular, well mineralized, float sample, found at the junction of Murex Creek and McKay Creek, was located approximately on the northern projection of the lineament. As well, a boulder located in earlier work which assayed 4.34 oz. Au/ton was found very close to the projection of this lineament through the area.

The conglomerate outcrop on the east side of Murex Creek seems to eliminate the creek as the trace of the Murex Creek Fault. In that case, a more or less vertically oriented structure representing the Murex Creek Lineament may pass to the east of this section of the creek, and the flat-lying mineralized fractures found along the creek could be splays that structure. As well, the apparent termination of the lineament in this area, possibly as the result of intersecting a crossing structure, is significant. The intersection of structures commonly exerts a strong influence on the localization of mineralization.

7.0 RECOMMENDATIONS

Although somewhat speculative at this time, the possibility of a mineralized, subvertical zone to the west of Murex Creek merits further evaluation in light of the well mineralized float found in the area. The extent of mineralization indicated by the float material suggests a different source than the narrow, mineralization associated with the relatively flat-lying structures tested by the earlier drillhole (DDH 87-08). Due to the extensive glacial drift cover in the area, it is recommended that the projection of the Murex Creek Lineament be tested by geophysical methods (e.g. pole-dipole induced polarization survey) and any significant anomalies tested by diamond drilling.

The three best access points for drilling are shown on Figure 6. Final locations will depend on the results and interpretation of any preceding geophysical survey. A short hole collared at the site of DDH 87-8 would test the projection of the Murex Creek Lineament. However, the locally thick overburden could cause problems, and the hole may overshoot the target. The other two sites would be less likely to have this problem, although they would have to be much longer.

8.0 **REFERENCES**

Benvenuto, G., 1986. Geology and Mineralization of the Dove Property and Area near Mt. Washington, Vancouver Island, B.C. Assessment Report, 68 p.

Carson, D.J.T., 1973. The Plutonic Rocks of Vancouver Island, B.C.: Their Petrography, Chemistry, Age and Emplacement. GSC, Paper 72-44, 70 p.

Muller, J.E. and D.J.T. Carson, 1969. Geology and Mineral Deposits of the Alberni Area, B.C. GSC, Paper 68-50.

Wright, R.L., 1988. 1987 Year End Report on the Dove Property. Internal Company Report, 70 p., 8 vol.

Wright, R.L., 1990. 1989 Year End Report on the Dove Project. Internal Company Report, 42 p., 3 vol.

9.0 STATEMENT OF EXPENDITURES

Detailed Costs (some costs apportioned 25% with other work on ideal 12, 2 at the same time)				
Field Consultant, 2 days at \$300 per day Field assistant, 1 day at \$120 per day Project geologist, 1 day at \$225 per day	\$ 600.00 120.00 225.00			
Office Consultant, 1 day at \$300 per day (0.25), preparation Consultant, 2 days at \$300 per day (0.25), report Project geologist, 2 days at \$225 per day (0.25)	75.00 150.00 112.50			
Geochemistry 3 rock samples at \$20.85 per sample	62.55			
Total field costs	1,345.05			
Project Costs (at 25% of total-1 field day out of 4)				
Consultant, 2 travel days at \$300 per day (0.25)	150.00			
Travel costs (including meals, accommodation) \$874 (0.25)	218.50			
Gas for vehicle, \$158 (0.2)	39.50			
Vehicle rental, \$313 (0.2)	78.25			
Maps and reports, \$99 (0.25)	24.75			
Consultant's administration charges 10% of expense, \$75.98 (0.25)	19.00			
Total project costs	530.00			
Total expenditures (rounded)	\$1,875.00			

10.0 STATEMENT OF QUALIFICATIONS

I, Murray I. Jones, of the District of North Vancouver, in the Province of British Columbia, hereby certify that:

- 1. I am a geologist residing at 1240 Shavington Street, North Vancouver, British Columbia with a business address at #904 - 1055 Dunsmuir Street, P.O. Box 49066, The Bentall Centre, Vancouver, British Columbia, V7X 1C4.
- 2. I graduated with a B.Sc. (Honours) in Geology from the University of British Columbia, Vancouver, B.C. in 1982 and with a M.Sc. in Geology from the University of Ottawa in 1992.
- 3. I am an associate member of the Geological Association of Canada.
- 4. I have practised geology in Canada from 1979 to 1992.

DATED this/	day of	January	, 1993 at Vancouver,
British Columbia.		<u> </u>	

wrray Jones

Murray I. Jones, M.Sc.

APPENDIX A

ROCK SAMPLE DESCRIPTIONS

RPT/93-002

APPENDIX A

ROCK SAMPLE DESCRIPTIONS

MUREX CREEK AREA

- **D92-18 Calcite veinlets** with unidentified black mineral in veinlets in jointing at 20 to 100 per metre frequency, attitude 020°/80° E.
 - Wallrock is orange-weathering bleached conglomerate.
 - Structure possibly related to Murex Creek Lineament.
 - Location of sample 60 metres below Murex Creek bridge on Rossiter Main.
- D92-19 FLOAT.
 - Silicified quartz breccia with streaks of darker grey material with finely divided pyrite and grey sulphides.
 - Wallrock is light buff, carbonate-altered, bleached, silicified.
 - Analysis shows 0.011 oz. Au/T and 7.0 gm Ag with anomalous As, Pb and Zn.
- D92-20 Layered, multi-stage carbonate veinlet cutting Nanaimo Group conglomerate at 96 metres above Rossiter-McKay creeks junction, on Rossiter Creek, attitude 150°/60° W.
 - Streaks of white, brown and black carbonate with varying amounts of finely divided impurities, trace pyrite.

RPT/93-002

GEOCHEMICAL ANALYSES

APPENDIX B



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221

CERTIFICATE

A9215634

WESTMIN MINES LTD.

Project: DOVE P.O. # :

Samples submitted to our lab in Vancouver, BC. This report was printed on 25-JUM-92.

	SAMPLE PREPARATION												
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION											
208 274 229	14 14 14	Assay ring to approx 150 mesh 0-15 1b crush and split ICP - MQ Digestion charge											
* NOTE													

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Ma, Sr, Ti, Tl, W. To: WESTMIN MINES LTD.

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Comments: ATTN: MURRAY JONES CC: R.L. WRIGHT AND ASSOCIATES

	ROCEDURES		
R S DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
Au or/T: 1 assay ton Ag ppm: 32 element, soil & rock As ppm: 32 element, soil & rock Bs ppm: 32 element, soil & rock Bs ppm: 32 element, soil & rock Bs ppm: 32 element, soil & rock Ca ppm: 32 element, soil & rock Cd ppm: HNO3-aqua regia digest Co ppm: 32 element, soil & rock Cd ppm: 32 element, soil & rock Cu ppm: 32 element, soil & rock Cu ppm: 32 element, soil & rock Cu ppm: 32 element, soil & rock Eg ppm: 32 element, soil & rock Mg %: 32 element, soil & rock Mn ppm: 32 element, soil & rock Na %: 32 element, soil & rock Ni ppm: 32 element, soil & rock Ni ppm: 32 element, soil & rock Sb ppm: 32 element, soil & rock Sf ppm: 32 element, soil &	FA-AAS ICP-AES	0.001 0.2 0.01 2 10 0.5 2 0.01 0.1 1 1 0.01 10 10 0.01 10 0.01 10 2 2 1 0.01 10 10 10 0.01 10 0.01 10 0.01 10 0.01 10 0.01 10 0.01 10 0.01 10 10 0.01 10 10 0.01 10 0.01 10 10 0.01 10 0.01 10 0.01 10 10 0.01 10 0.01 10 0.01 10 10 0.01 10 2 2 10 0.01 10 2 2 2 1 0.01 10 2 2 2 1 0.01 10 2 2 2 1 0 0 10 10 2 2 2 1 0 10 10 2 2 2 1 10 10 10 2 2 2 1 10 10 10 10 10 10 2 2 2 1 10 10 10 10 10 10 10 10 10	20.00 200 15.00 10000
	ANALYTICAL P DESCRIPTION Au of/T: 1 assay ton Ag ppm: 32 element, soil & rock Al %: 32 element, soil & rock Be ppm: 32 element, soil & rock Cd ppm: HNO3-aqua regis digest Co ppm: 32 element, soil & rock Cd ppm: HNO3-aqua regis digest Co ppm: 32 element, soil & rock Cd ppm: 32 element, soil & rock Cu ppm: 32 element, soil & rock Ge ppm: 32 element, soil & rock Hg ppm: 32 element, soil & rock Mg %: 32 element, soil & rock Mg %: 32 element, soil & rock Mn ppm: 32 element, soil & rock Ns %: 32 element, soil & rock Mn ppm: 32 element, soil & rock Ns %: 32 element, soil & rock Ns ppm: 32 element, soil & rock Sc p	ANALYTICAL PROCEDURES PESCRIPTION METHOD	ANALYTICAL PROCEDURESProductDESCRIPTIONMETHODDETECTION LMMTAu or/7: 1 assay ton Ag ppm: 32 element, soil 4 rockICP-ARS0.001 LOCALSAu or/7: 2 alement, soil 4 rockICP-ARS0.01 LOCALSBu ppm: 32 element, soil 4 rockICP-ARS0.01 LOCALSBu ppm: 32 element, soil 4 rockICP-ARS0.01 LOCALSBu ppm: 32 element, soil 6 rockICP-ARS0.01 CORRCo ppm: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockCo ppm: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockFe 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockFe 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element, soil 6 rockHa 9: 32 element, soil 6 rockICP-ARS10 Re 9: 32 element,



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assavers

212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221

To: WESTMIN MINES LTD.

P.O. Box 49066, The Bentall Centre VANCOUVER, BC V7X 1C4

Page Number : 1-A Total Pages : 1 Certificate Date: 15-JUN-92 Invoice No. : 19215634 P.O. Number : Account GP

Project : DOVE Comments: ATTN: MURRAY JONES CC: R.L. WRIGHT AND ASSOCIATES

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Sample	PRI			A u oz/T		yg Pþæ	A1 \$	As ppn	Ba pps	Be ppn	Bi PPm	Ca \$	Cd ppm	Co Ppa	Cr ppm	Cu pps	Fe t	Ga ppm	Eg ppa	X ł	La. ppm	Иg ŧ	hu bba
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CEPTIFICATION: A. L. M. L.

<u>C</u>	Chemex Labs Ltd. Analytical Chemists * Geochemists * Registered Assayers 212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221									WESTM P.O. Bo VANCO V7X 1C xt : ments: CE	IIN MINE x 49066, UVER, E 4 DOVE ATTN: M ERTIF	IN LTD. The Bei C IURRAY	Peg Tota Cert Invo P.O Acc AND ASSOCIATES A9215634	e Number Il Pages ificate Data ice No. Number ount	:1-B 15-JUN-9; 19215634 :GP			
SAMPLE	PREP CODE	No	Na ł	Hi ppa	P PP#	Pb P pa	Sb ppm	Sc P P	Sr ppn	Ti \$	T1 ppm	D D	V Ppm	bb e M	En pp=		<u>.</u>	
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