

PROPERTY FILE 001468

Fairview 82ESW008-03



The Valhalla Gold Group

CORPORATE INFORMATION - VALHALLA ENERGY CORPORATION

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Exchange Listing:

Vancouver Stock Exchange
Share Authorization: 20,000,000
common shares
Shares Outstanding: 4,668,200
Symbol: "VLA"

REPORT

ON

OLIVER GOLD MINES

FAIRVIEW PROPERTY

AN ESTIMATE OF

CAPITAL AND OPERATING COSTS

FOR

OLIVER GOLD CORPORATION

MARCH 15, 1987

BY

H. G. BARKER, P.ENG.

AND

R. T. TRENAMAN, P.ENG.

TRENAMAN MINING SERVICES LTD.

VANCOUVER, B. C.

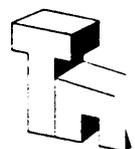
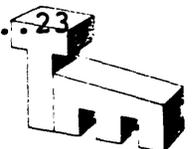


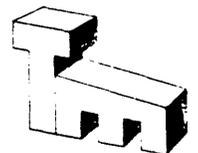
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INTRODUCTION

This report has been prepared at the request of Mr. L. J. Nagy, Vice-President, Exploration and Development for Oliver Gold Corporation. The purpose is to provide an appraisal of the Fairview property with respect to its mine making potential.

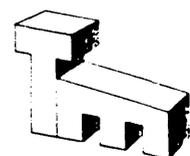
With the ore reserves presently known, the project is not a viable one, however, the Oliver Gold principals are confident that some 2,000,000 to 3,000,000 tons will be identified and a start is to be made on this with an exploration drilling programme on the property this coming spring. From the point of view of the economics developed within this study this tonnage will be assumed to exist.

The writers have not inspected the property, and the basic information in this report has been obtained by discussions with Mr. Nagy, P.Eng., a report by Mr. R. Netolitsky, P.Eng. and information obtained from Cominco Exploration files. Fairview operating files were not available for inspection.

Financial calculations are based on a gold price of \$400. U.S. and exchange rate of 75%. No allowance is made for inflation in extended years.

A general description of report contents together with certain recommendations is given under the heading "Summary and Recommendations"

Included in the appendix are comments concerning mining methods and grade control (appendix I), the Morning Star (appendix XI) and various charts relative to capital and operating costs and personnel.



SUMMARY AND RECOMMENDATIONS

This study assumes annual production of 255,000 tons, or a daily rate of 700 tons as optimum. Capital costs for preproduction, plant and working capital are estimated at \$11,478,000. Operating costs for the first year are estimated at \$41.24 per ton, and thereafter at \$34.69 per ton. Based on current metal prices of \$400 U.S. and exchange rate of 75%, a before tax D.C.F. rate of return of 21% is indicated. The after tax rate of return is approximately 15%.

Capital costs include cost of sinking a 10' x 15' decline 1200 feet to establish a new 7 level 200 feet below the present 6 level, plus a loading pocket. A scooptram drift would be driven 1200 feet on this level, plus stope development.

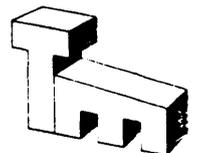
It is assumed that most of the stoping will be shrinkage stope mining although some may require scraping. Long hole stoping might be used if there should be vein zones known to be regular enough in outline.

No. 3 level would also be rehabilitated and extended 200 feet, plus other work including a ventilation raise. Some work would also be done on 5 level.

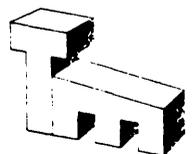
It is expected that a used mill would be available for purchase.

There are a number of risk factors which should be given special consideration:

1. Of the ore reserves, 50% is inferred and is shown as of higher grade than the broken or indicated reserves. While the structure of the area would appear to have a potential for considerable additional tonnage, a good deal of success will be required in exploration work to justify a production decision based on 700 tons per day.



2. The project will be very sensitive to the price of gold. Mill feed grade at 0.108 oz. of Au does not include value for contained silver because of uncertainties with respect to smelter returns.
3. In order to be viable at a gold price of \$400 U.S. and a D.C.F. after tax rate of return of 15%, the project should have recoverable ore reserves in the order of 2,500,000 tons. Recoverable reserves are considered to be about 80% to 85% of known reserves, the remainder being left as pillars.
4. Recovery of gold in the milling process has been taken at 90% of mill feed grade. The cash flow chart shows this as well as net smelter return of 93% of the value of gold contained in concentrate.
5. Smelter charges for concentrate processing per ounce of gold may be high due to the iron content and the low gold grade. Metallurgical tests on typical ore samples should be undertaken as soon as possible. Appropriate samples should be taken for this purpose while the mine is open for the spring diamond drill programme.
6. The dilution factor used in this report is 5%. This is quite low but it is believed in can be achieved. The success of the project will bear a significant relationship to the manner in which dilution is dealt with in the mining process.
7. Prior to the permitting process approval of a detailed report on the property is required by the Provincial Department of Mines and Petroleum Resources. This includes all information relative to the project including environmental impact and mitigation measures. For mill capacities of 200 tons ore per day, a Stage I report will usually suffice. For mill tonnages greater than 200 tons per day, a Stage II report is required as well.



PAST PRODUCTION

Past production based on the records prepared by previous operations is as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>
Pre-Cominco	120,000	0.17	--
Cominco	<u>365,000</u>	<u>0.093</u>	<u>1.4</u>
Total Fairview	485,000	0.122	
Stemwinder	28,000	0.17	1.9
Morning Star	8,300	0.56	1.27

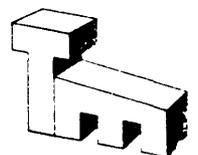
Cominco introduced grade control for gold in 1955 which resulted in a grade of 0.12 being produced. If this practice had been in effect for the 10 years previous to 1955 average gold production might have been at a grade of 0.12. Combining this with pre-Cominco production would give a grade of about 0.13 Au per ton.

Additional comments concerning the Morning Star may be found in Appendix XI.

ORE RESERVES: CURRENT AND POTENTIAL

The following description of ore reserves has been produced directly from H. G. Barker's report on General Information concerning the Fairview Property, dated February 1987. This includes the heading "Recoverable Reserves".

Fairview ore reserves reported by Cominco at the time of shut down in 1961 were as follows:



	<u>Tons</u>	<u>Oz. Au</u>	<u>Oz. Ag</u>
Measured and broken	289,300	0.09	1.1
Indicated	87,700	0.09	1.1
Inferred	<u>385,000</u>	<u>0.12</u>	<u>1.3</u>
Total:	762,000	0.11	1.2 (undiluted)

It is not indicated why the inferred is of higher grade. A January 1980 report by W. E. Wiley states that the reserves are undiluted. For various reasons Mr. L. Nagy feels that a gold grade of 0.12 oz. per ton should be used in current property appraisals. One reason in this respect is that the majority of production by Cominco was not done under a system of gold grade control, and pre-Cominco production which was for the purpose of gold recovery was recorded as being of considerably higher grade.

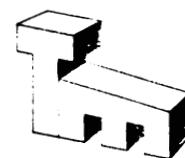
In 1955, Cominco introduced grade control and as a result grade improved to 0.12 oz. Au per ton. Pre-Cominco production was recorded at a grade of 0.17 oz. per ton.

It is believed that there is very little broken ore underground.

Drilling below the 6 level has indicated a favourable structural continuity but considerable more drilling will be required to define any firm figure. Mr. Nagy feels confident of blocking out 2,000,000 tons. The question of dilution, cutting of assays, and ore recovery must be considered.

Dilution

Assuming the reported 762,000 reserves is undiluted it is advisable to apply some dilution factor. This will increase the tonnage and reduce the grade. A Cominco report covering a temporary shut down in 1954 refers to



some heavy caving as a result of which the pillar interval was reduced. Inspection of the old stopes reveals unsupported spans of a few hundred feet, and it is concluded that ground conditions are likely quite good, and unsupported spans were too long. It is considered that with due care, dilution could be kept to a maximum of 10% and that probably less than that could be achieved. By leaving a little ore in place rather than taking waste, it is anticipated that 5% or less dilution could be achieved. Pillars previously left were in the order of 60 feet thick. A system of 40 feet stopes and 10 feet pillars would very likely provide adequate support. A dilution of 5% or less would not be achieved without considerable effort.

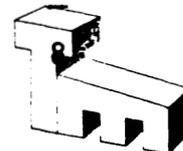
Descriptions of the vein continuity refer to extreme changes in vein width from say 20 to 30 feet to a few inches. Severe dilution would probably occur in situations such as this. Dilution from low grade development sources is another possibility.

Cutting

Not too many examples of assays are available but there are three raises with muck sample assays. These were averaged and then cut to twice average and recalculated. There is a certain degree of consistency in these assays which suggest that this would be adequate cutting. Figure 4 and 5 show two of these raises 608L Raise and 531L Raise respectively.

Following are the results: - Au and Ag in oz. per ton

Raise	<u>Uncut</u>		<u>Cut</u>		<u>Number of Samples</u>	<u>Number Cut</u>
	<u>Au</u>	<u>Ag</u>	<u>Au</u>	<u>Ag</u>		
531LR	0.164	2.50	0.134	2.30	61	5
612DR	0.068	0.92	0.068	0.90	34	1
608LR	<u>0.186</u>	<u>1.26</u>	<u>0.126</u>	<u>1.10</u>	<u>24</u>	<u>2</u>
Average (weighted) and totals	0.141	1.80	0.114	1.66	119	



There are two sections in 531L raise which contain all the samples which were cut. One near the top was 40 feet in length, and contained two of the samples which had been cut. This section contained 10 samples and averaged 0.30 Au, 3.04 Ag. Cutting one gold sample in this section to 0.60 the average was then 0.242 Au. Silver remained the same.

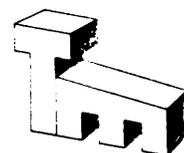
The section near the bottom was about 30 feet in length, contained six samples of which three were cut, which averaged 0.40 Au and 6.95 Ag. Cutting the three samples to 0.80 Au gave a cut assay for this section of 0.36 Au. Silver remained the same.

The average of the remaining 46 samples in the raise was 0.10 Au.

All cut samples were from sections with considerably higher than average gold content and thus more weight can be given to these high samples than if they had been isolated.

608L Raise had two samples which were cut. These were 1.04 and 1.13 in gold. Since they were adjoining samples they should be given more significance than if each were isolated. Thus cutting of these samples to twice average may have been too severe and the cut figure of 0.126 consequently too low.

On the basis of the above, it is concluded that cutting, if any, should not be severe.



Recoverable Reserves

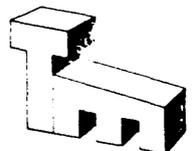
The report covering the temporary shut-down of 1954 made the statement that pillar intervals had been reduced due to heavy caving. The 1980 report by F. B. Amon refers to 377,000 tons of measured and indicated ore and states that of this, some 40,000 tons are unrecoverable pillar remnants. He states that "mining in the old workings would require rehabilitation involving the installation of artificial ground support". As a general rule of thumb it is probably safe to say that 80% of ore reserves may be recovered, the remaining 20% being tied up in pillars. On-the-job experience may result in modifications to the pattern, and a recovery of 85% may be acceptable. In any case this factor should be taken into account in mine planning. Some of these pillars might be recovered near the end of mine life but it would be just as well not to depend on it.

Recovery of Gold and Silver

Ore reserves as reported by Cominco were as follows:

<u>Tons</u>	<u>Oz. Au</u>	<u>Oz. Ag</u>
762,000	0.11	1.2

For reasons stated under the heading "Ore Reserves" Mr. L. Nagy, P.Eng. geological consultant for Oliver Gold Mines feels that a grade of 0.12 Au should be used. This seems not unreasonable.



Following is an estimate of recoverable gold grade:

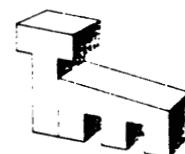
	<u>Tons</u>	<u>Au</u>	<u>Ag</u>
Ore Reserves - undiluted	762,000	0.120	1.2
Dilution, 5%	<u>38,100</u>	-	-
Ore Reserves, diluted	800,100	0.114	1.2
Cutting, 5%	800,100	0.108	1.1

Value of Gold* - per ton of Ore in Mill Feed

Mill feed grade - 0.108 oz. Au	
Price of gold \$U.S. - per ounce	<u>\$400</u>
Exchange rate	75%
Value of gold \$U.S.	43.20
Value of gold \$Canadian	\$ 57.60

No statement has been seen in any historical files or records with respect to the cutting of assays. However, since the reserves were reported as undiluted there is also the possibility that grades were uncut. For this reason a modest grade reduction of 5% has been made.

*Because of uncertainties regarding reserve grades, and ore metallurgy no allowance has been made with respect to the values of contained silver.



PROPOSED PRODUCTION PLAN

Mining

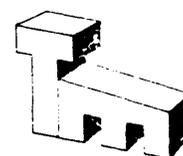
It is estimated that production could start one year after the production decision is made. A decline would be sunk to a point 200 feet below 6 level to establish a new 7 level. A scoop drift would be driven 1200 feet on this level together with stope development. It is assumed that adequate rehabilitation will have been done on 6 level at a prior time as a requirement of the 1987 exploration drilling programme. A small amount of rehabilitation work will be required on 5 level plus some development work. The 3 level will require rehabilitation, some drift development, chutes and a ventilation raise. After this work is done stoping should start in order to provide adequate mill feed for start up. It is estimated all decline and development work can be done in the first 8 months, leaving 3 or 4 months for stoping.

Milling

This study assumes that ore is concentrated through a combined gravity - bulk flotation process. The writers have made no attempt to detail the specific equipment required. Metallurgical recoveries of Au and Ag reported in various records vary from 86% to 93%. For the financial projections contained in this report, a mill recovery of 90% has been assumed. With ore containing such low grade Au values, it will be vital that the proper milling and concentrate treatment process be selected. Considerable detailed metallurgical tests will first be required.

Options which should be considered are:

- (a) Cyanide all ore
- (b) Cyanide bulk concentrate
- (c) Ship bulk concentrate to smelter



CAPITAL COSTS

Capital costs are related to mine rehabilitation where required, new primary and stope development, equipment requirements, pre-production stoping and cost of mill and tailings pond.

Preproduction Rehabilitation and DevelopmentNo. 3 Level - old existing level

<u>Work Item</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost</u>	
Drift (track)	200'	\$ 200	\$ 40,000	
Rehabilitation	2,000'	30	60,000	
Chutes	10	1,000	10,000	
Chutes dev.	500'	150	75,000	
Vent.' raise	400'	175	<u>70,000</u>	
			\$255,000	\$255,000

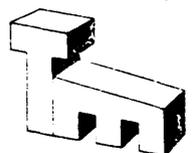
No. 5 Level - old existing level, rehab.' only part

Sub drift	500'	175	87,500	
Misc. related dev.	400'	150	<u>60,000</u>	
			147,500	\$147,500

No. 6 Level - assume previously rehabilitated for 1987 exploration programme.

No. 7 Level - New level to be established.

Scoopdrift 9' x 11'	1200'	300	360,000	
Drawpoint dev.	1200'	200	240,000	
Stope Undercut	1800'	150	270,000	
Muck raise to 3 level	800'	150	<u>122,500</u>	
			992,500	\$992,500



Decline and Muck Handling - New

Decline	1200'	400	480,000	
Pockets	100'	150	15,000	
Chutes			<u>5,000</u>	
			500,000	<u>\$500,000</u>
Total preproduction development				\$1,895,000
Contingency 5.5%				<u>105,000</u>
				\$2,000,000

Preproduction Stopping - Working Capital

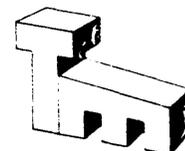
For the last 3 months of the preproduction period, ie months 10,11,12 stopping will be done in order to supply adequate broken muck for start-up. This will also provide the mine with an opportunity to develop efficient routines.

Assuming shrinkage stopping, about 35% of the muck broken will be removed and stockpiled on surface. It is estimated this will amount to about 17,000 tons. This, with development muck will provide about 34,000 tons on surface at the end of the 12th month. At the same time some 31,000 tons will be broken in stopes underground.

Cost of this work is estimated at about 50% of normal costs, or, for 48,000 tons at \$17 per ton about \$800,000. An additional allowance of \$300,000 for working capital in the first production month would provide for a total of \$1,100,000 working capital.

Equipment

Equipment requirements for underground work, and surface facilities are listed in appendix IV. These items amount to \$1,878,700 including \$170,800 for contingency.



Mill and Tailings Pond

It is considered that a used mill suitable for 700 tons per day could be obtained. Cost of this mill and tailings pond construction is estimated as follows:

700 - ton used mill, purchase	\$1,000,000
Move and install	<u>5,000,000</u>
Mill cost	6,000,000
Tailings pond	<u>500,000</u>
Mill installed and tailings pond	\$6,500,000

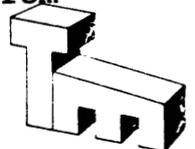
Capital Cost Summary

Preproduction development and rehabilitation	\$ 2,000,000
Preproduction stoping and working capital	1,100,000
Equipment-underground and surface	1,878,000
Mill and tailings pond	<u>6,500,000</u>
Total	\$11,478,000

OPERATING COSTS

Operating costs have been estimated on a "tight" basis. One mill operator on each shift will be required to have an industrial first aid certificate. The expeditor will be ambulance driver and in effect safety officer. He will also have an industrial first aid certificate. The Mine engineer will be expected to do the necessary planning.

Productivities in ideal shrinkage stopes, ie, of reasonable vein width and greater than 60° dip may normally be expected at 35 - 40 tons per man shift. Because dips are expected to vary, with some below 60°, a stope mining productivity of 30 tons per man shift has been used. Costs such as for supplies and services are based on factors developed from analysis of cost data from other similar operations, as have been mill supplies.



Annual Activity

Normal annual work activity is estimated as follows:

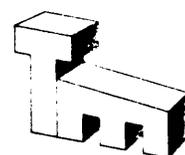
Decline, including pockets	1200'
Level development plus stope development	2800'
Stope mining	238,000 tons
Ore from development	16,800 tons
Tons to mill	255,000 tons
Tramming - on level	238,200 tons
to surface	282,600 tons

Total Property Costs

<u>Cost Centre</u>	<u>Annual Cost</u>	<u>Unit Cost</u> <u>\$/ton milled</u>	
Mining	\$6,021,064	23.61	see appendix IX
Milling	1,655,545	6.49	see appendix X
Local Overhead	<u>912,800</u>	<u>3.58</u>	see appendix VI
Sub total	8,589,409	33.68	
Administrative			
Overhead 3%	<u>257,682</u>	<u>1.01</u>	
Property cost	\$8,847,091	34.69	

Year One Operating Cost Estimate

New mill start-up is usually fraught with a few problems which have to be ironed out. In the following cost estimates for year one it is estimated that first quarter throughput will be about 60% of normal, and unit-costs increased by 66%. In the second quarter tonnage milled may be about 75% of normal, at a unit cost of 33% above normal. Third and fourth quarters should be normal.

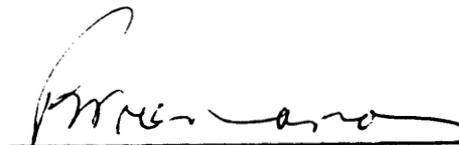


<u>Period</u>	<u>Tonnage</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1st quarter	38,000	\$57.47	\$2,183,860
2nd quarter	48,000	46.04	2,209,920
3rd quarter	64,000	34.62	2,215,680
4th quarter	<u>64,000</u>	34.62	<u>2,215,680</u>
Total	214,000	\$41.24	\$8,825,140

Submitted by:

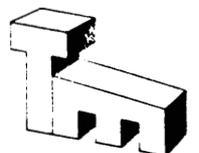


H. G. Barker, P.Eng.



R. T. Trenaman, P.Eng.

March 27, 1987

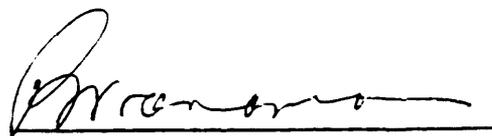


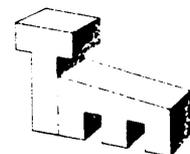
C E R T I F I C A T E

I, Roland Trevor Trenaman, do certify as follows:

- 1) That I am a Consulting Mining Engineer with offices at 1110 - 625 Howe Street, Vancouver, B. C. V6C 2T6.
- 2) That I am a graduate of the University of British Columbia with a degree of Bachelor of Applied Science 1957 in Mineral Engineering.
- 3) That I am a member of the Association of Professional Engineers of the Province of British Columbia.
- 4) That I have practiced my profession for 29 years and that during the last 8 years have been involved in the exploration, development, construction and management of small gold mines in northern British Columbia, and elsewhere.
- 5) That I have no interest, directly or indirectly, in the subject properties, nor the securities of Oliver Gold Corporation.
- 6) That this report may be used in a Statement of Material Facts or similar document related to the raising of funds for this project by Oliver Gold Corporation but may not be abridged or otherwise extracted without the written consent of the authors.

March 27, 1987
Date


Roland Trevor Trenaman



BIBLIOGRAPHY

Information has been obtained from Cominco Exploration files which have included private reports:

Swanson C.O. (1950) The Fairview Mine, Similkameen District B.C.

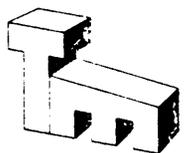
Wiley, W.E. Shutdown report 1984 Fairview Property.

Amon, F.B. - December 1980 - Preliminary Evaluation of Fairview Property.

In addition to the above:

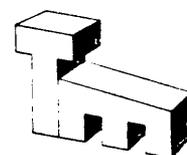
Netolitzky, R.K. - July 10, 1986, - Evaluation Report on the Fairview Property.

Barker, H.G. - February 1987 - General Information on Fairview Property. Prepared from Cominco files.



LIST OF APPENDICES

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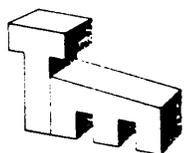


APPENDIX IMining Method

A method of mining should be employed which will provide the best opportunity to minimize dilution. Shrinkage stoping and open stoping provide the means for supervisory personnel and the miners to visually decide where to drill and blast, and where not to drill and blast. Open stoping is usually necessary where vein dips are not steep enough for shrinkage stoping. It is more costly due to the need to help gravity by scraping, but does allow the opportunity to some extent to choose pillar locations in lower grade material, assuming low grade material can be recognized.

While long hole drilling may be a possibility for Fairview, it should be treated with care as it is basically a method for large dimension ore bodies. Ore zone outline must be well defined in advance. Opportunities for dilution are greater with this method than with either shrinkage or open stoping.

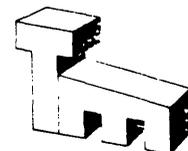
It is estimated that 8 stopes will be required to supply the mill. This will be close to 1000 tons per day on a 5-day week. Of these 4 may be good shrinkage stopes with a vein dip of 60 degrees or more. The remainder may be modified shrinkage stopes which will require help in scraping, or even open stopes depending on vein dip. An exception to the latter statement would be in the event that a section of vein may be deemed regular enough in outline and with a dip not less than 40 degrees to qualify as a long-hole stope. As mining progresses in shrinkage stopes only about 35% of the ground broken is available immediately for the mill, the remainder being required in the stope to work off. When all drilling and blasting in the stope is complete all muck in the stope is available for the mill.



Grade Control

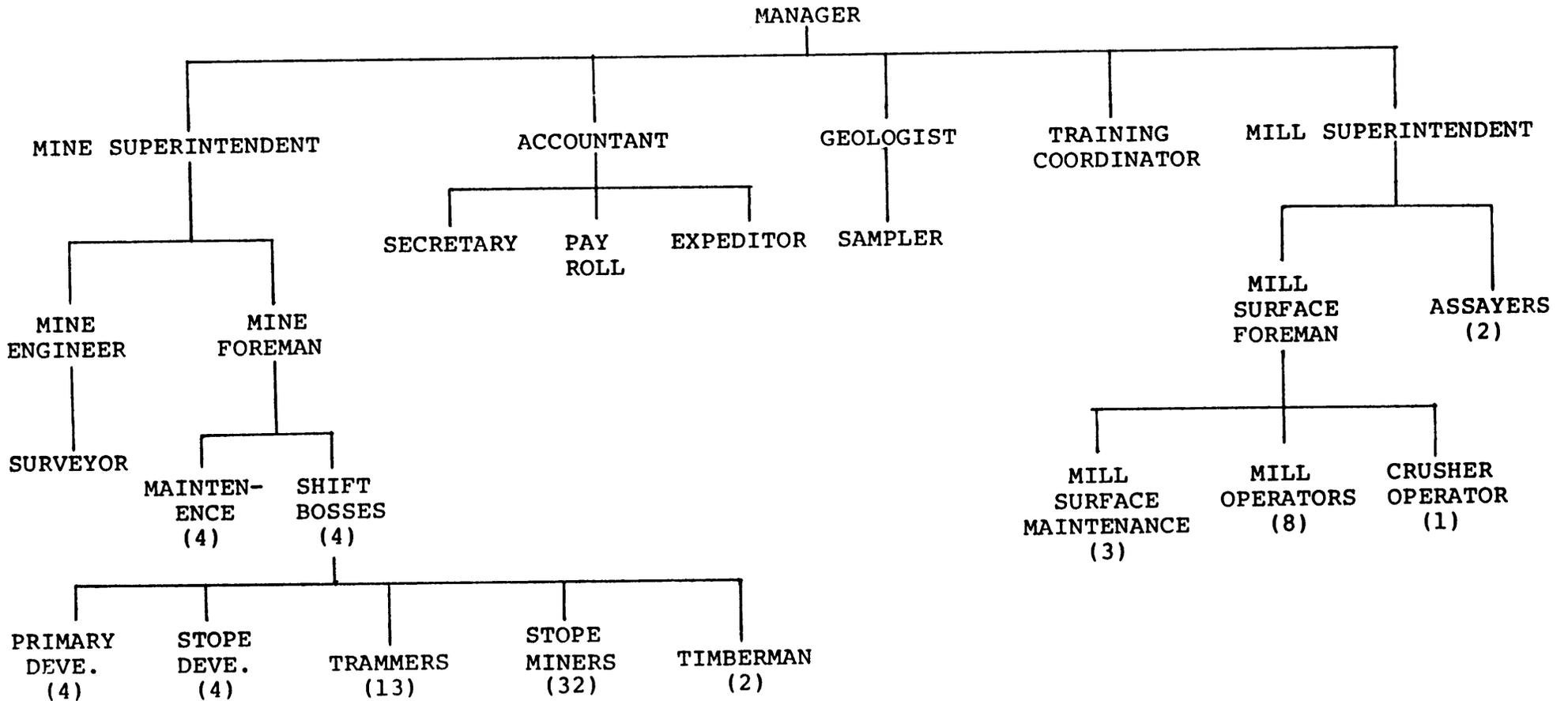
Cominco introduced grade control in 1955 and improved gold grade as a result. Normally grade control may consist of attempting to mine and mill the vein only, as compared to diluting it with hanging wall or foot wall waste material. In addition barren or low grade vein bands may be left behind if they can be determined, either visually or by assaying of samples. Distribution of gold in the Fairview quartz veins is reported as not favouring any particular horizon, and grade control of this type may be difficult. Nevertheless an attempt should be made in the direction of evaluating any potential stoping zone in this respect, particularly thick zones of quartz. While Cominco grade control was no doubt in part the process of being careful to mine vein material only, there is evidence also that there was a geological control approach also. Mr. F. B. Amon, in his December 1980 report states: "Gold ore shoots in the Fairview belt occur where quartz veins, following bedding in quartzites, pass into regional shear zones. The rake of those shoots can be predicted if the attitudes of the bedding and shear zones are known", also, "the vein-shear relationship affecting the location of ore shoots has been studied in considerable detail at the Fairview Mine. By following the indicated structural trends it was possible during the Cominco operation to increase the grade of the stoped ore as compared to what was previously mined".

Thus it is not valid to assume that if it is quartz that therefore it is ore. It is not uncommon in gold bearing quartz vein to find that where it may swell and increase in thickness, it may be virtually barren of gold. There may also be two or more ages of quartz in a given vein structure some of which may not contain gold while another does contain gold.



APPENDIX II

ORGANIZATION CHART

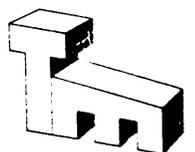


APPENDIX IIIPERSONNEL AND ORGANIZATION

Manpower requirements would be as follows:

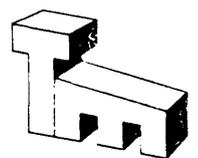
	<u>Staff</u>	<u>General Roll</u>	<u>Total</u>
Mine	10	57	67
Mill	4	12	16
Local Overhead	6	-	<u>6</u>
Total			89

A productivity of about 8 tons per manshift is indicated.
An organization chart is shown in appendix VIII.



APPENDIX IVCapital Requirements for Mine Equipment and Surface Facilities

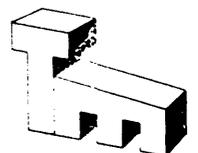
	<u>Number</u>	<u>Unit Cost</u>	<u>Cost</u>
ST5 Scooptram, used	3	\$150,000	\$450,000
Trucks 20-T, used	3	100,000	300,000
Drill jumbos, used	2	150,000	300,000
Mancha trammers, used	2	15,000	30,000
V cars, used	12	2,000	24,000
Mucking machines, 21B used	2	15,000	30,000
Jacklegs and stopers, new	20	2,500	50,000
Slushers, 15 h.p. used	2	5,000	10,000
Scrapers, 36 inch, used	2	1,000	2,000
Lamps and racks	40		10,000
Ventilation fans			30,000
Pumps			15,000
Longhole drills, used	2	10,000	20,000
Electric supplies, cables switches etc.			40,000
Generators, used			40,000
Dry facilities			40,000
Plumbing, septic tank etc.			20,000
Misc. job tools, grinder, welder etc.			30,000
Shop facilities			30,000
Air and water lines, powder mag.' etc.			25,000
Compressors, used, 1200 cfm, used	3	25,000	75,000
Front end loader, used	1	75,000	75,000
Pickups, used	2	12,500	25,000
Office			25,000
Ambulance	1	12,000	12,000
			<u>\$1,708,000</u>
Contingency 10%			<u>170,800</u>
			<u>\$1,878,800</u>



APPENDIX VSTAFF LABOUR COSTS

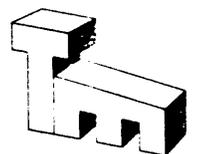
(\$/YEAR)

<u>Position</u>	<u>Basic Salary</u>	<u>30% Loading</u>	<u>Loaded Salary</u>	<u>No Req'd</u>	<u>Annual Cost</u>
Mine Manager	80,000	24,000	104,000	1	\$104,000
Mine Superintendent	62,000	19,000	81,000	1	81,000
Mine Foreman	58,000	17,000	75,000	1	75,000
Mine Shift Boss	50,000	15,000	65,000	4	260,000
Mill Superintendent	50,000	15,000	65,000	1	65,000
Mine Engineer	45,000	13,000	58,000	1	58,000
Mine Geologist	45,000	13,000	58,000	1	58,000
Accountant	45,000	13,000	58,000	1	58,000
Mill/Surface Foreman	43,000	13,000	56,000	1	56,000
Expeditor	36,000	10,000	46,000	1	46,000
Training Coordinator	36,000	10,000	46,000	1	46,000
Surveyor	30,000	9,000	39,000	1	39,000
Secretary	28,000	9,000	37,000	1	37,000
Assayer	28,000	9,000	37,000	2	74,000
Payroll Clerk	27,000	8,000	35,000	1	35,000
Total					\$1,092,000



APPENDIX VILOCAL OVERHEAD COST ESTIMATE

	Annual Cost
<u>Labour - General Roll</u>	Nil
- <u>Staff Salaries</u> - Mine Manager	\$104,000
- Accountant	58,000
- Payroll Clerk	35,000
- Secretary	37,000
- Training Coordinator	46,000
- Expeditor	<u>46,000</u>
	\$326,000
 <u>Services and Supplies</u> - Labour cost x 1.8	 \$586,800
Total Local Overhead	\$912,800



APPENDIX VII

MINE LABOUR COST ESTIMATE

<u>Activity</u>	<u>Activity Level</u>	<u>Labour Productivity</u>		<u>Labour Usage</u>	<u>Unit Labour Cost</u>	<u>Activity Labour Cost</u>	
	<u>(Ft/yr)</u>	<u>(Tons/yr)</u>	<u>(Ft.Ms)</u>	<u>(Tons/Ms)</u>	<u>Ms/yr</u>	<u>(\$/Ms)</u>	<u>(\$/Yr)</u>
Decline Level	1200		3.5		343	261	89,523
Primary Dev. (level)	2800		4.0		700	261	182,700
Stope Dev.	3000		3.0		1,000	261	261,000
Stope Mining		238,200*		30	7,940	241	1,913,540
Timbering					520	185	96,200
<u>Tramming</u>							
(a) on level		238,200		125	1,906	192	365,952
(b) to surface		282,000		200	1,410	192	270,720
Maintenance					1,000	184	184,000
Sampling					250	134	33,500

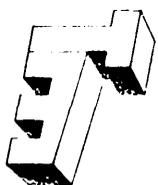
* Note - 16,800 tons of ore assumed to come from development



APPENDIX VIII

GENERAL ROLL LABOUR COSTS

<u>Job</u>	<u>Base Rate</u> \$		<u>35% Loading</u> <u>on 40-hour</u> <u>Base Rate</u>	<u>Bonus on</u> <u>Base Rate</u> <u>For 40-hour</u>		<u>Total Loaded Labour Cost</u> (\$)		
	<u>Per</u> <u>Hour</u>	<u>Per</u> <u>40-hour</u>	<u>(\$)</u>	<u>%</u>	<u>(\$)</u>	<u>Per</u> <u>40-hour</u>	<u>Per</u> <u>Hour</u>	<u>Per 8-hour</u> <u>Shift</u>
Dev. Miner	14	560	196	100	560	1316	32.90	263.20
Stope Miner	14	560	196	80	448	1204	30.10	240.80
Raise Miner	14	560	196	100	560	1316	32.90	263.20
Timberman	14	560	196	30	168	924	23.10	184.80
Trammer	13	520	182	50	260	962	24.05	192.40
Maintenance	17	680	238	0	0	918	22.95	183.60
Mill Operator	15	600	210	0	0	810	20.25	162.00
Sampler	12	480	168	0	0	648	16.20	129.60



APPENDIX IXESTIMATE OF TOTAL MINE OPERATING COSTS

<u>ACTIVITY</u>	<u>ACTIVITY LABOUR COST</u>	<u>SUPPLIES SERVICES FACTOR COST</u>	<u>ACTIVITY TOTAL COST</u>	<u>ACTIVITY LEVEL FT/TONS</u>	<u>DIRECT UNIT (\$)</u>
Decline	\$ 89,523	45 \$40,285	\$129,808	1,200	108.17
Primary Dev.	182,700	45 82,215	264,915	2,800	94.61
Stope Dev.	261,000	20 52,200	313,200	3,000	104.40
Stope Mining	1,913,540	22 420,979	2,334,519	238,200	9.80
Timbering	96,200	20 19,240	115,440	-	-
Tramming	636,670	30 191,001	827,671	282,000	2.94
Maintenance	184,000	20 36,800	220,800	-	-
Sampling	33,500	20 6,700	40,200	-	-
Diamond Drilling			<u>200,000</u>	14,000	\$20.00
			\$4,446,553		

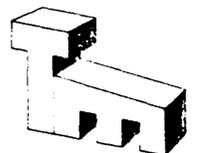
Staff Labour

Mine Supt.	81,000	
Mine Foreman	75,000	
Mine Engineer	58,000	
Shift Bosses (4)	260,000	
Geologist	58,000	
Surveyor	<u>39,000</u>	
	571,000	<u>571,000</u>

Total Direct Mine Labour and Supplies \$5,017,553

General Mine Services and Supplies @ 20% 1,003,511

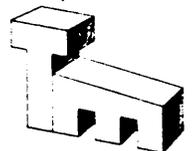
\$6,021,064



APPENDIX XMILLING OPERATING COST ESTIMATE

<u>LABOUR</u>		<u>ANNUAL COST</u>	<u>UNIT COST</u>
<u>General Roll</u>			
- Operators-42 shifts/week	x8x\$21=\$7,056		
- Crusher-6 shifts/week	x8x\$21= \$1,008		
- Maint.-25 shifts/week	x8x\$21= \$4,200		
	52 x \$12,264	\$637,728	
<u>Staff</u>			
- Mill superintendent		65,000	
- Mill/surface Foreman		56,000	
- Assayers (2)		74,000	
	subtotal	\$832,728	
<u>Supplies</u>			
Steel-grinding balls - 2.80x0.26x255,000		185,640	
Mill Liners 0.12x0.65x255,000		19,890	
Crusher Liners 0.10x1.70x255,000		43,350	
<u>Reagents</u> - soda ash 1.70x0.12x255,000		52,020	
xanthate 0.10x0.75x255,000		19,125	
MIBC 0.12x0.80x255,000		24,480	
CuSO ₄ 0.10x0.40x255,000		10,200	
<u>Misc. Operational Supplies</u>		18,000	
<u>Assay Office</u>		27,000	
<u>Maintenance Supplies</u> - Mill		36,000	
- Surface		18,000	
<u>Power</u> 57.9 kwh/ton x 0.025x255,000		369,112	
		<u>\$1,655,545</u>	

\$6.49



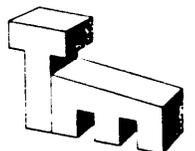
APPENDIX XIMORNING STAR

This report deals essentially with the old Fairview property which is immediately northwest of the Stemwinder mine. The Morning Star adjoins the Stemwinder at the latter's south east border and is part of the Oliver Gold Corporation option. It has an inviting potential to contribute to Oliver Gold and for this reason the following is re-produced from H.G. Barker's report of February 1987:

In the various files and records inspected very little was found regarding this mine, which is part of the Fairview option from Cominco, and on the same mineralized belt. Production of 8307 tons of 0.56 oz. per ton of gold and 1.25 ounces of silver was achieved. A plan in the Cominco files shows rather impressive assays in 2 stopes above the 101 level, many greater than one ounce. A section through a raise connecting levels shows a dip from 202 to 102 levels at 62° and from 102 to surface at 50°.

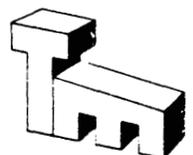
F. B. Amon of Cominco states that there are six quartz veins on the Morning Star near the workings, and east-raking shoots occur in each where they pair into a strong shear.

Six shallow diamond drill holes were completed in 1961 by Cominco in the Morning Star area but the drilling failed to intersect the higher grade shoots mined at the turn of the century. Veins varied from 6 to 20 feet in thickness. The main vein is a fault fissure with a strike of N. 40° W and a dip of 30° to 60° N.E. The mineralization is evidently associated with a dacite porphyry dyke.



The mine was entered by a shaft sunk 220 feet, from which two levels were driven.

In the light of the high grade encountered in the past, a thorough re-examination with drilling seems well justified. The December 19, 1986 issue of the George Cross News Letter reported good results on the underground work being done on the Stemwinder property, which is in between the Fairview and Morning Star.



1987?

THE VALHALLA GOLD GROUP

A CORPORATE DEVELOPMENT PROFILE

Valhalla Energy Corporation

#814, 837 West Hastings Street, Vancouver, British Columbia V6C 1B6

Telephone: (604) 669-6656 Telecopier: (604) 669-4210

SYNOPSIS OF THE COMPANY

Valhalla Energy Corporation was incorporated in 1980 and listed on the Vancouver Stock Exchange in November of 1981. The original name of the Company was Valhalla Minerals Incorporated. Its main objective was to carry out the precious metal exploration and oil and gas exploration and development, the intention being to use petroleum revenues derived for precious metal exploration purposes. In 1983, the company changed its name to its present name, the intention then having changed to focus entirely on petroleum exploration and development. For that purpose, the company had an office in Calgary, where the exploration staff was located. The crash in oil prices toward the end of 1985 led to the closing of the Calgary office and refocussing the efforts of the company on gold and platinum exploration and development. The company is in the process of changing its name to The Valhalla Gold Group Corporation to better reflect the true nature of the company.

Valhalla now owns 30% of Oliver Gold Corporation, a company which is also listed on the Vancouver Stock Exchange and which trades under the symbol of "OGO". This company has an issued capital of 2,895,000 shares. The main asset of this company is an agreement with Cominco under which Oliver has already earned 40% of some 10,000 acres covering most of what is known as the Fairview Gold Belt, stretching some six miles northwesterly from the village of Oliver in the Province of British Columbia. Oliver is well-financed and has access to \$4.0 million of flow-through tax funds to develop the property further. Underground drilling and rehabilitation is presently underway and negotiations with Cominco for further participation have been initiated. Oliver also owns 100% of two promising claim blocks in the Deschambault Lake area of the LaRonge Gold Belt where further exploration will be undertaken in due course.

Valhalla recently made a successful public and private offer on the Vancouver Stock Exchange to acquire control of Highland Valley Resources Ltd. This company trades on the Vancouver Stock Exchange under the symbol "HVR" and has an issued capital of 4,345,000 shares on a fully diluted basis. Valhalla owns 1,420,834 shares, or 38.98% of the issued capital. The main asset of Highland Valley is a mining lease obtained from Asarco to the Stemwinder Group, comprising three Crown grants located in the Fairview camp and totalling some 600 acres. This property is strategically located within the the Fairview Gold Belt and some 600 to 1,000 feet lower than the Fairview Mine, which latter property is being developed by Oliver. Underground development and drilling by previous operators and Highland Valley has indicated a potential of some 1.0 to 2.0 million tonnes grading approximately 0.1 oz Au/T and 1.5 oz Ag/T. Highland Valley is presently planning further development work on this property in joint venture with Thor Gold Corporation. In addition, Highland Valley owns the right to 100% of the Susie Property, comprised seven Crown grants totalling approximately 1,000 acres. This property is a past producer located north of the Stemwinder Group in the granites. Highland Valley is commencing an exploration program on this property shortly.

Valhalla owns 34.84% of the issued capital of Thor Gold Corporation, which company has a total of 2,870,000 shares issued. This company trades on the Calgary Stock Exchange under "THG". Thor has recently concluded a transaction with Highland Valley under which Thor will pay \$250,000.00 cash and spend \$1.0 million on the Stemwinder Property over the next three years to earn an undivided 50% interest in the lease from Asarco covering the Stemwinder Property. This agreement is still subject to approval by regulatory authorities which is expected in due course. Immediately upon receipt of approval, underground development and drilling will commence.

Valhalla itself also carries out direct exploration and development. Valhalla has a joint venture with Granges Exploration Ltd. covering a chrome/platinum property located near Cache Creek, British Columbia. Granges is the operator and further exploration is scheduled for this property, which produced chrome during the last World War. Valhalla is negotiating to enter into an agreement to explore a gold property located in northern California in the Mother Lode Belt. Valhalla proposes to spend up to \$500,000.00 U.S. in optional stages over the next three years to earn an undivided 50% interest. The work on this property will commence when the fire season ends and the agreement is finalized.

The above comprises the mining exploration and development activities of the Valhalla Group. All the companies are debt-free and well-financed. The Group continues to screen gold and precious metal properties of merit throughout North America and intends to expand by taking options, entering into Joint Ventures, and out-right purchase or corporate take-overs, hostile or otherwise, of producing or near-production properties.

Valhalla is the world distributor of The Jarl Aa. B. Whist Gold Letter and provides the administration of the money management services by way of contract with Whist Holdings Ltd. Compensation to Valhalla comprises 75% of the gross revenues, which is a significant source of revenue for the company. In addition, Valhalla provides management control and operation of the subsidiary companies, rendering the overhead costs for each of the companies in the group low.

STOCK DISTRIBUTION

As of September 1, 1987 there were 4,668,200 shares issued and outstanding. There are approximately 400,000 director and employee options outstanding at \$1.85 per share. There are 100,000 warrants outstanding at \$1.00 per share and 150,000 warrants outstanding \$2.50 per share. Fully diluted, the issued capital of the company will therefore approach 5,400,000 shares. Authorized capital is 20,000,000 shares.

The shares of the company are distributed in the following approximate manner:

●	Number of Shares
● Directors and other insiders (including options)	500,000
● Jarl Aa. B. Whist (including options)	900,000
● Made in A/S, Oslo, Norway	600,000

There is an estimated public float of some 3.4 million shares which are held by approximately 500 shareholders in Canada, the United States and Europe. There appears to be no institutional participation in Valhalla.

The following three charts cover the period from July, 1985 to July, 1987 and show the price movement of the shares of the company (CHART #1), the percentage change in share price (CHART #2) and the percentage change of the Toronto Stock Exchange Composite Index by month (CHART #3). CHART #4 shows the volume by month of the trading activity in the same period.

CHART #1



CHART #2

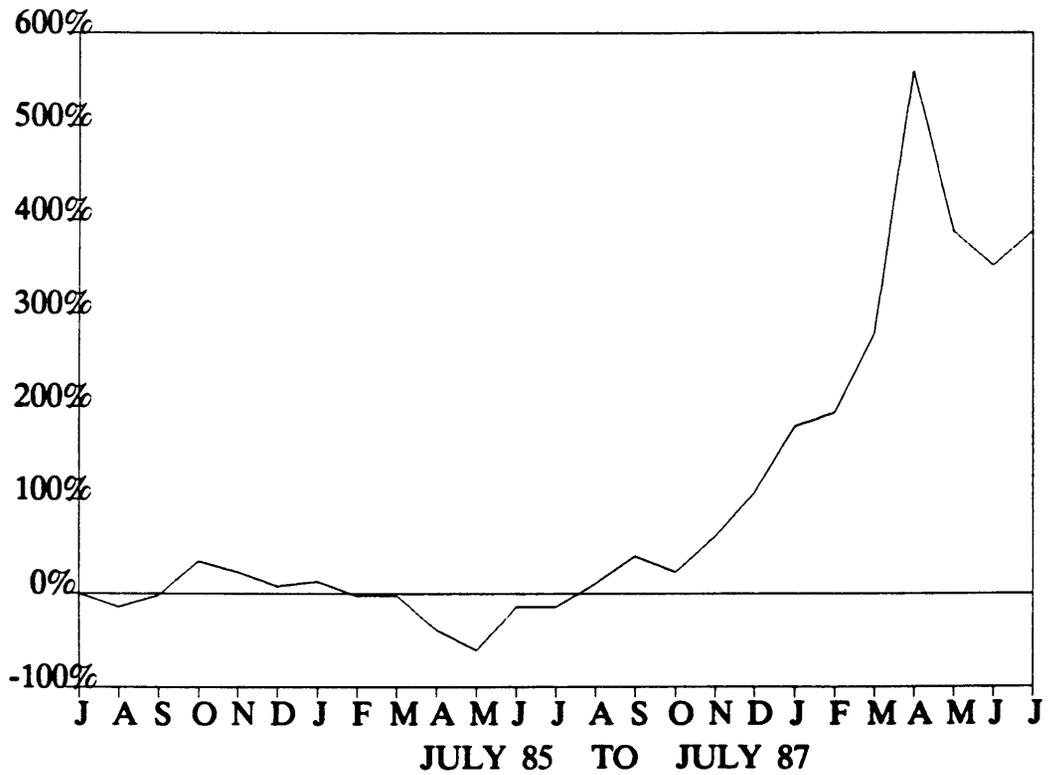


CHART #3

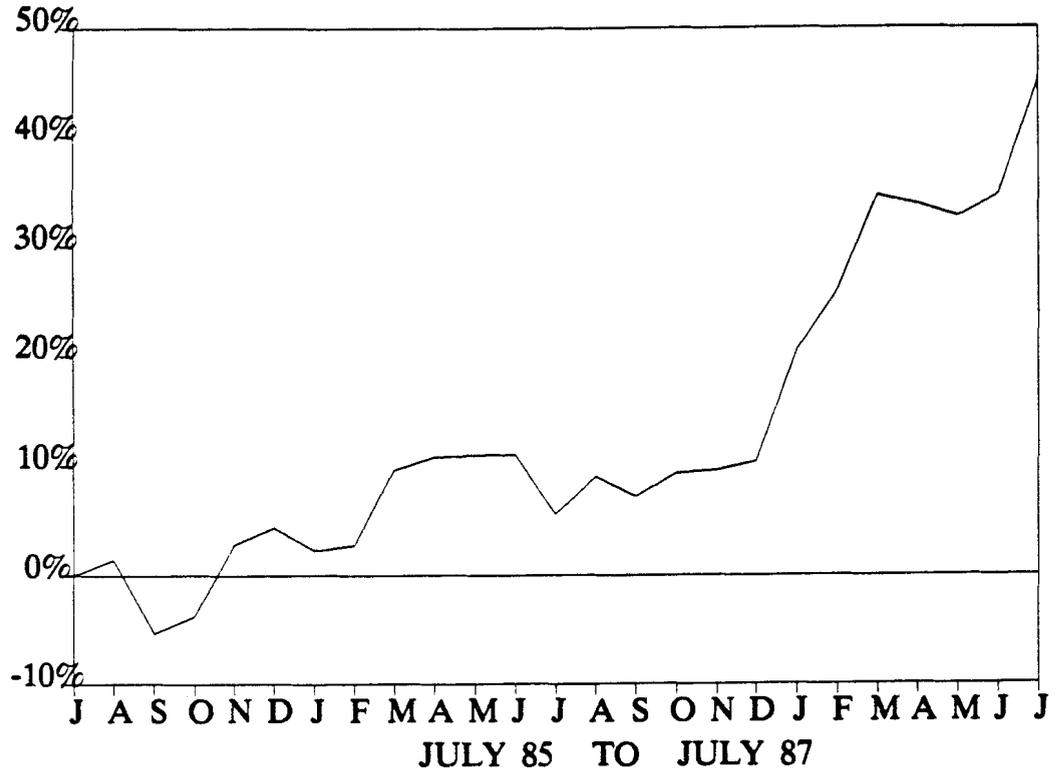
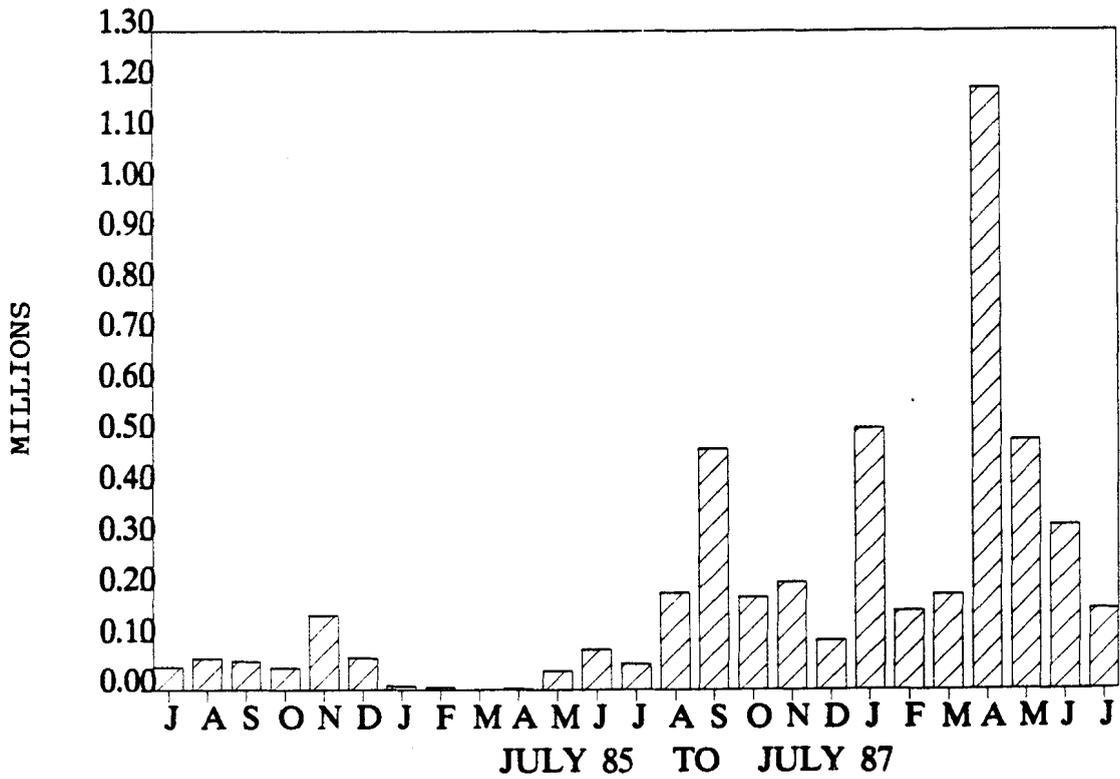


CHART #4



GROUP FINANCIAL INFORMATION

The financial statements of Valhalla have been prepared in-house and are subject to audit by our auditors, Arthur Andersen & Company. The year-end is July 31. The 1987 audit is almost complete and should conform to the following statements, with the exception of possible re-classification of certain items. The 1986 and 1985 figures are audited.

VALHALLA ENERGY CORPORATION CONSOLIDATED BALANCE SHEETS

July 31, 1987, 1986 and 1985

	1987	1986	1985
ASSETS			
CURRENT ASSETS:			
Term deposits	\$ 300,457.	\$.	\$.
Marketable securities	200,441.		
Accounts receivable	138,842.	289,367.	174,651.
Prepaid expenses	8,738.	3,358.	1,352.
Notes receivable		41,000.	192,000.
	648,478.	333,725.	368,003.
PROPERTY, PLANT AND EQUIPMENT:	1,608,481.	1,719,873.	1,573,442.
OTHER ASSETS	294,100.	55,500.	
	\$ 2,551,059.	\$ 2,109,098.	\$ 1,941,445.
 LIABILITIES AND SHAREHOLDERS' EQUITY			
CURRENT LIABILITIES:			
Bank loan	\$ 28,212.	\$ 307,781.	\$ 168,688.
Accounts payable	162,972.	160,127.	131,166.
Commitments		41,000.	250,000.
	191,184.	508,908.	549,854.
NOTE PAYABLE:			16,336.
	\$ 191,184.	\$ 508,908.	\$ 566,190.
 SHAREHOLDERS' EQUITY:			
Share capital	\$ 2,508,210.	\$ 2,044,610.	\$ 1,925,210.
Accumulated deficit	(148,335.)	(444,420.)	(549,955.)
	\$ 2,359,875.	\$ 1,600,190.	\$ 1,375,255.
	\$ 2,551,059.	\$ 2,109,098.	\$ 1,941,445.

VALHALLA ENERGY CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS AND ACCUMULATED DEFICIT

For the years ending July 31, 1987, 1986 and 1985

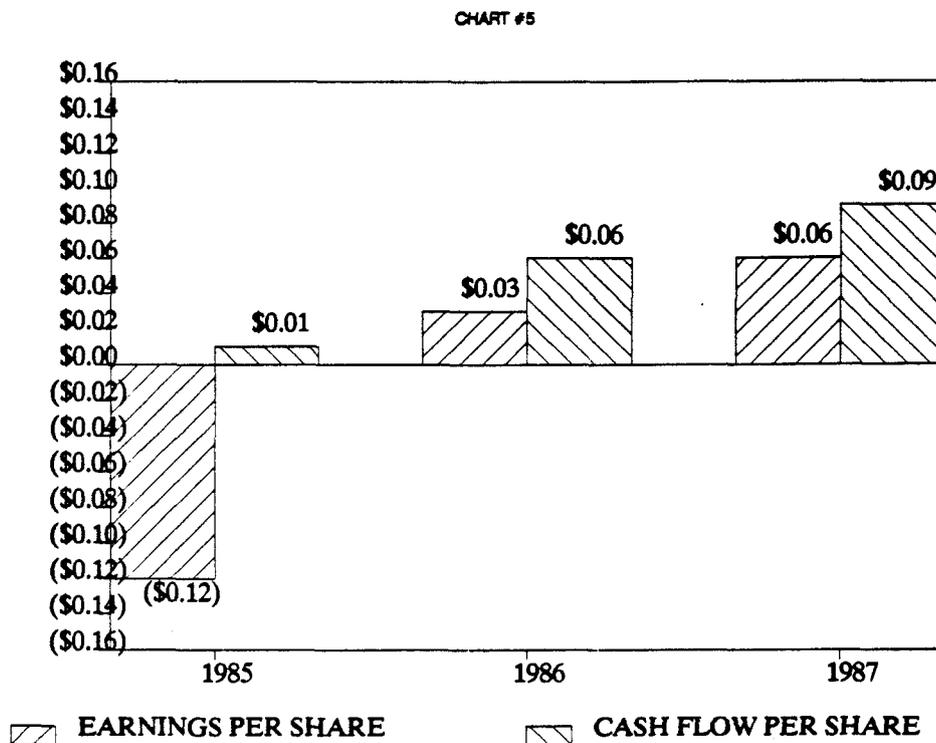
	1987	1986	1985
REVENUE:			
Oil and gas, net	\$ 331,066.	\$ 334,864.	\$ 267,499
Newsletter distribution, investment advisory revenues & corporate administration fees	641,974.	296,507.	96,000.
	\$ 973,040.	\$ 631,371.	\$ 363,499.
EXPENSES:			
Production	74,261.	144,746.	73,647.
Depletion and depreciation	127,143.	130,260.	129,658.
General administration	461,124.	246,512.	249,211.
Interest, net	14,427.	4,318.	17,452.
	\$ 676,955.	\$ 525,836.	\$ 469,968.
Income (loss) before provision for income taxes and extraordinary items	\$ 296,085.	\$ 105,535.	\$(106,469.)
PROVISION FOR INCOME TAXES:	156,000.	32,000.	42,000.
Income (loss) before extraordinary items	\$ 140,085.	\$ 73,535.	\$(148,469.)
EXTRAORDINARY ITEMS:			
Write-off of mining properties			\$(226,142.)
Tax recovery of loss carry-forward	156,000.	32,000.	42,000
	\$ 156,000.	\$ 32,000.	\$(184,142.)
Net income (loss)	\$ 296,085.	\$ 105,535.	\$(332,611.)
ACCUMULATED DEFICIT,			
BEGINNING OF YEAR:	(444,420.)	(549,955.)	(217,344.)
ACCUMULATED DEFICIT,			
END OF YEAR:	\$(148,335.)	\$(444,420.)	\$(549,955.)
Net income per share	\$ 0 .06	\$ 0 .03	\$(0 .12)
Cash flow from operations per share	\$ 0 .09	\$ 0 .06	\$ 0 .01

VALHALLA ENERGY CORPORATION
CONSOLIDATED STATEMENT OF CHANGES IN FINANCIAL POSITION

For the years ending July 31, 1987, 1986 and 1985

	1987	1986	1985
CASH FROM (TO) OPERATING ACTIVITIES:			
Income (loss) before extraordinary items	\$ 140,085.	\$ 73,535.	\$(148,469.)
Items not requiring the use of cash:			
Depletion and depreciation	126,183.	130,260.	129,658.
Income taxes	156,000.	32,000.	42,000.
	\$ 422,268.	\$ 235,795.	\$ 23,189.
Decrease (increase) in accounts receivable	150,525.	(114,716.)	(137,112.)
Decrease (increase) in prepaid expenses	(5,380.)	(2,006.)	(1,352.)
Decrease (increase) in notes receivable	41,000.	151,000.	(192,000.)
Increase in accounts payable	2,845.	28,961.	84,416.
Increase (decrease) in commitments	(41,000.)	(209,000.)	134,500.
Increase (decrease) in marketable securities	(200,441.)		
	\$ 369,817.	\$ 90,034	\$ (88,359.)
CASH FROM FINANCING ACTIVITIES:			
Issuance of share capital	\$ 463,600.	\$ 119,400.	\$ 465,210.
Issuance (payment) of note payable		(16,336.)	16,336.
	\$ 463,600.	\$ 103,064.	\$ 481,546.
CASH TO INVESTING ACTIVITIES:			
Purchase of property, plant and equipment	\$ (14,791.)	\$(276,691.)	\$(575,465.)
Investment in other assets	(238,600.)	(55,500.)	
	\$(253,391.)	\$(332,191.)	\$(575,465.)
Increase (decrease) in cash and cash equivalents	\$ 580,026.	\$(139,093.)	\$(182,278.)
CASH AND CASH EQUIVALENTS,			
BEGINNING OF YEAR	\$(307,781.)	\$(168,688.)	\$ 13,590.
CASH AND CASH EQUIVALENTS			
END OF YEAR	\$ 272,245.	\$(307,781.)	\$(168,688.)

The following chart (chart #5) graphically displays the earnings per share and the cash flow per share for the past three years.



The oil and gas division expects to maintain similar revenues for the period ending July 31, 1988. If gas prices increase, income to Valhalla could increase dramatically, since Valhalla derives income from gas condensate production in Dewey County in Oklahoma as well as from participation in a large sour gas well and overriding royalties from a gas field in the province of Alberta. The main income is derived from sixteen producing oil wells in the province of Saskatchewan. In addition, Valhalla has working interests ranging from 5% to 15% in several thousand acres in Alberta and three large shut-in gas wells. It is hoped that two of these wells will be put on stream during 1987/88. Valhalla will participate and maintain its interest in development drilling only during 1987/88. Six development wells are planned near Kerrobert, Saskatchewan. Valhalla expects to derive at least one third of its income from oil and gas during the next year.

For the period ended July 31, 1987, Valhalla derived two-thirds of its income from newsletter distribution, administration of investment advice and corporate management. These activities continue to increase and should at least maintain the same level for the period ending July 31, 1988.

The reader will note that per share income and cash flow have shown steady increases from year-to-year for the last three years. This is graphically illustrated by Chart #5. The cash position of the company has also turned around. The company has an unsecured line of credit from a major bank in the amount of \$350,000.00 which is not being used. The line of credit is, however, available for acquisitions.

In order to acquire the control position of Thor Gold Corporation, Highland Valley Resources Ltd. and Oliver Gold Corporation, the company has expended to date approximately \$300,000.00 in cash and has issued some 206,000 shares at a deemed value of \$2.50 per share. As of September 8, 1987 these shares are trading on the various exchanges involved at \$1.70 per share for Oliver, \$0.76 for Highland Valley and \$0.59 for Thor. A combined market value of all of the shareholdings as of September 8, 1987 therefore totals \$3,114,833.00. It should be understood, however, that some of the shareholdings are in escrow and subject to release restrictions by the regulatory authorities. On the other hand; since these shareholdings represent control positions, Valhalla is not interested in selling same. On the contrary; Valhalla is actively investigating the possibility of acquiring more than 50% of all of the issued shares of each company, enabling consolidation of the balance sheets in the future.

Thor, Highland Valley and Oliver are exploration and development companies and, as such, have not yet developed an income. These companies raise the necessary funds by private placements and by public underwritings. These companies also take advantage of favourable tax flow-through legislation and obtain funds by incurring Canadian Exploration Expense for income tax purposes on behalf of clients and issue payment by way of shares in the companies at a premium to the market price.

Thor is presently completing a private placement to raise approximately \$250,000.00 which will make its cash position approximately \$350,000.00. This will enable Thor to enter into the agreement with Highland Valley to obtain 50% Joint Venture ownership of the Stemwinder Property. The firm of Levesque, Beaubien Inc. has agreed to publicly underwrite the stock of Thor to raise \$1.0 million, which will enable to Thor to earn its position in the Stemwinder Group. After Thor has earned its 50% position, Thor and Highland will contribute to further development on a 50/50 basis.

Highland Valley presently has approximately \$400,000.00 in the Treasury. Since Highland Valley will be carried by Thor for the exploration program on the Stemwinder Group and also receive cash payments of \$250,000.00, Highland Valley will be well-financed to undertake further exploration on its wholly-owned Susie Property. Additionally, Highland Valley owns a platinum prospect and another gold prospect which will also be further explored this year.

Oliver presently has approximately \$600,000.00 in the Treasury and has earned a 40% undivided interest in the Fairview Group from Cominco. Cominco now has the option to resume Operatorship, in which event Oliver will contribute 40% of future exploration and development. If Cominco declines, Oliver has the right to spend another \$400,000.00 on the property to earn an undivided 80% interest in same. However, negotiations are underway to change the relationship between the two companies. Oliver has access to \$4.0 million in tax flow-through funds and is presently expending the first portion of such funds, in the amount of \$350,000.00, which is convertible into shares of Oliver at a price of \$2.20 per share. As Oliver continues to spend funds on the Fairview Group, the funds will be converted to shares of Oliver at a 20% premium to market, based on the average trading price of the shares during the preceeding 30 days of each contract period. The resultant shares will be held by First Exploration Fund, A Limited Partnership which in turn will be converted to a mutual fund which will be listed and traded on the Toronto Stock Exchange. The corporate sponsor of First Exploration Fund is Merrill Lynch. In addition to working on the Fairview Property, Oliver will also explore the Deschambault Lake property this fall and winter.

MINERAL EXPLORATION AND DEVELOPMENT

The Valhalla Group is concentrating its activities in the Fairview Gold Belt near Oliver in the province of British Columbia. The location is ideal, with the necessary infrastructure being available

in the village of Oliver, located only a few miles from the properties. There is ample access. The climate is gentle, enabling year-round work on the surface. The topography is ideal. Power and a stable work force is readily available.

Attached hereto are reports by Trenaman Mining Services Ltd. (see appendix 1), evaluating production and milling costs of ore from the Fairview Mine. This study has been based on a 700 tonne per day operation. The threshold for a production decision is 2.0 million tonnes grading 0.1 oz Au/T and 1.5 oz Ag/T. It is presently felt that an operation of 1,000 tonnes per day would be most economic. Please refer, therefore, also to the computer runs of such possible operation (see appendix 2), which utilize the production and milling costs estimated by Trenaman Mining Services Ltd. and various price and recovery scenarios.

Attached is also a report by David Cooke, P.Eng. (see appendix 3), analyzing the potential of the Stemwinder Group belonging to Highland Valley Resources Ltd. The Valhalla Group is of the opinion that it should be possible to develop similar tonnage to that existing on the Fairview Group which could, by itself, justify another 1,000 tonne per day operation. It is likely, however, that the two properties would deliver ore to the same mill. It is therefore possible to postulate central milling at more than 1,000 tonnes per day with resultant benefits for both Oliver and Highland Valley. As mentioned previously, Thor has an option to obtain a 50% ownership in the Asarco lease belonging to Highland Valley for a cash payment of \$250,000.00 and a \$1.0 million expenditure on the property. If, as expected, this transaction is approved by the regulatory authorities, Levesque Beaubien, a national brokerage house in Canada, has agreed to underwrite Thor to raise the necessary \$1.0 million in exploration funds.

Reference is made to the Location map, Section Through the Fairview Gold Belt and Cross-Section of the Fairview Mine (see pages 14-17), which illustrates the large dimensions of the Fairview Property and the strategic location of the Stemwinder Property. The ore occurs in very strong quartz veins which have been traced by surface geochemistry, rock outcrops and geophysical methods over a strike length of almost four miles. Three very strong quartz veins have been identified ranging in width from five to forty feet. The veins dip about 60 degrees to the northwest and have been identified, both underground and on surface, over a vertical distance of some 1,500 feet. The veins strike in a northwesterly direction from the village of Oliver in the metasediments. The metasediments have been intruded on both sides by the Fairview granite to the south and the Oliver granite to the north. The seven Crown grants comprising the Susie Group are located within the granite to the north of the Stemwinder. This group of claims has not yet received any work by modern geological exploration methods. Highland Valley intends to conduct a surface geochemical and geophysical program on the property later this year. This property was a small gold producer in the past and the underground workings will be re-mapped and re-sampled. Highland Valley also intends to conduct further exploration programs on the Gold Claim block and the Little Buck Claim block in the Grand Forks area of the province of British Columbia. The Little Buck Claim block is prospective of platinum.

In the past, the bulk of the gold production came from the Fairview mine, the Stemwinder and the Morning Star. When the Fairview was optioned to Oliver by Cominco, the latter estimated some 800,000 tonnes of ore remaining, grading 0.12 oz Au/T and 1.5 oz Ag/T. Recent work by Oliver has outlined higher grade ore shoots extending from the third level to the No. 6 Level over a vertical slope distance of some 600 feet. Underneath the No. 6 Level, recent drilling has established the continuity of ore ranging from 0.09 oz Au/T to 0.11 oz Au/T, plus silver. The widest intersection was some 56 feet for a true width of probably 40 feet. The zone dips almost 60 degrees, making it amenable to low-cost bulk mining methods such as shrinkage stoping and sub-level retreat. On the Stemwinder Group, a previous drill intersection graded 0.09 oz Au/T plus silver over 59 feet. This in-

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tersection is some 400 feet below the No. 6 Level on the Fairview Group. It is hoped that access from 400 feet below the No. 6 Level can be obtained from the workings on Stemwinder, making gravity mining feasible.

The difficulty with ore occurrences such as those on the Fairview and Stemwinder consists of proving the actual minable ore reserve. The accepted method is to drill for structure and drift and raise to prove grade. Engineering studies will now be undertaken to establish the most economical method. A preliminary metallurgical study by Gary W. Hawthorne, P.Eng. is also attached (see appendix 4), which suggests that good to excellent recoveries can be expected. It is possible that a large bulk sample will be tested of some of the broken ore remaining in the stopes on Fairview. It is estimated that more than 30,000 tonnes is available, but the grade is unknown.

MINERAL RESERVES

It is the goal of the Valhalla Group companies to establish a minable and recoverable mineral reserve of 4.0 million tonnes averaging 0.1 oz Au/T and 1.5 oz Ag/T. This would result in a recoverable 380,000 ounces of gold and more than 3,500,000 ounces of silver. It is hoped that this reserve can be established on the Fairview and Stemwinder properties.

If the reader refers to the inserted computer run on the various projected operational scenarios (see appendix 2), it will be realized that, at a rate of 1,000 tonnes per day, 4.0 million tonnes on a fully diluted basis would have a mine life of twelve years.

The confidence level is very high that at least 1.0 million tonnes of the same material can be proven on each of the Fairview and Stemwinder properties. The minimum goal is therefore for a 1,000 tonne per day mill, crushing and milling 500 tonnes per day from each property.

For the purposes of the computer runs enclosed herewith (appendix 2), we have utilized the cost figures established by Trenaman Mining Services Ltd. and recovery figures as established by our consulting metallurgist. Mining and milling costs have been charged at \$26.00 and \$8.00 respectively. Recoveries have been utilized at the estimated recoveries for full cyanidation at 96% for gold and 90% for silver. Capital costs are those estimated by Trenaman Mining Services Ltd., plus an additional \$3.0 million for extra development of stopes for a total of \$14.0 million. An arbitrary 10% dilution factor has been utilized even though the ground is extremely competent, which should make it possible to mine with little or no dilution, due to the very considerable widths involved. Various price scenarios, from \$350.00 U.S. per ounce Au/T and \$5.75 U.S. for Ag/T, up to \$800.00 U.S. per ounce for Au/T and \$16.00 U.S. for Ag/T, have been utilized, creating twelve different scenarios.

Two grade scenarios have been used, namely 0.1 oz Au/T and 1.2 oz Ag/T and .11 oz Au/T and 1.5 oz Ag/T.

In order to arrive at earnings per share, an issued capital of 5.0 million shares and 7.0 million shares have been computed, on the assumption that Valhalla controls 60% of Oliver and Highland Valley.

There is a 3.5% NSR on the Highland Valley ground which is roughly equivalent to 6% of net operating. The figures for the Highland Valley production results will therefore be better than 90% of the Oliver figures.

Since the prices of the precious metals are quoted in U.S. dollars, a conversion rate of \$1.30 has been used.

It ought to be immediately apparent from the computer runs (appendix 2) that both properties with a central milling complex would be profitable at \$350.00 per ounce of gold and \$5.75 for silver, the lowest grade scenario. The more likely scenario is that of 4.0 million tonnes of reserves which could either provide a twelve year profitable lifespan or higher daily throughput.

It should be noted that, in addition to the lower grade, higher tonnage scenario, sampling on the third, fifth and sixth levels combined with underground drilling has established the existence of two high-grade ore shoots comprising a possible 100,000 tonnes of better than 0.3 oz Au/T and 2.0 oz Ag/T. This material would be readily available for a small, high-grade operation and represents, at today's prices, a value in the ground of close to \$20.0 million. However, mining of this high grade on a selective basis would only be undertaken if the larger tonnages were not established. The capital cost of such a venture would be low, since the mine is already developed on three levels and the ore could be custom milled at mills already established in the neighbourhood.

The above ignores the further potential of the property. The reserve potential is only calculated to the 1,000 foot level along a 5,000 foot strike length across the boundary between the Fairview and Stemwinder properties. The Group has completed detailed geological mapping, geophysical testing, sampling of outcrops, geochemical surveying which indicates that the property is potent over the entire 20,000 feet of strike length with an elevation difference of some 1,500 feet. The potential therefore exists for tonnages in excess of the 4.0 million tonne target. Work to establish additional reserves will, however, be concentrated in the Fairview/Stemwinder area until the minimum goal is reached.

MANAGEMENT AND DIRECTORS

The Valhalla Gold Group is centrally managed and directed from the Head Office in Vancouver. The Group has a field office in the village of Oliver which is managed by Mr. David Mehner, who supervises the field activities in the Fairview Gold Belt. Diamond drilling is contracted out to surface and underground contractors. Underground work and rehabilitation is also contracted out to independent contractors. In addition, field technicians are employed for geophysical, geochemical and geological mapping work. The field office reports to Head Office via telephone and facsimile. The Head Office provides computer-assisted mapping and section plotting.

Mr. Larry Nagy is the Vice President in charge of Mineral Exploration and Development and director of each of the four companies. Mr. Nagy has a Bachelor of Science degree in Geology and has a background of fifteen years as a senior exploration geologist for Cominco and the last five years as an independent consultant.

Mr. Howard Barker, P.Eng. is a retired mining engineer with thirty years experience in underground mine management. Mr. Barker, a director of Oliver, is now an independent mining consultant who provides advice to Oliver and Highland Valley on a regular basis.

Egil H. Lortnzen is a director of Oliver and Valhalla. He is the founder and developer of the Lornex Mining Corporation, which operates one of the largest open pit copper mines in the world in the Highland Valley of British Columbia. Mr. Lortnzen is also a director of other public companies, but is an active participant in the Group in planning the development of the Fairview Gold Belt.

Mr. U. Andrew Whist is a director of Valhalla. He is presently Senior Vice President of Philip Morris International and resides in New York. Andrew Whist provides much appreciated senior financial advice to the Group.

Grant W. Sinitsin, B.Comm., a director and Vice President of Corporate Affairs for Highland Valley Resources Ltd., is employed full-time by the Group as a research assistant and administrator of oil and gas participation.

Mr. Jarl A. Whist, Jr. is Vice President in charge of Administration and director of each company and works full-time for the Group. Jarl Whist, Jr. has practical oil drilling experience and an Advanced Prospector's Diploma and has worked for the Group on a full-time basis for the last two years while completing a Commerce Degree.

Ron Netolitzky, P.Geol., is a director of Thor and has more than twenty years' experience in gold exploration. Mr. Netolitzky provides consulting services to the Group through his company, Taiga Consultants Ltd., located in Vancouver, B.C.

Mr. Robert MacPherson is the senior partner of Robert MacPherson & Associates, a firm of Chartered Accountants in Edmonton, Alberta. Mr. MacPherson provides valuable contacts and business expertise to the board of directors of Thor.

Curtis Sparrow, P.Eng., is an independent petroleum consultant and businessman, and a valuable addition to the board of directors of Thor. Mr. Sparrow, who is an electrical engineer, has a successful background in oil and gas and mining exploration, development and production.

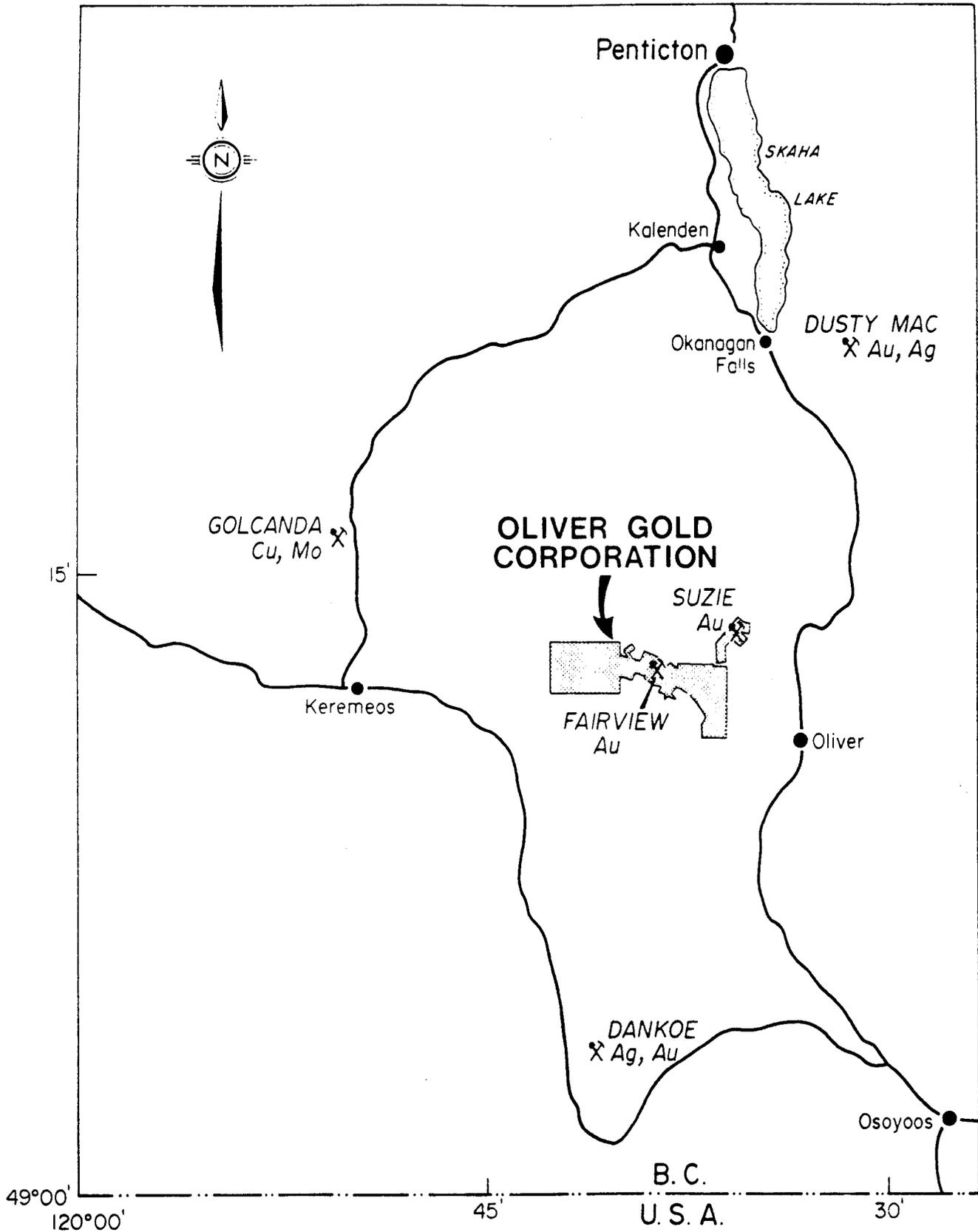
Mrs. Daphne Salvo, C.G.A., is a full-time employee of the Group and acts as Controller for the four companies.

Ms. Candace Waldron is the executive secretary for the Group and also fulfills the function of Corporate Secretary and brings many years of valuable experience to these functions.

Jarl Aa. B. Whist is the Chairman of the Board, President and Chief Executive Officer and director of each of the four companies. Mr. Whist is an investment advisor and also publishes and edits The Jarl Aa. B. Whist Gold Letter. The current issue of the Gold Letter is enclosed with this material. Mr. Whist has several decades of involvement with precious metals, metal exploration, development, production and as surveyor, prospector, mine operator, founder and major shareholder of several public companies. Mr. Whist practiced corporate and securities law for many years as senior partner of a law firm in Kamloops, the centre for the copper mining industry in B.C. Mr. Whist retired from the full-time practice of law in 1983 and now devotes his full time to the Valhalla Gold Group.

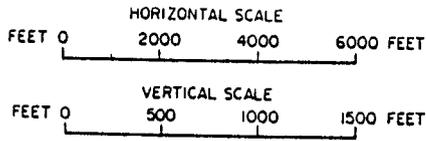
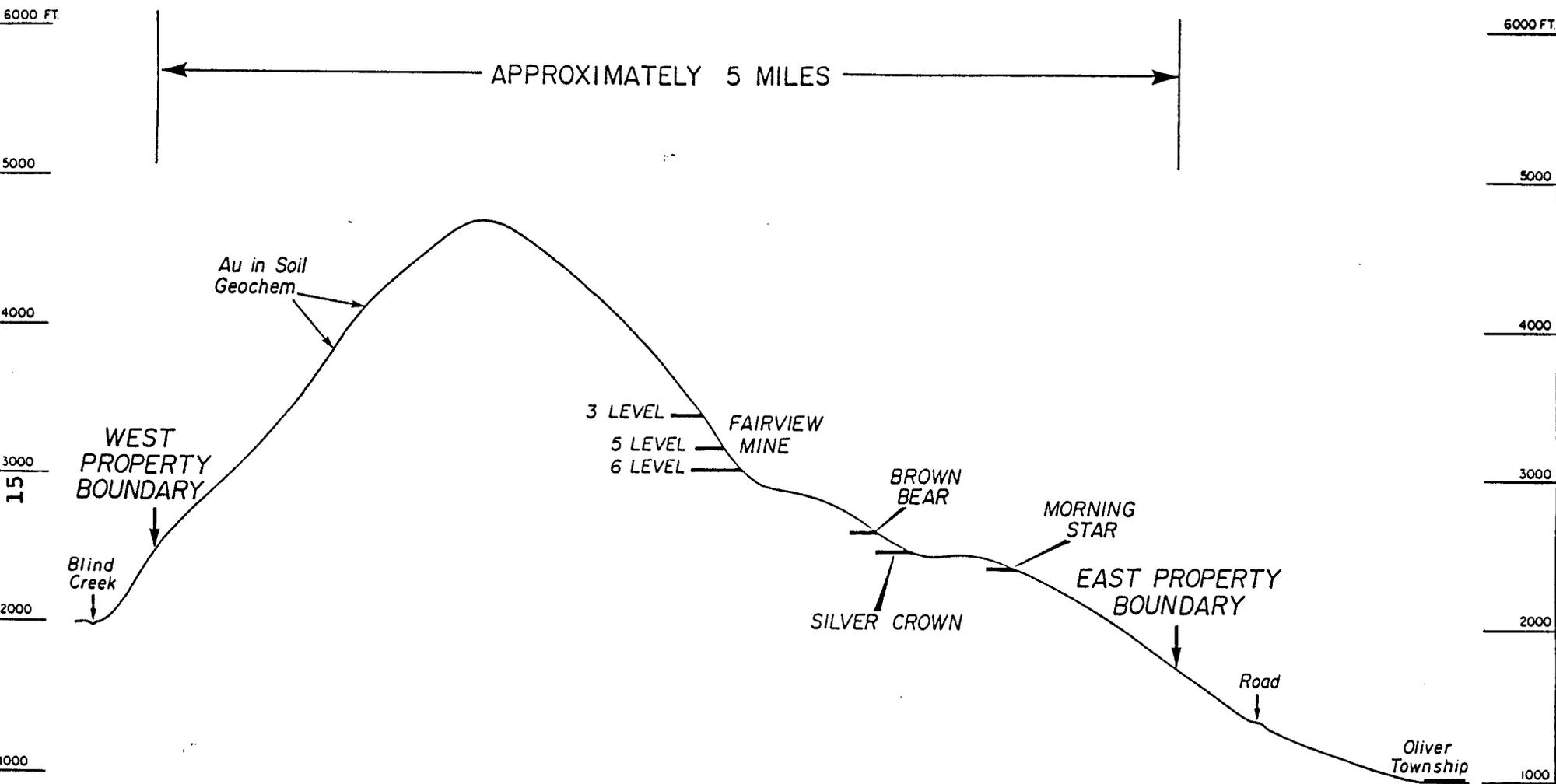
FUTURE PRIVATE PLACEMENTS

The Valhalla Group seeks further capital by way of private placement, gold loans, equity financings and financing by way of convertible debt instruments. The main corporate goal is to achieve production of some 40,000 ounces per year from the Fairview Gold Belt. However, the Group could expand at an exponential rate by out-right acquisition of existing producing companies by way of take-over, hostile or otherwise. The constant research undertaken by the Group brings to light exciting opportunities. If the Group had access to capital ranging from \$5.0 to \$100.0 million, it is certain that our in-house expertise could multiply such investments several times while minimizing the risks associated with exploration and development.

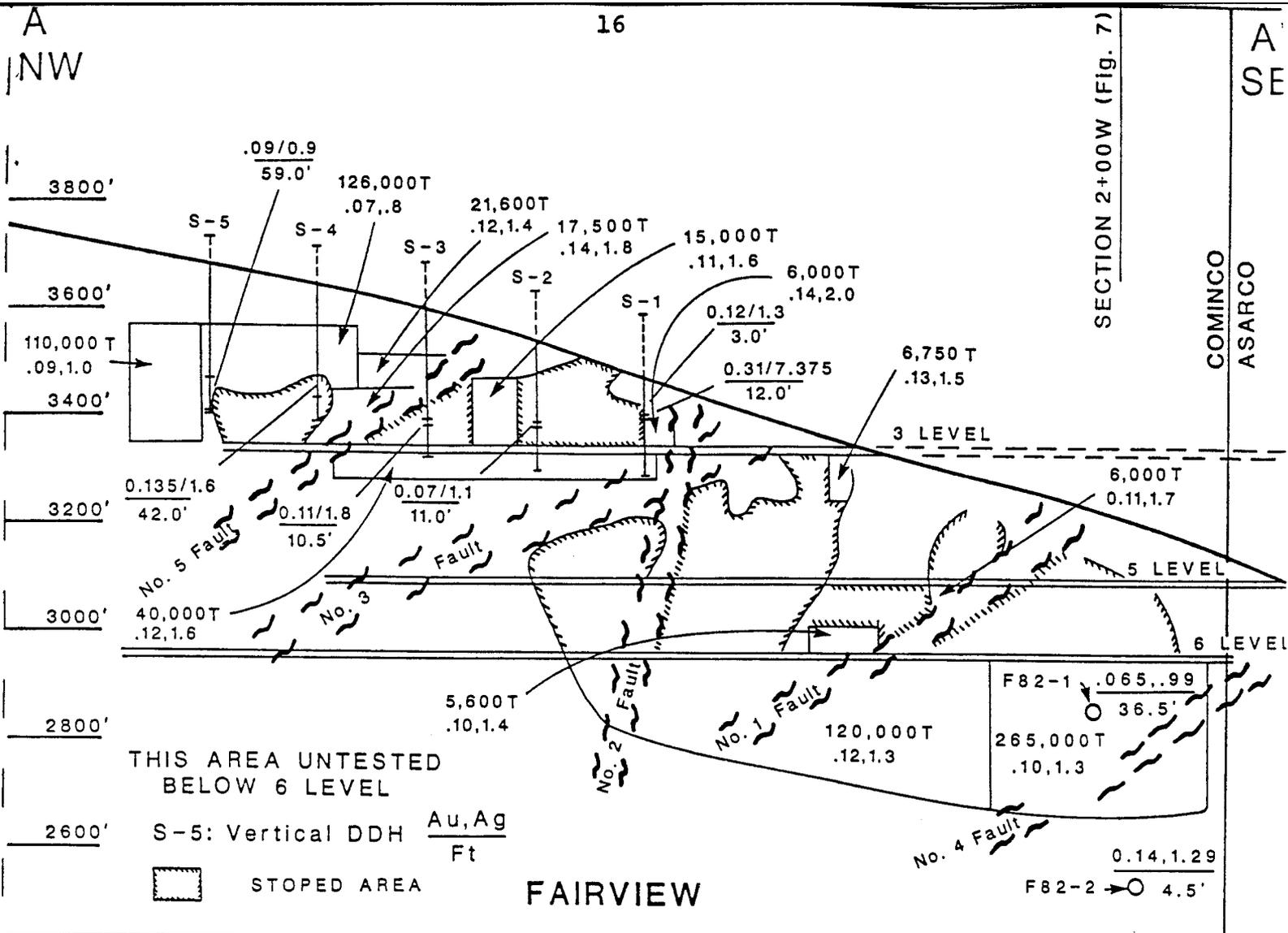


LOCATION MAP





**OLIVER GOLD CORPORATION
 LONGITUDINAL SECTION**

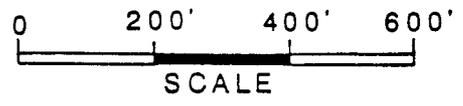


PRODUCTION

Pre-Cominco -120,000 Tons @ 0.17 oz. Au/Ton
 Cominco -356,000 Tons @ 0.093 oz. Au/Ton, 1.4 oz. Ag/Ton
TOTAL 485,000 Tons @ 0.112 oz. Au/Ton

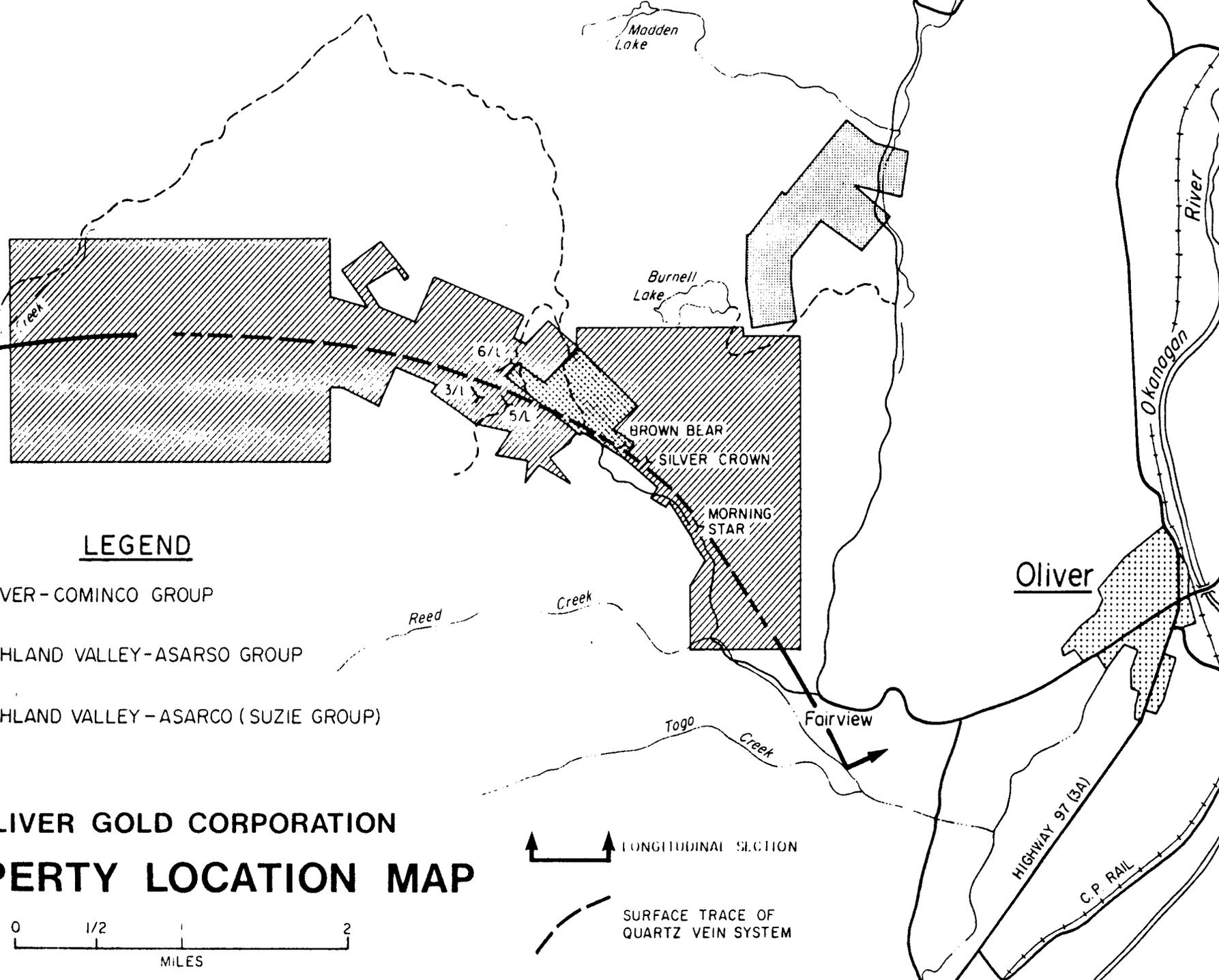
RESERVES

Measured	290,000	.09 Au	1.1 Ag
Indicated	87,700	.10 Au	1.2 Ag
Inferred	385,000	.12 Au	1.3 Ag
	<u>762,700</u>	.11 Au	1.2 Ag



Longitudinal Section A-A' (130°)
FAIRVIEW MINE

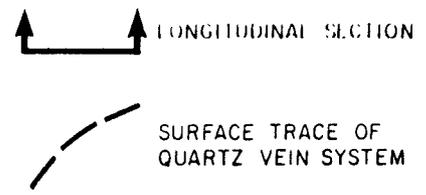
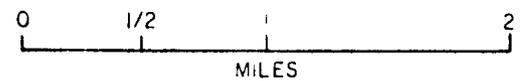
Figure 5



LEGEND

-  OLIVER-COMINCO GROUP
-  HIGHLAND VALLEY-ASARSO GROUP
-  HIGHLAND VALLEY-ASARCO (SUZIE GROUP)

**OLIVER GOLD CORPORATION
PROPERTY LOCATION MAP**



09-Aug-87	SCENERIO	A	B	C	D	E	F	G	H	I	J	K	L
TONNES TREATED (YR)		365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000
GRADE Oz/T - AU		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
RECOVERY RATE % - AU		96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%
DILUTION FACTOR %		10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
OUNCES RECOVERED/TONNE - AU		0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087
TOTAL OUNCES RECOVERED/YEAR -AU		31,855	31,855	31,855	31,855	31,855	31,855	31,855	31,855	31,855	31,855	31,855	31,855
SALES - AU CDNS		\$12,423,273	\$13,458,545	\$14,493,818	\$16,564,364	\$17,599,636	\$18,634,909	\$19,670,182	\$20,705,455	\$22,776,000	\$24,846,545	\$28,987,636	\$33,128,727
GRADE Oz/T - AG		1.20	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
RECOVERY RATE % - AG		90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
DILUTION FACTOR %		10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
OUNCES RECOVERED/TONNE - AG		0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
TOTAL OUNCES RECOVERED/YEAR - AG		358,364	358,364	358,364	358,364	358,364	358,364	358,364	358,364	358,364	358,364	358,364	358,364
SALES - AG CDNS		\$2,678,768	\$2,795,236	\$2,795,236	\$3,261,109	\$3,261,109	\$3,726,982	\$3,726,982	\$3,726,982	\$3,726,982	\$4,658,727	\$5,590,473	\$7,453,964
TOTAL SALES - AU + AG CDNS		\$15,102,041	\$16,253,782	\$17,289,055	\$19,825,473	\$20,860,745	\$22,361,891	\$23,397,164	\$24,432,436	\$26,502,982	\$29,505,273	\$34,578,109	\$40,582,691
OPERATING COST CDNS/T													
MINING/T		\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00
MILLING/T		\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00
TOTAL COST/TONNE		\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00
TOTAL COST/OUNCE - AU		\$320.48	\$322.58	\$326.60	\$325.50	\$328.68	\$324.65	\$327.53	\$330.16	\$334.80	\$328.07	\$326.60	\$318.03
TOTAL COST/OUNCE - AG		\$6.14	\$5.96	\$5.60	\$5.70	\$5.41	\$5.77	\$5.52	\$5.28	\$4.87	\$5.47	\$5.60	\$6.36
TOTAL COST/Oz% RECOVERED		\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000
OPERATING PROFIT		\$2,692,041	\$3,843,782	\$4,879,055	\$7,415,473	\$8,450,745	\$9,951,891	\$10,987,164	\$12,022,436	\$14,092,982	\$17,095,273	\$22,168,109	\$28,172,691

SCENERIO		A	B	C	D	E	F	G	H	I	J	K	L
OPERATING PROFIT/SHARE													
VALHALLA ENERGY CORPORATION		SHARES (000's)											
A) VALHALLA HAS 40% OWNERSHIP	5,000	\$0.22	\$0.31	\$0.39	\$0.59	\$0.68	\$0.80	\$0.88	\$0.96	\$1.13	\$1.37	\$1.77	\$2.25
	7,000	\$0.15	\$0.22	\$0.28	\$0.42	\$0.48	\$0.57	\$0.63	\$0.69	\$0.81	\$0.98	\$1.27	\$1.61
B) VALHALLA HAS 51% OWNERSHIP	5,000	\$0.27	\$0.39	\$0.50	\$0.76	\$0.86	\$1.02	\$1.12	\$1.23	\$1.44	\$1.74	\$2.26	\$2.87
	7,000	\$0.20	\$0.28	\$0.36	\$0.54	\$0.62	\$0.73	\$0.80	\$0.88	\$1.03	\$1.25	\$1.62	\$2.05
C) VALHALLA HAS 60% OWNERSHIP	5,000	\$0.32	\$0.46	\$0.59	\$0.89	\$1.01	\$1.19	\$1.32	\$1.44	\$1.69	\$2.05	\$2.66	\$3.38
	7,000	\$0.23	\$0.33	\$0.42	\$0.64	\$0.72	\$0.85	\$0.94	\$1.03	\$1.21	\$1.47	\$1.90	\$2.41
D) VALHALLA HAS 70% OWNERSHIP	5,000	\$0.38	\$0.54	\$0.68	\$1.04	\$1.18	\$1.39	\$1.54	\$1.68	\$1.97	\$2.39	\$3.10	\$3.94
	7,000	\$0.27	\$0.38	\$0.49	\$0.74	\$0.85	\$1.00	\$1.10	\$1.20	\$1.41	\$1.71	\$2.22	\$2.82

PAY BACK SCHEDULE - (IN YEARS INDICATED)

SCENERIO	A	B	C	D	E	F	G	H	I	J	K	L
CAPITAL COST												
\$11,000,000	4.09	2.86	2.25	1.48	1.30	1.11	1.00	0.91	0.78	0.64	0.50	0.39
\$14,000,000	5.20	3.64	2.87	1.89	1.66	1.41	1.27	1.16	0.99	0.82	0.63	0.50
\$17,000,000	6.31	4.42	3.48	2.29	2.01	1.71	1.55	1.41	1.21	0.99	0.77	0.60

09-Aug-87	SCENARIO	A	B	C	D	E	F	G	H	I	J	K	L

TONNES TREATED (YR)		365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000	365,000
GRADE Oz/T - AU		0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110	0.110
RECOVERY RATE % - AU		96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%
DILUTION FACTOR %		10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%

OUNCES RECOVERED/TONNE - AU		0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096

TOTAL OUNCES RECOVERED/YEAR - AU		35,040	35,040	35,040	35,040	35,040	35,040	35,040	35,040	35,040	35,040	35,040	35,040

SALES - AU CDM\$		\$13,665,600	\$14,804,400	\$15,943,200	\$18,220,800	\$19,359,600	\$20,498,400	\$21,637,200	\$22,776,000	\$25,053,600	\$27,331,200	\$31,886,400	\$36,441,600

GRADE Oz/T - AG		1.50	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
RECOVERY RATE % - AG		90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
DILUTION FACTOR %		10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%

OUNCES RECOVERED/TONNE - AG		1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23

TOTAL OUNCES RECOVERED/YEAR - AG		447,955	447,955	447,955	447,955	447,955	447,955	447,955	447,955	447,955	447,955	447,955	447,955

SALES - AG CDM\$		\$3,348,460	\$3,494,045	\$3,494,045	\$4,076,386	\$4,076,386	\$4,658,727	\$4,658,727	\$4,658,727	\$4,658,727	\$5,823,409	\$6,988,091	\$9,317,455

TOTAL SALES - AU + AG CDM\$		\$17,014,060	\$18,298,445	\$19,437,245	\$22,297,186	\$23,435,986	\$25,157,127	\$26,295,927	\$27,434,727	\$29,712,327	\$33,154,609	\$38,874,491	\$45,759,055

OPERATING COST CDM\$/T													

MINING/T		\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00	\$26.00
MILLING/T		\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00	\$8.00

TOTAL COST/TONNE		\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00	\$34.00

TOTAL COST/OUNCE - AU		\$284.46	\$286.54	\$290.50	\$289.42	\$292.56	\$288.58	\$291.42	\$294.03	\$298.64	\$291.96	\$290.50	\$282.05
TOTAL COST/OUNCE - AG		\$5.45	\$5.29	\$4.98	\$5.06	\$4.82	\$5.13	\$4.91	\$4.70	\$4.34	\$4.87	\$4.98	\$5.64

TOTAL COST/OUNCE RECOVERED		\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000	\$12,410,000

OPERATING PROFIT !		\$4,604,060	\$5,888,445	\$7,027,245	\$9,887,186	\$11,025,986	\$12,747,127	\$13,885,927	\$15,024,727	\$17,302,327	\$20,744,609	\$26,464,491	\$33,349,055

SCENERIO		A	B	C	D	E	F	G	H	I	J	K	L
OPERATING PROFIT/SHARE													
VALHALLA ENERGY CORPRATION		SHARES (000's)											
A) VALHALLA HAS 40% OWNERSHIP	5,000	\$0.37	\$0.47	\$0.56	\$0.79	\$0.88	\$1.02	\$1.11	\$1.20	\$1.38	\$1.66	\$2.12	\$2.67
	7,000	\$0.26	\$0.34	\$0.40	\$0.56	\$0.63	\$0.73	\$0.79	\$0.86	\$0.99	\$1.19	\$1.51	\$1.91
B) VALHALLA HAS 51% OWNERSHIP	5,000	\$0.47	\$0.60	\$0.72	\$1.01	\$1.12	\$1.30	\$1.42	\$1.53	\$1.76	\$2.12	\$2.70	\$3.40
	7,000	\$0.34	\$0.43	\$0.51	\$0.72	\$0.80	\$0.93	\$1.01	\$1.09	\$1.26	\$1.51	\$1.93	\$2.43
C) VALHALLA HAS 60% OWNERSHIP	5,000	\$0.55	\$0.71	\$0.84	\$1.19	\$1.32	\$1.53	\$1.67	\$1.80	\$2.08	\$2.49	\$3.18	\$4.00
	7,000	\$0.39	\$0.50	\$0.60	\$0.85	\$0.95	\$1.09	\$1.19	\$1.29	\$1.48	\$1.78	\$2.27	\$2.86
D) VALHALLA HAS 70% OWNERSHIP	5,000	\$0.64	\$0.82	\$0.98	\$1.38	\$1.54	\$1.78	\$1.94	\$2.10	\$2.42	\$2.90	\$3.71	\$4.67
	7,000	\$0.46	\$0.59	\$0.70	\$0.99	\$1.10	\$1.27	\$1.39	\$1.50	\$1.73	\$2.07	\$2.65	\$3.33

PAY BACK SCHEDULE - (IN YEARS INDICATED)

SCENERIO	A	B	C	D	E	F	G	H	I	J	K	L
CAPITAL COST												
\$11,000,000	2.39	1.87	1.57	1.11	1.00	0.86	0.79	0.73	0.64	0.53	0.42	0.33
\$14,000,000	3.04	2.38	1.99	1.42	1.27	1.10	1.01	0.93	0.81	0.67	0.53	0.42
\$17,000,000	3.69	2.89	2.42	1.72	1.54	1.33	1.22	1.13	0.98	0.82	0.64	0.51

D. L. COOKE AND ASSOCIATES LTD.
MINERAL EXPLORATION CONSULTANTS

[Handwritten signature]
6825 WOOD
STEMWINDER

REPORT ON THE
STEMWINDER MINE PROPERTY

N.T.S. 82E/4E

Osoyoos M.D.

Lat. 49° 12' N / Long. 119° 38' W

for

HIGHLAND VALLEY RESOURCES LTD.
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July 7, 1987



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SUMMARY

The Stemwinder property consists of five Crown Granted mineral claims which cover the old Stemwinder gold - silver mine of Asarco Inc. This property includes some 5,000 feet strike length of gold mineralized quartz vein system, which is known to extend at least 2.5 miles across the district. The quartz veins are hosted by a narrow northwest trending belt of Palaeozoic metasedimentary rocks between two granite masses. The property is located approximately four miles northwest of Oliver, B.C. and is accessible by paved and gravel roads.

Gold and silver has been mined intermittently from the district since the 1890's. The total recorded production is 521,300 tons containing 0.122 oz/T Au and 1.42 oz/T Ag. The three main centers of production were the Fairview, Stemwinder and Morning-Star mines. The Stemwinder mine produced 28,000 tons of 0.17 oz/T Au and 1.9 oz/T Ag in the early 1900's. Cominco Ltd. drilled 27 diamond drill holes for a total of 13,635 feet on the Stemwinder property between 1982 and 1984 under a joint venture agreement with Asarco Inc. The Stemwinder property is presently under option to Highland Valley Resources Ltd. who in 1986 and 1987 carried out an underground exploration program consisting of 1,150 feet of drifting. This work essentially fulfills the Stage I program recommended by D.M. Fletcher, P.Eng. in his report of June 28, 1986 on the Stemwinder property.

It is concluded that the quartz vein system on the Stemwinder property has potential for the development of 1,000,000 to 2,000,000 tons of precious metal mineralization with a grade of better than 0.1 oz/T Au and 1.0 oz/T Ag. Three areas have already been identified, which may contain better gold and silver grades. A program of underground exploration and surface diamond drilling is proposed to evaluate the potential of the Stemwinder portion of the vein system. This program may be done in two stages at an estimated cost of \$1,065,000.

INTRODUCTION

This report is based on a visit to the Stemwinder property on June 25 and 26, 1987 in the company of David Mehner, the geologist, who is overseeing exploration and development work on the Fairview and Stemwinder properties. The pertinent data which was reviewed in conjunction with this examination includes available government publications and the results of the drilling done by Cominco Ltd. in 1982, 1983 and 1984. Mapping and assay results from the sampling of the north drift on the Stemwinder was also reviewed.

The purpose of this examination and review was to advise the present operators of the Stemwinder property on a program to further explore and develop the precious metal mineralization associated with the quartz vein system.

LOCATION AND ACCESS

The Stemwinder property is located on the west side of the Okanagan Valley, five miles north of Oliver, B.C. The topography is rolling to moderately steep. Elevations range from 2,000 feet in the south to about 3,500 feet at the center of the property. Vegetation over the areas consist of open stands of pine, birch and alder.

The area is a recreational one used for hunting and fishing. Summer cattle grazing is an important usage for farmers who hold surface rights in the area.

Electric power lines run across the property. There appears to be little permanent creeks draining the property. However, water supply, subject to other rights, are available from nearby Reed Creek and Okanagan River. Permanent housing and supplies for exploration and development are readily available in the nearby towns of Oliver and Penticton, B.C.

The property is easily accessible, partly by paved road and partly by all-weather gravel road, approximately five miles northwest of Oliver, B.C. (Figure 1). This access is by way of the secondary road from Oliver to Cawston and Keremeos, B.C.

PROPERTY AND OWNERSHIP

The Stemwinder property consists of the following five contiguous Crown Granted mineral claims:

<u>Claim</u>	<u>Lot No.</u>
Stemwinder	384
Brown Bear	385
Wynn M	554
Itemset Fr.	21(S)
Gunsite	25(S)

The Stemwinder claims are held by Highland Valley Resources Ltd. under an option agreement with the Fairview Mining Company, which is owned by Asarco Incorporated. Under the terms of the agreement Highland Valley Resources Ltd. can earn a 100% interest in the property by expending \$50,000 per year until production, and making royalty payments of \$30,000 per year after production start-up or 3½% gross proceeds of production.

HISTORY AND PAST PRODUCTION

Gold was discovered in the Fairview gold camp in the 1890's and there was active mining in the area until 1908. Early production prior to 1908 is estimated at 30,000 tons, with a grade of 0.17 oz. gold per ton and 1.9 oz. silver per ton. Production came mainly from the Fairview, Stemwinder and Morning-Star mines. There was intermittent mining activity between 1934 and 1946, but the greater part of the district production came between 1946 and 1961 when the Fairview mine was reactivated by Cominco Ltd. The Fairview mine was operated mainly as a silica source for Cominco's smelter at Trail, B.C. The total district production may be summarized as follows:

Fairview Mine:

Pre-Cominco Ltd.	120,000	tons	@ 0.17	oz. Au/ton
Cominco Ltd.	<u>365,000</u>	tons	@ <u>0.093</u>	oz. Au/ton; 1.4 oz. Ag/ton
	485,000	tons	@ 0.112	oz. Au/ton; 1.4 oz. Ag/ton

Stemwinder Mine 28,000 tons @ 0.17 oz. Au/ton; 1.9 oz. Ag/ton

Morning-Star Mine 8,300 tons @ 0.56 oz. Au/ton; 1.27 oz. Ag/ton
521,300 tons @ 0.12 oz. Au/ton; 1.42 oz. Ag/ton

Cominco Ltd. carried out exploration work on the Stemwinder and adjacent Morning-Star properties in 1960 and 1961. This work consisted of surface and underground mapping at the Morning-Star and the drilling of six diamond drill holes on each property.

In 1981, Cominco Ltd. obtained an option on the Stemwinder property from the Fairview Mining Co. Ltd. which is owned by Asarco Inc. During 1982, 1983 and 1984 twenty seven (27) diamond drill holes were drilled for a total of 13,635 feet to explore the auriferous quartz vein system over a strike distance of some 4,400 feet. In total, there are 33 exploratory holes for approximately 14,000 feet drilled on the Stemwinder property since 1960. A list of the significant gold intersections are presented in Appendix I. The hole locations are shown on Figures 3A, 3B and 3C.

Highland Valley Resources Ltd. took an option on the Stemwinder property in March 1985 and conducted an exploration program which consisted of 1,150 feet of drifting from the Center Adit on the Brown Bear claim. The drift followed the vein system to the northwest. A plan of this drift and the assay results of the underground sampling is shown in Figure 5.

REGIONAL GEOLOGY

The Fairview gold camp occurs within a narrow northwesterly trending belt of Palaeozoic metasedimentary rocks which lie between two Mesozoic granitic masses. The Oliver granite borders the metasediments to the northeast and the Fairview granodiorite to the southwest. The Oliver granite is radiometrically dated by White as 144 million years old, and the Fairview granodiorite by Okulitch as 110 million years old (Wiley, 1982).

The metasedimentary rocks belong to the Kobau Group of probable Mississippian age. The Kobau Group consists of schists, quartzites, marble and greenstones. These rocks have gone through two periods of deformation, followed by the crystallization of the Oliver and the Fairview intrusions. The auriferous quartz vein system appears to have been emplaced after the intrusive activity, but prior to a later period of regional folding and subsequent faulting.

The metasedimentary rocks of the Kobau Group extend northwesterly for approximately 3 miles through the Fairview gold camp. The belt varies from 1/3 to 1 mile in width and dips 50°-60° to the northeast. Quartz veins occur conformable with the metasedimentary rocks along some 2½ miles of the belt. Gold mineralization occurs mainly in four areas centered on the Fairview, Stemwinder, Silver Crown and Morning-Star workings.

PROPERTY GEOLOGY

The metasedimentary group on the Stemwinder property consists of three broad lithologic units, generally referred to as an Upper Argillite, Quartzitic Member and Lower Argillite. The upper unit is sometimes referred to as a green argillite, and is essentially a chloritic schist which contains variable amounts of biotite and narrow quartzite laminations.

The middle quartzitic unit exhibit variations from relatively pure cherty quartzite to banded quartzite, laminated with fine biotite or with coarse biotite with a crinkly appearance. The auriferous quartz veins of the Fairview camp occur conformably within the middle quartzitic unit. Vein intersections in the drill holes usually occur within a grey laminated quartzite. An examination of the quartz vein system within the north drift (Brown Bear claim) reveals the presence of abundant graphite and chlorite within the laminated quartzite host. The veins vary in width over short distances, and appear to form a complex system on the Stemwinder property. From drilling data this vein system consists of the Main Vein, the HW Vein (North Vein) and the FW (South Vein) (Fletcher, 1986). The vein system occurs in close proximity to the contact of the Fairview granodiorite.

The footwall unit is essentially a dark, massive to foliated greenstone. In drill core it is strongly chloritized and may represent an altered volcanic package. A variety of dykes and sills, ranging from felsic to mafic in composition occur within the metasedimentary package of rocks.

MINERALIZATION

Gold and silver mineralization is associated with a complex system of quartz veining within the middle quartzitic unit of the Kobau Group. In general, the quartz veins are conformable with the sedimentary rocks. Vein thickness is very variable, from 1 to 30 feet, and may change rapidly along short strike distances. In areas of multiple veins, one vein may widen while the other thins. Sometimes bands of wallrock are included. Although individual veins may pinch out entirely, the zone of veining persists for at least 2½ miles strike length. The quartz is a white variety, which is either massive or fractured and ribbony in appearance.

Gold and silver mineralization appears to be associated with sulphides such as pyrite, galena, sphalerite and chalcopyrite, which occur along ribbony fractures or as disseminations within the quartz veins. The precious metal values show little preference for hangingwall or footwall.

Over the years, the main zones of gold mineralization on the Fairview, Stemwinder and Morning-Star properties have been referred to as "shoots" and it has been suggested that these zones plunge to the east at 20° to 30° on the Fairview, 60° on the Stemwinder and 20° on the Morning-Star. The concept presently is in question, but more exploratory drilling and development will be required to prove or disprove it.

Preliminary metallurgical testing of the Fairview gold ore shows 88.4% recovery of gold by flotation and 96.0% recovery by cyanidation methods. Silver recovery was 74% by cyanidation during a 24-hour test period. (Hawthorn, 1987).

TONNAGE AND GRADE POTENTIAL

Recent surface diamond drilling and drifting on the Stemwinder property has demonstrated the presence of gold values, ranging from 0.01 to 0.10 oz. gold per ton, throughout the entire length of the quartz vein system. There are also higher grade zones or shoots, with gold values in excess of 0.10 oz. per ton and up to several ounces per ton within this complex system of veins. Three such zones have been identified by wide-spaced diamond drilling on the Stemwinder property. These zones occur at (a) the common property boundary between the Fairview and the Stemwinder property (Wynn M claim), (b) the east edge of the Stemwinder workings (Stemwinder claim), and (c), the north drift near the centre adit on the Brown Bear claim.

Fairview Extension Zone

Four drill holes put down by Cominco Ltd. on the western portion of the Stemwinder property adjacent to two holes on the Fairview suggest the eastward extension and downward continuation of the Fairview ore zone onto the Stemwinder property (Figure 3A). The significant gold and silver intersections in these holes are tabulated below (from west to east):

<u>Hole</u>	<u>From</u>	<u>To (ft.)</u>	<u>Vein</u>	<u>Width (ft.)</u>	<u>oz.Au</u>	<u>oz.Ag.</u>
Fairview						
82-1	363.0	399.5	Main	36.5	0.065	0.99
incl.	382.0	390.0		8.0	0.153	2.73
82-2	421.5	425.0	HW	3.5	0.048	0.73
	592.0	596.5	Main	4.5	0.14	1.29
Stemwinder						
83-8	559.2	585.6	Main	26.4	0.097	1.02
incl.	571.0	583.0		12.0	0.295	2.09
83-12	641.5	653.5	Main	12.0	0.031	0.63
84-1	543.0	556.5	Main	13.5	0.062	0.54
incl.	543.0	546.5		3.5	0.154	1.98
84-2	771.0	802.0	Main	31.0	0.066	0.83
incl.	776.0	789.0		<u>13.0</u>	<u>0.130</u>	<u>1.65</u>
Average				20.5	0.065	0.77

The zone appears to be getting deeper to the east, and this is consistent with a 20° - 30° plunge in that direction. These drill holes extend over a strike distance of 1,400 feet. This extension of the Fairview one onto the Stemwinder property may contain a possible 700,000 tons of 0.1 oz. gold per ton according to Cominco Ltd. (Wiley, 1984). Another interesting observation is that the majority of drill intersections include sections of better grade gold mineralization ranging from 0.13 to 0.29 oz. gold per ton.

Stemwinder Zone

The second gold zone of interest is represented by drill intersections to the east of the 200 level of the Stemwinder workings (Figure 3B). The significant intersections are as follows:

<u>Hole</u>	<u>From</u>	<u>To (ft.)</u>	<u>Vein</u>	<u>Width (ft.)</u>	<u>oz.Au</u>	<u>oz.Ag.</u>
SW-2	60.0	67.0	HW	7.0	0.22	2.7
	197.0	213.0	Main	16.0	0.09	2.0
SW-3	164.0	175.5	Main	11.5	0.08	1.5
82-8	88.0	96.5	HW	8.5	0.12	2.04
82-9	249.0	260.0	HW	11.0	0.268	0.55
82-10	42.5	55.0	HW	12.5	0.083	0.11
	228.5	245.5	Main	17.0	0.056	1.29
Average				11.9	0.118	1.33

The attitude of the Stemwinder zone is ill-defined. It may be further complicated by faulting. The zone has been intersected in drilling over a strike length of 500 to 600 feet. The possible tonnage within the confines of the drilled area is 200,000 tons of 0.12 oz gold per ton.

Brown Bear Zone

<u>Hole</u>	<u>From</u>	<u>To (ft.)</u>	<u>Vein</u>	<u>Width (ft.)</u>	<u>oz.Au</u>	<u>oz.Ag.</u>
83-4	112.5	115.0	HW	2.5	0.455	0.42
83-5	58.0	89.0	HW	31.1	0.051	0.23
83-5	116.0	118.5	HW	2.5	0.318	0.86
Average				12.0	0.097	0.86

The Brown Bear (centre adit) zone is represented by three drill intersections from two holes, approximately 200 feet apart (Figure 3C). Drifting from the centre adit has confirmed the continuity of this zone between the two drill holes (Figure 5). However, there is insufficient data to make a reasonable estimate of possible tonnage in this zone.

The possible tonnage in the three zones so far indicated is in the order of 1 million tons. The overall potential over the Stemwinder property could be some 2 million tons. The drilling to date has also demonstrated the presence of smaller tonnages of better grade gold (+0.2 oz) and silver mineralization within the zones of 0.1 oz gold mineralization.

CONCLUSIONS

The Stemwinder property has the potential for the development of 1.0 to 2.0 million tons of precious metals mineralization with a grade of 0.1 oz gold or better and 1.0 oz silver/ton. Three zones have been indicated within which there is also the possibility of defining 200,000 to 500,000 tons of higher grade gold mineralization running 0.2 oz gold per ton or better. In order of potential the three zones are the Fairview Extension, the Stemwinder zone and the Brown Bear zone.

Drilling from surface to date has been on an average of about 200 ft drill centres. More detailed diamond drilling on 100 ft or closer drill centres will be required to fully define the three gold zones indicated to date. It is felt that a combination of surface and underground exploration will best serve to delineate these zones at this time. Extension of the north drift on the Brown Bear claim to the 200 level of the Stemwinder workings will provide access to confirm the drill results on the Stemwinder zone. Such underground access will also be an exploration drive testing for other zones within the quartz vein system.

RECOMMENDATIONS AND ESTIMATED COSTS

A two-phased exploration program is proposed to further evaluate the Stemwinder mine property. Phase I consists of surface and underground drilling in conjunction with exploration drifting. Detailed mapping and sampling of the underground workings should be included. The cost of this first phase is estimated at \$550,000. The objectives are two-fold. Surface diamond drilling is intended to define each zone and to expand possible gold and silver reserves in the deeper sections of the Fairview Extension zone, the intermediate levels of the Stemwinder zone and the shallow levels of the Brown Bear zone.

The following tabulation is an estimate of the cost of the Phase I exploration program.

Phase I

Geology: Salaries			
Geologist, 5 months @ \$5,000/mth		25,000	
Assistant, 5 months @ \$2,500/mth		<u>12,500</u>	\$ 37,500
Surface Diamond Drilling:			
Fairview Extension	6,000'		
Stemwinder	3,000'		
Brown Bear	<u>1,000'</u>		
	10,000' @	\$23.00/ft.	230,000
Underground Exploration: Stemwinder			
Drifting: 450 ft. @ \$300/ft.			135,000
Cross-cuts and Drill stations: 100 ft. @	\$ 325/ft.		32,500
U/G DD: 3,000' @ \$20.00/ft.			60,000
Assays:			
500 samples @ \$25.00 ea.			12,500
Room and Board:			
10 man months @ \$1,000/mth			10,000
Transportation:			
Equipment Rental and Fuel -			
5 months @ \$1,500/mth			7,500
Organization, supervision, reports			<u>25,000</u>
Estimated Cost Phase I			<u><u>\$550,000</u></u>

Subject to satisfactory results being obtained from the first phase of exploration, a Phase II program of underground drifting and drilling is recommended to firm up tonnage and grade. The estimated cost of Phase II exploration work is as follows:

Phase II

Geology: Salaries		
Geologist 5 months @ \$5,000/mth	\$25,000	
Assistant 5 months @ 2,500/mth	<u>12,500</u>	\$ 37,500
Underground Explorations:		
Drifting: 1,000 ft @ \$300/ft		300,000
Cross-cuts and Drill stations: 100 ft. @	\$ 325/ft.	32,500
U/G Drilling 5,000' @ \$20.00/ft.		100,000
Assays:		
200 samples @ \$25.00 ea.		5,000
Room and Board:		
10 man months @ \$1,000/mth		10,000
Transportation:		
5 months @ \$1,500/mth		7,500
Organization, supervision, reports		<u>22,500</u>
Estimated Cost Phase II		\$ 515,000
Total Estimated Cost Phase I and II		<u><u>\$1,065,000</u></u>

Report by
D.L. COOKE AND ASSOCIATES LTD.



David L. Cooke, Ph.D., P.Eng.
July, 6, 1987



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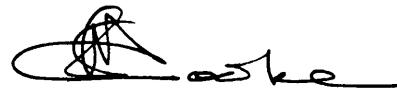
APPENDIX I

STATEMENT OF QUALIFICATIONS

I, DAVID LAWRENCE COOKE, of the Municipality of Surrey in the Province of British Columbia, hereby certify:

1. That I am a Consulting Geologist, residing at 16331 Bell Road, Surrey, B.C., V3S 1J9, with a business office at 808 - 675 West Hastings Street, Vancouver, B.C., V6B 1N2.
2. That I graduated with a B.Sc. degree in Geology from the University of New Brunswick in 1959, and with a M.A. degree and Ph.D. degree in Geology from the University of Toronto in 1961 and 1966 respectively.
3. That I have practised my profession as an exploration geologist from 1959 to the present time in Canada, the U.S.A., Mexico, the Caribbean and South America.
4. That I am a Registered Member of the Association of Professional Engineers of the Province of British Columbia.
5. That I have no material interest in the Stemwinder Mine property, nor the shares of Highland Valley Resources Ltd., nor do I expect to receive any interest.
6. That I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of raising public or private funds.





DAVID L. COOKE, Ph.D., P.Eng.

APPENDIX II

STEMWINDER - DRILL SUMMARY

GOLD MINERALIZATION

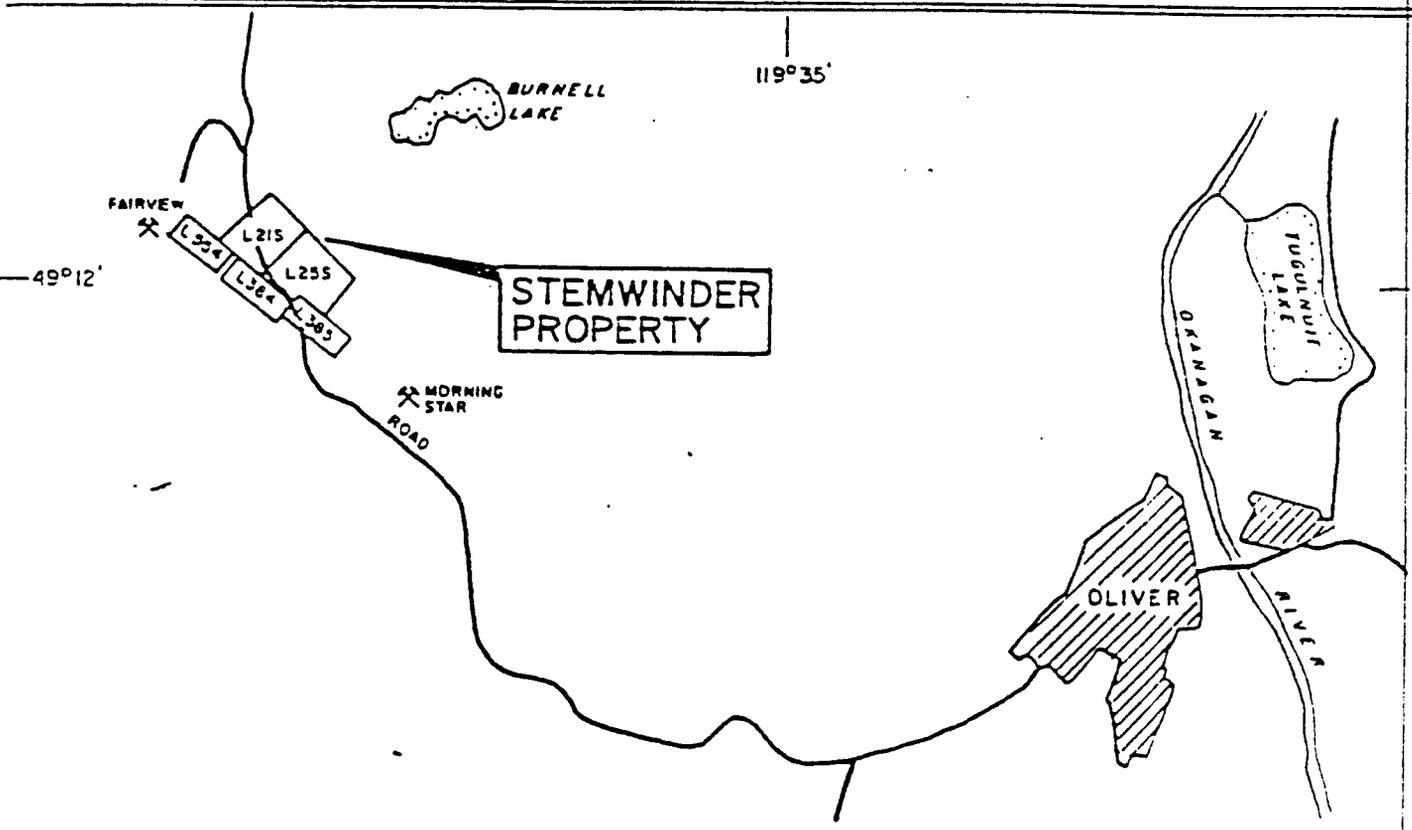
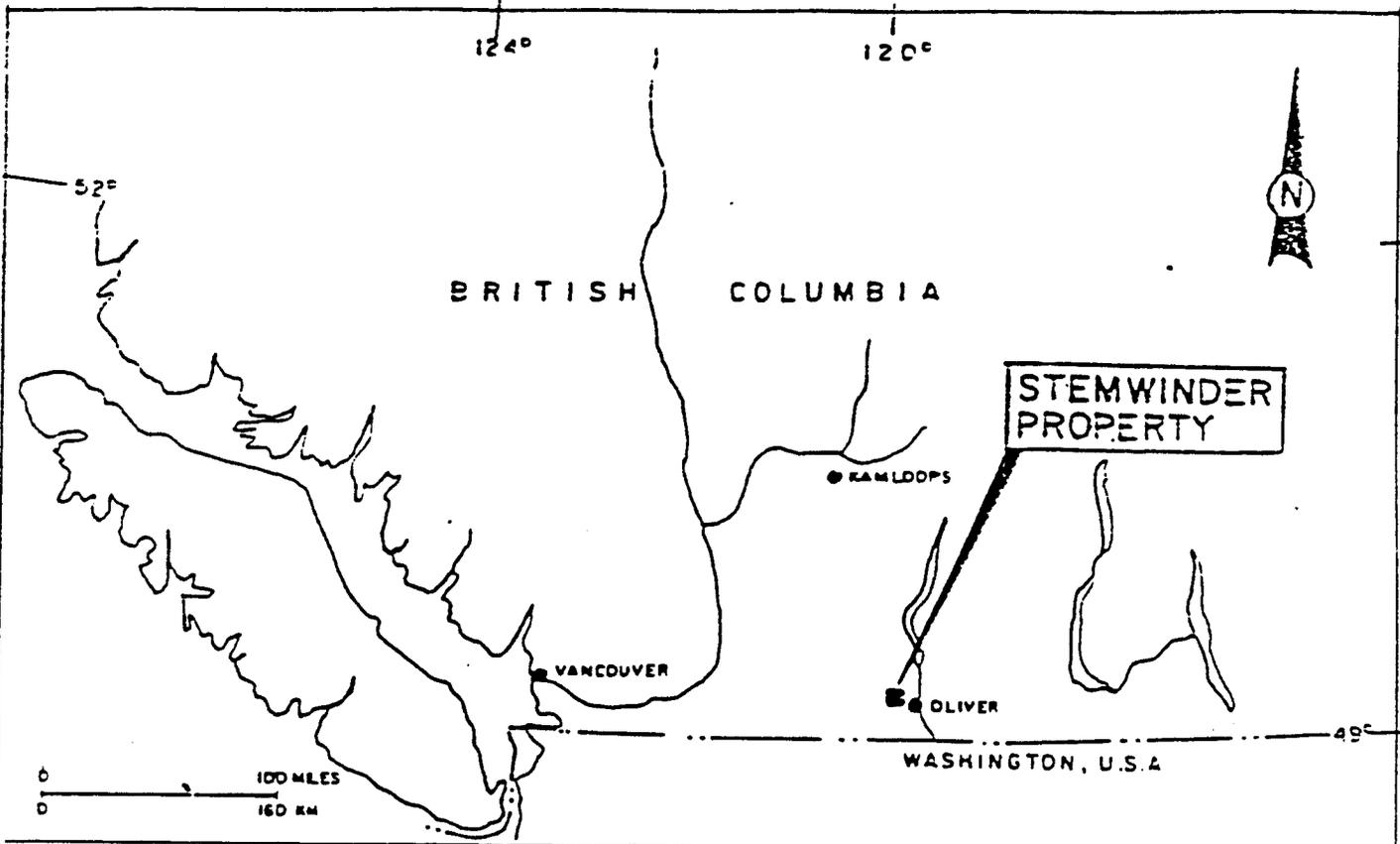
Hole No.	Feet		Vein	Width	Fire Assay	
	From	To			Au oz.	Ag oz.
SW-1	53.0	62.0	HW	9.0	0.04	1.7
	200.0	217.0	Main	17.0	0.04	1.3
SW-2	60.0	67.0	HW	7.0	0.22	2.7
	197.0	213.0	Main	16.0	0.09	2.0
SW-3	14.0	27.0	HW	13.0	0.01	0.2
	164.0	175.5	Main	11.5	0.08	1.5
SW-4	224.0	240.0	Main	16.0	0.02	0.5
SW-5	104.0	118.0	HW	14.0	0.01	0.6
	258.0	273.0	Main	15.0	0.03	0.2
SW-6	220.0	227.0	Main	5.0	0.02	0.8
82-3	246.0	248.5	Main	2.5	0.009	0.06
	319.0	322.5	FW	3.5	0.10	1.32
82-4	191.0	208.5	Main	17.5	0.075	1.35
	199.5	202.5	Main	3.0	0.34	6.35
	398.0	399.5	FW	1.5	0.004	0.05
82-5	146.0	147.5	HW	1.5	0.003	0.02
	383.0	384.00		1.0	0.003	0.05
82-6	264.0	272.0	Main	8.0	0.05	0.61
82-7	143.0	143.5		0.5	0.144	0.56
	189.0	193.0	HW	4.0	0.012	0.27
	324.5	329.5	Main	5.0	0.003	0.06
82-8	88.0	96.5	HW	8.5	0.12	2.04
	95.0	96.5	HW	1.5	0.518	9.64
	102.0	103.0	HW	1.0	0.298	4.22
	202.0	212.5	Main	10.5	0.02	0.86
82-9	249.0	250.5	HW	1.5	0.973	0.46
	249.0	260.0	HW	11.0	0.268	0.547
	254.0	255.5	HW	1.5	0.706	0.49
82-10	42.5	45.0	HW	2.5	0.400	0.48
	42.5	55.0	HW	12.5	0.083	0.11
	232.0	236.0	Main	4.0	0.182	4.48

APPENDIX II CONT'D

Hole No.	Feet		Vein	Width	Fire Assay	
	From	To			Au oz.	Ag oz.
82-11	179.5	181.5	HW	2.0	0.033	0.25
	359.0	365.0	Main	6.0	0.011	0.38
82-12	142.5	162.0	Main	19.5	0.017*	0.333*
	205.0	208.0	FW	3.0	0.043*	0.58*
82-13	200.0	206.0	Main	6.0	0.010*	0.258*
	267.5	270.0	FW	2.5	0.078*	1.13*
83-1	55.0	62.0	HW	7.1	0.041	0.32
	214.5	222.7	Main	8.2	0.033	0.35
83-2	64.7	67.5	HW	2.8	0.038	0.51
	83-3	97.7	100.0	HW	2.3	0.012*
110.0		114.5	Main	4.5	0.012	0.08
83-4	112.5	115.0	HW	2.5	0.445	0.42
	248.7	250.7	Main	2.0	0.003	0.12
83-5	58.0	89.1	HW	31.1	0.051	0.23
	85.0	89.1	HW	4.1	0.082	0.19
	116.0	118.5	HW	2.5	0.318	3.68
	270.43	272.0	Main	1.6	0.01	0.13
83-6	87.0	90.2	HW	3.2	0.04	0.18
	233.8	235.4	Main	1.6	0.014	0.10
83-7	410.6	415.0	HW	4.4	0.023	0.24
	514.5	524.0	Main	9.5	0.004	0.10
83-8	559.2	585.6	Main	26.4	0.097	1.02
83-9	59.6	65.0	HW	5.4	0.084	0.45
	327.1	332.6	Main	5.5	0.017	0.17
83-10	123.4	127.3	HW	3.9	0.050	0.43
	357.3	366.9	Main	9.4	0.010	0.20
83-11	622.3	625.5	Main	3.2	0.078	0.20
83-12	641.5	653.5	Main	12.0	0.031	0.63
84-1	543.0	546.0	HW	3.5	0.154	1.98
	567.0	580.5	Main	13.5	0.034	0.43
84-2	471.0	485.5	HW	14.5	0.013	0.28
	776.0	779.0	Main	3.0	0.104	1.18
	786.0	789.0	Main	3.0	0.356	4.51
	771.0	802.0	Main	31.0	0.066	0.83
84-3	1171.0	1172.0	Main	1.0	0.16	14.92
84-4	227.5	228.5	Main	1.0	0.166	0.52

* Geochemical analysis converted to ounces per short ton.

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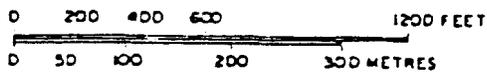
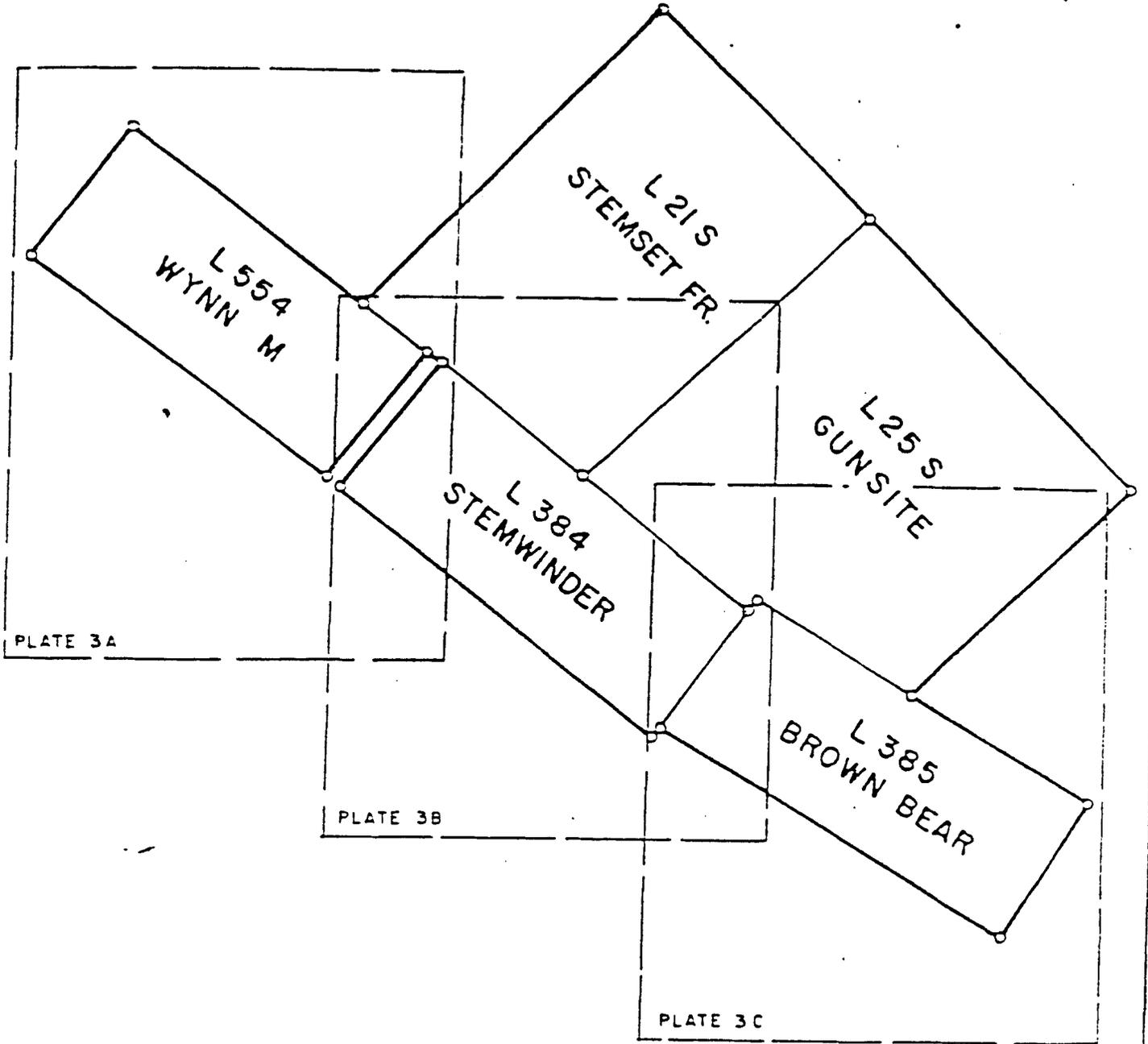


HIGHLAND VALLEY RESOURCES LTD

STEMWINDER PROPERTY
LOCATION MAP

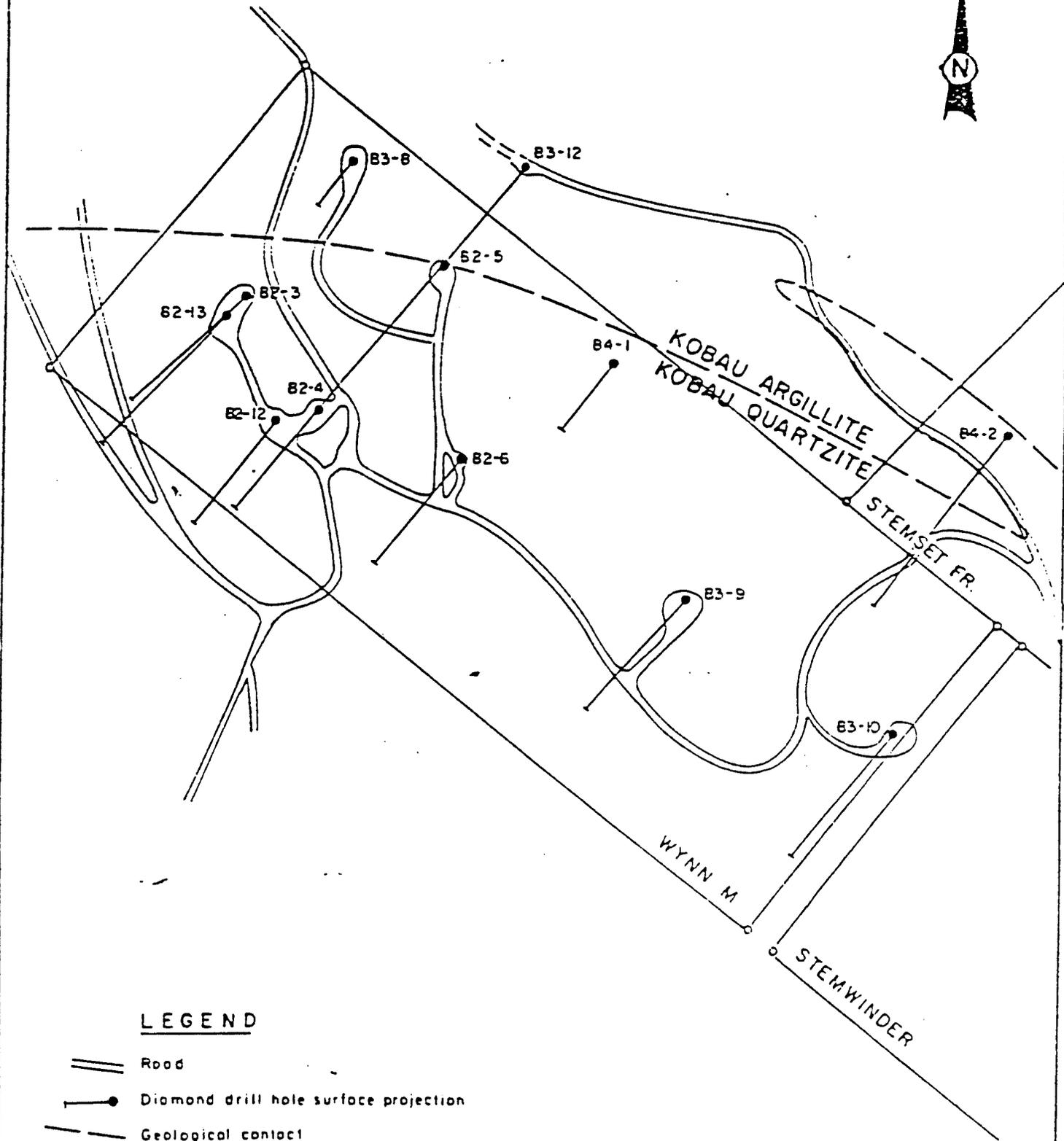
NTS. B2E-4E OSOYDOS M.D., B.C.

DRAWN BY	DATE	SCALE	DRAWING NO.	PLATE NO.
D.M.F.	JUNE 1988	AS SHOWN	B5-001	1



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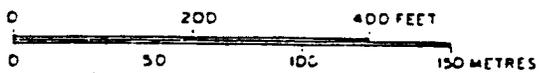
HIGHLAND VALLEY RESOURCES LTD.				
STEMWINDER PROPERTY PROPERTY MAP (INDEX PLATES 3A-C)				
N.T.S. B2E-4E			OSOYDOS M.D., B.C.	
DRAWN BY	DATE	SCALE	DRAWING NO.	PLATE NO.
D.M.F.	JUNE 1966	1:7200	86-002	2



LEGEND

-  Road
-  Diamond drill hole surface projection
-  Geological contact

(After Cominco/Asarco 1984)



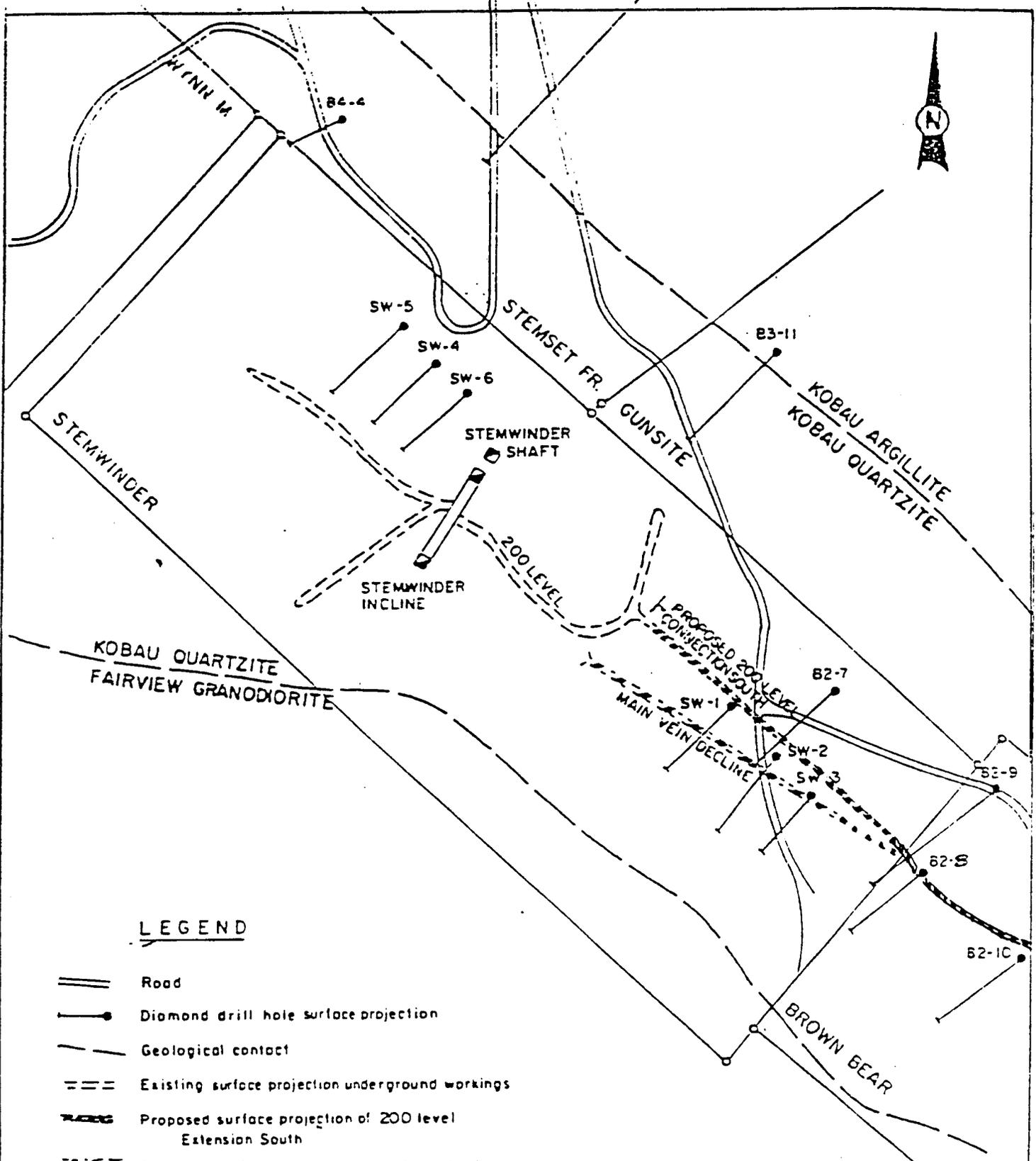
HIGHLAND VALLEY RESOURCES LTD.

STEMWINDER PROPERTY
PLAN - WYNN M

N.T.S B2E - 4E

OSOYOS M.D., B.C.

DRAWN BY	DATE	SCALE	DRAWING NO.	PLATE NO.
D.M.F.	JUNE 1986	1:2640	B6-003	3A



LEGEND

-  Road
-  Diamond drill hole surface projection
-  Geological contact
-  Existing surface projection underground workings
-  Proposed surface projection of 200 level Extension South
-  Proposed surface projection Main Vein decline

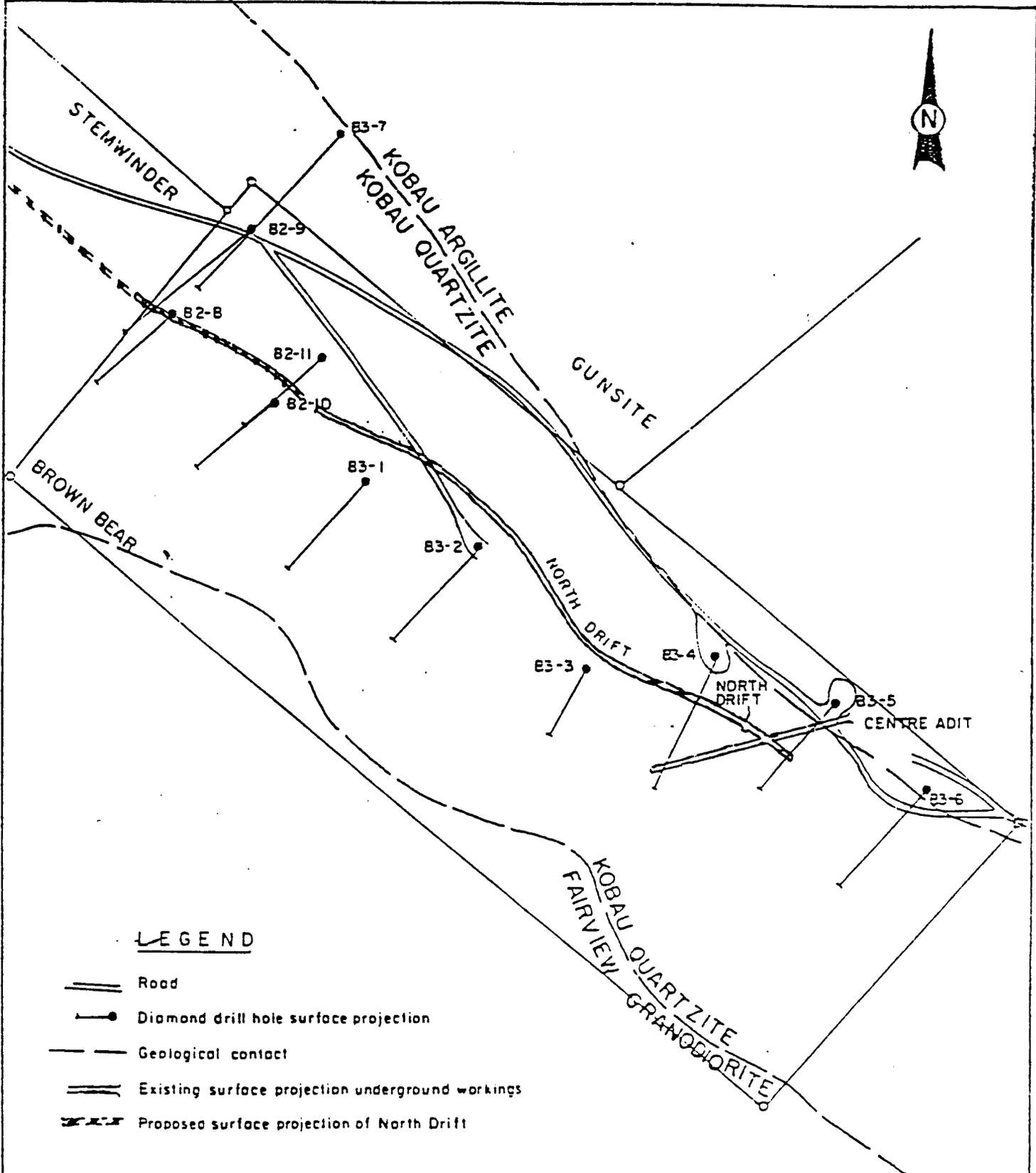
(After Cominco / Asarco 1984)



HIGHLAND VALLEY RESOURCES LTD

STEMWINDER PROPERTY
PLAN - STEMWINDER

N.T.S B2E-4E		OSYOOS M.D., B.C.		
DRAWN BY	DATE	SCALE	DRAWING NO	PLATE NO
D.M.F.	JUNE 1988	1:2640	B5-004	3B



LEGEND

- Road
- Diamond drill hole surface projection
- Geological contact
- Existing surface projection underground workings
- Proposed surface projection of North Drift

(After Cominco / Asarco 1984)



HIGHLAND VALLEY RESOURCES LTD.

STEMWINDER PROPERTY
 PLAN - BROWN BEAR

N.T.S B2E - 4E

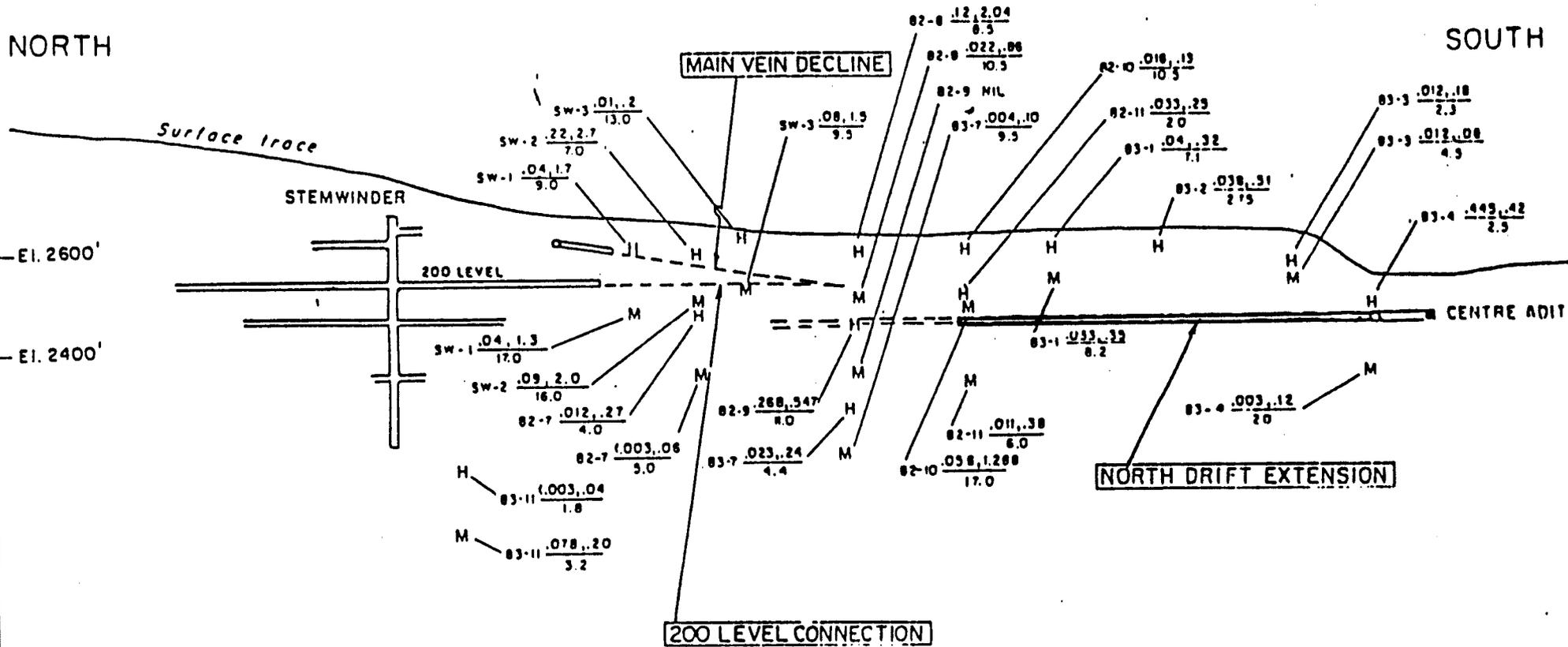
OSOYDOS M.D., B.C.

DRAWN BY	DATE	SCALE	DRAWING NO	PLATE NO
D.M.F.	JUNE 1985	1:2540	B6-005	3C

D:\0000

NORTH

SOUTH



LEGEND

- Existing underground development
- Proposed " "
- H Intersection HW vein (North Vein)
- M " Main Vein
- 82-11 $\frac{.011, .38}{6.0}$ Drill hole no. $\frac{\text{Au, Ag (oz/ton)}}{\text{Width (feet)}}$

NOTE : Vein Intersection projected to vertical section at 320° azimuth, looking NE



(After Cominco / Atarco 1984)

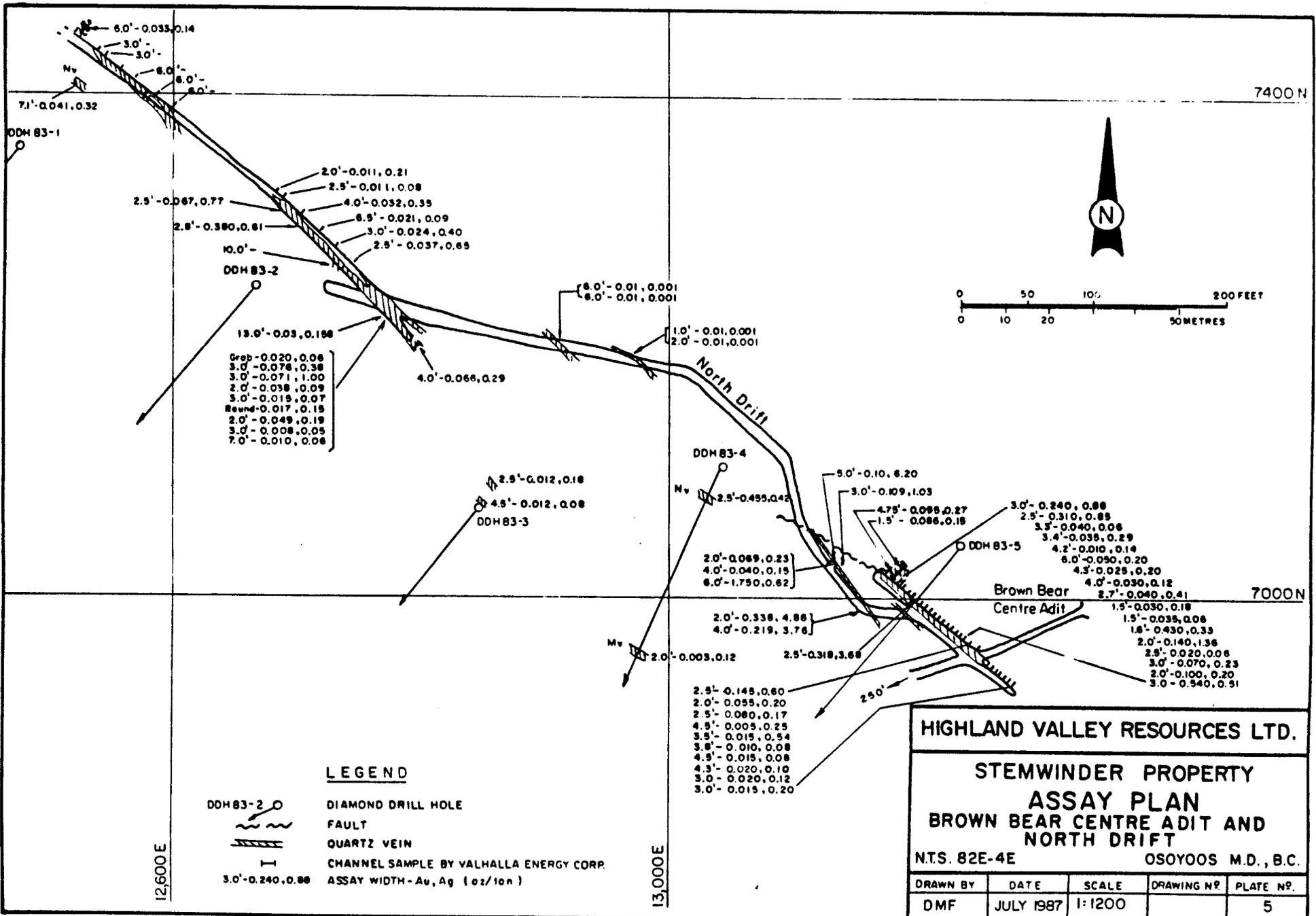
HIGHLAND VALLEY RESOURCES LTD

STEMWINDER PROPERTY
LONGITUDINAL SECTION AT (12.
130° - CENTRE ADIT

N.T.S. 82E-4E

OSOYOOS M.D., B.C.

DRAWN BY D.M.F.	DATE JULY 1984	SCALE 1:3600	DRAWING NO. NO. 0112	PLATE NO. 4
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LEGEND

- DDH 83-2 DIAMOND DRILL HOLE
- FAULT
- QUARTZ VEIN
- CHANNEL SAMPLE BY VALHALLA ENERGY CORP.
- 3.0' - 0.240, 0.88 ASSAY WIDTH - Au, Ag (oz/ton)

HIGHLAND VALLEY RESOURCES LTD.

**STEMWINDER PROPERTY
ASSAY PLAN
BROWN BEAR CENTRE ADIT AND
NORTH DRIFT**

NTS. 82E-4E OSOYOOS M.D., B.C.

DRAWN BY	DATE	SCALE	DRAWING NO.	PLATE NO.
DMF	JULY 1987	1:1200		5

APPENDIX 4



VALHALLA ENERGY CORPORATION

814-837 W. HASTINGS ST

VANCOUVER B.C.

PROGRESS REPORT # 1

METALLURGICAL TESTING

FAIRVIEW DEPOSIT

G.HAWTHORN P.ENG

MAY, 1987

1.0 INTRODUCTION

The writer was retained to perform laboratory metallurgical tests on gold bearing samples which were provided by Valhalla Energy, and were described as being from the Fairview deposit.

2.0 SAMPLES

Six samples, marked M-1 to M-6, were supplied by Valhalla for possible testing.

Each of the samples was crushed to minus 6 mesh and riffled to provide approximately 200 grams of sample for fire assay, the results of which are shown below:

Sample	Au oz/t	Ag oz/t
M-1	.076	.68
M-2	.190	1.30
M-3	.248	.53
M-4	.125	.89
M-5	.046	.42
M-6	.087	.73
Average	.129	.76

Only sample M-4, which approximated the average grade, was used for the first two tests.

3.0 TESTING

Only two tests have been performed to date, one each flotation and cyanidation.

The details of these reports are appended.

In summary, the material responded well to both cyanidation and flotation. A future financial analysis will be required to determine whether the reported higher recovery by cyanidation can justify the higher capital and operating costs as well as the increased environmental concern.

3.1 Flotation

The appended flotation results indicate an excellent response to flotation concentration, as follows:

Product	Wt %	oz/t		Dist	
		Au	Ag	Au	Ag
Conc 1	0.5	12.117		50.9	
Conc 2	1.1	4.065		37.5	
Total conc	1.6	6.58	(47.5)	88.4	85.4
Tailing	98.4	.014	.13	11.6	14.6
Feed	100.0	(.119)		100.0	100.0
assay		.125	.89		

3.2 Cyanidation

The cyanidation test indicates a 96 % Au recovery within 24 hr at a grind of 50 % - 200 mesh.

Silver recovery of 75 % in 24 hr can likely be improved with longer cyanidation retention time. Operating plants having significant Ag content will typically require 3 - 4 days to complete the leaching.

The consumption of sodium cyanide is a modest approximate 1 kg/t.

4.0 RECOMMENDATIONS

The material responds well to either flotation or cyanidation.

The increase in recovery from 88.4 % (flotation) to 96.0 % (cyanidation), will require a financial investigation to determine the most favourable option.

However, my initial reaction is that the increased sales revenue of approximately \$ 9.00 per ton for cyanidation will not be justified, and that the production of a high grade flotation concentrate will represent the most economical operating flowsheet.

No further testing should be done at the present time, providing this testing has confirmed previous investigations which are in the possession of Valhalla.

The deposit can be explored with the confidence that as long as the present mineralogy persists, the deposit will respond to both flotation and cyanidation.

G.A.

FLOTATION TEST--V-1-F-1

870501

CLIENT: Valhalla Energy PROJECT: Fairview

SAMPLE: V-1 (M4)

OBJECTIVE Preliminary flotation test to check Au distribution.

PROCEDURE:--Grind: 1000 gm / 8 min / 67 % solids
--Float: Rougher only to completion

TEST CONDITIONS:

Time	Event	AF 65-g/t	PAX-g/t	pH
0 min	Cond	30	-	
1	Float 1	-	-	
4	" 2	20	10	
10	Finish	50	10	9.0

METALLURGICAL CALCULATIONS:

Product	Wt %	Assay - oz/t		Dist - %	
		Au	Ag	Au	Ag
Conc 1	0.5	12.117		50.9	
" 2	1.1	4.065		37.5	
Total conc	1.6	6.58	(47.5)	88.4	85.4
Tailing	98.4	.014	.13	11.6	14.6
Feed (calc)	100.0	(.119		100.0	100.0
(assay)		.125	.89		

SCREEN ANALYSIS: Flotation Tailing

Mesh	Micron	Wt %	Au oz/t	
65	212			
		16.0	.023	
100	150			
		13.7	.006	
150	105			
		14.1	.021	
200	75			
		56.7	.012	
		-----	-----	
		100.0	.014	calc assay

56.2 % - 200 mesh

CONCLUSIONS:

- The flotation metallurgy on this sample was very good.
- The tailing fractional analysis indicates that the reported .014 oz/t Au cannot be improved upon significantly, although every attempt should be made to do so in future testing.
- The very low sulphide mineral content of this sample is reflected in the low weight % which reported to the flotation concentrate. In all likelihood, the addition of 1 cleaning stage will result in a ratio of concentration of 100 : 1, and a concentrate grade of approx. 10 oz/t Au.
- The material both settled and filtered very well without any chemical addition.

RECOMMENDATIONS:

- Other test results in the possession of Valhalla should be reviewed at this time to compare, and presumably confirm the results of the writer's investigation.

If the results are in agreement, the deposit can be explored with the confidence that the material responds well to flotation concentration.

- Total metal analyses should be performed on the concentrate from this test to determine that there are no possible contaminants which might impair the ability to market a flotation concentrate.

CYANIDATION TEST--V-1-L-1

870501

CLIENT: Valhalla Energy PROJECT:

SAMPLE: V1 (M-4)

OBJECTIVE Preliminary test to determine amenability to cyanidation.

PROCEDURE:--Grind: 500 gm / 4 min / 50 % solids
 --Preareation: nil
 --Leach: 24 hr / 33 % solids / 10.0 - 10.5 pH
 --Carbon: nil

TEST CONDITIONS:

Time Hr	Addition - gm		NaCN g/l	pH	
	NaCN	Ca(OH)2		Initial	Final
0	1.0	0.9	-	9.2	10.3
1	-	-	0.9	11.5	
7	-	-	0.7	11.5	
24	-	-	-	-	

The 24 hr pregnant solution was discarded in error, so that the NaCN consumption had to be estimated.

REAGENT CONSUMPTION:

Reagent	gm	kg/t
NaCN	.5 ?	1.1 ?
Ca(OH)2	.9	2.0

METALLURGICAL CALCULATIONS:

Product	Wt-gm	Assay - oz/t		Distribution - %	
		Au	Ag	Au	Ag
Preg. sol'n	-	-	-	96.0	75.3
Tailing	460.9	.005	.22	4.0	24.7
Feed (calc) (assay)	460.9	(.125	.89)	100.0	100.0

SCREEN ANALYSIS: Leach Tailing

Mesh	Micron	Wt %	Au oz/t	Ag oz/t
65	212			
		16.1	<.002	.12
100	150			
		16.5	<.002	.17
150	105			
		17.7	<.002	.19
200	75			
		49.7	.008	.28
		-----	-----	-----
		100.0	<.005	.22 calc

49.7 % - 200 mesh

PREGNANT SOLUTION ANALYSIS: ppm

Au	Ag	Cu	Fe	Zn	Cu:Au
-----	-----	-----	-----	-----	-----

CONCLUSIONS:

- The Au extraction by cyanidation was excellent.
- The tailing fractional analysis indicates that the high Au recovery by cyanidation does not require even the relatively coarse (49.7 % -200 mesh) grind which was achieved in this test.
- The recovery of Ag in cyanidation typically requires 3 - 4 days. It can be anticipated that the reported 75 % Au recovery can be improved with longer contact time.
- The cyanide consumption was a modest approximate 1.0 kg/t.

RECOMMENDATIONS:

- Future testing should be performed at a coarser grind to determine the grind dependency of the material, and without the carelessness of discarding the pregnant solution.

CORPORATE INFORMATION - OLIVER GOLD CORPORATION

Officers & Directors:

JARL Aa. B. WHIST
Chairman of the Board, President,
Chief Executive Officer and Director

JARL A. WHIST, Jr.
Vice President, Administration
and Director

LAWRENCE J. NAGY
Vice President, Mineral Exploration &
Development and Director

HOWARD BARKER, P. Eng.
Director

EGIL H. LORNTZSEN
Director

Corporate Office:

#814, 837 West Hastings Street
Vancouver, B.C. V6C 1B6
(604) 669-6656

Bankers:

The Royal Bank of Canada
685 West Hastings Street
Vancouver, B.C. V6B 1N9

Auditors:

Arthur Andersen & Co.
2300 Guinness Tower
1055 West Hastings Street
Vancouver, B.C. V6E 2J2

Registrar & Transfer Agent:

Canada Trust
1055 Dunsmuir Street
Vancouver, B.C. V7X 1P3

Exchange Listing:

Vancouver Stock Exchange
Share Authorization: 10,000,000
common shares
Shares Outstanding: 2,877,750
Symbol: "OGO"

CORPORATE INFORMATION - THOR GOLD CORPORATION

Officers & Directors:

JARL Aa. B. WHIST
Chairman of the Board, President,
Chief Executive Officer and Director

JARL A. WHIST, Jr.
Vice President, Administration
and Director

LAWRENCE J. NAGY
Vice President, Mineral Exploration &
Development and Director

RON NETOLITZKY
Director

ROBERT MacPHERSON
Director

CURTIS SPARROW
Director

Corporate Office:

#814, 837 West Hastings Street
Vancouver, B.C. V6C 1B6
(604) 669-6656

Bankers:

The Royal Bank of Canada
685 West Hastings Street
Vancouver, B.C. V6B 1N9

Auditors:

Arthur Andersen & Co.
2300 Guinness Tower
1055 West Hastings Street
Vancouver, B.C. V6E 2J2

Registrar & Transfer Agent:

The Royal Trust Company
400 Royal Trust Tower
Edmonton Centre
Edmonton, Alberta T5J 2Z2

Exchange Listing:

Alberta Stock Exchange
Share Authorization: Unlimited
Shares Outstanding: 2,800,000
Symbol: "THG"

CORPORATE INFORMATION - HIGHLAND VALLEY RESOURCES LTD.

Officers & Directors:

JARL Aa. B. WHIST
Chairman of the Board, President,
Chief Executive Officer and Director

JARL A. WHIST, Jr.
Vice President, Administration
and Director

LAWRENCE J. NAGY
Vice President, Mineral Exploration &
Development and Director

GRANT W. SINITSIN
Vice President, Corporate Affairs
and Director

Corporate Office:

#814, 837 West Hastings Street
Vancouver, B.C. V6C 1B6
(604) 669-6656

Bankers:

The Royal Bank of Canada
685 West Hastings Street
Vancouver, B.C. V6B 1N9

Auditors:

Bruce Jamieson & Co.
Suite 315
850 West Hastings Street
Vancouver, B.C. V6C 1E1

Registrar & Transfer Agent:

Guardian Estates & Agencies Ltd.
#404, 470 Granville Street
Vancouver, B.C. V6C 1V8

Exchange Listing:

Vancouver Stock Exchange
Share Authorization: 9,250,000
common shares
Shares Outstanding: 2,951,647
Symbol: "HVR"