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GNAT

A VALUATION OF THE
GNAT PASS COPPER DEPOSIT
FOR
INTEGRATED RESOURCES LTD.

*Cam Stephens
Dave Cook*

GLANVILLE MANAGEMENT LTD.

*no customer
yet*

Jim mcd

GLANVILLE MANAGEMENT LTD.

April 26, 1989

Mr. Al Jenkins
Vice President
Integrated Resources Ltd.
700, Toronto Dominion Tower
10205 - 101 Street
Edmonton, Alberta
T5J 2Z1

Dear Mr. Jenkins:

Glanville Management Ltd. has estimated that the fair market value of the Gnat Pass copper deposit is approximately \$500,000. However, because of the difficulty in determining a precise value for a mineral property, it is my opinion that a reasonable range of value is between \$250,000 and \$1,000,000.

I wish to thank you and your associates for providing me with information and assistance as requested, and I trust that the attached report meets your requirements.

Yours very truly,

GLANVILLE MANAGEMENT LTD.

Ross Glanville
B.A.Sc., M.B.A., C.G.A., P.Eng.

RG/ct

Attachment

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EXECUTIVE SUMMARY**DRAFT**

Glanville Management Ltd. was commissioned by Mr. Al Jenkins, Vice President of Integrated Resources Ltd. to determine the fair market value of the Gnat Pass copper deposit, located 20 miles south of Dease Lake, British Columbia. The fair market value was required in order to determine the fairness of the proposed transaction between Mr. John Hope, President of Integrated Resources Ltd., and the Company itself.

Integrated Resources Ltd. is planning to pay \$250,000 for the property by issuing 1,000,000 common shares at 25 cents per share to the vendor, Mr. John Hope. If the property is sold, developed, or mined, net proceeds will be distributed 75% to Integrated Resources Ltd. and 25% to the vendor (to a maximum of \$513,626).

The property consists of 8 claims located in the Liard Mining District, and is within 2 miles of the all weather Stewart-Cassiar Highway. According to the Province of British Columbia Preliminary Map 65 "1987 Producers and Potential Producers", the Gnat Pass property has 20 million tons grading 0.44% copper and 0.31 grams of gold per tonne.

The valuation of the deposit has been based on the discounted cash flow method. However, the resultant value was reduced substantially to reflect an estimation of the probability of achieving the cash flows as estimated.

A preliminary economic analysis of the deposit, utilizing the limited information available, indicates that the project could be economically viable. The key input parameters and major assumptions upon which the net present value has been calculated are shown on the next page.

Indicated and Inferred Minable Reserves:

15 million tons grading: 0.40% copper
0.01 ounces/ton gold

Strip Ratio (waste:ore): 1.5:1.0

Production Rate:

1,500,000 tons per year or just over 4,000 tons/day

Recovery: 95% for copper and 75% for gold

Metal Prices: US \$1.40 per pound of copper
US \$450.00 per ounce of gold

Operating Costs: \$7.00 per short ton

Capital Costs: \$40 million

Income Tax: 48.4% after capital payback

Based on the above, and other assumptions outlined in this report, the net present value was calculated to be almost \$5 million. However, one must be aware that such a value is based on limited information and relatively optimistic assumptions. As a result, it is my opinion that the fair market value today would only be about 10% of that value, or \$500,000. However, due to the uncertainty associated with establishing a value for a property such as the Gnat Pass deposit, I believe that a reasonable range of value is between \$250,000 and \$1,000,000.

Although the total ultimate consideration to John Hope could be \$763,626 if the property is put into production, the immediate payment is only \$250,000. The additional \$513,626 might be paid some time in the future, depending upon a variety of factors. Therefore, the present value of such possible future payment must be reduced significantly; perhaps to a level of only \$100,000. Consequently, it is my opinion that the proposed transaction between John Hope and the Company is fair and reasonable to Integrated Resources Ltd.

INTRODUCTION AND TERMS OF REFERENCE

Glanville Management Ltd. was commissioned by Mr. Al Jenkins, Vice President of Integrated Resources Ltd. to determine the value of the Gnat Pass copper deposit. Such a value was required in order to establish the fairness of the proposed transaction between the Company and Mr. John Hope, the owner of the copper deposit.

To accomplish this assignment, the author reviewed a variety of reports and documents as outlined below, and had discussions with engineers and geologists familiar with the property.

REPORTS AND DOCUMENTS REVIEWED

1. Report from Mr. Elmer Stewart on the Geological Reserves of Gnat Pass, dated April 17, 1989.
2. Press Release of Integrated Resources Ltd., dated January 9, 1989.
3. Geology and Mineralization of the Gnat Pass Deposit by Elmer Stewart, dated April 5, 1989.
4. Province of British Columbia - 1967 Producers and Potential Producers of Metal and Coal (Map).
5. Surface Plan of Trenches and Sampling Results, Gnat Lake Property, Dease Lake Mines Ltd.
6. Plan of Hill Zone, Showing Drill Holes and Geology, Dease Lake Mines Ltd., December, 1968.
7. Geochemical Soil Survey, Lytton Minerals Ltd., September, 1966.
8. Detail Manometer Survey, Lytton Minerals Ltd., September, 1965.

A field examination of the properties was not made at this time since there is little development infrastructure to be examined. The most pertinent information comes from drilling, trenching, prospecting, mapping, geophysical and geochemical surveys. In addition, this report is not a technical evaluation, but rather a valuation document. The valuation itself is based on the assumptions as set out in this report, and several of those assumptions have yet to be substantiated.

VALUATION METHODOLOGIES

Appendix II provides an introduction to valuation theory and a description of valuation methods that have been utilized in the past. Following is a brief description of the method that has been applied to determine a value of the Gnat Pass deposit.

ADJUSTED DISCOUNTED CASH FLOW METHOD

If cash flows can be estimated with some degree of certainty, the discounted cash flow method is the preferred one. For reserves that are indicated and inferred, as in the case with much of the reserve of the Gnat Pass, one can use a combination of the discounted cash flow method and a probability application. This probability is based on a judgement of the likelihood of upgrading the inferred (or possible) reserves to the proven or probable (or measured or indicated) categories and proceeding to production according to an estimated timetable and cost/revenue schedule.

Since the foregoing valuation method is somewhat subjective, there will obviously be a range of values for a particular property, depending upon who is preparing the valuation. However, if the foregoing approach is applied by mining professionals possessing a sound understanding of the principles of valuation, the results should establish a reasonable value, or range of value.

PROPERTY ACQUISITION AGREEMENT

Subject to shareholder and Alberta Stock Exchange approval, Integrated Resources Ltd. will pay \$250,000 for the Gnat Pass copper property through the issuance of 1,000,000 common shares at \$0.25 to the vendor, John Hope, President of Integrated Resources Ltd. Should the property be sold, developed, or mined, net proceeds will be distributed with 75% to Integrated Resources Ltd. and 25% to the vendor (to a maximum of \$513,626).

LOCATION/ACCESS/PROPERTY DESCRIPTION

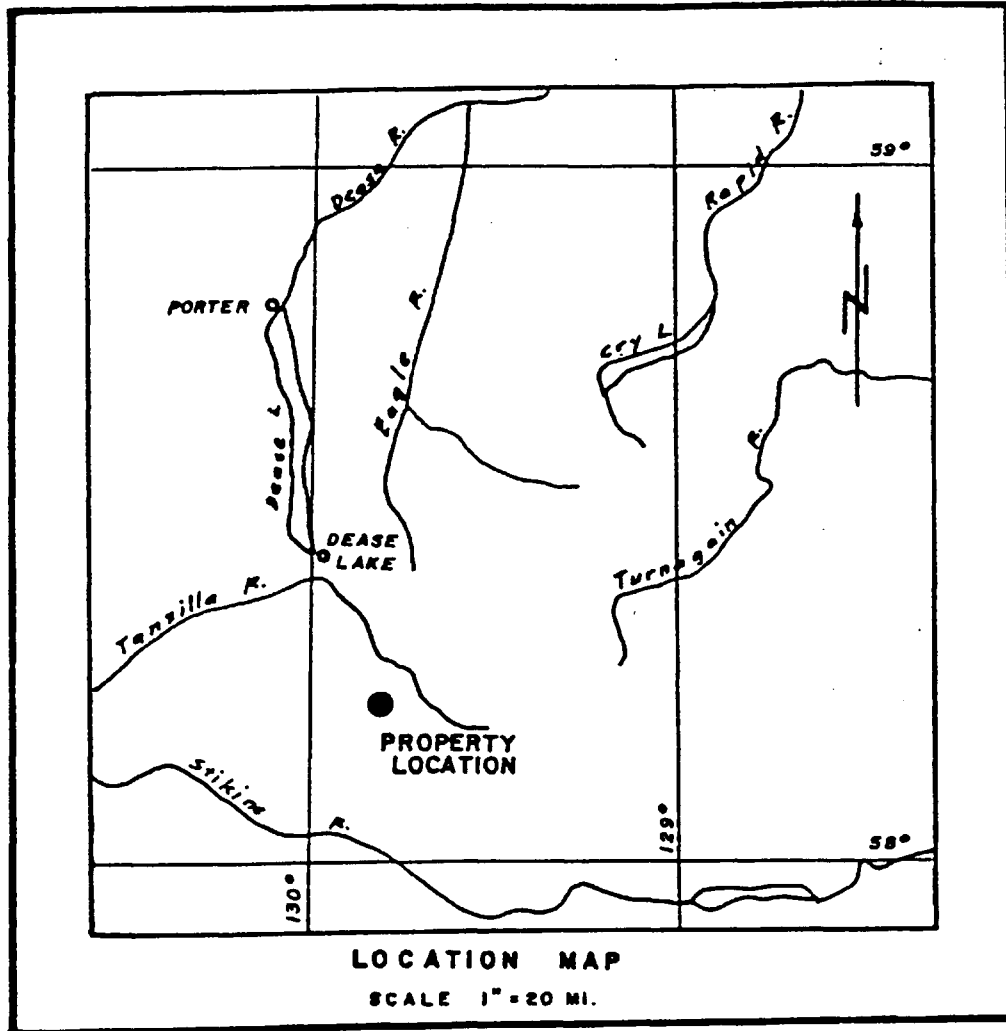
The property is in the Liard Mining District, approximately 20 miles south of Dease Lake, British Columbia (see attached location map). It is located about 2 miles from the all weather Stewart-Cassiar Highway.

The property consists of 8 claims (641 acres) called Troy #1 to #8. These claims are coloured red on the attached map. They are surrounded by claims belonging to Equity Silver.

EXPLORATION HISTORY

The Gnat Pass deposit was found by prospecting in 1960. Work to date on the deposit and on the surrounding ground consists of geochemical and geophysical surveys (Induced Polarization and Magnetometer) and 44 diamond drill holes. A detailed reserve calculation completed in the late 1960's by an employee of Dease Lake Mines Ltd. is reported to be in the order of 31,000,000 tons grading 0.39% copper using 15% dilution at zero grade. The geological reserves published for the deposit in CIMM Volume 15 (Porphyry Deposits of the Canadian Cordillera) indicate a reserve in the order of 28 million tons grading 0.44% copper.

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REGIONAL GEOLOGY

The Alkaline Suite of porphyry copper deposits and their related intrusions occur throughout the Intermontane Belt of British Columbia and are spatially and genetically related to the Upper Triassic Nicola-Takla-Stuhini volcanic assemblages and comagmatic alkaline intrusions.

The Alkaline plutons that are related to these deposits either occur on or show a spatial relationship to linear structural features of regional extent. These intrusive bodies range in size from plugs to small batholiths and usually occur within or in proximity to volcanic country rock. Both the intrusives and volcanic host rock exhibit similar geochemical characteristics.

Alkaline porphyry style deposits are formed contemporaneously with the intrusives and country rocks, and occur in zones that exhibit intense faulting, fracturing, brecciation and hydrothermal alterations.

These deposits are characterized by various styles of high and low temperature alteration. The dominant alteration that occurs in and around the mineralized zone is potassic in nature and is characterized by the development of potash feldspar and biotite. The area surrounding the deposit is characterized by propylitic alteration.

This class of deposit is characterized by an assemblage of sulphide minerals that consist of, in order of abundance, pyrite, chalcopyrite, bornite, chalcocite, and pyrrhotite. Molybdenum may occur but not in economic concentrations. Significant concentrations of gold and silver occur in these deposits.

These deposits are characterized by either fracture, stockwork or disseminated style of copper mineralization. Depending on the nature of the country rock, pyrometasomatic mineralization may also occur.

LOCAL GEOLOGY

The Gnat Lake deposit exhibits geological and geochemical characteristics of the Alkaline Suite of Porphyry Copper deposits and occurs along the contact between sediments and volcanics of Upper Triassic age. This deposit is related to syenite porphyry dikes and a quartz monzonite intrusion of Lower Jurassic age that occupies the contact between the sediments and volcanics.

Chalcopyrite occurs as disseminated and stockwork controlled mineralization throughout the deposit. Significant gold concentrations of up to .01 ounces per ton have been reported from this deposit but a systematic sampling program has not been completed to determine the average gold content in the deposit. The deposit is also reported to contain significant concentrations of magnetite.

The area of the mineralization is characterized by potassic alteration as evidenced by the development of fine grained potash feldspar. The fringe of the deposit exhibits typical propylitic style alteration consisting of chlorite, epidote and albite.

A composite plan showing the simplified geology, zones of mineralization, drill hole locations, and selected sections is attached to the back cover of this report.

EXPLORATION POTENTIAL

There appears to be substantial exploration potential in and around the Gnat Pass deposit. Several factors which should be considered when placing a value on the deposit are as shown on the following page:

- a) Based on the information on hand, there is a strong indication that the limits of the mineralized zone have not been delineated by the drilling completed to date. The additional amount of material that may be classified as a geological reserve has not been determined.

- b) The data base for the property is fragmented. The information in the possession of the Company indicates that additional reserves occur in the Creek Zone and that this zone is open to the northwest. The reserves for this zone have not been calculated due to the lack of information.

- c) The method used to determine copper values is not known. If the analysis were completed on site using a Biquino-line extraction method the values determined for the mineralized intersections may not be completely accurate. The actual copper content of the deposit may be either understated or overstated.

- d) These types of Porphyry Copper deposits contain significant concentrations of gold and silver. The concentrations of these elements have not been systematically determined over the entire deposit.

VALUATION DETAILS

GRADE/TONNAGE

A review of the drill indicated and inferred geological reserves of the Hill Zone was made by Mr. Elmer Stewart on a "best efforts" basis in consideration of the data base available. The information used in this review is taken from a series of north-south cross sections (two of which are shown following this page) of the deposit prepared by Dease Lake Mines Ltd. Several longitudinal sections, oblique to the north-south cross sections were also used in the interpretation.

The deposit has been drilled on sections that are 200 feet apart. The distance between the drill holes on each section ranges from 160 to 288 feet. A total of 10 sections traverse the deposit and cover an area on the ground from 30+00E to 48+00E and from 8+00N to 10+00S. Based on the drilling information, it appears that the mineralization is open to the south, and several higher grade zones [0.30% copper] of mineralization have not been fully delineated by the drilling. This is especially clear in ddh-33 on section 42+00E, ddh-45 on section 34+00E and ddh-48 on section 36+00E. The mineralized zone on section 42+00E averages 0.30% Cu and is open to the northeast. The quantity of additional reserves that these and other extensions may add to the known mineralized zone has not been estimated.

The oblique sections indicate that higher grade zones of mineralization occur between the north-south cross sections. The correlation of these intervals with higher grade zones on the north-south sections has not been worked out in this review.

A computer generated modified Cross Sectional method was used to calculate the reserves. The computer program uses a search radius equal to 1.2 times the block size and calculates the average grade of the block by averaging all mineralized intercepts that fall within the search radius. The area of influence and the weighted average grade of each block is extrapolated one half the distance to the next drill intersection. A factor of 12 cubic feet per ton (equal to Specific Gravity of 2.67) was used in the tonnage calculation. Economic factors such as "marginal ore" and "economic cutoff grade" were not taken into consideration for the purposes of this review.

The reserve blocks used in this review were selected in such a manner as to facilitate open pit mining. Internal dilution at zero grade is included in these calculations. Actual estimates of waste to "ore" ratios have not been completed. Zones of mineralization that exceed the cutoff

were not included if their location placed these individual blocks outside the limits of an open pit mining scenario. Only blocks that exceed 0.10% Cu over a minimum interval of 30 feet were used in the review. Based on the distance between drill holes, these reserves should be classified as drill indicated geological.

Three reserves were calculated using cutoff grades of 0.10% Cu, 0.20% Cu and 0.25% Cu. The tonnage and weighted average grade for each cutoff grade are as follows:

@ 0.10% Cu, 92,847,151 tons grading 0.25% Copper.

@ 0.20% Cu, 84,016,028 tons grading 0.26% Copper.

@ 0.25% Cu, 36,527,605 tons grading 0.30% Copper.

Based on the same sections as those utilized to generate the foregoing reserve, I estimated that there might be approximately 15,000,000 tons of mineable ore at a grade of 0.40% copper with a 1.5:1 waste to ore strip ratio. Although this is only about 40% of the above tonnage at a 0.25% copper cutoff, the grade is one third higher. For purposes of the discounted cash flow analysis, I have assumed an accompanying gold grade of .01 ounces per ton.

PRODUCTION RATE

For purposes of the cash flow analysis, a production rate of 1,500,000 tons per year (4,100 tons per day) was assumed. This equates to a mine life of 10 years if no additional reserves are discovered.

RECOVERY/CONCENTRATE GRADE

For purposes of this study, it has been assumed that copper recovery will be 95% into a concentrate averaging 25% copper. It was also assumed that the gold recovery would be 75%.

MARKETING COSTS

Estimated long term treatment charges and payables are as shown below:

Copper: Pay for content less one unit at London Metal Exchange price less US \$0.11 per pound for refining
Smelting Cost US \$60.00/ton
Ocean freight, ship loading and haulage from mine site estimated to total \$45/ton

Gold: Pay for 95%, if grade exceeds .05 ounces per ton, at the LME price

METAL PRICES/EXCHANGE RATE

For purposes of this valuation it was assumed that the copper price would average US \$1.40 per pound and the gold price would average US \$450 per ounce. The exchange rate was set at \$1.00 Canadian = \$0.84 US.

As can be calculated from the following table, which provides copper prices averaged over 5 year periods (actual prices were adjusted to 1989 dollars based on the US consumer price index), the price averaged US \$1.34 per pound over the 35 year period from 1954 to 1988. In addition, it averaged less than US \$1.30 in only three of the seven "five-year periods".

COPPER PRICE

IN TERMS OF 1989 U.S. DOLLARS

<u>PERIOD</u>	<u>TOTAL YEARS</u>	<u>AVERAGE PRICE</u>
1984 TO 1988	5	\$0.88
1979 TO 1983	5	\$1.22
1974 TO 1978	5	\$1.49
1969 TO 1973	5	\$1.63
1964 TO 1968	5	\$1.38
1959 TO 1963	5	\$1.27
1954 TO 1958	5	\$1.47

CAPITAL COSTS

The total pre-production capital costs were estimated to be \$40 million, while operating costs were estimated to be as follows:

Mining \$1.20/ton x 2.5 (1.5:1.0 strip ratio)	=	\$3.00
Milling and administration	=	<u>4.00</u>
Total		\$7.00/ton

INCOME TAXES

As a result of the broad assumptions and uncertainties on which this preliminary evaluation has been based, precise and detailed tax calculations were not made. Instead, income taxes were applied at the rate calculated below, after allowing for 100% write-offs of all costs:

Federal Income Tax (28.8% less 25% resource allowance)	21.6%
Provincial Income Tax	14.0%
B.C. Mineral Resource Tax	<u>12.8%</u>
Total Effective Rate	48.4%

DISCOUNT RATE

The determination of the discount rate to apply to the yearly after-tax cash flows is important when evaluating proposed long-life mining operations. In this case, an estimate of the discount rate was based on the "weighted average cost of capital" approach as well as an empirical approach. Although the methods do not provide a precise discount rate, and there are differing views as to the appropriate rate, the approaches generate a reasonably narrow range for the discount rate. In this case the estimated rate is 10% after-tax (and after inflation). Such a rate is comparable to a pre-tax rate of almost 30% if one were to assume a 5% inflation rate.

CALCULATIONS

Concentrate of 25% copper = 500 pounds/ton
Pay for 24% copper = 480 pounds/ton

Copper Revenue per ton of Concentrate:

$$\frac{\$1.40}{.84} \times 480 = \$800 \text{ Canadian/ton}$$

Refining Charge US \$0.11 x 480	= \$52.80 US/ton
Smelting Costs	= <u>60.00</u> US/ton
	\$112.80 US/ton
	-0.84
	= \$134.00 Canadian/ton
Plus Transportation	= <u>45.00</u> Canadian/ton
Total	= \$179.00 Canadian/ton

Net Copper Return per ton of concentrate = \$621/ton

Net Copper Return per pound of copper contained in the concentrate = $\frac{\$621}{500} = \underline{\underline{\$1.24}}$ Canadian

Revenue Per Ton of Ore:

Copper: $0.40 \times 95\% \times 2000 \times \$1.24 = \$ 9.44$

Gold: $0.01 \times 75\% \times 95\% \times \underline{\$450}$

$0.84 = \underline{3.82}$

Total Revenue $\$13.26$ per ton

Operating Costs $= \underline{7.00}$ per ton

Operating Margin/ton $= \$ 6.26$

Operating Margin/year $= \$ 9.39$ million

Based on the above operating margin per year throughout the mine life, and ongoing capital expenditures of \$100,000 per year, the discounted cash flows per year would be as shown on the following page.

EXPECTED VALUE OF DEPOSIT

Although the calculated net present value of the Gnat Pass deposit is almost \$5 million, I believe that the value should be substantially reduced to reflect the risks associated with the achievement of the input parameters and assumptions as set out in this report. As a result I estimate that the expected value of the deposit is only 10% of the \$5 million calculated value, or \$500,000.

DISCOUNTED CASH FLOWS

	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
CAPITAL	0.10	2.90	37.00	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	(2.00)
REVENUE													
COPPER				14.16	14.16	14.16	14.16	14.16	14.16	14.16	14.16	14.16	14.16
GOLD				<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>	<u>5.73</u>
TOTAL				19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.89
OPERATING COSTS				<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>
OPERATING MARGN				9.39	9.39	9.39	9.39	9.39	9.39	9.39	9.39	9.39	9.39
PRE-TAX CASH FLOW	(0.10)	(2.90)	(37.00)	9.39	9.39	9.39	9.39	9.39	9.39	9.39	9.39	9.39	11.39
INCOME TAX	0	0	0	0	0	0	0	1.40	4.50	4.50	4.50	4.50	4.50
CASH FLOW	(0.10)	(2.90)	(37.00)	9.39	9.39	9.39	9.39	7.89	4.79	4.79	4.79	4.79	6.89
DISCOUNT FACTOR	1.00	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.42	0.39	0.35	0.32
NET PRESENT VALUE	(0.10)	(2.64)	(30.56)	6.97	6.32	5.76	5.20	4.02	2.25	2.01	1.87	1.68	2.20
CUMULATIVE NET PRESENT VALUE =	<u>\$4.98 MILLION</u>												

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APPENDIX I

CERTIFICATE OF ROSS GLANVILLE

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CERTIFICATE OF QUALIFICATION

I, Ross O. Glanville, of 7415 Pandora Drive, Burnaby, British Columbia, Canada, hereby certify that:

- (1) I am a B.A.Sc. (Mining Engineering) graduate from the University of British Columbia (1970).
- (2) I hold a Masters Degree in Business Administration (M.B.A.) from the University of British Columbia (1974).
- (3) I am a registered member of the Association of Professional Engineers of British Columbia, and have been since 1972.
- (4) I am a registered member of the Certified General Accountants Association of British Columbia.
- (5) I am President of Glanville Management Ltd., a company specializing in the valuations of exploration properties and mining companies.
- (6) I have been practising my mining engineering profession since 1970 and have valued exploration and mining properties in many parts of Canada and the U.S.A., as well as in other areas of the world.
- (7) I was formerly President of Giant Bay Resources Ltd. and Vice President - Valuations of Wright Engineers Limited, a large international mining, engineering, and consulting company. Prior to that I was a mining engineer and transportation manager with Placer Development Ltd., and a mining and project analyst with two major investment holding companies.
- (8) My report is based on a review of information as outlined in the "Introduction and Terms of Reference" of this report.
- (9) I have no interest, nor do I expect to receive any interest, either directly or indirectly, in Integrated Resources Ltd.
- (10) I herewith grant my permission for Integrated Resources Ltd. to use this report for whatever purpose they deem necessary.

DATED in Vancouver, British Columbia, on the 26th day of April, 1989.

R.O. Glanville, B.A.Sc., P.Eng., M.B.A., C.G.A

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APPENDIX II

VALUATION METHODOLOGIES

APPENDIX II

VALUATION METHODOLOGIES

This section provides an introduction to valuation theory and a description of valuation methods used in the past.

INTRODUCTION

There are a variety of appropriate methods for valuing mineral properties depending upon the stage, or status, of the property from initial exploration through to production. Some of these stages are outlined below:

- 1) Hypothetical analysis
- 2) Regional program
- 3) Anomalies
- 4) Claims staked (based on anomaly)
- 5) Claims staked (based on "hot" area)
- 6) Additional geological, geochemical or geophysical data
- 7) Development of a model for a target deposit
- 8) One drill hole in a mineralized zone
- 9) Two drill holes in a mineralized zone
- 10) Three drill holes to define a plane of mineralization
- 11) Additional drill holes for establishing inferred reserves
- 12) Preliminary feasibility study
- 13) Enough holes to define proven, probable and possible ore
- 14) Exploratory development
- 15) Feasibility study
- 16) Construction of mine/mill
- 17) Producing mine

Some of the factors that affect the valuation of mining properties, especially at the earlier stages are:

- 1) Local geological controls (faults, contacts, etc.)
- 2) Exploration and/or mining history of the area
- 3) General mining activity in the area
- 4) Comparison to similar geological settings elsewhere in the world
- 5) The "track record" of the exploration geologists
- 6) Presence of valuable minerals or metals (in situ stockpiles, dumps, tailings, etc.)
- 7) Proximity to known reserves
- 8) Staked, leased, or freehold claims
- 9) Infrastructure in place
- 10) Remoteness
- 11) Environmental sensitivities
- 12) Projected metal prices
- 13) General economic and political climate
- 14) Specific interests of a party bidding for the property

VALUATION METHODS USED IN THE PAST

A listing of the valuation methods, followed by brief descriptions of the methods that have been used in the past, is provided below:

- 1) Net present value (NPV) or discounted cash flow (DCF) method
- 2) The DCF method applied to a target or model deposit with the resulting value reduced by a factor to reflect the probability of achieving the target
- 3) Committed future expenditures by optionor plus the additional expenditures required to earn an interest times a probability of making the non-committed expenditure
- 4) Premium or discount on historical costs
- 5) Historical costs plus prudent expenditures for the next phase of work
- 6) Prices paid for comparable properties
- 7) Share price history
- 8) Market premium to, or discount from, share price
- 9) Book value per financial statements

- 10) Price/earnings ratio
- 11) Price/cash flow ratio
- 12) Statistical or probabilistic method
- 13) Replacement value of mine/mill complex
- 14) Value per ton of ore in the ground
- 15) Payback period

1) Net Present Value (NPV) or Discounted Cash Flow (DCF)

If cash flows can be estimated or projected with some degree of certainty, the DCF method is the preferred one. Such cash flows are then discounted at an appropriate rate (considering the risk factors) to obtain a net present value.

Some of the requirements, or inputs, for the valuation of a mining property via the DCF approach are: Geology and Mineral Inventory; Mineable Ore Reserves (mining dilution); Mining Method; Metallurgy-Research; Metallurgy-Design (metallurgical recovery); Ancillary Services; Capital Costs; Operating Costs; Marketing; Rights, Ownership; Environmental Impact; Socio-Economic Impact; and Financial Analysis.

The DCF Method accounts for all cash inflows (or revenue) and outflows (or expenses) such as capital costs, operating costs and income taxes. It also accounts for risk, inflation and the cost of money (interest). The DCF method is forward looking (that is, past expenditures are irrelevant) and is general in application.

2) DCF Adjusted to Reflect the Probability of Success

For properties at a sufficiently advanced stage such that grade and tonnage can be estimated or projected, one can use a combination of the discounted cash flow method and a probability application. This probability is based on a judgement of the likelihood of achieving a certain grade and tonnage, and, in addition, the chance and timing of proceeding to development.

3) Committed Future Expenditures by Optionor

One can determine the committed future expenditures by an optionor plus the additional expenditures required to earn an interest in the property times a probability of the non-committed expenditures being made. These expenditures should be further reduced by a discount rate to reflect the timing of the expenditures. One can then calculate the value ascribed to the optionee's remaining interest in the property.

4) Premium or Discount on Historical Costs

This method implies a property is worth what has been spent on it (sometimes adjusted to present day dollars by an inflation index), plus a premium if the results are good, or a discount if the results are poor. However, expenditures on a property are not necessarily indicative of value and a premium or discount is a subjective factor. Nevertheless, there is some correlation between costs and results.

5) Historical Costs plus Prudent Budgetted Expenditures

This method simply utilizes past costs and adds the budgetted costs of the next phase of the work. As stated in "4" above, costs are not necessarily a good indicator of value. In addition, adding the costs of the next phase of work ignores the fact that expenditures have to be made (that is, an outlay of cash, which is a negative factor) in order to generate the value. Presumably, though, one budgets future expenditures on the expectation that the expended dollars will add at least that much in value. However, in order for this method to work, the added value has to be twice the budgetted expenditures for the next phase of the work. Although this is possible, the added value could just as easily be less than the expenditures or many times the expenditures.

6) Comparable Properties

This method has been used to establish a value based on a known transaction price of a comparable orebody. In mining, unlike oil and gas, there are no true comparables. Each property is relatively unique with regard to geology, costs, infrastructure, and some of the other factors mentioned earlier. However, transaction prices of similar properties can indicate a range of value for a particular property.

7) Share Price History

This method can give an indication of value, but is only applicable if the shares are listed on a public exchange, and if the company's only major asset is the property to be valued. In addition, the price of a few shares sold is not necessarily reflective of what you could sell all the shares for.

8) Market Premium or Discount on Share Price

This method applies a premium or discount to a market price of a share. The method is subjective, but historical premiums and discounts (based on acquisitions) can be used as a guide to value.

9) Book Value

For exploration companies that capitalize exploration costs until a production or abandonment decision, this method is of little value. You may have unwisely spent exploration dollars, yet they appear on your books as assets. Conversely you may have spent very few dollars, but have a very valuable orebody.

10) Price/Earnings Multiple

This method estimates earnings, which are multiplied by a price/earnings (P/E) multiple. The method is useful for a producing mine or company but is not as good as the discounted cash flow approach. Book items such as amortization and depreciation, which do not affect cash flow, can produce unrealistic values.

11) Price/Cash Flow Ratio

This method estimates cash flows which are then multiplied by a price/cash flow multiple typical of the mining industry. Although this method is acceptable for operating mines, it is not of much value for developing mines where the construction capital has not yet been spent.

12) Statistical or Probabilistic Method

This method is based on a statistical analysis of the average value of an economic deposit (mine), the chance of discoveries becoming economic and of anomalies (drill targets) becoming discoveries. This method is somewhat subjective.

13) Replacement Value

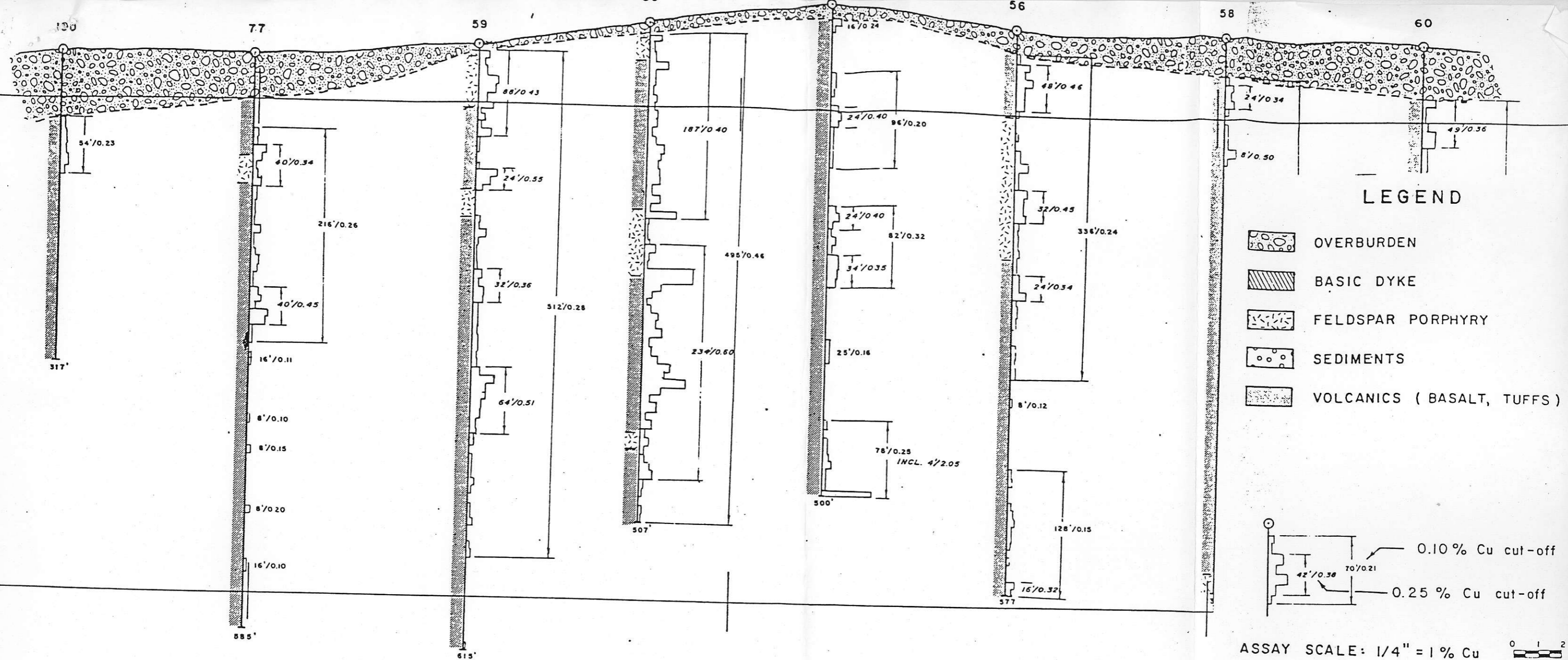
What it costs to build a new mine/mill complex is not relevant to the value of a particular deposit. The mine/mill complex only has a value insofar as it enables one to generate cash flow. Only the salvage or disposal value is relevant if you cannot generate cash flow.

14) Value per ton of Ore in the Ground



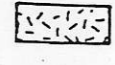
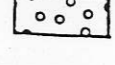
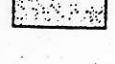
This method is extremely arbitrary since the material in the ground has no value until you establish the relationship between grades, recovery, metal prices, costs and so on.

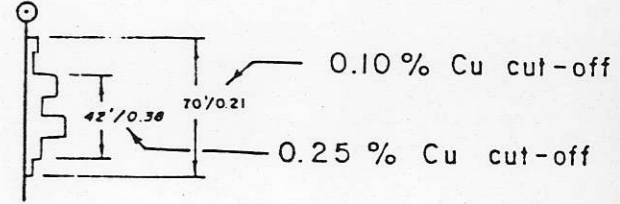
15) Payback Period


This determines when all your investment is repaid and ignores the impact of cash flow in later years. For example, you could invest \$100 million and demand a four year payback. However, your returns could be \$20 million a year for four years (which doesn't payback in four years) and then be \$200 million in year 5. The arbitrary application of the payback method would eliminate this good investment. In addition, the payback method ignores the time value of money (interest). The payback method is useful, though, when investing in politically unstable areas.



LEGEND


-  OVERBURDEN
-  BASIC DYKE
-  FELDSPAR PORPHYRY
-  SEDIMENTS
-  VOLCANICS (BASALT, TUFFS)



ASSAY SCALE: 1/4" = 1% Cu 

DEAS LAKE MINES LTD.

SECTION 36+00 E



Scale: 1" = 100'

DRAFT

O.O.B.L.

TJv



Cu
Altered volcanics are cut by granodiorite. Basic flows and tuffs are magnetite rich and basalts contain chalcopyrite.

INTEGRATED RESOURCES.

Cu,Zn (Hill Zone)
Volcanics intruded by irregular masses of feldspar porphyry. Extensive alteration includes carbonatization, sericitization and fracture surface tourmaline and chlorite.

Cu (Creek Zone)
Upper Triassic volcanic flows, tuffs, and breccias host disseminated chalcopyrite in blebs, vugs and fractures. All volcanic units contain magnetite.

actual size

*B. McCloy
312049 BCLD*

EQUITY SILVER CLAIMS

UTst

UTgd

Cu,Ag,Ba
Mineralized replacement zone across shear or fault on west flank of the Hotaluh Batholith in pyrite, arsenite and highly folded chert, argillite and quartzite.

LEGEND

MIDDLE JURASSIC

MJgd Granodiorite, diorite, younger phases of Hotaluh Batholith, hornblende-biotite syenite, granite and monzonite, hornblende diorite and syenodiorite.

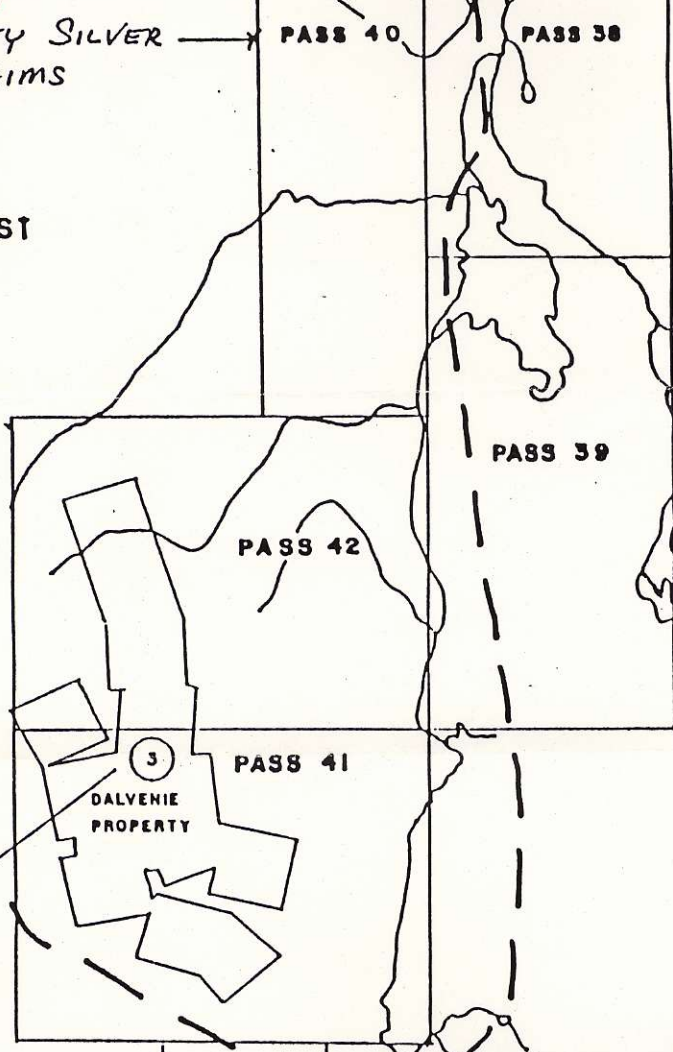
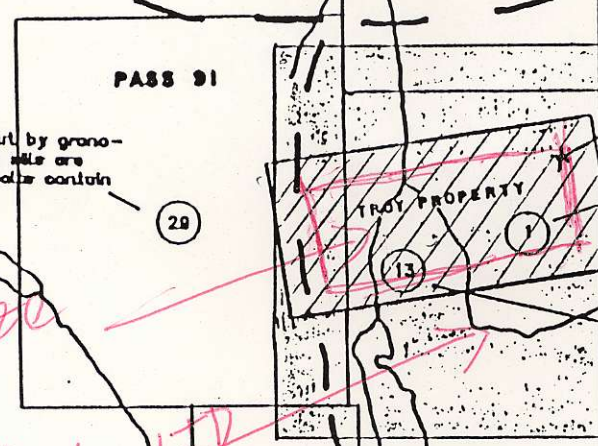
UPPER TRIASSIC AND LOWER JURASSIC

TJv Feldspar porphyry, agglomerate, breccia, tuff

UPPER TRIASSIC

UTst STUHM FORMATION: augite and coarse-banded plagioclase porphyry breccia and flows; local basal conglomerate, siltstone, and greywacke.

UTgd HOTALUH BATHOLITH: hornblende syenodiorite to granodiorite



DRAFT

EQUITY SILVER MINES	
PASS CLAIM GROUP	
LIARD MINING DIVISION	1041/4W
GNAT PASS PROJECT	
0 500 1000 1500 2000 2500	
SCALE: 1:50000 (metres)	

DATED: FEBRUARY 28, 1989
DRAWN BY: J.WETHERILL
FIGURE No.