

REDFERN RESOURCES LTD.

**The Tulsequah Chief Massive Sulphide Project,
British Columbia**

**Summary Report
April 2, 1991**



SUMMARY

Geologically inferred reserves at the Tulsequah Chief increased in 1990 to 8 million tons. The average grade is 1.55% copper, 1.23% lead, 6.81% zinc, 0.08 oz/ton gold and 3.19 oz/ton silver.

A preliminary economic analysis suggests that a mining operation based on a 9,000,000 ton in ground reserve (10,000,000 ton mill through-put) with a production rate of 3,000 tons per day at the above grades and current producer prices would be very profitable.

A \$1.5 million underground diamond drilling program is planned for the first phase of work in 1991. A Phase II program of in-fill drilling estimated to cost \$2 million will be necessary to allow a more accurate reserve determination prior to commencing underground development. Costs are shared on a 60% Cominco - 40% Redfern basis.

A reserve potential of up to 15 to 20 million tons is reasonable based on the size of the mineral system and other geological considerations.

The Tulsequah Chief operations site is located 35 air miles northeast of Juneau, Alaska in the Tulsequah river valley at an elevation of about 400 feet above sea level. An airstrip located close to the property provides good access.



LOCATION AND ACCESS

The Tulsequah Chief property is located in northwestern B.C. on the east side of the Tulsequah River valley at Lat. 58° 43' Long. 133° 35', approximately 60 miles south of Atlin, B.C. and 35 air miles northeast of Juneau, Alaska. A 4,000 foot long gravel airstrip capable of handling large aircraft is located near the mine. Concentrates from a mining operation can be transported by barge along the Taku inlet to the deep water port of Juneau, a distance of 42 miles, as was done when the property was in production in the 1950's (see location map), or alternatively a road can be built to the head of the Taku Inlet, a distance of 25 miles, where deep draft ships can load. There are suitable locations for surface facilities including, mill and tailings disposal in the immediate area.

REDFERN-COMINCO JOINT VENTURE

In June 1987, Redfern acquired an option to earn a 40% participating interest in the Tulsequah Chief project through the expenditure of \$3 million by December 31, 1990. Redfern completed its earn-in by mid-1989 and the joint venture is continuing to develop the property on a 60% Cominco Ltd. - 40% Redfern basis.

HISTORY

Cominco Ltd. operated the Tulsequah Chief mine through the period 1951 to 1957. The mine closed in 1957 due to low metal prices. Much of the mine revenue derived from its copper content.

Milling facilities were leased at the nearby Polaris-Taku gold mine which abandoned operations in 1950. The mill was retooled and produced at the rate of 500 tons per day. Mill concentrates were barged from the Taku river landing some 6 miles south of the mill site to the deep water port of Juneau, Alaska a distance of 42 miles. Past production from the Tulsequah Chief totalled 633,000 tons grading 1.8% copper, 1.3% lead, 6.7% zinc, 0.1 oz/ton gold, and 3.16 oz/ton silver. When the mine closed, remaining in-place reserves totalled 780,000 tons as detailed under the heading "RESERVES".

The property remained dormant from 1957 until the first drilling in 1987 under the Redfern-Cominco option.

GEOLOGY

The Tulsequah Chief mineral deposit is a volcanogenic massive sulphide (VMS) containing zinc, copper, lead, gold and silver. More specifically the deposit belongs to a class of massive sulphides known as Kuroko type which are relatively rich in gold and silver. One particularly favourable aspect of VMS deposits, as compared to other deposit types, is that they display good continuity and reserves can be reliably determined based upon much wider spaced drill patterns. Another favourable aspect is that these deposits are polymetallic and therefore not strongly affected by negative price changes of a single metal.

When the mine was in production in the 1950's, a lack of understanding of the geological controls of VMS deposits hampered the search for ore. Today, VMS deposits are well understood geologically. The Tulsequah Chief ore is now known to be stratigraphically controlled, as opposed to structurally controlled, hence exploration can be focused on the right targets and discovery of new ore is relatively simple.

The Tulsequah Chief mineralization is contained in a particular stratigraphic unit known as the "mineral horizon". The volcanic strata have been tilted so that the mineral horizon, and the ore contained within it, dips generally to the north at 60°. The ore occurs in two main lenses referred to as the AB and H. Geological reserves in both the AB lens (including the 780,000 tons in place in 1987) and the H lens are approximately 4 million tons each.

Underground drilling in 1990 explored the mineral horizon to a depth of 2,200 feet below the 5400 level, and increased the reserves from 5,800,000 tons to 8,000,000 tons.

Dimensions of the deposit are approximately 1,400 feet in maximum strike length (at the 5400 level), 2,200 feet vertically and an average of 25 feet true thickness. Mineralization is open to depth, upwards and on strike to the each.

The mineral system at the Tulsequah Chief, considering the dimensions of the alteration zone and of the mineral horizon which contains the ore deposits, is one of the largest examples of the Kuroko type and geologists familiar with the property recognize that the potential could be much larger than the reserves indicated to date.



A second alteration zone like that associated with the main deposit, and with even better base and precious metal geochemistry, is located to the west of the Tulsequah Chief mineral system. This new system remains relatively unexplored.

RESERVES

At the time the mine closed in 1957 Cominco Ltd. calculated a measured and indicated ore reserve of 780,000 tons grading 1.3% copper, 1.6% lead, 8.0% zinc, 0.07 oz/ton gold and 2.9 oz/ton silver. Reserves have increased dramatically as a result of the 1987 through 1990 drill programs. Current geological reserves including the 780,000 tons are 8,000,000 tons grading 1.55% copper, 1.23% lead, 6.81 zinc, 0.08 oz/ton gold, 3.19 oz/ton silver. This reserve contains 248,000,000 pounds of copper, 196,800,000 pounds of lead, 1,089,600,000 pounds of zinc, 640,000 ozs. of gold and 25,520,000 ozs. of silver.

METALLURGY

When the property was in production average metallurgical recoveries were as follows:

<u>Metal</u>	<u>Recovery</u>
copper	84.4%
lead	85.0%
zinc	87.3%
gold	76.5%
silver	89.9%

These recoveries are remarkably high considering that the mill (Polaris-Taku) used to process the ore was originally designed for a different type of ore (vein type gold ore). It is expected that a mill, specifically designed for the treatment of polymetallic ores will achieve much better recoveries. Recoveries of close to 90% as an average for all metals is a reasonable expectation. Importantly, concentrates are clean and contain no deleterious components that would compromise milling, smelting or cause environmental concern.

1991 PROGRAM

A \$1.5 million underground deep drilling program is planned for Phase I and will include an extension of the 5400 level drift a further 600 feet to the north where new drill stations can be established for continued deep drilling. An alternative approach for deep drilling involves the use of the Navidrill system which would obviate the need for further drifting and result in lower costs. The deep drilling (approx. 12,000 feet) will test the mineral horizon 1,000 feet down dip from the lowest levels tested to date. A Phase II program of in-fill drilling expected to cost in the order of \$2 million will be necessary to allow a more accurate reserve determination.

Upon a successful completion of the above programs, a shaft would be sunk to provide underground access for development drifting and drilling and to provide a platform for drilling to greater depths.

POTENTIAL

Geological reserves increased by 38% from 5,800,000 in 1989 to 8,000,000 tons in 1990 and success in the 1991 deep drilling could again add substantially to geological reserves. Further additions to reserves may be expected on strike to the east as well as within the up-dip portion of the G lens (east part of AB lens).

A potential in the 15-20,000,000 ton range appears realistic based on results to date and current geological understanding of the deposit.

ECONOMICS

Attached is an independent economic analysis for a deposit size of 10 million tons diluted (9 million tons in ground) with a production rate of 3,000 tons per day and capital cost of \$130 million. The capital cost is an estimate in as much as it cannot be determined with accuracy until a detailed feasibility study is completed. Calculations are based on best estimates for operating costs, and smelter costs, and on Canadian base metal producer prices as of early March 1991. It appears that a reserve as defined above would support a very profitable mining operation.

All figures relate to Redfern's 40% interest only.

CONCLUSION

The Tulsequah Chief is the best undeveloped base-precious metal massive sulphide deposit in Western Canada.

Based on the current geological reserves and the obvious potential for additional reserves, the property is likely to realize production. We anticipate that the forthcoming exploration programs will substantially advance the property towards this goal.

Preliminary Financial Analysis

Redfern Resources Ltd

Redfern Resources Ltd
CASHFLOW PROJECTIONS (1991-\$C 000'S)
 with Tulsequah Project at 3 000 s.tons/day
 • base case
 - all debt financing after 1991
 - figures are Redfern's 40% share of JV

CASH FLOW	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Net Revenue				14 212	28 424	28 424	28 424	28 424	28 424	28 424	28 424	28 424	28 424	270 024
Interest Expense		780	2 487	5 514	5 484	2 132								16 397
Taxes:														
Federal Income						965	5 038	5 235	5 382	5 493	5 576	5 639	7 309	40 637
BC Income						2 382	3 215	3 386	3 515	3 612	3 685	3 739	4 505	28 039
BC Mining					196	2 447	2 928	3 084	3 202	3 290	3 356	3 405	4 219	26 126
Fixed Assets Net			8 800	22 400										31 200
Exploration Exp	4 000	2 400	10 000	8 400	400	400	400	400	400	400	400	400	400	28 400
Resource Property														
Salvage													7 800	7 800
net cash yearly	(4 000)	(3 180)	(21 287)	(22 102)	22 344	20 098	16 844	16 318	15 924	15 629	15 407	15 241	19 791	107 025
net cash cumulative	(4 000)	(7 180)	(28 467)	(50 569)	(28 225)	(8 128)	8 716	25 034	40 958	56 587	71 993	87 234	107 025	
Shares Issued	11 000	11 000	11 000	11 000	11 000	11 000	11 000	11 000	11 000	11 000	11 000	11 000	11 000	
Earnings per share after tax	(.36)	(.29)	(1.94)	(2.01)	2.03	1.83	1.53	1.48	1.45	1.42	1.40	1.39	1.80	

IRR (%)	=	26.08%	Effective Tax rate (%)	
npv @ 10%	=	32 888	Federal	21.41%
(inflation free rate) 15%	=	16 714	BC Income Tax	13.89%
20%	=	6 929	BC Mining Tax	14.03%
				<u>49.33%</u>

Redfern Resources Ltd

CASHFLOW PROJECTIONS (\$C 000'S)

with Tulsequah Project at 3 000 s.tons/day

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Notes:

assays & prices

metal	grade	mill smelter		price	
		recovery %	payable %	\$C/lb	\$C/oz
copper	1.550 %	92	75	1.40	
lead	1.250 %	93	40	0.40	
zinc	6.790 %	90	60	0.70	
gold	0.081 oz/ton	90	90		425.00
silver	3.200 oz/ton	90	90		4.75

reserves: 9 million s. tons at above grade
 production: 3,000 s.tons/day for 350 days /year
 equivalent to about 9.5 years life
 dilution: 10% of feed i.e. 3,000 ton/d = 2,700 tons ore & 300 ton waste of zero grade

costs: assumed \$130 million for capital, operating at \$45/ton
 all costs above are in \$Canadian 1991 real rates and the discount rates for the net present values are inflation free

Redfern Resources Ltd

Notes for Tulsequah project for MineStart financial analysis, March 1991

assays & prices	metal	grade	mill recovery	smelter payable	price	
					%	%
copper		1.550 %	92	75	1.40	
lead		1.250 %	93	40	0.40	
zinc		6.790 %	90	60	0.70	
gold		0.081 oz/ton	90	90		425.0
silver		3.200 oz/ton	90	90		4.75

reserves: 9 million s. tons at above grade

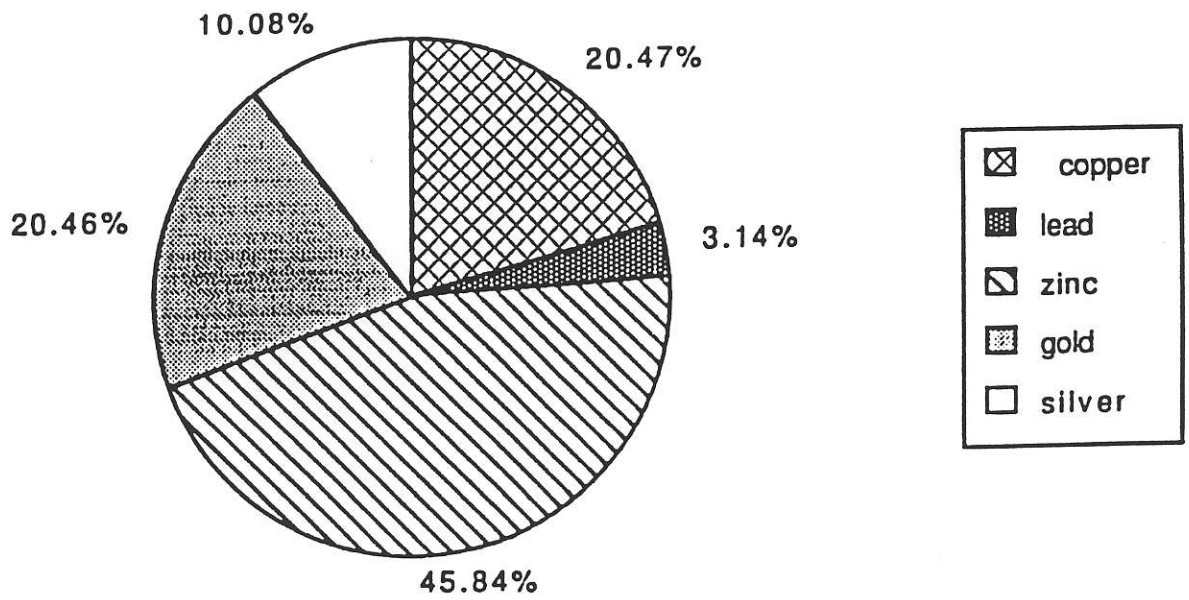
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Net Proportionate Value of Each Metal

MineStart

TULSBQUAH CHIEF DRILL RESULTS

<u>Hole #</u>	<u>Intercept (ft)</u>	<u>Length (ft)</u>	<u>True Width (ft)</u>	<u>% Cu</u>	<u>% Pb</u>	<u>% Zn</u>	<u>Au oz/t</u>	<u>Ag oz/t</u>
87-1	1812.5-1837.5 AB	25.0	18.6	0.52	0.55	2.28	0.036	1.30
	1857-1877.5 AB	20.5	15.2	1.37	2.78	8.00	0.185	6.50
87-5	2102-2115.5 AB	13.5	10.3	1.31	1.08	6.03	0.07	2.48
88-2	701-715 AB	14.0	13.5	0.51	1.55	11.63	0.015	1.76
88-3	566-639.5 AB	73.5	50.0	3.86	0.21	2.46	0.081	1.60
88-4	547-572 AB	25.0	16.1	0.61	0.6	3.36	0.065	1.88
88-5	694.5-704.5 AB	10.0	6.9	0.77	0.77	4.06	0.046	2.70
	719-726.5 AB	7.5	5.2	0.88	0.65	6.13	0.048	0.99
	738.5-743.2 AB	4.7	3.2	1.16	1.05	6.42	0.04	1.62
88-6	361-364 AB	3.0	2.0	0.43	1.00	4.00	0.014	1.146
88-7	477-485 AB	8.0	5.9	0.98	1.85	6.12	0.04	1.29
	495.7-501.4 AB	5.7	4.2	2.39	2.04	14.04	0.17	9.16
	518.5-542 AB	23.5	16.8	0.30	1.00	3.01	0.04	1.91
88-8	763.5-775 AB	11.5	9.1	5.04	0.18	3.03	0.083	1.83
89-12	923.5-935.5 AB	12.0	10.0	2.23	0.48	3.79	0.034	1.33
89-13	1230-1279 H	49.0	40.0	1.03	1.47	6.24	0.07	2.68
	1360-1382 AB	22.0		0.28	0.01	0.90	0.006	0.15
89-14	952.5-961.5 H	9.0		0.36	0.14	1.08	0.02	0.28
	1053-1070 AB	17.0		0.20	0.01	0.33	0.032	0.41
	1109-1113 AB	4.0		0.14	0.50	2.79	0.003	0.058
89-15	1290-1299.6 H	9.6	5.65	0.70	0.56	14.07	0.03	1.65
	1352-1377.5 AB	25.5	18.7	0.78	1.13	7.82	0.047	0.84
89-16	1140-1168 I	28.0		0.13	0.23	1.23	0.007	0.29
	1536.5-1543 H	6.5		0.24	0.20	1.06	0.017	0.65
	1845.7-1865.2 AB	19.5	12.4	0.68	1.36	8.19	0.086	7.18
89-18	1426.6-1449.7 H	23.1		0.27	0.65	2.40	0.039	1.00
	1760-1794.7 AB	34.7	25.0	0.87	2.16	11.87	0.081	5.20
89-19	1230-1254.5 H	24.5	16.9	1.27	1.67	11.36	0.059	3.23
	1462.7-1470 AB	7.3	5.03	0.27	0.39	2.27	0.038	0.83
89-20	866.9-887.5 AB	20.6	14.6	0.75	0.43	3.85	0.062	1.13
89-21	1647-1716.1 H	69.1	52.0	1.20	1.16	6.00	0.106	3.44
	1808.4-1813.3 AB	4.9		0.32	0.65	3.80	0.005	0.26
90-22	1784.6-1948.5 H	163.9	130.0	2.92	1.58	9.09	0.112	4.96
90-23	2085-2174.5 H	89.5	62.0	1.19	1.15	5.43	0.105	4.16
90-24	2054-2073 H	19.0	14.0	0.12	0.97	2.23	0.067	4.46
	2090-2094 H	4.0		0.67	0.90	2.66	0.012	0.423
90-25	1491-1497 H	6.0	4.5	0.80	0.18	7.08	0.105	0.87
	1623.5-1631 AB	7.5	5.6	0.35	0.25	2.77	0.023	0.92
90-27	1331-1342 I	11.0	10.0	0.39	3.26	5.47	0.018	2.12
	2478-2508 H	30.0	27.0	0.07	0.88	2.18	0.011	0.105



CORPORATE INFORMATION

Redfern Resources Ltd. trades on the Toronto Stock Exchange (RFR). The Company's directors and officers are professionals with extensive experience in the geological, financial and legal fields.

Board of Directors

John A. Greig, M.Sc., P.Geol.
President & Chairman, Director

George F. Fink, B.Comm., C.A.
Co-Chairman, Director

J. Michael Kenyon, M.Sc., P.Geol.
Secretary-Treasurer, Director

F. William Woodward
Assistant Secretary, Director

Wayne J. Babcock, B.Sc., P.Geoph.
Director

Murray W. Pyke, M.Sc., P.Geol.
Director

Jonathan A. Rubenstein, LLB.
Director

Carl R. Jonsson, LLB.
Director

Share Capitalization

As at December 31, 1990, 10,301,704 shares are issued and outstanding of an authorized 20,000,000 shares.

Financial

The Company is debt free and has approximately \$1,400,00 of working capital as at December 31, 1990. The Company also receives income of approximately \$15,000 per month from oil and natural gas production.

Head Office

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Legal Counsel

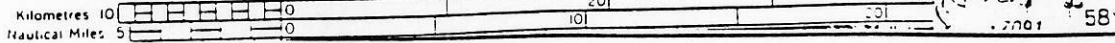
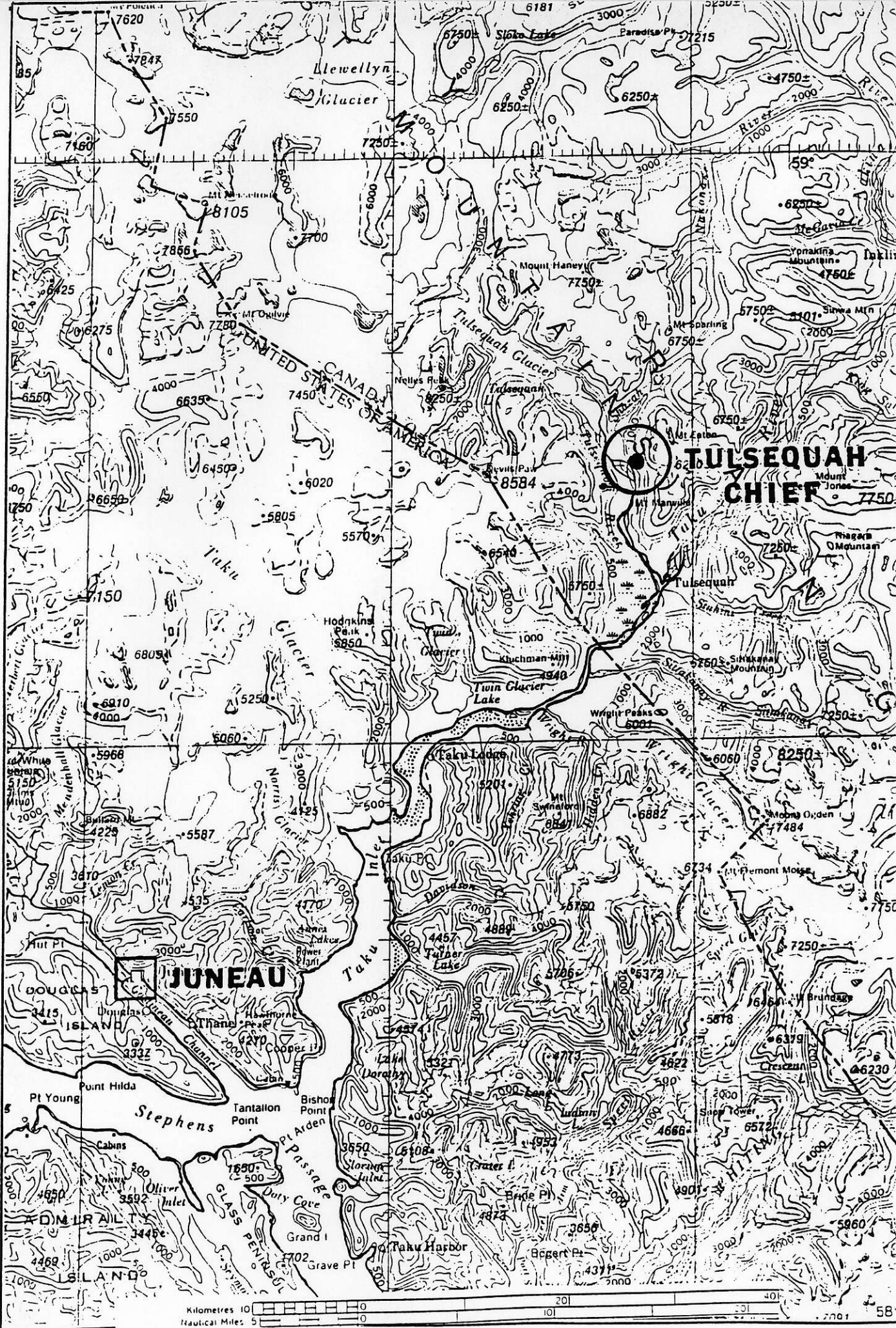
Smith, Lyons, Torrance,
Stevenson & Mayer
550 - 999 Canada Place
Vancouver, British Columbia
V6C 3C8

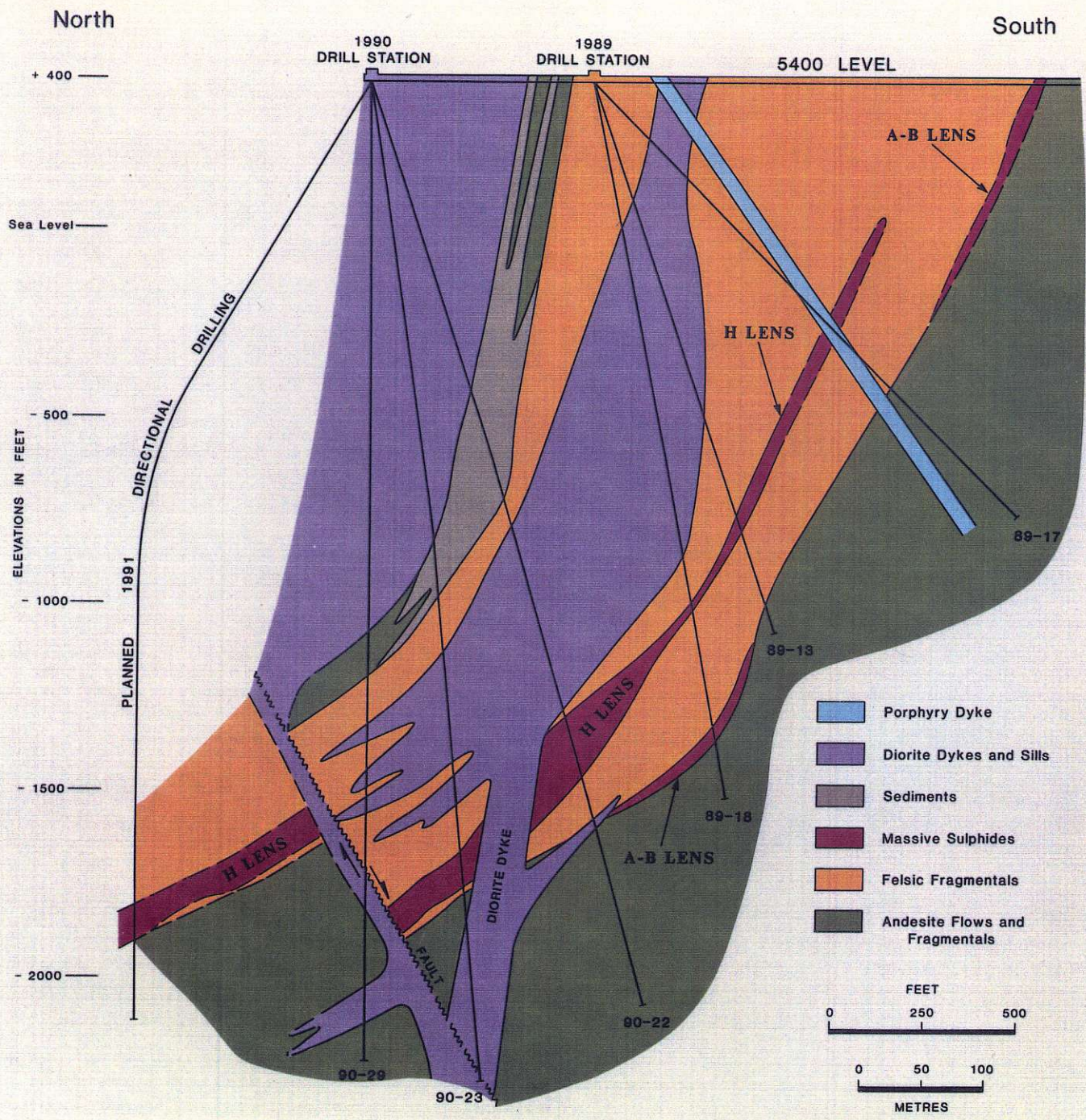
Registrar and Transfer Agent

Montreal Trust Company
Vancouver, British Columbia
Toronto, Ontario

Auditors

KPMG Peat Marwick Thorne
Suite 400 - N. Tower
5811 Cooney Road
Richmond, British Columbia
V6X 3M1

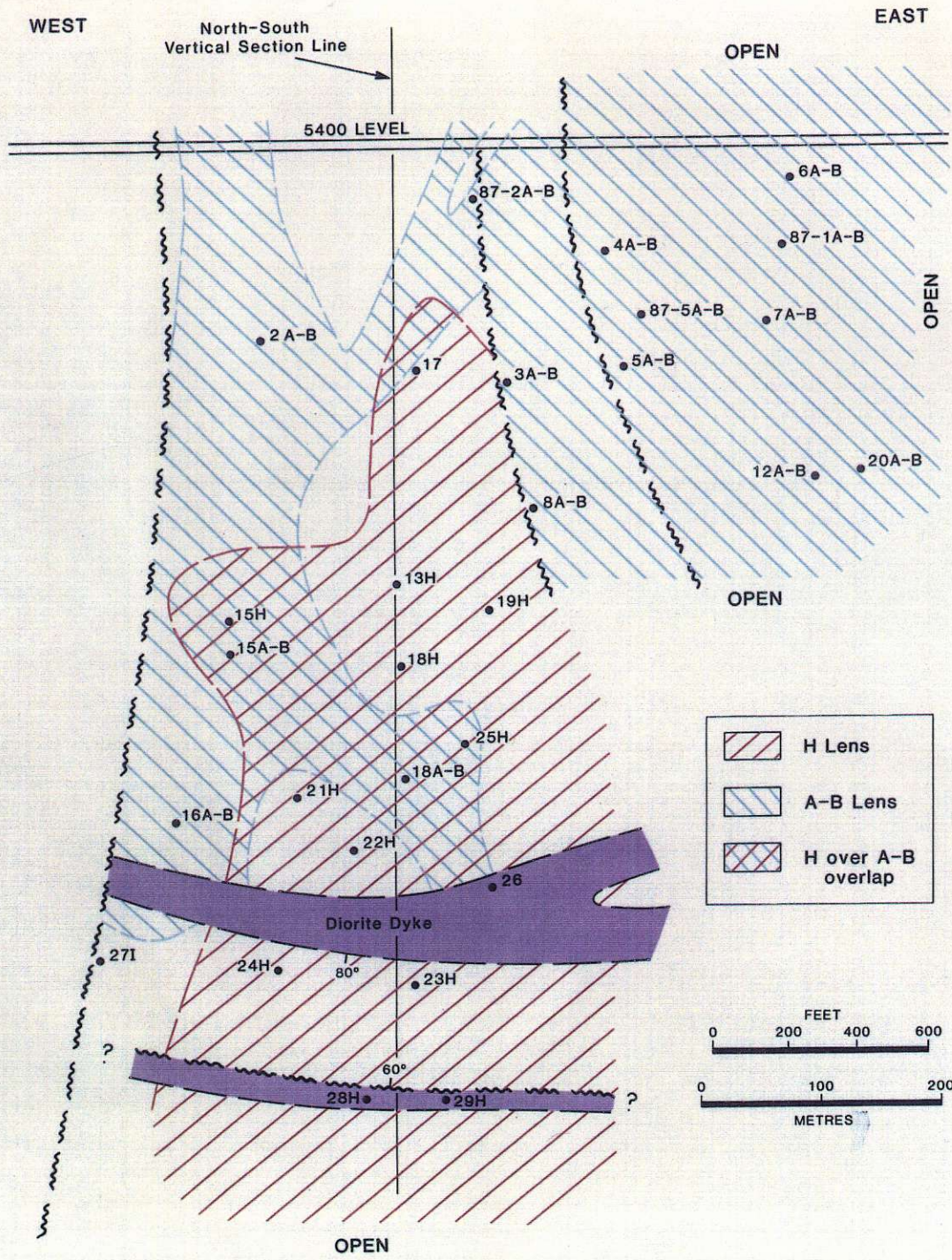




TULSEQUAH CHIEF

NORTH - SOUTH VERTICAL SECTION





TULSEQUAH CHIEF
RECONSTRUCTED EAST-WEST LONGITUDINAL SECTION