

LOG NO:	JUN 10 1992	RD.
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1991 Geological Reconnaissance
on the
Amazon Claims

SUB-RECORDER	
RECEIVED	
JUN - 3 1992	
M.R. #	\$
VANCOUVER, B.C.	

Westpine Metals Ltd.
Vancouver, BC

Clinton Mining Division, BC
NTS 920/3W
Latitude 51° 06' Longitude 123° 25'

by

Willis W. Osborne, MSc, FGAC
June 2, 1992

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

22,351

Summary

The four major claims are part of the Taseko Property held by Westpine Metals Ltd. They were staked to cover old Lot 5454, which is located southwest of the confluence of the Taseko River and Granite Creek.

In September, 1991, an one and one half day geological reconnaissance survey was completed over the claims. The geology consists of quartz monzonite and granodiorite with northwesterly trending feldspar porphyry dikes.

Several interesting samples were taken. A soil sample on an air photo lineament assayed 1,346 ppm copper. West of the soil sample, quartz monzonite was found with K-feldspar alteration and disseminated chalcopyrite along fractures. Samples ran up to 6,268 ppm copper. A \$6,000 program of geological mapping and soil sampling is recommended.

Introduction The author completed the assessment work on the four Amazon Claims as part of the program conducted by Alpine Exploration Corporation, on the Taseko Property, for Westpine Metals Ltd. and ASARCO Exploration Company of Canada Ltd., a wholly owned subsidiary of ASARCO Inc. The author completed an one and one half day, geological reconnaissance survey over part of the claims in September 1991. The four claims were staked to cover old Lot 5454 which expired in 1991.

Location The four Amazon Claims are located approximately 225 kilometres north of Vancouver, B.C. (Figure 1) in the Clinton Mining Division. The centre of the claims is 1900 metres south southwest of the confluence of Granite Creek and the Taseko River (Figure 2) at 51° 06' latitude and 123° 25' west longitude on NTS Map 920/3W. Figure 2 also shows the rest of the Taseko Property owned by Westpine.

Access The claims are accessible by four-wheel-drive vehicle from Williams Lake. The distance is 270 kilometres and it takes approximately six hours to drive the distance under good conditions. To drive to the property, it is necessary to go west on Route 20 to Hanceville, then southwest along a gravel road to the Taseko Lakes and finally southeasterly along the Taseko River to the Camp. It is necessary to ford a number of creeks and also the Taseko River. This can prove difficult in times of high runoff.

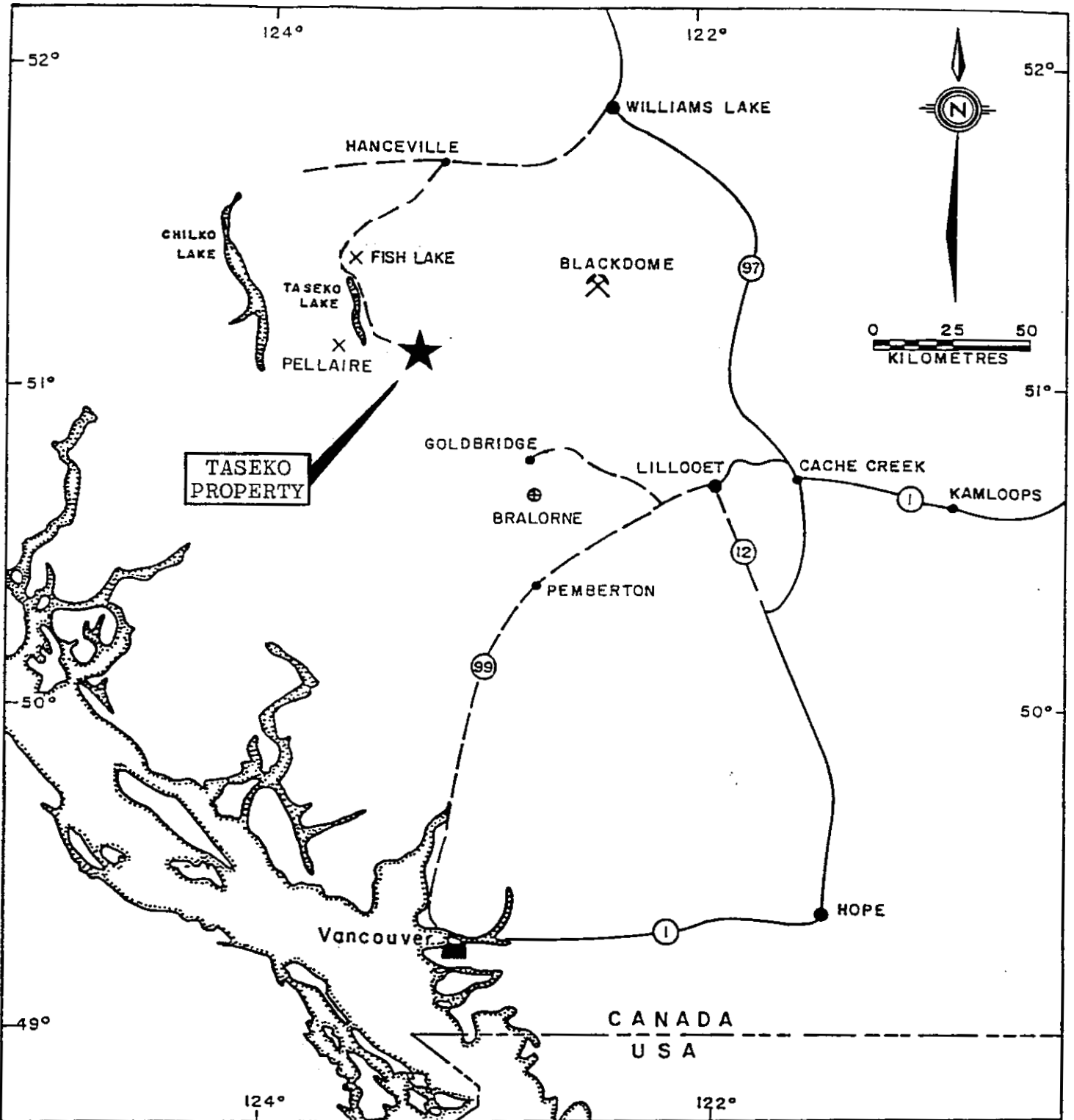
Physiography The claim area extends from the top of a north-south ridge east toward Granite Creek. Elevation ranges from 2000 to 2215 metres. The western part of the claims is in alpine area whereas the rest is covered by lodgepole pine, white pine and fir. Outcrop occurs mainly on the western side of the claimed area.

Claims Four claims were staked to cover Lot 5454 which expired in 1991. The claims are as follows:

<u>Name of Claim</u>	<u>Record Number</u>	<u>Expiry Date</u>
Amazon 1	300228	June 3, 1992
Amazon 2	300229	June 3, 1992
Amazon 3	300230	June 3, 1992
Amazon 4	300231	June 3, 1992

**Property
History**

1910's - 1920's - Between 1909 and 1920, many large, bog-iron deposits were discovered by prospectors in the Taseko Lake area. These deposits, consisting of bedded limonite, formed as a result of erosion and oxidation of heavily pyritized volcanic rocks (Crossland, 1920). In 1922, copper-gold porphyry



- X MINERAL OCCURRENCE
- ⊕ PAST PRODUCER
- ⌘ PRODUCER

WESTPINE METALS LTD.		
LOCATION MAP AND MINERAL DEPOSITS		
E.E. LAMBERT, P. GEOL.		
N.T.S. 920/3W	SCALE: 1:1,852,000	FIG.
DATE: JANUARY 1991	DRAWN: E.L./dw	1

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TASEKO PROJECT

CLAIM MAP

E. LAMBERT, GEOL., F.G.A.C.

N.T.S. 920/3W

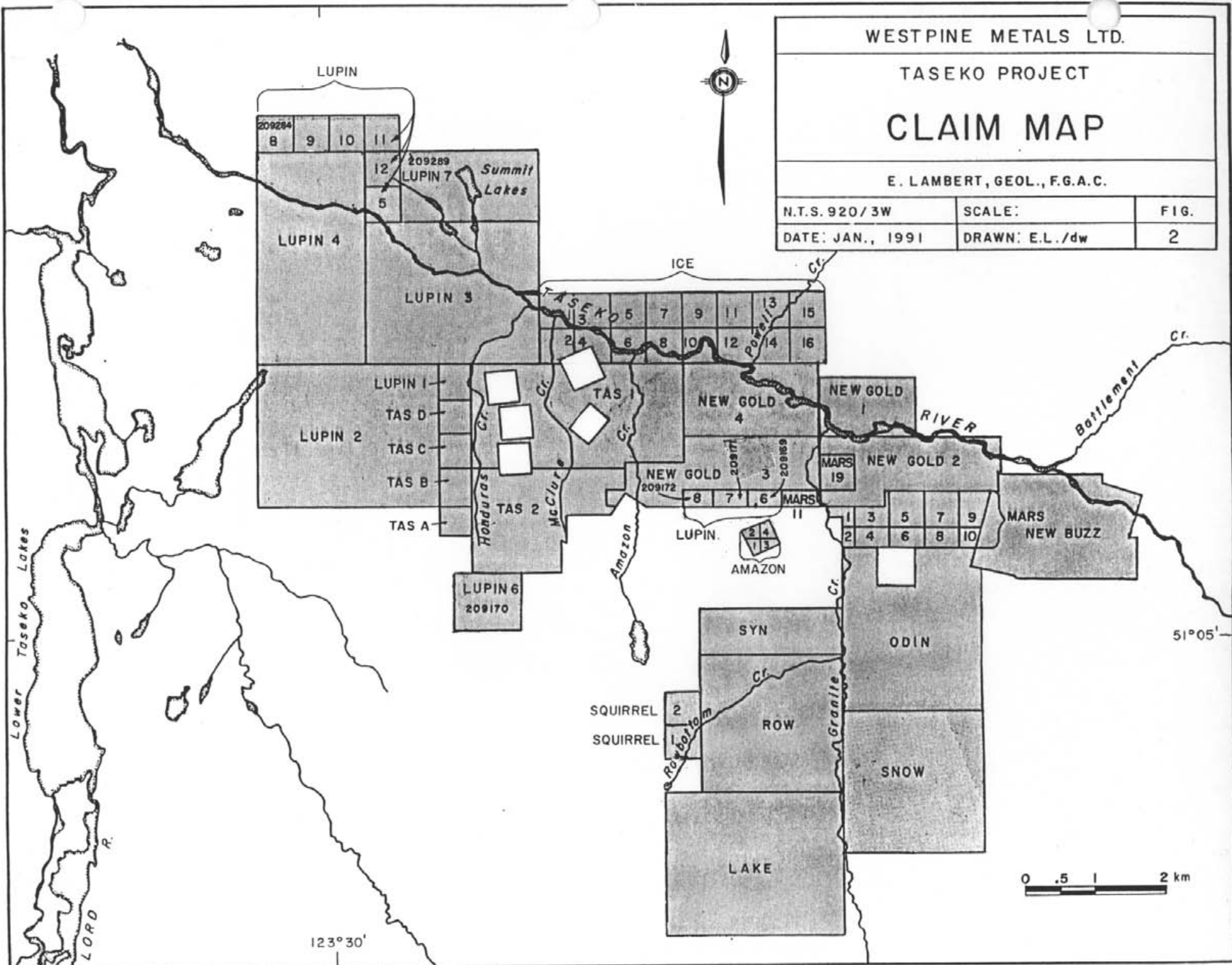
SCALE:

FIG.

DATE: JAN., 1991

DRAWN: E.L./dw

2



123°30'

51°05'



Property

History (cont)

mineralization was discovered in the vicinity of the current Taseko Property at the Mohawk and Spokane Showings (Figure 3; Macrae, 1984). Consolidated Mining and Smelting Co. Ltd. dug numerous trenches and drove cross-cuts on these prospects in 1927 - 1928 (Quadros, 1981). The Mother Lode, a mineralized zone situated southeast of the Mohawk Showing, was also discovered at this time.

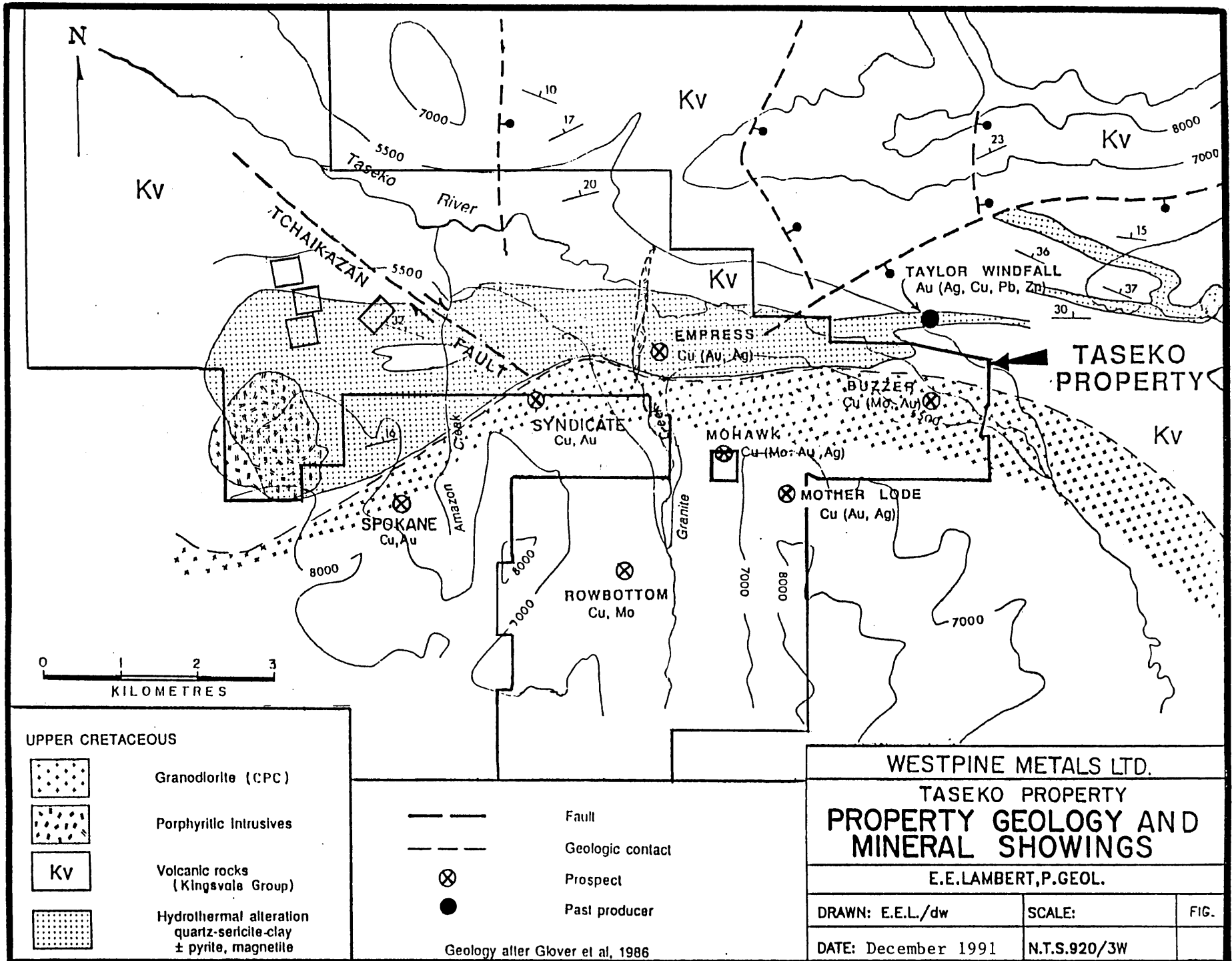
1930's - 1960's - Further work was carried out by Taseko Motherlode Gold Mines Ltd. in 1933 - 1935 on the Mohawk and Spokane Showings. Work was halted after an avalanche destroyed the exploration camp and killed seven men. No further significant work was performed in the area until 1956 when Canadian Exploration Ltd. conducted additional trenching and preliminary drilling on the Spokane Showing, as well as exploration on the Rowbottom shear zone exposed in Rowbottom Creek. Phelps Dodge (1963) drilled 8 diamond drill holes within an area extending from the Spokane Showing eastward to the Buzzer Showing in a search for Cu-Mo porphyry deposits in granodiorite.





1960's - 1970's - From 1969 to 1976, prospects in and adjacent to the Taseko Property (including the Buzzer and Empress Showings) were extensively explored for Cu-Mo porphyry potential by the following companies:





- (1) **Scurry Rainbow Oils Ltd. (1969)** - 16 DD holes, geological mapping, trenching, JEM-IP-MAG surveys;
- (2) **Sumitomo Metals Mining Canada Ltd. (1970)** - 64 percussion drill holes, geological mapping, 82 km of grid layout, IP-MAG survey, 3550 soil samples;
- (3) **Quintana Minerals Corp. (1975 & 1976)** - 9 DD holes, 39 percussion drill holes.

1980's - Esso Resources Canada Ltd. optioned part of the Taseko Property from Scurry Rainbow Oil Ltd. in 1985 and conducted a detailed program of geological mapping, geochemical sampling and geophysical surveying. The thrust of their exploration attempts was to locate economic concentrations of epithermal gold mineralization. No drilling was performed and the option was dropped.

Part of the Taseko Property was restaked by New World Mines Development Ltd. after Scurry Rainbow allowed it to expire. Alpine Exploration Corporation and Westley Mines Limited optioned the property in early 1988. A geochemical, prospecting, geological and diamond drilling program was implemented during that field season. In March 1989, Westley Mines and Alpine Exploration vended their interest in the Taseko Property to Westpine Metals Ltd., and Westpine conducted further geochemical sampling and diamond drilling that summer.



- UPPER CRETACEOUS**
-  Granodiorite (CPC)
 -  Porphyritic Intrusives
 -  Volcanic rocks (Kingsvale Group)
 -  Hydrothermal alteration quartz-sericite-clay ± pyrite, magnetite

-  Fault
-  Geologic contact
-  Prospect
-  Past producer

Geology after Glover et al, 1986

WESTPINE METALS LTD.		
TASEKO PROPERTY		
PROPERTY GEOLOGY AND MINERAL SHOWINGS		
E.E.LAMBERT, P.GEOL.		
DRAWN: E.E.L./dw	SCALE:	FIG.
DATE: December 1991	N.T.S.920/3W	

Property

History (cont) 1990's - Westpine entered into an option agreement in the spring of 1990 with ASARCO Exploration Company of Canada Ltd., a wholly owned Canadian subsidiary of ASARCO Inc. (a major U.S.-based, international mining company). Funding for the 1990 and 1991 exploration programs were provided by ASARCO under the terms of the option agreement.

Regional Geology

The Taseko Property occurs on the northwestern margin of the Coast Plutonic Complex of Jurassic to Cretaceous age where it intrudes Triassic to Cretaceous sedimentary and volcanic rocks. The oldest rocks are limestones, conglomerates and sandstones of the Tyaughton Group of Upper Triassic to Lower Jurassic age. The Tyaughton Group is overlain by Middle Jurassic to Lower Cretaceous shales and sandstones of the Relay Mountain Group, and Lower Cretaceous argillites and intermediate flows and volcanoclastic rocks of the Taylor Creek Group. Triassic to Lower Cretaceous strata are tightly folded in NW-trending folds.

Gently folded Upper Cretaceous volcanoclastic sandstones, tuffs and breccias that correlate with the Kingsvale volcanics (Figure 3) unconformably overlie the older, deformed strata. These volcanic rocks are divided into 5 members (Glover and Schiarizza, 1986). Facies changes along northwest trending normal or strike-slip faults suggest that the Upper Cretaceous sedimentation occurred within a northwest-trending trough coincident with faulting.

Upper Cretaceous strata are unconformably overlain by rhyolite, dacite and basalt flows, and pyroclastic rocks of Eocene (?) age. Locally interstratified conglomerates suggest the Eocene volcanics were erupted synchronously with block-fault graben development.

Intrusive rocks in the Taseko area include quartz-diorite to quartz-monzonite of the batholithic Coast Plutonic Complex (86 my), hornblende porphyry stocks and dikes that intrude the Coast Range batholith and adjacent volcanic-volcanoclastic units, and biotite-bearing porphyry stocks and dikes that intrude strata as young as Eocene age.

Three types of mineralization occur in the Taseko River area (refer to Figure 3):

- (1) Cu-Mo +/- Au porphyry-type mineralization within the Coast Range batholith (e.g. the Buzzer, Spokane, Rowbottom, and Mohawk Showings);
- (2) Cu-Au mineralization within hydrothermally altered volcanic strata near the contact with the batholith (e.g. the Empress Showing); and
- (3) Au-Ag epithermal mineralization in stratigraphically higher volcanic strata (e.g. the Taylor-Windfall mine, Battlement Creek area).

Local Geology The geology of the area covered by the Amazon claims consists of quartz monzonite with northwesterly trending feldspar (quartz) porphyry dikes (Figure 4). The contact between the Kingsvale volcanics and the Coast Range Batholith occurs over 1000 feet to the north of the claims.

Before starting the geological traverse, air photos were studied. A major lineament was noticed, and this was followed at the start of the traverse. This lineament is defined on the map by samples W69R, W70R and SSAM1. A large cliff of light-coloured quartz monzonite occurs at the site of W69R, which occurs west of the lineament. Very little chalcopyrite was seen in this rock with the exception of W69R. W70R is rhyolite which occurs near the centre of the lineament. SSAM1 is a soil sample taken within the lineament. The result of the geochemical determination was surprisingly high in copper at 1346 ppm.

The next sample taken and assayed was W73R. The sample contained a small quartz vein with chalcopyrite and limonite. This assayed 3400 ppb gold and 1.83% copper. Three samples were taken over a distance of 450 feet southeast of W73R. The first sample was taken from the centre of the SSE trending lineament and the last two samples were taken from an outcrop along the side.

Samples W76R and W78R are from an area consisting of relatively dark quartz monzonite with K-feldspar alteration along fractures. W78R consists of K feldspar with disseminated chalcopyrite. The alteration along the fracture here was seven centimetres wide. This zone of alteration was traced for 75 metres in a SSE direction. The best sample, W78R ran 6,628 ppm copper.

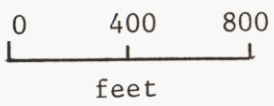
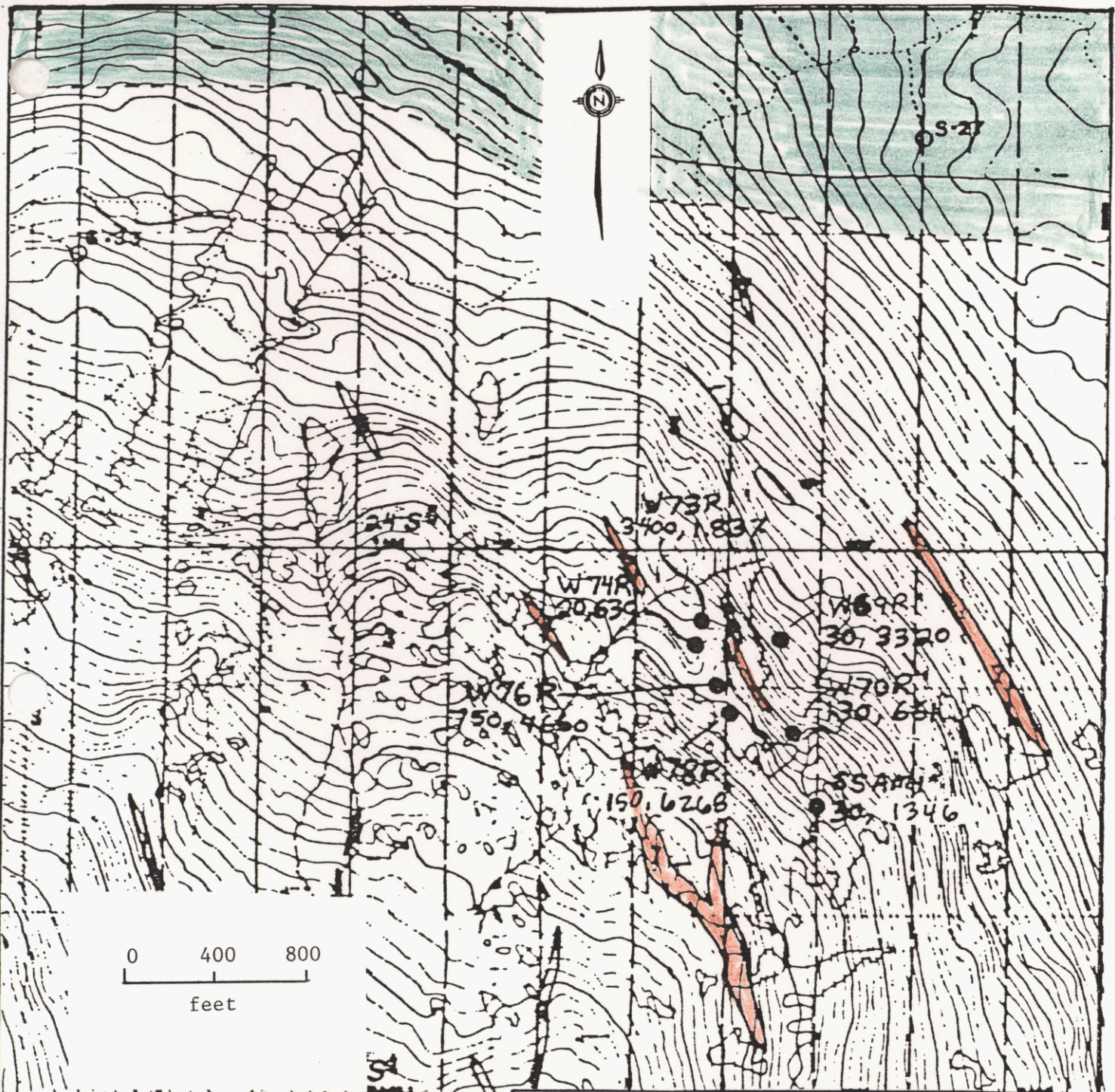
Conclusions & Recommendations

The geological reconnaissance survey located a surprising amount of copper mineralization, especially associated with K-feldspar alteration. The old 1970 grid is still evident. It is recommended that the old grid be re-established and that the area be soil sampled and mapped geologically to determine the extent of copper mineralization at the cost of approximately \$6,000.

Cost of 1991 Work


The following is a breakdown of costs for the 1991 program on the Amazon Claims:

Food, lodging and transportation	\$ 90.00
Geological reconnaissance (1.5 days)	575.00
Assays	112.00
Report	<u>192.00</u>
Total	\$969.00



LEGEND

 Feldspar Porphyry Dike

 Quartz Monzonite

 Kingsvale Volcanics

 JR Sample Number

150, 6268 Au (ppb), Cu (ppm)

WESTPINE METALS LTD.

**AMAZON CLAIMS
GEOLOGICAL MAP**

From a map by K. Uchida et al

W. OSBORNE, GEOL., F.G.A.C.

N.T.S. 920/3W

SCALE:

FIGURE

DATE: JUNE, 1992

DRAWN: CN/dw

4

REFERENCES

- Allen, D.G., 1991, Geological and Geochemical Report on the Taseko Alteration Zone; private report for ASARCO Exploration Company of Canada, Ltd. and Westpine Metals Ltd.
- Bacon Donaldson & Associates Ltd., 1991, Alpine Gold/Copper Ore Preliminary Metallurgical Testwork Progress Report #1; private report for Alpine Metals Ltd.
- Crossland, F.J., 1920, Taseko Valley Iron-Ore Deposits: in Annual Report of the Minister of Mines 1920, British Columbia.
- Glover, J.K., Schiarizza, P., Unhoefer, P., and Garver, J., 1986, Geology of the Warner Pass area, NTS 920/3; B.C.G.S. Open File map 1987/3.
- Hawthorn, Gary W., 1988, Progress Report #1, Laboratory Metallurgical Testing, Taseko Gold/Copper Property; report for Westley Mines Ltd.
- Harris, J., 1988, Petrographic Report of selected core samples from DDH 76-3; report for Westley Mines Ltd.
- James Askew Associates, Inc., 1991, ASARCO Incorporated, Taseko Project - British Columbia, Canada, Pre-Feasibility Study; report for ASARCO Inc.
- Lambert, E.E., 1988, Report on the 1988 Exploration Program of the Taseko Property; Alpine Exploration Corp. Assessment Report #18,921.
- _____, 1989a, Geology, Geochemistry and Mineralization of the Taseko Property; prospectus report for Westpine Metals Ltd.
- _____, 1989b, Geochemical and Diamond Drilling Program of the Taseko Property; Westpine Metals Ltd. Assessment Report #19,350.
- _____, 1991, 1990 Diamond Drilling Program of the Taseko Property; Westpine Metals Ltd. Assessment Report, presently unpublished.
- Lemay, C.A., 1966, Metallic and Industrial Mineral Deposits; McGraw Hill Publisher, Inc., pp. 33-34.
- Livingstone, K.W., 1976, Geology and Drilling, Granite Creek Project; unpublished 1"=400' map for Quintana Minerals Corporation.
- Macrae, Roderick, 1984, Report on the Genoveva Resource Inc. Mineral Claims for Genoveva Resource Inc.
- McMillan, W.J., 1976, Granite Creek Property, 920/3W; B.C. Ministry of Energy, Mines and Petroleum Resources, Geology in British Columbia, Geological Fieldwork 1976, pp.67-84.

Melnyk, W.D. and R.M. Britton, 1986, Geological, Geochemical and Geophysical Report on the Babbling Brook No.1, Flapjack No. 1&2, Taseko 34, Taseko 36 to 66, Taseko 72-89, Taseko 144-146, Perfect Day and Old & Rare 3; Esso Resources Canada Ltd. Assessment Report #15,676.

_____, Britton, R.M. and H. Marsden, 1986, Geological, Geochemical and Geophysical Report on the Tyaughton Trough Projects; Esso Resources Canada Ltd. Assess. Report #15,755.

MMEPR, 1987, Producers and Potential Producers, Mineral and Coal; Ministry of Mines, Energy and Pet. Res. Preliminary Map 65.

Nakashima, K., 1970, Report on the Geology of the Property of Scurry Rainbow Oil Ltd., Taseko Lake Area; unpublished company report.

Peatfield, G.R., 1991, Mineral Inventory Calculation for the Lower North Zone, Taseko Property; Consulting report for Westpine Metals Ltd.

Quadros, A.M., 1981, The Spokane Prospect: A Review of the History, Geology and Economic Potential of a Gold-Silver-Copper Prospect on Amazon Creek; Consulting report for Mr. Felix Reyes.

Tipper, H.W., 1969, Mesozoic and Cenozoic Geology of the Northeast Part of Mount Waddington Map Area (92N), Coast District; B.C., Geological Survey of Canada, Paper 68-33.

_____, 1978, Taseko Lakes (920) Map Area; 1"=4 miles Open File Map 534, Geological Survey of Canada.

Turner, R., 1988, Preliminary Report on the Taseko Property, unpublished company report for Westley Mines Ltd.

Uchida, K., Nakashima, K., Shibuya, A., Robert, I., Aoki, K., 1970, Geological survey, Taseko property; 1"=1000' map for Sumitomo Metal Mining Canada Ltd.

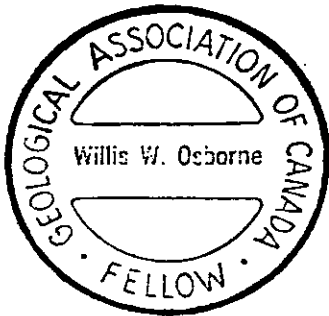
Wolfhard, M.R., 1976, Granite Creek Project 1976 Work; unpublished Quintana Minerals Corporation report.

Certificate

I, Willis Williams Osborne do hereby certify that:

1. I am a Consulting Geologist residing at Suite 905, 2324 West First Avenue, Vancouver, B.C. My office is at Suite 900, 475 Howe Street, Vancouver, B.C.
2. I graduated from the University of Minnesota in 1961 with a B.Sc. in Geology and from the University of British Columbia in 1966 with an M.Sc. in Geology.
3. I have no personal interest, directly or indirectly in the properties examined but I am a Director and Executive Officer of Westpine Metals Ltd. and own stock in Westpine.
4. The findings of this report are derived from data acknowledged and from a personal examination of the property in 1991 for one and a half days.
5. I have been engaged in mineral exploration work since 1963.
6. I am a Fellow of the Geological Association of Canada.

DATED AT Vancouver, British Columbia this 2nd day of June, 1992.



Willis W. Osborne
Willis W. Osborne

Description of Rock Samples

- W69R Granodiorite with hornblende and biotite. The mafics make up 20% of the rock. Malachite occurs along the fractures.
- W70R Pink rhyolite
- W73R Quartz monzonite. Probably light variety with a narrow quartz vein with much pyrite, chalcopyrite and limonite. One fraction has K-feldspar alteration
- W74R Highly weathered rock with much limonite stain. This is an intrusive rock with a high content of biotite.
- W76R Moderately dark quartz monzonite with biotite. K-feldspar alteration along fractures with chalcopyrite disseminated on the rock along fractures
- W78R K-feldspar alteration with disseminated

VANGEOCHEM LAB LIMITED

1630 Pandora Street, Vancouver, B.C. V5L 1L6
 Ph: (604) 251-5656 Fax: (604) 254-5717

ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCL to HNO₃ to H₂O at 95 °C for 90 minutes and is diluted to 10 ml with water.
 This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: *[Signature]*

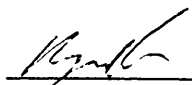
REPORT #: 910256 PA	ALPINE EXPLORATION CORP.										PROJECT: TASEKO					DATE IN: OCT 07 1991		DATE OUT: OCT 09 1991		ATTENTION: MR. BILL USBORNE					PAGE 1 OF 1		
Sample Name	Ag	Al	As	*Au	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn	
	ppm	%	ppm	ppb	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AM W91-69	0.3	2.53	9	30	155	<3	0.64	2.0	28	208	3320	4.61	1.44	2.14	618	1	0.09	35	0.01	2	<2	24	24	<5	<3	149	
AM W91-70	0.1	0.59	<3	130	57	<3	0.13	<0.1	12	245	661	1.22	0.46	0.42	179	<1	0.05	12	<0.01	7	<2	<2	8	<5	<3	21	
AM W91-73	2.9	1.02	61	3400	136	<3	0.27	<0.1	15	159	>20000	8.66	1.65	0.82	184	748	0.02	18	<0.01	<2	<2	33	14	<5	<3	64	
AM W91-74	0.4	1.49	29	20	>1000	<3	0.14	<0.1	31	166	631	5.51	1.18	0.45	1833	18	0.01	21	0.01	4	<2	<2	11	<5	<3	134	
AM W91-76	1.0	0.77	29	750	193	<3	0.83	<0.1	11	146	4660	2.00	1.09	0.51	517	10	0.28	8	<0.01	19	<2	<2	20	<5	<3	54	
AM W91-78	0.4	2.46	16	150	927	<3	1.12	0.8	32	265	6268	4.84	2.28	2.25	434	69	0.13	42	0.01	2	<2	31	40	<5	<3	66	
Minimum Detection	0.1	0.01	3	5	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1	
Maximum Detection	50.0	10.00	2000	10000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000	
< - Less Than Minimum > - Greater Than Maximum is - Insufficient Sample ns - No Sample *Au Analysis Done By Fire Assay Concentration / AAS Finish.																											

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ICAP GEOCHEMICAL ANALYSIS

A .5 gram sample is digested with 5 ml of 3:1:2 HCL to HNO₃ to H₂O at 95 °C for 90 minutes and is diluted to 10 ml with water.
 This leach is partial for Al, Ba, Ca, Cr, Fe, K, Mg, Mn, Na, P, Sn, Sr and W.

ANALYST: 

REPORT #: 910293 PA

ALPINE EXPLORATION CORP.

PROJECT: AMAZON

DATE IN: NOV 06 1991

DATE OUT: NOV 08 1991

ATTENTION: MR. BILL OSBORNE

PAGE 1 OF 1

Sample Name	Ag	Al	As	*Au	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sn	Sr	U	W	Zn
	ppm	%	ppm	ppb	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
AN SS 91-1	0.1	2.28	43	30	347	20	0.45	4.8	18	37	1346	3.70	0.43	0.63	707	13	0.02	20	0.02	43	31	<2	21	<5	<3	120
Minimum Detection	0.1	0.01	3	5	1	3	0.01	0.1	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.01	2	2	2	1	5	3	1
Maximum Detection	50.0	10.00	2000	10000	1000	1000	10.00	1000.0	20000	1000	20000	10.00	10.00	10.00	20000	1000	10.00	20000	10.00	20000	2000	1000	10000	100	1000	20000

< - Less Than Minimum > - Greater Than Maximum is - Insufficient Sample ns - No Sample *Au Analysis Done By Fire Assay Concentration / AAS Finish.

REPORT NUMBER: 910256 AA

JOB NUMBER: 910256

ALPINE EXPLORATION CORP.

PAGE 1 OF 1

SAMPLE #

Cu
%

AM W91-73

1.83

DETECTION LIMIT

0.01

1 Troy oz/short ton = 34.28 ppm

1 ppm = 0.0001 %

ppm = parts per million

< = less than

signed: _____

