

DIAMOND DRILLING

AREA: BOYER LAKE

REPORT NO:30

WORK PERFORMED FOR: Canamerica Precious Metals Inc.

RECORDED HOLDER: Same as above [xx]: Other []

Claim No.	Hole No.	<u>Footage</u>	Date	Note
K 687434	DDH-87-01 DDH-87-02 DDH-87-03 DDH-87-04 DDH-87-05 DDH-87-06	250' 155' 173' 128' 283' 104'		(1)(2) (1)(2) (1)(2) (1)(2) (1)(2) (1)(2)
K 687437	DDH-87-07 DDH-87-08 DDH-87-09 DDH-87-10	153! 238! 152.5! 149! 183!		(1)(2) (1)(2) (1)(2) (1)(2)
K 687434	DDH-87-11 DDH-87-12 DDH-87-13 DDH-87-14 DDH-87-15	208' 123' 163' 150'		(1)(2) (1)(2) (1)(2) (1)(2) (1)(2)
		2612.5		

NOTES: (1) #164-87, filed in Feb/88
(2) Specific dates not given, only Feb-Mar/87.



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SEP 8 1987

EXPLORATION REPORT RECEIVED

1987 WINTER DRILLING PROGRAM (FEBRUARY - MARCH, 1987)

MANITOU LAKES PROJECT

N.T.S. 52-F-7
KENORA MINING DIVISION, ONTARIO

FOR

CANAMERICA PRECIOUS METALS INC.
CALGARY, ALBERTA

BY

MICHAEL FOX, B.SC., P. GEOL.

CORDILLERAN RESOURCE MANAGEMENT LTD.

CALGARY, ALBERTA

JUNE, 1987

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CERTIFICATE

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CERTIFICATE

- I, the undersigned, of the City of Calgary in the Province of Alberta do hereby certify that:
- I am a Consulting Geologist with the firm of Cordilleran Resource Management Ltd. with offices at 120 Hawkwood Hill N.W., Calgary, Alberta;
- 2. I am a graduate of the University of British Columbia with a B.Sc. degree in Geology (1974) and I have practised my profession continuously since graduation;
- 3. I have worked in the field of mineral exploration since 1965;
- 4. I am a member in good standing of the Association of Professional Engineers, Geologists, and Geophysicists of Alberta;
- 5. I personally participated in and supervised the work described in this report.

Respectfully submitted,

(J/P. Geol.

SUMMARY

During February and March, 1987, CanAmerica Precious Metals Inc. conducted a shallow, first tier 15 hole - 2,513' (766 metres) drilling program to investigate promising structures and surface assays at the "E" and "F" zones at the company's Manitou Lakes gold property in Kenora Mining Division, northwestern Ontario.

Drilling at the "E" zone has delineated a 5m to 8m thick quartz-pyrite stringer stockwork/breccia zone over a strike length of approximately 350m, containing potentially economic grades over potentially mineable widths. Utilizing different variables, drill indicated and inferred tonnages and grades at the "E" zone range from 143,685 tonnes grading 5.21g(0.167 oz) per tonne to 529,650 tonnes grading 3.20g(.103 oz) per tonne, indicating between 25,000 and 50,000 ounces of contained gold in a wide zone at shallow depth. The deposit is open along strike and at depth and promises, with further definition drilling, to develop into a significant new gold deposit in northwestern Ontario.

INTRODUCTION

Location and Access

The claims are situated in the Manitou Lakes area, Kenora Mining Division, Ontario, and occupy portions of claim map area G-2683 (Lower Manitou Lake), G-2572 (Boyer Lake), and G-2584 (Harper Lake) in N.T.S. map area 52-F-7.

Winter access into the area from Highway 502 is via a 5km long skidoo trail into the settlement of Gold Rock. The trail leaves Highway #502 approximately 50km south of Dryden, Ontario. Summer access is via float plane or by boat from Cedar Narrows, approximately 80km to the south. The skidoo trail into Gold Rock is passable using ATC's but is not suitable for hauling boats.

Ownership, Claims

The following list of claims constitute the "Manitou Lakes Property" and are currently registered in the name of CanAmerica Precious Metals Inc. in accordance with the terms of an option-joint venture agreement with Cochrane Oil & Gas Ltd., of Calgary, Alberta.

Previous Work

Previous work consisted of a trenching and blasting program carried out by CanAmerica prior to the herein described drilling program. Assays from this work ranged up to 0.437 oz/ton and indicated potentially economic grades of 4.1g (0.132 oz)/tonne over widths of up to 7.5m at the "E" zone, providing sufficient encouragement for the ensuing drill program.

1987 Drilling Program

A total of 766m (2,513') of thin wall NDB core (56mm diameter) was drilled in 15 short holes during February and March 1987. Of these, 14 holes were drilled to investigate the potentially economic gold values at the "E" zone and one hole was drilled to check "interesting" surface assays at the nearby subparallel "F" zone. Drill core assays are very encouraging and provide justification for a deeper tier of definition drilling.

Schedule "A" is comprised of the Mineral Claims which follow:

SCHEDULE "A"

<u>Claim</u>	No.	No. of	Units	Expiry Date
696001 - 005 696014 - 027 696030 - 033 687446 - 456 687458 - 461 687462 - 475 687476 - 479 687437 - 439 687441 - 444 687340 - 341 687345 - 347 687349 - 350 687398	Inclusive	5 14 4 11 4 14 4 3 4 2 3 2	(Giant Claims)	March 17, 1987 March 9, 1987

53	53 D	3 53 0	53 D/I	5 53 D/16	53 C/13	53 C 14	E3.0/11F			53 B/14	53 8/15	53 B/16	53 A/13	53 A/14	53 A/15	53 A/16	43 D/13	43 D/14 /8	430/15	43 0/16
		83	83	.72	53 0:12	53 0/11	53 C/15	53 C/16 /7 53 C/9	53 B/13 27 53 B/12	53 8/11	53 B/10	53 B/9	53 A/12	53 A/11	53 A/10	53 A/9	43 0/12	43 0/11	43 0/10	43 D/9
	53 D 5	53 D/6	83 53 D, 7	530'8	53 C/5	53 C/6	53 C/7	53 C/8	53 B/5	53 B/6		53 8/8	53 A/5	53 A/6	53 A 7	53 A/B	43 0/5	43 D/6	43 0/1	43 B/8
	53 0/4 83	1		53 0/1	53 C/4	53 C/3	53 C/2	53 C/1	53 B/4	77. 53 B/3	53 B/2	53 B/I	53 A/4	53 A/3	53 A/2	53 A/1	43 0/4	43 0/3	43 0/2	43 0/1
52"	52 M/13		52 M/1	73 /2 52 M/16	52 N/13	52 N/14	52 N/15	52 N/16	52-0/13	7/ 52-0/14	72 52-0/15	52-0/16	52 P/13	52 P/14 B	52 P/15	52 P/16	42 M/1	3 42 M/1	42 M/15	
	52 M/12	52 M/11	52 M/10	76/ 76/ 52 M/9	0 7 6 52 N/12	52 N/11			76 CAT LAN 52-0/12		52·0/10	52-0/9	52 P/12	52 P/11		52 P/9		12 42 M/1 82	82 42 M/10	-
	52 M/5	52 M/6	52 M/7	52 M/8	52 N/5	52 N/6	86 52 N/7	52 N/8	76 52·0/5	52-0/6	52:0/7	52-0/8	5 8: CKLE 1 AKE 52 P/5	52 P/6	52 P/7	52 P/8	42 M	75 42 M	82	
10	52 M/4	52 M/3	52 M/2	52 M/I	52 N/4	52 N/3	86 52 N/2	76. 52 N/1	76 52-0/4	52·0/3	OSNABURGH 52-0/2	HOUSE 52:0/1	52 P/4	52 P/3	52 P/2	52 P/	1 42 1 82	82 42 N	1/3 42 M	
	52 L/13	52 L/13	521/15		52 K/13	52 K/14	76 75 52 K/15	52 K/16	76 52 I/13	52 1/14	52]/15	52 3/16	52-1/13		4 52-1/1	5 52-1/	16 42 1	L/13 421		
	52 L/12	52 L/11	52 L/10	52 L/9	52 K/12	52 K/11	52 K/10	75 52 K/9	⁷⁵ 52 1/12	52 J/11	52 1/10	52 1/9	52-1/1	2 52 1/1	52-1/	76 52-1	/9 42 /6	L/12 42	3	17
8	\$2 L/5 POINTE 4	32 4	52 L/7	52 L/8	52 K/5	52 K/6	75 52 K/7	52 K/8	52 J/5	52 1/6	52 1/7	52 1/8	52-1/5	5 52-1/ RMSTR	52-1	7 52 81 C	1/8 4	81	81 NAK	1NA - 421/2 421/2
١٩	72 L/4 4WA 76	5 2 L/3	52 L/2	52 L/1	52 K/4	52 K/3	52 K/2	52 K/1 HUDSON•	52 J/4 SioUx 10	52 J/3	52 1/2	14 NT 14 KE 52 3/1	52-1/	4 52-1 B1	13 50	/2 52	1/1 80	80	81	B1/
	12 E/13	52 E/14	52 E/15 KEEWATIN	52 E/16 •KENORA 78	VERMILION & 52 F/13	742 F/14	\$2 F/15 DRYDEN	59 8/16	52 6/13	78 52 G/14 VALURA	52 6/15	52 6/19		13 52 H	1974	Kelvin	111	79	GERALDIO .	10NGLAC- 42E
		AUGH 52 E/11 (-	52 ±/10	92 E/9	92 F/12	52 F/11		52 F/9	52 G/12	52 6/11	52 G/10	52 G/5	9 52 H			H/10	2 H/9	EARDMORE	79	79 42 E/T 42
	52 E/S	52 E/8	42 th	52 E/6	82 f/5	\$2 F/6	52 3/1	\$2 F/8	52 6/5	52 G/6	52 G/1	52 6 /	8 52 i	1/5 52	H/6 \$7	M/7 79 79	SŽ 11/8	42 E/5	42 E/6	42 5/2 0 4
77	SPRAGUE ::	52 E/3	52.E/2	52 E/1 Morson	52 F/4 /8	521/3	52 F/2	52 F/1	52 6/4	77 52 G/3	52 G/	79 ·UPSALA	19 52	H/4 52		MPIG	\$2 H/1 ON 79 CK (42 E/4 79	to	42 0/15
			52 D/15	52 D/16	52 C/13 79	62 C/14	52 C/15 50 °C	52 C/16	52 8/13		52 B/1	SAVANNE* 5, 52 8/	16 . 52 / 79 RAITH	A/13 (,52	A/14 5		82 A/16		42 0/14 SCHREIBER 79 STATE 42 B/91	Pic 42 0/10
			i i Revi	52 D/9 80	52 /C 12	1	JE C/10	52 C/9	52 B/12	Level Lynn		79 < 52 B	79	79	2 A/11	52 A/10 7/3	58 AV 75	42 0/12	72.07.17	78
ļ							52 C/7	52,£/0 =	\$2 B/5	52 17	52 B	7 .52 I	79 80	THUNDER 1	BAY BO	52 A/7 hunder	52 A/8	<u> </u>		+
L									52 8/4	52 3/1		1 100	B/1_ 5 PIG	2 A/4 FON RIVER	5 × 1/3			<u> </u>	J	

)	Claim No.	No. of Units	Expiry Date
	- 406 Inclusive	5	March 9, 1987
687412		1	March 9, 1987
	- 419 Inclusive	3	March 9, 1987
	- 434 Inclusive	2	March 9, 1987
	- 498 Inclusive	2	March 9, 1987
	- 501 Inclusive	2	March 9, 1987
687554	- 555 Inclusive	1 3 2 2 2 2 2 5	March 9, 1987
687561	- 565 Inclusive	5	March 9, 1987
687570	- 579 Inclusive less!	571,572,	
		575 10	March 9, 1987
745120	- 123 Inclusive	4	January 12,1988
810528		ĺ	January 23,1989
810537		1	January 23,1989
	- 561 Inclusive	1 4	January 23,1989
	- 353 Inclusive	ż	March 9, 1987
687359			March 9, 1987
	- 373 Inclusive	1 5 4	March 9, 1987
	- 384 Inclusive	ž	March 9, 1987
	- 391 Inclusive	4	
687410		1	March 9, 1987
		1	March 9, 1987
687414		1	March 9, 1987
Total (Claims	134	

REGIONAL GEOLOGY

Archean volcanic and sedimentary stratigraphy in the Manitou Lakes area is typical of the greenstone belts of Wabigoon Subprovince. In broad terms, a lower mafic volcanic unit is succeeded by a sequence of intermediate to felsic flows and related tuffs, which is in turn overlain by a package of clastic and chemical metasediments consisting of conglomerate, sandstone, siltstone-argillite, chert, and derived schists. In some areas there is evidence of a younger mafic volcanic unit capping the metasediments. These 'upper' mafic volcanics are probably related to numerous late stage gabbroic intrusions which occur as small stocks and elongated dykes or sills.

These rocks have been folded, faulted, and metamorphosed to green schist facies metamorphic grade, and are preserved in a northwesterly to easterly trending synclinorium herein referred to as the Manitou Lakes Synclinorium. This volcanic 'trough' is bounded on the southeast by the Irene-Eltrut Lakes batholithic complex and on the northwest by the Atikwa

batholitic complex. Felsic metavolcanics and metasediments occur along the core of the synclinorium and are flanked by broad belts of mafic volcanics.

Major schist zones related to folding and faulting parallel the trend of the synclinorium. These zones of weakness have been the focus of late stage (Kenoran) felsic dyking, further transcurrent faulting, and have acted as conduits for hydrothermal fluids which have produced intense hydrothermal alteration. Gold deposits in the Manitou Lakes area are closely related to these major structures.

The schist zones may be the result of penetrative deformation fabrics along major isoclinal (?) fold axes and/or may have been produced by transcurrent and vertical movements along a "mobile" zone separating the major crystal blocks represented by the Atikwa and Irene-Eltrut Lakes batholithic complexes.

PROPERTY GEOLOGY

The geology of the Manitou Lakes Property has been described in detail by the writer in an earlier report dated November, 1985.

The "E" and "F" zones are located on a 1 km wide peninsula which separates Manitou Straits from the main body of Upper Manitou Lake. The peninsula is underlain by a northeasterly striking, southeasterly dipping sequence of interbedded mafic and intermediate flows and tuffs. These rocks lie in the southeasterly limb of the Manitou anticline and trend directly into correlative and equivalent lithologies in the Gold Rock camp, two kilometres to the north, which host the Big Master and Laurentian mines, two of the Kenora Mining Division's three former producing gold mines.

ECONOMIC GEOLOGY

"E" Zone

First pass mapping and sampling of the "E" zone in 1985 returned assays of up to 4.1g (0.132 oz)/tonne from a silicified quartz-pyrite

stringer stockwork zone. Subsequent trenching, blasting, and bulk sampling returned weighted average assays of approximately 4g (0.13 oz)/tonne over a width of 7.47m (24.5') from three trenches spaced over a 50m strike length along the zone (Figure 3). These very encouraging results provided justification for the ensuing 766m (2,513') first tier diamond drilling program of 15 shallow holes (Figure 4) carried out during February and March, 1987.

The "E" zone is a 5m to 8m wide, northeasterly striking, steeply southeasterly dipping (approximate attitude 0450/70SE) intensely silicified stringer stockwork zone developed subconcordantly in a dacitic lapilli tuff to tuff breccia unit. An early generation of silicification has obliterated the fragmental volcanic textures and the resulting altered rock is an aphanitic to fine-grained, dark to light grey or buff colored completely recrystallized zone. The silicified zone exhibits relatively sharp contacts with an outer envelope of chloritic alteration and shearing which varies from a few metres to tens of metres in thickness, and is characterized by intense foliation, the development of chlorite, recrystallization, and obliteration of the original fragmental volcanic textures. The effects of chloritization are apparent for several tens of metres from the walls of the silicified stockwork zone but the boundaries of the chloritic envelope are arbitrarily placed at the point where original volcanic textures are first discernible.

The earlier generation of silicification is accompanied by an early set of dark grey or black to light grey narrow quartz stringers or veinlets varying from 0.1mm to 1 or 2cm in width, which dip steeply and strike obliquely across the trend of the main silicified zone. Their approximate attitude is 0160-0200Az/750-850SE, in contrast to the 0450Az/700SE trend of the silicified envelope and enclosing volcanic rocks. The stringers contain variable amounts of fine-grained pyrite and are accommpanied by weak pyritic haloes, giving the earlier silicified stringer zone an overall pyrite content of 0.5% to 3% or 4%. The intensity of development of the stringers varies considerably, sometimes being strongly developed on the hanging wall side of the main zone of silicification (described below) and sometimes being more strongly developed on the footwall side.

Crosscutting and "overprinting" the early generation of silicification and quartz-pyrite stringers is a later stage of quartz-pyrite veining and quartz-pyrite open space fillings which form a distinctive quartz-pyrite vein-stringer stockwork/breccia system accompanied by strong potassic alteration envelopes. Approximately 40%-45% of the early stage of silicification has been replaced by this later material, characterized by milky to translucent quartz veins, stringers and breccia interstice fillings, and fine-grained to very coarse-grained euhedral disseminations and crystalline aggregates of pyrite. An estimated 10%-20% of the later vein- stringer stockwork phase consists of pyrite with about equal proportions of the late stage white quartz and pink colored potassic alteration envelopes. The overall pyrite content observed in the drill core thus rises to 6%-12% in the more heavily veined and pyritized sections of the later stage zone of silicification, veining, and potassic alteration.

The highest gold assays are associated with the late stage quartz-potassium feldspar-pyrite stockwork/breccia, although reported assays do not necessarily show a consistent relationship to pyrite content. Although no native gold was observed in the drill core, the assay laboratory reported seeing minute quantities of -100 mesh native gold in one or two samples. Inasmuch as some samples of drill core assayed as high as 7.84g (.252 oz)/tonne, and virtually identical material (late stage quartz stringer stockwork-breccia) in other samples returned assays in the .02-.09 oz range, it seems likely that gold values are at least partly present in the form of erratically distributed native gold.

"F" Zone

First pass mapping and sampling of the "F" zone in 1985 returned assays of up to 2.53g (.08 oz)/tonne from a sheared and silicified zone containing widely spaced quartz-pyrite stringers. The "F" zone is generally similar to and slightly wider than the "E" zone, but the second stage of

quartz stockwork veining and pyritization is not as strongly developed in the "F" zone. A single drill hole (DDH-87-12) was sited to test the "F" zone and revealed that it is a zone of strong shearing, silicification, and pyritization developed along a faulted contact between intermediate lapilli tuff-tuff breccia and a fine-grained, pillowed, mafic flow unit. The best assays returned were 1.44g (.046 oz)/tonne over a heavily pyritized 2.4m section. Nothwithstanding the above subeconomic assays, the "F" zone is a very strong zone of alteration and faulting, which exhibits generally similar characteristics to the "E" zone and probably has considerable strike length. Surface assays are encouraging and drill core assays indicate gold enrichment in the zone at depth. Additional drilling to investigate the "F" zone at intervals along strike and at greater depths is recommended, because of its close proximity to the potentially economic "E" zone, strength of alteration and fracturing, and the encouraging assays in hand.

Assay Methods, Results

The problems associated with arriving at a meaningful evaluation of high-grade vein type deposits (containing erratically distributed particulate native gold) on the basis of a few drill core assays are well known. The relatively small volume of rock in the drill core sample and the usually much smaller quantity of material actually assayed make it highly improbable, statistically, that the assay will be representative of the overall grade of the vein being investigated. An earlier generation of prospectors and miners understood all too well that it was normally necessary to crush, mill and concentrate several tons of ore and assay the concentrates in their entirety to arrive at a meaningful opinion on the grade of a zone. In a now "classic" study which analyzed and compared exploration and development drill hole assays and the actual grade of slopes subsequently mined during a seventy year production history at the famous Dome Mine at Kirkland Lake, it was noted that only about 20% of the drill hole assays returned grades as high as those subsequently mined in the stopes (Dean Rogers). The statistics were even worse for the stringer type ore zones discovered later on in the course of mining.

In an effort to overcome the widely encountered problems described above, all drill core samples from the herein described drill program were bulk assayed. Drilling was carried out using "NDB" Thinwall rods, which produced a 56mm (2 1/8") nominal diameter core, in order to get as large a core volume as possible at a reasonable cost. Sections of the core to be assayed were then longitudinally split and one half of the split core was submitted to Sando Industries Ltd. (Precious Metals Refiners and Assayers) of Vancouver, B.C. for bulk assay. The entire amount of each sample submitted was crushed and milled to -100 mesh, and then tabled to form a concentrate of all of the heavy minerals contained in a given sample. This entire concentrate was then fire assayed and check assays of the tails were also run. Assays of samples submitted are plotted on the accompanying diamond drill hole cross-sections and the assay reports are appended to this report.

Drill Indicated Tonnages and Grades

Drill indicated and inferred (to 100m) tonnages and grade calculations at the "E" zone, utilizing different variables, are shown on the following pages. Tonnages and grade estimates of the "E" zone range from 143,685 tonnes grading 5.21g(0.167 oz) per tonne to 529,650 tonnes grading 3.20g(.103 oz) per tonne, indicating between 25,000 and 50,000 ounces of contained gold in a wide zone at shallow depth.

TONNAGE CALCULATIONS - Using Highest Grade Intercepts - All Holes

Assay (A)

	Hole	W	I	IXW	oz-Au	IXWXI	
-	11	1.5	27.5	41.25	.09	3.7125	•
	10	2	35	70	.251	17.57	· •
	9	1.5	21.5	32.25	.252	8.127	-1
_	8	1.2	32.5	39	.08	3.12	
	8 7	3	33.5	100.5	.178	17.889	-1-
_	3	.76	22.5	17.1	.05	0.855	
	15		15	30	.144	4.32	_'_
_	1	2 3 2	19	57	.054	3.078	
_	6	2	14	28	.100	2.8	-
	2	2	15.5	31	.124	3.844	1
	4	3.5	26	91	.099	9.009	١
	13	1.5	49	73.5	.191	14.0385	1
	14	1	23	23	.110	2.53	-1
	13	14.96	334	633.6		90.893	
		AXW		90.893	= .14345	approx .	144 oz

Z WXI 663.6

Average Width $\frac{24.96}{13}$ = 1.92m approx 2m; Length = 334

Volume = Width x Length x Depth = $2 \times 334 \times 100 = 66.800 \text{m}^3$

Average Density of Ore:

Quartz: 2.65 x 44% $\frac{2.65 \times 44 + 2.65 \times 44 + 5 \times 12}{100} = \frac{2.93 \text{ or approx.}}{3 \text{ tonnes/m}^3}$

K Feldspar: 2.65 x 44% Pyrite: 5.0 x 12%

Tonnage

 $66.800,^3 \times 3 \text{ tonnes/m}^3 = 200,400 \text{ tonnes grading } 4.451g (.144 oz)/tonnel$

2. Recalculation Omitting Intercepts (and Holes) Assaying < .099

$$\frac{AXWXI}{WXI} = \frac{80.2175}{479.25} = .1674$$

Average Width = $\frac{18.5}{9}$ = 2.056; Length = 232.5

Volume = Width x Length x Depth = $2.06 \times 232.5 \times 100m = 47,895m^3$

Tonnage: $47,895m^3 \times 3 = 143,685 \text{ tonnes grading } 5.21g(.1674 \text{ oz})/tonne$

1. TONNAGE CALCULATIONS - Using Second Highest Grade Intercepts in "Good" Holes Plus Highest Grade Intercepts in "Marginal" Holes

<u>Hole</u>	W	<u> </u>	WXI	Assay "A" oz-Au	<u>IXWXI</u>
11	1.5	27.5	41.25	.09	3.7125
10	3.2	35	112	.178	19.936
9	4	21.5	86	.160	13.76
8	1.2	32.5	39	.08	3.12
7	4	33.5	134	.142	19.028
3	.76	22.5	17.1	.05	0.855
15	3	15	45	.113	5.085
1	3 3 2	19	57	.054	3.078
6	2	14	28	.100	2.8
2	3	15.5	46.5	.107	4.9755
4	5.04	26	131.04	.089	11.66256
13	3	49	147	.149	21.903
14	1	23	23	.110	2.53
	34.7	334	906.89		112.44556
	AXWX	<u>I</u> =	112.4455	<u>6</u> = 0.12	399 approx.

 $\frac{AXWXI}{WXI} = \frac{112.44556}{906.89} = 0.12399 \text{ approx. } 0.124$

Average Width $\frac{34.7}{13}$ = 2.669 approx. 2.7m

Volume = $2.7 \times 334 \times 100 = 90,180 \text{m}^3$

Tonnage: $90,180m^3 \times 3 \text{ tonnes/m}^3 = 270,540 \text{ tonnes grading } 3.86g(.124 \text{ oz})/tonne$

2. Recalculation Omitting Intercepts Assaying < .08

$$\frac{AXWXI}{WXI} = \frac{108.51256}{832.79} = .1303$$

Average Width = $\frac{30.94}{11}$ = 2.8127 approx = 3

Volume = $3 \times 292.5 \times 100 = 87,750 \text{m}^3$

Tonnage: $87,750\text{m}^3 \times \text{tonnes/m}^3 = 263,250 \text{ tonnes grading } 4.05\text{g}(.130\text{oz})/\text{tonne}$

MANITOU LAKES - TONNAGE CALCULATIONS

1. TONNAGE CALCULATIONS - Using Lowest (Third Highest) Grade Intercepts In "Good" Holes Plus Highest Grade Intercepts In "Marginal" Holes

<u>Hole</u>	W	1	WXI	Assay "A' oz-Au	AXWXI
11	1.5	27.5	41.25	.09	3.7125
10	6	35	210	.107	22.47
9	6	21.5	129	.125	16.125
8	1.2	32.5	39	.08	3.12
7	7.3	33.5	244.55	.085	20.78675
3	.76	22.5	17.1	.05	0.855
15	3	15	45	.113	5.085
1	3 3	19	57	.054	3.078
6	3.4	14	47.6	.08	3.808
2	3	15.5	46.5	.107	4.9755
4	5.65	26	146.9	.084	12.3396
13	7.7	49	377.3	.1	37.73
14	1	23	23	.11	2.53
13	49.51	334	1424.2		136.61535
		AX	WXI =	136.61535	= .096 o

$$\frac{AXWXI}{WXI} = \frac{136.61535}{1424.2} = .096 \text{ oz}$$

Average Width
$$\frac{49.51}{13}$$
 = 3.808 approx. 4m

Volume =
$$4 \times 334 \times 100 = 133,600 \text{m}^3$$

Tonnage: $133,600 \text{m}^3 \times 3 \text{ tonnes/m}^3 = 400,800 \text{ tonnes grading } 2.99g(.0960z)/\text{tonne}$

2. Recalculation Omitting Intercepts Assaying < .08

$$\frac{AXWXI}{WXI} = \frac{132.68235}{1350.1} = .0983 \text{ approx. .} 100 \text{ oz}$$

Average Width =
$$\frac{45.75}{11}$$
 = 4.159

Volume =
$$4.159 \times 292.5 \times 100 = 121,653.4$$

Tonnage: 121,653.4 x 3 = $\frac{364,960 \text{ tonnes grading } 3.05/g(.098 \text{ oz})/tonne}{}$

MANITOU LAKES - TONNAGE CALCULATIONS

Calculation Assuming Holes 11, 8, 3, 1, 6, 4 and 14 were "Statistically Poor" Due to Spurious Nugget Effect (i.e. Those Holes are Omitted from Data Set)

1. Highest Grade Intercepts

				Assay (A)	
Hole	W	I	WXI	oz-Au	AXWXI
10	2	62.5	125	.251	31.375
9	1.5	40	60	.252	15.12
7	3	55	165	.178	29.37
15	2	44	88	.144	12.672
2	2	47.5	95	.124	11.78
13	1.5	72	108	.191	20.628
	12	321	641		120.945

$$\frac{\text{AXWXI}}{\text{WXI}} = \frac{120.945}{641} = 0.1887 \text{ approx. } 0.189$$

$$\text{Average Width } \frac{12}{6} = 2\text{m}$$

$$\text{Volume} = 2 \times 321 \times 100 = 64,200\text{m}^3$$

Tonnage: $64,200 \times 3 = \frac{192,600 \text{ tonnes grading } 5.88g(.189oz)/tonne}{}$

2. Second Highest Grade Intercepts

Hole	W	I	WXI	A	AXWXI
10	3.2	62.5	200	.178	35.6
9	4	40	160	.160	25.6
7	4	55	220	.142	31.24
15	3	44	132	.113	14.916
2	3	47.5	142.5	.107	15.2475
13	3	72	216	.149	32.184
6	20.2	321	1070.5		154.7875

$$\frac{\text{AXWXI}}{\text{WXI}} = \frac{154.7875}{1070.5} = .14459 \text{ approx. .145 oz}$$
Average Width = $\frac{20.2}{5} = 3.37$

Tonnage: $3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 3 = \frac{324,531 \text{ tonnes grading } 4.51g(.145oz)/tonne}{3.37 \times 321 \times 100 = 108,177m^3 \times 321 \times 100}$

3. Third Highest or Widest Intercepts

Hole	W	I	WXI	A	AXWXI
10	6	62.5	375	.107	40.125
9	6	40	240	.125	30
7	7.3	55	401.5	.085	34.1275
15	3	44	132	.113	14.916
2	3	47.5	142.5	.107	15.2475
13	7.7	72	554.4	.1	55.44
6	33	321	1845.4		189.856

$$\frac{\text{AXWXI}}{\text{WXI}} = \frac{189.856}{1845.4} = .10288 \text{ approx. .103}$$
Average Width = 33/6 = 5.5

Tonnage=5.5x321x100=175,550m 3 x3 = 529,650 tonnes grading 3.20g(.103 oz/tonne)

CONCLUSIONS AND RECOMMENDATIONS

A shallow, first tier, 15 hole - 2,513' drilling program carried out by CanAmerica Precious Metals Inc. during February and March, 1987 at the company's Manitou Lakes gold property in northwestern Ontario, has delineated a 5m to 8m thick quartz-pyrite stringer stockwork/breccia zone the "E" zone - containing potentially economic grades over potentially mineable widths. Drilling has detailed the "E" zone along a strike length of approximately 350m. Utilizing different variables, drill indicated and inferred tonnages range from 143,685 tonnes grading 5.21g (0.167 oz) per tonne to 529,650 tonnes grading 3.20g (0.103 oz) per tonne, indicating between 25,000 and 50,000 ounces of contained gold at shallow depths in the deposit, which is open along strike and depth. Assay data and drill hole intercepts suggest that the higher grades are associated with en echelon zones of late stage fracturing and quartz-pyrite mineralization "overprinted" on an earlier generation of silicification and sulphide veining, which carries lower grades. Approximately 45% of the zone by volume consists of the higher grade late stage quartz-pyrite stringer stockwork.

The very positive exploration results in hand warrant additional drilling at the "E" and "F" zones. A second phase 5,000' drilling program is recommended. A deeper tier of holes, totalling approximately 4,000' should be drilled to define mineralization in the "E" zone at depth and approximately 1,000' of drilling should be allocated to test the "F" zone. In conjuction with this work, additional trenching and blasting should be carried out to investigate the more than 20 other gold-bearing zones at the property, several of which contain significant gold assays of up to 0.532 oz/ton.

RECOMMENDED BUDGET

Trenching and Blasting 5,000 Diamond Drilling ("E" and "F" zones) @ \$50/foot all inclusive

\$ 50,000

\$250,000

GEOL \$300.000

13

DDH-87-15

-700 @ 3200 AZ

T.D. 150'

0 - 3

Overburden

3 - 52

Chloritic Alteration Envelope

Strongly sheared, recrystallized, dark green chloritized zone (Note: DDH collared in chloritic alteration envelope), brecciated, rotated breccia fragments; original volcanic textures obliterated; foliated at 30°-25° to DDH axis.

52 - 55

HW Silicified Alteration/Stringer Zone

Light greyish-green, fine-grained completely recrystallized zone of early stage silicification cut by numerous (1/1") late stage quartz-pyrite stringers; 2-3% total pyrite mainly as fine-to medium-grained euhedral crystals and crystalline aggregates in the stringers.

55 - 65

Quartz-K-Feldspar-Pyrite Stringer Stockwork/Breccia Zone

Total 20% late stage white quartz stringers and veinlets in places forming a matrix to pinkish strongly potassic altered breccia fragments; 6-8% total pyrite as fgr to cgr euhedral crystals and crystalline aggregates in white quartz and disseminated throughout the zone; 8-12% total py from 59-65.

65 - 66.5

Silicified Septum or "Horse"

Similar to 52-55; 5-10% late stage white quartz in stringers (1/1"); total 2-4% pyrite.

66.5 - 69.5

Silicified Stringer Zone

Similar to 65-66.5, but stronger stringers, pyritization; 10-15% total late stage white quartz; 3-6% total pyrite.

69.5 - 72.5

Quartz-K-Feldspar-Pyrite Vein-Stringer Stockwork/ Breccia Zone

Similar to 55-65; approx. 50% total late stage white quartz in stringers and veinlets; 6-8% total fgr-cgr euhedral pyrite in crystals and crystalline aggregates, plus disseminations in "wallrock" to stringers and veins.

72.5 - 87

Footwall Silicified Alteration Zone

Similar to 52-55, but with low stringer density (1/4"); total 2-3% pyrite as smears on sercitic hairline fractures cutting core at 45° to DDH axis.

87 - 92

Footwall Chloritic Alteration Zone

Similar to 3-52; well foliated at 25° to DDH axis; sharp contact at 25° to DDH axis.

92 - 150

Intermediate Lapilli Tuff - Lithic Tuff

Still strongly chloritized near silicified zone; volcanic texture first visible at 92'; leucocratic light to medium greenish-grey and greyish-green flattened lapilli to lithic sized rhyodocitic fragments in a darker green fine-grained matrix; fragments are elongated in a plane at 20-25° to DDH axis.

E.O.H.

DDH-87-14 -550 @ 3200 AZ T.D. 163'

0 - 6 <u>Overburden</u>

6 - 105 Intermediate Lapilli Tuff - Lithic Tuff

Total 20-40% lapilli-lithic sized fragments, leucocratic, light to medium greyish-green and greenish grey, flattened, elongated at 40° to DDH axis in a darker green fine-grained chloritic matrix.

105 - 110 HW Chloritic Alteration Zone

Strongly sheared, recrystallized, chloritized hanging wall alteration zone foliation (shearing) at 60° to DDH axis.

110 - 121 Silicified Alteration/Stringer Zone

Light greyish-green, fine-grained completely recrystallized zone of early stage silicification, refractured and cut by later white quartz stringer-dark silica stringer stockwork;

110-117: low stringer density (1/2 or 3");

117-120: good stringer density (2 or 3/1") and well pyritized: 3-5% total py compared to 2% pyrite in low stringer density zones;

121-124 <u>Chloritized-Silicified "Horse" or Septum</u>

Narrow, strongly sheared chloritic silicified zone - low stringer density, low sulphide content.

124 - 125.5 Quartz-K Feldspar-Pyrite Stringer/Vein Stockwork Zone

50% late stage white quartz in a network of stringers (1/32"-3") and veinlets with strong pinkish potassic alteration envelopes; 6% total pyrite as fine-grained to very coarse grained crystals and crystalline aggregates in the white quartz, and as disseminations in the pink wallrocks.

125.5 - 128 Silicified, Chloritized Sep

Silicified, Chloritized Septum or "Horse"
Similar to 121-124.

128 - 134.5 Silicified Stringer Zone

Similar to 110-121; abundant narrow (1/32"-1/4") late quartz-pyrite stringers (1/2"), well pyritized with approximately 3-5% total pyrite.

134.5 - 138.5

FW Silicified Alteration Zone

Similar to 128-134.5 but lower stringer density (1/5") 2-3% total pyrite in stringers and as smears or coatings on hairline fracture planes.

138.5 - 143

Footwall Chloritic Alteration Zone

Similar to 105-110; sheared, weakly recrystallized, chloritized contact zone; volcanic textures obliterated.

143 - 163

Intermediate Lapilli Tuff - Lithic Tuff

Similar to Section 6-105; Foliation at 40° to DDH axis.

E.O.H.

DDH-87-13

-550 @ 2900 AZ

T.D. 123'

0 - 6

Overburden

6 - 72

Intermediate Lapilli Tuff - Lithic Tuff

20-40% leucocratic, light-medium greenish-grey and greyish-green dacitic(?) clasts in a darker greyish-green matrix; clasts are flattened, elongated; foliation at 450 to DDH axis.

72 - 74

Quartz-K Feldspar-Pyrite Stringer Zone

24" wide zone of strong quartz stringers (2-3/1") with strong pink potassic alteration envelopes; 2-4% total pyrite, mainly as fine-grained to coarse-grained euhedral crystals in the stringers plus finer-grained disseminated euhedral pyrite in the "wallrock" to the stringers; contact is very sharp, without the usual chloritic and silicic alteration zones.

74 - 75.5

Silicified Alteration Zone

Narrow "horse" of early stage recrystallized, silicified rock with a relatively low density (1/4") of narrow (1/32"-1/4") dark and white late-stage quartz stringers, approx. 2% total pyrite in the stringers.

75.5 - 94.5

Quartz - K Feldspar-Pyrite Stringer Zone

Approx. 15% late stage white quartz in stringers (1/32"-1/2"); stringer density 1/1"; strong salmon-pink potassic alteration envelopes around stringers; 3-5% total pyrite, mainly as fine-grained to coarse-grained euhedral crystals and crystalline aggregates; stringers mainly at 50° to DDH axis.

94.5 - 100.5

Quartz-K Feldspar-Pyrite Stringer Stockwork/Breccia Zone

25% total late-stage white quartz in a network of stringers and veinlets 1/16" to 3-4" cutting core at $50^{\circ}-60^{\circ}$ to DDH axis; strong potassic (K feldspar?) alteration envelopes giving the core an overall pinkish color; 8% total pyrite mainly as fine-grained to coarse-grained crystals and crystalline aggregates in the quartz stringers.

100.5 - 101

FW Silicified Zone

Dark grey fine-grained to glassy or cherty looking transitional silicified zone; sharp contact at 400 to DDH axis.

101 - 108

Footwall Chloritized Zone

Strongly sheared, recrystallized, chloritized alteration zone; volcanic textures obliterated.

108 - 123

Intermediate Lapilli Tuff - Lithic Tuff

Similar to section 6-72; foliation at 400 to DDH axis.

E.O.H.

SE SE

LEGEND

CZ CHLORITIZED ALTERATION ZONE

SZ SILICIFIED ALTERATION ZONE

SSZ SILICIFIED QUARTZ - PYRITE STRINGER ZONE

QKP QUARTZ - K FELDSPAR - PYRITE
VEIN-STRINGER STOCKWORK/BRECCIA

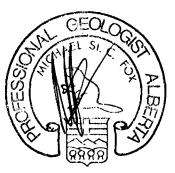
2a, b INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCH

IA MAFIC FLOW

nun FAULT

改造 STRONG SHEARING 7.84g(2520z)/1.5m : AU ASSAT

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



THE WEST CONTRACTOR

CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-15

PLANE OF DDH CROSS SECTION 320° Az.

SCALE: 1:200	NTS 52-F-7
JUNE,1987	
	FIGURE No. 19



LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE SZ

SILICIFIED QUARTZ-PYRITE STRINGER ZONE SSZ

QUARTZ - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA RKP

INTERMEDIATE (DACITIC) LAPILLI TUFF TO TUFF BRECENA

20,5

MAFIC FLOW la

FAULT $\mu\nu$ STRONG SHEARING 出公公

7.849(.25202)/1.5m : AU ASSAT

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

SE

MANITOU LAKES PROJECT

DDH-87-13

PLANE OF DDH CROSS SECTION 290° Az.

SCALE: 1:200	NTS 52-F-7
JUNE,1987	
	FIGURE No. 17

DDH-87-12

-550 @ 2900 AZ

T.D. 208'

0 - 8

Overburden

8 - 56

Intermediate Lapilli Tuff - Lithic Tuff

10-20% total clastics; leucocratic light to mediumgrey to darker medium greyish-green flattened, elongated, lapilli to lithic sized fragments in a darker green chloritic matrix; foliation at 35-400 to DDH axis; 18-34: a few quartz-carbonate stringers.

56 - 63

Hanging Wall Chloritic Alteration Zone

Weakly recrystallized, sheared, and chloritized alteration zone; primary volcanic textures obliterated 60-63.

63 - 90.5

Silicified Quarzt-K Feldspar-Pyrite Stringer Stockwork Zone

63-67: Light greyish-green completely recrystallized early stage of silicification cut by occasional narrow (1/32"-1/8") dark and white late quartz-py stringers; low stringer density (1/16"); total pyrite: 2% assocwith quartz stringers.

67-71: Stringer zone; similar to 63-67 but stringer density is 1/3"; approx 3-5% total pyrite associated with stringers, minor disseminated py.

71-73.5: Similar to 63-67; low stringer density; 2% py.

73.5-90.5: Quartz-K-Feldspar-Pyrite Stringer Stockwork Zone. Abundant late-stage white quartz stringer network, with strong salmon-pink potassic (K-feldspar) alteration envelopes; total pyrite 3-5% including section 76-86 containing 8-10% coarse-grained disseminated euhedral pyrite in a hard yellowish-green silicified matrix of low stringer density.

90.5 - 151.5

Fault Zone

Sheared, brecciated, partly recrystallized, chloritized zone of mixed slices of Unit 2a, b (Intermediate Lapilli-Lithic Tuff) and Unit 1a (Mafic Flow); shearing, foliation are particularly strong from 148-151.5 which contains also a number of quartz-carbonate veinlets (barren of sulphides).

151.5 - 208

(1a) Mafic Flow

Fine-grained to medium-grained dark green mafic flow containing 20%-40% very dark green mafic grains in a somewhat lighter colored, dark green matrix, occasional quartz-carbonate stringers.

8E

LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE SZ

SILICIFIED QUARTZ-PYRITE STRINGER ZONE SSZ

QUARTE - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA RKP

INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCHA 20,6

la MAFIC FLOW

nnn

FAULT 出出出 STRONG SHEARING

7.84g(.2520z)/1.5m : AU ASSAY

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)

GEOLO Ro

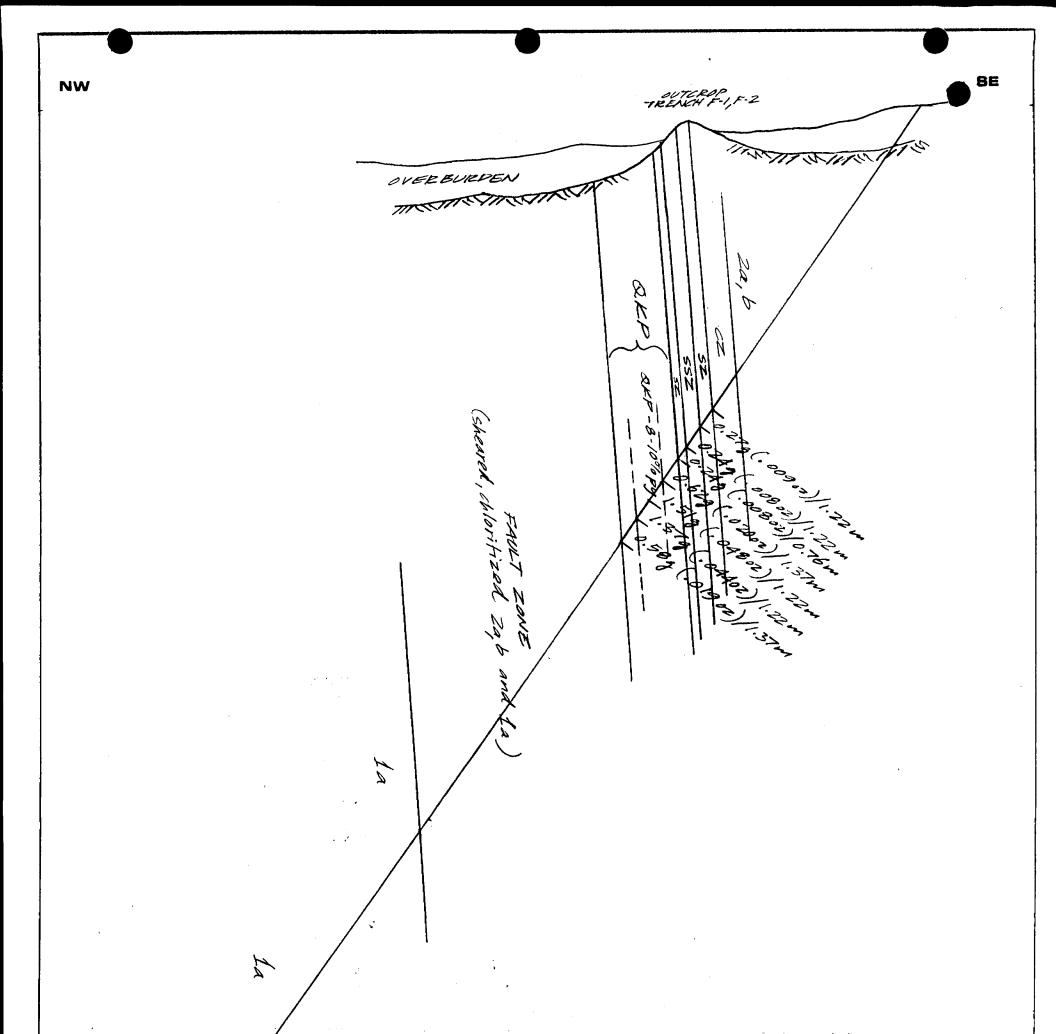
CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-14

PLANE OF DOH CROSS SECTION 320° Az.

SCALE: 1:200 NTS 52-F-7 JUNE, 1987 FIGURE No. 18



LEGEND

CZ CHLORITIZED ALTERATION ZONE

SZ SILICIFIED ALTERATION ZONE

SSZ SILICIFIED QUARTZ-PYRITE STRINGER ZONE

AKP VEIN-STRINGER STOCKWORK/BRECCIA

2a,b INTERMEDIATE (OACITIC)
LAPILLI TUFF TO TUFF BRECCH

IA MAFIC FLOW

トルル FAULT 協協 STRONG SHEARING

7.849(.25202)/1.5m : AU ASSAT

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)

GEOLOGIO

CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-12

PLANE OF DDH CROSS SECTION 290° Az.

ESU AZ.	
SCALE: 1:200	NTS 52-F-7
JUNE,1987	
	FIGURE No. 16

DDH-87-11

-550 @ 2841 AZ

T.D. 183'

0 - 32

Overburden

33 - 133

Intermediate to Felsic Lapilli Tuff to Lithic Tuff

Light greenish-grey fine-grained lapilli sized fragments elongated at 50° to DDH axis constitute 20 - 40% of section by volume, probably of dacitic composition, in a medium to dark green chlorite-rich matrix.

75-133: larger fragmentals, dominantly a lithic tuff.

75-112: fragmentals are larger diameter (1/4" to 4") and of a buff-pinkish color with pinkish reaction rims; probably of rhyolitic composition; fragments are elongated with sometimes tapering, sometimes broken or wispy, resorbed ends; fragments contain approximately 10-12% chloritized mafics aligned parallel to plane of fragment elongation; strong foliation throughout section 33-133.

133 - 138.5

HW Chloritic Envelope

Dark green, fine to medium-grained well foliated chloritic alteration envelope; original volcanic (fragmental) texture obliterated by recrystallization, chloritization.

138.5 - 148

HW Silicified Alteration Envelope

Light greenish-grey fine-grained early stage of silicification overprinted with numerous white quartz-pyrite stringers with strong K-feldspar alteration envelopes, giving an overall pinkish-buff appearance to the section; approximately 6% total py in xfgr to vfgr euhedral "dustings", fgr-cgr crystalline aggregates or blebs in white quartz filled hairline fracture and stringers 1/32" - 1" thick; stringer density: 2/1", cross cutting at 500-550 to DDH axis.

148 - 153

<u>Quartz - K Feldspar - Pyrite Vein/Stockwork/Breccia</u> Zone

Approximately 15% total late-stage white quartz in 1/32" to 1" stringers dominantly at 50° to DDH axis but with numerous offsets along later white quartz stringers at 10° - 30° to DDH axis, giving overall brecciated appearance; "breccia" fragments are glassy

salmon pink, strongly K-feldspar altered, with subordinate bands, streaks, and patches of earlier light greenish-grey stage of silicification; approximately 6-10% total py as disseminations, fgr-cgr euhedral crystalline aggregates and blebs in the quartz stringers, and as discrete euhedral grains in the altered breccia fragments.

153 - 161

FW Silicified Alteration Envelope

Aphanitic to fine-grained pinkish buff to light greenish grey silicified zone with a lower stringer density (1/3") and lower total sulphide content (3%) but otherwise similar to the HW silicified envelope; occurrence of sulphides (pyrite) generally restricted to hairline fractures and white quartz stringers; silicified matrix is extensively recrystallized, but low in disseminated sulphides approximately 0.5%.

161 - 168

FW Chloritic Envelope

Atypically (?) narrow zone of intense chloritization with volcanic fragments first visible at 162'; contact effects quickly diminish and dark green recrystallized and foliated "speckled" chloritized zone grades into relatively fresh fragmental texture at 168.

168 - 183

Intermediate to Felsic Lapilli Tuff - Lithic Tuff

Light grey lapilli to lithic size fragments, elongated at approximately 450 to DDH axis constitute 10-40% by volume of core; larger fragments are fine-grained, contain 10-12% chloritized mafics aligned parallel to plane of elongation of fragments; occasional qtz stringers and veinlets are present, 1/32" to 4" thick, sometimes with a ptygmatic or "injection" texture; 0.5-1% disseminated fgr euhedral py overall.

130.5 - 137.5

FW Silicified Alteration Zone

Light greenish grey to dun colored recrystallized silicified alteration zone; abundant dark-colored hairline chloritic "slips" (1/2") and lower density of late-stage white quartz stringers (1/6"); estimated 2% total pyrite, mainly along fracture planes; very low percentage (<0.5%) of disseminated pyrite.

137.5 - 145

FW Chloritic Alteration Zone

Similar to 108-111, weak chloritization, recrystallization, volcanic textures still visible.

145 - 149

<u>Intermediate Lapilli Tuff - Lithic Tuff</u>

Similar to 13-108; foliated at 400 to DDH axis.

E.O.H.



8E OVERBURDEN The medical party

LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE SZ

SILICIFIED QUARTE - PYRITE SSZ STRINGER ZONE

QUARTZ - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA RKP

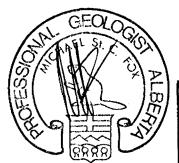
INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCHA 20,5

MAFIC FLOW la

FAULT $\mu\nu\mu$

STRONG SHEARING **BASS**

7.849(.2520z)/1.5m : AU ASSAT GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-11

PLANE OF DDH CROSS SECTION 284° Az.

SCALE: 1:200	NTS 52-F-7
JUNE, 1987	
	FIGURE No. 15

DDH-87-10

-550 @ 3260 AZ

T.D. 149'

0 - 13

Overburden

13 - 108

Intermediate Lapilli Tuff - Lithic Tuff

20-50% by volume total clastics, leucocratic light to medium grey and greyish green, elongated at 30° to DDH axis; set in a dark green chloritic matrix; overall composition of fragments: dacitic-rhyodocitic; matrix: andesitic(?)

108 - 111

HW Chloritic Alteration Zone

Weak recrystallization effects apparent, with a little stronger foliation and chloritization close in to the contact with the silicified zone; volcanic (fragmental) textures still visible.

111 - 120

HW Silicified Envelope or Alteration Zone

Arbitrarily divided (see below) silicified alteration grained. fine recrystallized. to colored: greyish-green dun abundant silica-pyrite stringers (1/1"). Overall by content 3-5%, mainly in stringers but also disseminated in silicified wall rock away from stringers fine-grained to coarse-grained euhedral crystals and crystalline aggregates; this zone distinguished from 'quartz-K feldspar-pyrite" zone only by an absence of late stage white quartz stringers with potassic (K feldspar) alteration envelopes.

120 - 130.5

Quartz - K Feldspar-Pyrite Stringer Stockwork

Approximately 15% total late-stage white quartz as ramifying stringers and veinlets (1/16"-4"), density 1/1" with strong salmon pink potassic (K feldspar) alteration envelopes: total pyrite approximately 5-6%, coarse-grained euhedral crystalline mainly as aggregates in the white quartz but also as very finegrained to medium grained euhedral disseminated crystals in the light greyish-green early generation of silicified wallrock and in the salmon pink later potassic alteration; fine-grained to medium-grained euhedral pyrite crystals are also present in abundance along hairline fracture planes and in narrow, latestage white quartz stringers; overall development of the stockwork zone in this drill hole intersection is weak in comparision to DDH-87-09; white quartz stringers and veinlets intersect DDH axis at 550-700; sercitic, pyritized fracture planes intersect core at 450-500 to DDH axis, with the same sense of dip as the quartz stringers/veinlets; 123-124: "lean" zone.

SE

THE WALL THE WAY 188 255

OVERBURDEN

LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE 5Z

SILICIFIED QUARTZ-PYRITE STRINGER ZONE SSZ

QUARTE - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA RKP

INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCIA

20,6

MAFIC FLOW la

nnn FAULT

STRONG SHEARING BAR

7.849(25202)/1.5m : AU ASSAT GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-10

PLANE OF DDH CROSS SECTION 326° Az.

SCALE: 1:200	NTS 52-F-7
JUNE, 1987	
	FIGURE No. 14

DDH-87-09

-550 @ 3000 AZ

T.D. 152.5'

0 - 9

Overburden

9 - 100

Intermediate Lapilli Tuff - Lithic Tuff

10-30% lapilli-lithic sized light to medium greenish grey dacitic fragments, elongated at 300-450 to DDH axis, in a darker green fine-grained matrix.

100 - 111

HW Chloritic Alteration Zone

Recrystallization evident, strongly chloritized matrix, volcanic fragmental textures blurred, but discernible; occasional minor (<0.5%) euhedral pyrite grains.

111 - 112

Quartz-K-Feldspar-Pyrite Stringer Stockwork/Breccia

Approximately 20-25% total late-stage white quartz in stringers and veinlets 1/4" to 2" thick oriented mainly at 600-650 to DDH axis, but also crosscut at approximately 550 by other related white quartz stringers; strong pinkish potassic or K-feldspar alteration of breccia fragments; approx. 5% total py as fine-grained to coarse-grained euhedral crystals and crystalline aggregates in white quartz, and also as extremely fine-grained to medium-grained fracture controlled disseminations in the pinkish breccia fragments.

112 - 114

Silicified Alteration Zone

Light to medium greyish-green aphanitic to fine grained low stringer density silicified zone; only 1-2% pyrite present on fracture planes of infrequent (1/6") narrow stringers which cut core at 500 and 700 DDH axis.

114 - 130

Quartz-K Feldspar-Pyrite Stringer Stockwork/Breccia

Approximately 20-25% total late-stage white quartz stringers and veinlets (1/16"-2" thick) predominantly at 500 to DDH axis, but cut by other, related, intersecting white quartz stringers/veinlets at 50°. forming an overall patchy white quartz-pyrite matrix to salmon pink intensely potassium (K feldspar?) altered brecia fragments; 8-10% total pyrite, mainly coarse-grained euhedral crystals and crystalline aggregates in the white quartz, but also as extremely fine-grained to medium- grained euhedral and disseminations in the breccia "dustings" fragments; "lean" zone-approx. 2-3% py, lower vein/ 119-121:

stringer density.

130 - 130.5

FW Silicified Alteration Zone

Narrow, sharp transitional zone from main stringer stockwork/breccia to chloritized footwall; medium to dark green aphanitic, cherty-looking to very fine-grained recrystallized and silicified zone; 1% total pyrite.

130.5 - 138.5

FW Chloritized Alteration Zone

Strongly chloritized, well-foliated (300-400 to DDH axis) dark green recrystallized zone; volcanic texture (fragmentals) blurred, but still discernible.

138.5 - 152.5

Intermediate Laplli Tuff - Lithic Tuff

Similar to section 9'-10'; mainly leucocratic medium greyish-green lithic fragments (10-30% by volume) in a darker green chloritic matrix; foliation at $30^{\circ}-40^{\circ}$ to DDH axis.



OVERBURGEN

LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE SZ

SILICIFIED QUARTZ - PYRITE SSZ STRINGER ZONE

QUARTZ - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA RKP

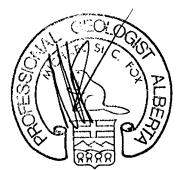
INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCHA 2a, b

MAFIC FLOW la

FAULT nnn

STRONG SHEARING BAR

7.84g(.2520z)/1.5m : AU ASSAY GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

8E

MANITOU LAKES PROJECT

DDH-87-09

PLANE OF DDH CROSS SECTION 300° Az.

SCALE: 1:200 NTS 52-F-7 JUNE, 1987 FIGURE No. 13

DDH-87-08

-550 @ 2980 AZ

T.D. 238'

0 - 9

Overburden

9 - 102

Lapilli Tuff - Lithic Intermediate Tuff

Light to medium greyish-green lapilli to lithic size fragments elongated at 50° to DDH axis constituting 10-40% of the rock by volume, set in a dark to medium green chlorite-rich matrix.

102 - 114

HW Chloritic Alteration Zone

Chloritic alteration zone not well defined; a little more strongly foliated matrix; volcanic (fragmental) textures visible; foliation at 45° to DDH axis; fracturing at 70° to DDH axis.

114 - 116

HW Silicified Alteration Zone

Distinguished from main stringer stockwork zone only by a lower stringer density; light greyish-green or dun color overall; vfgr to fgr; contains 3-5% total pyrite in mgr-cgr euhedral crystalline aggregates in late stage white quartz stringers 1/16" - 1/4" thick which cut core at 70° to DDH axis and also as smears and films on abundant hairline chloritic fracture planes which intersect core at 50° to DDH axis.

116 - 120

Quartz - K Feldspar-Pyrite Stringer Stockwork Zone

15-20% total late-stage white quartz in abundant stringers (2/1") 1/16"-3/4" cutting core at random angles; accompanied by approximately 6% total pyrite as fine-grained to coarse-grained euhedral crystals and crystalline aggregates in the stringers, also disseminated as vfgr dustings and euhedral grains; overall color is a light greyish-green not dissimilar to 114-116; potassic or K feldspar alteration is not strong, and is limited to narrow envelopes along a few of the stringers; generally speaking, the stringer stockwork zone in this hole is not as strongly developed as in DDH-87-09.

120 - 139

FW Silicified Alteration Zone

Similar to section 114-116, but much more strongly fractured and cut by numerous stringers ranging from hairline thickness to white quartz veinlets 2" (125.5') to 4" (127.5') in thickness; stringer frequency 2/1"; total pyrite, approximately 3-4% as

fine-grained to coarse-grained euhedral crystals and crystalline aggregates in the stringers, and also as very fine-grained disseminated dustings to fgr and mgr euhedral grains; overall light greyish-green color; some quite coarse-grained pyrite crystals in the quartz veinlets.

139 - 150

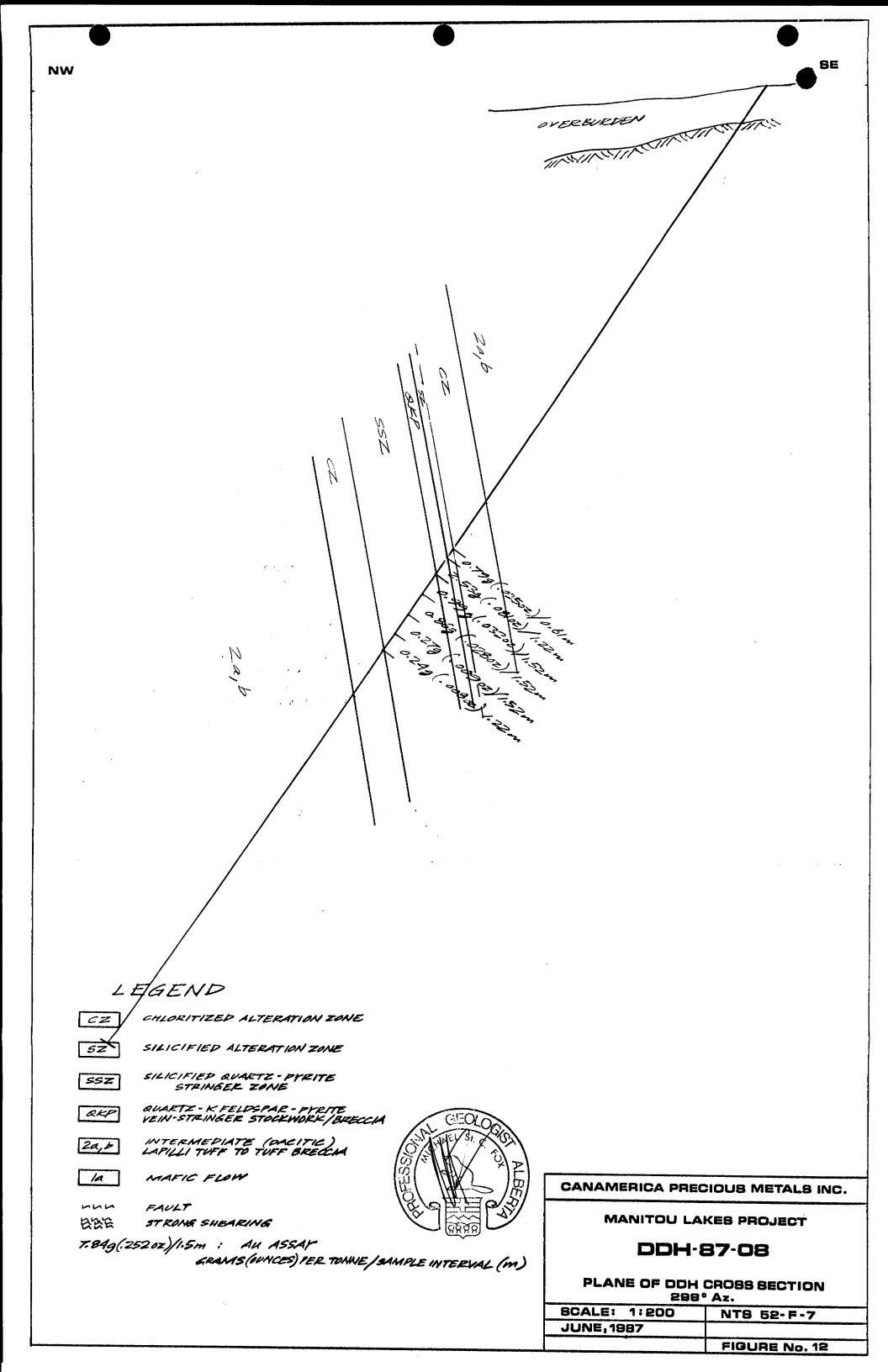
FW Chloritic Alteration Zone

Similar to 102-114, not-well-defined, although recrystalization is strong enough between 139-144 to obliterate original volcanic textures; contact with silicified zone is sharp, at 50° to DDH axis; foliation in chloritized zone is at 45° to DDH axis; chlor. effects absent by 150° .

150 - 238

Intermediate Lapilli Tuff - Lithic Tuff Breccia

Similar to section 9-102, but a little lighter-colored matrix, and foliated at $30^{\circ}-45^{\circ}$ to DDH axis (plane of elongation of fragments).



DDH-87-07

-550 @ 3100 AZ

T.D. 153'

0 - 7

Overburden

7 - 78

Intermediate Lapilli Tuff - Lithic Tuff

Predominantly lapilli size fragments comprising 10-30% total rock by volume; fragments and matrix are similar medium-green color resulting in more vaguely defined clast boundaries than usual; clasts are of probable original dacitic composition in a dacitic-andesitic chlorite-rich matrix; foliation is at 350-400 to DDH axis.

78 - 90

HW Zone-Chloritic Alteration Envelope

Not-well-defined chloritic alteration envelope in Hanging Wall; shearing, recrystallization not too intense, original fragmental volcanic texture still defined, although more vague than 7-78; matrix a little darker green, indicating more intense chloritization.

90 - 91

HW Zone- Silicified Alteration Envelope

Narrower than usual silicified contact, which probably should be included with the 91-105 section, as the distinction is arbitrary and based on an approximate boundary between low and high stringer density zones; - aphanitic to fine grained medium to light grey, low sulphide (<1%) zone; transitional into weakly developed quartz-K feldspar-pyrite stringer stockwork zone; well foliated at 50° to DDH axis.

91 - 105

Quartz-K-Feldspar-Pyrite Stringer Stockwork Zone

Approximately 15-20% total white quartz in late stage stringers and veinlets (1/1") mainly at 50° to DDH axis, but themselves crosscut at almost 90° by an even later stage of white quartz stringers at 45° to DDH axis; large (5-10mm) crystalline euhedral aggregates of pyrite common at these white quartz stringer intersections, also as rims along white qtz stringers; also present as fine "dustings" and euhedral xfgr-medium grained grains; white quartz stringers crosscut an aphanitic to fgr light greyish green silicified matrix and exhibit narrow salmon pink K-feldspar alteration selvages; 4-6% total pyrite; overall stockwork zone is not as strongly developed as in DDH No. 3 or DDH No. 10 101-103: "lean" zone, fewer stringers, less pyrite;

103-105: a little more pyrite.

105 - 114

FW Zone - Silicified Alteration Envelope

Similar to 91-105, but dominantly very fine grained light greyish green with a lower overall density of stringers and sulphides; stringer density (1/3"); total py approximately 3-5%; a little more abundant pyrite from 111-114; fracturing, hairline to 1/16" thick white quartz stringers, and K-feldspar alteration also stronger 111-114.

114 - 130

FW Chloritized Zone

Dark green chloritized zone, foliation at 40° to DDH axis; 0.5% fgr-mgr euhedral py in occassional fracture controlled disseminations; volcanic (fragmental) texture blurred, but still discernible.

130 - 153

Intermediate Lapilli Tuff-Lithic Tuff

Similar to section 7-78, well foliated at 35° to DDH axis; light to medium greenish-grey predominantly lapilli size elongated fragments in a dark to medium green chloritic matrix.

OVERBURDEN

LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE SZ

SILICIFIED QUARTZ-PYRITE STRINGER ZONE SSZ

QUARTZ - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA QKP

INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCH

20,0

la MAFIC FLOW

FAULT nnn STRONG SHEARING

战战法 7.84g(.2520z)/1.5m : AU ASSAY

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-07

PLANE OF DDH CROSS SECTION 310° Az.

SCALE: 1:200 NTS 52-F-7 JUNE, 1987 FIGURE No. 11 67 - 73

Quartz-K Feldspar - Pyrite Vein/Stockwork/Breccia Zone

Similar to 64-66; a little more quartz, perhaps 50% total white qtz; a little less py; approximately 4%-5%.

73 - 84

HW Zone Silicified Alteration Envelope

Similar to 56.5-64 and 66-68; abundant hairline fracs and stringers to 1/8" (dark silica-py); total py approximately 4-6%; hairline fracs at 45° to DDH axis and stringers at $15-30^{\circ}$ to DDH axis.

84 - 104

HW Zone Chloritic Alteration Envelope

84-93.5: well foliated, banded, dark to medium green fissile zone; foliation at 40° to DDH axis.
93.5-97: cgr, recrystallized speckled texture; dark green chloritized mafics 1-2mm diam; approximately 30% total volume.
97-104: fgr-mgr incipiently chloritized speckled zone; approximately 20% chloritized mafics 0.5-1mm diam. in medium greyish green matrix; no volcanic textures apparent.

DDH-87-06

-450 @ 1080AZ

T.D. 104'

Drilled Log

0 - 10

Overburden

10 - 52

Intermediate Lapilli Tuff to Tuff Breccia

Fairly typical, but generally smaller lapilli size fragments predominate, elongated at 45-50° to DDH axis; leucocratic light grey to medium grey fgr rhyodacitic elongated lapilli in a medium greyish green dacitic (?) matrix.

52 - 56.5

FW Zone-Chloritic Alteration Envelope

Soft (scored by rods, bit) medium to dark green, fissile chloritized zone, foliation at 30° to DDH axis, approximate py < 1%.

56.5 - 64

FW Zone- Silicified Alteration Envelope

Aphanitic to fgr light to medium grey recrystallized intensely silicified zone; abundant dark silica-py hairline fracs and stringers to 1/4", 1 every 3-4" or even 1/1"; not too much diss py apparent; overall py approximately 3-4%

64 - 66

<u>Quartz-K-Feldspar - Py Vein/Stringer/Stockwork/Breccia</u> Zone

Approximately 15% total white quartz in late stage narrow 1/8"-1/2" stringers cutting at $25-30^\circ$ to DDH axis with glassy pinkish Si > K feldspar envelopes 1/32"-1" wide giving this section a mixed greyish green (aphanitic to fgr silic bx frags) and glassy pinkish appearance; abundant cgr py as ragged blebs and crystalline aggregates plus cgr discrete grains along white qtz stringers and as abundant dustings and disseminations in pinkish Si-K alt. envelopes and silicified breccia fragments approximately 6% total py.

66 - 67

Silicified Breccia Block or "Horse"

Similar to 56.5 - 64; aphanitic to fgr light-grey intensely silicified zone cut by dark silica-py and white qtz stringers (1/1") approximately 4-5% total py.

NW

OVEREURUEN

BUTCROP

LEGEND

CZ CHLORITIZED ALTERATION ZONE

SZ SILICIFIED ALTERATION ZONE

SSZ SILICIFIED QUARTZ-PYZITE
STRINGER ZONE

QKP QUARTE - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA

2a,b INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCH

.....

IA MAFIC FLOW

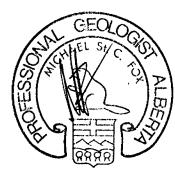
FAULT

nnn

总设备 STRONG SHEARING

7.849(25202)/1.5m; AU ASSAF

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-06

PLANE OF DDH CROSS SECTION 108° Az.

IUG AZ.			
BCALE: 1:200	NTS 52-F-7		
JUNE,1987			
	FIGURE No. 10		

DDH-87-05

-550 @ 2860 AZ

T.D. 283'

NOTE:

Hole missed mineralized zone because it was collared to intersect an assumed strike of $016-018^{\circ}$ Az; stringers and veins in zone do strike 016-018/70-72 SE, but overall zone strikes $0\overline{45}-050/70-90$ SE, so hole was collared in overburden above mineralized zone and drilled over the zone.

NOTE:

Sequence of holes drilled was 1,2,5.

0 - 18

Overburden

18 - 47.5

Intermediate Lapilli Tuff to Tuff Breccia

Typical lapilli to boulder sized leucocratic fgr rhyodacitic-rhyolitic fragmentals aligned/elongated at 50° to DDH axis; tapered to ragged broken ends; set in a light to medium greyish green dacitic matrix.

47.5 - 74.5

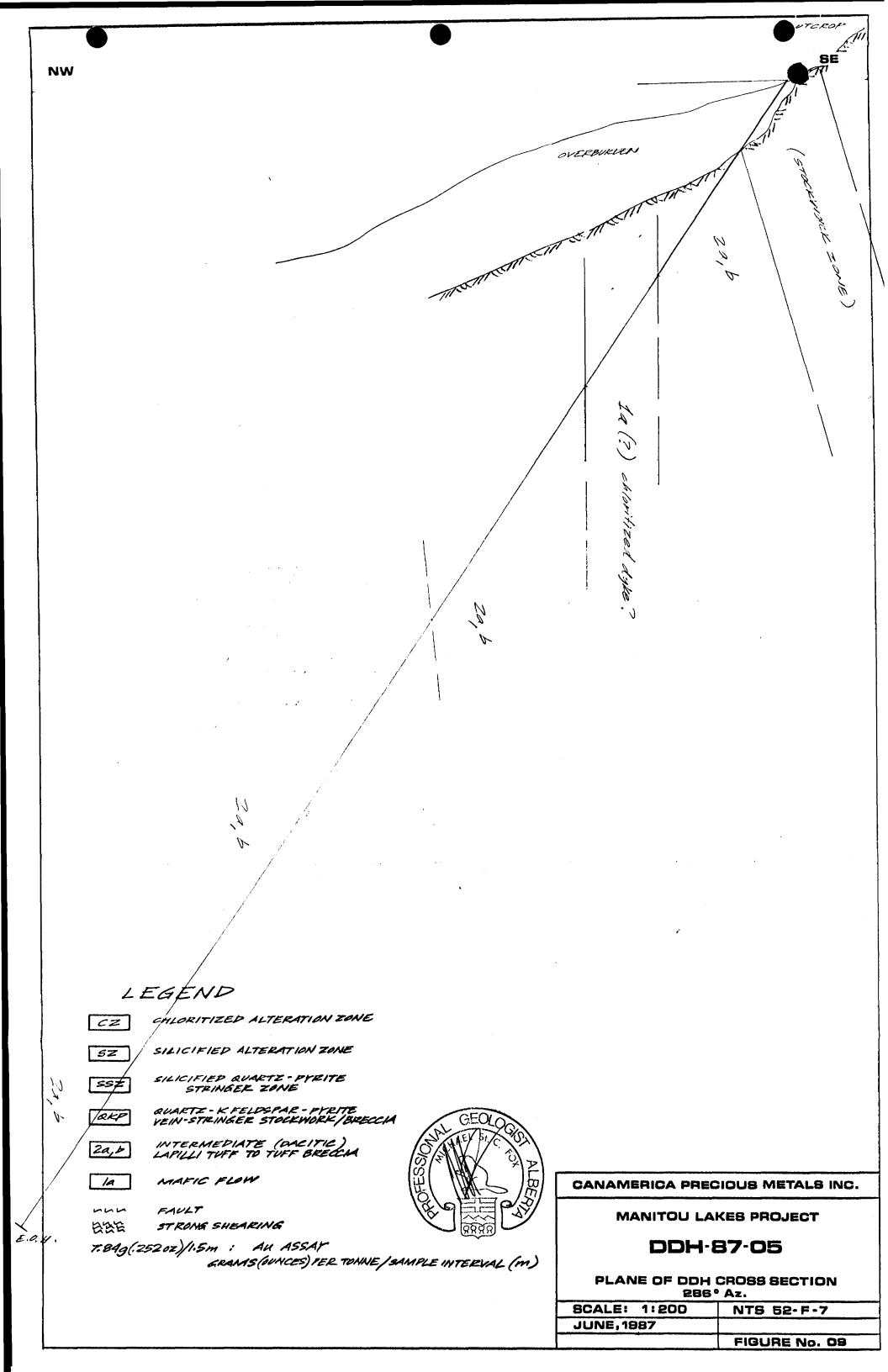
Chloritized Shear/Fault Zone

Broad envelope of chloritic alteration/recrystallization, not strongly foliated; 1-2mm diam dark green chloritized mafics (20-30% by volume) in a lighter greyish green fgr matrix give the incipiently chloritized zone an overall speckled appearance. 48-55: a few qtz and qtz-K-spar stringers. 67.75-68.25: 6" rotten, oxidized, crumbly qtz.

74.5 - 283

Intermediate Lapilli Tuff to Tuff Breccia

Similar to 18-47.5; fragments elongated at 50° to DDH axis.



and stringers (1/32"-3/16") at 40-45° to DDH axis which cross cut at approximately 90° and offset in a left lateral sense an earlier stage of white quartz-py stringers of similar dimensions which are at 10-20° to DDH axis; overall sulphide content 6-8% as xfgr to mgr euhedral dustings and disseminations plus fgr to cgr euhedral aggregates, blebs or discrete grains along qtz-py stringers.

103 - 110.5

<u>Quartz-K-Feldspar-Pyrite Vein/Stockwork-Breccia Zone</u>

Similar to 92-100; approximately 25% total late stage white quartz stringers and veins forming matrix to breccia fragments composed of approximately 50-50 K-feldspar alt. and silicification giving more of a siliceous glassy pinkish appearance than section 92-100; sulphide mineralization also stronger with approximately 8% total py as vfgr to mgr euhedral disseminations and cgr ragged blebs or crystalline agglomerates or large euhedral grains (to 1/8").

110.5 - 118

HW Zone Silicified Alteration Envelope

110.5-112.5: medium greyish green fgr to aphanitic re- crystallized and silicified zone similar to 103-108, but lower sulphide content, probably < 2% total py 112.5-118: At 112.5 there is a rapid transition into a dark greyish-green "chilled" or cherty siliceous- "chilled" envelope with narrow 1/8" white qtz-py stringers approximately 1 per 6" which have leucocratic, greyish green silicified envelopes 1"-2" thick, giving a banded appearance to the core; total py content approximately 3-4%.

118 - 122

HW Zone-Chloritic Alteration Envelope

Medium to dark green fine-grained, fissile, recrystallized chloritic zone with abundant narrow (1/16"-1/8") white quartz and dark silica stringers at $20-30^{\circ}$ to DDH axis; stringers do not carry noticeable sulphides; total py content approximately 1-2% or less; no volcanic textures.

122 - 128

Intermediate Lapilli Tuff to Tuff Breccia

Similar to 11-80; original volcanic textures first apparent at 122, but chloritization and alignment of chloritized mafics apparent to EOH.

DDH-87-04

-450 @ 1060AZ

T.D. 128'

0 - 11

Overburden

11 - 80

Intermediate Lapilli Tuff-Tuff Breccia

Lapilli to boulder size leucocratic medium to light grey vfgr to fgr elongated clasts with sometimes tapering, sometimes broken, ragged ends of probable rhyodacitic to rhyolitic composition in a fgr light to medium greyish green matrix of dacitic composition.

80 - 89

FW Zone-Chloritic Alteration Envelope

Strongly foliated and chloritized fgr dark green banded zone with chloritized mafics aligned along planes of schistosity at 30° - 35° to DDH axis; abundant qtz stringers 1/16" at 25° to DDH axis (2/1") with occasional cgr euhedral aggregates, blebs, or grains of py visible in stringers or in host rock; 86-89 fissility replaced by speckled recrystallized equigranular texture (similar to 47-52.5 in DDH-87-02).

89 - 91

FW Zone-Silicified Alteration Envelope

89-90.5 is a well mineralized banded zone of dark silica-py stringers 1/32"-1/8" (3 or 4/1") with buff to pinkish buff alteration envelopes, cut at 90° by barren white quartz stringers (1/3"); overall py content approximately 5-6% including streaks and stringers and disseminated grains, plus crystalline aggregates of fgr to cgr euhedral dull yellow pryite; 90.5-91.0 is more typical FW silicified envelope, with fewer stringers and lower overall sulphide content.

91 - 100

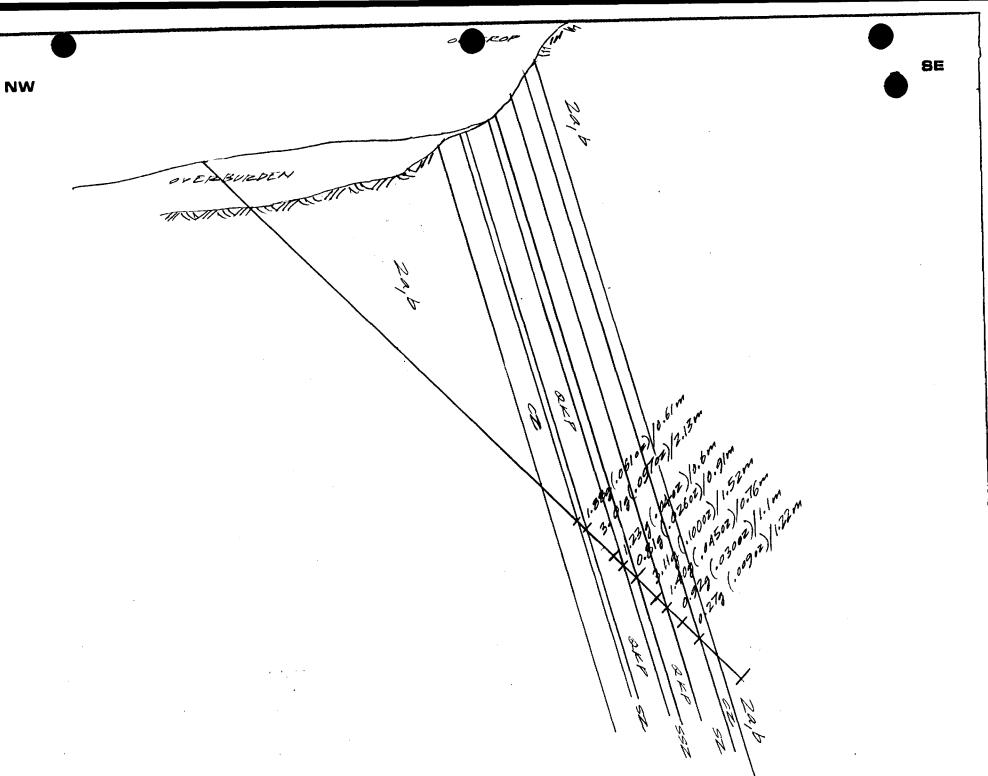
Quartz-K Feldspar-Pyrite Vein/Stockwork/Breccia Zone

Approximately 25/% total white quartz as veins, stringers, fracture fillings in an intensely K-feld-spar altered pinkish buff to salmon pink breccia fragment/block matrix; sulphides occur as ragged blebs or fgr crystalline aggregates and as cgr euhedral aggregates or individual grains; zone appears low, only 3-4% total sulphide content; 98-100: "lean" zone, not as many stringers, approx. 1% py.

100 - 103

Silicified Zone

Medium grey aphanitic to fgr intensely silicified zone; well pyritized with abundant xfgr to mgr disseminated py and dark silica-py hairline fractures



LEGEND

CZ CHLORITIZED ALTERATION ZONE

SZ SILICIFIED ALTERATION ZONE

SSZ SILICIFIED QUARTZ-PYRITE STRINGER ZONE

OKP QUARTY - K FELDSPAR - PYRITE
VEIN-STRINGER STOCKWORK/BRECCIA

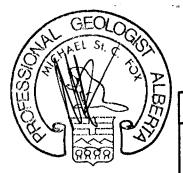
2a, b INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECEM

IA MATIC FLOW

NUN FAULT

长公告 STRONG SHEARING

T.84g(2520z)/1.5m; AU ASSAY GRANS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-04

PLANE OF DDH CROSS SECTION 106° Az.

SCALE: 1:200	NTS 52-F-7
JUNE,1987	
	FIGURE No. 08

58.5 - 61

HW Zone-Silicified Alteration Envelope

Aphanitic to fgr pinkish buff silicified zone with qtz-py stringers (1/2") and approximately 4-5% total py as smears, coatings on hair line fracture planes; 1/32-1/8" thick qtz-py stringers, also py occurs as xfg - vfgr dissemina- tions through altered matrix.

61 -73

HW Zone Chloritic Alteration Envelope

61-63 - "Momentary" rapid transition into 2' zone where fragmental texture is recognizable, but quickly grades into fissile zone of strong chloritic alteration, recrystallization and alignment of chloritized mafics at 30° to DDH axis; similar to 33-38 FW chloritic envelope.

73 - 173

Intermediate Lapilli - Lithic Tuff

Similar to 3-33.

DDH-87-03

-450 0 1080A7

T.D. 173'

0 - 3

Overburden

3 - 33

Intermediate Tuff Breccia

Lapilli to boulder size leucocratic light to medium grev for - mor fragmentals of rhyodacitic to rhyolitic composition in a medium greyish green for matrix of probable dacitic comp.; elongated fragmentals are aligned at 450 to DDH axis.

33 - 38

FW Zone-Chloritic Alteration Envelope

Sheared, foliated, chloritized dark green FW zone in pyroclastic are obliterated: textures schistosity at 40° to DDH axis.

38 - 43.5

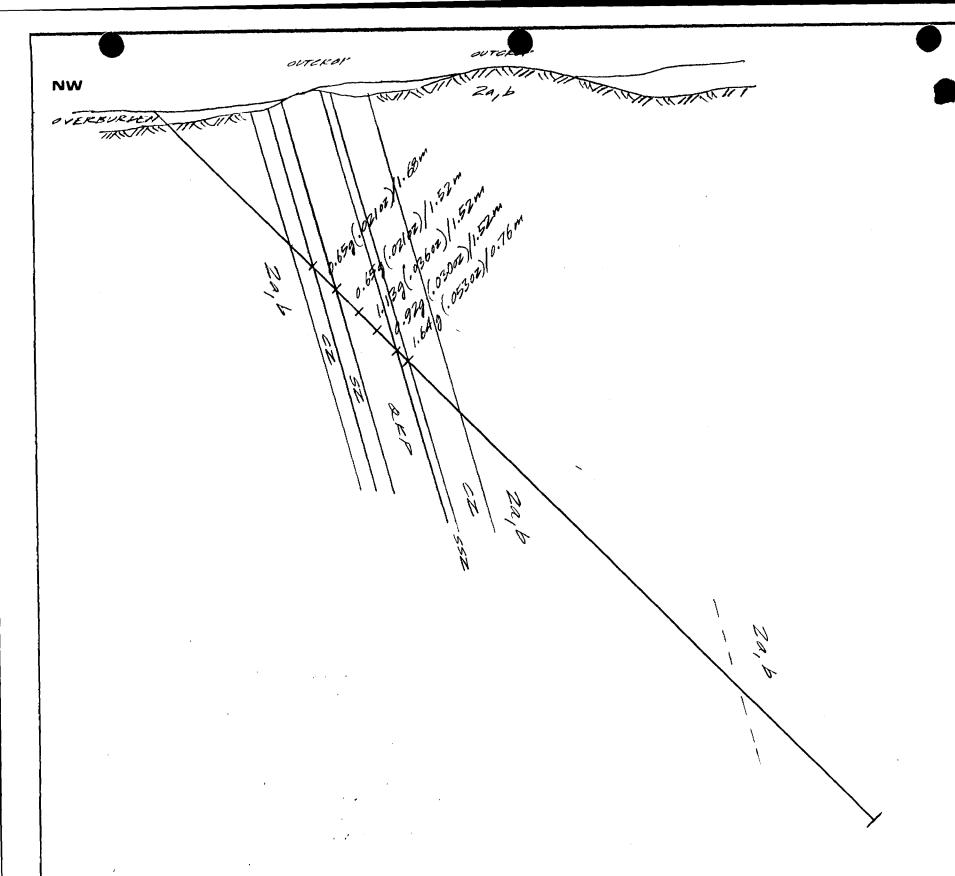
FW Zone-Silicified Alteration Envelope

Chloritic envelope grades into an increasingly siliceous FW alteration envelope producing a color change from dark green to banded dark green and light greenish grey to an aphanitic light greenish grey near the vein/breccia contact; an increasing frequency of qtz-py stringers (1/12") is present as well as one 3" thick band of salmon pink K feldspar alteration at 40.5' with a 1/16" thick sulphide stringer core and late stage white quartz-filled cross fractures which cut the K-feldspar zone; overall sulphide content of this zone appears low, approximately 2-3% py; a 2" thick greenish sericite-pyrite band marks the contact with the main qtz-K feldspar-py vein/ stockwork/ breccia zone at 43.5; the sericite band contains 10-15% mgr to cgr py in seams, bands, blebs, and disseminated grains.

43.5 - 58.5

Main Quartz-K Feldspar-Pyrite Vein/Stockwork/Breccia

25% total late stage white quartz as veins, stringers, open space fillings in a stockwork/breccia zone carrying approximately 8-10% pyrite as fgr dustings, blebs, streaks, stringers, crystalline aggregates and discrete cgr individual grains; the matrix is a salmon pink to buff colored intensely K feldspar altered zone K-feldspathized material with salmon pink predominating over buff colored intensely silicified breccia fragments and blocks; occasional minor patches of wispy epidote; qtz-py stringers intersect DDH axis at 20-350 and are cut by another set of qtz stringers themselves at 450; (second set @ 300 to DDH axis).



LEGEND

CZ CHLORITIZED ALTERATION ZONE

52 SILICIFIED ALTERATION ZONE

SSZ SILICIFIED QUARTZ - PYZITE STRINGER ZONE

QKP QUARTZ - K FELDSPAR - PYRITE
VEIN-STRINGER STOCKWORK/BRECCIA

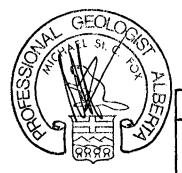
2a,b INTERMEDIATE (DACITIC)
LAPILLI TUFF TO TUFF BRECCH

TA MATIC FLOW

いいい FAULT 松松谷 STRONG SHEARING

7.849(25202)/1.5m : AU ASSAT

GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)



CANAMERICA PRECIOUS METALS INC.

88

MANITOU LAKES PROJECT

DDH-87-03

PLANE OF DDH CROSS SECTION 108° Az.

SCALE: 1:200	NTS 52-F-7
JUNE,1987	
	FIGURE No. 07

Fault Zone

Sheared chloritized fault gouge/breccia resembling a "Horse" of soft, medium green to drk green fissile, sheared chloritized material, abundant narrow (1/16") qtz stringers (3 or 4/12") but no sulphides except for occasional isolated large euhedral crystals up to 1/8" which occur in the more strongly sheared and chloritized edges of the fault breccia fragments, accounting for approximately 1-1 1/2% total py content of zone; alternating 3"-8" silica bands 63-65.5; 68-72: darker green, more chlorite, silica bands absent but numerous small qtz stringers present.

72 - 76.5

FW Zone - Silicified Envelope

Similar to 60.5-63.25; good late stage white quartz/K feldspar envelope stringer density from 74.5-76.5; abundant py as "smears" and coatings on frac planes which cut 0 400 to DDH axis as well as on another frac/stringer set which cuts 0 70° < DDH axis and rakes at about 20° across dip face of first hairline frac set.

76.5 - 93

FW Zone - Chloritized Envelope

Sheared, fissile, strongly chloritized zone forms footwall of silicified quartz-py stringer stockwork/breccia zone; dark green, banded, foliation @ 40° to DDH axis; less than 1% py; original rock textures obliterated.

93 - 104

Transition from chloritized envelope to lapilli tufftuff breccia unit; original fragmental texture gradually becoming better defined.

104 - 155

Intermediate Tuff Breccia

Similar to 6-47; fragments elongated @ 50° to DDH axis.

DDH-87-02

-550 @ 3000AZ

T.D. 155'

0 - 6

Overburden

6 - 47

Intermediate Tuff-Tuff Breccia

Leucocratic light to medium grey rhyodacitic-dacitic fgr lapilli to boulder sized fragments in a darker medium greyish green matrix of probable dacitic to andesitic composition, fragments are oriented at 450 to DDH.

47 - 52.5

HW Zone - Chloritic Alteration Envelope

Recrystallized fgr-mgr dark to medium greyish green chlorite-bearing envelope forming part of HW zone; texture is equigranular, mgr, with chloritized mafics forming a dark green "pseudo porphyrite" texture in a lighter colored groundmass; no pronounced fissility, but fissility increases and alignment of chloritized mafics quite well defined over the interval 50-52.5

52.5 - 54.5

HW Zone - Silicified Stringer Zone

Aphanitic to fgr recrystallized light to medium grenish-grey silicified zone; abundant stringers and silicified hairline fractures approximately 2/1" cutting DDH axis at approximately 400-500: approximately 3% diss xfqr euhedral py disseminated through recrystallized matrix with another approximately 3% mgr to cgr py occurring in second generation fractures sometimes accompanied by white quartz.

54.5 - 60.5

Qtz-Py Vein/Stockwork/Breccia

K approximately equal Si zone approximately 40% total white qtz in late stage fracture and open space or breccia fillings with strong K feldspar alteration salvages, plus streaks and bands of "wispy" epidote approximately 5%-6% total pyrite as fine grained to coarse-grained dustings, disseminations crystalline aggregates, blebs, and euhedral individual grains.

60.5 - 63.25

FW Zone Silicified Envelope

Similar to 52.5 - 54.5

Aphanitic to fgr recrystallized light to medium greenish grey silicified zone; approximately 5% total py as microscopic to xfg disseminations and as "smears" or coatings on numerous hairline to almost invisible annealed fracture planes cutting @ 45-500 to DDH axis; zone differs from 52.5-54.5 in that late stage white quartz-py stringers with pink K-feldspar alteration envelopes are present, accounting for another 1-2% mgr to cgr pyrite.

(TRENCHES E-1, E-2) SE OVERBURDEN MANNEN 20,6

LEGEND

CHLORITIZED ALTERATION ZONE CZ

SILICIFIED ALTERATION ZONE SZ

SILICIFIED QUARTE - PYRITE SSZ STRINGER ZONE

QUARTI - K FELDSPAR - PYRITE VEIN-STRINGER STOCKWORK/BRECCIA RKP

INTERMEDIATE (DACITIC) LAPILLI TUFF TO TUFF BRECCIA 20,5

MAFIC FLOW la

 $\mu\nu$ FAULT

EEE STRONG SHEARING

7.84g(.2520z)/1.5m : AU ASSAY GRAMS (OUNCES) PER TONNE / SAMPLE INTERVAL (M)

GEOLOG

CANAMERICA PRECIOUS METALS INC.

MANITOU LAKES PROJECT

DDH-87-02

PLANE OF DDH CROSS SECTION 300° Az.

SCALE: 1:200	NTS 52-F-7
JUNE, 1987	
	FIGURE No. 06

Page 1

MANITOU LAKES PROJECT

DDH-87-01

-550 0 2900 Az

T.D. 250'

0 - 8

Overburden.

8 - 86

Intermediate Tuff Breccia - Lapilli Tuff

Lapilli to boulder size leucocratic light grey, partially resorbed fragmentals of dacitic-rhyodacitic comp in a medium greyish-green, fine-grained matrix of dacitic composition; stretched felsic fragmentals, leucocratic streaks, bands, intersect core axis at 400.

86 - 104

Mafic Flow or Dyke

Med-coarse grained dark-medium green flow; 0.5% accessory py plus fgr-mgr py in 1/32"-1/2" qtz-carbep-py stringers.

99 - 104 fracs (stringers) increase to approximately 2/1" from approximately 1/6-12".

104 - 140

Chloritized Intermediate Lapilli Tuff - Tuff Breccia

Mixed rhyodacitic and mafic clasts in a darker green more chloritic matrix than 8-86 foliation 400 to DDH axis; chloritization increases towards silicified zone (146-172).

140 - 146

Chloritic Alteration Envelope

Similar to 104-140, but chloritization more intense, volcanic textures obliterated.

146 - 152

Hanging Wall Silicified Stringer Zone, aphanitic to fine-grained recrystallized light to medium greenishgrey, silicified zone; abundant qtz-py stringers 1/32-1/2" approximately 1/1"; 3-8% total py with approximately 3-5% fgr diss. py and coarser grained py as frac fillings accompanying dark silica in hairline fracs 0 550 to DDH axis; approx every 6" the silicified zone and dark silica - py stringers are cut by a later generation of white to milky quartz stringers with pinkish to brownish potassic alteration envelopes 1/16" to 1" thick; approximately 10% by volume of these late stage fracture fillings consists of coarse-grained euhedral pyrite in bands, blebs, streaks, and coarse individual grains in the plane of the late fractures which intersect the hole at 60° -700 to DDH axis.

Quartz-Kspar-Py Vein-Stringer Stockwork/Breccia Zone

Zone of strong late stage milky quartz-pyrite veining, brecciation, with almost complete pink colored K-feldspar alteration of pre-existing silicified zone; approximately 10% fgr to vcgr euhedral pyrite in euhedral crystalline aggregates, dustings, blebs, and individual grains, both in the quartz stringers and disseminated through the K-alteration envelopes.

162.5 - 172

Footwall Silicified Stringer Zone

Aphanitic to fine grained recrystallized light pinkish buff to greyish-green and buff colored zone almost devoid of stockwork/breccia type late-stage white quartz-py mineralization; in contrast to 146-152 (HW), this side of the qtz-kspar-py vein/stockwork/ breccia is buff colored, indicating a pervasive replacement of pre-existing silicification by K feldspar; the zone contains approximately 3-4% total py as microscopic to mgr grains in hairline fractures and in sparse, narrow (1/16"-1/4") second stage white quartz stringers; sulphide rich veinlets (1/4") with weak K feldspar selvages occur at 167.0 and 169.5; color gradually gives way to a recrystallized material which predominates from 170.5 to 172; throughout this section (162.5-172), dark annealed hairline fractures carry vfgr to sulphides (py) with dark silica; the fractures show as thin dark lines against the lighter colored core and have indistinct contacts due to blurring by a later overprinting of alteration/ recrystallization; fracdensity varies from 1/3 or 4" to 3 or 4/1".

172 - 180

Footwall Chloritic Alteration Envelope

Strongly foliated and chloritized zone with abundant "hairline" white quartz stringers, but low in sulphides; original texture not recognizable; foliation at 40° to DDH axis; stringers at 50 to DDH axis.

180 - 192

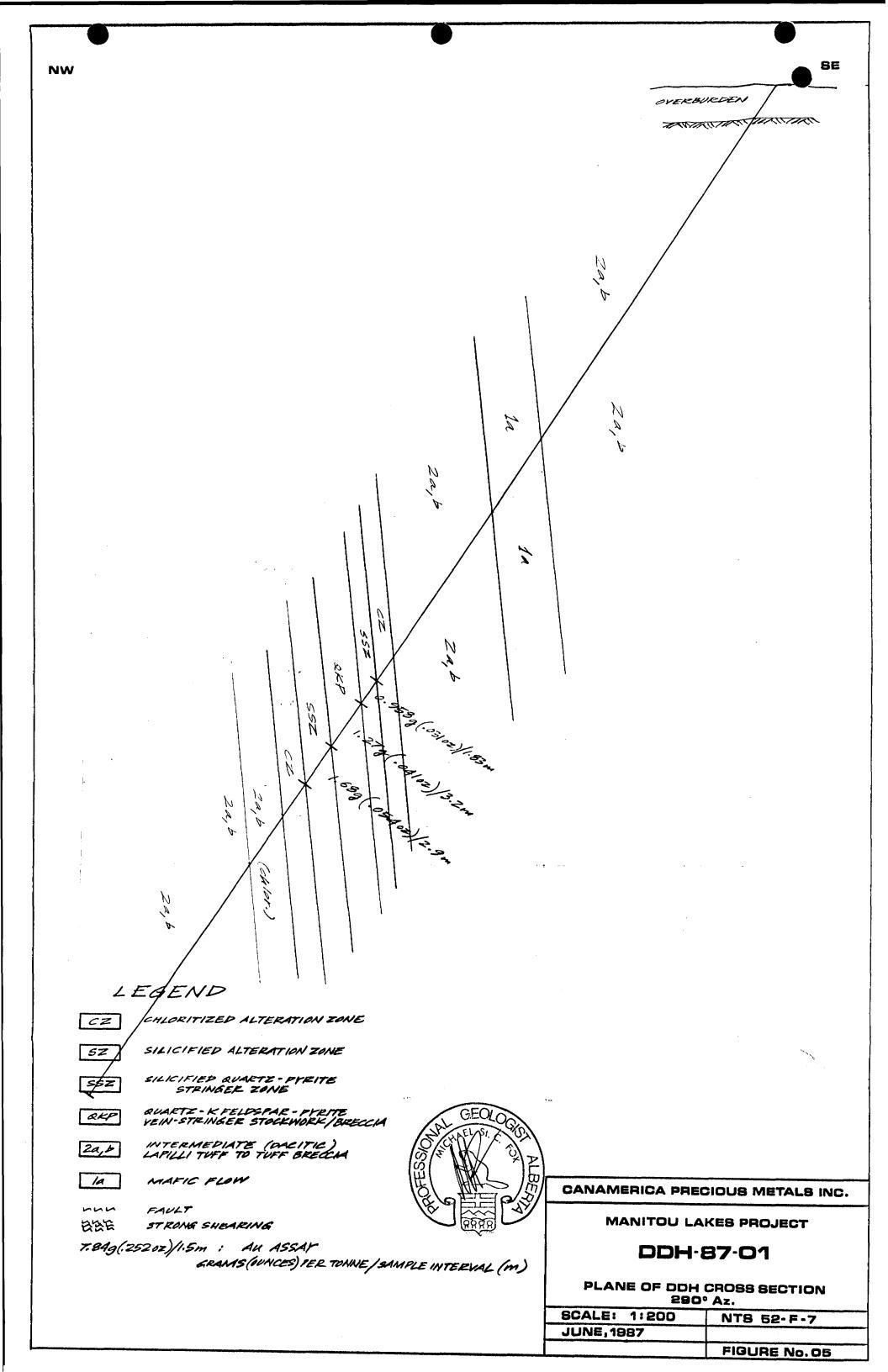
Chloritized Intermediate Tuff Breccia

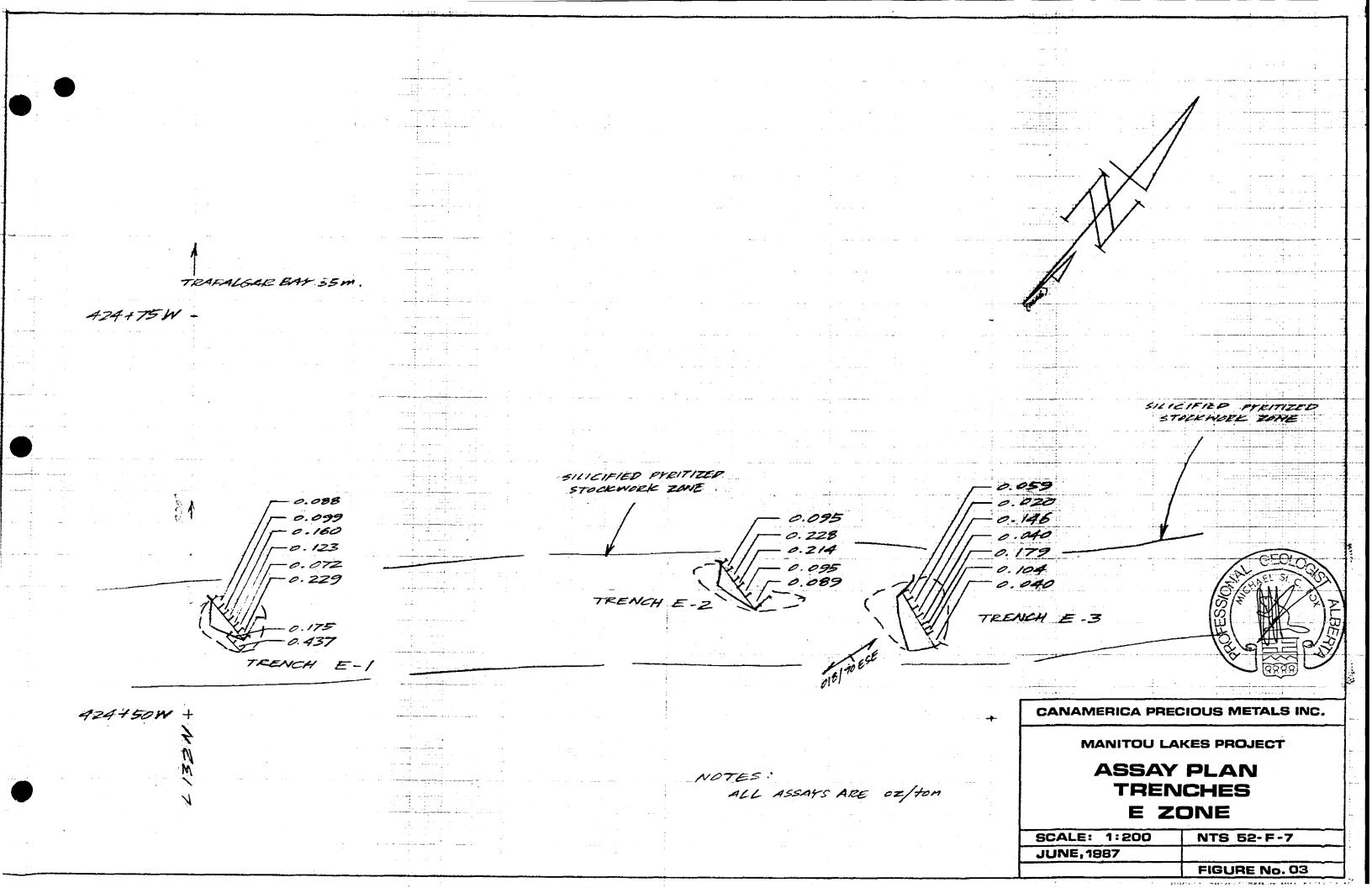
Large blocks of rhyodacitic composition in chloritic dark green matrix.

192 - 250

Intermediate Lapilli Tuff-Tuff Breccia

Lapilli to boulder sized leucocratic fragmentals of dacite-rhyodacite, light grey color, in matrix of darker greyish green fine-grained material of probable dacitic-andesitic composition.







BOYER LAKE G. Ministry of Natural Report of Work HARPER LAKE G.2

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SUITE 2100,	350-70A	VE.S.W	CALGARA	- ALE	ERTA	T2P-31	Ng
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Type of Work	Specific information	n per type	Other information (Common to 2	or more types)	Attechm	ents
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Manual Work		1 m	Salah Sa Salah Salah Sa	and the second second	
Shaft Sinking, Drifting or other Lateral Work	Nil 	Names and addresses of men we manual work/operated equips with dates and hours of empto	ment, together	Work Sketch: these are required to show the location and	
Compressed air, other power driven or mechanical equip.	Type of equipment	6874	17	extent of work in relation to the nearest claim post.	
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.	Names and addresses of owner together with dates when drill	r or operator ling/stripping	nearest claim post.	
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