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Property Submission

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THE 1969 DIAMOND DRILLING PROGRAM
at
ROCKLAND MINING LTD.
SILVERTON, B.C.

R.W. Phendler, P.Eng Jan '70

REPORT

on

THE 1969 DIAMOND DRILLING PROGRAM

at

ROCKLAND MINING LTD.

SILVERTON, BRITISH COLUMBIA

by

R.W. PHENDLER, B.Sc., P.Eng.

Vancouver, B.C. January 27th, 1970.


ROCKLAND MINING LTD
SCALE: 1" = 16 MILES
13 120° 14 15 16
To Wenatchee
To Spokane
To Coeur d'Alene
DEER PARK TO SPOKANE 23 MILES
NEWPORT TO SPOKANE 47 MILES
CANADA
UNITED STATES
IDAHO
WASHINGTON
MONTANA
ALBERTA
Kamloops
Revelstoke
Golden
Banff
Lake Louise
Kelowna
Vernon
Penticton
Nelson
Castlegar
Trail
Rossland
Grand Forks
Kimberley
Cranbrook
Creston
Fruitvale
Osoyoos
Oliver
Princeton
Salmon Arm
Armstrong
Enderby
Spokane
Coeur d'Alene

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SUMMARY, CONCLUSIONS & RECOMMENDATIONS

The copper property of Rockland Mining Ltd. is in south-eastern British Columbia, on the northern margin of the Nelson batholith. It is in an area containing numerous mineral deposits.

The principal chalcopyrite mineralization on the Rockland property is within the Willa shear zone, which is about 100 feet wide and has been traced on surface for more than 1000 feet. Within the shear zone the andesites are well brecciated and traversed by mineral-bearing fractures. The dip of the zone is nearly vertical and drilling has shown that it persists for at least 400 feet below the surface.

The Willa zone intersects altered sedimentary and volcanic rocks of the Slocan series which form a roof pendant within the batholith. The quartz porphyry rock units on either side of the roof pendant merge abruptly near the mineralized area, and probably this was a factor in causing a concentration of mineralization.

Diamond drilling was carried out in the summer of 1969 to check depth possibilities of the zone which, on surface, assayed 0.37% Cu and 0.17 oz. Au per ton across 100'. Five holes were drilled, totalling 2188 feet. Holes #1 and #2 intersected relatively wide mineralization (0.32% Cu across 130' and 0.42% Cu across 105') whereas hole #3, about 200' to the southwest, intersected 250' of continuous, low-grade mineralization (0.05% Cu).

Because of the intensity of the brecciation and the associated chalcopyrite mineralization, it is considered that possibilities are present for a pipe-like mineral deposit. This should be investigated at depth by diamond drilling.

SCOPE

During the summer of 1969, the writer visited the copper prospect of Rockland Mining Ltd. on the following days: June 10th and 11th, August 3rd and 4th and September 23rd and 24th. During these visits the surface showings on Aylwin Creek were mapped and sampled, drill holes were surveyed and most of the 2188 feet of drill core was examined and marked for sampling.

LOCATION AND ACCESS

The Rockland copper prospect is at an elevation of 4000', a few miles east of Slocan Lake and about 40 miles due north of Nelson. The town of Silverton, which is three miles north of the property, is on Highway 6 about halfway between Revelstoke and Trail. Access to the showings is by a three-mile gravel road east from the highway up the Aylwin Creek valley.

PROPERTY AND OWNERSHIP

The Rockland Mining Ltd. property consists of four Crown granted mineral claims, a three claim mineral lease and 47 located claims. The area covered is 2½ miles (in a northeasterly direction) by 1½ miles.

HISTORY

Early work (circa 1900) on the property consisted of open-cutting and about four hundred feet of crosscutting in three adits on the principal (Willa and Rockland) shear zones.

During 1964 and 1965 The Consolidated Mining and Smelting Company of Canada Ltd. carried out a mapping and drilling program, mainly in the vicinity of the principal showings on Aylwin Creek. Diamond drilling in 1965 amounted to 975' in four holes. Results of this drilling are not available.

In 1967 Amax Exploration Ltd. conducted a reconnaissance geochemical survey along roads, trails and creeks. Results indicated that geochemical investigation was practicable and additional work was recommended.

J.F. McIntyre, mining consultant, examined the property in early 1968 and additional work was recommended. In October and November of the same year, A.R. Allen of Allen Geological Engineering Ltd. of Vancouver carried out a qualitative geochemical survey for copper and his work disclosed the presence of a sizeable anomaly in the vicinity of the principal showings on Aylwin Creek and to the northeast. This work was carried out for Rockland Mining Ltd. which had been incorporated to investigate and develop this and other properties.

In 1969 the consulting firm of Bacon & Crowhurst Ltd. was asked to examine the property and to supervise a diamond drilling program.

GEOLOGY AND MINERALIZATION

The area in which the Rockland property is located is within and close to the north central margin of the Nelson batholith. The batholith is of granitic composition and is considered to be Jurassic or Cretaceous in age. It measures 50 miles (NS) by 30 miles. Within the batholith are numerous roof pendants of mixed sedimentary and volcanic rocks of the Slocan group of Triassic age.

The mineral showings on the Rockland property are within an area that appears to be underlain by equal proportions of quartz porphyry and altered sedimentary and volcanic rocks. The Willa shear zone strikes northeasterly, has a steep dip and is reportedly traceable for 1000' on surface. It passes through altered andesites and cherty argillites that narrow to the southwest between converging masses of quartz porphyry (See fig. 7). The shearing continues to the southwest from the Aylwin Creek area (main showing) to the Rockland adit area. The mineralized zone that has been referred to as the Rockland shear is obviously a continuation of the Willa shear, confined between quartz porphyry rock units. To the northeast, geological maps (1968) show that the Willa shear zone continues into quartz porphyry rocks for 500 feet. This was not verified during the 1969 season when work was confined to the Willa shear zone on Aylwin Creek.

Surface chip sampling by the writer on the principal mineral showing on the Willa shear zone on the northeast side of Aylwin

Creek averaged 0.37% Cu and 0.17 oz. Au across 100 feet. Host rock for the disseminated chalcopyrite is brecciated, silicified, fine-grained andesite. About 700 feet to the southwest of the above location, the Rockland tunnel intersected a 60 foot width of mineralized, sheared quartzite which was reported to average 0.51% Cu and Tr. Au.

Old plans of the #1 adit (See fig. 7) show assays as follows:

Width	% Cu	% Au
30.0'	0.60	0.29
30.0	tr.	0.14
20.0	tr.	0.18
55.0	tr.	0.08
20.0	tr.	0.11

These assays are said to be taken from a report by Benjamin Hodge - August 15th, 1901.

DIAMOND DRILLING

During July and August, 1969, BQ diamond drilling was carried out on the Rockland property. The purpose was to investigate the down dip extension of the Villa shear zone below the principal showings on Aylwin Creek. As recommended by the writer in June, 1969, five holes were drilled at 200' intervals along the Villa zone. Results are as follows:

D.H.	Location	Width Mineralization	% Cu	Oz.Au	Dip	Length
#1	Under principal showing	190.0'	0.32	0.05	-45°	335'
#2	200' NE of #1	105.0	0.42	0.06	-45	386
#3	200' SW of #1	30.0	0.10	0.01	-45	550
		5.0	0.25	0.01		
		5.0	0.14	0.01		
		250.0	0.05	0.01		
#4	400' SW of #1	23.0	0.06	0.02	-45	500
		10.0	0.08	0.02		
		15.0	0.05	0.02		
#5	400' NE of #1	2.0	0.20	0.05	-45	417
		5.0	0.04	tr.		
			Total footage			2,138'

Core recovery averaged 93%.

Figures 2 to 6 show the drill holes in vertical section.

It is significant that all holes intersected the mineral trace (See fig. 7), even though only two encountered appreciable quantities.

RECOMMENDATIONS

The widths of the intersections in drill holes #1 and #2 are encouraging. Deeper drilling should be carried out here to see if the mineralization improves with depth.

The Willa shear zone should be further investigated to the northeast where it enters the quartz porphyry. Scattered molybdenite has been observed in this area.

Respectfully submitted,

BACON & CROWHURST LTD.

R. W. Phendler P. Eng.

R.W. Phendler, B.Sc., P.Eng.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA R.W. PHENDLER

CERTIFICATION

I, Roy William Phendler, of the City of Vancouver, in the Province of British Columbia, HEREBY CERTIFY AS FOLLOWS:

1. That I am a registered Professional Engineer in the Province of British Columbia, No. 4421.

2. That I am a graduate of McGill University, Montreal, Quebec, with a Bachelor of Science degree in Geology.

3. That I have practiced my profession as geologist continuously for the past seventeen years in Quebec, Ontario, Saskatchewan and British Columbia in Canada; in the western U.S.A.; Mexico; and Peru and Colombia in South America.

4. That I have no interest directly or indirectly in the Rockland Mining Ltd. property nor do I expect to receive any.

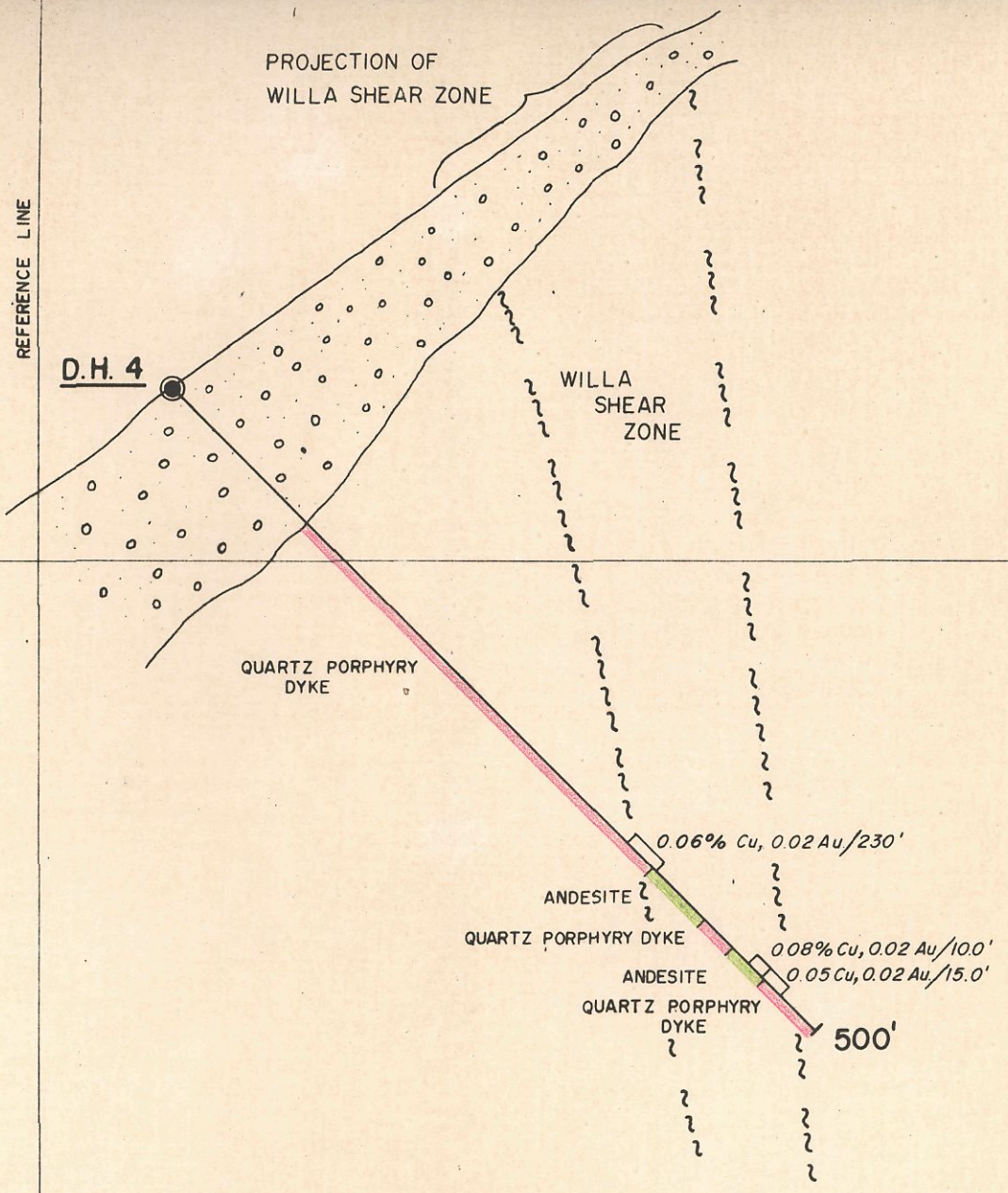
5. That the information contained herein was compiled as a result of my examination of the Rockland property on June 10th and 11th, August 3rd and 4th, and September 23rd and 24th, 1969.

R. W. Phendler, B. Sc., P. Eng.

R.W. Phendler, B. Sc., P. Eng.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA R. W. PHENDLER

Vancouver, B.C.
January 28th, 1970.



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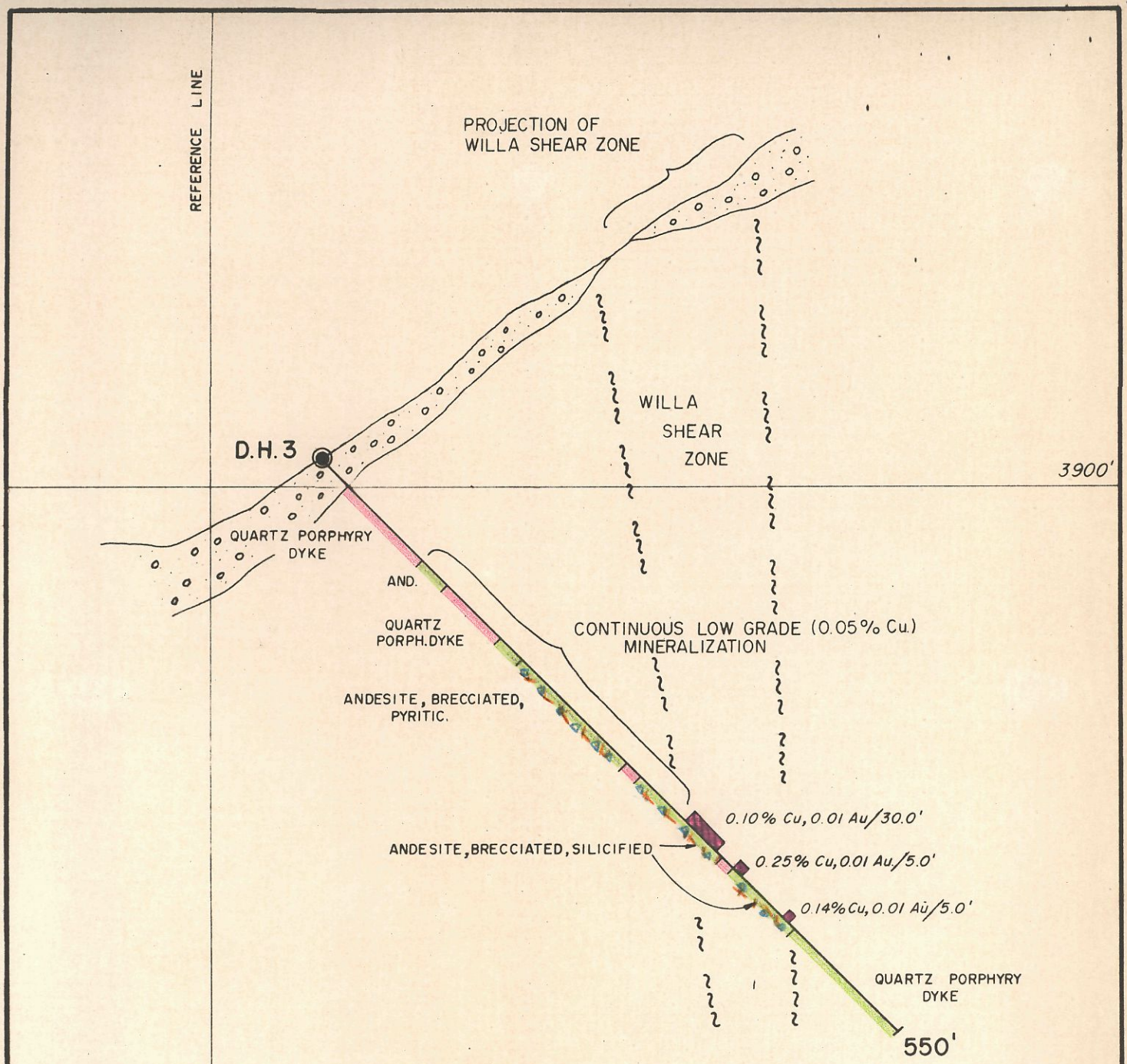
VERTICAL SECTION LOOKING NORTHEAST THROUGH DRILLHOLE No. 4

FEET 100 0 100 200 FEET

SECTION 0+00E

ALTAIR- JAN. 70

FIG. 2



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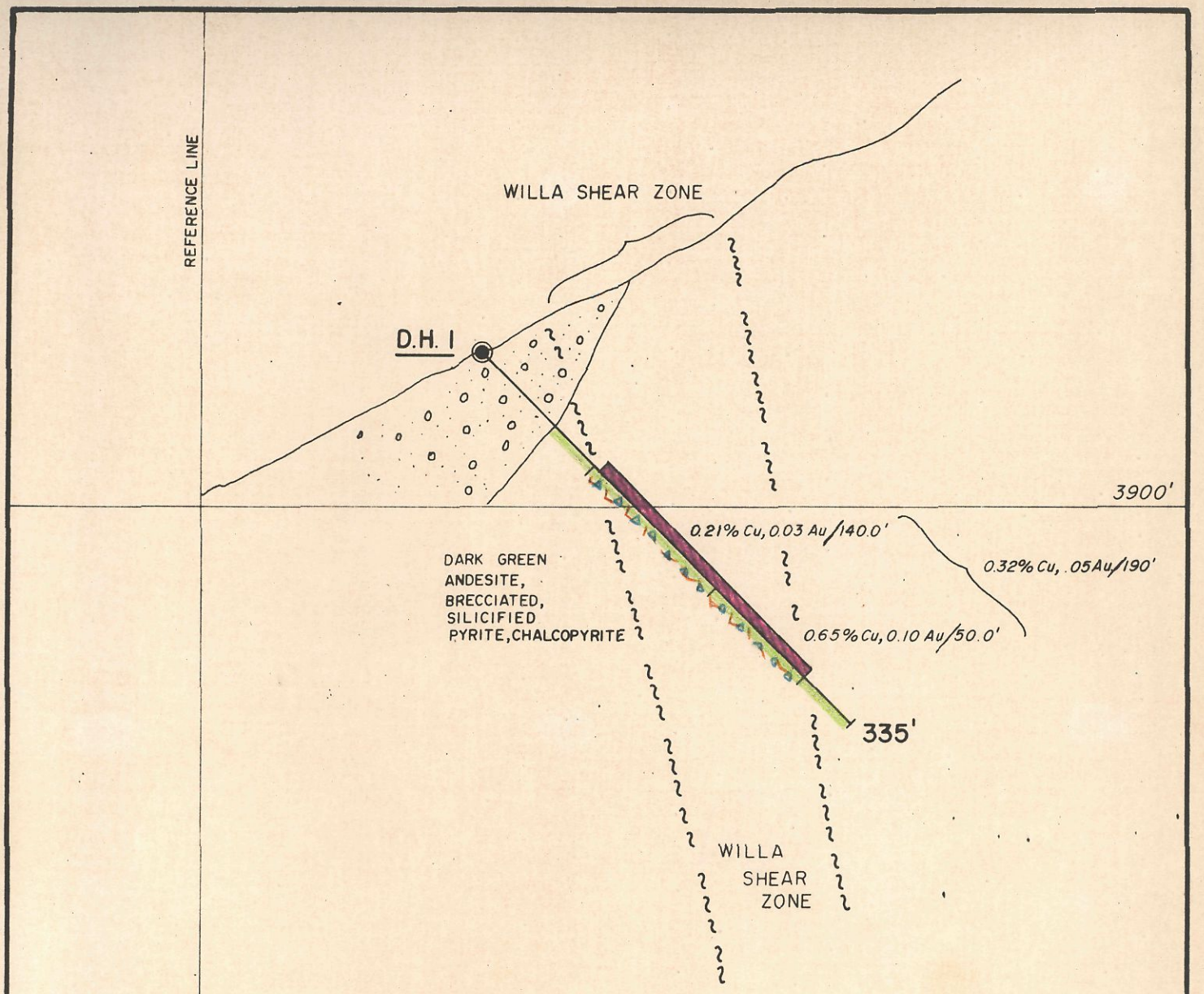
VERTICAL SECTION LOOKING NORTHEAST
THROUGH DRILLHOLE No. 3

FEET 100 0 100 200 FEET

SECTION 2+00E

ALTAIR-JAN. 70

FIG. 3



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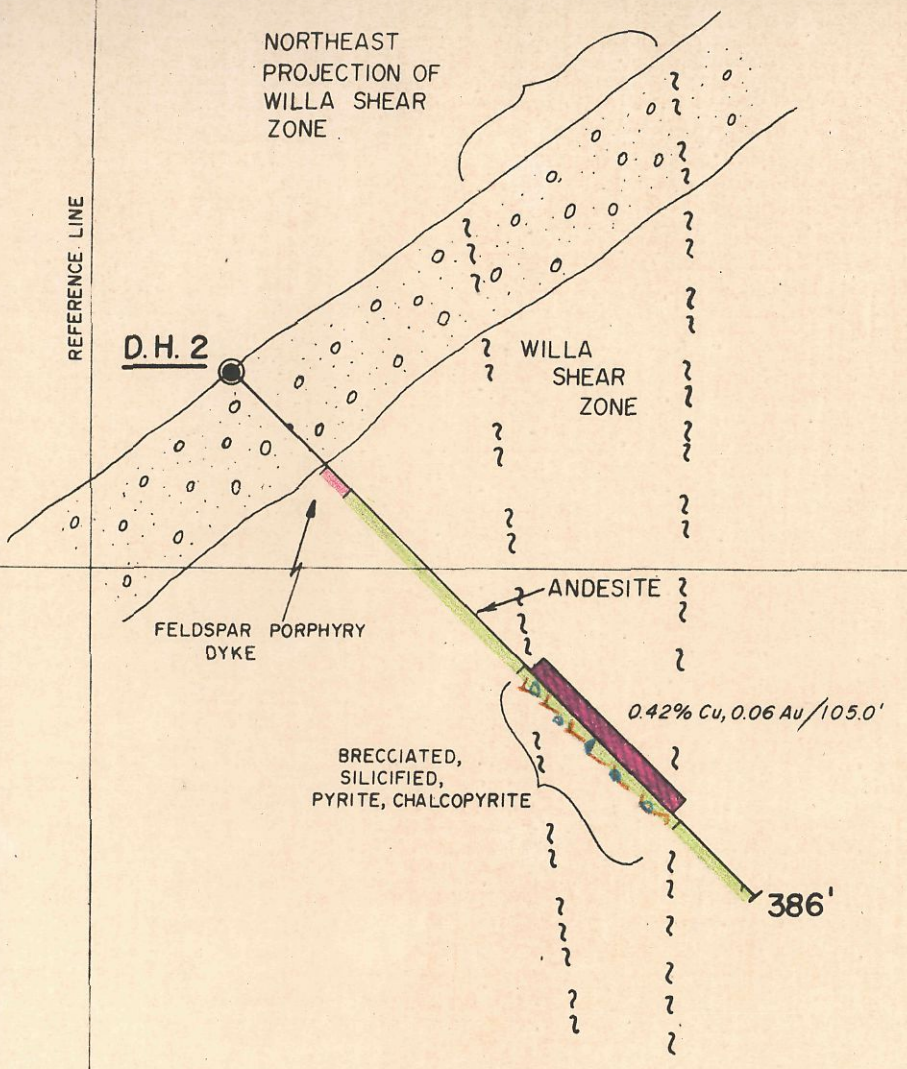
VERTICAL SECTION LOOKING NORTHEAST
THROUGH DRILLHOLE No. 1

FEET 100 0 100 200 FEET

SECTION 4+00E

ALTAIR-JAN. 70

FIG. 4



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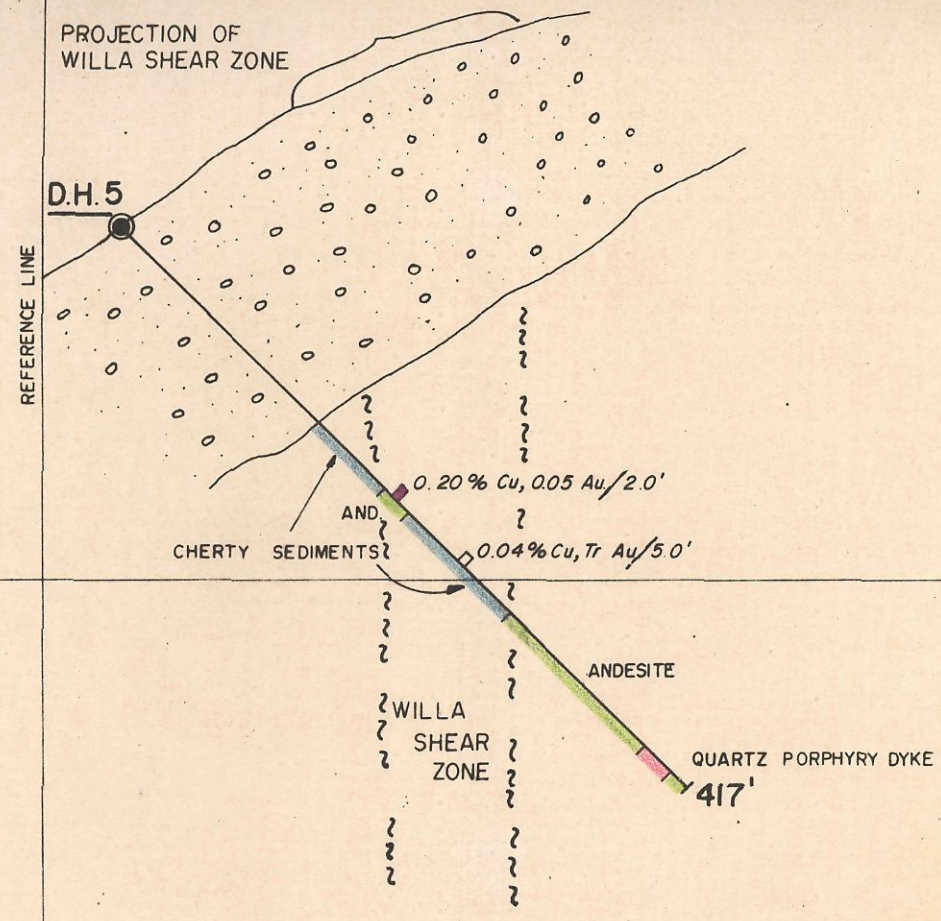
VERTICAL SECTION LOOKING NORTHEAST THROUGH DRILLHOLE No. 2

FEET 100 0 100 200 FEET

SECTION 6+00E

ALTAIR - JAN. 70

FIG. 5



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VERTICAL SECTION LOOKING NORTHEAST
THROUGH DRILLHOLE No. 5

FEET 100 0 100 200 FEET

SECTION 8+00E

ALTAIR-JAN. 70

FIG. 6

ROAD TO SLOCAN
HIGHWAY - 2 MILES

AYLWIN CREEK

WILD CREEK

REFERENCE LINE

QUARTZ
PORPHYRY

4083'
D.H.5
-45°

4001'
D.H.2
-45°

4000'
D.H.1
-45°

3919'
D.H.3
-45°

3994'
D.H.4
-45°

ROAD

(CONTINUOUS
LOW GRADE
(0.05% Cu)

AND.

0.20%Cu, 0.05oz Au/2.0'

417'

0.42%Cu, 0.06oz Au/105.0'

ALTERED SEDIMENTS
AND VOLCANICS.

386'

SECTION 8+00E

0.21% Cu, 0.03oz Au/140.0'

0.32%Cu, 0.05oz Au/190'

0.65% Cu, 0.10oz Au/30.0

335'

Falls

ANDESITE

SECTION 6+00E

#1 ADIT

SECTION 4+00E

0.10% Cu, 0.01 oz Au/30.0'

0.25% Cu, 0.01 oz Au/5.0'

0.14% Cu, 0.01oz Au/5.0'

0.37% Cu, 0.17oz Au/100.0'

550'

SECTION 2+00E

ROCKLAND ADIT
4000'

QUARTZ
PORPHYRY

0.06% Cu, 002 ozAu/23.0'

65-70°

0.08% Cu, 0.02 oz Au/10.0
0.05% Cu, 0.02 oz Au/15.0

MINERALIZED
QUARTZITE

D.H.C-1, -30°
QUARTZITE

500'

QUARTZ
PORPHYRY

SECTION 0+00E

QUARTZ
PORPHYRY

BACON & CROWHURST LTD.

ROCKLAND MINING LTD.

SILVERTON B.C.

GEOLOGICAL MAP OF WILLA SHEAR ZONE
& ROCKLAND ADIT WITH VERTICAL
PROJECTIONS OF 1969 DRILLHOLES
WITH ASSAYS.

FEET 100 0 100 200 FEET

ALTAIR - JAN. 70

FIG. 7