

824473

**1989 FINAL REPORT**

**on the**

**CANA PROPERTY**

NTS: 82M/4  
LAT: 51 11'N  
LONG: 119 51'W

by:

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Operator:

Homestake Mining Canada Limited  
1000 - 700 West Pender Street  
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Owner:

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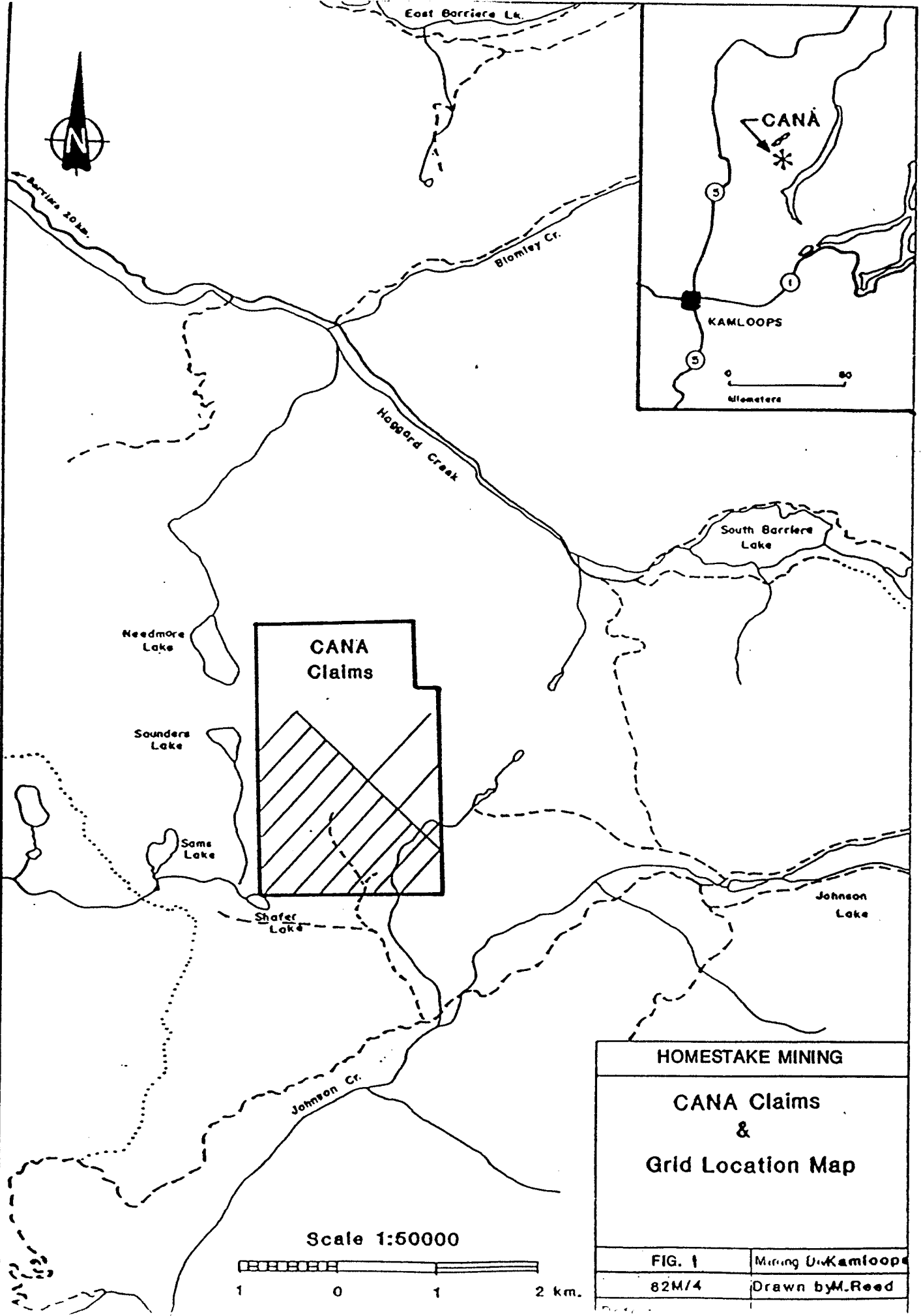
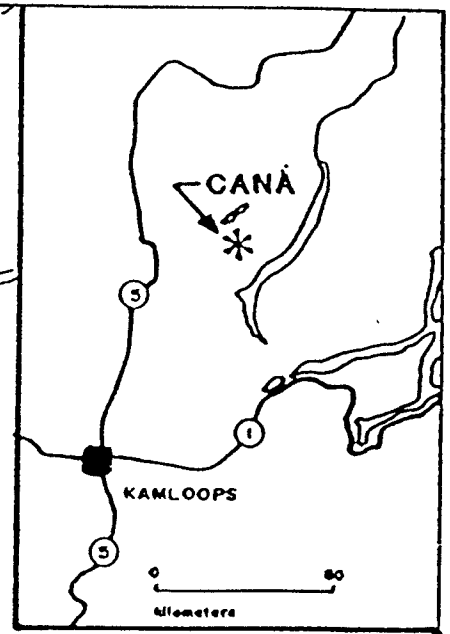
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## 1.0 INTRODUCTION

Two diamond drill holes (360m) were drilled on the Cana property during 1989. The target is a precious metal rich massive sulphide similar to, and occurring in the same stratigraphy as, the Minnova/Rea Gold Samatosum and Rea deposits. These deposits occur at a major volcanic-sediment contact within the Devonian-Mississippian Eagle Bay Formation. The 1989 drilling on the Cana property failed to reach the target stratigraphy due to an unexpected thickness of Tertiary sediments and basalt.

## 2.0 LOCATION AND ACCESS

The Cana property lies in the vicinity of Adams Lake, some 60 km northeast of Kamloops, B.C. (Fig. 1). The claims are located in rolling plateau country on the north flank of the Johnson Creek valley, 4 km west of Johnson Lake. Access to the claims can be gained via the Samatosum Mine road that joins the Agate Bay Road in Sinmax Valley and leads to Highway 5, two kilometres south of Barriere.



HOMESTAKE MINING	
CANA Claims & Grid Location Map	
FIG. 1	Mining Div. Kamloops
82M/4	Drawn by M. Reed

### 3.0 OWNERSHIP AND CLAIMS

The Cana 2-25 claims are owned by Shamrock Resources Inc. of Vancouver, B.C. They are currently operated by Homestake Mining Canada Limited under the terms of an option agreement signed on December 23, 1985. The claims were initially recorded on November 4, 1983. Claim data is as follows:

<u>CLAIM</u>	<u>RECORD No.</u>	<u>UNITS</u>	<u>EXPIRY DATE</u>
Cana 2	4889	1	Nov.4, 2000
Cana 3	4890	1	"
Cana 4	4891	1	"
Cana 5	4892	1	"
Cana 6	4893	1	"
Cana 7	4894	1	"
Cana 8	4895	1	"
Cana 9	4896	1	"
Cana 10	4897	1	"
Cana 11	4898	1	"
Cana 12	4899	1	"
Cana 13	4900	1	"
Cana 14	4901	1	"
Cana 15	4902	1	"
Cana 16	4903	1	"
Cana 17	4904	1	"
Cana 18	4905	1	"
Cana 19	4906	1	"
Cana 20	4907	1	"
Cana 21	4908	1	"
Cana 22	4909	1	"
Cana 23	4910	1	"
Cana 24	4911	1	"
Cana 25	4912	1	"
	<b>TOTAL UNITS</b>	<b>25</b>	

### 4.0 PROPERTY HISTORY

In 1986 Esso Minerals Canada conducted both soil geochemical and fixed source GENIE EM surveys, and prospected the Cana claims. No outcrops were found.

Based on the results of the 1986 surveys, four NQ diamond drill holes (474.3m) were drilled in the spring of 1987. The results of this initial drill phase, combined with further surface work during the summer of 1987, led to a second

phase of drilling in the fall of 1987. Nine holes (1124m) were drilled in this second phase. Four diamond drill holes (480m) were drilled on the Cana property during August of 1988.

## 5.0 GEOLOGY

### 5.1 Regional Geology

The sequence investigated in this area is part of the Eagle Bay Formation, a diverse and structurally complex Devonian-Mississippian assemblage of sediments and volcanics. These rocks outcrop from Clearwater to Shuswap Lake, and host several volcanogenic-type prospects.

The primary exploration targets are at contacts between mafic volcanics and sediments. Two of these contacts occur with good continuity; the Silver zone, which hosts the Samatsum deposit, and the Rea zone, which hosts several small volcanogenic massive sulphide bodies. These contacts mark the stratigraphic top of a thick mafic volcanic sequence which is structurally overlain by the prominent Tshinakin Limestone.

Much of the area between Johnson Creek and Haggard Creek is capped by an outlier of Tertiary basalt and associated sediments. This Tertiary cover overlies most of the Cana claims.

The Quaternary geology indicates that the area was one of glacial outwash. Consequently, it is covered by a variety of thick glacial deposits which hinders exploration on some parts of the property.

### 5.2 Property Geology

Investigation of the property geology has been greatly hampered by the absence of bedrock outcrops on surface. All geological data has been collected from diamond drill holes or inferred from geophysical data. Lithologies can be identified and described but the property-scale geology suffers from a lack of information regarding structural features and stratigraphy.

The rocks seen in drill core have been divided into three units based on lithology and inferred stratigraphic position. In the Paleozoic rocks, no definitive facing directions have been identified and the structural orientation (tops up or down) of the rocks is unknown.

Brief lithological descriptions of the units are given below.

#### Unit 1: Interbedded Graphitic Argillite, Carbonatized Mafic Tuff and Chert

This unit tends to be quite heterogeneous in composition. The various sub-units are interbedded on a 0.5m to 25m scale and components are frequently mixed (ie. graphitic chert, tuffaceous argillite etc.). Dolomite is

the main alteration mineral in the volcanics with sericite and pyrite secondary. The cherts show local ribbon-banding and carry up to 60% coarse, granoblastic pyrite.

#### Unit 2: Sericitic Tuff and Chert

This unit is made up of intensely sericitic, intermediate to felsic tuffs interbedded with grey to blue-grey chert and minor graphitic argillite. The chert is locally ribbon-banded and carries significant pyrite in places as well as traces of arsenopyrite, galena, sphalerite and tetrahedrite.

#### Unit 3: Olivine Basalt and Shallow Marine Sediments

Tertiary basalt and interbedded argillite, siltstone, wacke and coarse debris flows. The sediments are locally carbonaceous and thin coal beds occur within the sequence. This unit unconformably overlies the Paleozoic rocks over much of the property.

## 6.0 SUMMARY OF WORK

### 6.1 General

This report documents the results of two diamond drill holes which were completed on the Cana property between November 20 and November 26, 1989.

TABLE II: Drill Hole Data

HOLE	NORTHING	EASTING	ELEV.	AZM	DIP	LENGTH
C89018	110+00	93+25	1100m	225°	-50°	174.7m
C89019	107+00	88+00	1070m	225°	-70°	184.7m
			TOTAL			359.4m

Drilling was performed by Atlas Drilling Ltd. of Kamloops, B.C. using a skid-mounted, Longyear Super 38 diamond drill and NQ diameter rods. Direct charges from the drilling company totalled \$47.20/meter. The combination of deep overburden and poorly consolidated sediments led to difficult drilling conditions and resulted in hole C89018 being abandoned before the target depth.

The holes were logged at the company core storage facility in Sinmax valley by R.G. Carmichael. No core was sampled.



## 6.2 Results

Results and interpretation of the drilling are as follows:

### DDH C89018

This hole was drilled to investigate a chert unit that was discovered in the 1988 drill program. This unit is similar to lithologies seen within the Rea zone and is approximately on strike with the zone.

The hole encountered 55.5m of overburden underlain by 119.2m of Tertiary sediments. These sediments are interbedded argillite, siltstone and fine to coarse wackes. Bedding ranges from 1mm to 50cm and exhibits well developed grading and other primary textures. The hole was lost at 174.7m when the casing washed out and slid down the hole. Attempts to recover the casing and to re-enter the hole were unsuccessful. The target stratigraphy was not reached.

### DDH C89019

This hole was drilled to investigate the Paleozoic stratigraphy at a location where magnetic data suggested the Tertiary basalt cover was thin.

The hole penetrated 15.8m of overburden and 168.9m of interbedded Tertiary sediments and basalt flows. Two coarse grained olivine basalt flows were drilled (15.8m to 54.9m and 134.4m to EOH 184.7m), separated by a sequence of sediments. Sedimentary rocks were primarily argillite, siltstone and wackes, but also included carbonaceous debris flows and thin coal beds. The hole was stopped at 184.7m, without reaching the target stratigraphy.

## 6.3 Discussion

The 1989 drill program on the Cana claims failed to intersect the target Paleozoic stratigraphy. The occurrence of a thick cover of Tertiary basalt was previously known, and its extent had been mapped using a magnetometer. This magnetic data was used to predict where drill holes could be expected to penetrate the Tertiary cover.

The presence of a thick Tertiary sedimentary sequence on the property was not known. The extent of these sedimentary rocks is difficult to predict as they have no magnetic signature. In addition to the Tertiary rocks, thick glacial overburden overlies much of the property.

Surface geochemistry and geophysics data can not be used reliably to indicate drill targets within the Paleozoic stratigraphy on the Cana property. In addition, the thickness of the combined Tertiary and Quaternary cover is unpredictable over most of the property, without the use of seismic techniques. No further work is recommended at this time.

## 7.0 STATEMENT OF COSTS

## Geology

Geologist	20 days x \$ 165/day	\$ 3 300.00
Assistant	5 days x \$ 90/day	\$ 450.00
Accommodation	10 days x \$ 40/day	\$ 400.00

## Drilling

	360.6m x \$ 47.20/m	\$ 17 021.20
	Mob/Demob	\$ 1 440.00
	Site Preparation	<u>\$ 1 190.00</u>

TOTAL		\$ 23 801.20
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APPENDIX I  
DIAMOND DRILL LOGS



