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## REPORT ON

## BACKHOE TRENCHING PROGRAM

## ACE IN THE HOLE CLAIM

## NELSON MINING DIVISION

NTS 82F/3W

BY

FILMED

N. von FERSEN

## OWNER: J. PLANIDIN, D. GILES OPERATOR: FALCONBRIDGE LIMITED

Longitude: 49 08 N 07'06"

W.

Latitude: 117 20' W 22'30"

GEOLOGICAL BRANCH ASSESSMENT REPORT Vancouver, B.C.

6.567

November 14, 1987

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#### INTRODUCTION

## Location, Access, Physiography

The Ace in the Hole claim is located in the Nelson Mining District, NTS 82F/3W, approximately 10 km south-southwest of Salmo, B.C. (Figure 1 and 2). The claim may be reached via a good logging road which joins Highway 3 and 6, two km south of Salmo. An extensive system of logging roads provides good access to various parts of the property.

The claim covers the height of land drained by Swift Creek, Archibald Creek, and Tillicum Creek. Elevations range from 1615 m in the centre of the property, to approximately 1370 m at the southern boundary of the property. Relief is generally moderate with few precipitous slopes.

Forest cover consists of Spruce, Balsam, and Alder. The eastern half of the claim has been logged in recent years, creating slash and increased growth of alder thickets. Outcrop is moderate to well exposed at higher elevations.

Glacial till occurrs in the headwaters of Swift creek, but was not noted on the property. Dominant ice direction was southerly, locally modified by major topographic features.

#### Land Status

The Ace in the Hole claim consists of one Modified Grid claim of 16 units, which is owned by D. Giles and J. Planidin of Salmo, B.C. Pertinent claim data are listed below.

#### TABLE 1

#### CLAIM STATUS

Name

Record No. Units Expiry

16

Ace in the Hole

#### 3425

Aug. 22/89





## Property History

A number of old pits and trenches are evidence of early attempts to investigate gold potential of quartz veins in the Rossland Volcanics. More recently, work carried out by Falconbridge, between 1984 and 1985 consisted of 1:10,000 scale geologic mapping limited VLF and Mag surveys and rock geochemistry. During 1986 the southeast corner of the claim was covered by soil geochemistry IP, VLF, and MAG surveys.

#### 1987 Work Program

A small backhoe trenching, sampling and trench mapping program was conducted on the Ace in the Hole claim in the period May 25 to June 19, 1987.

The purpose of the trenching was to check for extensions of vein hosted base metal mineralization exposed in a shallow shaft on the Ace in the Hole claim, as well as testing weak geochemical and geophysical anomalies on the eastern fringe of the claim. The target was gold mineralization associated with quartz veins in structural zones

Nine trench locations were selected over geophysical or geochemical anomalies or in geologically interesting areas (Figure 3). Trenches were dug with a JD 450-C backhoe. Lengths ranged from 13 m to 52 m and totalled 216 m. Trench depths ranged from surface to 3 m. Outcrop exposures were mapped at 1:200, and sampled. A D4-h cat was used to fill in trenches after completion of sampling and mapping.

A total of 28 channel samples were collected, using a 2 m standard sample interval. Occasional sample intervals were less than 2 m. Four grab samples were collected for Au, Ag or Cu, Zn, Pb, Ag, and Au. Eleven rock samples were collected for whole rock analysis.

## GEOLOGY

#### Regional Geology

The project area is underlain by rocks of the Rossland Group which have been subdivided by Little and Frebold (1962) into three formations. From oldest to youngest these are : the Archibald, Elise, and Hall Formations. The currently accepted age of the Rossland Group is based on shallow water ammonites of lower to middle Jurassic age.

Rocks characeristic of the Archibald Formation are hard, brittle, dark grey to black argillaceous siltstones and arenaceous argillites. The beds are distinctly laminated and graded bedding is common. These lithologies occur immediately west of the Ace in the Hole claim area.

The Elise Formation, which underlies the majority of the property, is defined as predominantly mafic volcanics of basaltic composition. Flow breccia, massive flows, agglomerate, tuff, and sill like intrusives (augite porphyry) are most prevalent. A minor amount of laminated, tuffaceous siltstone and shale occurs as interbeds. These rocks are exposed in the western portion of the claim.

The Hall Formation is characterized by carbonaceous argillites and argillaceous quartzites. Road cuts south of Salmo on Highway 3 exhibit good exposures of carbonaceous, pyritic, argillite.

The Rossland Group is intruded by Nelson Plutonics of Cretaceous age, which range in composition from granite to quartz diorite. A number of younger gabbro to syenite dikes and stocks are present locally indicating more recent intrusive activity.

#### Property Geology

Property geology is shown in Figure 3 at a scale of 1:5000. The project area is primarily underlain by a sequence of mafic volcanic and volcaniclastic rocks of basaltic composition which form part of the lower Jurassic Elise Formation. Two prominent lithologies are exposed. The first, and possibly lowest in the stratigraphic section, is a lapilli to block size, mono to heterolithic, poorly sorted, subangular block and ash unit, agglomerate, and/or debris flows. Fragments are often framework supported. The second, is a crystal tuff characterized by abundant, broken, randomly oriented augite crystals in a fine grained matrix. A variation of this facies consists of plagioclase crystal tuff. In areas of poor exposure, these porphyritic tuffs are difficult to distinguish from augite or feldspar porphyry sills. Rocks without any significant textures are assumed to be ash tuffs.

Fine grained, laminated, pyritic ash, siltstone, and minor chert outcrop in the southern portion of the Ace in the Hole claim. Argillite is exposed to the north. Lamprophyre dikes noted in trenches are fine to medium grained, dark grey to black, and contain pyroxene and biotite. The dikes are usually very friable and decomposed. Several small bodies of rhyolite are exposed in the western part of the claim. Regional metamorphic grade is lower greenshist and chlorite and epidote are common. In general

-5-

rocks are remarkably unaltered and relatively undeformed.

#### Trench Mapping

Trench mapping at a scale of 1:200 was carried out on trenches 14, 25 to 31. Trench 15 did not penetrate glacial till. Outcrop exposed in the trenches consisted primarily of mafic augite to feldspar crystal tuff, interbedded with pyritic chert in trench 25. Trench 28 and 29 are underlain by black argillite. Trench 30 exposed interbedded lapilli tuff, argillite and augite crystal tuff. Medium to coarse grained, dark grey to brownish lamprophyre dikes intrude augite crystal tuff in trench 25. These dikes appear to dip subvertically and are usually very friable and decomposed near surface.

Outcrop exposed in trenches displays weak to moderate limonite development on fractures. Where fracture intensity increases to form discrete fracure zones, argillic alteration is frequently better developed, eg. trenches 25, and 30. Quartz veinlets and minor silicification are evident in trenches 26, 27, and 30.

Mineralization consists of fracture controlled and disseminated pyrite up to 10% in mafic volcaniclastics. Disseminated chalcopyrite, galena, and sphalerite accompany pyrite in association with a guartz vein in trench 27.

#### GEOCHEMISTRY

#### Procedure

Trenches were dug with a backhoe to a maximum depth of 3 m and a width of 0.8 m. The trench floor was cleared of loose material and outcrop was channel sampled. A total of 28 samples were collected for Au and Ag analysis. Sample intervals were usually 2 m in length, however ocasionally shorter intervals were necessary. Samples were obtained with the aid of a hammer, moil, and chisel, and put in standard plastic bags. Sample weight averaged 2 kg. Sample descriptions were recorded on a computer coded card which was submitted for data storage in Vancouver.

Rock samples were sent to Bondar-Clegg & Co., 130 Pemberton Ave, North Vancouver for analysis. The samples were crushed and pulverized to -150 mesh. A 30 g pulp sample was subjected to fire assay preconcentration and analized for Au by atomic absorption. For Ag, a 0.5 g sample was dissolved in a hot HCL-HNO<sub>3</sub> solution and analized by atomic absorption. Samples returning over 1000 ppb Au were assayed. Whole rock analysis was performed by X-Ray Assay Laboratories Limited, 1885 Leslie Street, Don Mills,

## LEGEND-

LEGEND FOR FIGURE 5 TO 11

## LITHOLOGY

## **1 MAFIC VOLCANICLASTICS**

- debris flow, agglomerate a
- crystal tuff, augite dominant b
- crystal tuff, feldspar dominant с
- f lapilli tuff

q

no textures recognized (usually ash tuff)

#### 2 FELSIC VOLCANICS

rhyolite (quartz eye)

#### **4** MAFIC INTRUSIONS

- a gabbro
- lamprophyre b
- 5 FELSIC INTRUSIONS

#### syenite

#### 6 SEDIMENTS

- argillite 9
- pyritic chert Ъ
- overburden ob

#### ALTERATION

- Ρ propylitization (PW not indicated)
- С carbonatization
- F hematization
- м argillic alteration
- Q silicification

Y

- S sericitization
  - limonitization \_\_\_\_ fracture controlled pervasive

711116. strong overall alteration

#### **VEINS and MINERALIZATION**

quartz

carbonate

Ċ

- Ð disseminated
- stringers / small lenses ] S
- ۷ veins / large lenses
  - pyrite
- Cp chalcopyrite

Рy

- Ĝa galena
- Sp sphalerite
- Ma 1 malachite
- Hem hematite
- Chl chlorite

#### SYMBOLS

- alteration boundary
- lithological boundary
- sample interval
- sample location
- 50 vein, stringer
- <u>...</u> fracture
- contact ----
- 1.1 vertical
- XXXX fractured
- Э grid reference
- -: ---- metres from northend

Au (g/1), Ag (g/t)

metres + trench bottom chip sample

2 m if not indicated

D

FALCONBF	RIDGE LTD.						
LEGEND FOR TRENCH MAPS							
ate: Nov. 1987	Figure No: 4						



WRA - whole rock analysis

trench bottom chip samples \* 2m, if not indicated

FAL	CONE	BRIDGE LTD.
TF	RENC	H NO.14
ACE	IN TH	E HOLE CLAIM PROJ. 112
ACE	DRAWN BY	E HOLE CLAIM PROJ. 112
	DRAWN BY ER	PROJ. 112
АСЕ <u>work by</u> ЕВ 0	DRAWN BY ER	E HOLE CLAIM PROJ. 112 DATE: JULY 15, 1987 5 10
	DRAWN DY ER SCALE IN	E HOLE CLAIM PROJ. 112 DATE, JULY 15, 1987 5 10 METRES 1 : 200

G









n.a. — not assayed WRA — whole rock analysis Au (g/t), Ag (g/t)metres \* trench bottom chip samples \* 2m, if not indicated FOR LEGEND SEE FIGURE: 4 FALCONBRIDGE LTD. TRENCH NO. 27, 28 & 29 ACE IN THE HOLE CLAIM PROJ.112 WORK BY DRAWN BY DATE, JULY 21, 1987 EG ER 0 10 SCALE IN METRES 1 = 200 Figure: 9

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Ontario. Samples were crushed to 0.64 cm and pulverized with a chrome-steel mill to -200 mesh. For whole rock analysis, 1.3 g of the pulp was roasted, and fused with lithium metaborate to produce a glass button, which was analized by X-ray fluorescence. Preconcentration of a 20 g pulp sample for Au was done by standard fire assay. A 0.25 g sample was used for Cu, Zn, Pb, and Ag empoying a standard acid extraction. Both analyses were finished by DCP.

#### RESULTS

Gold values obtained from trench samples ranged from 0.005 ppb to 1750 ppb. With the exeption of a grab sample and a channel sample which ran 1.65 g/t and 1.75 g/t Au respectively in trench 30, no Au values > 1000 ppb were obtained. Ag values reached a maximum of 3.0 g/t over two short sample intervals in trench 27. Cu, Pb, Zn values associated with a quartz vein in trench 27 were low. Analytical results are presented on individual trench maps and in Appendix 1.

## PERSONNEL

EBO BAKKER MSc.	Project Geologist	June 17,	18,1987
ERIC GRILL BSc.	Field Geologist	June 17,	1987
T. E. SIKORA	Field Assistant	June 17,	1987

## STATEMENT OF COSTS

## ACE IN THE HOLE CLAIM

Personnel

E. Bakker Geologist 2 days @ \$150/d E. Grill Geologist 1 day @ \$108/d T. Sikoira Assistant 1 day @ \$72/d	\$300.00 \$108.00 \$72.00 \$480.00
Room and Board 4 man/days @ \$65/d	\$260.00
Transportation	\$130.00
Field Supplies	\$ 32.33
<b>Trenching</b> backhoe 13.5 hr @ \$55/hr Truck 2 hr @ \$50/hr	\$742.50 \$100.00 \$842.50
Geochemistry	
Bondar Clegg Rock sample prep. 29x\$3.25 Au, Ag analysis 7x\$8.75 Au, Ag analysis 22x\$10.00	\$ 94.25 \$ 61.25 \$220.00
X-Ray Assay Labs Rock sample prep. 14x\$3.15 17 Element Anal. 11x\$18.50 Cu, Pb, Zn, Ag 3x\$5.80 Au Analysis 6x\$7.00	\$ 44.10 \$203.50 \$ 17.40 \$ 42.00 \$682.50
Report Preparation	\$400.00

TOTAL EXPENDITURE \$2,827.33

## STATEMENT OF COSTS

## ACE IN THE HOLE CLAIM

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E. Bakker Geologist 2 days @ \$150/d E. Grill Geologist 1 day @ \$108/d T. Sikoira Assistant 1 day @ \$72/d	\$300.00 \$108.00 \$ 72.00 \$480.00
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Bondar Clegg Rock sample prep. 29x\$3.25 Au, Ag analysis 7x\$8.75 Au, Ag analysis 22x\$10.00	\$ 94.25 \$ 61.25 \$220.00
X-Ray Assay Labs Rock sample prep. 14x\$3.15 17 Element Anal. 11x\$18.50 Cu, Pb, Zn, Ag 3x\$5.80 Au Analysis 6x\$7.00	\$ 44.10 \$203.50 \$ 17.40 \$ 42.00 \$708.32
Penort Prenaration	\$400.00

TOTAL EXPENDITURE \$2,

\$2,853.05

Dated November /3 th, 1987 Vancouver, B.C.

## STATEMENT OF QUALIFICATIONS

I, Nils O. von Fersen, of Vancouver, B.C., do hereby certify that:

- I am a Geologist with offices at #701-1281 West Georgia Street, Vancouver B.C.
- I am a graduate of the University of British Columbia, with a BSc degree (1967) in Geology.
- 3. I have been actively engaged in geological exploration since 1965
- 4. I am presently employed by Falconbridge Limited.
- 5. I supervised work carried out on the property.

Dated at Vancouver this/3th day of November, 1987.

Nils o. von Fersen Geologist

-18-

## APPENDIX I

dar-Clegg & Company Ltd. C40 Pemberton Ave. North Vancouver, B.C. Canada V7P 2R5 Phone: (604) 985-0681 Telex: 04-352667

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# Geochemical Lab Report

	RE	PORT	: 127-424	4					<u> </u>		PROJECT: 10	3,139,112		PAGE	1
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			R2 AD336	7.		<0.1	35	Trench		k.					
			R2 AD336	8		0.1	6U 4 F	14	5. W.S.						
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			R2 AD337	4		0.2	20								
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Certificate of Analysis

REPORT: 627-4244				PRUJECT: 103,139,112			PAGE
Sample Number	ELEMENT UNITS	ניא OPT		 			
R2 AD3751 R2 AD3778 R2 AD3789 R2 AD3795		0.061 0.032 0.053	Trench 30				
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Registered Assayer, Province of British Columns

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PN 103, 139, 112

06-JUL-97	REPORT 32	536 REF.	FILE 28220-R	4 PAGE 1	OF 1	
SAMPLE	AU PP3	CU PPM	ZN PPM	AG PPM	PB PPM	
AD3372	·					
AD3615			. <b></b>			
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AD3650	5				a-	
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AD3794						

## APPENDIX II

X-RAY ASSAY	LABORATORIE	S	06-JUL-8	7	R	EPORT 32	536 REI	FERENCE I	FILE 282	20		PAGE 1	
SAMPLE	S102	AL203	CAO	NGO	NA20	K20	FE203	MNO	T102	P205	CR203	L01	SUM
AD3372 -	76. 4	13. 0	0. 05	0. 07	4. 49	3. 05	0. 65	0. 02	0. 05	0, 02	0, 01	0. 85	98. 7
SAMPLE	SI02	AL203	CAO	MGO	NA20	K20	FE203	MND	T102	P205	CR203	LOI	SUM
AD3741	48. 7	14. 3	5. 38	7. 13	2. 94	2. 62	10. 5	0. 19	0. 81	0. 34	0. 01	<u>6</u> . 62	99. 7
AD3745	46. 7	12.2	8. 77	3. 66	3. 28	3. 48	7. 53	0. 22	0. 66	0. 26	<b>&lt;0</b> . 01	12.7	99.6
AD3753	<b>4</b> 8. i	15. 8	7. 97	4. 03	2. 06	3. 11	9. 04	0. 16	0. 66	0. 40	<0. 01	8. 47	100. 0
AD3760 -	47.8	12.5	11. 3	8. 26	1. 27	1. 86	12.4	0. 33	0. 82	0. 24	0. 01	2. 31	99. 2
AD3761	60. 0	16. 4	5. 60	2. 70	2. 46	2. 42	6. 70	0. 13	0. 63	0. 19	0. 01	2.70	100. 0
AD3762 🛥	52. 3	16. 4	7. 25	4. 70	2. 90	3. 08	8. 47	0. 19	0. 72	0, 43	<0. 01	3, 54	100. 1
AD3791 -	57. 4	18. 0	1. 19	3. 35	3. 23	2. 74	8. 64	0. 16	0. 79	0. 25	<0. 01	3. 77	<del>9</del> 9. 7
AD3792 -	54. 1	17. 7	3. 65	3. 13	2. 64	3. 00	8. 08	0. 15	0. 75	0. 24	<0. 01	5, 47	99. 1
AD3793 -	55. 2	19. 3	0. 78	1. 55	5, 92	1. 35	9. 40	0. 21	0. 73	0. 56	<0. 01	4. 16	99. 3
AD3794 -	53. 3	19.0	2. 92	2. 21	4. 10	2. 60	8. 96	0. 19	0. 80	0. 32	<0. 01	4. 85	<del>9</del> 9. 4

X-RAY ASSAY LA	BORATORIES	. 04	6-JUL-87		REF	ORT 32536	REFERENCE FILE 28220	
SAMPLE	RB	SR	Y	ZR	NB	BA		PA
ad3372 -	146	51	42	76	49	232		
AD3741	143	530	<10	34	<10	745		
AD3745	62	412	<b>C10</b>	17	14	664		
AD3753	96	308	18	41	11	896		
AD3760 -	56	271	<10	12	19	304		
AD3761 -	83	219	23	51	12	376		
AD3762 -	83	279	26	47	<b>C10</b>	534		
AD3791 -	114	215	31	68	<10	821		
AD3792 -	102	207	19	58	۲۱۵	896		
AD3793 _	68	396	10	57	19	467		
AD3794 -	89	305	14	70	19	668		

