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THE OKA PROPERTY

PROPERTY FILE

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Osoyoos Mining Division British Columbia NTS; 82E/13W

a report for

FAIRFIELD MINERALS LTD.

by

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February 23, 1987

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SUMMARY

The OKA property of Fairfield Minerals Ltd. is located 12 kilometres northwest of Peachland in south-central British Columbia. The property is underlain by Nicola Group volcanic and sedimentary rocks intruded by granodiorite of Cretaceous age. A limestone unit is altered to marble and garnet skarn near the intrusive contacts. Gold mineralization occurs in sulphide skarn, garnet skarn and quartz veins in three widely separated areas of the property. Two of these areas are connected by a four kilometre long linear trend of gold anomalies in soils. The Iron Horse Mineral occurrences consist of several sulphide skarn bodies. Channel sampling in this area has yielded a number of significant gold values including 15.7 g/t (0.457 opt) gold across 1.5 metres (5 ft) and 6.1 g/t (0.178 opt) gold across 3.1 metres (10 ft). The geological setting and style of mineralization at OKA is very similar to that at the Hedley-Mascot Mine, located 50 kilometres to the south, which has produced 1.44 million ounces of gold and has reserves of 1.06 million ounces of gold. Continued exploration is clearly warranted to test the economic potential of the OKA property. A program of detailed surface surveys is recommended at an estimated cost of \$350,000.

INTRODUCTION

PREAMBLE

Fairfield Minerals Ltd. holds 100% interest in the OKA property located northwest of Peachland, British Columbia. The author, as an independent Consulting Geologist has been retained by the Directors of Fairfield Minerals Ltd. to review results of exploration on the property and to report his findings with recommendations for future action. The author has not been able to conduct a personal field examination of the property due to snow conditions at this time of the year. This report, therefore, is based on a review of data in company files and upon extensive discussions with the staff of Cordilleran Engineering who undertook an exploration program on the property in 1986 on behalf of Fairfield Minerals Ltd.

The author has no reason to doubt the professional integrity of the staff of Cordilleran Engineering who have been undertaking mineral exploration programs for many years on behalf of major mining company and junior resource company clients.

LOCATION AND ACCESS

The OKA property is located 12 kilometres northwest of Peachland $i_{\rm h}$ south-central British Columbia (Figure 1). The property is centred at latitude 49 degrees 48' N and 119 degrees 54' W within NTS map sheep 82E/13W. The property $i_{\rm s}$ accessed from Peachland via the Brenda Mine road. Thirteen kilometres of gravel road cross the property and all known mineral showings are accessible by four-wheel-drive roads.

Topography on the property is moderate with elevations ranging from 1000m to 1500 m. Vegetation consists of pine, balsam spruce and fir in variable density. An area on the west side of the property has recently been logged. Annual precipitation is in the order of 50-75 cm and the property is free of snow from May to November.

Rock outcrops are moderately abundant on ridges and stream valleys contain variable thicknesses of glacial gravel deposits.

PROPERTY DEFINITION

The property consists of a contiguous block of thirteen M.G.S. claims aggregating 185 units (Figure 2) within the Osoyoos Mining Division of British Columbia. The claims are all owned 100% by Fairfield Minerals Ltd.

	Table 1:	<u>Mineral Claims</u>			
 CLAIM	UNITS	RECORD NO.	EXI	PIRY	DATE
OKA 1	20	2400	25	MAR.	1987
 OKA 2	20	2401	25	MAR.	1987
OKA 3	20	2402	25	MAR.	1987
OKA 4	16	2403	25	MAR.	1987
OKA 5	16	2404	25	MAR.	1987
OKA 6	2	2405	25	MAR.	1987
OKA 7	20	2406	25	MAR.	1987
OKA 8	20	2407	25	MAR.	1987
OKA 9	12	2408	25	MAR.	1987
OKA 10	16	2409	25	MAR.	1987
OKA 11	16	2410	25	MAR.	1987
CAP	1	118	28	SEP.	1988
IRON HORSE	6	1771	2	JUN.	1992

Sufficient exploration expenditures were incurred in 1986 and will be filed for assessment credit to extend the expiry date of all claims by at least four years.





HISTORY

The area has been intermittently explored since the 1890's when several small trenches and three short adits were excavated on the west side of the present property (Silver King area). In 1956 bulldozer stripping and limited shallow diamond drilling in the Iron Horse area of the property was apparently undertaken by Noranda Mines Ltd., but no details of results of this work are available in the public record. During the 1960's several companies carried out mapping, soil sampling and an airborne magnetometer survey over various parts of the property. The eastern (Cap) portion of the property was partly evaluated by limited diamond drilling in 1965 by Quintana Petroleum Ltd. and by surface surveys in 1972 by Canadian Johns Manville Ltd. In 1979, Brenda Mines Ltd. undertook bulldozer trenching and diamond drilling in the western (Silver King) part of the property. Esso Resources Canada Ltd. undertook a magnetometer survey of the Iron Horse area in 1980. Fairfield Minerals Ltd. acquired the property in 1986 and conducted geological and geochemical surveys that year.

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<u>M.C.Robinson</u>	(1965)	
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	, [‡]	1898 P.1130; 1899 P.748; 1966 P.185; 1967 P.212;

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GEOLOGY AND MINERALIZATION

The OKA property is underlain by Upper Triassic age volcanic and sedimentary rocks of the Nicola Group which have been intruded to the north and south by granodiorites of Cretaceous ages (Figure 3). The Nicola Group rocks consist of andesitic volcanic flows intercalated with volcanic breccias, argillite, conglomerate and local limestone. Hornfels zones have been developed in Nicola Group rocks at intrusive contacts. Pure limestones have been recrystallized to coarse marbles and extensive calc-silicate (garnetite) zones have developed from argillaceous limestones. Gold is known to be present in at least three, widely separated areas of the property (Figure 4).

A limestone unit in the <u>Iron Horse</u> area hosts massive sulphide skarns exposed by trenching in three separate localities in an area of roughly 450 metres by 350 metres (Figure 5). Sulphide lenses consist of fine to coarse crystalline pyrite and pyrrhotite with local intergrown arsenopyrite, chalcopyrite and sphalerite. Sulphide bodies are hosted by both marble and garnetite, and in most cases contacts are sharp, often along fractures or bedding planes. Mineralization occurs at, or near, contacts with intrusive rocks. Sulphide bodies are incompletely exposed so the geometry and size of many are not known. Dimensions of existing exposures range from less than I metre in diameter to 7 metres by 3 metres.

Channel sampling across sulphide exposures at 35 locations in the Iron Horse area identified significant gold values greater than 1.7 g/t (0.05 opt) Au at 9 of the sites (Table 2, pg.10). The gold is hosted by massive sulphide mineralization at some of the locations but is also found within marble and garnetite with minor disseminated sulphides. A channel sample across garnetite with 2% disseminated arsenopyrite and small oxidized sulphide pods returned an assay of 15.7 g/t (0.457 opt) gold across 1.5 metres (5 ft) at site A23-R19 (Figure 5). At site A25-R6 fine visible gold was identified in marble directly underlying a massive sulphide lens. Channel samples along one axis of the lens averaged 6.1 g/t (0.178 opt) gold over 3.1 metres (10 feet). Channel samples at a right angle to this trend averaged 9.6 g/t (0.281 opt) gold across 2.0 metres (6.6 feet) of sulphides and garnetite.

In the <u>Bolivar Creek</u> area, 4 kilometres west of the Iron Horse Showings, old hand trenches and pits expose quartz veins up to 80 cm wide cutting garnetite, volcanics and meta-sedimentary rocks. Disseminated pyrite and arsenopyrite are concentrated along the walls of the veins. Grab samples of quartz vein material containing several percent sulphides from two areas approximately 1 kilometre apart yielded assays of 47.3 g/t (1.379 opt) gold and 23.0 g/t (0.672 opt) gold. Continuous channel samples across veins in this area generally returned low gold values. Garnetite zones in this area, similar to those at Iron Horse, have not been sampled and may still prove to be important gold bearing units.



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Geology and Mineralization cont'd

	Table 2	IRON HORSE AREA CH SIGNIFICANT G		
Sample Site	Sample No.	Length (m)	Au (g/t)	Au (oz/t)
A23-R19	A23-R19	1.50	15.67	0.457
A23-R19	A23-R29	0.75	1.71	0.050
A23-R19	A23-R30	0.52 x 1.05	17.49	0.510
A25-R4	A25-R4	2.00	2.02	0.059
A25-R4	A25-R35	2.00	1.85	0.054
A25-R4	A25-R36	1.00	3.63	0.106
A25-R4	A25-R38	1.00	3.02	0.088
A25-R4	A25-R39	1.50	5.49	0.160
A25-R5	A25-R29	1.50	2.74	0.080
A25-R6	A25-R6	0.75	2.91	0.085
A25-R6	A25-R7	1.50	9.36	0.273
A25-R6	A25-R8	0.85	3.12	0.091
A25-R6	A25-R7A	1.50	4.77	0.139
A25-R6	A25-R20	0.50	7.10	0.207
A25-R6	A25-R22	1.50	7.99	0.233
A25-R6	A25-R23	0.50	14.57	0.425
A25-R12	A25-R14	1.35	3.02	0.088
A25-R12	A25-R52	1.00	3.22	0.094
A25-R40	A25-R42	1.25	4.11	0.120
H1	H1-R4	1.40	2.13	0.062
H <u>2</u>	H2-R1	1.00	5.14	0.150
H11	H11-R4	1.00	1.65	0.048

In the <u>Cap area</u>, 4 kilometres east of the Iron Horse, sulphide skarns have been exposed by trenching. The sulphides are hosted by marble and calc-silicate intercalated with meta-volcanics and sedimentary beds. Quartz-feldspar porphyry dykes are the only intrusive rocks exposed in the immediate area. Channel samples across eight sulphide occurrences yielded negligible gold values except one which assayed 1.3 g/t (0.038 opt) gold across 1.0 m (3.3 ft). Several samples contained significant zinc ranging up to 7.35% and one returned 3.51% arsenic. A grab sample of massive sulphide assayed 5.0 g/t (0.147 opt) gold, indicating that the system is gold bearing and requires further evaluation.

GEOCHEMISTRY

During 1986 a soil sampling program was conducted on the OKA property by Cordilleran Engineering on behalf of Fairfield Minerals Ltd. A grid was established over the entire property with stations spaced at 50 metres on lines 200 metres apart. A total of 4341 soil samples were collected from this grid and analyzed for Au, Ag, Cu, Zn and As. Stations with values greater than 50 ppb Au were followed-up by sampling on a 25 metre by 25 metre grid. A total of 3579 follow-up soil samples were collected.

The soil geochemical response clearly reflected areas of known gold and base metal mineralization. In addition, several zones of anomalous gold response in soils were identified along an east-northeast linear trend over a distance of 4 kilometres between the Bolivar Creek Area and the Iron Horse Area. Many of these zones also have coincident copper, arsenic and/or zinc anomalies which may indicate the presence of gold bearing sulphide skarns. This 4 kilometre long area requires further evaluation.

CONCLUSIONS

The OKA property is underlain by Nicola Group volcanic and sedimentary rocks in contact with granodiorite intrusions of Cretaceous age. A limestone unit within the Nicola Group is altered to marble and garnet skarn near intrusive contacts and is locally cut by quartz veins. Copper and zinc sulphides associated with the skarns and veins are gold bearing in at lest three widely spaced areas of the property. Several gold anomalies in soil define a linear belt, four kilometres long, between two areas of known gold occurrences. Channel sampling across sulphide exposures at several locations has yielded a number of significant gold values including 1.5 metres (5 ft) grading 15.7 g/t (0.457 opt) Au. Some of the best gold values to date have been obtained from sulphide deficient skarns and marble. These rocks were previously considered to be unfavourable host rocks, have not been extensively sampled and hence represent a considerable future exploration potential.

The geological setting and style of mineralization at the OKA property is very similar to that at the Hedley-Mascot gold deposits located 50 kilometres to the south. This similarity extends to the recent recognition of sulphide poor skarns as important gold host rocks at both properties. The Hedley-Mascot property has had past underground production of 1.44 million ounces of gold from 3.27 million tons of ore. It currently has open pit ore reserves of 7.1 million tons grading 0.15 opt Au. It remains to be seen whether the OKA property has this magnitude of potential but continued exploration is certainly warranted.

R E C O M M E N D A T I O N S

An exploration program is recommended to test the economic potential of the OKA property. This program should complete detailed surface evaluations of known gold zones by way of geological and magnetometer surveys, soil and rock geochemical sampling and backhoe trenching in selected areas. The recommended program is estimated to cost \$350,000.

There is very little doubt, in the author's opinion, that the above recommended program will define drill targets. There is, however, considerable uncertainty regarding the size of drill program which will be required to adequately test the property in the future. It seems likely, at this time, that a minimum program might entail some 1000 metres of diamond drilling at an estimated cost of approximately \$160,000. The author herein declines to make specific recommendations for drilling until results of the surface surveys become available.

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