093m/01

822142

MINNOVA

MEMORANDUM

DATE: July 10, 1990

A
TO: A. J. Davidson, D. H. Watkins

COPIES A :
COPIES TO:

DE
FROM: I. D. Pirie

SUJET
SUBJECT: **Fireweed Property Acquisition**

GENERAL

The **Fireweed** property is located on the southwest side of Babine Lake near the village of Smithers Landing, 54 km northeast of Smithers, B.C. It has been brought to us by Canadian-United Minerals who own a 100% interest subject to a 2% NSR capped at $5 million.

Mineralization was first discovered on the property in 1987. It consisted of mineralized float in an area of recent logging. Subsequent prospecting turned up a manganiferous sandstone exposure in a creek bank which returned up to 9.5 opt Ag over 9.5 metres.

Since that time approximately $1.7 million dollars have been spent on the property and at least eight mineralized targets have been identified. One of these, the West zone, has drill-indicated reserves of 640,000 tons grading 10 opt Ag, 2.2% Zn and 1.34% Pb. It is the only target that has seen extensive drilling.

THE TARGET

The property is underlain mainly by sediments (mudstones, sandstones, and conglomerates) of the Lower Cretaceous Skeena Group. These are cut by Tertiary plugs and dykes of intermediate to felsic composition.

Mineralization takes the form of massive sulphide pipes which have forcefully intruded and brecciated the host rocks. Adjacent to these pipes are stratabound zones of disseminated mineralization developed in permeable coarse sandstone units.

Within the pipes the principle minerals are pyrrhotite, sphalerite and chalcopyrite. Both pyrrhotite and sphalerite can occur as massive zones while the chalcopyrite is only in minor amounts. Within the stratiform zones principle minerals are pyrite, sphalerite, galena and silver sulphosalts. Concentrations rarely exceed 25% by volume of the rock, but because of the relative abundance of Ag bearing minerals, grades can be quite spectacular.

The tonnage outlined to date consists solely of a single zone of disseminated mineralization which has been defined over a strike length of 250 m and down dip for almost 200 m. It is open in all directions. Not included is an adjacent zone of massive sulphides which has produced intersections of up to 19% Zn, 5.4% Pb, 0.5% Cu, 4.5 opt Ag and 0.055 opt Au over 4 m. The orientation of this pipelike zone has so far defeated attempts to drill it.

Other zones that have seen limited drill testing are the 1600 Zone and East Zone. These have several interesting intersections which are summarized on the attached sheets.

DISCUSSIONS

Mineralization hosted within Mesozoic (particularly Jura-Cretaceous) volcano-sedimentary belts has largely been ignored by Minnova thus far, not for any lack of potential, but because of the lack of Mesozoic stratigraphy in Southern B.C. The exception to this is the Jurassic Harrison Lake Belt where we have long recognized the VMS potential but have only recently been able to tie up the property we wanted (Seneca).

However, the area of north-central B.C. centred around the Bowser Basin (Figure 2) has vast areas of Mesozoic stratigraphy. The southern part of this stratigraphy, in which lies **Fireweed**, is readily accessible by road. It is its less accessible northwestern margin, the Iskut, that has been making all the headlines recently, but there is no reason why areas further south should not be equally well mineralized. TONNAGE POTENTIAL IN THESE AREAS IS LARGE BECAUSE THE HYDROTHERMAL SYSTEMS ARE LARGE. Table 1 lists some of the known deposits of the area. They range

from porphyries to volcanogenic massive sulphides to epithermal and from low grade Cu-Au to very high grade Ag and Au. We have recently initiated a study and compilation of these deposits and will have a more detailed report in due course.

Fireweed stands up very well in this company. The hydrothermal system is large having been confirmed over at least a four km strike length. This includes three centres of activity (pipes) at the West Zone, 32 Zone and East Zone. Of these, the West Zone with its drill indicated reserves, appears to be the smallest. Thus the tonnage potential is certainly in the several millions of tonnes. Although Ag is the main pay element in the established reserves, there is good evidence of the presence of high grade Zn areas and local values in Au have been reported (e.g. 0.111 opt/4 m in East Zone). This is a polymetallic system.

Optioning the property would not only give Minnova near term potential to establish mineable reserves, but also a head start in an area that will become very active as companies seek accessible Iskut equivalents. An added bonus is a link with an excellent idea/concept oriented group (Leask/Eldridge) that have several years of experience in the area.

I feel strongly that this is a situation that suits Minnova's strengths and style and consequently highly recommend that a suitable deal be sought and signed.

Table 1. Deposits in Mesozoic strata surrounding the Bowser Basin

Deposit	Size	Grades	Status
Equity mesothermal	30 M tonnes	0.025 opt Au, 3 opt Ag, 0.35% Cu	producer
Silver Queen	800,000 tonnes	0.108 opt Au, 7.5 Ag, 0.49% Cu, 1.49% Pb, 6.53% Zn	minor past producer
Eskay Creek (Exhalitive?)	+4 M tonnes	0.7 opt Au, 24 opt Ag and BM's	exploration
Granduc VMS	27.4 M tonnes	1.79% Cu, 0.23 opt Ag, 0.004 opt Au	past producer
Anyox VMS	42 M tonnes	0.5% Cu, 0.1 opt Ag, 0.025 opt Au	past producer
Bell porphyry	65.5 M tonnes	0.51% Cu, 0.005 opt Au	producer
Granisle porphyry	57.5 M tonnes	0.5% Cu, 0.003 opt Au	past producer
Silver Standard mesothermal	235,000	0.083 opt Au, 37.2 opt Ag, 4.5% Pb, 8% Zn	past producer
Premier-Silbak epithermal	9.7 M tonnes	0.22 opt Au, 5.6 opt Ag	producer
Kutcho Creek	18.7 M tonnes	1.6% Cu, 2.3% Zn, 0.85 opt Ag, 0.01 opt Au	reserve dormant
Sustut	54.4 M tonnes	1.25% Cu	dormant

T A B L E 2

CANADIAN-UNITED MINERALS INC.
SUMMARY OF FIREWEED PROPERTY DRILLING RESULTS

WEST ZONE

HOLE	DEPTH (m)	WIDTH (m)	Ag (oz/ton)	Pb (%)	Zn (%)	Cu (%)	Au (oz/ton)
FW88-1	123.0-128.8	5.8	1.36	-	-	-	-
	166.5-171.1	4.6	1.01	-	-	-	-
	193.8-199.0	5.2	1.13	-	-	-	-
	263.3-266.3	3.0	0.96	-	-	-	-
FW88-3	045.1-048.1	3.0	0.46	-	2.15	0.14	-
	058.6-060.1	1.5	0.37	-	0.37	0.17	0.061
	061.6-066.1	4.5	0.34	1.26	2.27	-	-
	081.1-082.6	1.5	-	-	2.49	-	-
FW88-4	019.8-021.3	+1.5	0.92	-	-	0.42	-
	110.2-112.2	2.0	0.41	1.60	2.63	-	-
	141.8-144.8	3.0	-	-	-	-	0.019
FW88-5	065.0-068.0	3.0	-	-	2.70	0.09	-
	071.2-073.0	1.8	-	-	1.18	-	-
	078.3-080.3	2.0	0.75	-	0.70	0.31	-
	110.4-112.4	2.0	-	-	1.93	-	-
	128.0-129.5	1.5	-	-	3.21	-	-
FW88-7	070.0-076.0	6.0	1.06	-	-	-	-
FW88-8	066.7-080.3	13.6	-	1.22	1.94	-	-
	084.2-088.8	4.6	0.49	1.58	3.85	-	-
	094.0-098.0	4.0	18.89	1.01	2.11	-	-
	112.1-114.1	2.0	0.25	-	1.38	-	0.021
FW88-22	050.5-075.5	25.0	9.57	1.28	1.94	-	-
	incl56.0-068.5	13.0	17.2	1.79	3.07	-	-
	120.0-121.2	1.2	2.9	0.45	0.25	-	-
	163.0-164.0	1.0	5.53	1.25	1.53	-	-
FW88-24	066.7-078.4	11.7	~~12.95~~ 13.0	0.97	~~1.93~~ 1.82	-	-
FW88-25	026.6-045.4	19.0	6.04	0.52	0.77	-	-
FW88-26	124.0-129.0	5.0	1.69	4.02	3.83	-	-
FW88-28	070.1-071.1	1.0	3.76	4.24	10.15	-	-
	119.3-121.3	2.0	9.26	0.46	1.75	-	-
	193.8-198.8	5.0	1.09	1.51	2.89	-	-

HOLE	DEPTH (m)	WIDTH (m)	Ag (oz/ton)	Pb (%)	Zn (%)	Cu (%)	Au (oz/ton)
FW88-29	020.1-023.1	3.0	1.18	-	-	0.76	-
	024.1-029.1	5.0	1.96	1.17	11.13	0.27	0.009
	033.2-036.5	3.3	4.41	4.72	15.50	0.39	0.032
	040.5-041.5	1.0	4.40	4.36	21.78	0.18	0.024
	044.4-046.4	2.0	1.55	1.24	5.05	0.40	0.030
	056.5-060.5	4.0	4.53	5.37	18.82	0.50	0.055
	064.3-065.3	1.0	1.48	3.26	2.75	0.06	0.004
FW88-31	113.2-123.2	10.0	3.75	-	-	-	-
	132.2-135.2	3.0	4.30	0.46	1.36	-	-
	139.2-150.2	11.0	6.00	-	-	-	-
incl	139.2-141.2	2.0	15.79	2.07	1.87	-	-
	146.2-148.2	2.0	8.81	-	0.66	-	-
FW88-33	107.0-118.0	11.0	0.67	1.23	3.75	-	-
	125.0-128.0	3.0	0.68	1.48	2.15	-	-
FW88-34	068.8-073.4	4.6	4.26	0.40	0.84	-	-
FW88-35	143.0-146.0	3.0	0.74	1.03	1.33	-	-
FW88-36	098.0-100.8	2.8	11.55	1.39	3.61	-	-
	106.0-116.6	9.6	5.42	0.56	1.08	-	-
FW88-37	145.0-148.0	3.0	8.27	1.80	2.25	-	-
	153.0-154.0	1.0	11.46	2.65	3.73	-	-
FW88-38	124.0-140.0	16.0	5.27	1.09	1.75	-	-
FW88-39	086.3-090.4	4.1	12.4	0.81	0.28	-	-
FW88-41	110.8-118.7	7.9	18.5	2.26	3.02	-	-
FW88-42	126.4-137.2	10.8	11.3	1.35	2.14	-	-
FW88-48	096.5-098.2	1.7	1.03	-	3.06	0.16	0.042
	100.6-102.2	1.6	1.16	0.31	2.44	0.24	0.038
	105.6-107.2	1.6	0.71	0.38	2.39	-	0.049
FW88-49	050.1-051.8	1.7	1.71	0.91	7.18	0.10	0.026
	053.3-067.3	14.0	2.0	1.73	3.94	0.08	0.018
FW88-50	024.0-034.5	11.5	0.18	0.94	3.46	0.08	0.033
	072.3-079.7	7.4	0.69	0.18	4.26	0.20	0.015
	082.6-089.0	6.4	0.35	-	8.70	-	-
FW88-51	043.0-044.0	1.0	0.17	-	3.51	-	0.005
	049.0-050.0	1.0	0.64	0.17	3.28	-	-
	062.8-~~066.4~~ 66.4	~~3.6~~ 3.6m	4.24	0.68	1.56	-	0.013*
	150.7-151.9	1.2	1.87	3.05	2.74	-	0.011

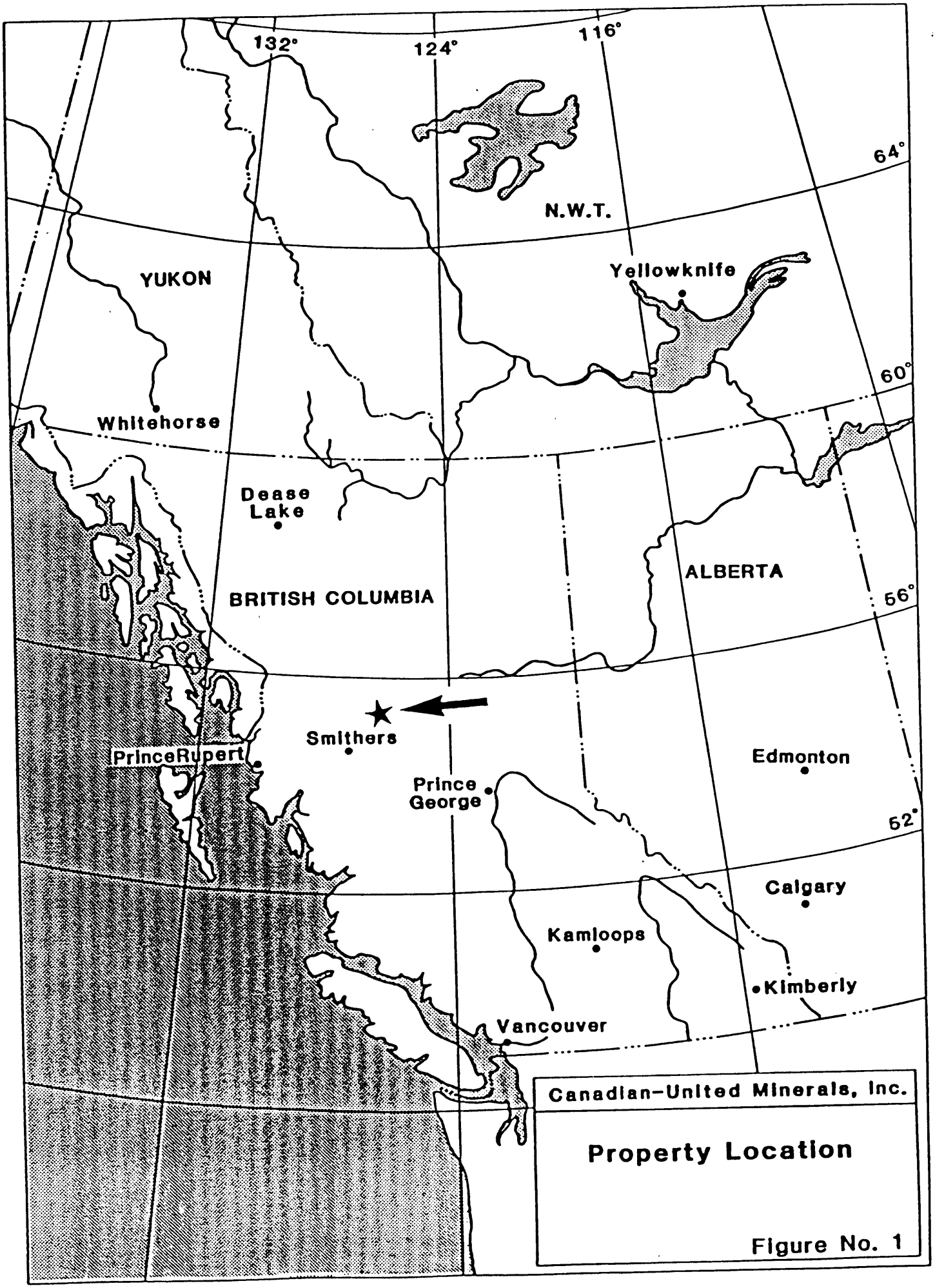
HOLE	DEPTH (m)	WIDTH (m)	Ag (oz/ton)	Pb (%)	Zn (%)	Cu (%)	Au (oz/ton)
FW89-52	113.5-115.5	2.0	0.83	1.73	1.63	-	-
	143.8-146.2	2.4	1.22	-	-	-	0.008
	221.3-222.2	0.9	1.52	2.73	1.62	-	-
FW89-53	073.0-076.2	3.2	0.38	0.20	3.17	-	0.054
FW89-54	193.6-194.7	1.1	1.78	1.40	1.99	-	-
FW89-55	173.2-182.2	9.9	3.30	0.37	0.36	-	-
FW89-56	183.8-187.8	4.0	0.48	0.90	1.23	-	-
FW89-57	139.3-148.3	9.0	3.20	0.26	0.39	-	-
FW89-58 (Mn Zone)	017.0-020.4	3.4	3.11	0.32	0.46	-	-
FW89-76	18.2-19.2	1.0	2.16	2.30	6.62	0.18	0.040
	115.5-121.2	5.7	2.19	3.49	4.63	-	-
incl	115.5-116.5	1.0	7.70	12.30	5.01	0.08	-
and	118.5-120.5	2.0	2.02	3.14	8.66	0.07	-
FW89-77	189.5-193.5	4.0	5.86	0.42	0.73	-	-
incl	190.5-192.5	2.0	8.71	0.61	1.05	-	-
FW89-78	97.6-101.6	4.0	0.35	0.39	0.67	-	-
	109.4-111.4	2.0	0.48	0.74	0.90	-	-
	114.5-115.5	1.0	0.41	0.88	0.82	-	-
FW89-79	47.1-48.3	1.2	0.27	1.11	0.22	-	-
	64.5-65.8	1.3	0.82	1.16	1.73	-	-
	71.3-74.5	3.2	1.62	2.31	2.55	-	0.009

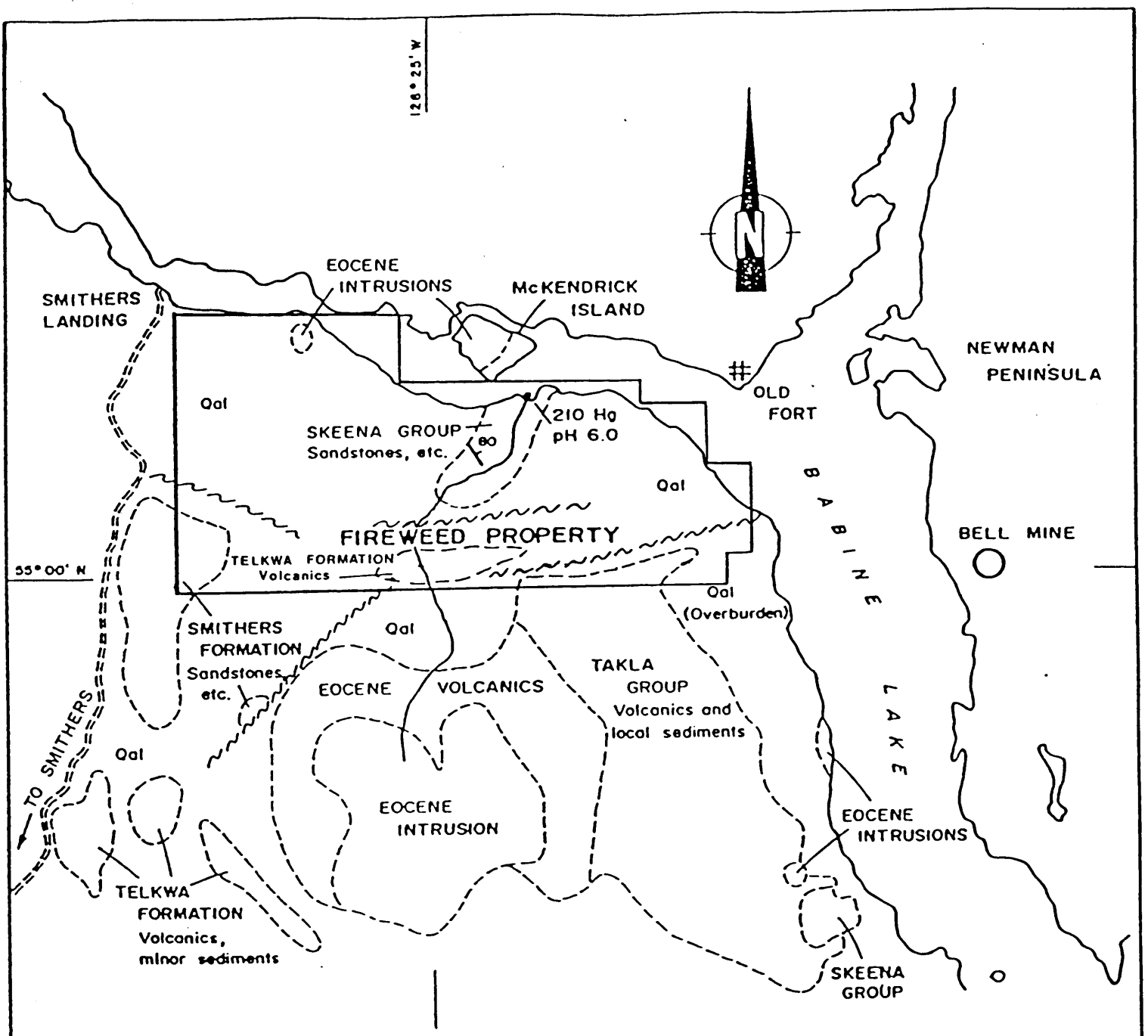
1600 ZONE

HOLE	DEPTH (m)	WIDTH (m)	Ag (oz/ton)	Pb (%)	Zn (%)	Cu (%)	Au (oz/ton)
FW89-60	082.6-083.3	0.7	7.85	11.10	10.90	0.11	0.065
	099.3-102.3	3.0	0.39	0.13	2.37	-	-
	150.0-153.0	3.0	0.19	-	2.14	-	0.006
	154.7-156.7	2.0	0.91	0.30	4.63	0.15	0.095
	166.8-167.8	1.0	-	-	1.52	-	-
FW89-61	028.9-029.4	0.5	0.74	0.20	8.60	0.05	-
	130.5-132.5	2.0	0.44	-	4.32	0.05	-
incl	130.5-131.5	1.0	0.69	-	7.40	0.05	-
FW89-62	074.5-075.5	1.0	0.30	-	3.30	0.03	-
	123.5-128.5	5.0	1.14	2.05	4.00	0.04	0.030
incl	123.5-124.5	1.0	0.88	0.59	10.50	0.07	0.043
and	126.5-128.5	2.0	2.01	4.07	3.13	0.05	0.043
	160.2-168.2	8.0	0.19	-	2.69	0.03	0.010
incl	160.2-164.2	4.0	0.37	-	3.99	0.06	0.020
incl	161.2-163.2	2.0	0.47	-	5.77	0.08	0.033

EAST ZONE

HOLE	DEPTH (m)	WIDTH (m)	Ag (oz/ton)	Pb (%)	Zn (%)	Cu (%)	Au (oz/ton)
FW88-12	039.6-042.6	3.0	0.63	-	-	0.62	0.003
FW88-19	063.8-080.8	17.0	0.57	-	-	0.31	0.020
	084.8-087.8	3.0	0.11	-	-	0.10	0.045
	093.8-097.8	4.0	0.47	-	-	0.41	0.111
	102.8-108.8	6.0	0.65	-	-	0.35	0.027
FW88-21	051.4-055.4	4.0	0.92	-	8.87	0.09	-
	081.4-082.4	1.0	-	-	1.88	-	-
	109.4-110.4	1.0	0.22	-	1.29	-	-
FW89-66	077.6-080.2	2.6	0.41	-	-	0.23	0.010
	091.4-112.8	21.4	0.27	-	-	0.17	-
incl	93.4-096.4	3.0	0.49	-	1.63	0.36	-
and	101.4-103.5	2.1	0.30	-	-	0.33	0.054
FW89-67	072.5-075.5	3.0	0.22	-	0.41	0.09	-
FW89-68	110.5-120.5	10.0	0.32	-	0.31	0.26	-
incl	114.5-117.5	3.0	0.55	-	0.55	0.57	-
	156.1-157.1	1.0	0.98	-	7.60	0.19	-
FW89-69	118.0-121.0	3.0	0.29	-	0.19	0.16	0.005
FW89-70	127.0-140.0	13.0	0.33	-	0.79	0.17	0.005
incl	131.0-134.0	3.0	0.66	-	2.97	0.27	0.014
	181.0-183.0	2.0	0.40	-	-	0.27	-
FW89-71	74.3-76.3	2.0	0.44	-	-	0.22	0.013
	137.5-142.3	4.8	0.48	-	-	0.34	-
incl	140.5-141.5	1.0	1.11	-	-	0.75	-
FW89-72	72.3-74.3	2.0	0.80	-	5.26	0.41	0.033
	124.0-132.2	8.2	0.21	-	-	0.16	0.004
FW89-73	91.2-96.2	5.0	0.28	-	-	0.20	-
	99.5-102.1	2.6	0.25	-	-	0.25	-
	116.5-117.5	1.0	0.64	-	-	0.51	-
	119.5-125.1	5.6	0.34	-	-	0.30	0.005
incl	122.0-124.1	2.1	0.31	-	-	0.50	0.015


132°
124°
116°
64°
N.W.T.
YUKON
Yellowknife
60°
Whitehorse
Dease
Lake
ALBERTA
BRITISH COLUMBIA
56°
Smithers
PrinceRupert
Edmonton
Prince
George
52°
Calgary
Kamloops
Kimberly
Vancouver
Canadian-United Minerals, Inc.
Property Location
Figure No. 1



After: Richards, T.A., 1980
Tipper, H.W., 1976

CANADIAN-UNITED MINERALS, INC.

GENERAL GEOLOGY

FIREWEED PROPERTY AREA

15th Oct 1987	Drawn by E.C.	FIG. 3

L0+00mN 20+91mE

L1+00mN 20+88mE

1+17mN L21+00mE

1+74mN L22+00mE

2+03mN L23+00mE

Elev.900m

Elev.800m

Elev.700m

FW88-45 (NSV)

FW88-46 (NSV)

FW88-40 0.1,1.25/3.0m (approx)

FW88-39 2.60,15.85/2.8m

FW89-75 0.49,0.10/1.0m

FW89-76 8.65,2.02/1.0m

FW88-31 1.36,4.30/2.6m

FW88-41 3.02,18.50/5.6m

FW89-57 0.84,5.85/1.7m

FW89-77 1.05,8.70/1.7m

FW89-55 0.61,11.75/0.9m

FW88-25 0.97,8.15/10.8m

FW88-34 1.36,6.30/1.8m

FW88-24 1.82,13.00/10.6m

FW88-36 3.61,11.55/2.6m (upper)
1.27,7.00/5.4m (lower)

FW88-42 2.73,14.00/7.2m

FW88-38 2.61,14.16/4.5m (upper)
2.66,1.09/0.9m (lower)

FW88-37 2.25,8.27/2.5m (upper)
3.73,11.46/0.7m (lower)

FW88-35 1.40,0.60/3.0m

FW88-43 1.60,0.70/1.0m

FW89-54 1.99,1.73/1.0m

FW88-44 (NSV)

FW88-33 0.77,5.10/6.0m

FW89-56 1.25,0.60/4.0m

FW89-78 (overshot?)

FW88-22 3.07,17.20/11.7m

FW88-26 1.69,3.83/4.5m

FW88-27 1.60,0.35/3.0m

FW88-29 (Zn rich)

FW88-51 (no int, several Zn zones; low Ag)

FW88-8 2.11,18.90/3.0m

FW88-48 (Zn rich)

FW88-49 (Zn rich)

FW88-28 1.75,9.25/1.8m

FW89-52 0.10,2.00/1.0m

increasing complexity
as dyke content increases
MS section, bx & alt
Zn rich

0 10 20 30 40 50m

DRILL HOLE INTERSECTION ● Zn%, Ag opt /True Width (metres)

Edge of Mineralization

$30.00 Gross Metal Value Cut Off

MINNOVA Inc.

FILE: D:\DWG\FIREWEED

FIREWEED PROJECT

LONGITUDINAL SECTION

THROUGH THE PLANE OF MINERALIZATION

IDP/sg

MAY 1990

Dease Lake
KUTCHO FAULT
Kutcho Ck
THUDAKA FAULT
PELLY MOUNTAIN TRENCH FAULT
Unmapped
Kupreanof Island
Eskay Creek
Grandue
Prince of Wales Island
Sustut
JB
"Bowser Basin"
River
FIREWEED
Silver Standard
Hazelton
VITAL FAULT
UNITED STATES OF AMERICA
CANADA
PINCHI
Prince Rupert
Kitimat
Equity
Silver Queen
McLEOD
ALASKA HIGHWAY
Dawson Creek
JKK
BRITISH COLUMBIA
ALBERTA