

GEOLOGICAL SURVEY OF CANADA
 ECONOMIC GEOLOGY AND MINERALOGY DIVISION
 ANALYTICAL CHEMISTRY SECTION
 ICP - EMISSION SPECTROMETRY LABORATORY

Section
 Kerr Property ✓
 - Geochemical Results
 803646
 104B/8, 9

 * REPORT OF ANALYSIS *

DATE: 31 AUGUST 87
 REPORT NO. 46-87
 SUBMITTED BY: BALLANTYNE B.
 PROJECT NO. 790003
 METHOD: ICP-MJ1, ICP-TR1, Ag & Pb BY AA.
 FeO, H2O(t), CO2, C, S(t) AND LOI BY CHEMICAL METHODS.

ESTIMATE OF VALIDITY OF RESULTS

ELEMENT	+/-	(ABSOLUTE	+	RELATIVE)
SiO2	+/-	(0.4 %	+	2% OF CONC.)
TiO2		0.02	+	"
Al2O3		0.2	+	"
Fe2O3(t)		0.1	+	"
MnO		0.01	+	"
MgO		0.1	+	"
CaO		0.1	+	"
Na2O		0.1	+	"
K2O		0.1	+	"
FeO		0.2	+	5% OF CONC.
H2O(t)		0.1	+	5% OF CONC.
CO2		0.1	+	3% OF CONC.
C				
P2O5		0.02	+	1% OF CONC.
S(t)		0.04	+	5% OF CONC.
LOI				
Ba	+/-	(20 PPM	+	5% OF CONC.)
Be	+/-	(0.5 PPM	+	5% OF CONC.)
Co	+/-	(5 PPM	+	5% OF CONC.)
Cr	+/-	(10 PPM	+	5% OF CONC.)
Cu	+/-	(10 PPM	+	5% OF CONC.)
La	+/-	(10 PPM	+	5% OF CONC.)
Ni	+/-	(10 PPM	+	5% OF CONC.)
Pb	+/-	(20 PPM	+	10% OF CONC.)
V	+/-	(5 PPM	+	5% OF CONC.)
Yb	+/-	(0.5 PPM	+	5% OF CONC.)
Zn	+/-	(5 PPM	+	5% OF CONC.)

17-SEDI-87

ALSO SEE XRF
 REPORT DATED 28-Aug-87
 FOR TRACE ELEMENTS
 ON SELECTED SAMPLES
 (LOW SULPHUR)

File

ANALYST(S).....*Ball*.....

VERIFIED.....*W*.....

GEOLOGICAL SURVEY OF CANADA
 MINERAL RESOURCES DIVISION
 ANALYTICAL CHEMISTRY SECTION
 X-RAY FLUORESCENCE LABORATORY

DATE: 28-AUG-87

REPORT OF XRF ANALYSIS

DATE: 28-AUG-87

3 REPORT: 46-87 SUBMITTER'S NAME: S.B. BALLANTYNE PROJECT: 790003 REPORT: 46-87

87	88	LAB. NO.	91	92	94	97	98	99
104B 869 193	104B 869 194	SPL. NO.	104B 869 197	104B 869 198	104B 869 200	104B 869 203	104B 869 204	104B 869 205
67.9	60.4	SI02 (%)	62.9	58.5	49.3	58.5	65.1	56.8
0.51	0.77	TIO2 (%)	0.67	0.43	0.61	0.48	0.37	0.53
19.2	16.4	AL2O3 (%)	11.5	16.3	15.1	17.4	13.3	16.5
0.00	0.00	CR2O3 (%)	0.05	0.00	0.01	0.00	0.00	0.00
1.8	5.4	FE2O3T (%)	7.0	5.4	9.1	6.4	6.7	5.7
0.8	1.9	FE2O3 (%)	4.6	0.8	1.7	1.5	4.2	0.9
0.9	3.1	FE0 (%)	2.2	4.1	6.7	4.4	2.2	4.3
0.00	0.17	MNO (%)	0.18	0.36	0.29	0.22	0.08	0.18
0.67	1.62	MGO (%)	5.92	2.66	5.85	2.67	1.12	2.43
0.00	3.45	CAD (%)	2.64	3.34	5.72	2.18	0.26	4.08
0.2	4.1	NA2O (%)	2.0	2.2	2.7	4.1	0.1	2.5
5.84	2.44	K2O (%)	1.70	3.89	3.30	3.43	7.25	4.50
3.1	2.6	H2OT (%)	4.3	3.3	4.6	2.9	3.0	3.1
0.1	2.8	CO2T (%)	0.6	2.4	3.7	1.1	0.1	3.0
0.06	0.25	P2O5 (%)	0.15	0.24	0.35	0.28	0.31	0.22
0.62	0.02	S (%)	0.00	0.61	0.01	0.20	0.80	0.01
2194.	1353.	BA (PPM)	1011.	3179.	2916.	6377.	3160.	3182.
0.	0.	NB (PPM)	2.	0.	0.	0.	0.	0.
110.	55.	RB (PPM)	98.	82.	47.	54.	84.	150.
33.	195.	SR (PPM)	173.	242.	262.	465.	93.	319.
0.	2.	Y (PPM)	59.	0.	0.	0.	0.	0.
32.	103.	ZR (PPM)	113.	70.	42.	72.	28.	92.
100.2	100.3	TOTAL (%)	99.5	99.5	100.3	100.0	98.6	99.4

ENTS:

S BY RAPID

L ANALYSIS BY XRF EXCEPT FOR H2OT CO2T P2O5 S AND S BY RAPID

NAME: BALL

DATE: 31 AUGUST

LAB. NO.
SAMPLE NO:

86		87		88	
104B	869	104B	869	104B	869
192		193		194	

SiO2 % :	67.8	67.9	60.4
TiO2 % :	0.63	0.51	0.77
Al2O3 % :	11.4	19.2	16.4
Fe2O3T % :	7.64	1.80	5.40
Fe2O3 % :		0.8	2.0
FeO % :		0.9	3.1
MnO % :	0.01	0.00	0.17
MgO % :	0.56	0.67	1.62
CaO % :	0.08	0.0	3.45
Na2O % :	0.15	0.20	4.10
K2O % :	3.62	5.84	2.44

H2OT % :		3.1	2.6
CO2T % :	0.1	0.1	2.8
P2O5 % :	0.08	0.06	0.25
S % :	5.82	0.62	0.02

BA ppm : 1100 2100²¹⁹⁴ 1300¹³⁵³

TOTALS : 98.0 100.1 100.2

LOI % : 5.9
COMMENTS:

* ALL ANALY CHEMICAL METHODS.
* FE2O3 IS VOLUMETRIC.
* ICP-MJ1 LITHIUM METABORATE,
DISSOLVED

ANALYTICAL CHEMISTRY SECTION
P-ES LABORATORY

SAMPLE NO:

89		90		91		92		93		94		95		96	
104B	869	104B	869	104B	869	104B	869	104B	869	104B	869	104B	869	104B	869
195		196		197		198		199		200		201		202	

SiO2 % :	64.4	72.7	62.9	58.5	45.8	49.3	84.1	66.3							
TiO2 % :	0.39	0.39	0.67	0.43	0.28	0.61	0.21	0.42							
Al2O3 % :	13.8	14.3	11.5	16.3	7.66	15.1	7.26	17.3							
Fe2O3T % :	7.93	2.40	7.00	5.40	25.6	9.10	2.64	4.84							
Fe2O3 % :			4.6	0.8		1.7									
FeO % :			2.2	4.1		6.7									
MnO % :	0.09	0.01	0.18	0.36	0.14	0.29	0.01	0.04							
MgO % :	1.24	0.20	5.92	2.66	0.70	5.85	0.34	0.91							
CaO % :	0.37	0.36	2.64	3.34	0.19	5.72	0.08	1.18							
Na2O % :	0.11	0.18	2.00	2.20	0.10	2.70	0.04	0.16							
K2O % :	4.41	4.26	1.70	3.89	2.29	3.30	4.00	5.05							

H2OT % :			4.3	3.3		4.6									
CO2T % :	0.1	0.0	0.6	2.4	0.4	3.7	0.6	0.1							
P2O5 % :	0.37	0.28	0.15	0.24	0.15	0.35	0.06	0.78							
S % :	3.39	1.46	0.00	0.61	10.8	0.01	1.90	1.77							

ppm : 1600 2300 950¹⁰¹¹ 3100³¹⁷⁹ 1100 2900²⁹¹⁶ 1300 2200

ALS : 96.8 96.8 99.4 99.5 94.2 100.2 101.4 99.1

LOI % : 4.9 3.1 10.1 2.2 3.9
COMMENTS:

ALL ANALYSIS BY ICP, EXCEPT FeO, H2OT, CO2T, CO2, C, S AND LOI BY CHEMICAL METHODS.
FE2O3 IS CALCULATED USING FE2O3=FE2O3T(ICP)-1.11134*FeO(VOLUMETRIC).
ICP-MJ1 DATA ARE OBTAINED ON 0.5 G OF SAMPLE FUSED WITH LITHIUM METABORATE,
DISSOLVED IN 5% HNO3 AND DILUTED TO 250 ML.

DATE: 31 AUGUST 87

CHEMISTRY SECTION
LABORATORY

97		98	
104B	869	104B	869
203		204	

SiO2 % :	58.5	65.1
TiO2 % :	0.48	0.37
Al2O3 % :	17.4	13.3
Fe2O3 % :	6.40	6.70
FeO % :	1.5	4.3
MnO % :	4.4	2.2
MgO % :	0.22	0.08
CaO % :	2.67	1.12
Na2O % :	2.18	0.26
K2O % :	4.10	0.10
S % :	3.43	7.25

H2OT % :	2.9	3.0
CO2T % :	1.1	0.1
P2O5 % :	0.28	0.31
S % :	0.20	0.80

ppm : 6300⁶³⁷⁷ 3100³¹⁶⁰

ALS : 100.1 98.6

ALL ANALYSIS BY ICP, EXCEPT FeO,
CALCULATED USING FE2O3
DATA ARE OBTAINED ON 0.5
IN 5% HNO3 AND DILUTE

FILE NAME : BALLANTYNE.S.B.
ROCKS
046-87

ELEMENT REPORT OF COMPLETED ANALYSIS

FILE NUMBER : 04687

SAMPLE	NAME	E - M - A	E - M - A	E - M - A
		F	CL	S-TOTAL
		DIONEX1	DIONEX1	DIONEX1
		PYROHYDROL	PYROHYDROL	PYROHYDROL
		PPM	PPM	PPM
		50	100	50
104B	869192	613.	< 100.	55761.
104B	869193	1010.	104.	6421.
104B	869194	703.	114.	254.
104B	869195	982.	< 100.	32868.
104B	869196	719.	< 100.	15455.
104B	869197	792.	169.	61.
104B	869198	677.	< 100.	6005.
104B	869199	397.	< 100.	101114.
104B	869200	578.	< 100.	253.
104B	869201	264.	< 100.	18179.
104B	869202	1418.	150.	18208.
104B	869203	541.	127.	2124.
104B	869204	732.	102.	7498.
104B	869205	460.	< 100.	220.

XRAL

REC'D OCT 27 1987

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46-87 BALLANTYNE S

CERTIFICATE OF ANALYSIS

TC: GEOLOGICAL SURVEY OF CANADA
 ATTN: PETER BELANGER, RM 715
 ECONOMIC GEOLOGY & MINERALOGY DIVISION
 601 BOOTH STREET
 OTTAWA, ONTARIO, K1A 0E8

CUSTOMER NO. 751
 DATE SUBMITTED
 30-JUN-87

REPORT 2155

REF. FILE 28296-L1

139 PULPS P.O. 23233-6-0859/31

WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
HG PPB	WET	5.000
TL PPM	ICPMS	0.100

20-OCT-87 REPORT 2155 REF. FILE 28296-L1 PAGE 2 OF 3

SAMPLE	HG PPB	TL PPM
1048 869191A	17	2.1
1048 869192A	840	2.1
1048 869193A	720	3.6
1048 869194A	19	1.4
1048 869195A	190	2.1
1048 869196A	160	1.5
1048 869197A	39	NSS
1048 869198A	270	NSS
1048 869199AM	990	0.8
1048 869200A	81	0.3
1048 869201A	140	2.2
1048 869202A	720	6.6
1048 869203A	19	1.2
---NSS --- NOT SUFFICIENT SAMPLE---		
1048 869204A	210	1.9
1048 869205A	17	3.0

* (See PAPER 83-15 (S. Abbey))

N.V. Dickham
 June 22/87
 (Rev. Aug 6/87)

not 503
 is a control
 reference
 sample

(RVT's Copy)

Suggested legend for main rock types
 for 1987 GSC mapping
 Mitchell - Sulphurets Area B.C.

Intensely Altered Rocks

8 [] ← Crayon number → Dominantly chloritic ^{green} massive hard & foliated altered (py, po etc.) rocks of uncertain origin.
 7 [] 942 quartz-sericite (chlorite) - pyrite schists (much after andesite breccia) - foliated in most areas

6 [] 939 "silicified" rocks (mainly relatively massive hard of clst - includes albited & contact metamorphosed hornfelsic & altered (py, po) rocks of uncertain origin)
 "Mitchell Intrusive Rocks" Intrusions

5 [] 921 trachytoid (qz?) syenite porphyry, maroon granite monzonite porphyry (intermediate & felsic intrusions)

4 [] 932 plagioclase-hornblende porphyry (monzonite, monzodiorite, diorite? porph.) & some dark, K-spar bearing Premier-type porph.
 Sedimentary Rocks

3 [] 945 } Greywacke, siltstone, black argillite
 mainly bl, grey & green-grey where altered } Slate (& green, grey & buff hornfelsic & interbedded pl. lithographites, equivalents) pebbly mudstones, conglomerate & sedimentary br.
 Volcanic Rocks

2 [] 910 Rhyolite, dacite, bedded dacite tuff, welded tuff

1 [] 909 Andesite, andesite breccia basalt, basalt breccia, tufts (minor interlayered sedimentary rocks) - mafic & intermediate epiclastic rocks

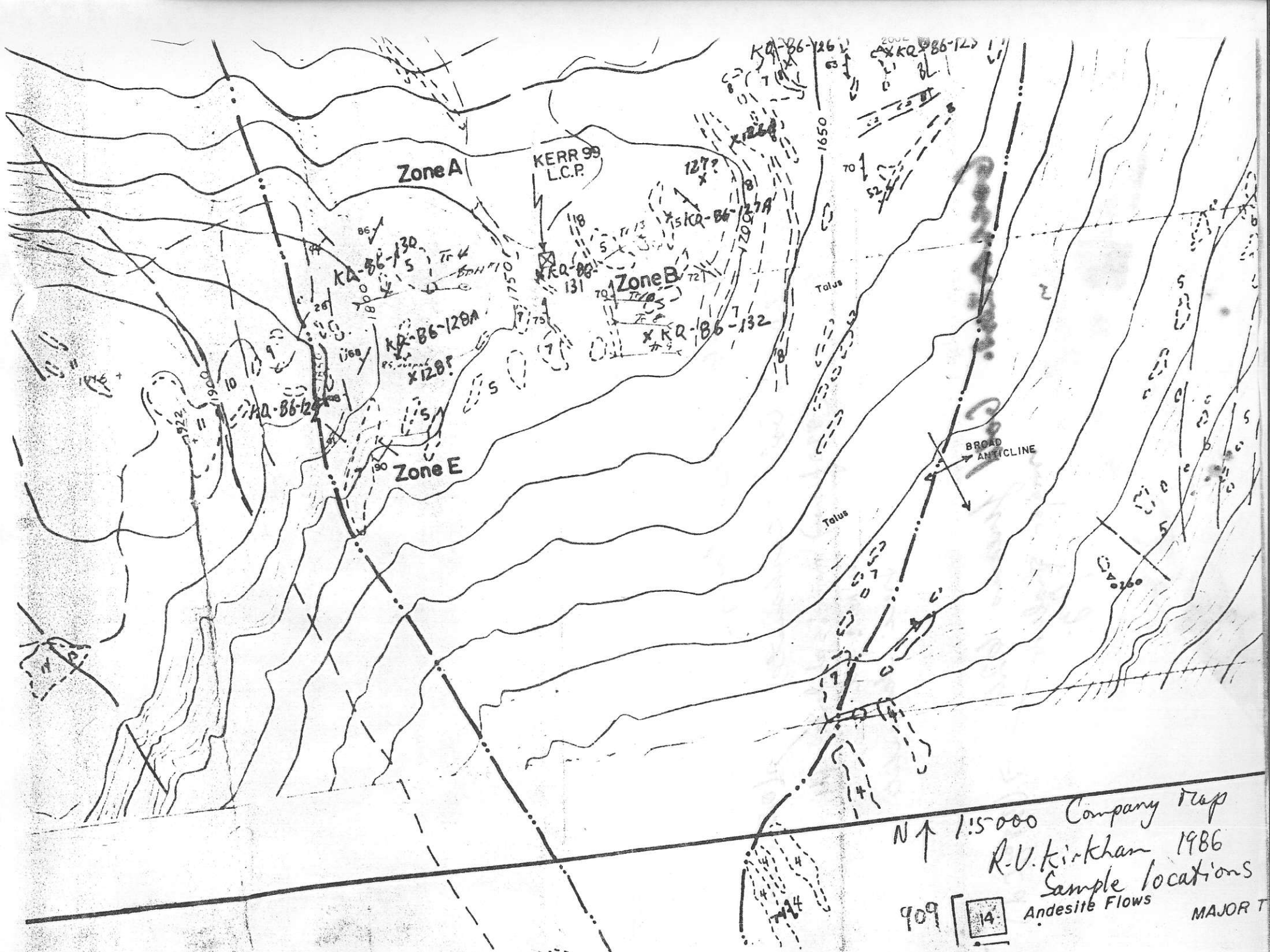
XX - Abundant quartz veins
 XX - Fault, lineament
 OR7-10 - Location station
 X34C - Sample site
 ~X35A - " " " (approx)

microprobe data + mineralogy.

Kerr C Zone: Gold + carbonate. → (0.3% Cd)

(820 fineness) major: sphalerite, cpy,
minor: gal
trace: tennantite

Kyber - Goosanzon. Gold fineness 620 → (3.8% Cd)
major sphalerite
cpy.



909

N ↑ 1:5000 Company Map
R.V. Kirkham 1986
Sample locations
Andesite Flows
MAJOR T