BATCH/86-158

Province of British Columbia Ministry of Energy, Mines and Petroleum Resources

PROPERTY FILE

007222

ANALYTICAL SERVICES REQUEST

Submitter: G.V. White
Number of samples: One
Special instructions: what is the green mineral, X-Ray
Project:
Air photo:
Date submitted: Dec 10 '86
Date required:
Area: Mt Washington
Card 1 of 1
Date started: Dec 12/86 (Recorded)
Date reported: Jan 08/86 (Spec subsequently requested.) APR 8 '87
Priority: ASAP
Chief Analyst: W. M. Johnson

PRINT CLEARLY (use dark pen or pencil)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

NTS	FLD NO	ZN	UTM E	UTM N	RXTYAG	ST	PROPERTY	COMMENTS
92F-11	Wash-1				ALRZ50	1?	MT. WASHINGTON	What is the green mineral – X-Ray

1

LAB NO	OXIDE	SPEC	XRD	MIN	PRP	Au	Ag	Cu	Pb	Zn	Co	Ni	Mo	Cr	Hg	As	Sb	Ba	Sr
32962	C P	(SQ) Q	✓		SEP														

2

LAB NO	OXIDE	SPEC	XRD	MIN	PRP	Au	Ag	Cu	Pb	Zn	Co	Ni	Mo	Cr	Hg	As	Sb	Ba	Sr
	C P	SQ Q			SEP														

3

LAB NO	OXIDE	SPEC	XRD	MIN	PRP	Au	Ag	Cu	Pb	Zn	Co	Ni	Mo	Cr	Hg	As	Sb	Ba	Sr
	C P	SQ Q			SEP														

4

LAB NO	OXIDE	SPEC	XRD	MIN	PRP	Au	Ag	Cu	Pb	Zn	Co	Ni	Mo	Cr	Hg	As	Sb	Ba	Sr
	C P	SQ Q			SEP														

5

LAB NO	OXIDE	SPEC	XRD	MIN	PRP	Au	Ag	Cu	Pb	Zn	Co	Ni	Mo	Cr	Hg	As	Sb	Ba	Sr
	C P	SQ Q			SEP														

6

LAB NO	OXIDE	SPEC	XRD	MIN	PRP	Au	Ag	Cu	Pb	Zn	Co	Ni	Mo	Cr	Hg	As	Sb	Ba	Sr
	C P	SQ Q			SEP														

SPECTROGRAPHIC REPORT

1 Si >10.0 Al 9.0 Mg 0.5 Ca 0.6 Fe 0.7
Pb T Cu 3.0 Zn T Mn 1.2 Ag T V T Ti 0.1 Ni T
Co 0.03 Na 0.5 K 1.8 W —, As 0.8, Mo 0.05, Ba 0.2
TRACE:- Cr, B, Y, Zr

2 Si >10.0 Al 8.0 Mg 2.5 Ca 0.5 Fe 5.5
Pb T Cu >10.0 Zn T Mn 0.35 Ag T V T Ti 0.4 Ni 0.01
Co 0.03 Na 0.5 K 1.0 W —, As >5.0, Mo 0.02
TRACE:- Sb, Zr, Sr, Ba, Cr

3 Si ___ Al ___ Mg ___ Ca ___ Fe ___
Pb ___ Cu ___ Zn ___ Mn ___ Ag ___ V ___ Ti ___ Ni ___
Co ___ Na ___ K ___ W ___

4 Si ___ Al ___ Mg ___ Ca ___ Fe ___
Pb ___ Cu ___ Zn ___ Mn ___ Ag ___ V ___ Ti ___ Ni ___
Co ___ Na ___ K ___ W ___

5 Si ___ Al ___ Mg ___ Ca ___ Fe ___
Pb ___ Cu ___ Zn ___ Mn ___ Ag ___ V ___ Ti ___ Ni ___
Co ___ Na ___ K ___ W ___

6 Si ___ Al ___ Mg ___ Ca ___ Fe ___
Pb ___ Cu ___ Zn ___ Mn ___ Ag ___ V ___ Ti ___ Ni ___
Co ___ Na ___ K ___ W ___

X–RAY DIFFRACTION REPORT AND COMMENTS

32962 Wash-1 The bluish green coating on the submitted specimen is amorphous. It appears to be some sort of pigment, probably artificial.

Two subsamples dominated by the green coating were subsequently scraped off from the submitted specimen for emission spectrographic analysis. Because the coating is extremely thin, variable amounts of underlying material were unavoidably included in the subsamples. Among these, quartz and muscovite are the only crystalline phases identified. These two minerals account for most of the Si, Al and K contents of the subsamples while Mn and some Fe are probably hosted by the amorphous black hydrated manganese oxide and yellowish brown limonite. Thus, the green coating appears to be a compound or a mixture of compounds of Cu, As and minor Mg ± Fe ± other metals. A mixture of common pigments* consisting dominantly of chrysocolla ($CuSiO_3 \cdot nH_2O$), emerald green [$Cu(C_2H_3O_2)_2 \cdot 3Cu(AsO_2)_2$] and minor green earth (mainly celadonite) would have similar composition and physical properties as the green material. However, whether the coating is really a mixture of such pigments or not is beyond the current capability of our laboratory to confirm.

* See Handbook of Chemistry and Physics. Also, a component similar to malachite is not suspected because the green coating was decomposed by 10% HCl without effervescence.

KEY

COLUMNS 28–31

UMFC	ultramafic	GRNS	greenstone	TRCT	trachyte	SKRN	skarn	SNDS	sandstone
ANDS	andesite	MNZN	monzonite	TUFF	tuff	GOUG	gouge	SHLE	shale
BSLT	basalt	OBSD	obsidian	AMPB	amphibolite	ARGL	argillite	SLSN	siltstone
CRBN	carbonatite	PNLT	phonolite	CLCC	calc-silicate	CHRT	chert	MRLZ	mineralization
DCIT	dacite	QZPP	quartz porphyry	GNSS	gneiss	COAL	coal	MVSP	massive sulphide
DORT	diorite	RYLT	rhyolite	MRBL	marble	DLMT	dolomite	DISS	disseminated
GBBR	gabbro	SRPN	serpentinite	PLLT	phyllite	LMSN	limestone	SCKK	stockwork
GRNT	granite	SNKN	shonkinite	SCST	schist	MARL	marl	VEIN	vein
GRDR	granodiorite	SYNT	syenite	HRFL	hornfels	QRTZ	quartzite	ALRZ	alteration

COLUMNS 32 – 33

04	Proterozoic	12	Cambrian	21	Mississippian	34	Jurassic
05	Helikian	14	Ordovician	22	Pennsylvanian	36	Cretaceous
06	Hadrynian	16	Silurian	24	Permian	40	Cenozoic
10	Paleozoic	18	Devonian	30	Mesozoic	42	Tertiary
11	Prot.–Paleozoic	20	Carboniferous	32	Triassic	44	Quaternary
						50	Unknown

COLUMN 34 SAMPLE TYPE

1	Single grab sample
2	Channel/chip
3	Composite sample
4	Drill core
5	Talus or transported
6	Soil
7	Silt
8	Other

COLUMN 35 % SULPHIDE

0	<0.5
1	0.5–1
2	1–10
3	10–50
4	>50

COLUMNS 36 – 43

Mineral Inventory Number or property name

COLUMNS 44 – 80

Comments

ANALYTICAL METHOD

AA	ATOMIC ABSORPTION
AH	HYDRIDE GENERATION
FA	FIRE ASSAY
ES	EMMISSION SPEC
XR	X–RAY FLUORESCENCE
WC	WET CHEMICAL
CL	COLORIMETRIC
CV	COLD VAPOUR

SAMPLE PREPARATION

W	TUNGSTEN CARBIDE
C	CERAMIC
S	STEEL