

673986

Black Fox Mountain  
Sampling Notes  
Aug. 20 → 27, 1983  
Ron Stephen

Aug. 21/83

width, depth, type, texture, colour, % organics, speed, petrology.

83CAZ 225 4", 4", silt, med., pink/brown, 0%, fast, volcanics

83CAZ 226 4", 4", silt, fine, med brown, 0%, slow-med. volcanics  
at 69m, 30m N

83CAZ 227 4", 4", silt, very fine, med brown, 20%, slow, volcanics  
at 196m, 30m S

83CAZ 228 6", 2", silt, med, light brown, 0%, fast, chert } at  
South Fork } 500m,

83CAZ 229, 5", 3", silt, fine, med brown, 40%, fast, chert } 50m  
North Fork } apart

83CAZ 230, 4", 4", silt, fine, med brown, 0%, fast, chert

1K 83CAZ 231 4", 4", silt, med, pink/brown, 0%, med, chert, 43m N

83CAZ 232, 5", 3", silt, fine, dark brown, 30%, slow, chert, 225m N

Aug 23/83

width, depth, type, texture, colour, % organic, horizon

83CAA 0+00N 6", 12", soil, fine, gray/brown, 20%, A

83CAA 0+50N 6", 12", soil, fine, gray/brown, 20%, A

83CAA 1+00N 6", 8", soil, fine, light brown, 20%, A

83CAA 1+50N 6", 8", soil, fine, light brown, 20%, A (rocks)

83CAA 2+00N 6", 8", soil, fine, red/brown, 20%, B

83CAA 2+50N 6", 8", soil, fine, red/brown, 20%, B

83CAA 3+00N 6", 8", soil, fine, red/brown, 20%, B

83CAA 3+50N 6", 24", soil, fine, red/brown, 20%, B

83CAA 4+00N 6", 10", soil, fine, gray/brown, 20%, A

83CAA 4+50N 6", 14", soil, fine, red/brown, 20%, B

83CAA 5+00N 6", 10", soil, fine, light brown, 20%, A

83CAA 5+50N 6", 12", soil, fine, light brown, 20%, A

83CAA 6+00N 6", 12", soil, fine, red/brown, 20%, B

83CAA 6+50N 6", 8", soil, fine, red/brown, 20%, B

83CAA 7+00N 6", 8", soil, fine, red/brown, 20%, B

83CAA 7+50N 8", 5", gravel, coarse, gray, 10%, A (rocks)

83CAA 8+00N 12", 6", soil, fine, dark brown, 20%, A (rocks)

83CAA 8+50N 8", 8", soil, fine, gray/brown, 20%, A (rocks)

width, depth, type, texture, colour, % organic, Horizon

83CAA 9+00N	8", 24"	soil	Fine	gray	20%	A
83CAA 9+50N	6", 12"	soil	Fine	light brown	20%	B
83CAA 10+00N	6", 6"	soil	Fine	red/brown	20%	B
83CAA 10+50N	6", 6"	soil	Fine	light brown	20%	B
83CAA 11+00N	6", 8"	soil	Fine	light brown	30%	B
83CAA 11+50N	6", 8"	soil	Fine	red/brown	20%	B
83CAA 12+00N	6", 10"	soil	Fine	red/brown	30%	B
83CAA 12+50N	5", 7"	soil	Fine	med brown	20%	B
83CAA, 13+00N	6", 10"	soil	Fine	red/brown	20%	B
83CAA, 13+50N	6", 14"	soil	Fine	gray/brown	30%	A
83CAA 14+00N	6", 14"	soil	Fine	gray/black	30%	A
83CAA 14+50N	6", 7"	soil	Fine	dark brown	30%	A (Cracks)
83CAA 15+00N	6", 18"	soil	Fine	gray	20%	A
83CAA 15+50N	6", 14"	soil	Fine	dark brown	30%	A (Crack)
83CAA 16+00N	6", 10"	soil	Fine	red/brown	10%	B
83CAA 16+50N	6", 6"	soil	Fine	red/brown	10%	B
83CAA 17+00N	6", 8"	soil	Fine	red/brown	10%	B
83CAA 17+50N	6", 9"	soil	Fine	light brown	20%	B
83CAA 18+00N	6", 12"	soil	Fine	dark brown	30%	A (Crack)
83CAA 18+50N	6", 8"	soil	Fine	light brown	20%	B
83CAA 19+00N	6", 8"	soil	Fine	light brown	20%	B
83CAA 19+50N	6", 24"	soil	Fine	red brown	20%	A
83CAA 20+00N	6", 8"	soil	Fine	med brown	20%	B

Aug. 24/83

width, depth, type, texture, colour, % organic, speed, petrology

83CAZ 233	6", 2"	gravel	course	gray	0%	mod., chert
83CAZ 234	6", 2"	gravel	course	gray	0%	fast, chert
83CAZ 235	4", 4"	silt	mod.	gray/brown	0%	fast, chert
83CAZ 236	4", 4"	gravel	course	gray	0%	fast, volcanics
83CAZ 237	4", 4"	silt	mod.	gray/brown	0%	fast, chert
83CAZ 238	5", 3"	silt	Fine	med brown	0%	fast, chert
83CAZ 239	5", 3"	silt	Fine	med brown	30%	fast, chert
83CAZ 240	5", 3"	silt	mod.	med brown	0%	fast, chert
83CAZ 241	4", 4"	silt	mod.	med brown	0%	mod., chert
83CAZ 242	4", 4"	gravel	course	gray/brown	0%	fast, chert
83CAZ 243	4", 4"	silt	Fine	med brown	0%	fast, chert
83CAZ 244	4", 4"	silt	mod.	med brown	0%	fast, chert

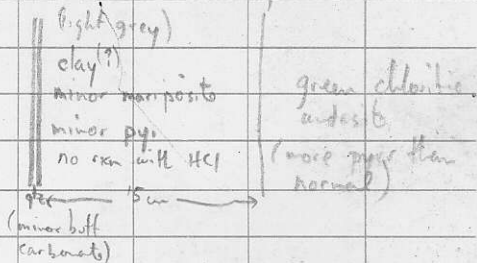
AUG 20, 1983

BLACKFOX MTN

H. J. MACK

HAB3-88 Flow(?) andesite. Green soft to chloritic andesite with minor disseminated pyrite. Flow banding (mixed-up wavy lines and swirls on weathered surfaces and blade chloritic(?) <sup>wavy</sup> ~~fracture~~ hairlines throughout). Not magnetic. Locally minor pyrite, rather than pyrite.

There are several narrow (0.5-1 cm) vertical veinlets  $\approx 170/90W$  cutting the andesite with symmetric 15 cm alteration envelopes



Chert is light grey to black, is compositionally ribbon-banded (0-90% black shaly argillite composed in 1 cm - 5 cm bands, slightly warped,  $\approx 110/50S$  locally contorted). HAB3-89 Minor pyrite

There are isoclinal folds in the chert exposed in the creek banks  $\approx 070/60S$   $\uparrow$  100/50

AUG 20, 1983

H83-08

Flow andesite

89

Rubber clast

90

Qtz vein alteration

32879

Fe-carb breccia flat

91

Oolitic hematite

32880

Fe carb at camp.

AUG 21, 1982

92

Siltstone

93

Andesite tuff breccia

AUG 23

32881

High grade - tetra

32882

Chip Sample - tetra

AUG 23

94

Pyritic shale

32883

Fe-carb

32884

Fe-carb, variscite

95

Fe-carb, pyrite

AUG 25, 1983

96

Diorite

There is a 1m-2m Fe-carb altered zone (w. brecciated chert) at western contact of chert and andesite in creek

32879c Brecciated andesite, silicified in Fe-carbonate - minor variscite matrix. <sup><1% Fg py</sup> along fractures and in clumps. Flout (near place). Boulders 50m across

HA83-90 Alteration adjacent to narrow qtz vein of page 1. Weakly altered - much f<sub>g</sub> py, lighter grey, orange weathering. These alteration envelopes very common in flow andesite

HA83-91 flout of oolitic hematite. Magnetite and jasper fill pores between oolites. O<sub>2</sub> on top of hill is red chert (almost jasper), variably phyllitic (sheared? argillaceous?)

32880 Fe-carb alteration, minor py. 2m wide (exposed) May flark 10cm qtz vein X 120/105  
Chert. At camp

AUG 21, 1983

BLACKFOX MTN

HA83-92

Siltstone - grey, bedding (?) fractures  
every 2-5 cm, minor dissem fg pyrite, granular

↑ 160/10W

HA83-93

Andesitic tuff-breccia. Very distinct  
angular clasts ranging from light grey to purple  
grey to chloritic green and from ash-size  
to 3 cm. Minor dissem py in clasts. Minor  
grey alteration (dopside?) along fractures. Grey  
color overall; weathers to olive-green, flat-sided  
angular blocks.There are big milky qtz vein boulders in  
this creek and Fe-carb altered float.

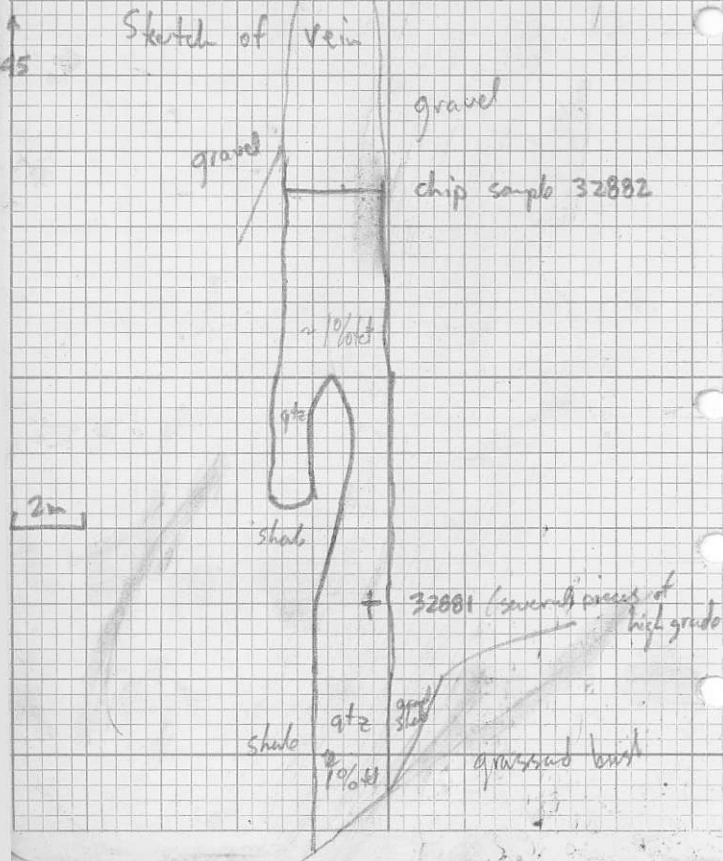
32880

"Ore shoot" in wide kinonitic  
quartz vein. High grade section 30 m  
wide. 2-10% tetrahedrit, minor py (esp  
in shale inclusions. <sup>Common on all 32880's</sup> Minor malachite. Milky  
qtz w. abdt shale inclusions. 30 m from  
east wall of veins. Assay CuAgAuAs30 m east is an overhang/cave/abt? in the shale.  
The shale is jarositic, with abdt milky qtz veinlets

but I can't see why it would have been blasted out. May be natural.

32882 Chip sample across same vein as  
 sample 32881. Tetrahedrite is disseminated, mainly near walls.  
 Horizontal width of vein is 260 cm. Orientation  
 of vein (not obvious, since wallrock is eroded)  
 appears to be about 045/70NW. Smaller  
 veins parallel it. Qtz is monitic with much  
~~brecciated~~ brecciated wallrock inclusions

Sketch of vein





The chip sample 32002 is representative of the vein (exposed) for both width and amount of tetrahedrite (neither highest grade section nor lowest. Vertical drop from highest point (S) of sketched o/c to lowest is about 10 m. There is gravel for a further 26 m to the NE, then continuous o/c in creekbed shows a zone 1.5 m wide of milky qtz stringers and veins (no det, no limonite) in line with vein.

AUG 22/83

Fox

Staked Fox 1 # 72854 3W 4N

Crossed 1<sup>st</sup> creek 750m north of LCP

" 2<sup>nd</sup> creek 990m " " "

3<sup>rd</sup> 1495m

4<sup>th</sup> 1860

Siltstone cliffs (small) AN 0-120W

3W 3N ad 3W 1N Posts flagged but not placed

BLACKFOX MTN

AUG 23/83

HA83-94 Black shale - 10% fg pyrite in slightly folded bands and nodules. Appears syngenetic. Cores from 1m bed exposed in creek 460m below camp. No rxn w. zinc zap.

Interbedded volcanics (a tuffaceous chert?) and shale just downstream.

32883 Extensive Fe-carb zone. Brecciated siltstone in arkosite (sl. waxy) matrix. No mariposite; v. minor vfg py. Little assoc. qtz flint. ~10m wide E/W

To south, in small cirque, the zone widens to about 25m with several narrow (10-40cm) limonitic qtz veins. (North wall). Flanked to east by chert (gr. gr)

32884 Same Fe-carb zone as 32883. Up to 20% mariposite (same surrounding chert) mainly fracture related. Much qtz, less arkosite, 100m wide (including fingers into arkosite (to west and south). No pyrite. No significant qtz veining

HA83-95 Same Fe-carb zone. Silicified breccia: 2% fg py in clumps and stringers (contemp with qtz). V. rare. Not representative of zone as whole.

It is of interest that the widest and most altered part of this Fe-carb zone lies near the sediment/andesite contact (contact lies under talus). Cf. Voltag vein and other argillite/andesite contact veins.

There are sporadic Fe-carb zones throughout the volcanics west from the ~~East~~ andesite/silt contact at south side of cirque. Estimate 20% of volcs strongly altered.

32885 Wide zone of milky qtz veining. Qtz veins, 0.5-2.0 m thick cover 90% of a 30 m-wide zone trending 080/90 (approx) near at sed/volc bdy. Qtz is milky, no sulphides, sl. limonitic at contacts. Footwall (to W) clst is foliated ~080/30E. Zone exposed for 20 m width in creek.

BLACKFOX

AUG 24

7

Mapping FOX

Placed 3U1N and 3W3W posts

83 CAZ-112 30m x 5m nod gr gravel/sand/  
silt 1% org. shale and andesite.

The tetraledite-bearing Qtz vein (32881, 2) ~~is~~  
enters bush at its SW end. About 50m SW,  
bush ends; <sup>talus</sup> gravel with scattered shale o/c  
Qtz-flout is limonitic, milky, contains brecciated  
fragments, but no tetraledite, and is sparse. ie  
vein < 100m (prob 20m) long

Also on ridge to SW is axe-sharpened  
pole, half-rotted, remains of flagging tape. ie  
Possibly worked on as recently as 1965?

BLACKFOX AUG 25, 1983

HAB3-96 Diorite - equigranular, med-grained  
30% pale-green plag; 70% black augite (?); minor disse  
pyrr. Presumably forms sills and feeder dikes  
for Sylvester andesites. Green-grey weathering

Rock float similar to HAB3-91 on ridge top  
west of cap. The spheroidal hematite and interstitial  
magnetite apparently are fracture-controlled (ie  
not sedimentary; not oolitic). They occur in dk  
green chloritic basalt or andesite (quite magnetic) with  
successive 5mm fg. magnetite selvage and 20mm pale  
green epidote selvage.



← 30cm →  
qtz stringer  
fg. mag  
Serpentine veins

## ROCK TYPES -

All rocks in this area belong to the Sylvester Group. They have been separated as follows. (though each unit may contain ~~bed~~ strata from any other unit)

## UNIT 1: SHALE (Spec HA83-94)

This shale is black, very fine-grained, fissile, pyritic (Spec. HA83-94, with 10% pyrite in ~~bed~~ folded bedding laminations is exceptionally pyritic) and easily weathered. Much of the area mapped as shale also contains shaly chert and black fissile siltstone, too interfingered to separate at this (or any?) scale.

UNIT 2: SILTSTONE and <sup>GREYWACKE</sup> SANDSTONE (Spec HA83-92)

The siltstone is granular, grey, poorly bedded and contains minor disseminated fine-grained pyrite. The greywacke is a slightly coarser, and more poorly sorted version of the siltstone.

## UNIT 3: CHERT (Spec HA83-89)

The chert is very variable. The tops of some of the ridges west of camp is composed of hematitic, phyllitic (platey) chert. Closely associated with andesites are beds of grey-green tuffaceous (?) chert. The chert near camp is variably shaly, and is thin bedded (2-5cm) and shades of grey in color. Locally the chert contains fine-grained disseminated pyrite.

## UNIT 4- ANDESITE (Spec HA83-88)

Much of the andesite is flow-banded (green, soft, finegrained, chloritic, minor disseminated pyrite or pyrrhotite, no magnetite). Some (Spec HA83-93, a tuff-breccia) is obviously volcanoclastic and has been separated as unit 4a. Any andesites not obviously volcanoclastic are assumed to be flows and are included in unit 4.

There are small patches of rubble west of camp with andesite (or basalt)

containing jasper spheres and interstitial magnetite (Spec HAB3-91), apparently as replacements along fractures.

#### UNIT 5 - SERPENTINITE

A few very small outcrops of serpentinite occur on the western border of the Fox claim group.

#### UNIT 6 - DIORITE (Spec HAB3-96)

**STRUCTURE** Presumably sills and dikes feeding the Sylvester andesites, the diorite is moderately-grained, equigranular and composed in equal parts of pale green plagioclase and (slightly-chloritized) actinolite, with minor disseminated pyrrhotite.

#### STRUCTURE & STRATIGRAPHY:

The few bedding measurements taken strike E-W and dip steeply to the south. This contradicts the regional bedding and is not supported by the outcrop pattern. A gentle westward dip is more compatible with them. Tightly-folded chert bands are exposed in the creek west of camp.

Faulting at least on a small scale, is very evident. Slickensides accompany most quartz veining and carbonate alteration zones but have no consistent orientation.



### ALTERATION & MINERALIZATION:

The only mineralization of significance is a tetrahedrite-bearing quartz vein <sup>2km</sup> NE of camp. The vein, exposed for 23 m horizontally and about 10 m vertically in a creek gully, averages 260 cm wide horizontally (about 200 cm true width, if orientation  $\approx 045/20NW$  is correct). The vein is of milky qtz with abundant brecciated pyritic shale (wallrock) fragments. Tetrahedrite content is highest near the walls (up to 10% tetrahedrite) and averages 1% over the width of the vein. Sample 32881c is one of the best-mineralized material; 32882c is a chip sample across a representative section of the vein.

Twenty-six meters north-east of the north-east end of the exposed vein, (the intervening ground is covered by gravelly talus) continuous outcrop in the creekbed shows only a 1.5 m zone of intersecting milky quartz stringers and veinlets without limonite or tetrahedrite. The south-west end of the exposed vein is covered by the brush and trees of the ridge-top. However, about 50 m SW from there, another gully ~~has~~ has exposed scattered shale outcrop and gravelly talus. Sparse quartz float is milky, limonitic and contains breccia fragments but has no tetrahedrite.

The quartz-tetrahedrite vein, then is between 23 m and 100 m long on surface. There are many other ~~of~~ smaller quartz veins nearby (and in this whole series of gullies), most without limonite and none with tetrahedrite.

The RAM showing, also of tetrahedrite<sup>qtz</sup> veins in argillite, lies ~~at~~ a further 2500 m to the north-east. I don't know the ~~sign~~ importance of that showing (beyond that a VSE company did some trenching and drilling on it in 1969), but there should be good potential for finding further quartz-tetrahedrite veins in the intervening ground. The whole of this valley is covered by brush and trees but bedrock is near or at the surface; soil sampling for Cu and Ag (and/or Au and As if these kick in the vein samples) ~~sh~~ should be effective.

I assume that the qtz-tetrahedrite samples ~~should~~ <sup>will</sup> assay well for Ag and Cu, and may carry Au. I checked for tin since tetrahedrite in this area is reported  
some

to be stanniferous.

There is a very prominent Fe-carbonate alteration zone three kilometers southwest of camp. ~~Sample 32883c~~. It trends about 160° for over 500 meters, widening from 10 m wide at its north end (Sample 32883c) ~~and~~ to over one hundred meters wide at its southern exposure (it disappears under a grassy plateau) where it horsetails into a dozen zones fingering into andesite. Pyrite is rare (Spec. HAB3-95 is an exception), but ~~mariposite is locally abundant (and common throughout) in the south wall of~~ is common throughout (and locally abundant) the south cirque-wall (Sample 32884c). There is no significant qtz veining exposed.

A mass of milky quartz veins, very slightly limonitic) is exposed nearby in the creek at the contact between andesite and sediments.

Quartz veinlets throughout the andesite have carbonate-alteration <sup>envelopes</sup> ~~sediments~~ (Spec HAB3-90) up to twenty times their width. These produce rusty patches of no real significance in all areas of andesite outcrop.

Samples 32879 and 32880c are from small (~2m <sup>1/2</sup> wide) iron-carbonate alteration zones probably flanking small quartz veins.

### MISCELLANEOUS (3W4N, 72854)

1. FOX 1 claim group was staked Aug 22, 1983 to cover the quartz-tetrahedrite vein ~~and~~ The vein, by itself, is not big enough to bother with, but given favorable Ag-Au assays, a soil geochemical search should be made for more (bigger, higher-grade, etc) veins in the belt of shales and argillites along this creek valley.
2. There is a ~~or~~ half-rotted, axe-sharpened pole lying near the quartz-tetrahedrite vein (15-20 years old?) and an unusual square (blasted?) five-foot deep cave/overhang/adit portal nearby (40 years old?), so this vein has been looked at before.
3. An attempt was made to enlarge the 1:50,000 map to 1:5000 as a base for mapping the FOX claims. However, this gave a 1:5000 map with worse than 1:50,000 accuracy; the geology map was useless and discontinued.