

Mt. Skukum Tertiary Volcanic Complex: Monzei Suite

- situated in the northernmost end of the NW trending Sloco Volc. Province belt, as downdrops in valleys & high coverings.
- intermediate to acid in composition
- down faulted block, EOCENE in age (52 my Rb dating)
- remnant of a STRATO VOLCANO
- ** formerly Unit 11 of old GSC 1:250,000 map now included in Skukum volcanic as Joanne said
- consists of four formations:

FM4 Abx & Int: two bx types hetero ~~basalts~~ & monolithic breccias (one + 200' thick)
 - evidence suggests near vent
 - calc alkaline, high K
 - distinct group
 - high Mg ⇒ PRIMITIVE MAGMA

FM3 Felsic Flows
 - high K
 - low Mg

FM2 Interlayered Aflows & Epiclastics
 - Distal
 - A to D in composition
 - High K, calc alkaline

FM1 Interlayered Sed-Volc sequence - debris flows.

Magma: evidence suggests events included repeated magma supply
 repeated fracturing
 repeated eruption

STRUCTURE & MINERALIZATION

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- NNE trending fracture system, steeply dipping
- varying degrees of fracture development
- hosts Au at Mt Skukum
- dykes also follow this trend

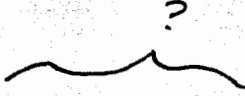
Two Vein Types

V₁vn - FM4

- < 4 cm
- blue green siliceous to non siliceous material is common fracture filling
- No Au

V₂vn - cm to m m' width

- follow NNE fractures
- good rare F
- host Au

- Area near veins more propylitically altered; [?] how? 
- Similar veins outside Skukum (Vale?), no Au, NNE trend & may also contain gypsum
- Veins are spatially associated w vent area

Cop - indicates vent
= hypoteme?

SUMMARY

FM1 = felsic & pyroclastics

~~FM1~~ flows, distal

FM2 = lava flows & epiclastics, proximal

FM3 = felsic flows, down-dropped caldera

FM4 = Vent Facies

- A-R composition, high K series
- Veins are spatially related to vents.

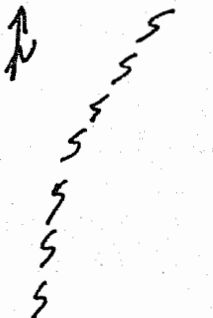
Geology & Mineralization - Mt Skukum Au-Ag Deposit

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Bruce W.R. McDonald

- GENERAL :
- occur in stratigraphicocene volcanics
 - economic veins are quartz carbonate ± trace sulfides
 - little associated alteration
 - ORE GRADE 0.85 g/t Au; 0.866 g/t Ag
 - Best assay +8 g/t Au over 0.8 m
 - veins occur in three subparallel zones all associated with a fault
- ① MAIN ZONE
 - ② BRANDY ZONE
 - ③ LATE ZONE

FAULT ZONE : 20 to 30 m wide

- 
- consists of 2 to 3 major faults with heavy fracturing
 - dogleg form, dips E at 80°
 - poorly defined on surface
 - massive & stockwork veins occur along the fault
 - also several subparallel veins
 - acts as a conduit for fluids

MAIN ZONE :

- Andesite dipping gently SW, cut by steep Rhyolite dyke & breccia bodies trending NNE
- Mg, plagioclase destructive propylitic alteration near the deposits
- ~~is parallelled by the~~
- fault is parallelled by the felsic dyke (up to 30 m wide)
- cut by Andesite to Dacite dykes which are cut by mineralized veins

Rhyolite Dyke : has highly siliceous matrix with Andesite to Dacite fragments, MINOR Au

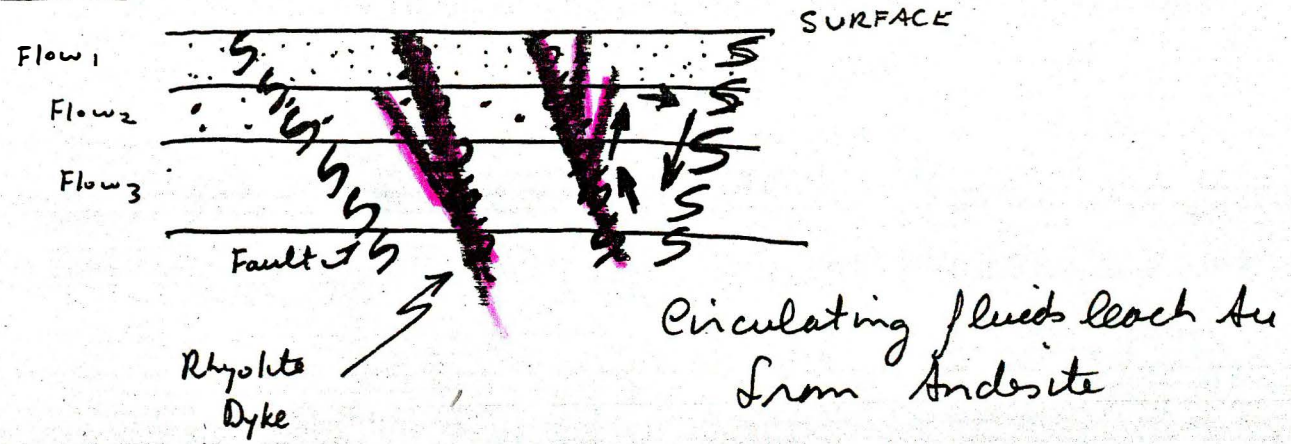
Two Stage Veins

- ① - blue grey calcedonic veinlets
 - pyrite selvages & envelopes
 - intensely silicified
 - weak argillie alteration
 - kaolinite, quartz, calcite
 - occurs as a dense stockwork
 - gossans on surface
 - NO Au

- ② - white quartz, calcite, minor amibrite
 - calcite commonly bedded
 - sugary, massive to vuggy
 - no sulfides
 - maximum ~10 m wide, dips E 80°
 - occur throughout the main curque, most along the main fault
 - Au : 30 to 40 g/t
 - : 15 to 20 microns, only associated with quartz
 - : highest in veins with quartz and calcite

ALTERATION - nil to weak
 - occasionally phyllitic alteration 1 to 2 cm wide found in larger veins.

MODEL



Geology & Mineralization of the Venus Au-Ag Deposit

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Lori Walton

GENERAL

- epithermal vein similar to those in U.S. & Mexico
- open space fractures, vertically zoned sequence
- in late Cretaceous Hutshi Group Andesites (now thought to be equivalent to Mt. Nansen *not according to Dink)
- Au Ag Pb Zn quartz vein
- the dyke marks a zone of weakness in the medium grained flows & breccias

VEINS - trends NE, dipping 30 to 35° NW

- 1300' vertical extent, averages 3' wide
- consist of low level milky white quartz
- commonly vuggy, cockscomb structure
- high grade & waste veins look similar - must assay ~~these~~

MINERALIZATION

- occurs in bands & lenses
- widths vary from 1' to ribbons
- is concentrated on hanging wall & foot wall
- 95% sulfides arsenopyrite, pyrite, galena, sphalerite
- minor tetrahedrite, pragerite ...
- weathered surface exposure scorodite, limonite ...
- sulfides generally decrease with depth except sphalerite (increases)
- three ore shoots of the main area of the vein
- other high grade sections are not as continuous & pinch & swell
- a good indication of Au bearing material (ore) is presence of galena & sphalerite together - especially if tetrahedrite & pyrite are also present
- centre of vein is poorly mineralized quartz core
- arsenopyrite, quartz & pyrite are most common in the vein system

Au : occurs as electrum

: carried by pyrite & arsenopyrite as inclusions and fracture fillings

Ag : in galena with minor Cd

Chip samples assayed 1.46 g/t Au 0.41 g/t Ag

ALTERATION - bleached, felsic appearance of host 10 to 15' from vein
 - intensity increases toward vein
 - quartz, sericite, carbonate, limonite, arsenopyrite & pyrite

CLAY ALTERATION : not common to all ore shoots

: increases in width & intensity toward surface

: very intense

: veins vary from white quartz to black powdery sulfide & little quartz

CONCLUSION

Venus Veins fit Buchanans model for low pH alteration assemblage with downward leaching

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Geology of the Oliver Creek Tri-Silver Deposits - Yukon

Diane S. Emmond

Oliver Hill, central Yukon, NW Selwyn Basin

EDP M.C.

Ag-Sn bearing Breccias

GENERAL

- Quartzite, quartz mica schist both of the Great Unit are intruded by an intrusive plug Granite to Quartz Monzonite composition
- minor Rhyolite occurs in general vicinity, dated 85 my

LOCALLY

Calcschists, Marble & Amphibolite are intercalated with the Great Unit

- BRECCIAS : occur within Quartzites
- : pinch & swell along strike E-NE, dip steeply S
 - : a border of quartz & chlorite increase toward breccia
 - : numerous breccia types
 - : Rock Flour Breccia & Crystalline Matrix Breccia (Quartzite fragments) are cross cut by other breccias
 - : Other Breccias include chlorite breccia, tourmaline breccia, calcite breccia, quartz breccia, muscovite breccia, siderite breccia

Quartz Breccia : barren
: cross cut by tourmaline breccia

Tourmaline Breccia : Fe sulfides, biotite, Sn bearing
: cross cut by chlorite breccia

Chlorite Breccia : fragments & crystals of coarsite
: sphalerite, pyrite, minor Fe sulfides
: cross cut by calcite breccia

Calute Breccia: E veins
: local fluorite

- g. Rock Flon Breccia is also Sn bearing

SURFACE EXPRESSION: limonite, kaolinite, & manganese

// Similar to occurrences in Cornwall England
& some deposits in Bolivia