

PH01-08

0-4.30m OVERBURDEN

4.30-9.60m FELSIC VOLCANICS - siliceous quartz and sillimanite rich, few quartz eyes throughout, few rusty fractures, irregular (wispy) dark layers (~0.5 cm wide or less) defining foliation

Overall sulfides 3-5%; fine-grained disseminated pyrite locally and along dark layers; irregular patches and layers of reddish brown sphalerite; trace chalcopyrite

5.46 m 2 cm wide pyrite rich layers @ 70-80CA, disseminated pyrite with <1% sph within

7.20-7.60m sph, po-rich with quartz (90CA) with cpy, py, sph? Along fractures

9.50 1 cm wide quartz vein

9.60-11.50m DACITE - purple fine-grained with irregular subrounded unfoliated fsp-rich (Kfsp and albite; overall ~15% fsp por); chloritized amphibole; sharp upper and lower contacts 40CA

9.80-10.05m Very fine-grained dacite or diabase xenolith: isolated, rounded 9 cm wide with fine grained amphibole rich (5-10%) grey colored; same again 5-6 cm top contact 60CA, bottom contact 30CA

11.50-56.20 FELSIC VOLCANICS - same as above, overall 1-3% sulfides (diss py, po, sph) along darker layers, foliations 60CA@12.00m; locally rich in sulfides (3-5%) layers

At top contact is a thin fracture with py ($\pm$ tr cpy) @ 0-5CA crosscutting foliation of felsic volcanics and in places displacing foliation (@ 11.85m)

14.26m Fine-grained, darker biotite-rich (sheen along cross section of core); foliation is still same as above but defined by thin layers of qtz and biotite ~1 mm thick (foliated 15.49m @ 80CA); minor pyroxene (2%), trace diss py

14.84-16.00 Thin quartz veins (<1 cm wide) 60-70CA, boudinaged, green alteration at contact, minor diss py

16.19m - sulfide increasing to 5-7% (sphalerite<<py along darker layers), gradual increasing quartz layers (80-90CA) interlayered within (<0.5 cm wide) darker layers which have diss very fine grained py $\pm$ po; cross section of core show darker layers to be phlogopite/biotite-rich (sheen) Up to 6 cm wide sulfide rich layers(po, py) in quartz rich layers, trace cpy, sph?

Continue downhole but variable patches; sulfide wrap around qtz grains

Po/py along thin microfractures (30CA) crosscutting foliation (60CA) @ 17.70m

Few local qtz eyes

18.49m Sulfides decrease to <<1% sulfides (very fine grained py)

Foliation 60CA @ 19.80m, minor qtz veins < 1cm wide with green alteration, some boudins of qtz (50-70CA) $\pm$ diss py>po, sph?

Thin dark layers of sulfides @ 21.44m (70CA) and thin po-py rich fracture and some folded layers of felsic volcanic

Very fine grained qtz poor felsic volcanics with very fine grained pyrite along fractures; quartz blebs with minor alteration

Increasing sulfides to 3-5%, dominantly py-po @23.32m, generally along darker layers

Alteration and silification of felsic volcanic throughout in different zones with max 10-15% py, qtz veins with py; bleaching of felsic volcanic and silification, trace <1% cpy and py

Qtz vein 26.96m (60CA)

26.90-27.17m Po-py rich zone (7%) with quartz veins, trace cpy (foliation 70CA)

28.61m Increasing quartz (and sillimanite?) With pyrite, po, sph along foliation (70CA @28.66m)

Going downhole: very fine grained diss py throughout, local phlog; qtz veins and blebs with minor po, py and alteration

29.66-30.00m Sulfides increasing downhole: very fine grained diss po/py along thick 2.5cm and thin 2-3mm wide layers (foliation 50-70CA); few blue qtz eyes

32.21m 2mm wide solid sph layer (80-90CA); diss-small blebs po (1-2%) throughout felsic volcanic but not in layers or aligned

33.83m 1-2 cm wide po-py rich band/layer (60CA), trace cpy

Other similar layers throughout

~34.62m Sulfides increasing to 25% (locally) with po, py, lesser sph and cpy wrapping around qtz veins in felsic volcanic; foliation 50CA @35.25m

35.27-40.88m Felsic volcanic is dark grey-purple color, smaller grain size than above, minor (<<1%) sulfides, strongly foliated (60CA @35.70m), small rounded qtz eyes throughout; qtz throughout; qtz veins throughout; small 1mm round garnet throughout, mica wrapping around qtz grains along foliation

Garnet bearing qtz veins; discontinuous blebby qtz veins minor pyrite (qtz veins 30-70CA)

40.88m Felsic volcanic, light grey quartz±sillimanite? rich layers±blue qtz eyes, interlayered with po, py±cpy±sph bearing darker layers; foliation ~60CA @42.00m (1cm wide po bearing layer), cpy more abundant but overall 1% or less; fine grained blebs with po, py±sph

Continuing downhole: sulfide (dominantly pyrite) are ~5-7% overall and higher locally;

2cmx0.5cm wide cpy bleb @40.88m at contact with sulfide-poor felsic volcanic above

Pyrite is more net textured; localized zones of quartz veins and blebs throughout and more biotite/phlogopite rich layers ± po, py, cpy sph±garnet alteration parallel to subparallel to foliation

Diss po-py rich layers (~0.50 cm to 1-2 cm wide; cpy as small blebs locally

Sph along dark layers or as thin ~2mm wide sph rich layers locally

45.70m qtz veins/bleb (30CA) crosscutting thin layers po±sph which is @ 60CA

~51.00m decreasing sulfide mineralization

51.20m 2mm wide po-rich layer (±sph?) 60CA

Foliation 70CA @ 52.61m

Qtz veins and irregular blebs increasing downhole, sulfide mineralization decreasing

Altered felsic volcanic (tan colored), dominant sulfide mineral is po with lesser cpy, sph?

Phlog mica, qtz eyes

56.20-57.50m FAULT ZONE - FAULT GOUGE

56.26-57.00m Very rusty fractured felsic volcanic, qtz veins throughout

57.00-57.50m Fault gouge - clay; at top and bottom contacts are qtz veins

Felsic volcanic at these contacts with cpy-po blebs and green alteration

57.50 - 89.45m FELSIC VOLCANIC - qtz veins (± minor po, py, cpy), altered brown mica (phlog), qtz eyes, py locally and along fractures which crosscut foliation and qtz

Qtz veins folded locally

58.53m Qtz veins decreasing, blue qtz eyes, less alteration, tan-green color but still "bleached" appearance; sulfides <1% py (trace cpy?) Overall

60.60m Increasing qtz veins; very little sulfides

63.20-63.41m Small isolated cpy blebs, thin sulfide layers locally (eg 64.02m 70-80CA)

weak foliation observed 60CA @ 66.64m

Local dark green black (chlorite?) Alteration with minor py @ 69.68-69.88m

~73.00m Py in darker layers increasing to 2-3% overall (80CA @73.42m), minor small 2-3mm rounded garnet locally

76.25-76.55m Two 10cm wide po-py ($\pm$ sph) layers (~25-40% sulfides) in light grey felsic volcanics; variable foliation; similar sulfide-rich layers @ 77.50m (70CA); in each sulfide layer the sulfides wrap around qtz grains, foliation 50-60CA

79.93m 0.5cm wide sph-rich layers (80CA) near qtz vein with py blebs

Felsic volcanic continues to EOH

Very thin stringers of minor sph, fine grained diss py-rich layers throughout with a few localized zones of mica-rich minor alteration and silification $\pm$ sillimanite

Sph: trace specks with pyrite locally (eg 21402)

83.90m to EOH: Slight increasing qtz veins, blebs $\pm$ garnet at variable angles, minor green alteration and diss py along contacts

89.00m 14 cm wide qtz vein@60CA

Foliation in felsic volcanic (dark layers with minor py 70CA @ 85.47m)

Felsic volcanic : tan-pink-green alteration with dark discontinuous layers with diss py

89.45m EOH