

PH01-10

0 - 7.67m **OVERBURDEN**

7.67 - 8.05m **PELITE** - Very fine-grained (aphanitic) with layers of po (up to 5% locally), thinly laminated 80CA, variable laminations as well

8.05 - 21.42m - **FELSIC VOLCANIC** - siliceous fine-grained qtz rich, light grey with thinner darker layers (foliation 80CA, 10.70m), light grey rounded qtz grains or qtz eyes; minor sulfides (1-2% overall) py-po along foliation, ~5% locally, not typical felsic volcanic observed in holes 5-9

14.05-14.15m Pink banded rhyolite-granite intrusion parallel to foliation, no sharp contacts (~80CA); ~2% po-py along foliation; 21.54m 20cm zone qtz veins with alteration (white, green), minor po, phlogopite

21.45m 1 cm wide qtz vein with garnet 70CA, minor po

Gradual change of color and grains size to deep purple-grey fine-grained with coarse-grained qtz grains and irregular blebs; minor sulfides

Felsic volcanic - dark purple - grey fine grained with qtz layers and blebs along foliation; small qtz veins throughout with/without minor alteration along contacts

18.45m 40CA qtz-rich with minor sulfides (~1-2%) po-py along foliation and diss, sph?

Felsic volcanic has obscure cloudy qtz eyes and local garnet; 24.00-24.75m - Lighter colored, grey-green "bleached" alteration, grey mineral (arsenopyrite or graphite), foliation still 90CA @ 24.30m Qtz veins throughout: eg. 28.17m 8cm wide 70CA trace po-py and sph?

28.82m 1-1.5cm wide 60CA

28.93m 5cm wide, 80-90CA, obscure contact, biotite, qtz, very minor po-py

29.39m irregular 10cm wide

30.30m irregular 10 cm wide

32.45m 50CA 4 cm wide

34.84-35.19m siliceous zone, very fine-grained "bleached", light grey, 60-70CA

35.40 50CA 5cm wide

38.02m ~0.5 cm wide, very folded (ptygmatic) ~70CA

39.93-40.05m 70CA top contact. 6- CA bottom, felsic qtz rich intrusion (possibly tonalite), 5% biotite

40.10-40.26m top contact 70CA, lower contact 55CA, possibly same as tonalite above

In some places, qtz is irregular and incorporating felsic volcanic within veins/zones

Other smaller siliceous zones and qtz veins/zones are present throughout

DIABASE DYKE: Very fine-grained black 36.40-36.77m; top contact 60CA, bottom contact 50-60CA; sharp contacts with small irregular intrusions into felsic volcanic (chill margin?)

GABBRO: 37.60-37.90m Fine-grained, unfoliated dark grey with rounded plag por, minor pyx por, sharp top contact 35CA, sharp bottom contact 15CA, small <1cm rounded fine-grained felsic volcanic "inclusions" near lower contact and within; trace <1% diss po-py

Overall **FELSIC VOLCANIC** is very fine-grained dark-grey-purplish color with minor green alteration crosscutting foliation, very fine-grained biotite-phlog giving a sheen appearance along

crosssection of core, qtz blebs and veins throughout, foliation 70CA @ 32.90m; overall alteration is not very significant (green with minor garnet with qtz veins); sulfides are minor and localized to qtz veins and a few places in felsic volcanic; 41.40m very fine-grained po along foliation 70CA; 48cm wide zone in very fine-grained dark felsic volcanic and qtz layers

At 37.05m - thin ~1cm wide max green (chlorite) alteration vein (20CA) with trace sph nearby, trace po, py

42.62-42.79m Qtz vein (top contact 60CA) chlorite alteration and garnet within, trace po blebs;

42.79-43.00m Grey siliceous, fine-grained with $\leq 1\%$ diss po-py

42.55m Gradual increase in siliceous light grey felsic volcanic, fine-grained qtz rich with chlorite green-grey alteration mottled and weak foliated layers, foliation 70CA @ 43.07m; 80CA @ 45.87m; minor sulfides $<1\%$ po-py overall, sericite in places. Light pinkish layers in places

RHYOLITE: 70CA 1cm wide vein @ 45.80m, dark purple-black with plag por, sharp contacts

46.97-48.74m - **RHYOLITE** - Deep purple-black fine-grained matrix with rounded plag por (max 0.5cm), unfoliated, both contacts are sharp, top contact is 47.23m ~ 20CA, bottom contacts is 15CA, both contacts crosscut foliation of felsic volcanic; above top contact is ~26cm of irregular RHYOLITE intrusion, qtz eyes?, inclusions of felsic volcanic within (47.85-48.20m) with sericite alteration, trace py

48.74-57.37m **FELSIC VOLCANIC** - Continuation of siliceous fine-grained qtz rich with grey foliations, minor sulfides (~1%) along foliation, silification increases downhole away from the rhyolite intrusive, sulfides also decrease downhole

49.25-49.59m ~2% overall po, very thin wispy foliation (80CA) in siliceous felsic volcanic, some dark (chlorite) alteration

Back to very light grey siliceous felsic volcanic with fine grained diss po-py ~1%

51.30-51.50m $<1\%$ sul more dark mineral, chlorite, sericite, sillimanite

At ~52.56m Felsic volcanic getting darker (more chlorite and sericite alteration) but still siliceous, variable foliated (folding, obscure)

Going downhole, getting dark purple; foliation is variable to indistinguishable due to large irregular qtz veins and zones, minor alteration around qtz veins/zones, sulfides $<<1\%$ diss po-py overall

54.85-55.15m **PELITE** - qtz zone/veins with ~15cm below very fine-grained dark grey-black PELITE with very fine-grained po along foliation 60CA, minor garnet with qtz vein (60CA), phlog rich, siliceous, ~2% po in PELITE

55.15-57.37m **FELSIC VOLCANIC** - as above, qtz zones continue; 53.72-54.00m qtz-rich zone/vein; top contact 70CA, bottom contact is obscure 80-90CA, brown mica (biotite)

57.37 - 59.17m **DIABASE DYKE** - Very fine-grained black-dark grey (aphanitic) intruded in several places by coarse-grained qtz veins; top contact 40CA; bottom contact 60CA by qtz veins; 58.10m Qtz vein 10 cm 70CA chlorite alteration of diabase

58.50m Qtz vein 20 cm wide 50-70CA

59.17m Qtz vein at bottom contact 12cm wide, 60CA, trace diss po, py, circular cross section of biotite veins 78.94 - 79.17m

59.17 - 66.88m **FELSIC VOLCANIC** - continuation of coarse-grained qtz-rich purple dark grey felsic volcanic, obscure, variable foliation green dark grey alteration near qtz veins, overall sulfides 1%

63.75m 4 cm wide **RHYOLITE** (dark purple-dark grey, fine-grained with rounded plag por) then 5.5cm wide qtz

Continuation of felsic volcanic as above

66.88 - 67.33m **RHYOLITE** - Top contact 70CA, bottom contact 60CA, Dark purple-grey fine-grained with plag por, unfoliated, sharp contacts ~5% pyx, qtz eyes, biotite, sericite alteration of felsic volcanic near lower contact

67.33 - 73.00m **FELSIC VOLCANIC** - Greenish colored increasing downhole, qtz rich, variable foliation with qtz veins and tiny fractures displacing qtz veins and foliations, <1% sulfides, foliation 60CA (@ 71.67m); **RHYOLITE** 4cm wide 68.92m 60CA sharp contacts, irregular in places; Green **FELSIC VOLCANIC** with sericite $\pm$ chlorite alteration of darker layers, <1% diss py, possibly trace arsenopyrite?

73.00m **EOH**